Evaluation of the Chandalar Mining Property

Prepared for

Goldrich Mining Company

(Formerly Little Squaw Gold Mining Company)

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Cover photo © James C. Barker
Looking south over Chandalar Lake.

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Summary

The Chandalar Mining district, located 190 air miles north of Fairbanks, Alaska, lies within the mountainous south flank of the Brooks Range. Four airstrips within the claim boundaries accommodate air access, though multi-engine transport planes are restricted to the Company's Squaw Lake airstrip. Seasonal overland access from Coldfoot, the principal service center on the Dalton Highway, is via a 55-mile-long winter trail that has been used for most of the 20th century. A recent Federal District Court settlement between the U.S. Department of Interior and the State of Alaska awarded the State a permanent sixty-foot-wide public highway right-of-way that formalizes the route between Coldfoot and Chandalar Lake. Pioneer road access to the district currently exists from Chandalar Lake.

Chandalar area lands are administrated by the State of Alaska. No local government entity has organized, such as the Boroughs established in more populous parts of the state; consequently, there is no local taxing authority. As of September, 2008 Goldrich Mining Company (GRMC) holds mineral rights to more than 17,100 acres within the Chandalar district; of that, 426.5 acres are fee simple patented mining claims and the balance is State of Alaska mining claims. The claim block incorporates nearly the entire known mining district.

The Company, originally named Little Squaw Mining Company (LSMC), was incorporated in 1959, is presently traded on the NASD Over-the-Counter Bulletin Board under its current name, Goldrich Mining Company (trading symbol GRMC). After 44 years, a management change was effected in 2003 and an on-going exploration program was initiated. Goldrich is a fully reporting company, as it files all federally required documents to maintain its trade status listing with the US Securities and Exchange Commission. All field operations are conducted under appropriate permits from State of Alaska agencies. The authors estimate that 2004-through-2007 cumulative direct expenditures for exploration, drilling site dedicated equipment total approximately $4.88 million.

The Chandalar Mining district has historically produced both lode and placer gold. High-grade gold-quartz lodes, primarily from the Mikado Mine, yielded 9,039 oz Au recovered from 11,819 tons of ore mined by open-stoping from adits in frozen bedrock. Since 1906 production from both lode and placer deposits is believed to have produced about 85,000 oz of Au. Because most Chandalar placers are deeply buried, gold was mined from underground drift mines in frozen gravels. Where ground was thawed, mining was not possible.

The Chandalar hardrock mineralization features aspects of both sediment-hosted and orogenic, low-sulfide, metamorphic-related, mesothermal gold deposits. Primary control is a set of west-northwest-trending high-angle shear zones that cut Devonian-age or older greenschist-facies metamorphic rocks believed to be of the Coldfoot subterrane of the Arctic Alaska terrane. This terrane includes the highly mineralized "schist belt" of the western Brooks Range. At Chandalar the west-northwest-trending shear zones have been cut by a conjugate set of northeast and northwest structures. This is part of a larger orthogonal stress field extending 10-20 miles east and west of the Chandalar district. Timing of the quartz-sulfide mineralization deposition in the northwest-trending shears is, tentatively, mid-Cretaceous as are the gold deposits near Wiseman and Wild Lake to the west. In the Chandalar area, dismembered panels of the Coldfoot subterrane were overthrust due to northward-directed regional stresses along a nearly flat-lying thrust plate (décollement surface). Gold mineralization, identified in rocks of both the Upper and Lower Plates, is found over a 2,600-foot vertical span, occurring as discontinuous quartz lenses and shear-zone-controlled disseminations, stockwork, and sheeted veining. More persistent quartz veins are found hosted by faults or joints that splay off or intersect the major shear zones.

About 40 named prospects have been located in the district, most of which group along at least 10 vein-fault systems. Each has a strike length of one mile or more, along which mineralization occurs to varying degrees. Exploration, however, is hampered by well-developed periglacial features that widely obscure bedrock, complicating evaluation.

The mesothermal, gold deposits of the Chandalar district compare with other examples that carry grades of 0.04 - 0.25 oz/ton Au over large widths and strike lengths. Examples are the Juneau Gold Belt, Sukhoi Log in eastern Siberia (30 million oz averaging 2 ppm), Ballarat in Australia, and Spanish Peak in British Columbia's Cariboo District (major exploration project). This deposit type is an exploration target being pursued worldwide and is frequently associated with significant placer gold deposits.

A 100 ton-per-day (tpd) mill on Tobin Creek, built in 1969, last operated in 1982 but gold recovery never exceeded 78 percent on Mikado ore. Modest tonnage of high-grade lode gold resources in the Mikado, Summit, Little Squaw and Eneveloe deposits were estimated by previous management but most workings are caved and work since 2003 has been unable to re-verify the historic estimates.

Placer gold in the Chandalar Mining district was liberated from lode sources pre-glacial and during episodes of interglacial erosion and concentration complicated by cyclic advance/retreats of Quaternary glaciation from the north. Subsequent downcutting during each glacial retreat occurred in response to newly established base levels along the wide valleys to the north and west. These glacial events scoured the upper placer streams, Tobin, Woodchuck, and Big Squaw Creeks, but did not destroy pre-glacial pay streaks in the lower valleys of Little Squaw, Tobin (above Woodchuck Creek) and probably Big Squaw Creeks. These pre-glacial placer deposits were preserved during glaciation and significant resources remain.

In 2007 GRMC initiated a placer drilling exploration program consisting of 107 holes (101 on Little Squaw Creek) totaling 15,304 vertical feet. This drilling discovered significant placer mineralization underlying lower Little Squaw Creek. The deposit consists of perched pay streaks on glacial sediments in the Little Squaw Creek canyon and within a large buried pre-glacial fan below the mouth of the canyon.

Resource calculations as of February 9, 2009, for measured and indicated volumes in bank cubic yards (bcy) and fine gold ounces per bcy for mineralized gravel are:

GOLDRICH MINING COMPANY **2/9/2009**
LITTLE SQUAW CREEK ALLUVIAL DEPOSIT
MEASURED AND INDICATED RESOURCES

Resource Status	Total Pay Gravel BCY	Grade Pay Gravel Au Oz/BCY	Total Au Fine Troy Ozs
Fan			
Measured	1,136,376	0.0243	27,622
Indicated	5,308,654	0.0239	126,857
Subtotal	6,445,030	0.0240	154,479
Canyon			
Measured	453,130	0.0272	12,316
Indicated	2,203,440	0.0247	54,481
Subtotal	2,656,570	0.0251	66,797
Total	9,101,600	0.0243	221,276

An inferred resource was also calculated as of February 9, 2009 as:

GOLDRICH MINING COMPANY **2/9/2009**
LITTLE SQUAW CREEK ALLUVIAL DEPOSIT
INFERRED RESOURCES

Resource Status	Total Pay Gravel BCY	Grade Pay Gravel Au Oz/BCY	Total Au Fine Troy Ozs
Fan			
Inferred	830,750	0.0196	16,271
Subtotal	830,750	0.0196	16,271
Canyon			
Inferred	570,916	0.0365	20,822
Subtotal	570,916	0.0365	20,822
Total	1,401,666	0.0265	37,093

The mineral resource estimates for the Little Squaw Creek alluvial gold deposit are calculated by standard sectional resource-polygon methods and tested for accuracy using semi-variagrams for grade and grade X thickness. The mineralized fluvial section within the proposed resource area averages 82 feet thick and the overburden averages 50 feet thick along a pay channel strike distance of 5,129 feet.

The geological setting of the Chandalar Mining district placer deposits can be approximately compared to the glaciofluvial deposits in the Valdez Creek (south central Alaska), the Sussymanski-Burkandya and Yagodnoe Mines (Kolyma region, Russian Far East) and Greater Kuranakh placer (Aldan region, Russia). These examples were or are major placer mining operations. Furthermore, much of the present Chandalar placer resource is contained in a fluvial fan comparable to the productive fan placers at Manhattan and Osceola, Nevada.

Little Squaw Creek, together with other northeast-flowing streams draining the Chandalar district, comprise an exploration target of multiple paleofluvial fans and benches perhaps coalescing into a larger paleo-apron or terrace overlain by glacial sediment.

Based on the data presented in the following report these are the most important specific recommendations, in priority order:

Continue a resource evaluation program and develop, as warranted, a placer mine capable of processing 400 cubic yards of gravel per hour and producing 15,000 to 30,000 oz raw gold per year.

Phase 1: Resource drilling of the Little Squaw Creek alluvial fan. (Budget - $985,600)

- Determine the northern, eastern and western limits of placer mineralization in the paleo fan.
- Formulate drill plans for a continuing, future placer exploration program based on seasonal logistical constraints limiting drilling to about 15,000 feet per year. Contingent on the results of the Phase 1 drilling, select the highest priority of Phase 2 options; 2-A (in-fill drilling on the Little Squaw Fan), 2-B (resource evaluation of the Little Squaw canyon), and 2-C (Resource drilling on Big Squaw and Spring Creeks).

Conduct seismic surveys, define the geomorphic classification of the Chandalar placer deposits in comparison to other deposits worldwide, assess marketability for coarse size fraction of placer gold, and present specific recommendations based on the 2007 drilling program.

- Placer reconnaissance of other Chandalar streams
- Seismic survey (outside contract, budget $30,000)
- Recommendations for placer drilling, sampling, and analysis.

Continue the trenching program, specifically on the St. Mary's Pass, Aurora Gulch, Summit (including Bonanza), Pioneer, and Chiga prospects. A detailed program totaling 7,440 feet is recommended. (Budget- $131,325)

A core drill program should be designed and budgeted based on trench results from 2007 and the trenching recommended above. Evaluate the tonnage potential at Mikado-St. Mary's Pass, Aurora Gulch, Pioneer, and Summit prospects; the results will be the basis for future recommendations of resource delineation drilling. Scout holes should be considered at the Rock Glacier, Ratchet, Pallasgreen, Chiga, Little Squaw west, and possible Northern Lights west extension.

Plan and execute laboratory and on-site bulk sample testing of vein-hosted mineralization zones to obtain repeatable estimates of gold grade where coarse gold grains are present.

Continue exploration for potential bulk minable tonnage deposit(s) based on including lenses or ore shoots of gold-quartz veins with subparallel sheeted and stockwork quartz vein systems and metasediment-hosted disseminated gold mineralization.

Expand the regional exploration program to include gold occurrences between Myrtle Creek on the west and the Middle Fork of the Chandalar River on the east. Continue to evaluate the numerous outlying gold-quartz prospects and unevaluated shear zones throughout the district, particularly under the sediment cover in the north part of the district.

Introduction

The following report was commissioned January 2, 2008 by Mr. Richard R. Walters, President, Goldrich Mining Company (GRMC) for the purpose of an independent review, technical data assessment, and recommendation for the company's mineral holdings in the Chandalar Mining district, Alaska. Cathedral Rock Enterprises, LLC, of Fairbanks, Alaska and Metallogeny, Inc., also of Fairbanks, Alaska were retained to produce this Independent Technical Report that evaluates lode and placer gold mineralization on company holdings in the Chandalar Mining district of northern Alaska. Following review of regional and local geology, the authors compare the mineral deposits in the region with internationally known mineral deposit models, calculate estimates of grade and quantity of mineralization, and provide recommendations that could lead to additional discovery of both lode and placer gold deposits. Specifically, one of the principal objectives of this report was to quantify the measured, indicated and inferred placer gold resources, make a preliminary assessment of surface mineable measured and indicated resources, and summarize the lode resource potential and exploration targets as a result of five years of recent exploration activities.

Authors Jeffrey O. Keener and Robert B. Murray managed the placer drill program in 2007 and are responsible for the recovery of gold in the drill samples and all placer resource calculations. They were on-site during the 2007 field season. Murray also reviewed the lode mineralization. Author James C. Barker, under contract to the Company, together with T.K. Bundtzen, authored the original technical report on the property in 2004. Barker, under contract to GRMC, conducted lode exploration programs, 2004 through 2008. Annual reports by Barker are available on the GRMC website www.littlesquawgold.com. All authors are independent of GRMC and hold no financial interest in the Company; they concurrently do similar work for other mining company clients. Authors Barker and Murray serve as Qualified Persons in accordance with NI 43-101 and performed complete inspections of the property during the 2007 field program. Qualification statements for all authors are presented in Appendix A.

Preliminary order-of-magnitude discounted cash flow analysis that addresses placer gold resources delineated on Little Squaw Creek is presented by Paul L. Martin, P.E. The preliminary assessment was prepared to determine of the economic viability of a remote, bulk open pit mining operation at Chandalar. Based on this study, a recommendation will be made whether to continue with a more detailed drilling and pre-feasibility study to determine the reserve potential for the surface deposit. Martin is a qualified person in accordance with NI 43-101 but has not examined the property. He was the Chief Engineer and Mine Superintendent for the Valdez Creek Mining Company which has similar engineering characteristics to the Chandalar placer deposit. Martin was assisted by Robert A. Pate, GRMC Chief Operations Officer, who provided review and cost data for a companion assessment study. Pate has spent the last two field seasons at Chandalar.

Charlotte I. Barker provided peer review of lode exploration sections, technical formatting and editing, as well as lode sample data management and field sampling; she has spent about four months cumulative on-site.

All mineral resource information presented in this report was generated by or under the direct control of the authors. Only lands and budget information is provided by GRMC and reviewed by the authors. Historic records and materials archived in the files of the Company were cited and summarized in Barker and Bundtzen (2004). It is not the purpose of this report to replicate the 2004 review; most of the earlier work has been now superseded by findings of the last four years. Consequently this report was prepared with minimal reliance on other experts and sources of technical information.

Terms of Reference

The authors gave consideration to which measurement system to use in this report. Much of the world's mining industry is based on the metric system; however, because this report is based on data generated for the Company using English units and because all historic data are compiled using English units, the authors decided to use the English (Imperial) measurement system. For resource calculations gold quantities are troy ounces, abbreviated 'ounces' or 'oz' throughout the report. One troy ounce equals 31.101 grams and one troy ounce per short ton equals 34.2857 grams per metric tonne. Gold content listed on placer sample logs and lab work is reported in milligrams, in soil and rock geochemistry it is reported as parts per billion (ppb) or parts per million (ppm). One ppm Au is equivalent to one gram of gold per metric tonne.

Placer resources are expressed as volume of gravel with the gold content. Grade is determined by processing through a gravity separation unit followed by panning and weighing of the gold by a skilled technician. This procedure replicates the process in an actual mining operation. No chemical-based assay procedures are used. Placer grades reported in this report represent the actual weighed gold recovered from each sample.

The project area is remote from any legal land survey system. Maps presented in the following report are based on UTM using NAD 27 Alaska datum. GPS readings report as meters and one meter equals 3.28 feet. Claim locations are given according to the Alaska protracted survey as presented on the USGS 1:63,360 quadrangle maps.

All costs are denominated in U.S. dollars with the assumption that U.S. $1.00 ≈ CDN $1.00.

Reliance on Other Experts

Data, recommendations, and conclusions presented in this report are derived mostly from investigations conducted by the authors. Nevertheless, some reference is made to documents, both private and public, that were prepared nearly a century ago. While reasonable care has been taken in preparing this report and most of the older data have been field verified, the authors cannot guarantee the accuracy or completeness of all the historic supporting documentation. Furthermore, the interpretive views expressed herein are those of the authors and may not reflect the views of the Company. Consequently, the use of this report is at the user's risk, and the authors disclaim any liabilities arising out of the use and distribution of this report by any party, or the reliance on the following information for investment purposes.

Location and Property Description

Location

The Chandalar Mining district lies north of the Arctic Circle at about 67°30' latitude, 148° 10' longitude (**Error! Reference source not found.**). The district is 190 air miles north of Fairbanks and 48 air miles east-northeast of Coldfoot, an important service center on the Dalton Highway. Coldfoot is the closest community to the property and offers lodging, food, fuel, communications, and a state maintained airport. The Dalton Highway, which parallels the Trans Alaska Pipeline, is the highway link to the Prudhoe Bay oil fields on Alaska's North slope.

Figure 1. Location of the Chandalar mining district, Alaska.

Property Description

The Chandalar Mining district lies within lands ceded in 1991 to the State of Alaska from the federal government as a provision of the 1959 Alaska Statehood Act. The State of Alaska has title to approximately two million acres of land located between the pipeline corridor on the west and beyond the East Fork of the Chandalar River on the east. This land is open to mineral location under Alaska State mining law.

Mining Claims

Mineral rights are held by Goldrich Mining Co. both as fee simple federal mining patents and Alaska State mining claims. Unpatented federal mining claims that pre-dated Statehood were converted to Alaska State mining claims by previous Company management in 1987. GRMC presently holds patent title to 426.5 acres on 22 mineral claims and one mill site claim (**Error! Reference source not found.** and Appendix B). Additionally, there are 1,020 acres within 26 older state claims pre-dating the 2003 management change (Appendix B). In 2003 through 2007, 93 Alaska state 160-acre mining claims have been located under provisions of the new Alaska "meridian-township-range-section-claim" (MTRSC) staking regulations (Appendix B). These claims encompass the favorable areas surrounding the previous mining property. The new MTRSC claims purposely overlap the older claims to ensure all fractional land segments are covered by mineral right. The total claim holding presently is about 17,100 acres including the patented claims (R.R. Walters, written communication, 2003, 2004, and 2008). The patented claims include most of the known lode deposits at Chandalar and are configured as four separate tracts aligned with the vein systems. Patents are on file with U.S. Bureau of Land Management in Fairbanks. All State of Alaska claims are recorded at the Fairbanks Recording District, and claims are further platted and documented at the Alaska Division of Mining, Land, and Water (ADMLW), in the Alaska Department of Natural Resources (ADNR), Fairbanks, Alaska.

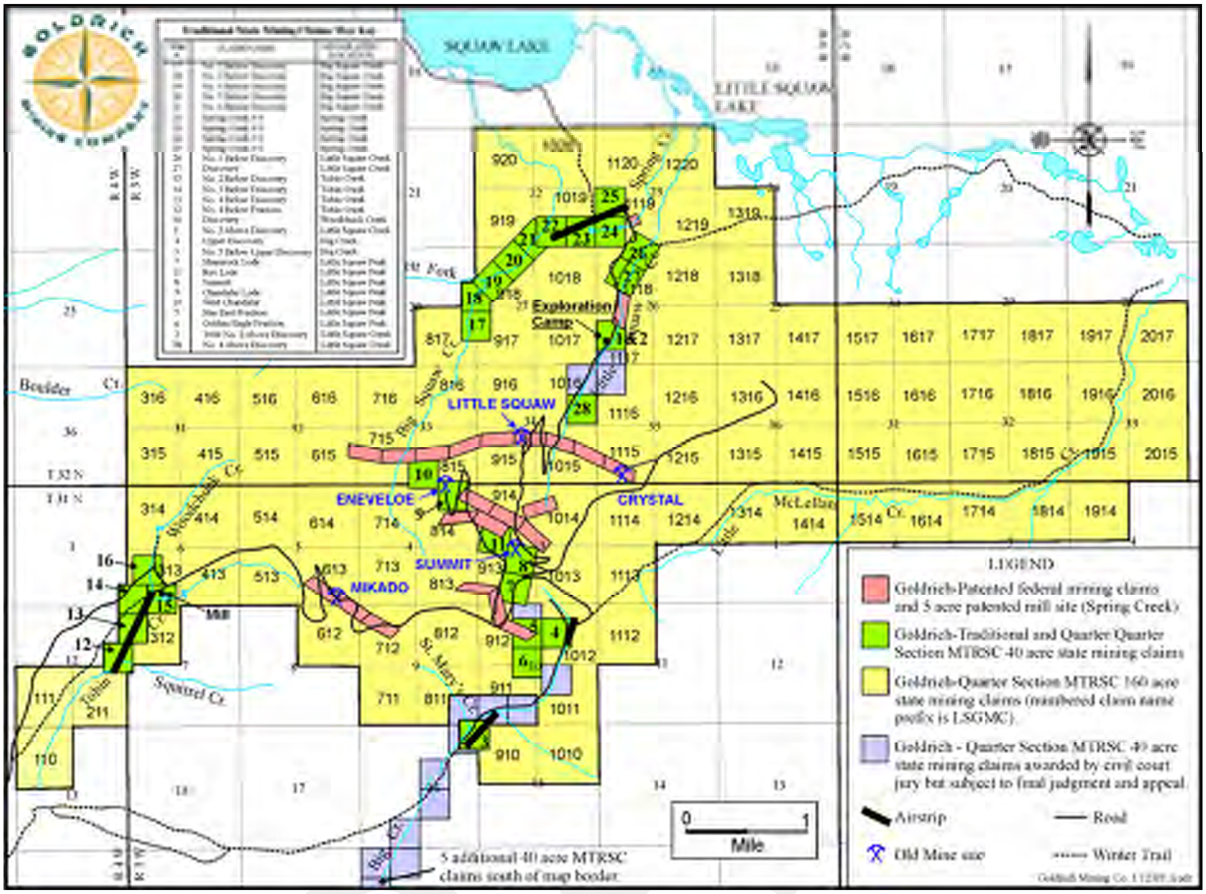


Figure 2. Infrastructure and layout of the GRMC claim block in the Chandalar Mining district, Alaska.

Alaska State MTRSC mining claims conforme to the land survey grid and are monumented as such as best as possible in the field. Unlike rules governing federal claims, the stated land survey grid position of an MTRSC claim corner stake has legal priority over its field location. There is no legal survey in this remote region; however, the State recognizes mining claim locations according to the statewide protracted grid of township, range, and section corners. The patented claims are located relative to two mineral location monuments (USLM 1999 and USLM 1745) established at the time of the mineral surveys. Both monuments were recovered by the authors.

The state mining claims are valid for the assessment year in which they are located, but can be maintained from year to year thereafter by the timely payment of annual rental and performance of assessment work as described below. Subject to various administrative permits, a claim provides the exclusive rights to the exploitation of the locatable mineral estate and use of the surface estate for the purpose of the mineral development.

Taxes, Royalties, and Fees

Mineral production on state lands is subject to a maximum 3.0 percent net profits royalty with applicable cumulative Exploration Incentive Credits of up to $20 million. Alaska requires a mining license tax for all mineral production net income of the tax payer regardless of underlying land ownership. For a major mining operation it is computed as $4,000 plus 7.0 percent of the excess over $100,000 of net income (ADNR, 2007). Furthermore, there is a 3.5-year tax exemption for new mines after commercial production begins. Depletion is figured as an allowable deduction of 15 percent of annual gross income, excluding from the gross income an amount equal to rents and royalties. The state corporate income tax rate is 9.4 percent if net profit is more than a set threshold amount. Because the Chandalar district does not lie within an organized borough, there are no annual property taxes.

Annual rental of Alaska State mining claims is based on the number of years of continuous activity since a mining claim was first located. The annual rental for 40-acre claims:

1) for 0-5 years, $25;
2) for 6-10 years, $55; and
3) for 11 or more years, $130 (ADNR, 2007).

The annual rental for a 160-acre claim:

1) for 0-5 years, $100;
2) for 6-10 years, $220; and
3) for 11 or more years, $520.

Alaska State mining claims require an assessment work expenditure of $100 per 40 acres or $400 per 160-acre MTRSC claim (Table 1). Expenditures over this amount can be banked for up to four years. Between 2003 and 2007 the Company has expended approximately $4 million on exploration activities.

Table 1. Estimated claim holding cost.

YEAR	CLAIM RENTAL	ASSESSMENT WORK[1]
2009	$21,715	$44,900
2010	24,595	44,900
2011	24,595	44,900

[1] Obligation for assessment work for years 2008 to 2011 has been met by exploration work through 2007.

The Company holds clear title to the federal patents with an overriding 2.0 percent production royalty due to the previous management of the Company. The 2.0 percent royalty also applies to 19 unpatented state claims that were held by the Company prior to 2003, but does not apply to more recently acquired state MTRSC claims, nor does it apply to seven state claims purchased by GRMC from previous management (**Error! Reference source not found.**). GRMC holds an option to purchase former management's 2.0 percent production royalty for $250,000 prior to June 23, 2013. The authors are unaware of any other third-party obligations, joint partners, or liens at this time. Appendix B outlines the claim groups the company holds in the Chandalar Mining district.

Litigation

Several of the inlier claims located by Gold Dust Mines on Big Creek and one on Little Squaw Creek (**Error! Reference source not found.**) were in conflict with claim locations by GRMC. Both companies claimed priority location of these claims, and GRMC was asserted mining by Gold Dust Mines, Inc., is illegal. Litigation was initiated by GRMC, the plaintiff, against Gold Dust Mines, Inc., the defendant, and a jury trial on the matter in Superior Court, State of Alaska, was held in Fairbanks November 24 to December 11, 2008. Findings returned to the court by the Jury found in favor of the plaintiff on all counts. A final ruling of the court written by the Judge is expected in the near future.

The final ruling is subject to appeal to the Alaska Supreme Court. Based on the jury's findings, the placer resource estimates presented in this report include drill hole data from Line 10 and 11 which transect the disputed ground.

Details of the history, complaint and outcome of the trial in Superior Court are given in the Company's United States Security and Exchange Commission (SEC) Form 10K filings for 2006, 2007, and 2008, which are available to the public on the SEC website: www.sec.gov..

Operating Permits and Water Rights

GRMC holds a right from the State of Alaska, filed under ADL 403439, to withdraw water for mining use. This right has three parts:

1. 3,000 gallons per minute (gpm) for placer mining;
2. 4,800 gallons per day (gpd) for lode mining; and
3. 67,200 gpd for lode mining.

This water can be withdrawn from any of the local streams as specified in the permit, and it can be applied to use during April through October within the claims held as of March, 1985, and are still held by the Company. Water law specifies that some beneficial use be made of the water at least once in any five-year period, and this is stated by the company upon submittal of the annual $50 administrative fee. Failure to show beneficial use could be challenged by an adverse party. The Company made beneficial use of water in 2007 as part of the placer drilling and sample reduction program; the annual fee was paid APRIL 9, 2008.

