

TECHNICAL REPORT DK08 43-101

GEOLOGIC REPORT  
ON THE DRAKEN PROJECT,  
FORTY MILE MINING DISTRICT,  
ALASKA

prepared for

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### **Item 3: Summary**

The Draken project is located in southeast-central Alaska, approximately 288km (180 mi) southeast of Fairbanks, Alaska, and approximately 61km (38 mi) west of the Canadian border (Figure 1). This mineral property (herein “the property”) consists of 6 quarter-section State of Alaska mining claims purchased by Fire River Gold Corp. from Anglo Alaska Gold Corporation, subject to a 1.5% Net Smelter Return. (Table 1). All of these claims are in good standing at the time of this writing.

The property is located in the Yukon-Tanana lithotectonic terrane, a Paleozoic terrane of largely continental affinity. This terrane consists of a wide variety of Precambrian-Paleozoic metamorphic rocks and Mesozoic-Cenozoic volcanic rocks which are intruded by Late Triassic-Eocene intermediate to felsic plutons. The Yukon Tanana terrane consists of a large number of subterrane, some with island arc affinities, which are juxtaposed by thrust faults. In easternmost Alaska this terrane is bounded by major northwest-trending, dextral strike-slip faults, including the Tintina fault to the north and the Denali fault to the south. The terrane is dissected by a large number of major northeast-trending, high angle faults with significant dip slip displacements which has effectively created a block faulted tectonic regime. This movement has jostled the blocks and juxtaposed metamorphic rocks of different metamorphic grades, plutons of different ages and emplacement depths, and mineral deposits with different metallogenies and other characteristics.

Mineralization on the property is hosted within the Mount Fairplay plutonic complex, a Late Cretaceous to early Cenozoic alkaline plutonic complex with well-developed ring structures, which intrudes mid Cretaceous bimodal volcanic rocks and older metamorphic rocks with continental affinities. The complex was intruded in three main pulses: 1) an early alkaline ring phase on the north side of the complex, 2) a later alkaline ring phase on the south side of the complex, and 3) a final calc-alkaline core phase. Emplacement of the plutonic complex is bracketed at 59-66 Ma.

The main mineralization type known to exist on the Draken project are hydrothermal gold-sulfide-quartz veins. Anomalous U-Th-Nb-F-REE is rarely present in the veins, and potential exists for disseminated styles as well. Gold-sulfide-quartz vein mineralization is well-documented in outcrop at the Silver Lining prospect. The Two Mile prospect, which lies approximately one mile north of the property, contains similar sulfide-quartz veins. Sulfide mineralogy of the veins includes arsenopyrite, chalcopyrite, pyrite, galena and chalcopyrite. High grade vein samples yielded gold values up to 0.25opt, with highly anomalous Ag-As-Bi-Cu-Pb-Sb. The veins have weakly developed alteration halos which are largely barren. The veins are fairly well-oxidized and contain secondary copper and arsenic oxides, and also contain some secondary copper silicate (chrysocolla). The veins range from 1-4cm in thickness, strike approximately N35-60E, and dip 65-75 degrees NW.

Efforts to delineate the extent of the vein mineralization along strike using soil sampling methods has had very limited success due to extremely poor sampling conditions.

Work recommended as a Phase One exploration program on the Draken property includes trenching and rock sampling, magnetic and radiometric surveys, and additional claim staking (CAN\$ 56,683.70 proposed). A Phase Two program includes drilling of four diamond drill holes (CAN\$ 153,921.00 proposed).

**Table 1.** List of Draken mining claims (Draken 1-6: ADL Nos. 609893 – 609898). The claims are located in Township 22 N, Range 16 E, Copper River Meridian, Tanacross C-3 Quadrangle, Alaska. Each claim constitutes one State of Alaska ¼ section claim

ClaimName	ADL_Num	Section	Township	Range
Draken 1	609893	33	22N	16E
Draken 2	609894	34	22N	16E
Draken 3	609895	34	22N	16E
Draken 4	609896	33	22N	16E
Draken 5	609897	34	22N	16E
Draken 6	609898	34	22N	16E

#### **Item 4: Introduction and Terms of Reference**

I was requested by Curtis Freeman, President of Avalon Development Corporation (ADC), on behalf of Fire River Gold Corp., to review all relevant data and prepare a technical report on the Draken property conforming to the standards set out in National Instrument 43-101. ADC is geologic consultant for Anglo Alaska Gold Corporation (AAGC), which owns 100 % interest in the property. Spectrum Resources Inc. (SRI) provided geologic consulting, including field sampling and mapping and data compilation. I have relied primarily upon information and data collected by SRI and ADC (May 30 – June 2, 2006) and ADC (1992-93; 1996). Additional data was gleaned from reports in the public domain, including the U.S. Geological Survey (USGS), the Alaska Division of Geological and Geophysical Surveys (ADGGS), other governmental agencies, and academic institutions. Kerin (1976) is acknowledged for detailed mapping of the Mount Fairplay intrusive complex.

I conducted field work on the property in late May and early June 2006, and have conducted field work at many locations in central Alaska since 1977. I have reviewed the information available and have selected for inclusion in this report the most pertinent and relevant information on the property.

Selected elements referred to in this report are Au, Ag, As, Ba, Bi, Be, Cu, La, Mo, Nb, Pb, Sb, Th, U, W, Y, Zn and Zr. Certificated results, which are available on request from AAGC, contain a few additional elements.

For purposes of this report, “gpt” will refer to grams per metric tonne, “ppb” will refer to parts per billion and “ppm” will refer to parts per million. “Tons” will refer to short tons and “tonnes” will refer to metric tonnes. Linear units are in “mm” (millimeters), “cm” (centimeters), “m” (meters), “km” (kilometers), “ft” (feet), or “mi” (miles). “REE” is an acronym for rare earth elements. The term “grab sample” used herein is equivalent to the term “select sample” used in other regions.

#### **Item 5: Reliance on Other Experts**

Geological interpretations and conclusions in this report are drawn from field observations I have made and data I have collected on the property in 2006. I reviewed the geochemical quality assurance/quality control data and found it to be acceptable.

I have verified the results of earlier sampling by AAGC at the Silver Lining and Two Mile prospects by collecting three high grade vein samples in 2006. I observed sulfide-quartz containing minor visible chalcopyrite as described by previous workers. Results of the samples collected in 2006 are comparable with the results from samples collected in 1990 and 1992. The only other data cited in this report is trace element data for soil samples collected by ADC in 1993 and 1996 (Freeman and others, 1997). Kerin's descriptions of plutonic igneous rocks in the area were briefly examined in 2006 and found to be reasonable. His geologic map is used as the basis for plutonic rock distribution in the area.

While reasonable care has been taken in preparing this report, I cannot guarantee the accuracy or completeness of the previous data. The interpretive views expressed herein are those of myself and may or may not reflect the views of AAGC.

### **Item 6: Property Description and Location**

The property consists of 6 contiguous State of Alaska MTRSC quarter-section mining claims (the "Draken" claims; 160 acres each), recorded in the Fairbanks Recording District (Table 1; Figure 2). These claims cover approximately 3.88 sq km (approximately 960 acres or 388.5 hectares) which cover the discovery outcrop on the Taylor Highway (the "Silver Lining" prospect) and adjacent area to the east.

The property is located in southeast central Alaska, approximately midway between the Yukon and Tanana Rivers. The property lies approximately 288 km (180 mi) east-southeast of Fairbanks, in the Tanacross C-3 Quadrangle, Township 22N, Range 16E, at approximately 63.817 deg North Latitude, 142.201 deg West Longitude (Figure 1). The Taylor highway, a State of Alaska-maintained all-weather road, transects the property. The Mount Fairplay massif is the most prominent topographic feature in the area (elev. 5,541 ft). Streams originating on this massif drain east into the Dennison Fork of the Fortymile River, or west into the West Fork of the Dennison Fork.

The Draken claims were staked on May 31, 2006. All of these claims are 100 % owned by AAGC and are in good standing as of the time of this writing. To my knowledge there are no existing claims adjacent to the property. A larger claim group, known as the "Silver Lining" claims, covered the area from 1991-1996. These claims were staked by William and Dawna DeHaven in 1991 after their initial discovery of mineralized veins in road cuts along the Taylor Highway in August 1990. They staked additional prospecting sites, and leased the property to Great Basin Exploration and Mining (GBEM) of Reno, Nevada, in 1992. GBEM terminated its lease in 1993. Five claims and 8 prospecting sites adjacent to the property were staked by Canadian Gravity Recovery (CGR) in 1996. CGR held a lease on the Silver Lining property from 1996 – 1997 before they terminated their interest and abandoned their claims.

Mineral rights in this part of Alaska are administered by the State of Alaska Department of Natural Resources. Annual mining claim rents vary according to claim size and age and are due and payable by November 30<sup>th</sup> of each year. The total annual claim rent paid for 2006 was \$600 (6 claims x \$100 per 160 acre claim). Annual rents were paid for the period September 1, 2008 through August 31, 2009. On September 1, 2009, annual rents in the amount of \$600 again become payable for the period September 1, 2009 through August 31, 2010. Annual rents double in amount for years 6 through 10

(ie, \$200 per 160 acre claim). Total annual work commitment is \$2,400 (ie, \$400 per 160 acre claim x 6 claims). Annual amounts spent in excess of this commitment may be banked forward for up to four years into the future as per current regulations regarding Alaska State mining claims.

All State of Alaska mining claims are subject to a production royalty of 3% of net income from a mining operation beginning 3.5 years following commencement of commercial production. There currently are no unusual social, political or environmental encumbrances to mining on the project. No known mineral closures exist within the property, however, T21N, R16E, which abuts the property to the south, is federal land which has been selected for conveyance to the Doyon Native Corporation. It is also noteworthy that the property lies less than 4mi south of the Fortymile Wild and Scenic River watershed, which is closed to mining. None of the claims comprising the Draken property have been surveyed by a registered land or mineral surveyor and there are no State or Federal laws or regulations requiring such surveying. Any trenching, drilling, or other mineral exploration activities causing significant ground disturbance on the property will require an APMA permit which may be obtained from the Alaska Department of Natural Resources Division of Mining. This permit is reviewed by the Corps of Engineers and other governmental agencies before approval.

#### **Item 7: Accessibility, Climate, Local Resources, Infrastructure and Physiography**

The Draken property is accessed easily from the Taylor Highway, which transects the west side of the claims. Access can also be gained by helicopter. The nearest population center is Tok, Alaska (population approximately 1,300), which lies approximately 42 road miles to the southwest, just south of the Tanana River (Figure 1). Tok is an unincorporated community located on the Alaska Highway, at the intersection with the Glenn Highway. Tok is the trading center for several Athabascan Native Villages, and its economy is based largely on tourism due to its strategic location as the first town of significant size on the Alaska Highway after entering Alaska. There is a regional airport, several hotels and restaurants, and stores providing groceries, fuel, and hardware and other supplies which may be needed to support exploration activities.

The Draken property is characterized by tundra and rubble covered hills and ridges with very limited outcrop and abundant lichen-covered boulders (Figure 3). One of the biggest obstacles to mapping and sampling is lack of visibility of rock surfaces due to the proliferation of lichens. Elevations vary from a minimum of 2,700 ft on the west edge of the property to a maximum of 4,100 ft on the east edge of the property where it straddles a prominent southwest spur ridge of the Mount Fairplay massif. Most of the major streams draining the massif appear to be controlled by northwest-trending, regional-scale fault structures.

