LYRA RESOURCES LTD.



GEOLOGICAL ASSESSMENT REPORT

(LINEAMENT ARRAY ANALYSIS)

on the

DAL 1 & DAL 2 MINERAL CLAIMS

of the

IRON MASK PROPERTY

Kamloops Mining Division

NTS 092109W

GEOLOGICAL SURVEY BRANCH

ACSESSMENT SEPORT Sookochoff Consultants Inc. Laurence Sookochoff, P.Eng



Vancouver, B.C. February 15, 2002

Geological Assessment Report on the Dal 1 & Dal 2 Claims

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Geological Assessment Report

on the

Dal 1 & Dal 2 Claims

Introduction

A lineament array analysis was completed on Dal 1 & the Dal 2 mineral claims of the Lyra Resources Ltd. Iron Mask property. The purpose of the exploration program was to fulfill assessment requirements for one year and to determine the structural control and mineral potential for economic mineral zones in this specific area. Based on historical development and/or production of gold/copper/silver minerals from the area, the geology of the area is conducive to the location of economic mineral values hosted by the Iron Mask Batholith.

Information for this report was obtained from sources as cited under References and from the writers' completion of the exploration program as reported on herein.

Property Description and Location

The property consists of contiguous 34 claims totaling 102 units and covering approximately 2400 hectares. Particulars are as follows:

Claim Name	Tenure No.	Expiry Date
ED 1- 12	375312 - 375323	May 25, 2002
ED 13 – 20	377012 - 377019	May 6, 2002
HA 1 - 8	377329 - 377336	May 25, 2002
DAL (20units)	381264	October 13, 2002
DAL 1	381265	October 13, 2002
DAL 2	381266	October 13, 2002
TIS (20 units)	382197	October 26, 2002
TIS I (20 units)	382198	October 26, 2002
TIS 2 (12 units)	382199	November 2, 2002

The property is located in NTS 092109W of the Kamloops Mining Division, ten km southwest of Kamloops and within 12 kilometres of the formerly productive Afton Mine, and three kilometers east of the formerly productive Ajax mines in southwestern British Columbia, Canada. The centre of the property, in accordance with the UTM system, is at 5406525N, 687252E.

The claims, owned as to 100% by Lyra Resources Ltd., entitle the company to the sub-surface mineral rights. The company does not have any interest in the surface rights. To maintain the ownership of the claims, the company is obligated to either complete exploration work of one hundred dollars per unit for the first three years thence two hundred dollars per unit thereafter; or pay the equivalent as cash in lieu prior to the Expiry Date.



Figure 1. Iron Mask Property: Location & Claim Map. (Claim Map is Ministry of Energy, Mines & Petroleum Resources Map 092I/09W)

Accessibility, Climate, Local Resources, Infrastructure and Physiography

Access is from Knutsford to the Goose Lake secondary road that transects the northern claim of the property for two km and sub parallels the western boundary for five kilometers. Centrally, the all-weather Edith Lake secondary road bisects the claim group for over five kilometers. The all weather Anderson Creek secondary road parallels the property within two kilometers and passes through the northeastern tip of the TIS claim; the southernmost claim.

The region is situated within the dry belt of British Columbia with rainfall between 25 and 30 cm per year. Temperatures during the summer months could reach a high of 35° and average 25°C with the winter temperatures reaching a low of -10° and averaging 8°. On the property, the permanent snow on the ground would be from December to April and would not hamper a year-round exploration program.

Sufficient water for all phases of the exploration program could be available from the many lakes and creeks, which are located within the confines of the property. Electrical power may be available from a high voltage transmission line that is within four kilometers north of the property. A natural gas pipeline parallels the transmission line.

The property is situated at the western edge of the Douglas Plateau, which is within the physiographic area designated as the Interior Plateau of British Columbia. Gentle to moderate slopes prevail with relief in the order of some 200 meters.

Kamloops, an historic mining centre 13 km northeast of the property, could be a source of experienced and reliable exploration and mining personnel and a supply for most mining related equipment. Kamloops is serviced daily by commercial airline and is a hub for road and rail transportation. Vancouver, a port city on the southwest corner of, and the largest city in the Province of British Columbia is four hours distant by road and less than one hour by air from Kamloops.

The surface rights to exploration, development and mining would have to be obtained by application from the government. Lyra Resources has not obtained any permits for the current proposed exploration program.