An additional right to water is granted to GRMC as part of the recurring Alaska Placer Mining Authorization (APMA) permit required for placer mining as issued annually by Alaska Department of Natural Resources (ADNR). These rights are valid for the year of the permit. This is a multi-agency permit that allows the surface disturbance of trenching and drill pad/access, construction and use of the winter trail, and temporary camp construction.

Environmental and Cultural Concerns and Liabilities

More than 95 percent of the ore milled in the district was processed in the Tobin Creek mill and placed in a double-pond tailings impoundment. The ponds were sealed in the early 1990s with approval of the Alaska Department of Environmental Conservation dated December 19, 1990. Because much of the placer mining has been from underground drift mines, few unreclaimed placer tailings are present in the creek valleys and no outstanding reclamation is required. During the 1980s-1990s, surface placer mining was permitted under regulations of the APMA permit. Alaska Department of Natural Resources (ADNR) has acknowledged GRMC has achieved full compliance (Kerin, L.J., oral communication, 2004).

During the 1980s, the Alaska Department of Environmental Conversation (ADEC) completed an assessment of the Company's claims 'tentatively approved' for transfer to the State of Alaska in accordance with the State land entitlement selections. The mitigation issues identified by ADEC:

1) the need to remove about 3,000 pounds of old lead-acid batteries;
2) removal or reprocessing of about 200 cubic yards of fill found to be contaminated with low levels of mercury at the Tobin Creek mill site; and
3) removal of 'benign' ferrous scrap that has accumulated over several decades of mining activities (ADEC, internal memo of teleconference with Strandberg, April 22, 1993).

In 2007-2008 the batteries were removed and the Company began to organize the iron scrap and obsolete equipment. During the early 1990s, the Company had formulated plans to mitigate the mercury contamination, which was isolated to a small area adjoining the mill and assay lab. Alaska DEC samples had shown levels up to 59.8 ppm Hg in 13 of 66 samples (Strandberg, letter to ADEC officer Ron McAllister, January 23, 1991). The samples that contained more than 10 ppm mercury, representing a volume of 200 cubic yards of gravel fill, were judged by ADEC to be in need of environmental mitigation. Base metal values occurred in only a few samples and were not considered to be an environmental issue of concern by ADEC.

In 1993, ADEC approved a plan submitted by the Company to process the 200 cubic yards of contaminated soils through an IHC jig plant owned by lessee Gold Dust Mines, Inc. Bankruptcy was declared by the lessee shortly thereafter and the clean-up was not performed. At present the Company carries a $50,000 accrued remediation cost to execute the approved plan.

The Little Squaw Creek paleo-fan placer deposit includes a site of several old cabins (ruins), some old mining equipment (early 1900s), and a small cemetery where three of the early prospectors are believed to be buried. Archaeological studies, waivers and mitigation are included as a budget item in the preliminary assessment discounted cash flow analysis.

Access, Climate, Physiography, and Infrastructure

Access

There is presently no all-weather road access to the Chandalar mining district. Historically, access has been either by aircraft from Fairbanks or overland during the winter season via a 55-mile-long trail from Coldfoot to the state airport at Chandalar Lake. From the lake there are two routes to the Company's Chandalar property. One is a 17-mile-long winter dozer trail leading north along the North Fork of the Chandalar River, thence east to arrive at the Squaw Lake airstrip and Spring Creek Mill Site. The other is a 7-mile-long, all-weather road that traverses northeast along Tobin Creek to the Company mill and mine camp. In the past, heavy equipment and bulk supplies have mostly been trucked from Fairbanks over the Dalton Highway to the community of Coldfoot and then moved by cat train to Tobin Creek. The winter road season depends upon adequate snow cover, but usually extends from mid-January through late March. Aircraft, including multiengine cargo craft up to C-130 size, can land at the 4,400-foot airstrip at Squaw Lake, which is connected to all major prospects in the district via the 27.5-mile network of mine access roads.

The overland route to the Chandalar mining district is a historic transportation route classified under revised federal statute RS 2477. Revised Statute 2477 is found in section 8 of the Mining Law of 1866. It granted states and territories unrestricted rights-of-way over federal lands that had no existing reservations or private entries. The Company acquires an annual permit from the State of Alaska Department of Natural Resources (DNR) to use this overland route.

The State of Alaska recently obtained a public highway right-of-way (ROW) into an inlier of nearly 2 million acres of state land including the Chandalar area. On April 11, 2005, the State of Alaska (the plaintiff) filed a lawsuit against the United States and 16 companies/individuals (the defendants) to gain quiet title to the state's ROW for the historic Coldfoot to Chandalar Lake Trail. The lawsuit asserts the Coldfoot to Chandalar Lake Trail to be an RS 2477 route where it crosses federal lands held by the U.S. Bureau of Land Management (BLM). The State of Alaska and all defendants agreed to a pretrial settlement. The settlement was then agreed to by a U.S. District Court Judge on January 9, 2007, making it a binding final judgment. The final judgment does not specify the Coldfoot to Chandalar Trail to be an RS 2477 route, but it does say that it is to be treated as if it were one. The State of Alaska is recognized to have a road easement along this route, known as RST-009 (Coldfoot to Chandalar Lake, the location of Chandalar state airport), to conduct feasibility studies and road construction. This judgment creates a permanent, 60-foot-wide public highway right-of-way. It also gave the State of Alaska until October 1, 2008 to establish the exact location of the route using a survey-grade Global Positioning System. This survey was completed during the summer of 2007. Final plats of the route were recorded on May 15, 2008, in the Fairbanks Recording District. Plats were also submitted to the BLM on April 30, 2008 for comment as per terms of the "settlement."

Also under terms of the settlement, the BLM has one year from that date to accept the state survey route, or offer to the court an alternative routing.

The court pretrial settlement of January 9, 2007, addresses only those lands administered by the BLM, or BLM lands that have surface and mineral estate selection requests top-filed by other defendants, primarily the Doyon Native Corporation. This resolution applies to the route between the Dalton Highway and a north-south line dividing Ranges 6 and 7 West of Township 29 North, Fairbanks Meridian. Although the historic trail continues eastward to Chandalar Lake, the entire area east of the township line, being state land, is already administered by the State of Alaska and was not subject to the ROW litigation.

Because the state recognizes RST-009 to be the historic transportation route, the DNR issues annual permits for its use as far east as the state airport at Chandalar Lake. Beyond the lake there is a state-recognized route (RST-262) that connects to the Tobin Creek mill and mine camp. In 1963, all-weather road access was established between Chandalar Lake and the Tobin Creek mine camp. The camp is in turn connected by the pre-existing mine road network to other mines and prospects in the district. The road from Chandalar Lake was a cooperative effort under the 1960 “Pioneering Access Road Act” (specifically Project SP-2012) between Little Squaw Gold Mining Company (the predecessor company acting as “Contractor”) and the State of Alaska, Department of Highways, who partly financed the construction (acting as “Inspector”). A Certificate of Completion was issued to the Company in late 1963.

Should a major mining development be proposed at Chandalar, Goldrich will have the right to file for the necessary road construction permit from the Alaska DNR. In such case, the DNR would take the lead in preparing an environmental impact statement. The road would follow the state’s 55-mile-long right-of-way from Coldfoot to Chandalar Lake, where it could either tie to the existing road to the Tobin Creek mill, or follow the existing trail to reach the Squaw Lake airstrip.

The recent development of the Pogo Mine, located on state land in central Alaska, demonstrates the permitting process in conjunction with setting an approximate procedural precedent. To access the proposed Pogo Mine, a 49-mile-long road was required from the Richardson Highway. In December 2000, Teck-Pogo, Inc. filed Baseline Characterization documents (later updated). In February 2002, a plan of operations for the Pogo project was filed followed by a right-of-way application (ADL 416809, 417066) in June 2002. In September 2003, the final EIS for the project was completed, which included all public comment and response. On December 18, 2003, the DNR Commissioner issued final approval. Supplies were staged that winter along the existing winter trail and road construction began in the spring of 2004. The first freight over the Pogo Road arrived at the new mine site that fall. The Pogo Road was built and paid for by Teck-Pogo, Inc. It meets the American Association of State Highway and Transportation Officials (AASHTO) standards for Resource Development Roads. It is nominally 24 feet wide, with single-lane bridges including a sizeable bridge across the Goodpasture River, and designed for 35-mph traffic. The road is a restricted-use ROW and gated at the Richardson Highway. It handles freight to the Teck-Pogo Mine, as well as other mineral development and commercial forestry users.

The State of Alaska will have sole land management authority over the Chandalar access route to the Dalton Highway once the BLM accepts the state survey. This process must be completed by May 1, 2009. The opportunity to develop an all-weather road cannot be guaranteed, as it is subject to political processes. Nevertheless, the State of Alaska presently offers a reasonably fair forum in which to apply for access development. Ground access to a Chandalar mine site would greatly reduce the reliance on air transport for bulk supplies such as fuel, explosives, heavy equipment, and general supplies.

Climate and Physiography

The Chandalar district lies in the mountainous terrain of the Brooks Range south flank, where elevations range from 2,000 feet in the Squaw Lake lowland to just over 5,000 feet on the surrounding mountain peaks. These peaks form a discrete set of hills that cover about 100 square miles. The area is bounded on the west by the North Fork of the Chandalar River and Chandalar Lake. To the east lies the valley of the Middle Fork, which, like the North Fork, drains south out of the Brooks Range.

The region along the south side of the Brooks Range has undergone episodic glacial advances from the north. Evidence such as till deposits and erratic boulders occur in lower Little Squaw and Big Squaw Creeks valleys, and small cirques are evidence ice masses formed above the 4,000-foot elevation on local drainages. Otherwise, the district is characterized by deeply incised creek valleys that are actively downcutting. The steep hillslopes are shingled in slabby scree rock, the product of periglacial mass wasting and solifluction. Classical examples of solifluction lobes and rock glaciers are present. Bedrock exposure is mostly limited to ridge crests and creek bottoms. Permafrost is continuous and extends to depths of several hundred feet.

Timber is limited to the peripheral lower country where relatively continuous spruce forest can be found in the larger river valleys. Higher elevations are barren of vegetation except moss, lichen, and some grasses. Spruce has been used for construction and historic mine workings. Forest resources occupying the lowlands along the North and Middle Forks of the Chandalar River are under jurisdiction of the Alaska Division of Forestry, Fairbanks, and timber sales of up to 0.5 million board feet can be negotiated (Clautice, S., Alaska Division of Forestry, oral communication, 2004).

Snowmelt generally occurs the end of May followed by an intensive 60-day growing season with more than 20 hours of daylight and daytime temperatures ranging from 60-80° Fahrenheit (F). Freezing temperatures return in late August and generally freeze-up can be counted on by early- to mid-October. Records from Tobin Creek mention the loss of surface water for mining and for the mill occurring some years in mid-September. Winter temperatures, particularly in the lower elevations, can drop to -50° F or colder for extended periods. Annual precipitation is 15-20 inches, coming mostly in late summer as rain and as snow during the first half of the winter. Prospectors and earlier workers in the area have noted better climatic conditions on the more sheltered north side of the district, along the north front of the hills, as compared to the southern wind-swept valleys of Big and Tobin Creeks.

Infrastructure

Since 2004 GRMC has significantly improved or repaired the infrastructure, including establishing a field camp for up to 25 people at Mello Bench on Little Squaw Creek with limited shop and repair equipment, conex units for secure storage, and two cabins for office facilities. The Company has repaired most of the 27.5 miles of mine road that connect all the major prospects to airstrips at Squaw Lake (4,400 feet length) and Big Creek (approximately 1,500 feet length), and the old Tobin Creek camp and mill. GRMC has procured and brought to the district a fleet of heavy equipment (**Error! Reference source not found.**, below).

Table 2. Mobile heavy equipment moved to Chandalar

Item	Make/Model	Year of Acquisition
Excavator	Hitachi ZX200	2006
Dozer	Komatsu D31 EX-21	2006
Fleet of 11 ATVs	Hondas, Polaris	2006
Nodwell	Nodwell TVS 6000	2006
Nodwell, tracked	110C	2006
Backhoe/loader	Case580B	1980s
Six-wheeler ATV (2)	Polaris Ranger	2006
Dozer	Caterpillar D6R	2007
Motor grader (used)	Caterpillar 140G	2007
Tracked vehicles (used)	Nodwell; Muskeg Carrier	2007
Tracked trailer	Nodwell	2007
H.D. drill support trailer	Built on site in 2006	NA

Note: All equipment is in operable condition for 2009.

The various older structures at the Tobin Creek site are in a state of disrepair; this includes a 100 tpd mill contained within a 34-foot by 160-foot steel building and a 35-foot by 38-foot steel shop. The mill includes gravity, floatation, amalgamation, and cyanide circuits, but it never operated efficiently on Mikado ore when last used in the early 1980s. An inventory of mine equipment and supplies was tabulated and updated by Strandberg (1990, 1994). The two metal buildings are assets; it is unlikely that much of the other older equipment is worth putting into operation, but it serves as a valuable parts inventory.

There is no electrical power grid in northern Alaska. Previous mining by lessees to GRMC have relied on diesel powered generators. A 233 kw generator and fuel tanks are located in the mill at Tobin Creek and reportedly in operating condition.

A natural spring, located on the patented five-acre mill site, is reported to flow 140 gpm year-round at a temperature of 40° F. This parcel adjoins the Squaw Lake airstrip and is available as a future permanent camp site. In 2007 a sample reduction facility which requiring a reliable water source was located adjoining the spring.

Exploration History

The exploration and mining history of the Chandalar country, long and colorful, is presented by Wolff (1997, with more detail in an unpublished 1994 draft), Barker and Bundtzen (2004), Strandberg (1990), and numerous reports dating back to 1908 that are contained in Company files. Placer gold deposits were discovered by Frank Yasuda and his Eskimo wife Eneveloe, Charles McNett, James Minano, and Thomas Carter, who staked the Discovery Claim on Little Squaw Creek in 1905. The 1905 discovery followed the earlier 1902 discovery of placer gold in the Wiseman area 60 miles west of Chandalar Lake, so gold seekers from that camp joined the subsequent rush to the Chandalar district. By 1906 rich placers were found on Big Creek and its tributary, St. Mary's Creek, and during the following year it is reported that 100 men were engaged in mining and prospecting the immediate area. Shortly after 1910, the U.S. Congress allocated funds for the construction of a wagon road, which was built by the Alaska Road Commission. The 75-mile-long corduroy road linked the district to Caro, about 50 miles south of Chandalar Lake, and thence to Beaver, a steamboat landing on the Yukon River. Most supplies were brought over this route by dog sled.

Lode sources of the Chandalar placer gold deposits were soon discovered. Maddren (1910) reported that by 1909 four principal auriferous quartz veins had been identified.

Much of the Chandalar placer gold was relatively deep with frozen overburden. By 1916, shallow, open-cut placer gold mines were playing out and attention shifted to developing placer drift mines (underground operations). Most notable was the Little Squaw Bench, including the Mello Bench, where about 30,000 oz of Au were recovered from gravel averaging 0.96 oz Au/yd^3 (Strandberg, 1990). By 1916, gold placers were similarly developed on Big Creek and St. Mary's Creek. Drift mining continued through the 1920s, but declined in the 1930s, as the remaining ground was deeper or lower grade, or in many cases not frozen. In 1933, a rich pay streak on Tobin Creek was discovered. Mechanized mining was not introduced to the Chandalar district until after WWII, mostly after 1954-55, when Chandalar Mining Company began mining Big Creek.

Most of the productive and promising prospects were acquired by William Sulzer, a former Governor of New York. Beginning in 1909 until his death in 1941, Sulzer financed exploration and development as owner of Chandalar Mines Company and later as a major shareholder of Chandalar Gold Mines, Inc., when the two companies merged on April 11, 1926. From 1937-1939, U.S. federal mineral patents were obtained by Sulzer for the principal discovery claims. Eventually Karl Springer acquired the properties for Chandalar Gold Mines, Ltd. of Toronto, Canada. This was followed in 1946 when Eskil Anderson acquired the interest of the Sulzer estate.

Little Squaw Mining Company (LSMC) was incorporated in Alaska on March 26, 1959 and Eskil Anderson remained as president. In May, 1968, the company name was changed to Little Squaw Gold Mining Company (LSGMC) and on October 9, 1970, LSGMC was listed on the Spokane Stock Exchange. In 1972, Chandalar Gold Mines, Ltd. was merged into LSGMC. When the Spokane Stock Exchange closed in 2000, the LSGMC listing transferred to the NASDAQ Over-the-Counter Bulletin Board, where it was traded under the symbol LITS until its name change in May 2008.

In 1967, Little Squaw Gold Mining Company issued a lease to Chandalar Gold Mining and Milling Company, general manager Frank Birch, who continued to consolidate control of remaining claims in the district. Birch expanded the Tobin Creek placer mine and began some development work and mining on the Mikado Lode, including construction of a 100 tpd mill in 1969. Birch also initiated exploration of other lodes of the area. Mr. Birch was killed in an airplane crash on Tobin Creek in 1971, and his company's assets were subsequently reclaimed by LSGMC.

LSGMC leased the placer interests to Canalaska Placer Inc. in 1978. Whelan Mining & Exploration in turn picked up the placer lease, followed shortly by a joint venture involving Jan Drew Holdings, Ltd. and Canadian Barranca (1980-89), and finally Gold Dust Mines (1989-99). A 1997 placer exploration lease was issued to Daglow Exploration, Inc., which was limited to Big Squaw and Little Squaw Creeks (Fitch, 1997). This exploration work, which involved a drill program, suggested substantial placer mineralization on lower Little Squaw Creek. Their work on Big Squaw Creek was inconclusive.

Lode gold properties were leased by LSGMC to a succession of companies, including Marmac Alaska Mines, Ltd. (1971-73) who merged with Attila Resources in 1972, then subsequently to Noranda Mining Corporation (1974-75), Callahan Mining Company (1975), Mikado Gold Mines, Inc. (1976-77), Whelan Mining and Exploration, Inc. (1978-79), and finally Chandalar Development Corporation (CDC) (1980-83). CDC mined and recovered 8,169 oz of Au from 10,441 tons of ore primarily from the Mikado and Summit Mines until losing the lease in litigation to LSGMC in 1984. The recovered grade, 0.764 oz/ton Au, contrasts with the mill head grade average of 0.93 (Mikado) and 1.29 (Summit) oz/ton Au (Table 4), which indicates gold recovery problems. After these lode mining efforts, LSGMC maintained the claims and its corporate status, but the district slid back into dormancy. A small placer lease to Gold Dust Mines Inc. operated on Tobin until 1993, then moved to Big Creek..

In June, 2003, Eskil Anderson sold his various personal interests in the Chandalar property and in the LSGMC to LSGMC and other outside interests. Richard Walters became President and James Duff became Chairman of a newly constituted Board. Effective May 1, 2008, the Board of Directors for the Little Squaw Gold Mining Company elected to change the name of the "Company" to Goldrich Mining Company (GRMC). Its new trading symbol is GRMC on the OTC Bullitin Board which is sponsord by the U.S. Financial Industry Regulatory Authority, but is not considered to be a "national exchange"...

On-site activities began with the 2004 assessment year and have continued through the 2008 season. In 2006 a reverse circulation drill program drilled 39 scout holes on 9 of the lode prospects for a total footage of 7,763 feet. In 2007, another reverse circulation program attempted 101 drill holes on the Little Squaw Creek placer target, two scout holes on the Big Squaw targets, and four on Spring Creek. Details of these drill campaigns will be presented in the DRILLING PROGRAM section of this report and are the basis of the Mineral Resource Estimates to be disclosed herein.

Early expeditions into the Chandalar region by the U.S. Geological Survey specific to the Chandalar district included Mertie (1925), who mapped much of the Chandalar Quadrangle and visited many of the mines. The U.S. Geological Survey published geologic maps of the Chandalar Quadrangle (Brosgé and Reiser, 1964, 1970), which presented stratigraphy and structural interpretations and provided the first modern isotopic age dates of plutonic and metamorphic rocks in the southern Brooks Range. In 1970, the Alaska Division of Mines and Minerals provided the first detailed geologic map of the Chandalar district at 1:40,000 scale (Chipp, 1970). Fluid inclusion studies by Ashworth (1983, 1984) were followed by Rose and others (1988) study of the mineralizing fluids responsible for the gold deposition in the Chandalar.

Historic placer and lode productions of the Chandalar Mining district, estimated by Strandberg (1990) and updated by Barker and Bundtzen (2004), are given in   Table 3 and   Table 4. It should be pointed out that early open-cut hand mining of upper drainage areas of the district creeks was only partially reported or included in these tabulations. Some of these operations, such as Big, St. Mary's, and Big Squaw Creeks were reportedly quite rich. Placer mining presently continued on Big Creek through 2008, but production since 1999 is unknown.

Table 3. Estimates of historic placer gold production, by creek

PAST PLACER PRODUCTION[1]			
CREEK NAME	**yds^3**	**oz Au/yd^3**	**oz Au**
BIG CREEK			
hand mining	34,667	0.209	7,257
mech	300,000	0.026	7,954
mech 1993-1999	---	---	2,541
drift mining	---	---	7,588
LITTLE SQUAW CREEK	30,466	0.960	29,237
TOBIN CREEK			
pre-1945	2,268	0.441	1,000
1966-70	14,000	0.536	7,500
mech 1979-1993	600,000	0.021	12,559
BIG SQUAW CREEK	---	---	---

[1] Data from Company archived records

Table 4. Estimates of historic lode gold production, by mine

PAST LODE PRODUCTION[1]				
DEPOSIT NAME	**tons**	**oz/ton**	**actual oz Au[2]**	**recovered Au (oz)[3]**
MIKADO				
Birch	891	1.64	1,456	685
Callahan	487	0.85	413	185
CDC	9,040	0.93	9,712	6,822
SUMMIT	1,401	1.29	1,808	1,347
LITTLE SQUAW	---	---	---	---
ENEVELOE	---	---	---	---

[1] Data from Company archived records

[2] Gold values as determined by mill head assays, does not include mill loss; data from 1979-83, Millmen (1983)

[3] Gold recovered from mill and concentrates; i.e., actual reported production

Geological Setting

A report and map (1:20,000 scale) detailing the regional geology and structure of the Chandalar Mining district was authored by T.K. Bundtzen and G.M. Laird (2007) under contract to the Company in 2006; it was updated in 2007 (Pacific Rim Geological Consulting, 2007).

The bedrock units that underlie the district are assigned to the Coldfoot terrane of regionally metamorphosed, Proterozoic to Paleozoic metasedimentary and minor meta-igneous rocks. A décollement surface within Devonian quartz mica schist separates the northward-thrust Upper Plate sequences from those of the Lower Plate. Greenstone/diorite to gabbro sills and meta-felsic and intermediate rocks are interbedded with and cross-cut the dominant black schist (Dlb) unit of the Lower Plate; generally these igneous rocks are not common in the Upper Plate. Most known gold occurrences are in the topographically higher and better exposed Upper Plate, although several prospects, including the Pallasgreen, are found in the Lower Plate.

The Upper Plate forms the higher hills lying between the Squaw Lake lowland on the north and Big and Tobin Creeks on the south. It is dominated by metamorphosed turbidites (Dum and Dut) and a mappable calcareous meta-sandstone turbidite unit (Dul). The turbidite sections host many of the gold-quartz veins in the Chandalar. Also present in the Upper Plate is a fine- to medium-grain fissile gray-to-black phyllite (Dup) referred to as the Mikado Phyllite. This unit is a recessive-weathering host to zones of discontinuous quartz hosted gold mineralization, such as at the Kiska and Mikado systems, and includes low-grade and disseminated arsenical gold mineralization encountered over intervals up to 200 feet.

Regional Geology

Geologic and Tectonic History

Lithologic and structural controls of the Chandalar gold deposits are a subset of the regional geologic framework of the southern Brooks Range. The Koyukuk-Chandalar region is underlain by regionally metamorphosed rocks that were originally referred to as the “southern Brooks Range Schist Belt” by Brosgé and Reiser, (1964); Fritts (1970), Fritts and others (1971), Wiltse (1975), and Hitzman and others, (1982). This east-west-trending belt of poly-metamorphic rocks extends across the southern Brooks Range from the Kobuk River basin to the Alaska-Yukon border. The regionally metamorphosed rocks are now considered to be part of the Arctic Alaska terrane (Moore and others, 1994), a large Late Proterozoic to Cretaceous, composite tectono-stratigraphic terrane that underlies the bulk of the Brooks Range in northern Alaska. According to Dillon (1989), the Arctic Alaska terrane is composed of five subterranes in the southern Brooks Range. From south to north, they are Coldfoot, Hammond, Endicott, Delong Mountains, and North Slope subterranes, each separated from the other by east-west-trending regional thrust faults or 'thrust panels'.

The Coldfoot subterrane consists mainly of Proterozoic to Lower Paleozoic metasedimentary schist that has been intruded and overlain by bimodal metavolcanics and granitic rocks of Devonian age. The Coldfoot subterrane contains the Ambler sequence, which hosts world class volcanogenic massive sulfide (VMS) deposits west of the Dalton Highway corridor (Hitzman and others, 1982). The metamorphic rocks that have been assigned to the Coldfoot subterrane in the Chandalar Mining district consist of schist, phyllite, and slate, with minor amounts of meta-gabbro and meta-diabase. Based on sparse fossil control found west of Wiseman, Brosgé and Reiser (1964) assigned a Devonian age for metamorphosed sedimentary rocks in the Chandalar quadrangle, but there is no firm evidence for that age assignment in the Chandalar area. Rocks underlying the area described in this overview could range from Late Proterozoic to Devonian. As currently mapped, all of the gold-quartz deposits in the Chandalar district are hosted in the Coldfoot subterrane, as are gold-quartz vein deposits in the Nolan-Wiseman and Wild Lake areas. Although stratigraphic and mineralogical comparisons between the Chandalar area with better correlated sections in the Dalton Highway corridor are lacking, the authors concur that the Coldfoot subterrane probably underlies most or all of the Chandalar Mining district.