Valley floors are generally open in the area south of Mount Fairplay, and somewhat steeper north of the summit. The climate is semi-arid with short moderate summers and long cold winters, typical of sub-arctic, interior Alaska. The area is typically covered with snow from late September until late May. Most of the project area is above tree line with little or no vegetation other than typical alpine tundra on the slopes and ridgelines, and minor alder and willows along some stream banks. Spruce and minor birch occupy the slopes below tree line.

## **Item 8: History**

The earliest geologic work conducted in the Fortymile district was by Alfred Brooks of the USGS, who in 1898 traversed northward across the region during a reconnaissance from the mouth of the Tetlin River to Eagle City (Brooks, 1900). As placer gold deposits in the district continued to be discovered and developed, further geologic investigations were completed by the USGS (Prindle, 1909). Mertie (1931) conducted a detailed geologic study in the area, which at the time was referred to as the “Dennison Fork District”. This work included the first detailed geologic and topographic maps for the region, and included discussions of rock units and mineral resources. Later this work was incorporated into a larger geological study of the entire Yukon-Tanana region (Mertie, 1937). Saunders (1966) of ADGGS collected stream sediment samples along the Taylor Highway and analyzed for base metals. Foster (1967) completed a detailed study in which she identified syenitic rocks with variable equigranular and porphyritic textures within the Mount Fairplay intrusive complex. Her mapping in the region expanded to include a study of the geology along the Taylor Highway (Foster and Keith, 1969) and a reconnaissance geologic map of the Tanacross quadrangle (Foster, 1970). A regional mineral resource assessment (AMRAP) of the Tanacross quadrangle was completed in 1976 (Foster and others, 1976). The same year, Kerin (1976) completed a M.S. thesis on the reconnaissance petrology of the Mount Fairplay igneous complex. In 1977 the Department of Energy completed regional stream sediment sampling as part of the NURE program (National Uranium Resource Evaluation (Los Alamos National Laboratory, 1983).

Governmental geophysical investigations in the area began in the early 1970's with an airborne magnetometer survey of the Tanacross quadrangle (ADGGS, 1973). Although flight lines are wide-spaced, the Mount Fairplay intrusive complex produced a distinct magnetic signature. In 1963 the USGS conducted a vehicle mounted radiometric survey along the Taylor Highway and identified a radiometric anomaly within the Mount Fairplay intrusive (White and others, 1963). Regional stream sediment geochemical sampling was completed by ADGGS in 1966 (Saunders, 1966) and by Los Alamos National Laboratory (LANL, 1983).

Several private companies conducted limited reconnaissance exploration in the Mount Fairplay area in the early 1970's, including Bear Creek Mining Company, Kerr McGee, Resource Associates of Alaska, WGM and Cities Service Minerals Company. Cities Service Minerals Company held a land position on the north margin of Mount Fairplay in 1976.

In 1990 the Silver Lining prospect was discovered by recreational prospectors William and Dawna DeHaven. Fresh outcrops exposed by recent road maintenance had exposed a series of narrow veins hosted in massive granitic rock. A single prospecting site covering the exposures was staked by the DeHavens in 1991. In 1992 additional prospecting sites and claims were staked by the DeHavens. Also in 1992, GBEM staked adjacent claims and leased the DeHavens claim holdings. After conducting a limited soil sampling project in 1992, however, the lease was terminated in 1993 and GBEM abandoned their claim holdings. Minimal work was conducted from 1993 – 1995. CGR leased the claims in December 1995, and conducted another soil sampling project in 1996. CGR held the lease through 1997, but abandoned the project shortly thereafter. By 1999 all claims in the area had been abandoned.

In 2006 AAGC staked 6 quarter-section claims covering the original Silver Lining prospect and adjacent area. Detailed rock channel sampling was completed on the Silver Lining prospect and the Two Mile prospect just north of the property; grab samples were collected in other areas nearby.

## **Item 9: Geologic Setting**

### **Regional Geology**

The Draken project is located in the eastern Yukon-Tanana terrane (YT), a diverse lithotectonic terrane of continental affinity consisting primarily of quartzitic, pelitic, calcic, and mafic metasedimentary rocks, and local mafic and felsic meta-igneous rocks, which are extensively intruded by Mesozoic and Cenozoic granitic rocks (Foster and others, 1994). The YT is bound on the north by the Tintina fault, a major dextral strike-slip fault essentially delineated by the Yukon River (Figure 4). The south boundary of the YT, the Tanana fault, is obscured by alluvium of the Tanana River valley and Quaternary deposits. The YT proper can be divided into four subterranees with distinctive protoliths, present lithologies, structural features and metamorphic fabrics (see below). Several small terranes located within and adjacent to the YT have nebulous relationships. The Seventymile terrane, located in the northeastern YT, consists of highly deformed, ultramafic, meta-volcanic and metasedimentary rocks with oceanic affinities. These rocks occur as thrust fault slivers and klippe in a discontinuous belt just south of the Tintina fault (Figure 4). The area along the south margin of the YT and north of the Denali fault (another major dextral strike slip fault) consists of a collection of small island arc-related terranes whose origins are complex and somewhat controversial. Foster and others (1994) refer to all of these island arc terranes, with the exception of the Windy terrane, as additional sub-terranees of the YT despite their unique histories.

Subterrane Y1 is the most extensive and occupies most of the southern portion of the YT (Figure 4). It consists of Mississippian and older rocks dominated by gneiss, schist, amphibolite and quartzite metamorphosed under moderate pressure amphibolite facies conditions; the subterrane is distinguished by the presence of coarse-grained augen gneiss. Subterrane Y2, thought to be early to middle Paleozoic in age, forms the northwest portion of the YT. Y2 consists of three relatively distinct rock sequences: 1) greenschist to amphibolite facies quartzites and quartz schists, 2) amphibolite to epidote-amphibolite facies schist, quartzite, marble and amphibolites, and 3) eclogite with lesser amphibolite, impure marble, pelitic schist and rare glaucophane-bearing schist (suggesting high pressure amphibolite facies conditions). Subterrane Y3 forms a thrust-bound belt of rocks which separates Y1 from Y2 in the north central YT. Y3 consists of two distinct rock sequences in probable thrust contact, including a northerly unit of calc-phyllite and quartzite, and a southerly unit of quartzose mylonitic schist. Age constraints on Y3 are poor and estimates range from early to late Paleozoic. Towards the east, Y3 includes minor amounts of greenschist, marble, and greenstone. Y3 has been metamorphosed to the greenschist facies, with some local evidence for moderate pressure conditions. Subterrane Y4 forms a thrust-bound rock unit in the central portion of the YT consisting of quartzitic and pelitic gneiss and schist, quartzite, marble and amphibolite thought to be Paleozoic in age; metamorphic conditions ranged from upper greenschist and amphibolite facies.

Nonfoliated, largely felsic, igneous rocks abound throughout the YT (Foster and others, 1994). Plutonic rocks are widespread, with some bodies reaching batholithic proportions east of the Shaw Creek fault (Figure 4). Radiometric age dates indicate that most of the plutonic rocks west of the Shaw Creek fault are early Cenozoic, whereas most of the plutonic rocks east of the Shaw Creek Fault are Mesozoic (largely Cretaceous). Age dates have been used to subdivide the plutonic rocks of the YT into three distinctive groups: 1) Late Triassic – Early Jurassic (215 – 188 Ma), 2) mid- to Late Cretaceous (110 - 85 Ma, with most clustering from 95 – 90 Ma), and 3) Latest Cretaceous to Eocene

(70 – 50 Ma). The oldest suite consists of granite, granodiorite and diorite, and occurs only in the eastern YT (largely confined the Y4 subterrane). This suite is thought to represent the roots of an island arc, and has been correlated with the Klotassin Suite in the Yukon Territory. The Triassic-Jurassic plutonic rocks include the Taylor Mountain and Mount Veta batholiths, which occur just north of the Mount Fairplay pluton. The mid- to Late Cretaceous suite consists largely of granite, but ranges from quartz monzonite to diorite, and has been correlated with the Tombstone suite in the Yukon Territory (Flanigan and others, 2000). This suite includes numerous, widely scattered plutons and stocks, as well as the Mount Harper batholith, which lies to the northwest of the Mount Fairplay plutonic complex (MFPC). These plutonic rocks probably were derived from crustal melts, but may be mantle-derived with significant contamination of continental material. The youngest suite generally consists of small plutons ranging from syenite to diorite, including the MFPC. These plutons are generally quartz-rich and corundum-normative, suggesting derivation from crustal melts of continental material. Volcanic rocks were erupted during the Cretaceous and Cenozoic and are largely concentrated in the eastern YT. The volcanic rocks range from rhyolite to basalt, and interlayered bimodal sequences occur locally. Cretaceous volcanic rocks ranging from rhyolite to dacite are associated with three poorly exposed calderas in the central Tanacross quadrangle. Mount Prindle, a Quaternary volcanic cone, is characterized by olivine basalt containing peridotite and granulite inclusions.

Large-scale structural features of the YT are closely tied to movements along the Tintina-Kaltag and Denali-Farewell fault systems (Figure 4). Palinspastic reconstruction of volcanic centers along the Tintina fault (Ptarmigan Hill, Grew Creek) suggest approximately 450 km of dextral displacement since 55 Ma (Flanigan and others, 2000). The Denali fault is thought to have originated as a thrust fault formed in response to underthrusting of the Farallon plate towards the north. This motion is thought to have ceased by 85 Ma after which transformation to a strike-slip structural regime occurred, continuing to become simultaneous with post-Paleocene movement along the Tintina fault. A number of sympathetic, northwest-trending fault structures within the YT (some of which are mineralized) are believed to be related to strike-slip movement along these major fault systems. As mentioned previously, most of the subterranes within the YT are bound by thrust faults, some of which may have been induced by movement along the Tintina fault. NE, NW, N and E high angle faults are present throughout the YT, however, their timing and relative displacements are not consistent (Newberry, 2000). Large fault blocks are bound by major NE faults, some of which show significant vertical displacement. For example, up to 3 km of vertical displacement is postulated along the Mount Harper fault, which separates dominantly igneous volcanic rocks to the east from dominantly plutonic rocks to the west (Figure 4; Newberry and others, 1996; Flanigan and others, 2000). The Shaw Creek fault had major vertical displacement, as well as significant sinistral strike-slip displacement, as indicated by offset of mafic-UM rocks of the Seventymile terrane (Figure 4). The majority of the movement along these high angle faults appears to be post-mineral with respect to the formation of gold deposits within the Tintina Gold Belt. However, they play an important role in the dislocation and present exposure of mineral deposits within the YT.

## Local Geology

The MFPC intrudes metamorphic and volcanic country rocks in the Draken project area (Figure 5). The northern and western contacts of the MFPC are largely obscured, but are thought to be fault contacts, whereas the eastern and southern contacts of the MFPC are normal intrusive contacts. The MFPC consists of a alkaline ring dike complex with a calc-alkaline core (Kerin, 1976).