There are adequate sites on and/or peripheral to the property for potential tailings storage areas, waste disposal areas and processing plant sites. The mine-mill operation would be subject to approved environmental impact studies and government regulation.

History

The Kamloops area has been explored for mineral resources since the late 19th century originating with the discovery of gold in Tulameen, 100 km south of Kamloops. Numerous pits, shafts, trenches and adits mark exploration northward from Tulameen, to and beyond Kamloops. The exploration resulted in the development and subsequent production from three major mineral deposits: the Similkameen Copper mine at Princeton; the Craigmont mine at Merritt; and the Afton mine at Kamloops.



Figure 2. Map showing the location of the Iron Mask Property relative to the Iron Mask batholith. (Base map from CIM Special Volume 15).

History (cont'd)

In the Kamloops region, the Iron Mask batholith, an elongate northwesterly trending intrusive south and west of Kamloops, was the focus for exploration. One of the original producers resulting from this exploration was the Iron Mask mine located on the northern periphery of the batholith. Other major mineral deposits delineated and/or developed in the Iron Mask batholith include the Ajax, Copper King, Galaxy Copper, Iron Cap, Larsen, Python and the most significant, Afton. The Afton mineral deposit comprised 30.84 million tonnes ore averaging 1% Cu, 0.58 ppm Au and 4.19 ppm Ag at startup. Production at Afton commenced in 1976 and ceased in 1989. The extensions of the Afton mineral zone are presently under exploration by DRC Resources of Vancouver with a reported preliminary tonnage estimate of 25 million tons averaging 2.5% Cu or 3.0% copper equivalent. DRC reported one 158 metre diamond drill hole intersection assaying 1.85% Cu, 0.051 oz/t Au, 0.006 oz/t Pd and 0.132 oz/t Ag.

In June 1989, mining commenced at the two Ajax deposits (East and West pits), 10 km south-southeast of the Afton open pit and within 1,000 metres of the western boundary of the Lyra property. The Ajax operations initially ceased in August 1991 and resumed in 1995 when Afton Operating Corporation, a subsidiary of Teck Corp., re-opened the Ajax West pit. Due to a fall in copper prices and the low grade of the remaining ore, it was uneconomical to continue operations and production was terminated in June 1997.

On the ground presently claimed by the Iron Mask Property previous exploration included the following.

In 1978 Cominco Ltd. completed 245 metres of percussion drilling in four holes on the former Wildrose claim. The location of the holes was in the area, and east of the Fargo showing. One percussion drill hole reportedly revealed the Cherry Creek unit of the Iron Mask batholith capped by the Iron Mask Hybrid Unit. Cominco reported that the much higher background copper values of the percussion drill cuttings might be partially a reflection of the occurrence of "…an extensive section of Cherry Creek unit in this hole."

The former Edith, Hump, and Tyler claims were explored initially by Argenta Resources and subsequently by Teck Resources (under option) in the 1980's. These claims covered the former Chance Group mineral showing located within 500 metres east of the west central Iron Mask Property border. A shaft and other workings reportedly explored the Chance Group. The shaft was reportedly 180 feet deep with short levels driven from it at depths of 100 and 120 feet.

Argenta Resources also completed geological, geophysical and geochemical surveys in addition to three diamond drill holes. Two of the drill holes tested the Humphrey Creek Zone of the Iron Mask property. Sookochoff (1982) reported that the indicated anomalous (IP) area of the Humphrey Creek Zone was attributed to a variable pyrite content with local minor copper sulfide along the indicated (Nicola-Iron Mask) fault contact.

Teck Corp., as operator, conducted geophysical, geological and geochemical surveys predominantly over the Chance Zone area for the purpose of determining the favourability of gold bearing mineral zones. Bergey (1986) reported that gold was not detected in any of the soil samples and the geology or geophysics indicated no significant gold-bearing structures. However, a program of detailed mapping over the entire property was recommended.

Geological Setting

The Afton geological district is located within the regional Quesnel Trough, which is a 30 to 60, km wide belt of Lower Mesozoic volcanic and related strata enclosed between older rocks and much invaded by batholiths and lesser intrusions (Campbell and Tipper, 1970). The southern part is the well-known Nicola belt, continuing nearly 200 km to its termination at the U.S. border and containing the important copper deposits of Highland Valley, Craigmont, Copper Mountain, Afton, Brenda, in addition to the historic Hedley gold camp.