Tectonic Setting

Northeast, east-west, and to a lesser extent, northwest trending structures are the major features on the south flank of the Brooks Range (Dillon, 1989; Moore and others, 1994; Chipp, 1970; Brosgé and Reiser, 1964). Large fold structures with 5-15-mile wave lengths generally trend northeast across the central Chandalar Quadrangle. The Baby Creek batholith, about ten miles west of the Chandalar district, forms the core of a large northeast-trending anticlinorium (Duke, 1975; Dillon and others, 1996). The structural deformation of the region is typified by several stacked thrust panels that successively overlie a basement of unknown composition and age. According to Dillon (1982, 1989), two, possibly three, periods of regional dynamo-thermal metamorphism have affected the layered rocks in the Coldfoot and Hammond subterranes, imprinting S_{1-3} cleavage surfaces. The first prograde metamorphism, which increases in intensity in a southerly direction, resulted in the development of regionally penetrative layer-parallel cleavage (S_1) and development of upper greenschist to lower amphibolite facies metamorphic conditions. Till (1992) and Dusel-Bacon (1994) cite evidence for Proterozoic and possibly Paleozoic pro-grade blueschist and retrograde amphibolite facies metamorphism in the Brooks Range, mainly west of the study area in the Ambler River area. During Jurassic to mid-Cretaceous time (K-Ar ages 154-172 Ma), the entire Brooks Range 'schist belt' was subjected to low-P, high-T amphibolite facies conditions (Hitzman and others, 1982; Dillon, 1989; Dusel-Bacon, 1994). During a second prograde metamorphism, the Hammond subterrane was subjected to two periods of progressive deformation producing northward-verging folds, semi-penetrative cleavage (S_{2-3}), and development of the lower greenschist facies retrograde metamorphism. Biotite and muscovite developed in this last period of metamorphism having cooling ages ranging from 90-120 Ma (Turner and others, 1979; Dillon and others, 1989).

The major period of crustal shortening, thrust faulting, and isoclinal folding has been determined by faunal and isotopic control ages to be the Neocomian (130-140 Ma), which coincided with the collision of the Arctic Alaska terrane along the Kobuk suture zone and proto-Pacific 'Angayuchum Ocean' (Mull, 1989). A much younger Albian to Turonian (80-110 Ma) uplift and plutonic event post-dated the Neocomian crustal shortening event and resulted in 'gravity slide' tectonism that may have taken place during the late phase of regional greenschist facies, retrograde metamorphism

(Dillon, 1989). The prominent S_{2-3} foliation surfaces observed in the phyllite and schist of the Coldfoot subterrane in the Chandalar area were likely developed during one or more of the Cretaceous dynamo-thermal events.

Property Geology

Geology

Chipp (1970) mapped phyllite, schist, shale, limestone, and meta-igneous mafic rock units in a N50-60W trend across the district and subdivided the rock units into Lower Plate and Upper Plate sequences, separated by a major décollement (thrust fault). Duke (1975) produced geologic maps of the district on behalf of Callahan Mining Corporation including an outcrop map at 1:10,000 scale and a more regional, 1:31,500 scale map. This mapping was updated by Bundtzen and Laird (2007) (Figure 3).

The Lower Plate sequence consists of black schist, phyllite, slate, and quartzite that has been intruded by greenstone/diorite to gabbro sills or dikes. The Lower Plate rocks outcrop across the south and north flanks of the property and where they cut the ridge between Little McLellan and Little Squaw Creeks. The black schist-dominant unit is in thrust contact with the overlying schist section in the Upper Plate sequence. The Lower Plate has been divided into six metamorphosed rock units that exhibit upper greenschist facies regional metamorphic conditions. Besides the dominant quartz-graphite-chlorite black schist, there are mappable units of green calcareous tuffaceous schist, quartzite, meta-felsite tuff, and a small unit of agglomerate.

Major oxide chemistry of the weakly to nonfoliated greenstone indicates a mafic, even transitional ultramafic parentage. Alteration, including albitization, is indicated to have developed during regional metamorphism due to high NaO and loss on ignition (LOI). Brosgé and Reiser (1964) have assigned the schist-hosted "greenstone" bodies throughout the Chandalar Quadrangle a Devonian age, but there are sparse isotopic or fossil data to support such an age. The $^{40}K/^{40}Ar$ ages reported by Turner and others (1979) indicate metamorphic ages of Jurassic or younger for the greenstone bodies across the expanse of the southern Brooks Range. Efforts in 2006 to obtain an age-date on sphene in greenstone were unsuccessful.

Upper Plate rocks form the higher elevations of the property. Foliations and compositional layering are generally discordant between the Upper Plate rocks and those of the Lower Plate. Upper Plate rocks are divided into five metamorphic units:

1. gray-to-black carbonaceous and fissile schist and phyllite termed the Mikado Phyllite, generally sheared or crenulated, weathers readily and rarely outcrops, closely associated with gold-quartz vein mineralization and possibly represents a chloritic-altered mylonite;
2. quartz-chlorite-muscovite schist, locally a meta-turbidite schist that is resistant to weathering and dominates the outcrop and surficial deposits;
3. a distinctive quartzose, fine- to coarse-grained, layered, meta-turbidite schist, gradational with the quartz-chlorite-muscovite schist above and also resistant to weathering, similarly found along ridge crests;
4. light-colored to green, actinolitic, calcareous, meta-sandstone to schist, locally forms resistant massive fine-grained outcrops; and
5. light gray, blocky, quartz-rich, muscovite-oligoclase schist found in the eastern map area, locally with garnets and apparent higher metamorphic grade of upper greenschist facies.

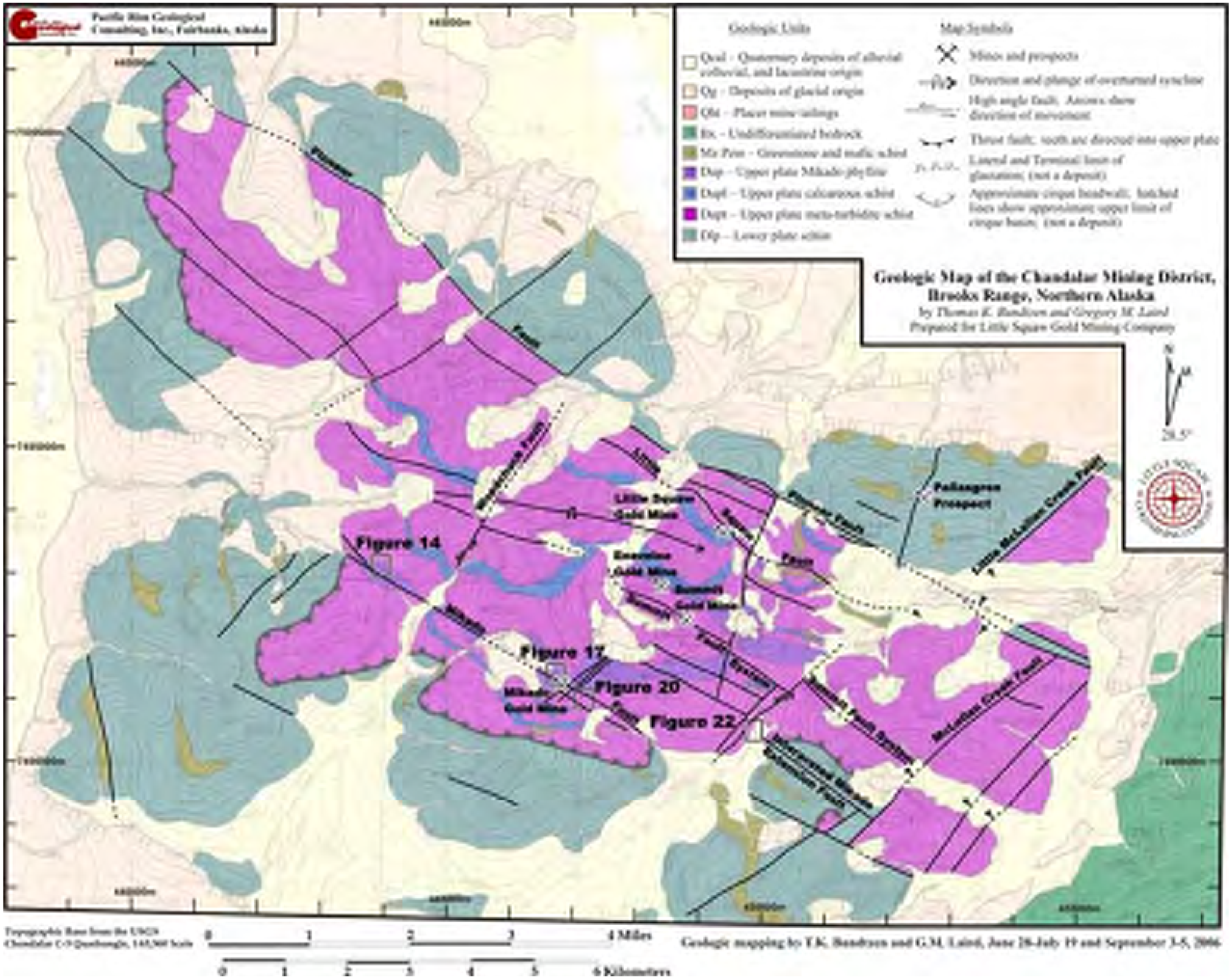


Figure 3. Geologic map of the Chandalar Mining district.

Structural Setting

The dominant trend of fold axes is east-west to northwest, which defines the position of rock units in the district. These folds range from outcrop scale to regional scale, open to overturned isoclinal folds. Secondary, north-northeast trending folds with open large wave lengths and amplitude occur in both plates apparently due to east-west compression.

There is a pronounced low-angle compositional discordance between the Upper and Lower Plates in the south and, according to Bundtzen and Laird (2007), a high-angle fault contact in the north along the Pioneer Fault. The apparent compositional discordance is illustrated by the occurrence of numerous greenstone sills and dikes and the extensive graphitic black schist in the Lower Plate. Age of the décollement surface separating the Upper and Lower Plates is uncertain but may pre-date the orogenic gold-quartz veins if associated with the Neocomian (130-140 Ma) period of crustal shortening and thrust faulting. A recently obtained K-Ar date of 111 Ma on sericite separated from an auriferous quartz lens from the Mikado Mine, is available (Newberry, written communication, 2006), similar to reported mineralization dates from the Wiseman area. It remains unclear if the gold-quartz veins cut across the décollement surface, or have been displaced by the low-angle fault movement.

A conjugate system of west-northwest, northwest, and northeast trending, high-angle and deep-seated faults cut the district and dominant deformation. Known gold-quartz veins generally are subparallel to the west-northwest faults although several lower grade veins (e.g., Big Tobin) have been found associated with the northeast faults.

Most northwest-trending faults with associated mineralization have had recurrent movement, as best seen on the Summit Fault. Mapping by Chipp (1970) indicates that the Mikado Fault displaces the Mikado Phyllite more than 500 vertical feet on its southwest footwall. A similar structural horst juxtaposes Lower Plate black schist against quartz-rich blocky schist of the Upper Plate in lower McLellan Creek valley.

Textures observed in mineralized vein-faults show some of the best evidence of recurrent movement history along the northwest-striking faults. Multiple laminae of slickenside at the Little Squaw 100 Level and at the Crystal vein give the vein a ribbon appearance. The Mikado vein-fault system typically consists of highly pulverized pinching and swelling veins/lenses due to recurrent movement along the fault zone. The veins splay and several subparallel mineralized zones are generally present. The Mikado fault has apparently had a complex history of movement that occurred before, during, and after injection of hydrothermal gold-bearing quartz lodes.

There is evidence of post mineralization movement and shearing on the Summit and likely the Kiska and Little Squaw vein systems. At the Summit prospect the vein mineralization is right-laterally offset from the the well-defined Summit shear zone by several northeast faults that do not displace the younger shear zone.

Surficial Geology

Prior to the Pleistocene glacial advances there was an extensive low-relief surface at 5,000 to 5,500 foot levels; this surface constituted the present Chandalar Mining district. A paleo-surface remnant is confined to a small area near the Summit and Kiska prospects, a broad ridge above the old Mikado Mine, and a series of adjoining sculptured knife ridges that divide the local watersheds. Ancestral drainages, including Big Squaw and Little Squaw Creeks, Little McLellan and Nugget Creeks, were immature second-order streams that formed relatively large alluvial fans on the base level lowland to the north. At the onset of the Pleistocene period, glaciation initially resulted in trunk glaciers that followed the ancestral river valleys of the upper forks of the Chandalar River southward out of the high elevations of the Brooks Range. The glacial advances bifurcated and lower energy branches of the glaciers encroached upon the north flank of the Chandalar district.

Pre-glacial surficial features were buried under ice and ultimately lateral moraines and meltwater silt, clay, and glaciofluvial marginal deposits. The pre-glacial fluvial fan on Little Squaw Creek is well defined on drill line 4 and continues north at least as far as line 1.2. The ancient fan lies immediately north of where the stream exits a boulder-rich ancient buried canyon encountered on line 5. The sediment section composing the fluvial fan can be divided into a barren upper glacial till section and a continuous sheet-like lower gold-bearing fluvial section extending a minimum 1,500 feet northward. Locally the contact between the two is sharp, but typically there is a mixed zone between the two and, overall, the contact is gradational. Within the mixed zone interlayered fluvial gravel and glacial till are interpreted to be thin fan and/or delta deposits laid down as glaciers advanced and retreated in the Lake Creek valley, probably multiple times. A similar sequence of sediment deposition is inferred to underlie Big Squaw Creek.

As the climate continued to cool, Pleistocene glacial effects on the different drainages varied. Valley glaciers formed cirques above 4,500 feet and scoured fluvial gravel out of some sections of Big Squaw Creek, McNett Fork, Tobin Creek, Woodchuck Creek, Squirrel Creek, and both McLellan Creek forks. However, Little Squaw Creek, and possibly the lower reaches of Big Squaw Creek, McLellan, and Nugget Creek where they extend into the Lake Creek-Squaw Lake lowlands to the north, were not scoured. Instead, these creeks were partially backfilled with glacial till when trunk glaciers from the north moved into the lowlands. On Little and Big Squaw Creeks glacial till containing exotic clasts overlies pre-glacial gravel as far upstream as the 2,800 foot elevation. Previous exploration, confirmed by the results of 2007 drilling, showed that the gold-bearing pre-glacial fluvial gravel in the lower reaches of Little Squaw Creek was not removed by the glaciers, rather it is preserved under the till. Consequently, below the 2,800 foot elevation there are two distinct ages of placer deposits, the pre-glacial fluvial system and perched channels within the overlying Pleistocene till and complex interglacial sediment deposition.

Big Creek, unlike streams north and west in the district, was protected by topography and did not support significant accumulation of ice. Only fluvial sediments of local origin are known in the Big Creek valley and these are not reported by early prospectors to exceed 40 feet of depth. Nugget Creek, because of its limited watershed, does not exhibit evidence of glacial sediments backed up into the deeply incised valley. However, till and glaciofluvial sediment overlie the fluvial fan below the Nugget Creek canyon.

The glacial section in Little Squaw, Nugget, and Big Squaw Creeks includes, along with schist varieties seen in the fluvial gravel, a variety of clasts not found in bedrock within the district. Slate, marble, biotite- and muscovite-bearing granite, conglomerate, and quartzite are variably abundant, commonly as cobbles and boulders. A distinctive gray quartzite with abundant well-rounded black chert clasts is particularly abundant in the glacial till and is a good marker, along with the gray color of clay, for the glacial section. Clay is abundant in the glacial section. In some drill holes clay layers up to 15 feet thick were encountered. Ice lenses up to 20 feet thick are present in the upper part of the glacial section on the left limit of Little Squaw Creek below about 2,350 feet elevation.

At the end of each Pleistocene glacial advance, gold-bearing placer deposits formed as channels cut into the top of the resultant lag of glacial till. The rich gold-bearing gravel mined from the Mello Bench and gravel mined in the modern stream between the 2,500 foot and 2,700 foot elevations were in perched fluvial channels in the upper glacial section. In contrast the auriferous gravel on Big Creek and the portion of Tobin Creek that was not glaciated, formed more conventional bedrock placers.

Permafrost is continuous in the Chandalar region except in narrow zones of active ground water such as under the lower Big Squaw Creek valley. Frost can be expected to depths of 400 to 600 feet; the fluvial fan under Little Squaw Creek was found to be frozen. Periglacial features, including extensive solifluction, are active on the steep hillslopes of the district.

Groundwater emanates from several perennial springs along the north-facing toe of the higher elevation terrain. Springs along lower Big Squaw Creek and Spring Creek are known to flow throughout the winter.

DEPOSIT TYPES

At Chandalar valuable concentrations of gold occur (1) in lode deposits throughout the district, these are divided as major quartz veins and associated lower grade zones; and (2) as significant fluvial placers that have formed due to erosion of an ancient auriferous weathering surface more than 3,000 vertical feet above surrounding lowlands. Both deposit types have substantial economic potential at Chandalar.

Lode Deposits

Gold occurs in definable systems of veins, veinlets, disseminations, sheeted veinlets, and auriferous lenses of quartz within or adjacent to northwest-trending shear zones. Figure 4 shows the location of all known lode prospects and placers with past production.

For more than a century prospectors have explored the Chandalar district for high-grade gold-quartz veins. Numerous veins have been found and several have seen minor production. The Mikado mine, the best known example, has produced 7,700 oz Au from 10,500 tons at a head grade of 0.99 oz Au/ton (Strandberg, 1990, GRMC internal files). The schist-hosted Mikado mineralization occurs in discontinuous elongate lenses and veins that pinch and swell and as border zones of stockwork and sheeted veinlets. Mineralization is associated with the Mikado shear zone, generally found in the hanging wall. Recurrent movement along the shear explains the discontinuous nature of the mineralization, the pulverization of quartz to a clayey sugary texture and the numerous ragged inclusions of host rock. Elsewhere, veins such as the Little Squaw, Crystal, Kiska, Prospector, and Grubstake are hosted in splay faults and are more competent and continuous but gold values still tend to be discontinuous and mineralization primarily occurs as pods and ore shoots. Overall, auriferous and subparallel quartz veins of the Chandalar occur across a five-mile width and a northwest-trending four-mile strike length.

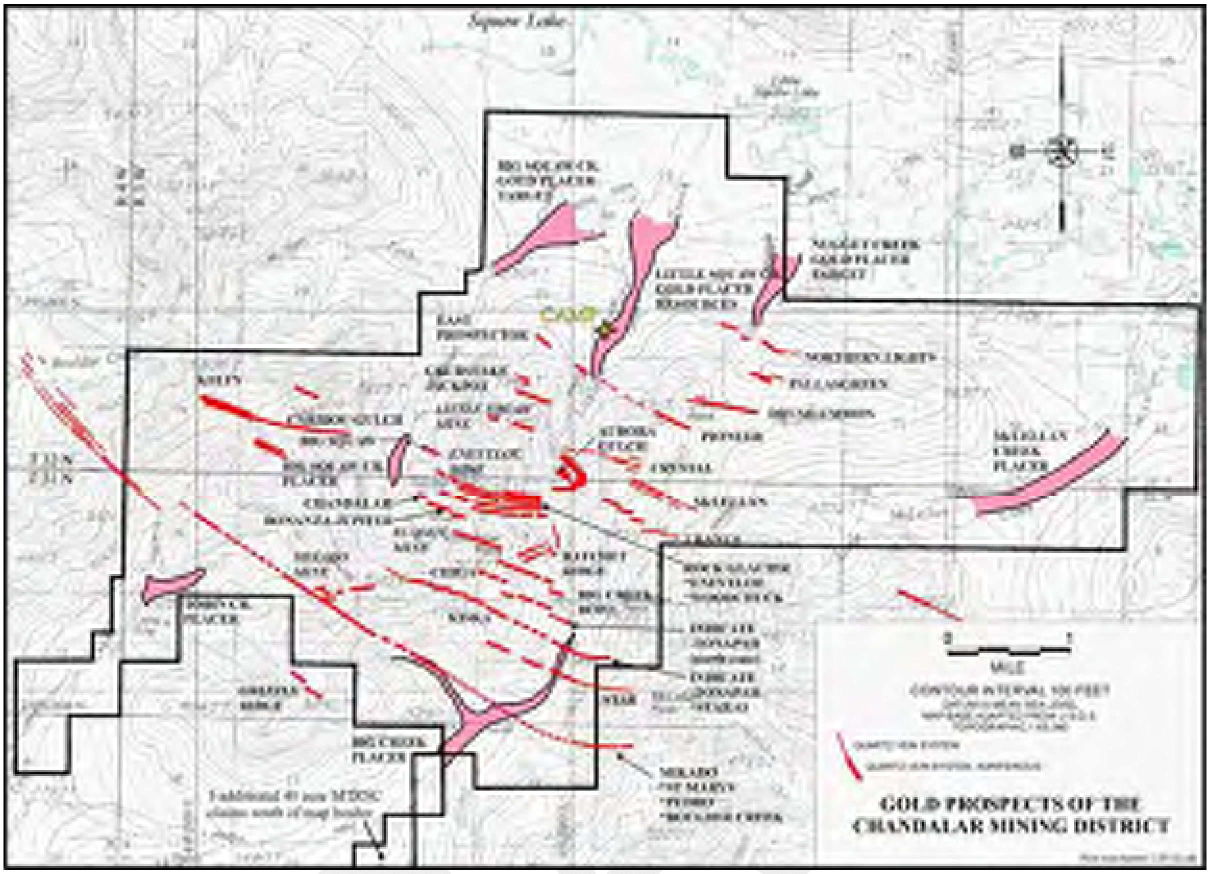


Figure 4. Chandalar lode and placer gold prospects with past production.

Lode gold deposits of the Chandalar Mining district were previously classified as low-sulfide, quartz-sulfide-gold epithermal vein deposits (Ashworth, 1983). This was predicated on

- the relatively low-temperature mineral stibnite occurring in a co-genetic relationship with gold and the lack of scheelite in the veins;
- elevated mercury in the gold;
- relatively low fineness gold found in the lodes (750 to 850 parts per thousand);
- fluid inclusions with variable gas-to-liquid ratios possibly resulting from boiling hydrothermal fluids; and
- a postulated buried Devonian pluton, the hypothesized source for the gold-bearing fluids.

If this model is correct, it implies there is a significant limitation on the potential vertical extent and size limitation of the gold resources in the Chandalar Mining district. However, Bolins (1984) and Rose and others (1988) concluded that evidence of boiling did not exist and that the veins were apparently mesothermal, implying deep-seated mineralized systems. A 2004 data review for the Company (Barker and Bundtzen, 2004) concurred with a mesothermal classification and updated it:

- the association of the veins with intersecting deep-seated northeast and west-northwest faults that form a conjugate set that underlies the district. These fault sets formed due to regional compression of Paleozoic greenschist facies metamorphic rocks rather than in an extensional volcanic terrane.
- the presence of significant placer deposition;

- lode gold occurring in ribbon-texture quartz and in veins with post-emplacement deformation;
- the absence of electrum and sulfosalts;
- the persistence of the quartz veins within major shear zones;
- the consistency of the single age-date of 111 Ma from the Mikado with age-dates of mesothermal veins farther west in the Brooks Range;
- the characteristic dimensions of the Chandalar mineralization. Epithermal processes generally create mineralized bodies exhibiting a limited vertical range, 250 to 500 feet (Panteleyev, 1990).
- The gold:silver ratio, another distinguishing characteristic, is higher in mesothermal mineralization than in other deposit types (Hodgson,1993); generally, ratios of less than 1:1 typify epithermal deposits. Gold:silver assays (n=26) of the Little Squaw quartz vein returned a ratio of 3.66:1, similar to the ratio for all 1981 Mikado head assays.

The mesothermal classification has been further buttressed by subsequent field data:

- The presence of stibnite and elevated antimony is believed to represent the epizonal portion of the mesothermal systems. Antimony in these deep systems is known elsewhere.
- gold fineness is higher than previously reported; 10 placer gold samples from Little Squaw Creek range from 863 to 899 (average 883); and
- tungsten as scheelite occurs in 2007 placer concentrates from Little Squaw Creek.

No evidence has been found that a pluton underlies the district although the possibility cannot be dismissed. The Devonian Baby Creek granitic pluton occurs five to ten miles west of the district and is one of a series of similar plutons intruding the Brooks Range Schist Belt. A pluton-related classification does not negate the veins as orogenic mesothermal (Cox and Singer, 1986).

In summary, data from four exploration seasons support interpretation of the Chandalar veins as a metasediment-hosted, orogenic, low-sulfide mesothermal deposits. The gold deposits of the Chandalar district compare with other mesothermal examples that carry grades of 1 to 2 ppm Au over large widths and strike lengths. Examples elsewhere are the Juneau Gold Belt, including the Alaska-Juneau Mine (historic production of 3.52 M oz at a grade of 1.37 ppm Au), (Szumigala and Hughes, 2007) and the Chichagof Mine; the Cape Nome district, including the Rock Creek deposit in Alaska (0.4 M oz at a grade of 1.31 ppm Au; Szumigala and Hughes, 2007); and Spanish Mountain in the Cariboo District of British Columbia (1.75 M oz at a grade of 0.81 ppm Au, www.skygold.ca news release 04/04/2008). This deposit type, including variants exhibiting sediment-hosted disseminated gold mineralization, is a current exploration target being pursued worldwide.

New gold occurrences with characteristics not previously noted at Chandalar were identified in 2004-07 field studies. Aurora Gulch gold occurs in sheeted quartz veinlets cutting quartz muscovite schist that overlies crenulated black phyllite with disseminated wispy veinlets containing gold, arsenopyrite, and rare stibnite. In turn the phyllite overlies gold occurrences in sandy carbonate and dolomitic rocks within a calc-schist unit. This latter unit contains zones of disseminated pyrite, pyrrhotite, and arsenopyrite. The mineralized system has an apparent minimal thickness of 500+ feet and is prominently capped by hematitic-stained schist and overlain by an anticlinal structure of resistant greenstone sills and massive calc meta-sandstone. No gold-arsenic values occur within or above this uppermost level. There has been no drilling or trenching to date at the Aurora Gulch prospect. Mineral occurrences at the Chiga prospect and at Mikado-St. Mary's Pass prospect area may have similarities to Aurora Gulch. The style of mineralization of these three prospects is better compared to Spanish Mountain of the Cariboo district and to Sukhoi Log in eastern Siberia with a resource of 30

M oz averaging 2 ppm Au (Large and others, 2007). Note there has not been any drill confirmation of these prospects and no comparison of resource potential is suggested.