The oldest rocks in the project area are metamorphic rocks originally grouped within the “Birch Creek schist” (Foster, 1967, 1970), a unit designator which has been abandoned in recent literature. This unit is simply referred to as ‘gneiss and schist’ (undifferentiated) and occurs along the east and south margins of the MFPC. The unit is dominated by biotite-quartz gneiss which grades to schist; feldspar is abundant locally, particularly within a subunit of well-developed augen gneiss. The gneiss-schist unit also includes local amphibolite positioned stratigraphically either above or below the augen gneiss, indicating there has been overturning. The age of the gneiss-schist unit in this area is not precisely known, however, the augen gneiss may be correlative with other augen gneiss located in many other parts of the YT (in subterrane Y1). The augen gneiss has been assigned an age of Mississippian and older based on U-Pb zircon age dates.

Mixed mafic and felsic volcanic rocks occupy the areas to the west, north and east of the MFPC. The felsic volcanic rocks range from rhyolite to dacite in composition and include lava, tuff, tuffaceous sediments, tuff-breccia, breccia and volcanic conglomerate (Foster, 1967). Tilting of tuff bedding provides evidence for uplift and tectonism. The felsic volcanic rocks are commonly altered: feldspars are weakly to pervasively altered to kaolinite or sericite, and biotite and hornblende are altered to chlorite and epidote. The mafic volcanic rocks occur as flows, breccias and tuffs, with textures ranging from aphanitic to porphyritic. Alteration similar to that seen in the felsic volcanic rocks is also common, with the addition of weak to strong secondary carbonate alteration in some areas. The mafic volcanic rocks were originally thought to be slightly younger than the felsic volcanics, however, the mafic volcanic rocks are locally cut by felsite dikes thought to be related to the felsic volcanic rocks. The age of the felsic volcanic rocks is speculated as late Cretaceous based on limited geochronological evidence. This evidence includes K-Ar ages for sanadine from welded tuff just northeast of the MFPC of  $91.6 \pm 3$  Ma and  $91.2 \pm 3$  Ma (Foster and others, 1976).

The MFPC is a multi-phase, calc-alkaline intrusive complex containing a ring dike system and ring fault structures (Figure 5). Alkaline phases form annular shaped bodies, dikes and plugs along the north, east and south margins. The west side of the complex appears to be open, although poor exposures have hindered a reliable interpretation. Petrological and petrographic evidence suggests the MFPC was intruded in three major pulses, including: 1) silica-poor phases forming the north portion of the ring dike system, 2) potassium-rich, alkaline phases forming the south portion of the ring dike system, and 3) quartz monzonite (relatively silica-rich) forming the core area. K-Ar age dates for the MFPC were obtained by Wasserburg and others (1963) and by Smith (written comm., 1976, in Foster and others, 1976). Wasserburg determined a whole rock K-Ar age of 66 Ma for “alkali syenite”. Smith dated biotite and hornblende from quartz monzonite, which returned ages of  $67.2 \pm 2$  Ma and  $59.5 \pm 3$  Ma (respectively). Wasserburg and Eberlein obtained a Sr87/Rb87 age date of 69 Ma on biotite from syenite (?) of the MFPC (Eberlein, written comm. 1964, in Foster, 1967). A lead-alpha zircon age date of 103 Ma was obtained for syenite from the southern margin of the stock (Matzko and others, 1958). The Ar-blocking temperature for hornblende is higher than that for biotite. Therefore, the cooling event should produce younger biotite ages and older hornblende ages. This suggests the

cooling history is more complex, and supports the concept of multiple intrusive events over a significant time span.

The north ring dike system includes hornblende-augite-biotite monzonite, hornblende-augite syenite porphyry, augite syenite, and hornblende-augite-biotite diorite, in decreasing abundance (Figure 5). Within this system, monzonite, appears to be the first to crystallize, followed by the syenite porphyry unit. The syenite porphyry unit is characterized by very distinct gray potassium feldspar phenocrysts up to 10.2 cm long. These megacrysts exhibit a pronounced lineation near the margin of the unit, and are randomly oriented further away from it. The syenite porphyry unit occurs as two main annular shaped bodies at the surface which are believed to be connected at depth. The contact of the syenite porphyry unit with the monzonite unit is gradational. A small band of diorite, located just south of the summit of Mount Fairplay, is also included in the north ring dike system.

The south ring dike system consists of hornblende-biotite syenite subdivided into three main textural phases, including 1) a chilled margin phase, 2) a coarse-grained phase, and 3) a protoclastic phase. Within this series, grain-size generally increases and mafic content decreases towards the core (northward). The protoclastic phase contains large potassium feldspar phenocrysts, similar to the syenite porphyry to the north, but with distinctive rounded edges. These phases contain accessory fluorite and apatite. Noteworthy alteration within these syenite phases includes local moderate to strong argillic and sericitic alteration (of feldspars), and late veins of blue-green sodic-hornblende, possibly related to a fenitization event.

The circular core of the MFPC consists of hornblende-biotite quartz monzonite and minor hornblende-augite-biotite quartz monzonite. A small outlier of quartz monzonite also occurs to the north of the north ring dike system and the bounding northwest fault. The quartz monzonite is characterized by fine-grained to coarse-grained, porphyritic to equigranular textures, with grain size generally decreasing from the center outwards. Contacts with all the previous mentioned phases are sharp. Hornblende-augite-biotite quartz monzonite occurs locally along the margin of the hornblende-biotite quartz monzonite. The quartz monzonite contains several alteration styles with weak to locally strong intensity, including 1) biotization, 2) uraltization of pyroxene and hornblende, 3) chloritization, 4) kaolitization and sericitization of feldspars, and 5) local tourmaline-chlorite-epidote-carbonate alteration. A granite dike intruding the gneiss-schist unit occurs near the southeast margin of the MFPC and is thought to be contemporaneous with the quartz monzonite. The granite may also be associated with pegmatite dikes located just south of the MFPC.

The perthosite occurs as a sinuous dike phase along the contact of the protoclastic syenite. It has a gradational contact with that phase, and therefore may be considered a subunit of it. However, strong alteration of adjacent rocks suggest it was intruded along a concentric ring fault. The perthosite is distinguished by pink coloration and leucocratic composition, and consists almost entirely of microperthite. Limonite staining, resulting from hydrothermal alteration, is locally intense. The perthosite is known to produce a strong radiometric anomaly presumably due to its high uranium content.

Faults in the Draken project area are not well exposed, however, several prominent structural trends can be inferred from air photo linears (Figure 6). These include strong N70W, N10W, N20E, and N70-80E trends. In most cases these linears appear to represent faults with relatively minor displacement, although in some cases they may also represent narrow dikes which are known to exist in the area. There appears to be a clustering of closer-spaced structures south of the summit of Mount

Fairplay in the area occupied by the MFPC. As mentioned previously, the west and north sides of the MFPC are believed to be bound by N20E and N70W faults (respectively). The N20E fault forming the west boundary of the MFPC has a relatively weak surface expression and is inferred largely from mapping of rubble. However, the N70W fault forming the north boundary of the MFPC has a strong surface expression. Arcuate patterns of the linears found locally provides supportive evidence for the presence of “ring faults” discussed by Kerin (1976). The Silver Lining prospect occurs near a strong linear feature trending N50E which is believed to represent a major fault structure.

### **Geophysical Features**

Both regional and local scale geophysical surveys have been conducted over the Draken project area. A regional-scale aeromagnetic survey was completed in 1971 (Figure 7; Lockwood and others, 1971). The survey was conducted at elevations ranging from 300m to 1,000m above ground level, and along flight lines spaced at 0.75mi, using a fluxgate magnetometer. This aeromagnetic survey indicates a strong magnetic high which is associated with the MFPC (Griscom, 1967). The southern part of the magnetic anomaly forms a prong extending towards the east, suggesting an elongation of the pluton in this direction. The MFPC was interpreted to form the central part of a large volcano-plutonic complex (Griscom, 1967). A major, east-northeast-trending, arcuate-shaped fault is mapped along the major drainage at the north edge of section 21 (Figure 5). A major northwest-trending fault follows a portion of the Dennison Fork, just east of the MFPC. Recent ADGGS-sponsored aeromagnetic surveys were completed along the Alaska Highway corridor and in the northern portion of the Fortymile mining district. Unfortunately, however, these surveys do not cover the the Mount Fairplay area.

A detailed ground magnetometer traverse was completed along the Taylor Highway (Kerin, 1976). Stations were approximately 150ft apart, but other details concerning the equipment and methodology are not known. The survey shows numerous sharp breaks in the magnetic signature with sloping profiles, which are speculated to correspond to non-vertical contacts between different intrusive phases. Magnetic lows correspond to zones of hydrothermal alteration, probably due to destruction of magnetite in these areas. The survey results document the usefulness of ground magnetometer methods for future mineral exploration efforts in the area. In 1963 a scintillometer survey along the Taylor Highway documented radiometric anomalies in the Mount Fairplay area (White and others, 1963).

### **Item 10: Deposit Types**

The Draken property is situated within the Tintina Gold Belt, which is a belt of mid- to Late Cretaceous Au deposits occurring along the length of the North American Cordillera. The deposits are characterized by spatial and temporal association with magmatism, anomalous Bi-W-Te in granite-hosted deposits, and anomalous As-Sb in non-igneous-hosted deposits (Goldfarb and others, 2000). Mineralization in the Draken project is spatially, temporally and genetically related to intrusion of the MFPC. The MFPC is an alkaline multiphase intrusion which had at least 3 major pulses spanning at least 8 Ma. The different compositional phases injected during these events reflect the progressive fractional crystallization pattern of a deep, probably basic, parent magma, which at some point during its crystallization history became contaminated with continental crustal material. The early phases were largely silica undersaturated, with a strong alkaline affinity, and were intruded along a ring fracture system. The latest phase consists of quartz monzonite (silica saturated), which followed a

more typical calc-alkaline fractionation trend, and intruded the core area. Plutonic complexes with calc-alkaline cores and alkaline or sub-alkaline peripheral phases occur in at least two other locations in Alaska, including the Taurus porphyry Cu-Mo-Au deposit (YT terrane) and the Granite Mountain property in western Alaska (Koyukuk terrane). Mineralization types which are documented in the MFPC include 1) hydrothermal gold-sulfide-quartz veins, and 2) ‘porphyry’ style sulfide-quartz veinlets, and 3) late magmatic veins or disseminations containing U, Th or REE’s.

Hydrothermal gold-sulfide-quartz veins are hosted in quartz monzonite forming the core of the MFPC. These veins contain highly anomalous Ag-Au-As-Cu-Bi-Mo-W and locally anomalous U-Th-Nb. These veins have a very consistent northeast striking, northwest-dipping orientation where they have been mapped (Freeman and others, 1997). The veins appear to have formed at a very late stage, after complete crystallization of the quartz monzonite (the latest intrusive phase of the MFPC). The planar, through-going nature of these veins suggest they were formed along cooling joints. The veins were later deformed during a brittle shearing event which created local gouge and restricted breccia along the vein walls. Porphyry style Cu-Mo-Au mineralization is documented near the Silver Lining prospect, and a Cu-Mo-Au deposit (Taurus) is located approximately 45km (28mi) east of the MFPC (Harrington, 2006). Porphyry mineralization at Taurus is hosted in quartz monzonite associated with peripheral sub-alkaline dikes and plugs.