In the vicinity of Afton, the Iron Mask district is part of a major structure extending northwestward across the general northerly trend of the Nicola belt. This cross structure is less than 10 km wide and about 35 km long. To the northwest, later stratified rocks of an adjoining basin largely obscure the structure. To the southeast, it contains two related plutons formerly believed to be a single connected body named the Iron Mask batholith. The plutons are emplaced in Upper Triassic strata of the Nicola Group that extend widely south and west of the district, but are restricted eastward by Paleozoic rocks of the Cache Creek Group and northward by Tertiary rocks. The Nicola strata include andesite and basaltic flows, breccias (some described as lahars or mudflow breccias: Northcote, 1974), tuffs, and lesser amounts of argillite and limestone. They strike northwestward and exhibit moderate dips except near inferred faults. Their degree of metamorphism is low, not exceeding the greenstone facies.

The Iron Mask pluton comprises successively emplaced units, all apparently of late Triassic age and ranging in composition from basic to moderately alkalic. The Iron Mask and Pothook units are the oldest on geological evidence and consist chiefly of diorite and gabbro. Succeeding units of finer-grained, more porphyritic rocks are emplaced mainly along northwestern and western linear structure that frame and dissect the pluton. Thus, picrite basalt forms steep, lenticular bodies that are poorly exposed, commonly possess sheared, serpentinized margins, and are generally found within 300 m of most prospects in the district.

Geologically, the Afton mineral deposit is at the northwestern extremity of the Iron Mask pluton, a sub-volcanic multiple intrusion of dioritic to syenitic composition. The Pluton lies lengthwise in a major cross structure of the Quesnel Trough and is emplaced in contemporaneous volcanic rocks of the Upper Triassic Nicola Group. Control of the cross-structure by long-active, deep-seated faults is evidenced by the manner of emplacement of the pluton and by the development of adjacent sedimentary and volcanic basins of Eocene or possibly much earlier age. The Afton deposit occurs in late-phase plutonic rocks, which include latite porphyry and related breccias. Hypogene alteration has no recognized pattern and it includes potassic, saussuritic and phyllic varieties. Supergene alteration is characterized by rock disintegration and abundant earthy hematite with limonites. Geochemical and geophysical surveys fail to distinguish the ore body clearly from widespread sub-economic mineralization

At the Ajax East zone, mineralization occurs along the northeast trending and west dipping contact zone between the Iron Mask Hybrid unit diorite to the northeast and the main lobe of Sugarloaf unit diorite to the south and east. Intense albite alteration is concentrated in the vicinity of the contact zone and affects both Sugarloaf and Iron Mask Hybrid rocks. Unique to the East zone is the presence of bands of very mafic to ultramafic rocks in the contact area. The occasional presence of serpentinized olivine suggests that the rocks might also be Picrite unit remnants sited on a deep-seated contact fault. The ultramafic rocks can be weakly albitized.

Geological Setting (cont'd)

At the Ajax West zone, a linear body of Sugarloaf diorite with a northwest trending axis and a steep southerly dip, has been emplaced along the contact between Nicola volcanics and Iron Mask Hybrid diorite. The Sugarloaf unit has stoped out and assimilated substantial areas of Iron Mask Hybrid diorite creating a contact area with undulating embayment features. Numerous fragments of Iron Mask Hybrid diorite and breccia occur in the Sugarloaf unit. Nicola Group volcanics form the hanging wall of the West zone. In the hanging wall area, the volcanics are intruded by at least one phase of post-ore Sugarloaf unit microdiorite.

Structurally, in the vicinity of Afton, the Iron Mask district is part of a major structure extending northwestward across the general northerly trend of the Nicola belt. This cross structure is less than 10 km wide and about 35 km long. To the northwest, later stratified rocks of an adjoining basin largely obscure the structure. To the southeast, it contains two related plutons formerly believed to be a single connected body named the Iron Mask batholith. The Afton deposit lies on the northwestern edge of the Iron Mask Batholith, an area that is known to be the locus of much faulting. The area of the deposit, and especially the western half, which terminates the ore body to the west, is strongly faulted. The Afton ore body lies apparently at the intersection of structures considered to reflect deep-seated faults that were active intermittently from the late Triassic (Carr, 1976).