Placer Deposits

Placer gold in the Chandalar Mining district was liberated from lode sources of the former highland weathering surface during several episodes of erosion and concentration further complicated by repeated advances of Quaternary glaciation from the north. Subsequent downcutting upon each glacial retreat occurred in response to newly established base levels along the wide valleys to the north and west of the district. These glacial events scoured the upper placer streams of Tobin, Boulder, Woodchuck, McLellan, and Big Squaw Creeks but did not destroy pre-glacial pay streaks at the lower valleys of Little Squaw, Tobin (above Woodchuck Creek) and probably not Big Squaw and McLellan Creeks. These pre-glacial placer deposits were preserved during glaciation and significant targets remain.

Productive placer deposits in the district are shown on Figure 5.

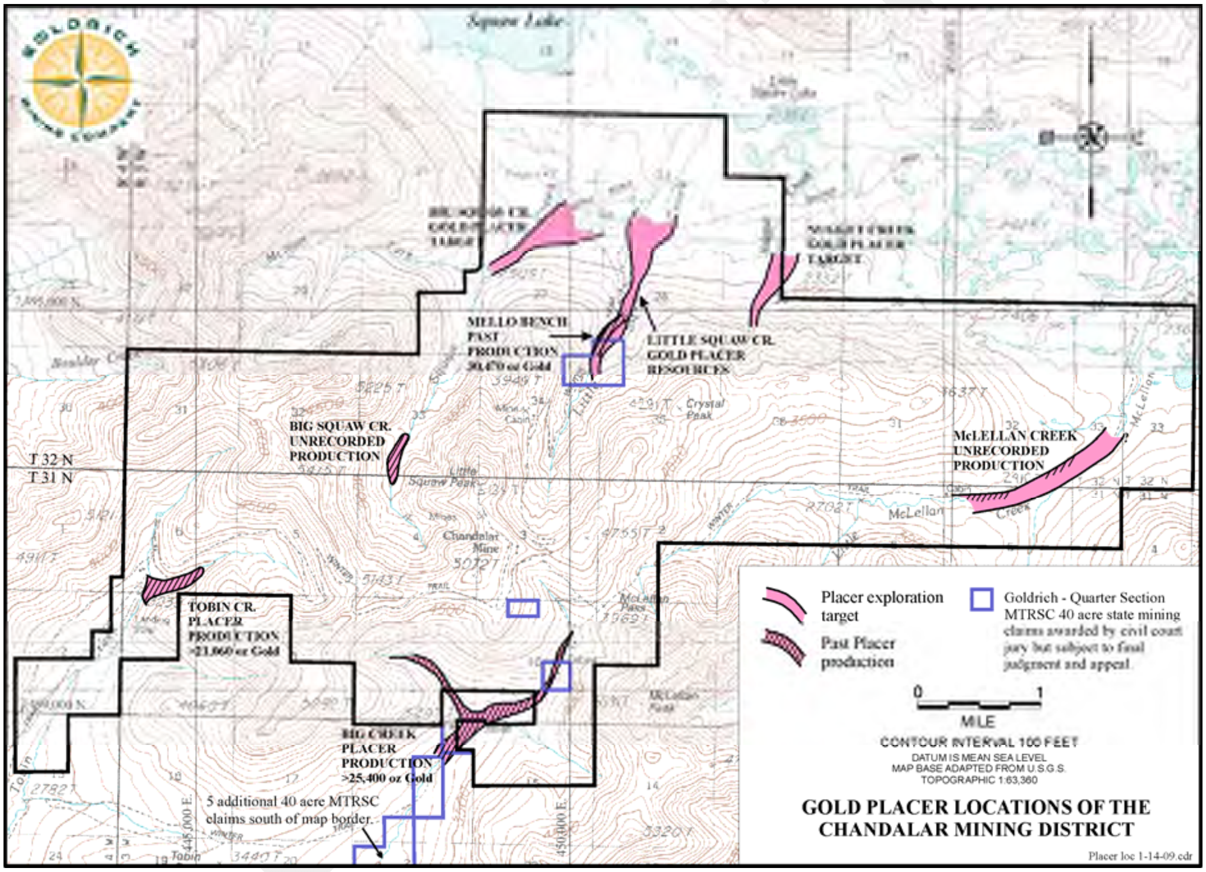


Figure 5. Gold placer locations of the Chandalar Mining district.

The complex glacial-fluvial history of the Chandalar region formed placers and placer exploration targets that exhibit several differing deposit types. On the north and east side of the district the placers are a combination of stacked sequences of normal fluvial and glaciofluvial channel deposits that have formed in second order streams and feature bedrock and false bedrock pay channels. On Little Squaw Creek, and possibly on Big Squaw, McLellan, and Nugget Creeks, resistant bedrock along the north margin of the hills has influenced rapid stream gradient changes that created ancestral canyons below which paleo-fluvial and modern glaciofluvial fans have formed.

The geological setting of several of the Chandalar placer deposits, notably Little Squaw Creek, where drill data are now available, the glacial aspects can be approximately compared to the glaciofluvial deposits in the Valdez Creek (south-central Alaska) (Reger and Bundtzen, 1990), Porcupine (southeast Alaska), and the Kolyma (Russian Far East) placer gold districts. The Valdez Creek deposit yielded 514,000 oz Au from glaciofluvial and fluvial gravels, including both bedrock and perched auriferous channels as deep as nearly 200 feet. The Burkandya Mine in the Kolyma district, examined by one of the authors, is an underground operation working 300 feet deep on two high-grade mining levels perched on clayey frozen glacial false bedrock; the mine uses longwall methods. Three longwall panels are operated simultaneously on each level, producing 350 to 400 m^3 (460 to 525 yd^3) per day of high-grade placer. Together with other mines in the immediate Sussymanski area, all operating as either deep placer underground or as surface operations, 20 million m^3 (26.2 yd^3) of gold-bearing gravel had been processed as of 1989 (Skudrzyk and others, 1990).

The Yagodnoe Mining district, also in the central Kolyma, produces gold from four major deeply buried placer deposits described as mostly perched terrace deposits. Washing plants individually process 3,500-4,000 m^3/day of gravel containing about 0.3 g/m^3 (0.007 oz/byd^3) Au.

Much of the Little Squaw Creek placer is a fluvial fan deposit, a type of placer that is known throughout western U.S. gold districts. Fan deposits are generally lower grade than fluvial channel pay streaks, however, there are exceptions. Fan deposits can feature thick economic sections of short, truncated pay-channels that occur across the relatively wide widths of the fluvial fans: consequently these thick and wide placers can support substantial mine operations. Comparable to Chandalar would be the Manhattan district of Nye County, Nevada (Vanderberg, 1936), also examined by one of the authors. A two-mile-long fluvial channel and a fluvial fan up to 170 feet deep were dredgable at grades ranging from 0.011 to 0.686 oz Au/bcy. At the Osceola district several mineable layers of auriferous caliche-cemented alluvium occur in a fan deposit up to 200 feet deep. Average grade is reported to be 0.038 oz Au/bcy (Smith, 1976.)

Although many fluvial fan placers contain only sub-economic gold values as a group, they generally present a consistently mineralized, thick, stratabound sediment unit that initially forms at the fluvial outfall at the head of the fan where the highest values are found and continues to form along the strike length of the fan feature until a more moderate gradient is encountered. Unlike typical channel placers the gold is not concentrated on bedrock by repetitive fluvial reworking of the base level, but instead is deposited in numerous, short-lived, truncated braided channels that aggregate vertically to form greater thicknesses than seen in other placer deposit types.

The emerging pattern at Chandalar is likely that several fluvial fans or fluvial bench deposits have formed along the district's northern front (Figure 5). Based on present information the placer exploration target at Chandalar is suggestive of multiple fluvial features that merge into a wider paleo-apron or -braided stream terrace system continuing northeast to east down the paleoslope below the outfalls from higher elevation canyons. This assumes any disturbances by post-depositional glaciation are confined higher in the sediment profile underlying the lowlands. Individual auriferous fluvial fans are known in various parts of the world (McDonald, 1983), several are described above. However the best known and best exposed example of merging fans and sheet-like aprons are the fossil placers of the Witwatersrand (Roscoe and Minter, 1993). Although vastly larger, the Witwatersrand model features multiple complexly merging fluvial fans and braided channels that coalesce into extensive aprons tens of miles across. Internally the Rand placers exhibit common short, truncated, discontinuous channel segments and cross-channel features with gold and heavy mineral concentrations. Rand gold is generally believed to be derived from regional-scale auriferous sources.

MINERALIZATION

Lode Mineralization

Most high-grade zones within the veins are less than 150 feet long and 2-to-10 feet wide. Vertical extents are unknown but probably exceed 200 feet. Individual prospects discovered at various points along major shear zones were originally thought to be discrete discoveries, but groups of prospects have since been determined to be related along a common structure. The Summit vein system, for instance, includes several other discoveries now believed related to the same system traceable for about 5,800 feet over which mineralization is relatively continuous, but varies widely from low-grade (0.20 ppm Au) to high-grade (>35 ppm Au). Over this strike length, the Summit system also spans a vertical range of 1,000 feet.

Some degree of lithologic control of mineralization has been suggested. Duke (1975) and Chipp (1970) believed gold mineralization may be preferentially hosted in carbonaceous phyllite and gray to black schist. There is an inferred lithologic control of the Chiga prospect that extends down dip and is tentatively projected to underlie the Summit footwall area where it was intersected in RC drill hole SUM 12. At Aurora Gulch differing lithologies host differing mineralization styles.

Most vein systems are closely situated within or in the adjacent hanging wall of the major shear faults, but there are exceptions. The Chandalar vein systems sort into two groups. The first group (e.g., Mikado, Eneveloe, Pioneer) are discontinuously mineralized major quartz veins also associated with subparallel gold-bearing lenses, parallel veins, and stringer and sheeted zones, within enveloping zones of alteration, shearing and gouge. Because of the close proximity of deep-seated shear zones, the recurrent movement along these shears has consequently brecciated and deformed these vein structures. Alteration in gouge zones includes various clay minerals, predominantly kaolinite, black-to-green chlorite, granulated quartz, lesser albite, alunite, and carbonate as siderite and ferroan dolomite. Graphite is commonly associated with higher grade mineralization. Commonly there is both banding and cross-cutting evidence of multiple stages of quartz precipitation and each stage features varying mineralization, including gold as flakes and wires, arsenopyrite, pyrite, and accessory galena. Quartz veins with similar mineral assemblages, but without significant gold, are also found in the district and occur in the same vein system as mineralized quartz.

The second group of vein systems (e.g., the Little Squaw, Crystal, Grubstake East and West, the Jackpot, and perhaps the Star) is found in east-west-trending fractures in proximity to the major shear zones but more distal than those described above. This type of deposit occurs in subparallel splay faults or fractures that horsetail off the major shear zones. Similarly the distal segments of the Summit and Pioneer shear-hosted mineralization become more vein-like as the systems verge slightly (2-5°) from the main shear structure. There is little evidence of major post vein movement on the host fractures and no significant gouge development, however, smaller-scale recurrent movements result in banded- to ribbon-pattern laminae and slickensides within the veins. These veins have sharply defined footwall and hanging wall contacts with minor wall rock alteration, and quartz readily breaks free of wall rock. They have more continuity than the shear-hosted type but generally lack the enveloping alteration and associated low-grade auriferous zones. High-grade auriferous mineralization is often concentrated in the fine-grained ribbon banded zones that may occur along either contact, but tends to favor softer wall rock of carbonaceous phyllite. Such zones can occur as ore shoots. Gold in the banded vein quartz occurs as wires and flakes commonly up to several mm in size. These veins generally will also include wider bands of massive lower-grade, coarser grain quartz. Quartz veins with similar mineral assemblages, but without significant gold, are also found in the district and occur in the same vein system as mineralized quartz. For instance, the Grubstake West veins are excellent examples of composite veins with scorodite-stained ribbon banding on the footwall, yet samples (to-date) contain no significant gold values.

Some prospects, such as the Bonanza-Jupiter and the Kiska, appear gradational between the two vein styles. Similarly the distal segments of the Summit and Pioneer shear-hosted mineralization become more vein-like as the systems verge slightly (2-5°) from the main shear structure. For example, the Pioneer exhibits highly sheared lenses of vein quartz where the vein system crosses over the shear, but becomes distinctly vein-like at the Grubstake East prospect about one mile to the west and 200 feet north of the shear zone.

The following prospects are discussed in the context of those locations that likely are auriferous over significant strike length along a single vein system; the Summit, Mikado (incl. St. Mary's Pass), Aurora Gulch, and Rock Glacier areas are considered priority for exploration:

Summit Vein System (includes Big Creek Bowl, Indicate-Tonapah, Wildcat, and Bonanza-Jupiter Prospects)

Combined reconnaissance-level surficial sampling, drill and trench transect data, and historic mill records of 1,400 tons with a head assay of 1.29 oz Au/ton from the Summit Mine, indicate auriferous quartz veins occur within, or closely associated with, wider aureoles of lower grade, sheeted veins and disseminated gold values.

Transect results each show one or several mineralized widths of 10 to 60 feet containing average grades ranging from 0.25ppm to 10 ppm Au (Figure 6 and Figure 7). Drilling in 2006 intersected the Summit Vein in drill holes SUM 7, 8, 9, and 10. Best five-foot intercepts are 5.71, 16.15, 5.52, and 3.24 ppm Au, respectively. At least one and likely several high-grade ore shoots are present; the better known 100 Level shoot appears to plunge moderately to steeply eastward; a second ore shoot is likely near Trench 10 (Figure 7). Hole SUM-12 cut a 95-foot zone of low-grade (0.28 ppm Au) that is open to depth. Mineralized zones occur along 1,800 feet of strike length; reconnaissance magnetometer lines and soil sampling in late 2007 indicate the strike of the Summit system extends another 2,000 feet to the southeast, beyond right lateral offsets in Big Creek Bowl.

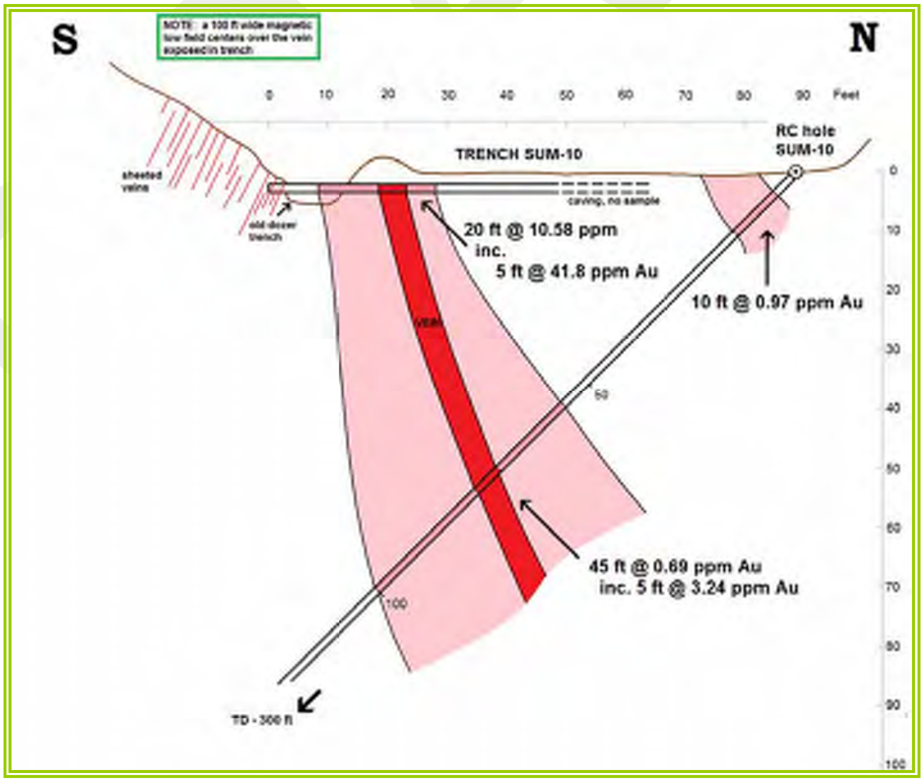


Figure 6. Section of Summit drill hole SUM-10 and trench SUM-10.

The Bonanza-Jupiter vein begins near the west end of the Summit and is a possible but not confirmed right-lateral fault offset of it. The Bonanza-Jupiter continues 2,000 feet westward. Altogether, the Summit system has been traced over a strike length of more than a mile. Additional details concerning the Summit vein system are in Barker (2008).

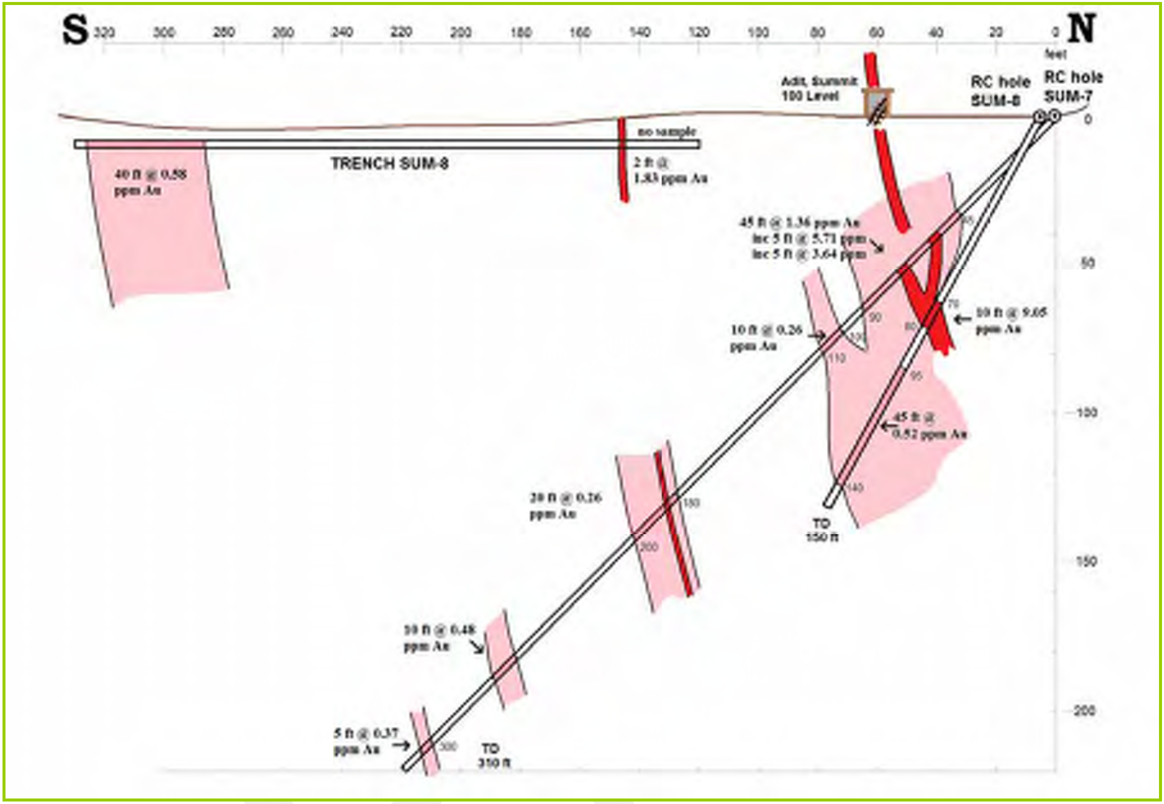


Figure 7. Section of Summit drill holes SUM-7 and -8 and trench SUM-8

Mikado Vein System (includes Big Tobin, St. Mary's Pass, St. Mary's Creek and Woodchuck prospects)

A gold-quartz vein system that is largely enveloped in, or marginal to, wider zones of low-grade gold values was traced for 4,000 feet by a series of trenches, soil sampling, and a ground magnetic survey (Figure 8, Figure 9). The system occurs over an elevation rise of about 800 feet and is composed of several subparallel zones. The combined Mikado-Big Tobin and St. Mary's Pass vein system is open in both directions and is the likely source of placer gold found on Big Creek to the southeast and Tobin Creek to the west.

The area is largely blanketed by a thick layer of shingled schist scree. Ground magnetic surveys were particularly helpful under these circumstances in delineating the mineralized zones and associated alteration that exhibit readily discernible low magnetic fields (Figure 10).

Between Mikado trenches 20 and 41, a distance of about 1,300 feet, the magnetic low field deepens and several subparallel mineralized zones are present; this area corresponds with most of the higher gold values and centers near the old Mikado Mine. Weakly mineralized NE-striking vein structures intersect the Mikado system within the magnetic low field. In addition to the quartz veins a 180 foot-wide parallel zone of sheeted veining, quartz-carbonate veinlets, and mineralized fault zones was encountered in extension of Trench 41 to the south. The zone is open to the south. Channel sampled intervals between station 52 and 112 feet averaged 0.51 ppm Au over 60 feet, however this includes 21 feet where caving prevented sampling. Any gold in the cave area would increase the average 0.51ppm Au for this interval.

A somewhat similar magnetic low field anomaly occurs on the southeast of St. Mary's Pass, where high-grade quartz veins and mineralized, argillized schist occur. Sample assays of mineralized and hydrothermally altered schist (LS 4360, 4899, 4901, 4930) range from 0.71 to 90.8 ppm Au. Soil sampling at the St. Mary's Pass prospect in 2008 shows highly anomalous soils, some exceeding 1 ppm Au, trending along the strike of the magnetic low feature toward the head of St. Mary's Creek. Both areas of alteration/mineralization/magnetic low fields occur at, and extend downslope of, a similar elevation on opposites sides of the pass, suggesting a vertical component to the higher grade Mikado-St. Mary's Pass mineralization and implying that future exploration should follow these zones under the pass. The data implies the presence of stratabound mineralization, but requires further evaluation to be conclusive.

Sampling results from the quartz veins at the Mikado prospect were lower than had been expected. Although past operators have reported numerous partial- to multi-ounce per ton assays from the veins exposed in older trenches (refer to 1982 trenches 4W to 7E (Strandberg, 1990)) and hand workings, the surficial and trench sampling in 2007 was largely unable to replicate these values. Of 76 surficial rock samples and 317 trench sample intervals only a single sample, LS4295, exceeded one ounce per ton in assay.