Potential exists for U-Th-Nb-F-REE mineralization associated with the alkalic ring dikes within the MFPC. Sporadic high Th and Nb values occur in veins at the Silver Lining prospect. The most likely host rocks within the dike complex are syenite and perthosite. Apatite, monazite, allanite and fluorite have been identified in thin sections of rocks from the ring dike complex (Kerin, 1976). Monazite or allanite may be responsible for elevated U, Th, Nb or REE values; fluorite is most likely responsible for elevated F values. Regional scale stream sediment sampling (NURE data) indicates east-west trending anomaly clusters in this area (Figure 12).

Limited normative mineralogy and whole rock geochemistry data are compatible with a specific variety of syenite found in Oslo, Norway called “larvikite”. The larvikitic association, and presence of barkevikitic (sodic and silica-deficient) hornblende suggest the syenite is classified as alkaline “miaskitic”. Miaskitic alkaline rocks are those which are silica-deficient but contain normal to excess alumina. Miaskitic syenite associated with a ring dike complex also occurs at the Ice River Complex, B.C. (Pell, 1994). Significant REE mineralization occurs in the Ice River Complex, B.C. Alkaline ring dikes are also commonly associated with REE-bearing pegmatites and hydrothermal REE-bearing veins (Mt. Bisson, B.C.; Leighton, 1997). REE-enriched alkaline syenite is also associated with alkaline ultrabasic intrusive complexes which sometimes contain kimberlite or carbonatite. Alkaline basalt containing granulite and peridotite inclusions occurs at Prindle Volcanoe, a Cenezoic cone located approximately 25km (16mi) east of the MFPC (Foster and others, 1966).

Radiometric age constraints place the timing of crystallization of the MFPC, and hence the age of all mineralization types known to exist on the property at approximately 59-66 Ma. Newberry (2000) notes the presence of two suites of Late Cretaceous granitic plutons in interior Alaska, including an alkaline suite (68-71 Ma) and a peraluminous suite (60-78 Ma). He classifies the MFPC with the alkaline suite on the basis of composition. However, this may be an oversimplification, as evidenced by the spread of age dates for the MFPC and the peculiar fractionation pattern (early alkaline to late calc-alkaline). The vein metallogeny, host rocks, and age of mineralization at the MFPC are permissive, but not characteristic, of the majority of porphyry style gold deposits of the Tintina Gold Belt. Newberry speculates the presence of a “Tertiary Mineralization Belt” which strikes northeast,

orthogonal to the overall trend of the Tintina Gold Belt. This northeast-trending belt includes the MFPC and several porphyry Cu-Mo-Au deposits in eastern Alaska (Taurus, Bluff, Push Bush, Asarco, Pluto).

### **Item 11: Mineralization**

Known mineralization within the Draken property consists of polymetallic sulfide-quartz vein mineralization with anomalous Ag-Au-Bi-As-Cu-Pb-W-U. This type of mineralization is documented at the Silver Lining prospect, located on the west portion of the property, as well as the Two Mile prospect just north of the property. Host rocks for the polymetallic veins dominantly consist of massive hornblende-biotite quartz monzonite. Government geologists have documented porphyry style Cu-Mo-Au mineralization at the Two Mile prospect and other occurrences nearby (Singer and others, 1976). Potential for pegmatite- or vein-hosted U-Th-REE mineralization is also noted. Previous workers conducted a radiometric survey indicating anomalous radioactivity associated with the ring dike zone. A sample collected approximately 200m east of the property and within the ring dike complex (# 30018) contained highly anomalous U-Nb-F-REE (see “Section 35 prospect”, below)(Figure 5).

#### Silver Lining Prospect

The Silver Lining prospect is located at the 30 mile marker of the Taylor Highway, in roadcuts on the up-hill side of the highway. Sulfide-quartz veins are a characteristic feature of this prospect (Freeman and others, 1997). The veins are generally well-exposed at the prospect, and typically range from 0.5 – 2.5 cm in width. The veins occur as wide-spaced, locally sheeted, tabular, through-going veins which are formed along joints in massive quartz monzonite (Figure 9). Locally, open fractures 1-3in wide are lined with vuggy-textured quartz. Millimeter-scale veinlets were noted locally. The veins are oriented approximately N35-60E, and dip approximately 65–75 deg NW. There is some local evidence for minor shearing along the northeast-trending veins, in the form of narrow gouge zones, slickensides, and rare breccia. Vein spacing is tens of feet in most cases, although a few examples are as close as 1–2 ft. A well-developed parallel network of barren northeast-trending joints occurs in the intervening quartz monzonite. A second well-developed joint set, trending N40-60W and dipping 70 deg SW, also occurs in the outcrops, but is notably barren. However, some local weak mineralization appears to be formed within the northwest-trending joints where they are intersected by the mineralized northeast-trending veins. This mineralization may be a result of leakage from the northeast-trending veins or may possibly be a result of supergene alteration.

Sulfide mineralogy of the veins includes arsenopyrite, pyrite, galena and chalcopyrite (in decreasing abundance). Oxidation of the sulfide minerals ranges from weak to strong, with secondary (oxide) minerals consisting of limonite, scorodite, stibiconite, azurite, malachite, chrysocolla and chalcophanite (hydrous Mn-oxide). The veins show crude zoning, with chalcopyrite localized along vein centers and arsenopyrite localized along vein margins. This is most easily recognized where there is pervasive oxidation which has resulted in high concentrations of malachite and azurite along vein centers and scorodite and iron oxide along vein margins. Locally, abundant iron oxides are concentrated along the vein centers.

Wallrock alteration ranges from weak to locally pervasive, particularly along vein faults where shearing has occurred. This alteration consists of envelopes 1-12in wide adjacent to the veins consisting of argillic alteration, chloritization and silicification. Argillic alteration, presumably kaolinitization, results in a white, bleached appearance on fresh surfaces.

#### Silver Lining Prospect Geochemical Results:

Rock and soil sample locations are shown in Figure 8.

*Rock Geochemistry:* A total of 16 rock grab (select) samples have been collected from the Silver Lining prospect (Table 2; Figure 8). Pre-2006 samples returned higher gold and other values, however, since there were no QAQC samples, these are not relied upon to characterize the vein geochemistry. Instead, only values for the 2006 samples are used to characterize the veins. The average gold value for three high grade vein samples is 380ppb, with a maximum value of 586ppb. These samples also contain anomalous Ag (up to 65.7ppm), As (up to 5942ppm), Bi (up to 170ppm), Cu (up to 50,900ppm), Mo (up to 80ppm), Pb (up to 14,200ppm), Sb (up to 79ppm), U (up to 426ppm), W (up to 22,500ppm), and Zn (up to 11,700ppm).

Table 2. Silver Lining prospect rock grab (select) samples.

Samp	Year	Au	Ag	As (ppm)	Bi (ppm)	Cd (ppm)	Cu ppm	Hg (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	W (ppm)	Zn (ppm)
90-01	1990	<b>0.09 opt</b>	<b>55.8 opt</b>	nd	nd	nd	46600	nd	nd	nd	nd	nd	nd
92-01	1992	<b>0.12 opt</b>	<b>62.01 opt</b>	34000	<0.1	415	64000	nd	34	37000	9500	nd	2150
92-02	1992	<b>0.25 opt</b>	<b>13.65 opt</b>	21500	22	235	14800	nd	20	24000	2250	nd	1600
92-03	1992	<b>&lt;0.01 opt</b>	<b>0.75 opt</b>	440	3.5	8.5	10900	nd	10	690	60	nd	950
192000	1992	56 ppb	5.6 ppm	1074	2.5	nd	119	0.064	4	3763	10	10	3264
192001	1992	624 ppb	<b>2.5 opt</b>	2000	23	nd	1432	0.108	186	29200	27	32	2643
192003	1992	1008 ppb	22.9 ppm	2000	320	nd	22800	0.063	12	47400	46	658	1266
192004	1992	164 ppb	0.9 ppm	320	7	nd	238	0.149	2	2305	10	10	2229
192005	1992	3240 ppb	<b>10.0 opt</b>	2000	451	nd	9386	3.211	24	42600	1519	445	1627
192006	1992	5020 ppb	12.5 ppm	2000	346	nd	7234	0.669	10	24200	472	683	1729

Samp	Year	Au (ppb)	Ag ppm	As ppm	Be ppm	Bi ppm	Cu ppm	La ppm	Mo ppm	Nb ppm	Pb ppm	Sb ppm	Th ppm	U ppm	W ppm	Y ppm	Zn ppm	Zr ppm
30001	2006	475	65.7	5942	2	10	805	27	10	7	12200	79	20	37	-4	11	11700	6
30002	2006	78	4.7	445	6	-5	149	53	2	16	4932	18	52	35	48	11	7183	15
30006	2006	586	42	2794	3	170	50900	17	80	8	14200	56	12	426	22500	9	1198	2
30007	2006	-10	-0.5	11	5	-5	109	46	2	24	101	-5	45	-10	24	17	94	14
30008	2006	-10	-0.5	24	5	-5	248	81	5	24	41	11	18	43	29	18	128	299
30009	2006	236	6.2	70	7	14	3144	70	10	17	182	10	63	23	600	14	477	35

nd = not determined

Sample 90-01 by Jacobs Assay Office, Tucson, AZ

Samples 92-01 - 92-03 by Skyline Labs, Tucson, AZ

Samples 192001 - 192009 by Bondar-Clegg, Vancouver, B.C.

2006 Analyses by Alaska Assay Laboratories

Six rock channel samples were collected at the Silver Lining prospect in 2006 (Table 3; Figure 8). The purpose was to determine the extent of wall rock mineralization and alteration adjacent to the veins. Each channel consisted of 3 samples, each of which represents a 1 ft length along the channel, with the middle sample centered on the vein of interest. The vein-bearing sample from channel # 1 actually contains 2 parallel veins spaced approximately 10cm apart. Channel 5 contains a mm-scale veinlet in the center sample and a 5cm gouge zone in the adjacent sample to the north. Channels 1, 2, 4 and 6 were obtained using a portable hand-held diamond saw; channels 3 and 5 were obtained using the standard rock chipping method because a saw cut was not feasible. As expected, the middle sample containing the vein returned the highest gold value in most cases. The average gold value for 5 vein-bearing channel samples (excluding channel 5 which had only a 2mm thick vein) was 243ppb; the range of gold values for all of these samples was <10-832ppb. The gold value for the gouge-bearing sample of channel 5 was 450ppb. Lack of high gold values from channel samples containing barren wallrock indicates virtually no dispersion of gold beyond the vein walls. However, other metals do appear to be dispersed locally into wallrock adjacent to the veins. This is supported by several highly anomalous metal values returned for wallrock samples, including locally anomalous Ag (up to 46.1ppm), Bi (up to 16ppm), Cu (up to 1,515ppm), Pb (up to 5,807ppm), Sb (up to 91ppm), and U (up to 24ppm).

Table 3. Rock channel samples from the Silver Lining prospect (2006).