The Afton ore body is located precisely at the west-northwestern end of a conspicuous positive airborne magnetic anomaly, 1,000 metres long, that reflects unusual amounts of disseminated and vein magnetite. The anomaly terminates at the ore body due to the supervene destruction of magnetite.

At the Ajax West zone, local faulting and recitation mark contacts between units. At the Ajax East zone, the central contact area dips 40 to 50 degrees to the west-northwest and is strongly sheared and brecciated.

The Iron Mask property covers a contact zone between the Iron Mask batholith and the Nicola volcanics and includes an aeromagnetic low area between increasing highs to the northwest and southeast. The property also incorporates three mineral showings designated as the Fargo zone, the Humphrey Creek zone, and the Buda Shaft zone. The Fargo zone and the Humphrey Creek zone occur along the Iron Mask-Nicola contact and within the elevated portions of the aeromagnetic high. The Buda Shaft zone is most significant as it occurs within the aeromagnetic low area, at the nose of an aeromagnetic high and along an indicated east-west structure; comparable surficial indicators to the Afton mineral deposit

On the Iron Mask property, deep-seated structures may be reflected by magnetic low trends as they are at the Afton. The east-west trending magnetic low correlating with Peterson Creek is indicated as a potential mineral controlling structure. The north-south Humphrey Creek depression that generally correlates with the Nicola-Iron Mask contact and at the boundary of a magnetic high indicates a significant intersecting structure.

The Buda zone on the Iron Mask property occurs within a similar magnetic position as the Afton ore body. The Buda zone is located at the nose of a magnetic high and within an east-west trending trough of a magnetic low.

Geological Setting (cont'd)

At the Afton deposit, sodium metasomatism (albitization) alteration is widespread and has caused extensive alteration of both Sugarloaf and Iron Mask Hybrid rocks. The degree of alteration ranges from minor fracture envelopes to total replacement of the original materials resulting in a brittle, hard, porcellaneous white rock composed largely of secondary albite. Albitization is most intense in the contact area between Sugarloaf and Iron Mask Hybrid units. Albitization, as well as epidote-chlorite-carbonate alteration are important in the mineralized zones.

Deposit Type

On the Iron Mask property there are three mineral occurrences:

The Buda Zone is located adjacent to the east-west indicated structural depression of Peterson Creek. A sloughed shaft explores a mineral zone comprised of minor chalcopyrite disseminations hosted by an Iron Mask diorite. The Zone occurs within an east west trending magnetic low and at the nose of a northerly trending magnetic high.

The Humphrey Creek Zone is located along the indicated north south Humphrey Creek structure. The Zone, which is exposed in a pit in the area of an inferred Nicola-Iron Mask contact, is of chalcopyrite disseminations hosted by a quartz vein,

The Fargo Zone consists of veins with copper minerals in the Iron Mask diorite Cockfield (1961). A shipment of one carload of ore running about 2 percent copper and 0.06 ounce of gold is reported to have been made.

At the Fargo zone, Cockfield (1961) reports that the principal showing is at an inclined shaft stated to be 30 feet deep with a drift to the north at the bottom. The vein strikes north 10 degrees west and dips 75 degrees to the west. It ranges up to 5 feet in width at the collar, tapers to a foot, and then swells again to 5 feet. The best-mineralized part is a band a foot wide along the hanging wall, which contains considerable chalcopyrite. Below this is about 12 inches of more sparsely mineralized material carrying considerable malachite and azurite. Ten feet below the surface the heavily mineralized streak is leached, and the mineral is largely limonite and carbonates, The vein has been traced only 20 feet south and 10 feet north from the shaft. Another shaft has been sunk at a point 150 feet southwest of the other. It has been sunk 20 feet on a vertical vein that is 14 inches wide at the collar and appears to widen near the bottom of the shaft. It also strikes north 10 degrees west. Three pits have been put in at distances of 90, 145, and 185 feet northerly along strike.

Mineralization

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In both the Ajax West and the Ajax East zones, chalcopyrite is the predominant copper mineral. It occurs as blebs and disseminations, in fractures, veinlets, and microveinlets, and occasionally in breccias and vugs with accompanying calcite. Pyrite is ubiquitous; it occurs with chalcopyrite in similar proportions but also exists separately, notably peripheral to copper mineralization. Overall, pyrite content does not exceed 1 to 2 percent. Bornite and chalcocite are present in trace amounts only. Malachite and azurite are noted in outcrop areas with spotty distribution at depth. Molybdenite occurrences are widespread but values are generally low. Magnetite is present primarily as disseminations; large-scale magnetite veining is absent. The Nicola rocks are never mineralized to ore grade.