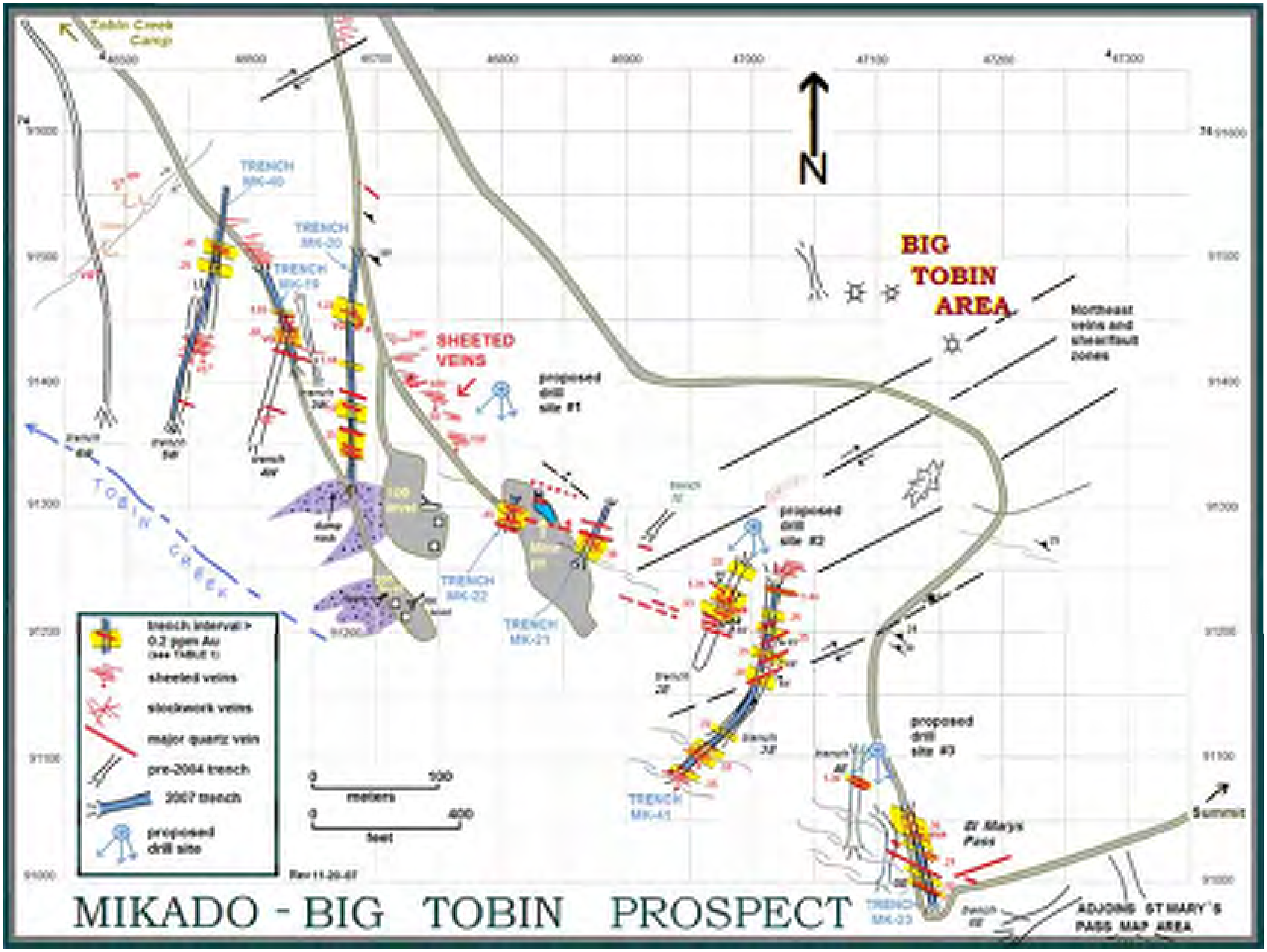


Figure 8. Mikado-Big Tobin vein system

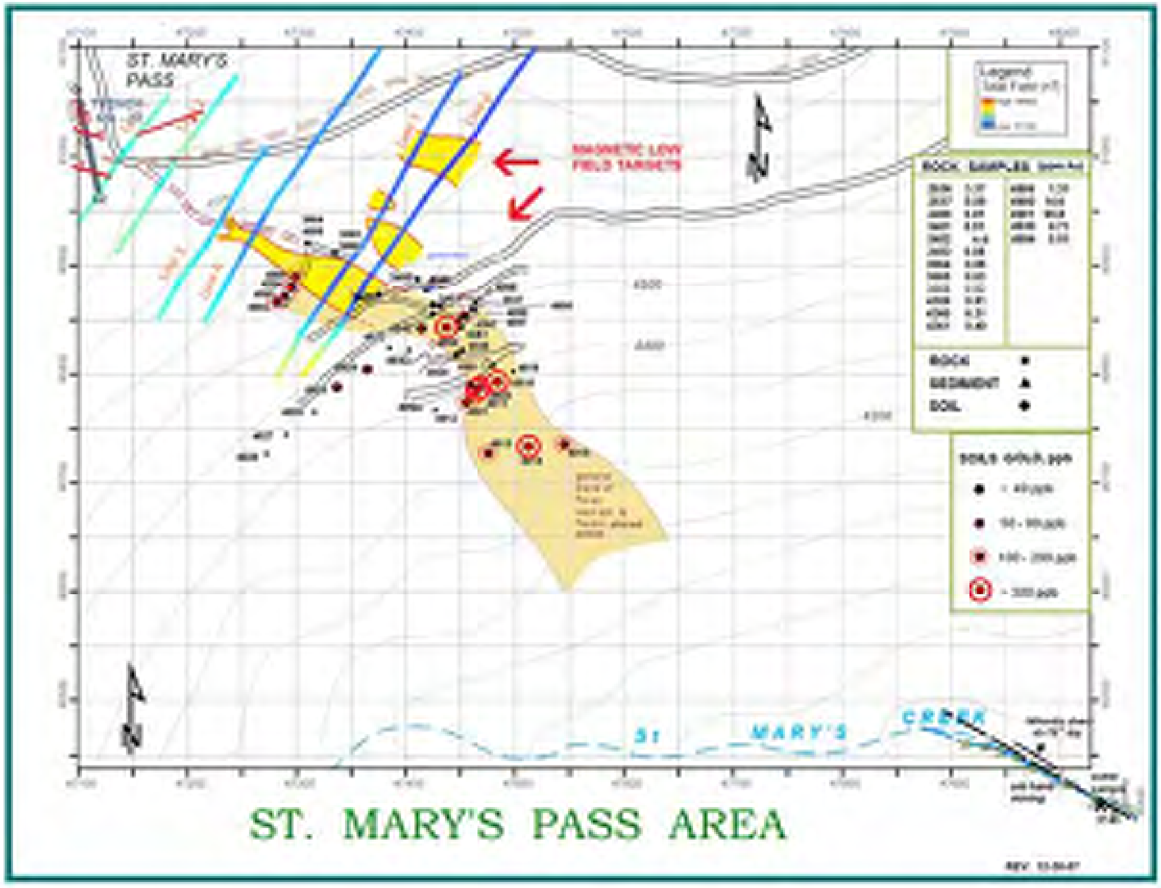


Figure 9. St. Mary's Pass prospect.

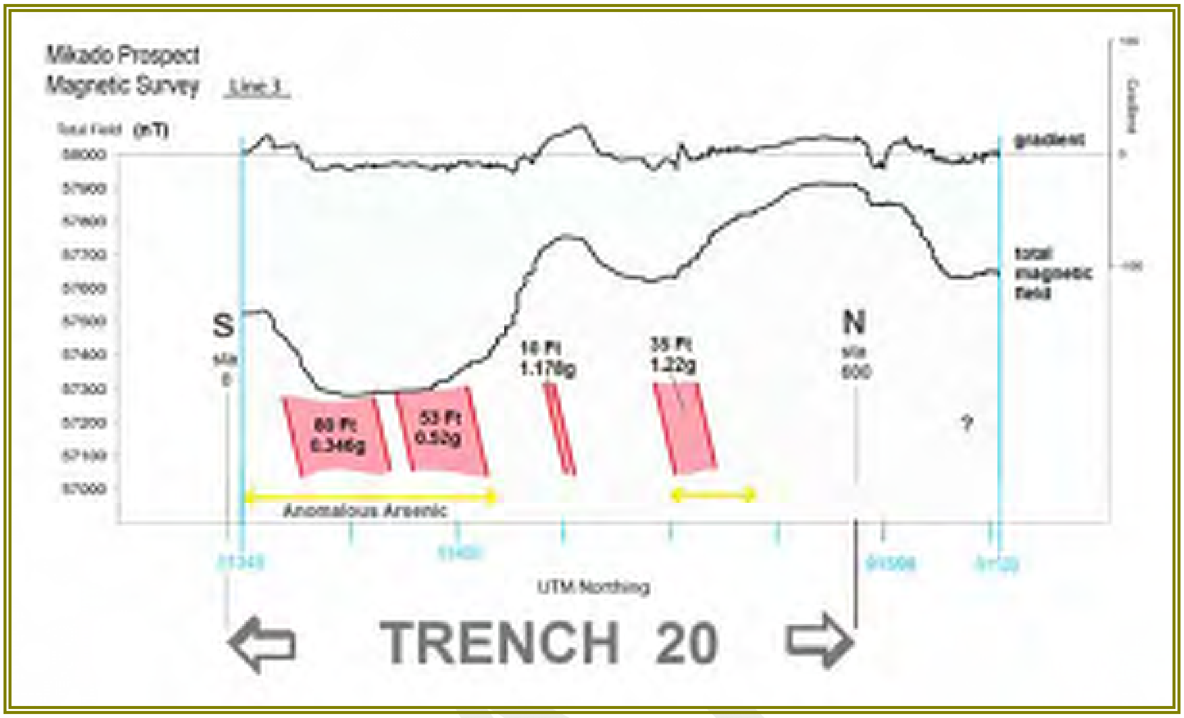


Figure 10. Section of magnetic survey line #3 and Mikado trench 20, showing the correlation of auriferous values to areas of low magnetic field.

Furthermore, only a few assays exceeded 0.1 oz/ton (3.11 ppm). Yet coarse visible gold can be found in hand specimens and the reported head grade during the 1981-1982 mining was 0.93 oz Au/ton (32.1 ppm Au). It is suspected that this discrepancy is, at least, in part due to coarse gold and the poddy nature of the high-grade zones. Bulk sample testing will be evaluated, whereby several veins can be sampled along strike as well as across their full width, and then processed for total gold recovery.

In summary, the Mikado vein system was found in 2007 to be a large body of continuous and pronounced alteration with at least low-grade but also continuous mineralization. Higher grade mineralization is mostly confined below an elevation of 4,600 feet. A large, low-grade, tonnage potential exists given the size of the shear zone and likelihood that the system continues along strike, particularly under St. Mary's Pass into St. Mary's Creek, and to extend to depth. (Additional details concerning the Mikado vein system are in Barker, 2008).

Aurora Gulch complex (includes McLellan and Uranus prospects)

The Aurora Gulch prospect represents a type of gold-arsenic mineralization that differs from the mesothermal quartz veins typical of the Chandalar district. At the Aurora, gold-arsenic values with a distil antimony halo are concentrated in sheeted veinlets cutting quartz-muscovite-chlorite schist that in turn overlies auriferous carbonaceous chloritic gray-black schist and dolomite. The entire sequence lies below an altered structural contact with overlying open-folded undivided units of green meta-sedimentary and meta-igneous rock. The mineralized metasediments occur between two deep-seated west-northwesterly shear zones that are intersected by both northwest and northeast prominent faults. The prospect was first identified in the 2006 program.

Gold values have been found in soil, stream sediment, and rock samples. Stream sediment values in Little Squaw Creek are 0.17-to-0.45 ppm Au. They occur west of a soil anomaly where soil values range up to 2.78 ppm Au. Soil and sediment sampling results (Figure 11 - Aurora Gulch soil anomalies for gold) define an approximate 1,150 foot-by-1,450 foot area of anomalous gold and arsenic that is enveloped to the west by a zone of variable sericite-silicic-hematite±carbonate-altered schist, mostly underlying resistant greenstone sill and calcareous meta-sandstone. Within the soil anomaly, 41 samples average 0.44 ppm Au. Anomalous antimony (7 to 90 ppm) occurs on the perimeter of the gold anomaly. Sample results from late 2007 suggest the soil anomaly is open to the southwest, extending under the Rock Glacier.

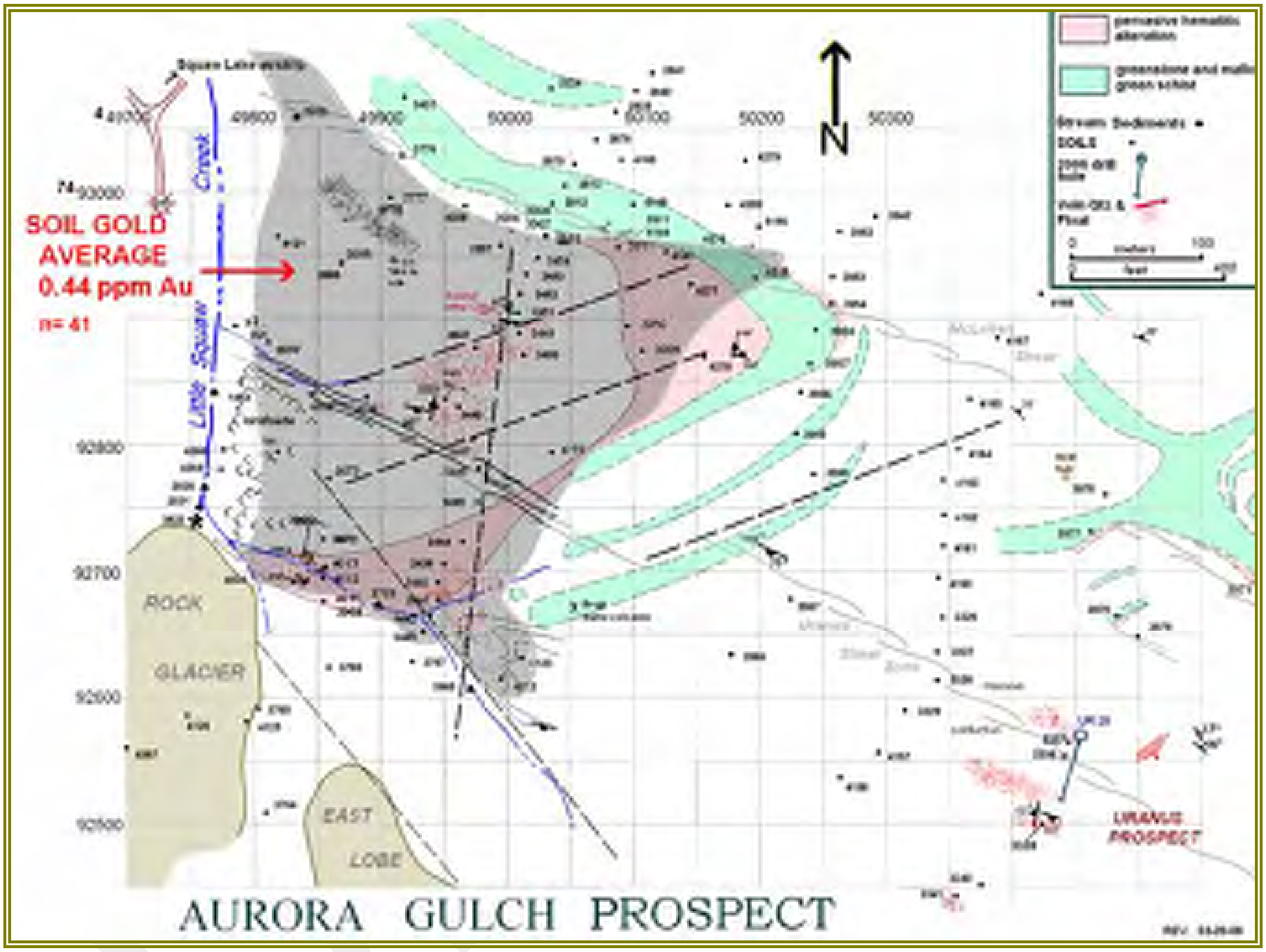


Figure 11. Aurora Gulch soil anomalies for gold.

Composite chip samples of sheeted veining in very limited exposures assay between 0.2 and 1.8 ppm Au. Samples of gold disseminations, pods and lenses of sulfide±quartz distributed within sheared and isoclinally folded to crenulated black schist assay an average 1.4 ppm Au from five grab samples. A lower carbonate and dolomite unit exhibiting variable quartz veinlet stockwork and silicification (seen only in float) assayed from trace to 38.8 ppm Au. Chips from seven other random float samples of altered carbonate in 2007 averaged 1.46 ppm Au. Very little bedrock is exposed for examination; most of the map area is talus or tundra covered. A ground magnetic survey shows magnetic high field anomalies coincident with an overlying schist unit that correlates with the area of anomalous soil gold. Additional details concerning the Aurora Gulch area are in Barker (2008).

Rock Glacier (includes Ratchet Ridge, Eneveloe, and Big Squaw prospects)

A surficial feature composed of talus cemented with frozen clayey rock flour, fault gouge, and other fine-sized material, interpreted as a rock glacier, is underlain by four to six subparallel west-northwest quartz veins. These veins strike 105-to-110° and have been tentatively traced in float approximately

3,600 feet westward to include the Eneveloe prospect (**Error! Reference source not found.**). Under the western lobe of the rock glacier, the veins intercept the 140°-striking Ratchet faults; the surface of the rock glacier, an area 150-by-800 feet, is littered with auriferous vein quartz float. Average assay of 12 rock chip samples of auriferous vein material is 2.38 ppm Au. Stream sediments in Little Squaw Creek below the rock glacier contain 0.170 to 0.442 ppm Au. A landslide bedrock slab at least 75 feet across exposed in the rock glacier is cut by one of the veins with a footwall of iron-stained gouge. Channel samples across the 8.5 foot section assayed 1.47 ppm Au and a pan of pulverized vein quartz found hundreds of minute gold specks. A random chip sample of nearby massive white quartz vein material contained 4.06 ppm Au.

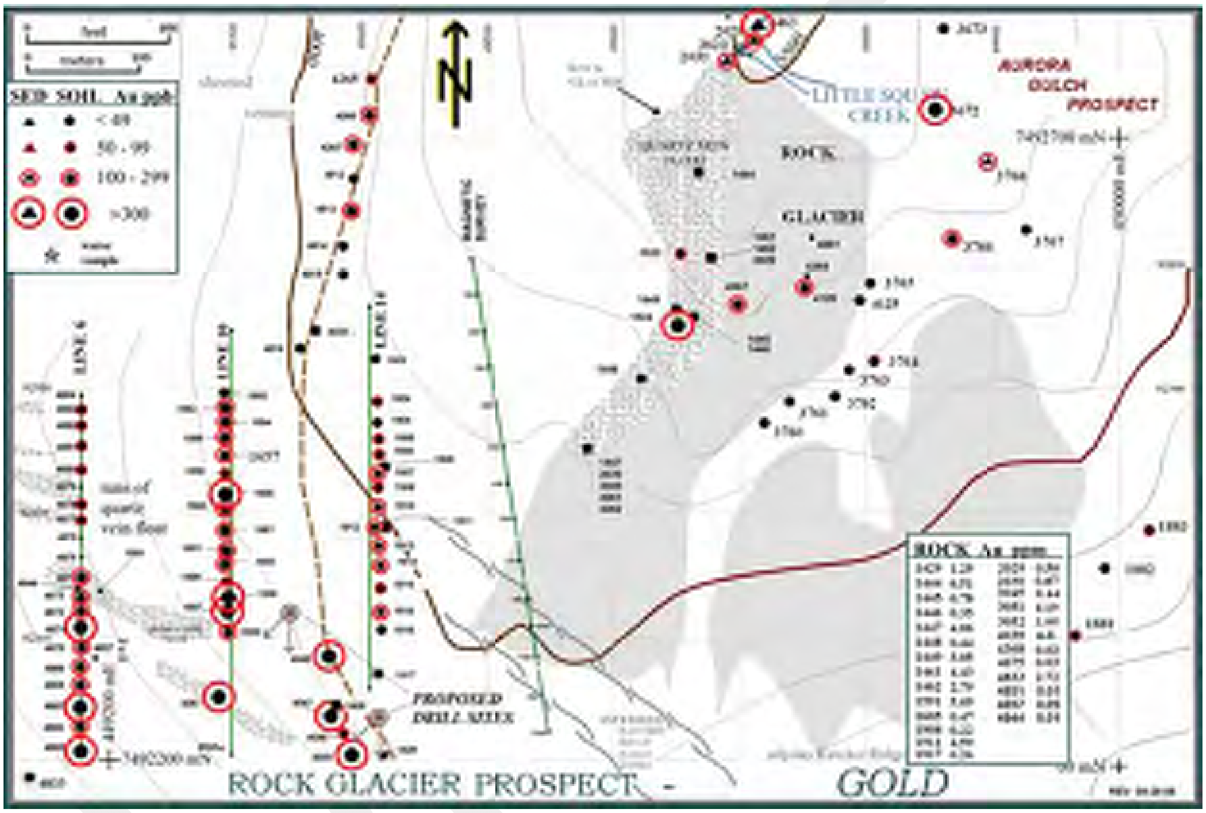


Figure 12. Rock Glacier prospect area.

Coincident with the western lobe of the rock glacier, there is a convergence of a broad elongate northeast-trending magnetic high field that trends from the Aurora Gulch area with a second, more sinuous magnetic field trending along the inferred trace of the northwest Ratchet faults.

Three 1,000-foot-long north-south soil sampling lines (#6, #10, and #14) were laid out to cross the inferred veins above the west margin of the Rock Glacier. Nearly all samples on the lines were anomalous with gold and average 0.136 ppm Au (n=20), 0.188 ppm Au (n=17) and 0.239 ppm Au (n=18), respectively. A chip sample from a vein sub-crop above Line 10 assayed 5.69 ppm Au. Quartz veins extend to a higher elevation across Eneveloe saddle but no significant gold values are found in sampling on Line 00 across the saddle. The principle soil anomaly appears to diverge southwest from the vein system and originates under a steep talus covered slope. RC drill hole SUM-12 cut a wide mineralized zone about 900 feet southwest. .

West of the ridge saddle, the Eneveloe vein has been explored with adits on two levels. As early as 1911 there are company reports of 0.33 to 0.87 oz Au/ton from the 15-to-20 foot-wide quartz outcrop that is the present site of 100 Level adit. In 1981, AX core drilling reported 0.38 oz Au/ton (hole E-5) and 0.5 oz Au/ton on a 10-foot interval (hole E-4, poor recovery). The 100 Level adit was driven to expose plus-2.0 oz Au/ton that occurs as a band on the side of the massive quartz vein. In 1982, the 200 Level was extended to expose a 1 oz Au/ton or more ore shoot (assay records report 0.5 to 10.0 oz Au/ton). Access to the high-grade lens on both levels is now blocked by hazardous adits. A small inferred resource of 5,356 oz at 1 oz Au/ton was calculated to exist between the two levels (resource given as historic reference only, Strandberg, 1990, unverified by authors). Trenching in 2007 west of the 100 Level failed to find continuation of the veins, which may be pinched out or fault displaced. The Big Squaw prospect occurs about 2,000 feet farther west-northwest along the general trend of the Eneveloe shear structure and is possibly an extension of the Eneveloe on the basis of magnetic and soil data.

In 2006, GRMC RC drill holes ENV-20, -21, & -22 were drilled from the 1981 drill site near the Eneveloe 100 Level (**Error! Reference source not found.**). Drill hole ENV-20 largely confirms the 1981 drill results. The drill hole interval 60 feet to 85 feet averaged 5.85 ppm Au within which the interval 60 to 65 feet assayed 25.4 ppm Au. Hole ENV-21, angled to the east, also reported the quartz vein zone, albeit thinner and lower grade, which averaged 2.59 ppm Au over 15 feet. ENV-22 had a weak intercept of 0.57 ppm Au, but the hole was stopped short of its target. All the data combined appears to confirm the earlier reported mineralization on the vein system between the 100 and 200 Levels. There has been no drilling yet in the Rock Glacier area.

Additional details concerning the Rock Glacier-Eneveloe-Ratchet Ridge area are in Barker (2008).

Little is known about the Ratchet prospect, which appears to be controlled by northwest-trending shear zones. An RC drill hole (RR-33) in 2007 intersected magnetic pyrrhotite, arsenopyrite, and pyrite as well as a massive carbonate-altered, aphanitic, dull green host. Drill intercepts of this mineralization include five feet of 0.28 ppm Au and ten feet of 0.32 ppm Au. The pyrrhotite content of the schist reaches up to 15% in places and appears to be a startigraphic feature.

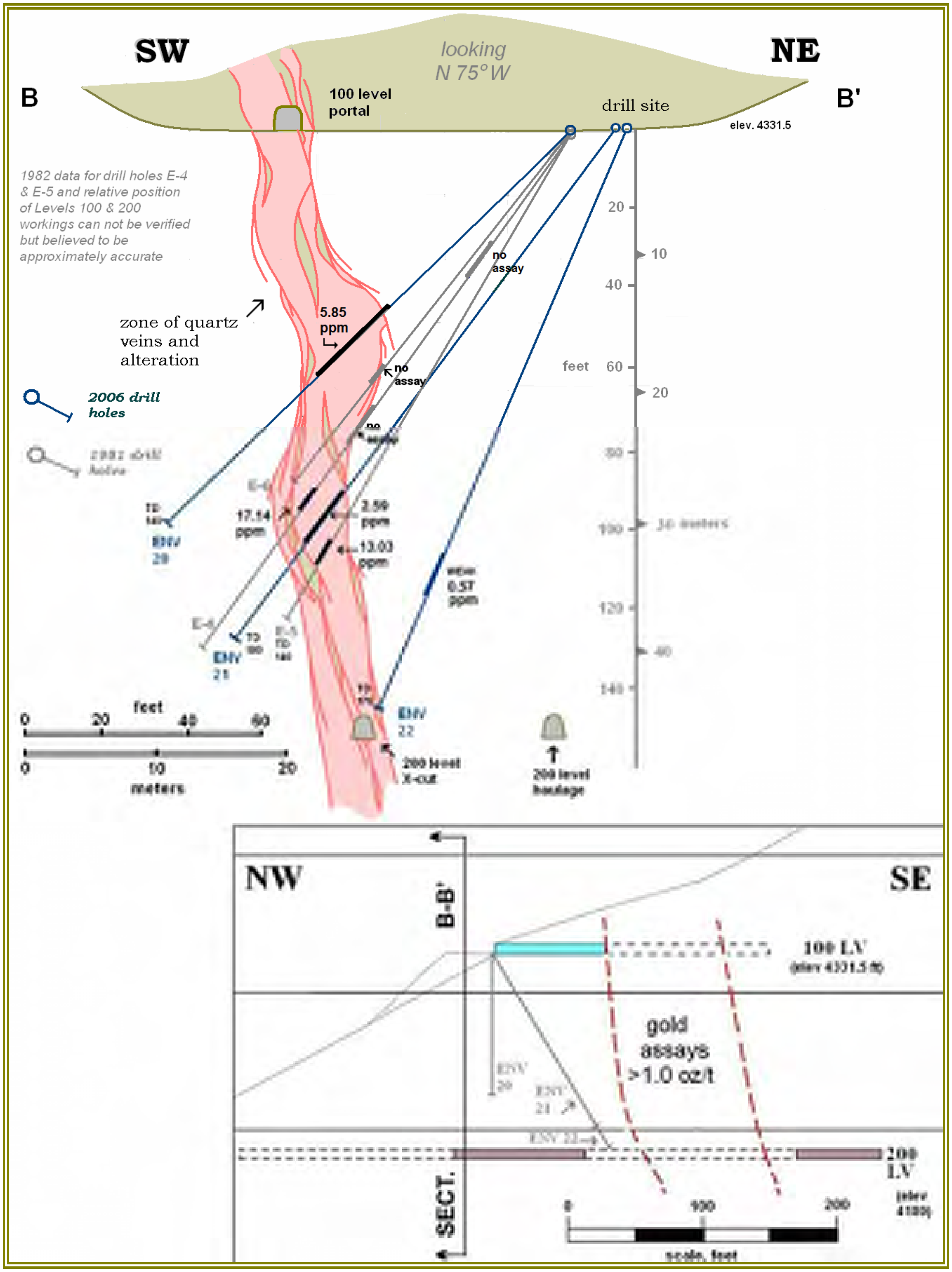


Figure 13. Eneveloe 100 Level drill section.

Note: The 1981 data (inset) are from a historical account by Strandberg (1990).

Kiska-Chiga Prospects (includes Shamrock prospect)

The Kiska and Chiga prospects occur in close proximity but represent two differing types of mineralization. Mineralized intervals, including prominent quartz veins at the Kiska, contain sub-ppm levels of gold over widths of 10 to 35 feet. The occurrence of high-grade pods of multi-ounce gold per ton is noted (assays up to 422 ppm Au) within the veins, but the incidence of occurrence is statistically rare enough that none have been encountered in any of four trenches or the seven RC holes drilled in 2006.

Subparallel veins south of the principal vein occur within an overall 300- to 400-foot-wide zone but have not been explored (**Error! Reference source not found.**).