Samp	From (ft)	To (ft)	Type	Au_ppb	Au_ppb**	Ag ppm	As ppm	Be ppm	Bi ppm	Cu ppm	La ppm	Mo ppm	Nb ppm	Pb ppm	Sb ppm	Th ppm	U ppm	W ppm	Y ppm	Zn ppm	Zr ppm
30003	0	1	Chip	19	35	24.6	170	5	16	860	51	6	21	4893	6	50	16	198	15	2785	17
30004	1	2	Chip	832	835	23.6	2246	7	73	6247	40	17	17	11900	57	41	91	1200	12	3453	12
30005	2	3	Chip	15	5	30.9	175	6	-5	1515	37	4	21	4993	-5	50	24	30	14	2590	14
30101	0	1	Saw	-10	15	1.8	59	4	-5	138	49	7	20	750	-5	52	-10	-4	13	3433	17
30102	1	2	Saw	78	71	24.9	1203	4	15	980	48	31	15	7193	13	48	34	37	10	4704	17
30103	2	3	Saw	-10	-5	-0.5	17	5	-5	40	52	-2	21	289	-5	49	-10	-4	15	1933	16
30104	0	1	Saw	-10	-5	-0.5	8	4	-5	42	43	-2	19	52	-5	47	-10	6	13	118	14
30105	1	2	Saw	23	15	1.4	43	4	-5	53	41	-2	18	569	-5	49	-10	5	12	817	14
30106	2	3	Saw	-10	-5	-0.5	9	4	-5	23	50	-2	23	38	-5	47	-10	-4	15	74	17
30107	0	1	Saw	-10	35	0.6	37	4	-5	27	49	-2	22	241	6	50	10	7	15	153	17
30108	1	2	Saw	73	74	4.3	518	4	-5	124	45	3	18	1843	15	46	12	29	12	1485	16
30109	2	3	Saw	-3	15	2.5	7	5	-5	22	48	2	22	322	-5	49	-10	-4	15	186	16
30110	0	1	Chip	450	392	12.4	2713	3	77	1107	44	8	22	5807	448	49	55	178	11	951	24
30111	1	2	Chip	-10	-5	11.3	578	4	-5	197	52	-2	24	1114	91	54	16	30	12	482	24
30112	2	3	Chip	-10	-5	1.7	670	5	-5	108	48	2	25	754	67	47	12	31	16	366	17
30113	0	1	Saw	-10	-5	34.7	58	5	-5	137	48	-2	18	542	6	53	-10	7	17	928	24
30114	1	2	Saw	211	234	45.7	1823	4	187	2442	47	2	15	8726	30	48	36	53	10	1009	27
30115	2	3	Saw	-10	25	46.1	66	5	-5	227	44	2	18	905	-5	48	-10	12	15	751	22

Analyses by Alaska Assay Laboratories, except where noted

Au ppb\*\* = Duplicate gold analysis by Acme Laboratories

## Occurrences Outside the Draken Property

There are several mineralization occurrences located outside the Draken property but in close proximity. These prospects and occurrences have mineralization characteristics which are similar to those seen at the Silver Lining prospect, and are discussed in order to place the Silver Lining prospect into the context of a larger scale metallogenic model incorporating the MFPC as a whole.

### Two Mile Prospect

Mineralization at the Two Mile prospect, which lies approximately one mile north of the Draken property (Table 4; Figures 5 & 8), is very similar to mineralization at the Silver Lining prospect. Notable differences of these sulfide-quartz veins were different vein orientations (N22E @ 80 deg. SE), more pervasive wallrock alteration, and more pervasive oxidation of sulfides. Two rock chip channels and one high grade vein sample were completed using the rock hammer chipping method (Table 4; Figure 8). None of the samples contained anomalous gold, however, the samples did contain sporadic weakly anomalous Ag-Cu-Pb-Th-U-W. Anomalous As values were noticeably absent, and could possibly be related to the absence of anomalous Au. Two high grade vein samples were collected at the prospect in 1993, which also returned low gold and arsenic values. These high grade vein samples did contain highly anomalous Cu (up to 12,144ppm) and Mo (up to 284ppm). Singer and others (1976) classified the prospect as a “porphyry” type.

### Section 35 Prospect

One rock grab (select) consisting of fine-grained, weakly oxidized syenite was collected near the southwest corner of section 35 (sample #30018) (Table 4; Figure 8). The sample returned 16ppm Be, 172ppm La, 145ppm Nb, 235ppm Th, 157ppm U, 33ppm Y and 291ppm Zr. The sample occurs within a syenite ring dike complex where apatite, fluorite and monazite occur as accessory minerals (Figure 5; Kerin, 1976). The syenite ring dike complex generally trends east-west across the southern portion of the Draken property. White and others (1963) conducted a radiometric survey along the Taylor Highway, and reported a radiometric anomaly located where the ring dike complex intersects the Taylor Highway. However, sporadic highly anomalous U, Th and REE's do occur in veins at the Silver Lining prospect, which is hosted in quartz monzonite just north of the ring complex.

### Fairplay Prospect

Other mineral occurrences are in close proximity to the Draken property include the Fairplay prospect (Figure 5), located approximately 4.8km (3mi) northeast of the Silver Lining prospect. The prospect is variably described as porphyry style mineralization containing anomalous Cu-Mo-Pb-Zn in rock samples (Singer and others, 1976). Host rocks at the prospect appear to be felsic volcanic rocks, but the prospect is located about 1,000m east of the contact with hornblende-biotite quartz monzonite. Singer and others (1976) also describe the prospect as containing high W-Pb-Zn in stream sediment samples and heavy mineral concentrates. Kerin (1976) reported three gold-anomalous rock samples from the Fairplay prospect, with values ranging from 40-120ppb gold (Figure 8).

Table 4. Selected assay results for rock samples from the Two Mile & Section 35 prospects; MF summit ridge area.

Samp	Year	Prosp	From (ft)	To (ft)	Type	Au ppb	Au ppb*	Ag ppm	As ppm	Be ppm	Bi ppm	Cu ppm	Hg (ppm)	La ppm	Mo ppm	Nb ppm	Pb ppm	Sb ppm	Th ppm	U ppm	W ppm	Y ppm	Zn ppm	Zr ppm
192008	1992	TM			Grab	34	na	14.2	722	nd	19	12144	0.021	nd	32	nd	805	23	nd	nd	60	nd	1200	nd
192009	1992	TM			Grab	74	na	9.2	708	nd	2.5	1693	0.005	nd	284	nd	147	15	nd	nd	10	nd	118	nd
30010	2006	TM			High grade	10	15	0.7	33	4	6	290	nd	110	7	8	121	7	30	20	33	9	108	15
30011	2006	TM	0	1	Chip Chan	-10	-5	1	47	5	-5	340	nd	62	14	19	98	-5	49	57	34	13	102	23
30012	2006	TM	1	2	Chip Chan	-10	10	0.9	34	4	-5	297	nd	81	8	15	115	7	41	25	27	12	121	20
30013	2006	TM	2	3	Chip Chan	-10	-5	1.6	16	5	-5	195	nd	60	6	22	95	-5	46	11	8	15	105	23
30014	2006	TM	0	1	Chip Chan	10	-5	-0.5	59	5	-5	481	nd	51	8	21	24	15	44	34	64	11	48	22
30015	2006	TM	1	2	Chip Chan	-10	-5	0.6	36	4	-5	280	nd	50	6	20	15	10	46	20	56	10	44	22
30016	2006	TM	2	3	Chip Chan	-10	-5	1	29	5	-5	265	nd	53	5	19	23	-5	46	18	36	13	42	20
30017	2006	MF			Grab	-10	10	0.8	26	2	-5	88	nd	33	2	13	185	-5	17	-10	-4	20	175	123
30018	2006	Sec 35			Grab	-10	5	-0.5	48	16	-5	18	nd	172	9	145	82	-5	235	157	14	33	78	291
30116	2006	MF			Grab	-10	10	-0.5	19	3	-5	26	nd	37	2	11	57	-5	19	-10	6	21	75	106
30117	2006	MF			Grab	-10	30	-0.5	-5	-1	-5	5	nd	-2	2	-2	6	-5	-2	-10	-4	-2	4	-2
30118	2006	MF			Grab	-10	5	-0.5	5	-1	-5	8	nd	-2	-2	-2	5	-5	2	-10	-4	-2	4	-2

TM = Two Mile prospect

Sec 35 = Section 35 prospect

MF = Mount Fairplay summit ridge

Nd = not determined

## **Item 12: Exploration**

Exploration on the Draken project has focused on rock sampling of the Silver Lining prospect and soil sampling near this prospect (Figure 8). Sixteen grab (select) rock samples have been collected from this prospect (Table 2). Eighteen rock channel samples were collected from this prospect (Table 3), each consisting of a central vein-bearing sample and two adjacent wall rock samples. In 1993 and 1996 soil sampling was completed on portions of the current property position and on areas adjacent to the Silver Lining prospect (213 samples). Data is also presented for selected prospects and occurrences outside but in close proximity to the Draken property.

### Rock Sampling

Grab (select) and channel rock sampling of the Silver Lining prospect was completed June 1-2, 2006 (Figure 8). This work consisted of collecting horizontal rock channel samples across (orthogonal to) several of the high grade veins to further document the previous assay results, and to determine the extent of wallrock mineralization and alteration adjacent to the veins. A total of six rock channel samples were collected at the Silver Lining prospect. A portable, hand-held rock saw was used to collect four of the channel samples, and a hammer and chisel were used to collect 2 of the channel samples. Each channel was 3 ft long, and consisted of 3 rock samples (each one foot in length), with the middle sample centered on the vein. Saw-cut samples consisted of a 2 inch wide rock slab obtained by making 2 parallel cuts, approximately 2 inches apart and 3 inches deep, in the rock face, and then using hammers and pry-bars or chisels to extract the sample material.

### Soil Sampling

Soil sampling in the Mount Fairplay area has been fraught with problems. A total of 213 soil samples have been collected on two soil grids (1993 and 1996). Bedrock at the elevation of the Silver Lining prospect is approximately 20ft below the surface, so shovel and auger sampling within ten feet of the surface does not provide good representation of bedrock. The general soil profile consists of a thin layer of organic material at the surface, underlain by a thin, poorly developed B soil horizon (frozen in many areas), which is in turn underlain by a thick zone (up to 15 ft) of gruss mixed with large boulders of massive granite. Severe weathering appears to have leached and removed vein material from the upper 15 ft of bedrock. An unknown degree of transport of surface materials also contributes to the sampling error.

In 1993, a total of 69 soil samples were collected by shovel, using a sample spacing of 100 ft and a line spacing of 500 ft to 1000 ft, on lines oriented N45E and N45W. Gold values for the 1993 sampling are shown on the thematic map in Figure 10. Sampling conditions were very poor, and the results are largely inconclusive.

In 1996, a total of 144 soil samples were collected by power auger, using a sample and line spacing of 400 ft, along lines oriented north-south. Gold values for the 1996 sampling are shown on the thematic map in Figure 11. The 1996 soil sampling was completed using a Tanaka power auger equipped with a 3.5 ft flight and specialized bit designed for soil sampling. This sampling also encountered difficult sampling conditions, however, a factor analysis of this data was completed (see below).