Figure 3. Lineaments on and peripheral to the Dal 1 & Dal 2 mineral claims

Mineralization (cont'd)

Only one phase of mineralization is present in the Ajax East zone but in the Ajax West zone several pulses are indicated by the spatial distribution of copper-gold ratios. Gold mineralization is closely associated with chalcopyrite mineralization. Copper mineralization at the Ajax East zone is localized about the contact but occurs predominantly in the footwall Sugarloaf rocks and is bounded by stronger pyrite mineralization to the east. Distribution of mineralization is similar to the Ajax West zone, being a combination of disseminations and fracture fillings. Indications are that north trending fracture and joint sets with steep westerly dips may be preferentially mineralized.

Mineralization within the confines of the Iron Mask Property is reported on in the Deposit Types section of this report.

Exploration

Lyra Resources Ltd. has not caused any exploration on the Iron Mask Property other than the GPS surveys conducted on all the claim posts, except for the Dal 1 & 2, mineral claims, of the Iron Mask Property. Former exploration work conducted on the ground covered by the Iron Mask Property is reported on in the History section of this report.

2001 Lineament Array Analysis

A lineament array analysis was completed on the Dal 1 & Dal 2 mineral claims to determine the stress and strain history of the localized area, to incorporate this data with the structural data on the peripheral claims, and determine a potential structural mineral controlling pattern to the vein mineralization within the general area. The structural pattern could also provide information on the stress source thus indicating the location of potentially mineralized sub surface intrusives.

Air photographs BC7640 No's 251-252 at a mean scale of approximately 1:21,000 were utilized for the lineament array analysis. The analysis was accomplished using a stereographic projection viewing of the air photographs and marking the lineaments on an overlay. A total of 18 lineaments were marked, compiled into a 5° class interval and plotted on a rose diagram as indicated on Figure 4.

Two principal fault sets and possibly three as evidenced at the Afton area are indicated on and peripheral to the Dal 1 & 2 mineral claims. The primary fault set is indicated at 305° to 335°, which corresponds to the general trend of the major structure and the northwesterly trend of the Nicola Volcanic-Iron Mask batholith contact and/or the principal contact between the various units of the Iron Mask pluton (Ford Zone). A second set of cross faulting is indicated trending northerly and is topographically indicated on the property by Humphrey Creek (Humphrey Creek Zone). A third set of cross or oblique (?) faulting is indicated as trending northeasterly.

A major structural/fault system that is evident topographically, however, is offset by northeast and northwest structures and is evident from the airborne aeromagnetic survey, is an east-west major fault trend indicated topographically on the Iron Mask property by Peterson Creek. The Ajax open-pits are indicated to occur on its northern periphery, the Humphrey Creek Zone on its southern periphery, and the Buda Shaft Zone near centrally which is at Peterson Creek (Figure 2).



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Figure 4. Rose diagram showing the 18 lineament plots as determined on the Dal 1 & Dal 2 mineral claims of the Iron Mask claim group

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Conclusions

Two areas of three intersecting structures that would be primary targets for exploration, are indicated. The two areas are associated with the general east-west trend of Peterson Creek. One area is located on the adjacent Dal mineral claim and the intersecting structures are with the prominent major northerly trending structure of Humphrey Creek and minor northwesterly trending structures. The second exploration target is on the Dal 2 mineral claim where the three sets of structures are indicated to intersect at Peterson Creek.

Respectfully submitted Sookochoff Consultants Inc.

Laurence Sookochoff, P.Eng.

Vancouver, BC February 15, 2002

Statement of Costs

Lineament Array Analysis

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\$ 2,500.00

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Certificate

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with offices at 604-1176 Burnaby Street, Vancouver, BC V6E 1P1.

I, Laurence Sookochoff, further certify that:

- 1) I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2) I have been practicing my profession for the past thirty-six years.
- 3) I am registered and in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
- 4) The information for this report is based on information as itemized in the Selected Reference section of this report and from work the writer has completed on portions of the Iron Mask Property ground from 1979 to 2001.



Laurence Sookochoff, P. Eng.

Vancouver, BC February 15, 20021