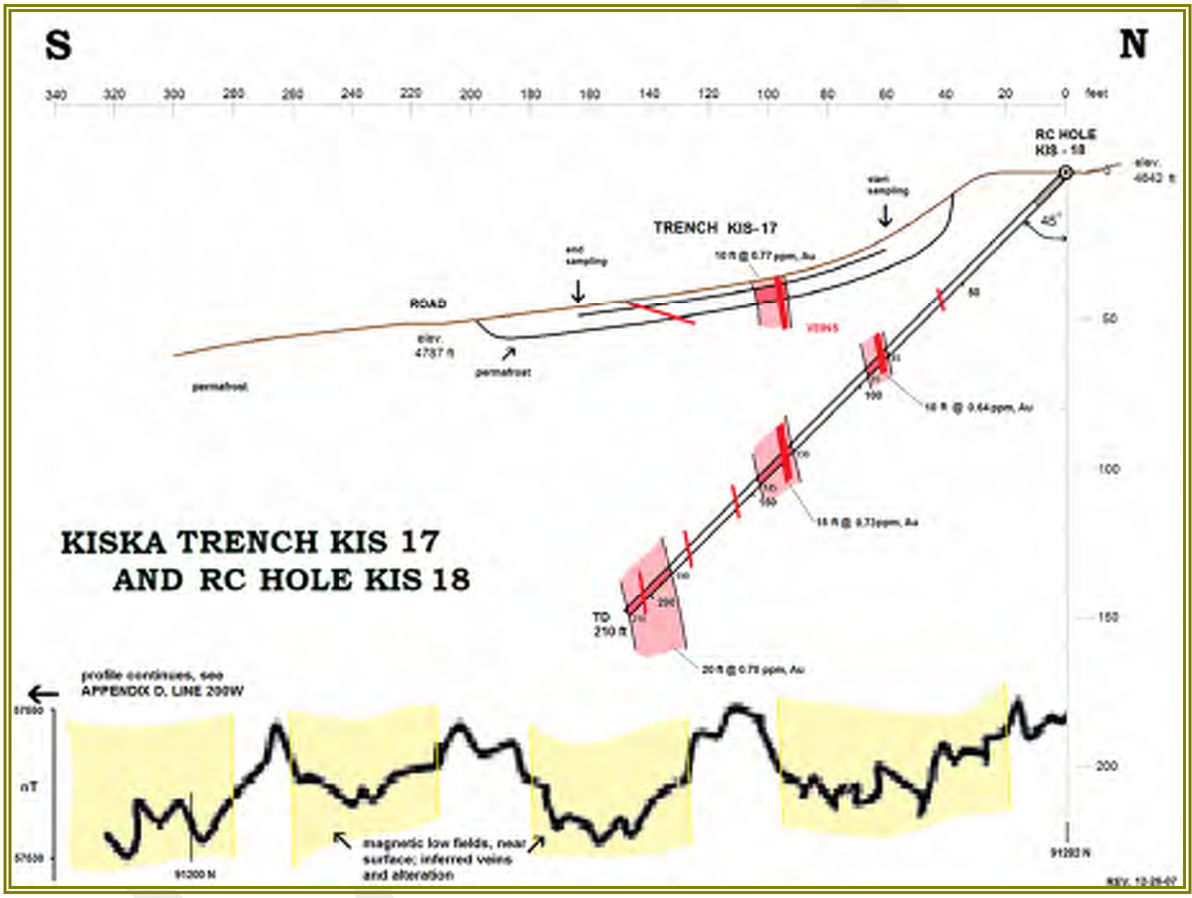


Figure 14. Section of Kiska trench KIS-17, RC drill hole KIS-18, and Kiska magnetic line 200W

The Kiska gold-quartz veins were traced about 2,500 feet. Magnetic low field anomalies indicate they may change character to the west and suggest additional covered vein targets; there has been no exploration due to talus cover. Coarse gold is present in the veins and the adequacy of standard geologic samples, even when processed with metallic screen procedures, remains in question.

One trench was successfully completed at the Chiga prospect. An auriferous interval hosted in an intensely altered shear zone contains 1.1 ppm Au over 24 feet. Pods of massive stibnite are present. Magnetic and soil data indicate that several closely spaced altered zones are likely present. Four other trenches were attempted but did not reach bedrock due to frozen clay-rich colluvium. In 2007 the Chiga gold in soil anomaly with distinctive elevated antimony was traced for 3,200 feet and was found to include the old Shamrock prospect, where samples across a 3.5-foot banded quartz lens averaged 6.22 ppm Au.

The distinct presence of antimony associated with gold values at the Chiga prospect suggests a different phase of gold mineralization than found at the Kiska prospect. Magnetic survey data exhibit linear low fields over a swarm of inferred shear zones. Antimony and gold associated with the footwall zone, appears to be more intensely sheared and argillically altered. Additional details concerning the Kiska-Chiga area are in Barker (2008).

Pioneer Vein System (including the Grubstake East and Prospector East)

The Pioneer shear zone is probably the most pronounced structural feature in the Chandalar district, traceable for six miles. Mineralization at the Pioneer prospect is similar to the Mikado mine and occurs in discontinuous lenses of pulverized quartz, sericite, and white clay ranging from a few inches to three feet thick, hosted in the shear zone within quartz-muscovite-chlorite schist. To the west the Grubstake East and Prospector East occur in the footwall of the shear zone. In 1946 three float samples collected by the Territorial mine inspector at the Pioneer prospect averaged 1.45 oz Au/ton but exact location of these historical samples is unknown.

Soil sampling indicates the mineralized zone extends at least 1,000 feet downhill to the northwest. To the southeast grab samples that assay up to 45 ppm Au have been collected from new exposures and float along the shear zone; however, trenching in 2007 found the zone was pinched out or fault off-setabout 500 feet from the ridge crest. Except for the ridge crest exposures the prospect area is masked by colluvium and solifluction lobes that thicken downslope; to the northwest major landslide features obscure bedrock and mantle the slopes.

Two trenches near the ridge crest have exposed shear gouge zones, sheeted quartz veins, veinlet swarms and pulverized quartz zones of 0.5- and 3.0-foot-thickness. Channel samples from the trenches exposing quartz lenses assay up to 71.4 ppm Au (Figure 15). Persistent quartz veins do not occur at the site. At this location two sets of continuous channel samples across the 25-foot-wide structure averaged 10.33 ppm Au and 2.62 ppm Au. The gold-quartz lenses exposed by trenching 300 feet east of the ridge occur in two definable zones over a structural width of about 60 feet.

Northwest of the ridge-top trench the relation of the vein strike to the shear is uncertain but the mineralized vein appears to deviate north from the trace of the shear at a slight angle, 2-5º. This projection aligns with the East Grubstake quartz vein prospects on the opposite slope of the Little Squaw valley. The Grubstake vein, one mile west, is more representative of the Little Squaw vein type featuring massive white quartz and a scorodite-stained chlorite, ribbon banded -quartz footwall. A single composite sample of the footwall material from the dump assayed 5.18 ppm Au.

The Prospector East is the only prospect at Chandalar that is essentially a silver vein. About 3 feet-thick, the vein is hosted by a N80W structure, probably a fault. On the southeast the vein is truncated by a prominent shear zone striking N70E. The vein contains argentiferous galena and arsenopyrite along an exposed 400-foot strike. Two samples assayed 171 and 740 ppm Ag, and 2.94 and 2.5 ppm Au, as well as elevated bismuth (1,120 ppm).

Additional detail concerning the Pioneer vein system is given in Barker (2007).

Figure 15. A 1982 Pioneer prospect trench showing pinching and swelling pulverized auriferous quartz lenses that are part of a 25-foot-wide zone exposed by 2007 trenching to the rear of the photo.

Little Squaw Vein (includes the Crystal prospect)

When first explored in 1909, the Little Squaw vein was estimated to have a small reserve of 2,000 tons grading 1.55 oz Au/ton within a high-grade shoot of auriferous vein quartz containing visible gold (resource given as historic reference only, Strandberg, 1990, unverified by authors). The shoot is exposed at the surface and at the 100 Level. Uncertain historic records account for no more than 625 oz of Au production. Ore would have been included with Mikado ore going to the Tobin mill. Workings include two levels, each about 300 feet long, connected by a winze, and a 76-foot raise to the discovery outcrop. In 2006 ten reverse-circulation holes were drilled to explore the known and suspected side veins and associated zones of carbonate alteration.

Quartz vein mineralization is localized in an ore shoot along a south-dipping fault on the 100 Level where gold in the shoot is confined to the footwall zone of a composite vein. A 9-12-inch banded ribbon gold-quartz zone commonly contains 50 or more ppm Au as well as disseminated and thin seams of arsenopyrite, mica, scorodite, pyrite, and trace galena (**Figure 16**). Slickenside is common on many of the laminar planes that form the banding. Small clots of wire gold occur in vugs and on band surfaces and are very loosely attached to the rock. Veins can be traced westerly about 1,800 feet from the 100 Level and are open beyond that. A channel sample of the vein exposure 470 feet west of the 100 Level adit by the authors in 2008 assayed 129.5 ppm Au across 1.9 foot of the 3.8 foot-wide vein. On the east slope to Gold Creek, 1,200 feet west of the adit, float quartz with visible gold was found. The Little Squaw vein zone is projected along a 110° strike to the Crystal prospect, about 1.0 mile east. The vein at the Crystal prospect closely resembles the ribbon-banded 100 Level vein.

Two, possibly three veins, are present at the Little Squaw mine; the principal veins are the 100 Level vein on the north, and a south vein about 125 feet south of the 100 Level vein. Ten holes were drilled in 2006 from six sites along the Little Squaw structure to test the known vein system at depth. Reconstruction of fault movement suggests that auriferous intercepts in 2006 (holes LS-2, 4) and intercepts in the 1982 drill holes correlate to the 100 Level vein, however, several fault orientations complicate interpretation. The best intercept was Hole LS-2, which cut 4.21 ppm Au over 20 feet, including 5 feet of 10.75 ppm Au. The1982 hole LS45N reported 0.46 oz Au/ton over a 10 foot-intercept of a blind vein located north of and below the 100 Level vein. None of the 2006 drill holes were long enough to confirm this north vein. The south vein was found in the 1982 holes 45S and LS3 and was also cut by 2006 holes LS-5 and -36.

It is apparent from the combined 1982, 2006 drill data, and 2008 channel sampling that the vein on the 100 Level and the south vein may be mineralized over a longer strike length and depth than previously known but the structure is highly complicated by offset faults.

Two drill holes at the Crystal in 2006 failed to intercept the vein seen in outcrop, however, hole CRY-30 did cut 35 feet of low-grade, steeply dipping sheeted veining. Flat-lying faults are believed to have displaced the Crystal vein.

Figure 16. Looking west along the 100-Level ore shoot of Little Squaw quartz vein, a banded quartz-gold footwall zone.

Pallasgreen (including Drumlummon)

The Pallasgreen is a prominent outcrop of iron-stained quartz, first prospected in the early 1900s. The Drumlummon does not outcrop. In total, the early workings were just several hand trenches. The two prospects are geologically similar and in close proximity, apparently displaced by northwest 150° to 165° faulting; together they are traceable for about 5,000 feet. Significant gold values have been found only in the Pallasgreen area. Typical of other local gold-quartz veins, the Pallasgreen-Drumlummon prospects are contained in, and aligned with, west-northwesterly altered shear zones striking 105°-115°. Quartz veins follow alteration zones 75- to 100-feet-wide that exhibit magnetic low fields. At least three parallel veins are present and appear to have very erratic thicknesses up to 25 feet. The Pallasgreen and Drumlummon prospects occur in the Lower Plate schist.

Soil grids were done in 2006 and anomalies follow the structure in the Pallasgreen area. Trenching in 2007 intercepted a 30-foot-wide mineralized zone including several veins. Channel sampling averaged 11.43 ppm, including a five-foot interval of 59.2 ppm Au across a faulted quartz vein although re-sampling across the vein at this site did not exceed 1.1 ppm Au. Erratic coarse gold is suspected to account for the discrepancy. Sampling of a vein 300 feet east assayed 12.12 ppm Au, and a sample of banded quartz found in boulders of vein quartz 1,000 feet west contained 6.82 ppm Au. Free gold can be panned from the soils in the Pallasgreen area. Water in Nugget Creek draining the prospect area is highly discolored from mineral content; two water samples contain anomalous zinc, 958 and 390 micrograms per liter (958 and 390 ppm).

The veins are irregular widths of white quartz cut by quartz-limonite-breccia zones and numerous joint sets that strike 160-170º with a northeast dip. Breccia is composed of iron-stained quartz shards enclosed in limonite. Wispy bands of chlorite and arsenopyrite are common along the footwall and hanging wall zones. Galena is variably abundant; clots of galena and arsenopyrite up to 1 inch across occur in several exposures. Additional details of the Pallasgreen-Drumlummon are in Barker (2007).

Other Isolated Prospects

Chandalar

The prospect appears to be hosted in a landslide block that has moved down and rotated laterally on a steep slope of carbonaceous schist bedrock. The vein is a 5-foot composite vein of mostly barren white quartz and crudely banded footwall zone of scorodite-stained crushed quartz with graphite seams and iron oxides. It resembles the Bonanza-Jupiter vein, 1,200 feet southeast, and appears to be a fault off-set extension. There is a previous report of a 2-foot channel sample that assayed 2.26 oz Au/ton (70.3 ppm). A 1.5-foot channel sample by the author assayed 33.6 ppm Au.

Kelty-Caribou

Old workings were found above the right limit of Caribou Gulch in the Big Squaw Creek valley. No vein was observed in exposures of gray muscovite schist, however, fines from the dump assayed 1.54 ppm Au. A repeat sample reported nil Au. On the ridge about one mile west a series of altered fault zones with quartz veining each assayed minor gold values with anomalous arsenic, and soil from one of a series of mineral seeps on the slope below reported 0.595 ppm Au. No follow-up has been done.

Northern Lights

This prospect is located in the broad tundra-covered slope between Little Squaw and Nugget Creeks. Several gold anomalies in soil and stream sediments were found in the general area in 2005; tundra and permafrost hinders follow-up. Bedrock is black schist and minor meta-mafic and -felsite components and is exposed as a window surrounded by a massive greenstone sill. At the contact zone meta-mafic rock is variably altered (sericite-ferroan dolomite-Fe-oxide ± silica) and locally brecciated. At least two structural linear zones strike about 110° through the area. A sample of altered meta-mafic rock float assayed 0.9 ppm Au. At another location, chips of meta-felsite with arsenopyrite assayed 0.34 ppm Au.

Jackpot

This is a composite vein parallel to the Little Squaw system. A composite sample of limonitic ribbon-banded material, collected from the old dump, assayed 61.2 ppm Au.

Indicate-Tonapah

The Indicate-Tonapah prospect appears to consist of several vein sets across upper Big Creek. Soil data suggest two mineralized zones believed to be, at least partially, an off-set extension of the Chiga system. A more northerly vein may be part of the Summit veins.

Star

Persistent quartz veins contain at least some mineralization. These veins may be an offset extension of the Kiska system to the west.

Unnamed

A possible westward extension of the Northern Lights prospect was found in bedrock during placer drilling on Little Squaw Creek. An intercept of weathered limonitic gray schist bedrock was logged between 142 and 207 feet depth. Two drill chip samples with visible arsenopyrite contain anomalous arsenic and traces of gold and mercury.

Fine-grained galena was recovered from the bedrock intercept in placer drill hole 1, Line 1.2.

Placer Mineralization

Little Squaw Creek

Placer gold occurs within the pre-glacial fluvial, interglacial glaciofluvial, and post-glacial fluvial deposits on Little Squaw Creek. The gold is coarse, crystalline, and bright, indicating that it was transported only a short distance from its sources. Small nuggets are common and there is little fine-grained gold (-80 mesh). Quartz inclusions and attachments on gold particles are common , but make up only a few percent by volume.

The pay streak on Little Squaw Creek is subdivided into the “canyon” placer upstream of a bedrock constriction underlying Lines 4.8 through 6; downstream of the buried constriction an “alluvial fan” placer extends at least as far north as Line 1.2., a distance of about 2,000 feet. Fluvial gravel hosting the placer is mostly composed of gray to black chloritic schist, commonly seen in the surrounding hills.

Gold-bearing gravels composing the alluvial fan range from 15 to 137 feet thick and average 80 feet thick over a width of up to 1,262 feet. The pay streak within the fluvial gravel on the canyon section varies from 50 to 136 feet thick over a width from 240 to 570 feet. The placer deposit is open to expansion to the east, west, south and north.

Other heavy minerals occur in sparse to minor amounts and include, in general order of abundance:

magnetite,
magnetic pyrrhotite,
locally abundant pyrite,
hematite/goethite,
ilmenite,
scheelite, and
galena

with trace amounts of garnet, stibnite, and arsenopyrite. Minute galena cubes are relatively abundant in drill samples recovered from bedrock and overlying gravel on Line 1.2, Hole 1. This may present a lode exploration target.

Overburden on the fan is composed of frozen, clay-rich glacial till. Ice is moderately abundant in the overburden of the alluvial fan and may compose 10% of the total volume. Ice is particularly prevalent under the western end of Line 1.2, where it forms massive lenses 15 to 20 feet thick in Hole 18. Thawing ice appears to be responsible for the actively subsiding thermokarst pond east of the road. The barren till overburden averages 65 feet thick. Overburden on the canyon placer is mixed glaciofluvial sediments and can carry minor concentrations of gold at the surface and disseminated throughout. The overlying barren sections have a highly variable thickness, ranging from 0 to 75 feet with a 41-foot average.

Big Squaw Creek

Geological evidence indicates placer gold should have concentrated in Big Squaw Creek valley in pre-glacial times as it did in Little Squaw Creek. Two scout holes were drilled on Big Squaw Creek in 2007, thus the data are very limited. Gold particles recovered from the placer samples were fine-grained, but similar in appearance to Little Squaw Creek gold. The heavy mineral assemblages in the two creeks are virtually identical with slightly greater abundance of black sands (magnetite and ilmenite) in Big Squaw Creek. Gold is scattered throughout the fluvial gravel and appears to be concentrated in greater amounts at depth.

Nugget Creek

Surficial reconnaissance and examination of aerial photography indicate a covered fan feature developed below the set of greenstone sills that crosscut the valley. Several gold prospects are known in the headwaters. An auriferous fan deposit is inferred.

Spring Creek

Spring Creek follows a well-developed geomorphic feature that appears to be a bench channel of Big Squaw Creek. Only one hole was completed to bedrock on Spring Creek due to difficult, caving ground. Heavy minerals are rare; the dominant non-magnetic mineral is hematite/goethite. Only trace amounts of gold were recovered.

Tobin Creek

Examination of Tobin Creek indicated the upper portion of the valley was scoured by a small valley glacier. A 2,000-foot section of the valley has been mined between the terminus of the glacier and the confluence of Woodchuck Creek. A larger valley glacier originating at the head of Woodchuck Valley has deeply scoured the valley for several miles below the confluence with Tobin Creek. It appears unlikely that any significant placer resources have escaped the effects of glaciation.

Exploration

The Company maintains an extensive file of the prospecting and exploration of the Chandalar Mining district, cataloging documents dated as early as 1908. Most previous work was by mining companies and individuals who were focused on mining the gold placers and quartz veins but who conducted little organized geologically based exploration. Even less attention was given beyond existing vein exposures. There is no feasible accounting of the exploration expenditures over the entire hundred-year period; however, since new management acquired the Company in 2003, including 2007, $2.468 million of qualifying assessment work has been accomplished (excludes infrastructure, capital equipment, transport cost, and office support). Two drill programs account for a significant portion of the exploration expenditures: a 7,763-foot, reverse-circulation, 39-hole reconnaissance-level lode exploration drill program in 2006 and a 15,304-foot, 107-hole reverse-circulation placer-evaluation drill program in 2007. Details are provided in the Drilling Program section.

Recent topical studies include

- local mapping of about 40 identified prospect areas;
- collection of approximately 1,400 soil, 1,400 rock, 70 stream sediment and 11 water samples, and preparation of anomaly maps. All samples were collected under the supervision of the authors and analyses were performed by certified analytical laboratories;
- a trenching program of 45 trenches and collection of about 550 trench-wall channel samples;
- ground magnetometer survey grids of 15 prospect areas, survey lines totaling 28 miles.

All 2004 and later data, located by GPS UTM Zone 6 North America 1927-Alaska datum, have been collated in digital form (Barker, C.I, 2007, 2008).

Lode Exploration

The initial focus of exploration (beginning in 2004) was identification of high-grade gold-quartz veins and definition of drill targets. It soon became apparent that the vein mineralization is discontinuous. Consequently, the focus was refined to include substantial lower grade material in order to develop units of bulk mineable tonnage potential (no feasibility studies have been done to date). Exploration advanced toward identifying mineralized systems most favorable for discovery of persistent or repeating zones of mineable grade and tonnage potential.

Surficial Sampling and Mapping

Each of about 40 prospect areas was mapped at a scale of 1:4,000 (two were done at 1:8,000 scale). In most cases there is little bedrock exposure and rock units could not be divided at this scale. Maps include all sampling; duplicate map bases are annotated with anomalous sample results for each significant element (see Sampling section in this report). Map sets are included in annual progress reports, or in the case of 2008, in a series of short prospect and technical activity reports. These reports describe specific recommendations for trenching and/or drilling.

Trenching

A successful trenching program after adequate ground thaw (by late July) utilized a Hitachi 200 excavator with a 36-inch, quick-release bucket. In place of the bucket a single tooth ripper could be mounted when digging conditions required. The machine operator could navigate talus-covered slopes up to about 30% grade or build access road as necessary. Trenching as deep as 12 feet was readily possible. More importantly, excavator trenching was able to expose bedrock in a trench wall that resulted in more accurate sampling, especially where coarse, loosely attached free gold can preferentially accumulate on flat surfaces of a dozer trench. A total of 5,937 feet was excavated of which 4,954 feet exposed bedrock and were sampled. Table 5 is a tabulation of trenches dug in 2006-2007.

Magnetic Surveys

Ground magnetic survey lines, mostly oriented northeast-southwest or north-south across the Chandalar northwest-trending structures, were completed using a GEM Systems model GSM-19GW gradiometer system. Readings of the total field, field gradient, and the UTM coordinates were collected automatically every two seconds along 28 miles of total survey. Scrap metal and rail prevented location of survey lines over old mine sites.

Repeatedly, magnetic low fields were found to coincide with shear zones and associated rock alteration. Broader magnetic low fields also reflected the carbonaceous Mikado Phyllite unit, host to many of the mineralized structures, but which has an inherent low magnetic susceptibility. Shear zones, particularly where advanced argillic alteration is present, are generally discernible as narrow trough-like features. Magnetic low fields seen on a profile over the Mikado zone indirectly identify auriferous low-grade zones (Figure 10). The Kiska, Chiga, Summit, Indicate-Tonapah, Bonanza-Jupiter, Rock Glacier, and the Pallasgreen veins all exhibit linear magnetic low features when traced across several grid lines.

Exploration Results

The exploration program of magnetic surveys, taken together with soil chemistry, the series of reconnaissance reverse-circulation scout holes, and followed by trench confirmation, have demonstrated a means of exploring the Chandalar and permits recommendation of proposed drill sites at several prospects that have been studied to this detail. Other drill sites will be proposed following additional trenching proposed for the next field season.