The highest gold value reported for any soil sample was 71ppb from a sample site located approximately 311m (1,000 ft) northeast of the Silver Lining prospect. Only two other soil samples returned anomalous gold values, including one sample from a 1993 grid site located approximately 165m (530 ft) east of the Silver Lining prospect (49ppb), and another from a 1996 grid site located approximately 780m (2,500 ft) northeast of the prospect (40ppb). Perhaps by coincidence, the two anomalous samples northeast of the discovery outcrops occur on a northeast alignment from the discovery outcrops.

To further evaluate the 1996 soil sample data, a factor analysis was also completed (Freeman and others, 1997). Four factor groups were partitioned, with groups 3 and 4 suggesting at least two, spatially distinct, and unrelated hydrothermal metal suites. The group 3 suite includes Au-Ag-As-Sc-Cu-Pb-Sb-Sr-Tl-Zn, and the group 4 suite includes Au-Al-Ba-Co-Cu-Fe-Hg-Mg-Mn-No-Ni-Sc-V. The group 3 suite is consistent with the metallogeny of the sulfide-quartz veins exposed at the Silver Lining prospect. The group 4 suite is consistent with metallogeny associated with porphyry Cu-Mo-Au systems throughout the YT (eg, Taurus, etc). Contouring of the Group 3 values indicates a strong northeast alignment trending directly across the Silver Lining prospect. The factor analysis also indicates other less distinct northeast-trending linears adjacent to the prospect.

### **Item 13: Drilling**

To the best of my knowledge, there has been no drilling on the Draken property.

### **Item 14: Sampling Method and Approach**

Sampling methods used include rock and soil sampling methods.

#### **Rock Sampling Method**

Approximately 50 rock samples have been collected on the Draken property during sampling projects conducted during the years 1990, 1992, 1996 and 2006. Rock grab samples consisted of 10-30kg of material, and were collected from outcrops at the Silver Lining and other prospects or occurrences in the area. All samples were collected in 7.5 x 12in or larger cotton canvas or olefin sample bags at the sample site, organized in base camp, and then placed in woven polypropylene bags sealed with wire ties in preparation for transit to Fairbanks.

Grab (select) and channel rock sampling of the Silver Lining prospect and the Two Mile prospect was completed in 2006. Samples of high grade vein material was collected from both the Silver Lining and Two Mile prospects for comparison with earlier rock sampling at these prospects. These samples were mineralogically similar to samples described previously and yielded generally similar geochemical results. Channel sampling consisted of collecting horizontal rock channel samples across (orthogonal to) several of the high grade veins. Wallrock to the veins was also channel sampled to test for disseminated mineralization. A total of eight rock channel samples were collected, each consisting of three one-foot-wide samples, with the middle sample centered on the vein. A portable, hand-held rock saw was used to collect 6 of the channel samples; a hammer and chisel were used to collect 2 of the channel samples. Saw-cuts were made approximately 2 inches apart and 2 inches deep. Hammers, pry-bars and chisels were then used to extract the sample material.

Sample descriptions were recorded at the sample sites in a standard field notebook; location data for samples collected prior to 2006 was determined by use of a local grid tied to a known geographic reference point, and measuring distance with a hip chain. Location data for all samples collected during 2006 was determined using a Garmin handheld GPS unit. Sample descriptions for rocks included lithology, alteration and mineralization. Sample descriptions for soils was collected in numerical format, and included descriptions of color, depth, soil horizon stratigraphy, frozen conditions, and rock chip lithology. Hand-written field notes were later scanned and digitally archived. Location data and summarized sample descriptions were later appended to sample assay results and incorporated into a master GIS database.

### Soil Sampling Method

In 1993, a total of 69 soil samples were collected by shovel, using a sample spacing of 100 ft and a line spacing of 500 ft to 1000 ft, on lines oriented N45E and N45W. Holes were dug approximately 1–2ft deep and soil was collected from of the B-horizon. This material was then placed into a Hubco Sentry sand bag, which was then placed in a sealed ziplock plastic bag to avoid cross-contamination. Rock chips were collected from the oversize material and kept for later inspection. The pits were then reclaimed to their natural state, and the sampling tools were wiped clean to prevent contamination of subsequent samples. In 1996, a total of 144 soil samples were collected by power auger, using a sample and line spacing of 400 ft, along lines oriented north-south. The samples were collected by using a Tanaka power auger equipped with a 3.5ft flight and specialized bit designed for soil sampling.

Sampling conditions were relatively poor, with each site requiring several attempts to obtain sufficient sample material, and average depths ranging from 2–3ft. Frozen ground and large boulders of massive granitic rock were encountered quite often, resulting in poor quality samples. Bedrock at the elevation of the Silver Lining prospect is approximately 20ft below the surface. The material above bedrock consists of a layer of organic material at the surface (up to 10in), underlain by a poorly developed B-soil horizon, which is in turn underlain by a thick zone (up to 15ft) of gruss mixed with large boulders of massive granitic rocks. The ground was frozen in many areas, particularly at lower elevations. Severe weathering appears to have leached and removed vein material from the upper 15ft of bedrock. Due to the deep weathering profile, the presence of frozen ground, abundant subsurface boulders, and the unknown degree of transport of the sample materials, reliable soil survey data for the Draken project has been difficult to obtain.

### **Item 15: Sample Preparation, Analyses and Security**

Rock sample 90-01 was collected in 1990 by property owners William and Dawna DeHaven. The sample was analyzed by Jacobs Assay Office of Tucson, Arizona. No other information is available concerning sample preparation, analysis and security for this sample. Rock samples 92-01, 92-02, and 92-03 were collected in 1992 by the DeHavens. The samples were analyzed by Skyline Labs of Tucson, Arizona. No other information is available concerning sample preparation, analysis and security for these samples.

All remaining rock samples, and all soil samples, were collected by ADC and SRI. At each sample site, samples were placed in canvas or olefin sample bags as described previously and properly labeled. Later, the individual samples were placed in double, woven polypropylene shipping sacks and secured with wire ties before being transported. ADC personnel delivered the samples via truck from the field to ADC's office in Fairbanks, where they were temporarily stored in a locked warehouse facility. ADC personnel then sorted and inspected the samples for integrity, and found them to be in good condition. ADC personnel then inserted standards and blanks into the sample stream to provide quality control and assurance; a lab submittal form was then completed. Chain of custody was then transferred to a courier for one of the local prep lab facilities in Fairbanks.

Samples collected by ADC personnel were prepared and analyzed by different labs. Samples collected in 1992, 1993 and 1996 were prepared and analyzed by Bondar-Clegg, Ltd, Vancouver, Canada; samples collected in 2006 were prepared and analyzed by Alaska Assay Laboratories, Fairbanks, Alaska. Acme Analytical Laboratories also analyzed the 2006 rock samples for gold to provide a cross check against the assays reported by Alaska Assay Labs. The entirety of each rock sample was crushed to 70% passing 2 millimeter (10 mesh) and a 250 gram split was taken and pulverized to +85% passing 75 microns (200 mesh).

All rock samples were analyzed for Au using standard 30 gram lead collection fire assay techniques with an inductively coupled plasma (ICP) finish. Then the samples were analyzed for a suite of elements by using different methods. The samples collected in 1992, 1993, and 1996 used a standard two acid digestion procedure followed by ICP techniques with an atomic emission spectrographic finish. The samples collected in 2006 used a four acid digestion procedure followed by ICP techniques with an atomic emission spectrographic finish. Samples 9001 and 9201-9203 were analyzed for a suite of 12 elements. Samples 192000-192009 were analyzed for a suite of 16 elements. All samples collected in 1993 were analyzed for a suite of 26 elements. All samples collected in 1996 were analyzed for a suite of 33 elements. All samples collected in 2006 were analyzed for a suite of 35 elements.

All geochemical data obtained by ADC was checked for errors prior to release, and is available upon request. Final hard copy analytical certificates were sent to ADC and archived digitally. This data is backed up on a weekly basis using archival tape back-up methods and stored off-site in a fire-proof safe. Sample pulps and rejects are stored at ADC for future use.

### **Item 16: Data Verification**

A total of 2 standards and 2 blanks were used during the 2006 field program to verify the quality of the analytical results. Alaska Assay Laboratories also inserted internal QAQC samples on a 1 pair (one blank and 1 standard) per 18 sample basis. ADC used commercially prepared gold standards. Blank samples consisted of basalt from the Browns Hill Quarry near Fairbanks. This material is ideal because of its hardness, which helps scour the crusher plates and grinders, and because of its consistent chemical signature which is void of gold and other elements typically used as gold pathfinders. Examination of the assay results for the standards and blanks indicates they are consistent with previous results for those standards and blanks.

In addition QAQC insertions, gold values for all of the 2006 rock samples were re-tested by Acme Labs for comparison with results for these samples obtained from Alaska Assay Labs. The results for gold values were quite consistent.

Data verification was also completed by collecting three duplicate high grade vein samples from the Silver Lining and Two Mile prospects to compare with earlier results from these prospects. The samples from the Silver Lining prospect showed highly anomalous As-Cu-Bi-Mo-Pb-Sb in both the 2006 and previous samples. The high grade sample from the Two Mile prospect indicated consistently anomalous Cu-Pb-W in both the 2006 and previous samples. Due to the lack of QAQC samples, results of the 1990 – 1992 rock sampling are not relied upon for interpretation. The cause of high variability seen in gold values for high grade vein samples is unknown. One explanation could be the presence of coarse gold.

### **Item 17: Adjacent Properties**

At the time of this writing there are no active claim holdings adjacent to the Draken property. However, the south property boundary abuts federal land which has been selected by the Doyon Native Corporation (a regional native corporation).

### **Item 18: Mineral Processing and Metallurgical Testing**

To the best of my knowledge, there has been no metallurgical testing on the Draken property.

### **Item 19: Mineral Resource and Mineral Reserve Estimates**

Currently there are no resources or reserves defined on the Draken property that comply with the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on August 20, 2000.

### **Item 20: Other Relevant Data and Information**

To the best of my knowledge, there are no other data available that relates directly to the lode potential of the Draken project.

### **Item 21: Interpretation and Conclusions**

The Draken property is located in the YT terrane of east-central Alaska, and squarely within the Tintina Gold Belt. Mineralization on the property is hosted within the MFPC, a Late Cretaceous to early Cenozoic alkaline plutonic complex with well-developed ring structures, which intrudes mid Cretaceous bimodal volcanic rocks and older metamorphic rocks with continental affinities. The volcanic rocks are speculated to form part of a large caldera complex which was intruded near its center by the MFPC. The MFPC was intruded in three main pulses: 1) an early alkaline ring phase on

the north side of the complex, 2) a later alkaline ring phase on the south side of the complex, and 3) a final calc-alkaline core phase. Several structural trends, resulting from a complex tectonic history, are present in the project area. Some of these trends resulted from large scale movements along the Tintina and Denali fault dextral strike slip fault systems, while others appear to be related to emplacement of the MFPC. Emplacement of the MFPC is bracketed at 59-66 Ma. The primary mineralization known to exist on the Draken project is hydrothermal auriferous sulfide-quartz veins. Limited sampling outside the Draken property returned highly anomalous U-Th-Nb-F-REE. This data and the presence of radiometric anomalies associated with the MFPC suggest potential for this type of mineralization within or near a ring dike complex which underlies the south portion of the Draken property.

Auriferous sulfide-quartz veins occur in outcrops at the Silver Lining and Two Mile prospects. Sulfide mineralogy of the veins includes arsenopyrite, chalcopyrite, pyrite, galena and chalcopyrite. Earlier sampling of the veins yielded gold values up to 0.25 opt. These high values were unsubstantiated by sampling completed in 2006. The veins are characterized by highly anomalous Ag-As-Bi-Cu-Pb-Sb, and locally highly anomalous U-Nb-W. Alteration halos adjacent to the veins are only weakly developed and largely barren. The veins are locally well-oxidized and contain secondary copper and arsenic oxides. The veins also contain some secondary copper silicate (chrysocolla). At the Silver Lining prospect, the veins range from 1-4cm in thickness, strike approximately N35-60E, and dip 65-75 degrees NW. Further north, at the Two Mile prospect, the veins strike towards the northwest. The veins generally through-going. Weak, northeast-trending gold-in-soil anomalies, suggest these vein systems may continue towards Mount Fairplay. Efforts to delineate the extent of the vein mineralization along strike using soil sampling methods have been problematic due to extremely poor sampling conditions. Ground geophysics, including ground magnetometer surveys, may be the best tool for delineation of targets, however, bedrock exposure and rock sampling of fresh material is needed.

Potential exists for disseminated U-Th-Nb-F-REE mineralization associated with an alkalic ring dike complex. Phases of the ring dike complex which appear to host this type of mineralization include hornblende-biotite syenite and perthosite, both phases intruded during a second pulse of alkaline ring magmatism. The ring dikes are mapable using scintillometer techniques, and generally trend east-west across the southern portion of the Draken property. One sample collected just east of the property returned highly anomalous Be, La, Nb, Th, U, Y and Zr.

## **Item 22: Recommendations**

Based on the data and conclusions drawn in this report, I suggest that further exploration on the Draken project be conducted in two phases, including a surface exploration program (phase 1) and a follow-up exploration drilling program (phase 2).

### **Phase 1: Surface Exploration Program**

The components of the recommended surface exploration program are summarized below and a proposed budget for this program (CAN\$ 56,683.70) is outlined in Table 5:

- Twelve additional 160-acre claims should be staked (Figure 5). These new claims will cover possible northeast strike extensions of the gold-bearing veins exposed at the Silver Lining prospect. Additionally, the new claims will cover the south and eastern portions of the ring-dike complex, where potential U-Th-REE mineralization may exist.
- A detailed ground radiometric survey, using a hand-held scintillometer, is recommended. This survey should include orientation surveys across veins exposed at the Silver Lining prospect, and across the protoclastic phases of the ring dike complex near the Taylor Highway, in the southwest portion of the project. Additional survey lines should target possible northeast extensions of the veins, and should also target the protoclastic phases of the ring-dike complex. This survey could be conducted prior to trenching, so the results can be used to refine trench locations.
- A detailed ground magnetometer survey is also recommended to delineate lithologic boundaries between various igneous rock units. The alkalic ring dike complex may also be delineated as a magnetic low.
- Backhoe trenching and detailed rock sampling is recommended. A medium-sized backhoe, supported by a small to medium-sized dozer, should be adequate. Five trenches, totaling approximately 4,000ft are suggested (Figure 5). These trenches should be situated to test the two targets mentioned above, including 1) possible northeast extensions of veins exposed at the Silver Lining prospect, and 2) possible disseminated U-Th-REE mineralization located on the southern portion of the property. The trenches should be mapped in detail, and rock chip channel sampling should be completed using five foot intervals. Samples should be analyzed for a broad suite of REE's in addition to a standard gold/multi-element ICP package. Metallic sieve analysis should be completed on selected samples. Additionally, several rock samples should be collected for petrographic analysis to determine the mode of occurrence of uranium/REE-bearing mineral phases. Polished sections of veins would be useful to determine metallic mineral phases and petrogenesis. Rock samples could also be U.V. lamped to check for scheelite mineralization.

Table 5. Phase 1 surface exploration program budget.

TABLE 5 DRAKEN PROJECT PHASE 1 - SURFACE EXPLORATION PROGRAM BUDGET (all costs in CAN\$)							
Draft January 2008 Accuracy +/- 20%							
	number	days	\$/day	lump sum		total	remarks
<b>Personnel:</b>							
Supervision, office o/h	0	0.00	477.50	0.00		0.00	
Project Manager	0.25	12.00	429.75	0.00		1,289.25	Avaion - C Freeman
Project Geologist	1	12.00	324.25	0.00		3,891.00	Avaion - D Adams
Junior Geologist	0	0.00	238.75	0.00		0.00	Avaion
Snr. Computer Analyst	0.25	10.00	310.38	0.00		775.95	Avaion - K. Wolf
Technician/sampler	2	10.00	238.75	0.00		4,775.00	Avaion
Expediter	0.25	10.00	214.88	0.00		537.20	Avaion - S Farnham
Cook/Camp Manager	0	0.00	477.50	0.00		0.00	Contractor
Heavy Equipment Operator	1	8.00	310.38	0.00		2,483.04	Avaion
Payroll taxes	0	0.00	0.00	3437.88		3,437.88	Fed tax, Work Comp. benefits
					subtot	17189.30	
<b>Equip/Supplies/Misc:</b>	number	days	\$/day	lump sum			
Rental Vehicles	1	8.00	47.75	0.00		382.00	Avaion F350 rental
Room & Board	4	8.00	119.38	0.00		3,820.16	R&B in Tok @ \$143.25/day/person
Commercial Airlines	0	0.00	0.00	0.00		0.00	Commercial airfare
Maps, Photos, refs.	0	0.00	0.00	238.75		238.75	Maps, airphotos
Field Supplies	0	0.00	0.00	955.00		955.00	Field expendables (flagging, lath, bags, tools, etc.)
Contract Camp	0	0.00	0.00	0.00		0.00	4 person tent camp
Camp and Supplies	0	0.00	0.00	0.00		0.00	Expendable camp supplies
Fuel - Diesel	0	0.00	0.00	382.00		382.00	Diesel fuel - heavy equipment & truck
Fuel - Gasoline, Propane, etc.	0	0.00	0.00	238.75		238.75	Truck, expedite and field support
					subtot	6016.66	
<b>Geochemistry</b>	number	elem	\$ ea	lump sum			
Soil, Pan Con, Str. Sed.	0	0	0.00	0.00		0.00	Au + 4 Acid ICP + REE's
Rocks (fract, grab)	300	30	28.65	0.00		8,595.00	Au + 4 Acid ICP + REE's
Reverse circulation	0	30	28.65	0.00		0.00	Au + 4 Acid ICP + REE's
Metallurgical/Petrological	10	6	71.63	0.00		716.30	6-element NIS analyses
Standards, blanks, dupes	30	30	28.65	0.00		859.50	Pt+Pd+Au + 4 Acid ICP
Sample Freight	0	0	0.00	0.00		0.00	Air freight + truck to Fairbanks and Vancouver
					subtot	10170.80	
<b>Geophysics:</b>	line mi	\$/mi	mobe	lump sum			
Ground Magnetic	1	0.00	0.00	955.00		955.00	
IP/Resistivity	0	0.00	0.00	0.00		0.00	
Ground Radiometric	2	0.00	0.00	955.00		955.00	Scintillometer rent
Gravity	0	0.00	0.00	0.00		0.00	
Lidar	0	0.00	0.00	0.00		0.00	
Airborne mag/EM/rad	0	0.00	0.00	0.00		0.00	
T M / photo interp	0	0.00	0.00	0.00		0.00	Air photos, TM images
					subtot	1910.00	
<b>Land/Property:</b>	days/claims	\$ per	mobe	lump sum			
Claim staking materials	12	200.00	0.00	0.00		2,400.00	
Surveying	0	0.00	0.00	0.00		0.00	
Land research, misc	0	0.00	0.00	286.50		286.50	E. Hansen, district search
					subtot	2686.50	
<b>Property Cost</b>	Number	Amount	Annual \$	lump sum			
Annual Rentals	0	95.50	0.00	0.00		0.00	160 acre claims at \$95.5/claim
Annual Rentals	6	23.88	0.00	0.00		143.28	40 acre claims at \$23.88/claim
Recording Fees, etc.	0	0.00	0.00	0.00		50.00	recording fees
New Acquisitions	12	23.88	0.00	0.00		286.56	new claim rent
					subtot	479.84	
<b>Computer Services</b>	Months	\$/mo	Expense	lump sum			
Hardware - New, Repair	0	0.00	0.00	143.25		143.25	Repair, post-season
Remote Communications	0	0.00	0.00	0.00		0.00	Iridium Phone, internet
Computer Rentals	0.25	429.75	0.00	0.00		107.44	Field and Office computer, printer, supplies, etc.
Contract Services	0.25	1050.50	0.00	0.00		262.63	GPS, radios, Plotter, flatbed scanning, etc.
					subtot	513.31	
<b>Contracted Services:</b>	hours/units	\$/hr		lump sum			
ATV's, Augers, Rock Saw, etc.	0	0.00	0.00	477.50		477.50	Channel saw rent plus expendables
Heavy Equipment Rent	0	0.00	0.00	5730.00		5730.00	DS dozer; backhoe
Heavy Equipment Mobe	0	0.00	0.00	2865.00		2,865.00	DS dozer; backhoe mobe + de-mobe
					subtot	9072.50	
<b>Drilling:</b>	ft	\$/ft	mobe	lump sum			
Rev circ	0	25.79	0.00	0.00		0.00	Track mounted, loaded costs
Core	0	33.43	0.00	0.00		0.00	Footage, bits, muds, hourly
Mobe + DeMobe	0	0.00	0.00	0.00		0.00	
	number	months	\$/mo	lump sum			
Drill Muds	0	0.00	0.00	0.00		0.00	Included in footage rates
Reclamation	0	0.00	0.00	955.00		955.00	
Permitting/Bonding	0	0.00	0.00	955.00		955.00	1 year permit, DNR plus closure filings
					subtot	1910.00	
<b>Administration:</b>	number	months	\$/mo	lump sum			
Office Rent	1	0.25	2865.00	0.00		716.25	Avaion office
Warehouse Rent	1	0.25	1146.00	0.00		286.50	Avaion warehouse
Utilities	1	0.25	477.50	0.00		119.38	Avaion
Office Supplies	1	0.25	191.00	0.00		47.75	Avaion
Phone-Fax-Modem	1	0.25	477.50	0.00		119.38	Avaion
Vehicle/Liability Insurance	1	0.25	95.50	0.00		23.88	Avaion
Outside Legal Counsel	0	0.00	0.00	0.00		0.00	Avaion
Accounting	1	0.25	119.38	0.00		29.85	Avaion
Reproductions	0	0.00	0.00	191.00		191.00	Avaion
Postage	0	0.00	0.00	47.75		47.75	Avaion
					subtot	1581.72	

Cost per Sample	188.79
Cost per Day	\$2,699
Cost per Man-Day	\$644

Project Subtotal		\$51,530.69
Mgt Fee (10%)		\$5,153.06
<b>PROJECT TOTAL</b>	<b>CANS</b>	<b>\$56,683.70</b>

## Phase 2: Exploration Drilling Program

The recommended exploration drilling program is summarized below, and a proposed budget for this program (CAN\$ 153,921.00) is outlined in Table 6:

- Contingent on encouraging results from the Phase 1 work outlined above, an exploratory drilling program would be recommended. Four drill holes are suggested at this time, although additional drill holes may be recommended after evaluation of results from the Phase 1 surface exploration program. South-angled drill holes are recommended, including two drill holes to test the subsurface extent of veins at the Silver Lining prospect, and two drill holes to test for possible disseminated U-Th-REE mineralization associated with a ring dike complex located on the southern portion of the property (Figure 5).