Table 5. Trenching summary

Prospect	Trench #	Trench Orientation	Trench Length (Feet)	From	To	Significant Auriferous Interval (≥0.2 ppm)	Average Grade (ppm Au calc'd for 10-ft, minimum)	Sample Numbers	Remarks
Chandalar	CH 1	E to W	75	48254E/92741N	48231E/92744N	n/a	0.95	5001-5008	4-ft quartz vein, no adjoining samples
	ENV 2		30	48336E/92800N	48334E/92794N			n/a	No bedrock, frozen
Bonanza	BZ 3	S to N	15	48608E/92329N	48608E/92327N	0 to 7	0.32	5009-5010	Massive qtz vn with pulv qtz, AsO_x, gouge in footwall zone
	BZ 4		10	48550E/92380N	48550E/92383N	No interval		n/a	No vein, apparent fault
Eneveloe	ENV 5		215	48543E/92618N	48580E/92673N			5011-5031	Veins
Bonanza East	BZ 6	S to N	77	48893E/92133N	48896E/92156N	0 to 17	1.93	5032-5039	Includes 3-ft with 6.9 ppm Au; qtz vn, 5-ft thick in clay-gouge-Fe- + AsO_x,, VG, thick gouge on footwall, abundant Au in pan
	BZ 7	S to N	180	48936E/92104N	48931E/92157N	No interval		5040-5042	No vein, apparent fault displacement
Summit	SUM 8		220	49213E/91807N	49204E/91744N	25 to 27	1.83	5043-5063	Quartz vein, numerous minute VG in pan sample
						167 to 207	0.58		Sheeted veins with elevated As and Sb
	SUM 9		44'@-25	48858E/91908N	48854E/91920N	0 to 2	0.28	5064-5070	Trench situated to test upper level sheeted veins, no other significant intervals
	SUM 10		64	49077E/91842N	49083E/91860N	8 to 28	10.58	5071-5077	Includes 5-ft interval quartz vein, assay 41.8 ppm
Chiga	CG 11		50	49094E/91484N	49093E/91470N			5078	No bedrock, too deep, frozen
	CG 12		25	49091E/91450N	49093E/91443N			n/a	No bedrock, too deep, frozen
	CG 13		20	49094E/91459N	49088E/91460N			n/a	No bedrock, too deep, frozen
	CG14		120	48841E/91573N	48839E/91538N			n/a	Left open to thaw in 2008
	CG 15	N to S	49	48840E/91520N	48833E/91507N	25 to 49	1.11	5079-5084	Stibnite pods, shear zone with blue-gray clay, pulv qtz cutting chl sch, stibnite in overburden

Prospect	Trench #	Trench Orientation	Trench Length (Feet)	From	To	Significant Auriferous Interval (≥0.2 ppm)	Average Grade (ppm Au calc'd for 10-ft, minimum)	Sample Numbers	Remarks
Kiska	KIS 16	N to S	155	48847E/91261N	48847E/91214N	7.5 to 22.5	0.26	5085-5094	Pulv qtz vns in clay gouge-Fe- + AsO_x, shear, VG
	KIS 17	N to S	130	48959E/91275N	48959E/91235N	52 to 60	0.77	5095-5108	Sheared chl sch with gouge, FeO_x, clay, pulv qtz
	KIS 18	N to S	43 @-20°	48713E/91360N	48710E/91348N	5.5 to 42	0.51	5109-5115	Frac chl sch, Fe-stn, 3.5-ft qtz vn @ sta 16-20
Mikado	MK 19	N to S	282	46603E/91482N	46640E/91405N	108 to 118	1.95	5116-5145	Massive quartz vein, sheeted qtz. veinlets, FeO_x & white clay in fractures
						167 to 205	0.58		Sheeted veins, with As and Sb, includes 17 ft @ 1.18 ppm Au and 4 ft @ 4.3 ppm Au
	MK 20	S to N	600	46682E/91306N	46675E/91486N	53 to133	0.35	5146-5235	Several veins, sheeted-stwk quartz-FeO_x, semi-goss schist from 405-535, 0.5-ft qtz vn
						161 to 214	0.52		Sheared sch with FeOx & sheeted veins, including 31 ft @ 0.86 ppm & 5 ft @ 3.44 ppm Au, quartz vein
						300 to 310	1.18		Shear zone with qtz & AsOx
						435 to 470	1.22		Sheeted & stwk veins, several shear zones, Fe- & AsOx, including 5 ft @ 6.21 ppm Au
	MK 21	N to S	152 @ -24°	46879E/91301N	46861E/91258N	81.5 to 14.6	0.38	5236-5249	Semi-goss schist, 5.5'qtz vein, 30 ft AsO_x qtz- rich (15%?) gouge zone; Shear zones, stwk and sheeted veins, 4-ft qtz vein @ 81.5
	MK 22	S to N	80	46805E/91282N	46812E/91305N	2 to 52	0.45	5250-5262, 5353	Gouge zone with pulv qtz lenses and Aspy, footwall qtz vein stockwork with Aspy @ 2-7 ft
	MK 23	N to S	138	47126E/91056N	47134E/91016N	0 to 58	0.36	5263-5275,	Stwk & sheeted qtz vns with

Prospect	Trench #	Trench Orientation	Trench Length (Feet)	From	To	Significant Auriferous Interval (≥0.2 ppm)	Average Grade (ppm Au calc'd for 10-ft, minimum)	Sample Numbers	Remarks
								5355-5368	Fe- & AsO$_x$
						68 to 78	0.21		Shear zone and sheeted veins
						143 to 155	0.78		Sheared schist with qtz & Aspy vein
						175 to 190	0.20		Shear zone with Aspy and qtz veins
	2E (pre-existing; cleaned)	N to S				10 to 40	0.22		Fractured sch with oxides and clay
						70 to 110	1.35		Qtz veins, diss sulf & sheeted veins
						130 to 150	0.63		Silic sch, minor pulv qtz lenses, shear & gouge zone
	4E (pre-existing; cleaned)	N to S				0 to 8.3	1.36		Qtz veins in sheared sch & gouge
Big Creek Bowl	BCB 24		58	49306E/91621N	49316E/91631N	0 to 48	0.31	5276-5281, 5504-5505	Trench not dug to intended target, sheeted veins, quartz vein at 20 to 21 ft
	BCB 25		120	49263E/91453N	49258E/91487N	n/a	n/a	n/a	Trench was not dug to bedrock, no samples
Pallasgreen	PG 26	S to N	100	52597E/94225N	52592E/94248N	33.5 to 68.5	9.82	5283-5296	Includes 5 ft of 59.2 ppm Au on qtz vn with Aspy, galena, sheeted in footwall
	PG 27		88	52714E/94253N	52706E/94230N	No interval		n/a	Frozen, left open
	PG 28		90	52726E/94300N	52736E/94321N	No interval		n/a	Frozen, left open
Pioneer	PN 29	N to S	175	51569E/93526N	51556E/93471N	No interval		5297-5305, 5501-5502	Trench sampled from 0 to 70 ft, no significant intervals
	PN 30	W to E	170	51508E/93546N	51457E/93548N	22 to 70	1.62	5306-5326	Includes 8 ft at 7.92 ppm Au. Trench is 30° oblique to vein. Pulv qtz vein, some stwk in hanging wall
						100 to 130	0.232		Qtz vn and assoc stwk, trench is 30° oblique to vein

Prospect	Trench #	Trench Orientation	Trench Length (Feet)	From	To	Significant Auriferous Interval (≥0.2 ppm)	Average Grade (ppm Au calc'd for 10-ft, minimum)	Sample Numbers	Remarks
	PN 31	N to S	80	51393E/93587N	51378E/93568N	28 to 53, NW side of trench	10.32	5327-5341	Qtz + As/Pb veins over 25' includes 7 ft with 32.5 ppm Au, pulv qtz vns/lenses with Aspy
						28 to 53, SE side of trench	2.62		Includes 7 ft with 6.78 ppm Au
McLellan	MC 32		150	51064E/92643N	51061E/92598N			5342, 5503	Gouge 117-120 , no vein
Uranus	UR 33		110	50563E/92401N	50584E/92423N			5343-5345	No vein
	UR 34		97	50605E/92361N	50598E/92334N			5346-5347	Qtz veins parallel foliation
Ratchet Ridge	RR 35		45	49792E/91862N	49804E/91870N			5348-5351	Graphite, iron sulfides
	RR 36		40	49736E/92034N	49724E/92033N			n/a	No Bedrock
Rock Glacier	RG 37		170	49400E/92200N	49388E/92250N			n/a	No Bedrock
Little Squaw Mine	LS 38		125	49553E/93509N	49543E/93474N			n/a	No vein, some frozen overburden on each end
	LS 39		120	49705E/93513N	49715E/93475N			5352	No vein
Mikado	MK 40	N to S	615	46587E/91541N	46541E/91369N	140 to 180	0.43	5369-5432	Qtz veins cutting chl sch
						200 to 230	0.26		Sheeted veins
	MK 41	S to N	600	46935E/91084N	47010E/91235N	-07 to 5	0.48	4936-4940 5434-5493	Multi-sheeted vn sets, altered shear zones, qtz-carb vnlts
						52 to 112	0.51		Do., includes 20 ft unsampled
						155 to 170	0.21		Musc sch
						333 to 377	0.22		Interval cut by flat-lying qtz vein
						402 to 422	0.34		Sheeted veins and gouge zone
						467 to 487	0.35		Several qtz veins, heavy oxide & clay coatings
						497 to 527	0.26		Qtz lenses with AsOx, sheeted veins, qtz vein @ 522-524 ft

Prospect	Trench #	Trench Orientation	Trench Length (Feet)	From	To	Significant Auriferous Interval (≥0.2 ppm)	Average Grade (ppm Au calc'd for 10-ft, minimum)	Sample Numbers	Remarks
						557 to 567	1.46		Major qtz vein with Aspy
Big Creek Bowl	BCB 42		230	49400E/91670N	49460E/91695N	150 to 210	0.21	5551, 5558-5572	Narrow veins; encountered probable landslide between 0 and 90 ft
Kiska	2006		88	48720E/91360N	48720E/91325N			3756-3759, 3830-3833	Veins, stockwork and shears
Summit	2006		80	49480E/91800N	49465E/91764N			None	No vein
Pioneer	2006		92	51340E/93595N	51385E/91770N			3919-3930	Vein, quartz & gouge zone

Placer Exploration

Placer exploration conducted by the Company has consisted of reconnaissance pan-sampling and mapping of unconsolidated geologic features, trenching, and drilling. Placer drilling will be discussed in detail in the next section.

Pan-Sampling

Reconnaissance exploration on Little Squaw, Big Squaw, and Tobin Creeks has been carried out by collecting pan samples from dumps associated with old prospect and production shafts, and from sites within old open-cuts. Data on locations and site characteristics were recorded at each sample site and weighable amounts of gold recovered from pan samples were saved and weighed.

Trenching

In 2006, a limited trenching program was performed by two of the authors to verify the results of two holes drilled on Little Squaw Creek by Daglow Exploration, Inc., in 1997. Two drill holes (LS97-7 and -11) intersected gold values within 20 feet of the surface, so were selected for trenching. The two trenches, excavated to 17 feet, encountered thawed ground. Trenches were placed close to the drill collars, so that samples could be obtained from the same gold-bearing intervals reported in the earlier drilling program. Each sample measured 1 bank cubic foot and was panned in the nearby stream. The results confirmed that moderate- to high-grade placer deposits occur near the surface and verified the pay grade of gravel found in the earlier drilling.

Placer Exploration Results

Preliminary placer exploration by pan-sampling old works indicated widespread occurrence of potentially economic amounts of placer gold. Surficial evidence (relief and projection) suggests the possibility of buried fluvial channels pre-dating most recent glaciation or ice-marginal channels during glaciation draining to the northeast from Big Squaw Creek and Little Squaw Creek. These features are shown on Figure 17. Verifying the earlier drilling program results by trenching suggests that drilling the deeper placer deposits can yield reliable exploration data. The 2007 drilling program did locate valuable placer gold deposits on Little Squaw Creek in perched pay streaks concentrated on clay-rich “false bedrock” within the fluvial gravel section and variably enriched deposits of gold in deeper pay streaks found on bedrock. Minor, probably sub-economic, amounts of placer gold were found in erratic locations within the overlying glacial sediments. One hole completed to bedrock on Spring Creek intercepted sparsely auriferous sediments. Two holes, drilled on Big Squaw Creek to 210 feet and 172 feet, did not intercept bedrock. The deeper hole (BS-L6-H2E) intercepted numerous gold-bearing intervals with increasing amounts of gold at depth. The shallower hole (BS-L7-H3E) also intercepted gold-bearing units, but was abandoned before reaching bedrock or the maximum capable depth due to swelling clays and a tightening hole.

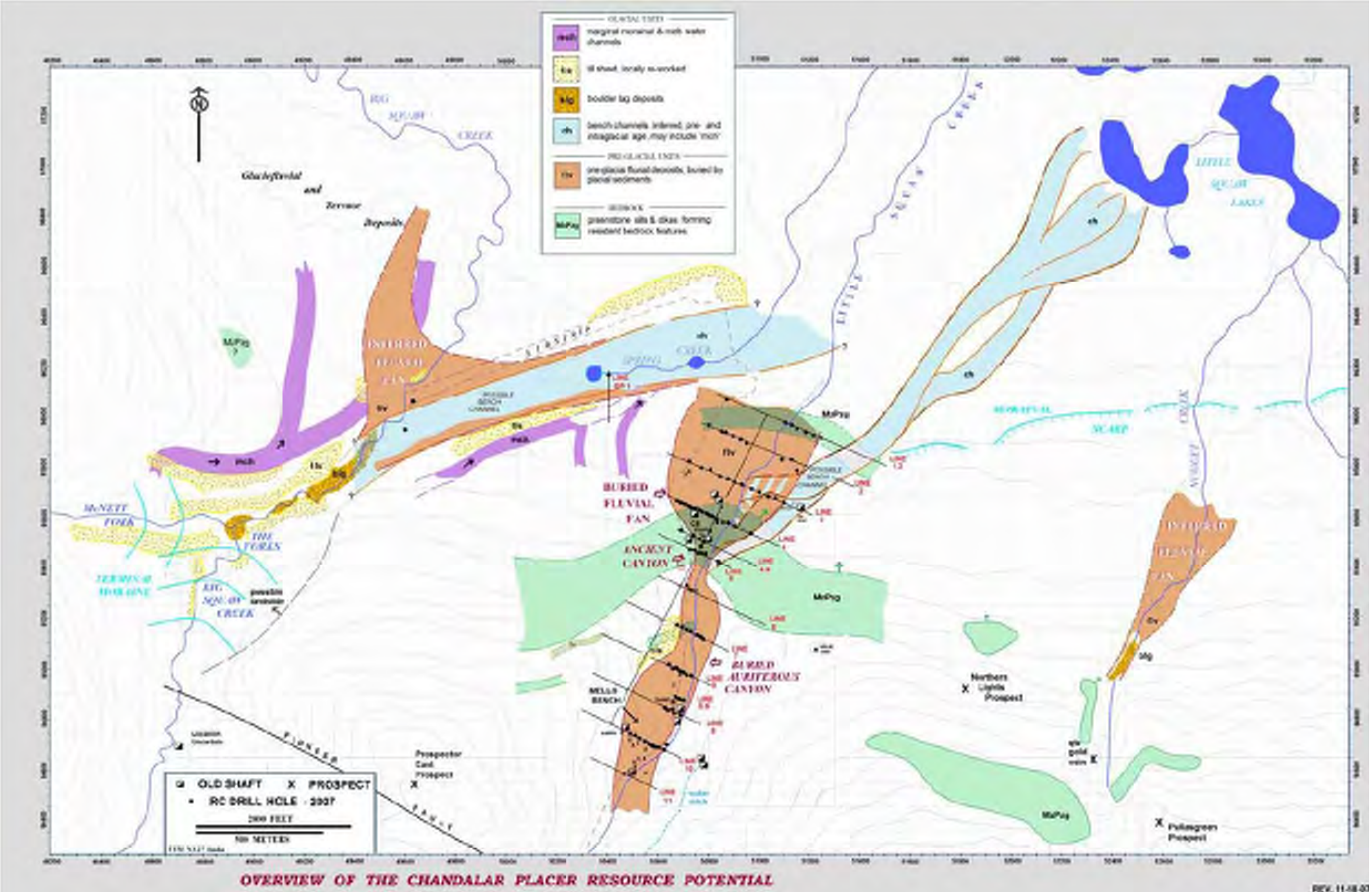


Figure 17. Placer prospect map, northern Chandalar Mining district.

Drilling Program

The results of the Company's drilling programs have been reviewed, verified (including sampling, analytical and test data) and compiled by 'Qualified Persons', James C. Barker, P. Geo. and Robert B. Murray, R.G. for the purpose of NI 43-101, Standards of Disclosure for Mineral Projects). Barker, Murray, and author Jeffrey O. Keener have reviewed the available data, including drill logs, assay certificates and additional supporting information sources, and believe that the resource calculations were conducted in a professional and competent manner.

Lode Drilling Program

In 2006 a reconnaissance reverse circulation (RC) drill program was undertaken with the objective to drill several holes into each of the more promising prospects to test ground conditions and old assay reports. A total of 10,000 feet of drilling were planned but very poor weather in 2006 coupled with mechanical failures limited the footage to 7,763; consequently, four intended holes at the Mikado prospect were not attempted. Drilling tested 8 known vein systems with 39 holes. It was not the intention of the Company to calculate any resources on the basis of this drilling effort, but rather to gain valuable experience to design future exploration. Significant results are discussed in the Mineralization section of this report.

Most holes were oriented opposite to the dip of the veins and drilled at an inclination of -45°, attempting to pierce the steeply dipping veins as close to perpendicular as possible. Veins generally dip 60° to 75° but structural control is poor; consequently the reconnaissance drill holes are judged to be approximately perpendicular to the dip and the drill interval is assumed to be approximately the true thickness.

Spring blizzards and late snow melt kept the airstrip too soft for cargo planes to land until mid-July. Drilling began on July 22nd and was terminated on September 8th, 49 days later during which 13 days of drilling time were lost due to mechanical breakdowns. Drilling averaged 216 feet per day and a total of 1,258 five-foot samples were collected. Sample collection, sample splitting, and logging of the drill chips were done by Company personnel under supervision of the rig geologist. Duplicate splits of intervals of interest were panned as a check on assays.

Reverse circulation drilling was selected over other types of drilling for reconnaissance drilling because the costs are lower per foot of drilling, the rate of drilling is faster, water for core drilling is limited at the high elevations, and the 6-inch RC drill provided a larger sample from vein targets with expected coarse gold than A or B size drill core.

Permafrost was encountered two to three feet below the surface in all drill holes, and caused freezing problems with the center-face drill hammer. Naturally occurring voids, some water-filled, (see void on the hanging wall in **Figure 16**) were also a problem. Once the hammer froze, the entire drill string needed to be pulled out of the hole so the hammer could be thawed. Commercial solutions of drill antifreeze were largely unsuccessful. Eventually an entire drill string stuck, froze in the hole, and was lost. More than half of the holes did not reach their intended depth due these problems or were limited to the drilling depth of the remaining 210 feet of drill pipe.

Another problem plaguing the drilling program was the large amount of sample blow-by that escaped past the face of the hammer, traveled up the outside of the pipe and was lost at the hole collar. The most likely cause of sample blow-by was the use of 3.8-inch drill pipe combined with the 5.125 inch drill bit producing more sample volume than the pipe could carry to the surface. Potentially, gold values could have been blown to the surface or driven into rock crevices and lost.

The drilling program is summarized in Table 6.

Table 6. 2006 Chandalar drilling statistics

Prospect	Hole #	UTM Easting	UTM Northing	Angle (degrees)	Orientation (degrees)	Total Depth (feet)	Significant Intercepts				
							Interval (feet)	Intercept (~True Width) (feet)	Au (ppm)	Au (oz/ton)	Comment
Little Squaw	LS-1 (lost)	49495	93423	-45	00	168	165–168	3	0.60	0.018	Lost entering target
	LS-2	49495	93423	-45	350	310	205-225	20	4.21	0.123	Little Squaw vein; re-drill of LS-1
							Incl 210-215	5	10.75	0.314	
	LS-3 (lost)	49454	93395	-45	00	200	—	—	—	—	Lost before target
	LS-4	49459	93447	-45	00	210	55–60	5	0.64	0.019	Little Squaw vein
	LS-5	49345	93386	-45	00	380	155–160	5	3.38	0.099	Little Squaw vein
	LS-35	49516	93390	-45	025	210	—	—	—	—	Quartz vein?
	LS-36	49515	93388	-45	075	130	80-85	5	0.65	—	Lost to water inflow
	LS-37 (lost)	49717	93459	-45	010	60	—	—	—	—	Lost to water inflow
	LS-38	49715	93465	-45	350	210	—	—	—	—	No significant gold intercept
	LS-39 (lost)	49730	93285	-45	00	70	—	—	—	—	Lost, mechanical problem
Summit	SUM-6	49331	91836	-45	185	300	130–140	10	0.36	0.011	Main shear, fault
	SUM-7	49212	91845	-45	190	310	45-140	95	0.85	0.025	Main shear
							Incl 55-75	20	2.63	0.077	Quartz vein
							Incl 55-60	5	5.71	0.106	Quartz vein
	SUM-8	49212	91842	-60	190	150	70–80	10	9.05	0.264	25 ft below SUM-7 intercept
							incl 70–75	5	16.15	0.472	
							95–140	45	0.42	0.012	
	SUM-9	40209	91838	-45	260	175	80–95	15	2.28	0.067	Secondary shear?
							incl 80–85	5	5.52	0.161	
	SUM-10	49080	91869	-45	190	300	55–100	45	0.69	0.020	Main shear
							incl 70–75	5	3.24	0.095	
	SUM-11 (lost)	48995	91904	-45	195	120	—	—	—	—	Lost above target
	SUM-12	48996	91905	-45	182	300	205–300	95	0.28	0.008	Ends in mineralization
							incl 260–300	40	0.44	0.013	
Kiska	KIS 13	48847	91277	-45	180	320	75-80	5		0.240	

Prospect	Hole #	UTM Easting	UTM Northing	Angle (degrees)	Orientation (degrees)	Total Depth (feet)	Significant Intercepts				
							Interval (feet)	Intercept (~True Width) (feet)	Au (ppm)	Au (oz/ton)	Comment
	KIS 14	48726	91377	-45	180	215	—	—	—	—	
	KIS 15	48726	91377	-45	200	210	190-200	10	0.76	0.022	
	KIS 16 (lost)	48767	91336	-45	176	140	120-140	20	0.56	0.016	
	KIS 17 (lost)	48770	91334	-45	155	170	160-170	10	1.10	0.032	
	KIS 18	48959	91285	-45	180	210	85-95	10	0.64	0.019	Quartz vein
							130-145	15	-.73	0.021	Quartz vein
							190-210	20	0.70	0.021	Quartz vein
	KIS 19 (lost)	49064	91232	-45	180	170	—	—	—	—	
Eneveloe	EN 20	48592	92631	-45	195	140	60–85	25	5.85	0.171	Main vein
							Incl 60–65	5	25.40	0.742	
	EN 21	48592	92632	-45	152	180	115–130	15	2.59	0.076	Main vein
							incl 115–120	5	5.86	5.86	
	EN 22	48591	92653	-60	152	170	135–140	5	0.78	0.023	Main vein
	EN 26	48718	92545	-45	200	210	—	—	—	—	—
	EN 27	48713	92551	-45	220	210	95–105	—	—	—	Small veins
Jupiter	JUP 23 (lost)	48452	92470	-50	020	120	40 - 50	—	—	—	No sample return
	JUP 24	48446	92468	-50	345	210	None	—	—	—	Missed vein
	JUP 25	48541	92475	-50	020	210	65– 70	~2.5	3.49	0.102	Main vein
Uranus	UR 28	50451	92565	-45	200	205	None	—	—	—	—
	UR 29	50513	92459	-45	200	210	None	—	—	—	—
Crystal	CRY 30	50710	93012	-45	340	210	175–210	35	0.20	0.006	Hole ends in mineralization
	CRY 31	50755	92982	-45	020	180	None	—	—	—	Missed vein
Ratchet Ridge	RR 32 (lost)	49762	91840	-45	055	140	None	—	—	—	Abandoned prior to target depth
	RR 33	49816	91821	-45	055	160	15–25	10	0.09	0.003	Hit old mine adit Altered mafic volcanic rock
							80–85	5	0.28	0.008	
							100–110	10	0.32	0.009	
	RR 34	49794	91817	-45	110	170	None	—	—	—	Hole missed target zone
Total						7,763					

Placer Drilling Program

In 2007 a placer drilling program explored the bench deposits of Little Squaw Creek with 101 holes and conducted scout drilling on Spring Creek with four holes and Big Squaw Creek with two holes. In late May, two of the authors cut a baseline on Little Squaw Creek and marked drill lines on a spacing of 500 feet. Drill lines were prepared with a dozer and excavator and, where necessary, pads were constructed to accommodate the drilling equipment. The drill rig is a conventional reverse-circulation drill mounted on a tracked vehicle. All holes were drilled vertically into horizontal placer targets and all intercepts should be considered true thickness. The near perpendicular relation of the drill holes to the pay section is depicted on the cross-sections of each drill line (Appendix C).

Two sites were prepared for the portable sample reduction facility, one at the upper (south) end of the exploration target area (near Line 8.6) and the other at the lower end, to reduce the sample transport time and to anticipate the loss of processing water caused by dropping water levels in the supply creek. Two Prospector™ hydraulic test plants and a panning tent comprised the sample reduction facility. The drill crew was composed of a driller and helper, a drill geologist (one of the authors), and a field assistant. The sample reduction facility was staffed by a process geologist, who was responsible for receiving, organizing, and processing each sample, and up to three panners specifically trained to reduce the sluice concentrates to high-grade pan concentrates following a strict protocol. Color counts of visible gold and magnetic separations were conducted in the field and the pan concentrates were sent to the Metallogeny, Inc., laboratory in Fairbanks for final panning and gold separations. This process is described in detail in the section for Sampling Methods and Sample Preparation.

The first drill holes (LS-L8.6, Holes 1, 2, and 3) were collared on June 16th as twins of 1997 Daglow Exploration drill holes. Hole 1 intercepted what is presumed to be old underground workings and did not compare well with its twin. Holes 2 and 3 did, however, compare favorably with earlier drilling results, recovering a significant amount of coarse gold. An attempt to drill on Spring Creek was temporarily abandoned due to thawed, caving ground.

The rig was moved to Line 4 on Little Squaw Creek, where a deeply buried gold-bearing alluvial fan was discovered. The drilling plan was modified to explore the alluvial fan deposit with more holes than originally planned. Ground conditions varied from continuous permafrost within the alluvial fan below the canyon to variably thawed conditions within the canyon and on Mello Bench. Most holes drilled near the creek within the buried constriction (LS-Line 5) and upstream in the canyon section encountered thawed conditions and intercepted groundwater at depths below 32 feet.

The drilling program continued without significant interruption until September 15th, when freezing conditions terminated the program. A total of 15,304 feet were drilled. Of the 107 holes collared, 87 were completed to bedrock and 20 holes were either abandoned due to ground caving or swelling or were terminated at the full extent (210 feet) of the available drill rod without reaching bedrock. All holes were drilled “open”, without casing. Because of the difficulty encountered in thawed, boulder-rich ground, it is recommended to try casing through caving ground in future drilling.

Drill pad preparation far in advance of drilling became detrimental because the seasonal thaw made them unusable by the time they were to be used. Drilling was initially performed without water, which created both a dust hazard and inconsistent sample volume measurements due to inflation of fine rock dust. Once water was added, both issues were solved. The driller’s normal site-specific drilling technique modifications accommodated the deep, discontinuously frozen and boulder-rich ground, and the resultant samples were found to be very satisfactory.

Based on the 2007 program, measured and indicated resources are outlined on Little Squaw Creek, inferred resources are also calculated where data is less conclusive. Encouraging prospects of placer gold were also found on Big Squaw Creek. Scout drilling on Spring Creek is inconclusive. A plan map showing the location of drill lines and drill holes on Little Squaw Creek and Spring Creek is presented on Figure 18, the results of placer drilling are summarized in Table 7. Results of 2007 Placer Drilling., and drill logs are presented in Appendix C.