Table 6. Phase 2 exploration drilling budget.

		TABLE 6							
Draft January 2008		DRAKEN PROJECT							
Accuracy +/- 20%		PHASE 2 - EXPLORATION DRILLING PROGRAM BUDGET							
		(all costs in CANS)							
* Personnel:		number	days	\$/day	lump sum		total	remarks	
Supervision, office o/n	0	0.00	456.00	0.00	0.00		0		
Project Manager	0.25	25.00	429.75	0.00	0.00		2686	Avalon - C Freeman	
Project Geologist	1	25.00	324.25	0.00	0.00		8106	Avalon - D Adams	
Junior Geologist	0	25.00	238.75	0.00	0.00		0	Avalon	
Sr. Computer Analyst	0.25	25.00	310.38	0.00	0.00		1940	Avalon - K. Wolf	
Technician/sampler	1	25.00	238.75	0.00	0.00		5969	Avalon	
Expediter	0.25	25.00	214.88	0.00	0.00		1343	Avalon - S Farnham	
Cook/Camp Manager	0	0.00	477.50	0.00	0.00		0	Contractor	
Heavy Equipment Operator	0	8.00	310.38	0.00	0.00		0	Avalon	
Payroll Taxes	0	0.00	0.00	5010.95	0.00		5011	Fed Tax, Work Comp, benefits	
						subtot	25055		
* Equip/Supplies/Misc:		number	days	\$/day	lump sum				
Rental vehicles	1	12.00	47.75	0.00	0.00		573	Avalon F-350 rental	
Room & Board	1	12.00	119.38	0.00	0.00		10028	R&B in Tok @ \$125/day/person	
Commercial Airlines	0	0.00	0.00	0.00	0.00		0	Commercial airfare	
Maps, Photos, rels.	0	0.00	0.00	238.75	0.00		239	Maps, airphotos	
Field Supplies	0	0.00	0.00	1432.50	0.00		1433	Field expendables (tagging, bags, core boxes, etc)	
Contract Camp	0	0.00	0.00	0.00	0.00		0	1 person tent camp	
Camp and Supplies	0	0.00	0.00	0.00	0.00		0	Expendable camp supplies	
Fuel - Diesel	0	0.00	0.00	716.25	0.00		716	Diesel fuel - heavy equipment & truck	
Fuel - Gasoline, Propane, etc.	0	0.00	0.00	382.00	0.00		382	Truck, expedite and field support	
						subtot	13370		
* Geochemistry		number	elem	\$ ea	lump sum				
Soil, Pan Con, Str. Sed.	0	0	0.00	0.00	0.00		0	Au + 4 Acid ICP + REE's	
Roofs (grab, trench)	0	30	28.65	0.00	0.00		0	Au + 4 Acid ICP + REE's	
Unit Core	400	30	28.65	0.00	0.00		11480	Au + 4 Acid ICP + REE's	
Metallurgical/Petrological	20	6	71.83	0.00	0.00		1433	6-element NIS analyses	
Standards, blanks, dupes	40	30	28.65	0.00	0.00		1145	PTP@Au + 4 Acid ICP	
Sample Freight	0	0	0.00	0.00	0.00		0	Air freight + truck to Fairbanks and Vancouver	
						subtot	14039		
* Geophysics:		line mi	\$/mi	mobe	lump sum				
CSAMT	0	0.00	0.00	0.00	0.00		0		
IP/Resistivity	0	0.00	0.00	0.00	0.00		0		
Ground Radiometric	0	0.00	0.00	0.00	0.00		0	Scintillometer rent	
Gravity	0	0.00	0.00	0.00	0.00		0		
Lidar	0	0.00	0.00	0.00	0.00		0		
Airborne mag/EWrad	0	0.00	0.00	0.00	0.00		0		
1 M / photo interp	0	0.00	0.00	0.00	0.00		0	Air photos, 1 M images	
						subtot	0		
* Land/Property:		days/claims	\$ per	mobe	lump sum				
Claim staking	0	38.20	0.00	0.00	0.00		0		
Surveying	0	0.00	0.00	0.00	0.00		0		
Land research, misc	0	0.00	0.00	286.50	0.00		287	E. Hansen, district search	
						subtot	287		
* Property Cost		Number	Amount	Annual \$	lump sum				
Annual Rentals	0	95.50	0.00	0.00	0.00		0	160 acre claims at \$95.5/claim	
Annual Rentals	13	23.88	0.00	0.00	0.00		310	40 acre claims at \$23.88/claim	
Recording Fees, etc.	0	0.00	0.00	0.00	0.00		0	recording fees	
New Acquisitions	0	23.88	0.00	0.00	0.00		0	new claim rent	
						subtot	310		
* Computer Services		Months	\$/mo	Expense	lump sum				
Hardware - New, Repair	0	0.00	0.00	0.00	143.25		143	Repair, post-season	
Remote Communications	0	0.00	0.00	0.00	0.00		0	Inland Phone, internet	
Computer Rentals	0.75	429.75	0.00	0.00	0.00		322	Field and Office computer, printer, supplies, etc.	
Contract Services	0.75	1050.50	0.00	0.00	0.00		788	GPS, radios, Plotter, tracked scanning, etc.	
						subtot	1253		
* Contracted Services:		hours/units	\$/hr		lump sum				
ATV's, Augers, Rock Saw, etc.	0	0.00	0.00	0.00	0.00		0	Channel saw rent plus expendables	
Heavy Equipment Rent	0	0.00	0.00	5730.00	0.00		5730	Do' dozer	
Heavy Equipment Mobe	0	0.00	0.00	1910.00	0.00		1910	Do' dozer mobe + de-mobe	
						subtot	7640		
* Drilling:		ft	\$/ft		lump sum				
Rot circ	0	25.79	0.00	0.00	0.00		0	Truck mounted, loaded costs	
Core	2000	33.43	0.00	0.00	0.00		66860	Footage, bits, muds, hourly	
Mobe + de-mobe	0	0.00	0.00	4775.00	0.00		4775	drilling mobe + de-mobe	
Unit Muds	0	0.00	0.00	0.00	0.00		0	Included in footage rates	
Reclamation	0	0.00	0.00	955.00	0.00		955		
Permitting/bonding	0	0.00	0.00	955.00	0.00		955	1 year permit, DNR plus closure things	
						subtot	73545		
* Administration:		number	months	\$/mo	lump sum				
Office Rent	1	0.75	2865.00	0.00	0.00		2149	Avalon office	
Warehouse Rent	1	0.75	1146.00	0.00	0.00		860	Avalon warehouse	
Utilities	1	0.75	477.50	0.00	0.00		358	Avalon	
Office Supplies	1	0.75	191.00	0.00	0.00		143	Avalon	
Phone-Fax-Modem	1	0.75	477.50	0.00	0.00		358	Avalon	
Vehicle/Liability Insurance	1	0.75	95.50	0.00	0.00		72	Avalon	
Outside Legal Counsel	0	0.00	0.00	0.00	0.00		0	Avalon	
Accounting	1	0.75	119.38	0.00	0.00		90	Avalon	
Reproductions	0	0.00	0.00	200.00	0.00		200	Avalon	
Postage	0	0.00	0.00	200.00	0.00		200	Avalon	
						subtot	4429		

Cost per Sample	334.61
Cost per Day	\$7,330
Cost per Man-Day	\$1,749

Project Subtotal	\$139,926
Mgt Fee (10%)	\$13,993
<b>PROJECT TOTAL</b>	<b>CANS \$153,921</b>

## **Item 23: References Cited**

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**Item 24: Date and Signature Page**

This Report, entitled “Geologic Report on the Draken project, Fortymile Mining District, Alaska” and dated January 19<sup>th</sup>, 2008, relating to the Draken property, was prepared and signed by the following author:

David D. Adams

*David D. Adams*

David D. Adams, P. Geo., B.S., M.S., A.I.P.G.#7586, AA#221



January 19<sup>th</sup>, 2008  
Fairbanks, Alaska

Effective Date of the Report: January 19<sup>th</sup>, 2008

The execution date is February 9, 2009

## **CERTIFICATE OF AUTHOR**

David D. Adams  
Spectrum Resources Inc.  
P.O. Box 81598, Fairbanks, Alaska 99708  
Phone: 907-479-5066, Email: david.adams@acsalaska.net

I, DAVID D. ADAMS, Certified Professional Geologist #7586 HEREBY CERTIFY THAT:

1. I am currently employed as a Consulting Geologist as President of Spectrum Resources Inc, P.O. Box 81598, Fairbanks, Alaska, 99708, USA.
2. This certificate applies to the technical report entitled, “Geologic Report on the Draken property, Fortymile Mining District, Alaska” and dated January 19<sup>th</sup>, 2008 (the “Report”), revised October 29<sup>th</sup>, 2008, further revised February 9, 2009, and executed February 9, 2009.
3. I am a graduate of the University of Texas – El Paso, with a B.S. degree in Geology (1977). I am also a graduate of the University of Alaska - Fairbanks with an M.S. degree in Economic Geology (1983).
4. I am a member of the American Institute of Professional Geologists (#7586), the Society of Economic Geologists, the Association for Mineral Exploration B.C., the Alaska Miners Association, and the Geological Society of America.
5. During 1977-78, and since 1986 to the date of this certificate, I have been actively employed in various capacities in the mining industry in numerous locations in Alaska and elsewhere in the United States. I have considerable experience related to exploration and evaluation of precious and base metal mineral properties, including preparation of technical geologic and preliminary assessment reports.
6. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (NI43-101) and certify that by reason of my education, affiliation with a professional organization (as defined by NI43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI43-101.
7. I am responsible for the information contained within all sections of the report entitled “Geologic Report on the Draken property, Fortymile Mining District, Alaska” and dated January 19<sup>th</sup>, 2008 relating to the Draken property.
8. I visited the Draken property from May 30 – June 2, 2006 and spent a total of 3 field days evaluating the project.
9. I have had no prior involvement with the Draken property, which is the subject of the Report, prior to preparing this Report.

10. As of the date of this certificate, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

11. I am independent of the issuer, Fire River Gold Corp., applying all of the tests in section 1.4 of NI43-101.

12. I have read NI43-101 and Form 43-101F1 and the Report has been prepared in compliance with that instrument and form.

13. I consent to the filing of the Report with any stock exchange and other regulatory authority and the publication by them, including publication of the Report in the public company files on their websites accessible by the public.

DATED in Fairbanks, Alaska this 9<sup>th</sup> day of February, 2009.

*David D. Adams*

David D. Adams, P. Geo., B.S., M.S., A.I.P.G.#7586, AA#221