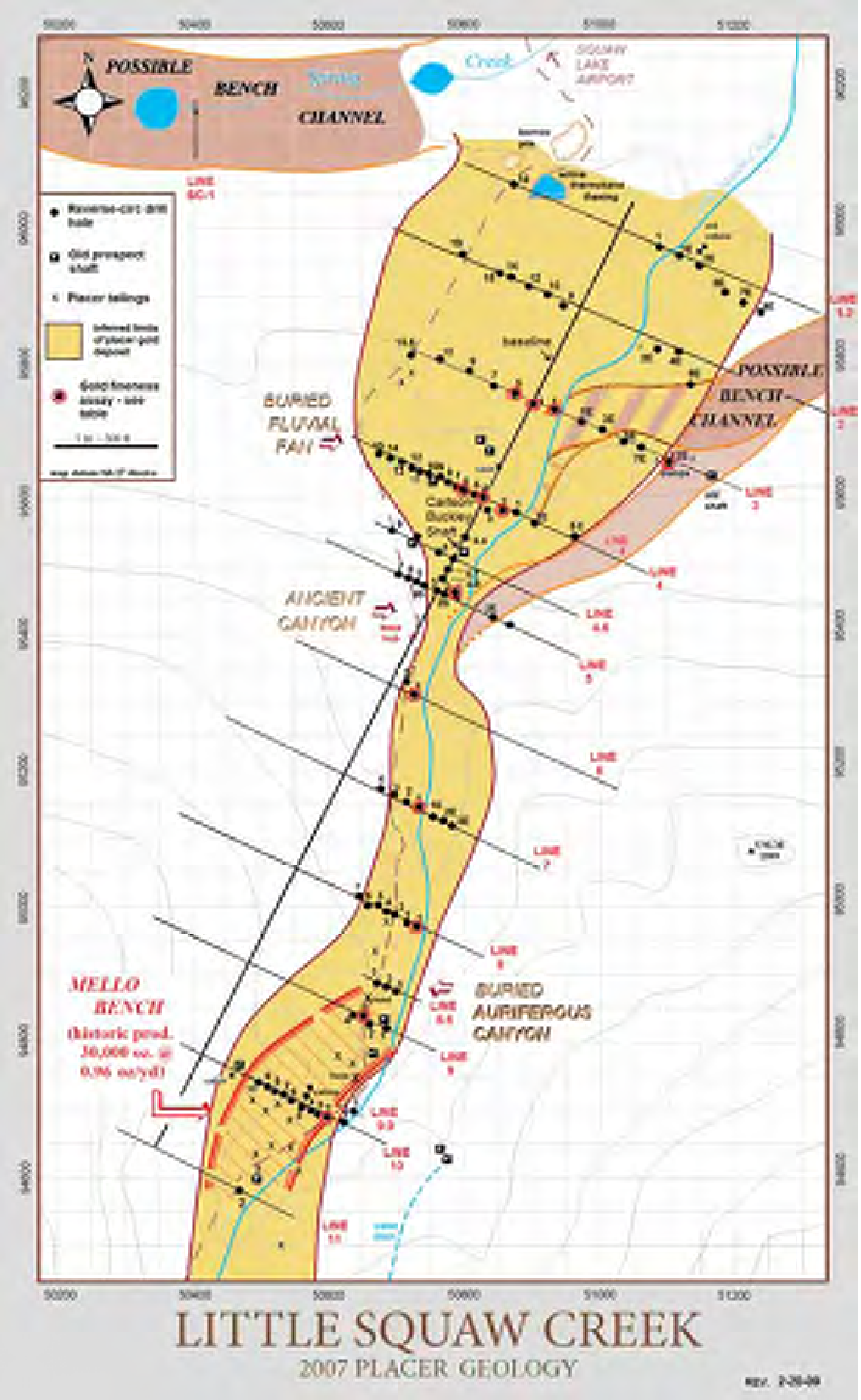


Figure 18. Placer geology and drill hole locations on Little Squaw Creek.

Table 7. Results of 2007 Placer Drilling.

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz Au/bcy)
Drill holes on Little Squaw Creek						
LS-L1.2	9E	105.0	85	70	15	0.0028
	7E	105.0	85	50	35	0.0094
	5E	115.0	100	40	60	0.0238
	3E	135.0	126	50	65	0.0049
	1E	145.0	114	55	55	0.0072
	1	135.0	127	55	73	0.0189
	18	92.0	no bdrk	60	10	0.0108
Totals & Avgs:	**7**	**832.0**	**106**	**54**	**45**	**0.0128**
LS-L2	6E	90.0	79	65	10	0.0051
	4E	110.0	97	55	40	0.0069
	2E	130.0	105	45	65	0.0161
	8	210.0	189.5	70	120	0.0240
	10	210.0	195.5	70	125	0.0154
	12	210.0	no bdrk	70	140	0.0177
	14	206.0	200	70	130	0.0074
	15	210.0	200	75	125	0.0066
	19	210.0	no bdrk	85	125	0.0064
Totals & Avgs:	**9**	**1,586.0**	**165**	**67**	**98**	**0.0128**
LS-L3	12East	105.0	97.5	70	30	0.1053
	9East	120.0	114	90	25	0.0555
	7East	135.0	130	75	55	0.1582
	5East	145.0	140	60	80	0.0356
	3East	155.0	150	50	100	0.0214
	1	165.0	159.5	45	115	0.0233
	3	185.0	180	65	115	0.0296
	5	180.0	165	65	100	0.0187
	7	180.0	175	80	95	0.0163
	9	200.0	195	90	105	0.0166
	12	210.0	no Bdrk	105	105	0.0257
	15.5	210.0	no Bdrk	110	100	0.0024
Totals & Avgs:	**12**	**1,990.0**	**193**	**110**	**85**	**0.0316**
LS-L4	5East	90.0	75	60	20	0.0874
	1East	95.0	85	45	40	0.0787
	1	153.0	115	60	55	0.0221
	2	150.0	135	65	70	0.0288
	3	45.0	no Bdrk	45	n/a	abandoned
	3B	155.0	150	60	90	0.0425

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz Au/bcy)
	4	159.5	150	75	75	0.0211
	5	180.0	155	70	85	0.0075
	6	180.0	175	65	110	0.0336
	7	195.0	190	85	105	0.0246
	8	210.0	190	75	115	0.0024
	9	210.0	185	80	105	0.0139
	10	210.0	170	70	100	0.0074
	11	155.0	150	85	65	0.0183
	12	175.0	155	90	65	0.0183
	13	170.0	160	115	45	0.1312
	14	180.0	165	105	60	0.0128
	15	165.0	160	105	55	0.0068
Totals & Avgs:	**18**	**2,877.5**	**156**	**75**	**74**	**0.0247**
LS-L4.4	3	195.0	159	65	95	0.0190
Totals & Avgs:	**1**	**195.0**	**159**	**65**	**95**	**0.0190**
LS-L4.6	3	190.0	163	45	120	0.0259
	5	125.0	115	85	25	0.0032
	7	95.0	84	70	15	0.0095
	9	85.0	68	55	15	0.0046
Totals & Avgs:	**4**	**495.0**	**108**	**64**	**44**	**0.0194**
LS-L4.7	3	210.0	145	15	132	0.0031
Totals & Avgs:	**1**	**210.0**	**145**	**15**	**132**	**0.0031**
LS-L4.8	3	210.0	142	60	40	0.0053
Totals & Avgs:	**1**	**210.0**	**142**	**60**	**40**	**0.0053**
LS-L5	5E	120.0	108	55	55	0.0134
	3E	160.0	139	40	102	0.0311
	1	43.0	no bdrk	0	43+	abandoned
	1B	135.0	no bdrk	35	100	0.0068
	2	55.0	no bdrk	55	no pay	abandoned
	2B	120.0	111	25	87	0.0089
	3	67.0	no bdrk	40	27+	abandoned
	3B	115.0	107	50	45	0.0038
	4	68.0	no bdrk	50	5+	abandoned
	4B	100.0	93	93	no pay	
	5	100.0	84	84	no pay	
	6	67.0	59	59	no pay	
	7	65.0	56	56	no pay	
Totals & Avgs:	**13**	**1,215.0**	**99**	**49**	**78**	**0.0142 (avg. H5E, 3E, 1B, 2B, 3B)**

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz Au/bcy)
LS-L6	1	135.0	127	20	115	0.0129
	2	150.0	119	30	90	0.0077
Totals & Avgs:	**2**	**285.0**	**123**	**25**	**102.5**	**0.0106**
LS-L7	3E	120.0	111	25	88	0.0177
	2E	112.0	107	30	80	0.0478
	1E	130.0	126	5	125	0.0385
	1	105.0	94	5	90	0.0183
	2	105.0	92	0	90	0.0000
	3	130.0	105	15	90	0.0006
	4	130.0	96	5	85	0.0002
Totals & Avgs:	**7**	**832.0**	**104.4**	**12**	**93**	**0.0184**
LS-L8	1	150.0	150	30	120	0.0111
	2	160.0	128	20	110	0.0794
	3	190.0	176	65	113	0.0269
	4B	205.0	194	60	136	0.0206
	5	210.0	155	65	90	0.0090
	6B	210.0	155	25	95	0.0128
	7	210.0	120	50	65	0.0188
Totals & Avgs:	**7**	**1,335.0**	**154**	**45**	**104**	**0.02628**
LS-L8.6	1	120.0	97	45	5	0.0163
	1B	130.0	124	10	70	0.0039
	2	105.0	95	40	45	0.0229
	3	105.0	100	50	52	0.0206
Totals & Avgs:	**4**	**460.0**	**104**	**36**	**43**	**0.0143**
LS-L9	1	120.0	104	35	71	0.0178
	2	130.0	118	40	80	0.1086
	3	145.0	139	55	86	0.0124
	4	145.0	139	50	91	0.0188
Totals & Avgs:	**4**	**540.0**	**125**	**45**	**82**	**0.0388**
9.9	1	135.0	118	5	115	0.0089
Totals & Avgs:	**1**	**135.0**	**118**	**5**	**115**	**0.0089**
LS-L10	1	100.0	79	50	81	0.0027
	2	145.0	120	45	77	0.0107
	3	160.0	148	55	70	0.0192
	4	190.0	161	65	90	0.1070
	5	175.0	161	80	83	0.0114
	6	167.0	no bdrk	88	73	0.0122
	7	200.0	no bdrk	75	100	0.0107
	8	199.0	175	75	50	0.0128
	9	90.0	no bdrk	40	50	0.0011

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz Au/bcy)
	10	135.0	no bdrk	25	50	0.0202
Totals & Avgs:	**10**	**1,561.0**	**151**	**60**	**72**	**0.0229**
LS-L11	**2**	**130**	**125**	**22**	**85**	**0.0709**
Totals & Avgs:	**1**	**130**	**125**	**22**	**85**	**0.0709**
Drill holes on Spring Creek						
SP-L1	5N	105	90	90	0	trace
	1N	15	no bdrk, abandoned			nil
	2S	30	no bdrk, abandoned			trace
	3S	13	no bdrk, abandoned			nil
Totals	**4**	**163**	**90**			
Drill holes on Big Squaw Creek						
BS-L6	2E	210	no bdrk	185	25	0.0058
BS-L7	3E	172	no bdrk	145	5	0.0059
Totals	**2**	**382**				
Total feet drilled:		**15,303.5**				
Total number holes attempted:		**108**				

Sampling Methods and Approach

Lode Sampling

Surficial Sampling Issues

The high latitudes pose unique challenges to exploration not found elsewhere. The Chandalar district is located north of the Arctic Circle, in the region of continuous permafrost. Periglacial features are common; there are classic examples of solifluction, solifluction lobes, frost boils, extensive frost-riven talus, active rock glaciers and an active layer of 5 to 7 feet. The steep slopes in the district are covered with frost-riven talus, mostly slate and schist, and freeze-thaw cycles create a shingled surface of slabby rock annually in motion downslope. The result is relatively rapid, non-fluvial, mass - transport of colluvium. Additionally, along the north of the property, glacial till mantles the north-facing hills above the broad lowlands. The entire landscape of the district has been created or significantly affected by these processes and consequently very little *in situ* bedrock exposure remains.

Traditional exploration techniques of soil and stream sediment sampling can be cautiously used at Chandalar, provided the origin of the sampling medium is noted (

). Typically, after mid-July, ridge tops and upper valley slopes are thawed enough to collect soil samples. The steep hillsides in the district, with up to 2,500 feet of relief, are increasingly mantled at lower elevations by ever-thicker accumulations of frost-fractured talus. Talus is underlain by a stratum of finer material that, as a unit, expands on freezing and contracts during the annual thaw, causing step-like transport of the talus into the incised narrow-bottom valleys. Effective sampling must be done beneath the solifluction material, where residual bedrock may be found. Generally soil sampling cannot be used at the lower elevations where accumulations of talus and colluvium may exceed 50-75 feet thickness.

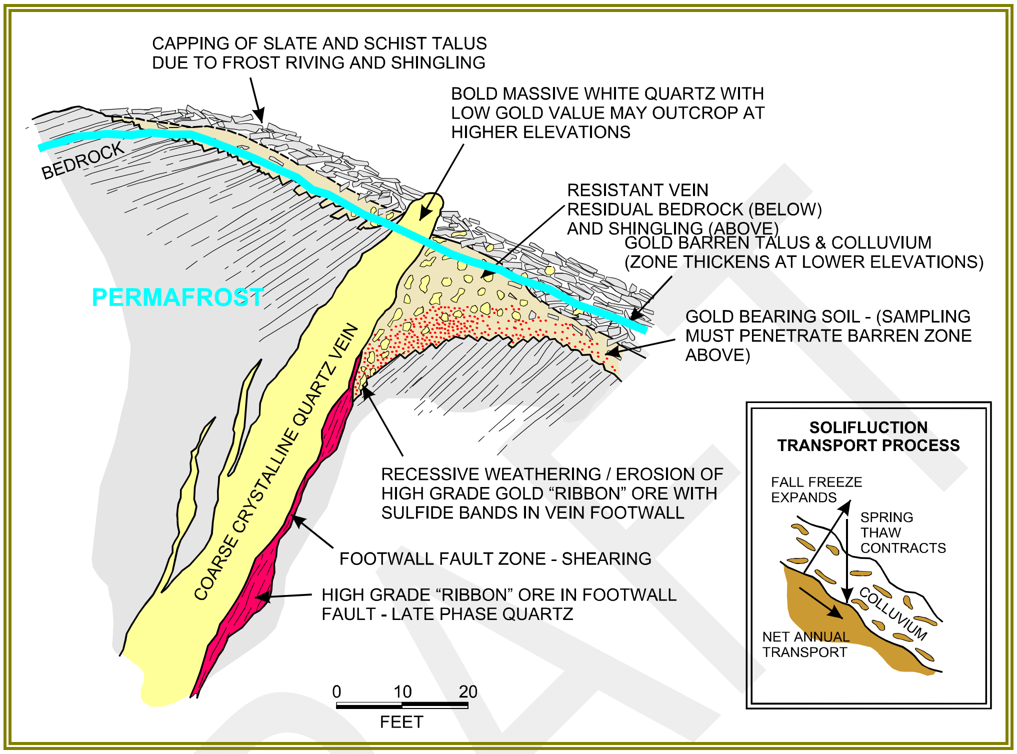


Figure 19. Schematic of a sampling environment in permafrost terrain and typical of the Chandalar Mining district.

Because ice-fracturing can occur to significant depths as surface water infiltrates cracks in the frozen bedrock, large blocks of bedrock can be wedged apart and caused to move on steeper slopes. Movement opens ever-wider fractures and more surface water accelerates the process. At the Chandalar prospect, open cracks were observed that are at least 15 feet deep; consequently that prospect is now recognized as occurring in a block of bedrock ten or several tens of feet across, rotated and displaced a hundred feet or more. Similar movement of bedrock masses and accompanying open or ice-filled fractures were observed in the Mikado area, the Little Squaw 100 Level, Aurora Gulch and are likely common throughout the district. Core drilling in the early 1980s and reverse-circulation drilling in 2006 encountered lost circulation in several holes due to open or water-filled voids, resulting in failed drill holes.

Large landslide features and debris fans of plastic-like frozen material occur where the Little Squaw shear crosses the Little Squaw Creek valley and on the lower slopes of the Crystal prospect. Similarly the ridge cut by the Pioneer shear zone features multiple frozen landslides on the western slope and solifluction lobes draping the eastern slope.

Soil and Stream Sediment Sampling

All non-drill samples are cataloged and cross-referenced by sample type, by prospect, and by year, and listed in a digital (EXCEL™) file, Appendix D, (available only on disk versions of this report). Each entry includes sample number, sample type, UTM location, values for Au Ag As Pb Bi Sb, lab report #, sampler name, and description notes. This data base also includes all rock, water, vegetation, and bedrock intercepts from the placer drilling program.

The soil sampling effort was almost entirely 'targeted' to areas or sites where mineralization was known or suspected. As stated above there are large areas where sampling is not possible. As such, the data set cannot be statistically treated to determine background, correlation factors and anomalous element levels.

Gold, arsenic, and antimony were the only elements that consistently showed variability near mineralized sites. Lead, cadmium, copper, and bismuth spike near/within significant mineralization but do not appear to form haloes. Tungsten is spatially associated with auriferous sheeted veins (e.g., RC hole SUM-12 and CRY-30). Lead and copper may show some low base-level regional zonation, particularly in the north of the district, however, the current data bank is too biased toward known or suspected gold targets to further comment.

Analytical values represented in this report as 'anomalous' are based solely on a visual review of the data and the author's experience with gold projects elsewhere in Alaska (Table 8). Because Chandalar is a known gold district the threshold levels are set somewhat higher than they would be if the samples were part of a regional exploration program. Stream sediment sampling was tested and found to show anomalies where expected, with values of 50 ppb Au probably representing the anomalous threshold.

Table 8. Element Concentration Levels.

Level	Gold (ppb)	Arsenic (ppm)	Antimony (ppm)
Threshold	50	200	7
Moderately Anomalous	100	600	20
Highly Anomalous	300	1,200	45
Highest stream sediment	591 (Eneveloe)	1,809 (Rock Glacier)	
Highest soil values near apparent mineralization	6,400 (Mikado, north vein)	>10,000	242 (Chiga prospect, disregards 2 extreme samples, 1,700 & 2,300 ppm Sb)

Sampling Methods

Soil sampling is generally not possible until early July when sufficient thawing has occurred. Soil samples were collected by driving a 1.25-inch diameter split tube three–to-five feet into the ground to collect material below surface slide material. The uppermost material, including any B-horizon, was discarded. A 2-pound sample of residual soil is collected and placed in a cloth bag along with a tear-off sample pre-numbered tag from a pre-numbered sample card. Each sample position in UTM, elevation, and local observations are entered on the card. Regular sample spacing and uniform grids were often not possible due to periglacial features. The occurrence of frost boils offers an excellent opportunity to sample deep mineral soil.

Trench sampling was generally by continuous chip/channel sampling of the trench wall; individual sampled intervals ranged from three to twelve feet. All trenches were pre-stationed and each sample interval flagged. To minimize unintentional bias each trench sample interval was divided into quadrants, equal amounts of sample cut from each quadrant (Figure 20), then combined and bagged for shipment to a certified laboratory. Most mineralized areas were sampled at five-foot intervals. At a few locations, such as the Mikado shear zone (Trench 21), where the excavations were too deep or appeared unstable for entry, a measured 10- or 12-foot interval was marked alongside the trench and the excavator operator took a full-length bucket scraping of the trench floor of this distance from which a representative sample was obtained.

Drill (RC) Samples

Drilling of the lode prospects was done without the addition of water in order to minimize freezing problems. Reverse-circulation drill samples are collected continuously from the cyclone for each five-foot interval. A triple deck splitter produced two samples, each about 15 pounds. Samples were bagged, labeled with the hole number and sample interval, then one split was shipped to the lab for analysis. The second, identical, bagged split was archived at-site for later use. Samples of interest were panned for color counts and served as a check on the latter assays to be done. All sample collection, sample splitting, and logging of the drill chips were done by Company personnel under supervision of the drill geologist. Other details concerning the drill samples are discussed in the preceding Drilling section.

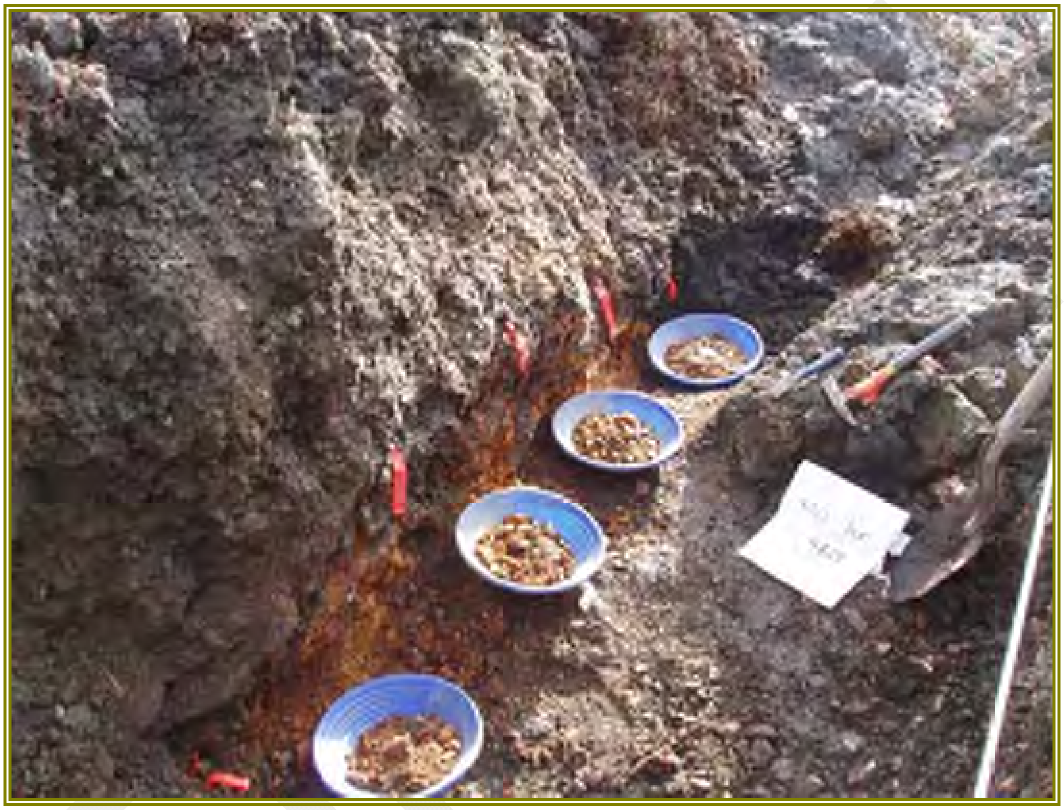


Figure 20. Trench sample collection technique; each interval is divided into quadrants, equal amounts of sample are cut from each quadrant, then composited into the interval sample.

Placer Sampling

Pan Sampling

All three authors are expert panners. Reconnaissance pan samples of placer material collected from old works and newer excavations (grab and channel samples) were measured by counts of heaped pans and converted to equivalent cubic units. Weighable amounts of gold that were found in the pan samples were saved in glass vials for later analysis.

Trench Sampling

Trenches were sampled by placing overburden and waste material on one side of the trench and placing sample intervals in segregated stockpiles on the other side of the trench. Targeted placer sections were sampled on two-foot vertical intervals. Samples were collected from the stockpiles by cutting a trench through the stockpile to expose the interior, then shoveling small amounts of gravel from the cut stockpile to generally represent all the material in the interval. Trench samples measuring approximately 1 bank cubic foot were estimated by filling two 5-gallon buckets to level and assuming a swell factor of 30%. These samples were carried to the creek and panned. All gold was saved in glass vials for later analysis.

Drill Sampling

The Company used conventional sampling methods to collect placer samples from drill holes on Little Squaw Creek, Big Squaw Creek, and Spring Creek. An air-rotary, reverse-circulation drill (Alsinco A-80) driving 5.875 inch, 6.000 inch, and 6.125 inch tri-cone bits were used with an air compressor (Sullair) having a capacity of 750 cfm and 350 psi (Figure 21). Samples were collected from the surface to bedrock every five feet; the first five-foot interval becoming sample S-1, the second becoming S-2, and so forth. Bedrock was typically penetrated at least 5 feet to ensure a thorough clean-up of placer material and placer gold particles. A sample of bedrock chips from the last drill interval was assigned a separate sample number and submitted for gold assay plus a multi-element analysis (Appendix D). A split of the chips of each bedrock intercept was retained in standard chip trays for a permanent bedrock record.

Figure 21. Conventional reverse-circulation drilling system.

Samples were collected at the underflow of a hydrocyclone in 5-gallon buckets placed in a small tub to catch the overflow of turbid water (Figure 22). Slimes recovered in the tub were added back to the sample buckets. Typically, 2 to 3 buckets of placer material were collected per sample interval. Lids were snapped on the buckets and labels tied to the bails indicated deposit, hole number, sample number, and number of buckets per sample (i.e., “LS-L4-H3-S22, 1 of 3”). Notes on stratigraphy were made as drilling progressed down-hole. Initially, holes were drilled without water, which caused a problem with dust. To alleviate the health hazard and erratic sample volumes caused by drilling dry, water was injected. Adding water improved recovery and eliminated the other problems associated with excessive dust.

Figure 22. Cyclone sample recovery

The placer sample buckets were transported to a central processing site with a Bombardier tracked vehicle and trailer. Samples were unloaded and sorted according to hole and an inventory was made to account for all sample material. Wet samples were allowed to settle and clarify overnight so that a more accurate measurement of the volume of solids could be made. The volume of each sample was measured with a measuring stick and recorded in the inventory notebook and re-entered into the Field Panning Log.

<u>Process</u>

Interval samples were processed continuously for an entire hole (Figure 23). Sample reduction required a field hydraulic concentrator: a slickplate, a vibrating screen with ¼-inch openings, and a riffled sluice box (Figure 24). Placer samples were slurried onto the slickplate then screened. Screen vibration was activated using a pelton wheel turning an off-balance shaft. A manifold provided the high-pressure water jets to the feed, disaggregating (slurrying) the sample, and to the pelton wheel. The sluice was cleaned by removing the heavy expanded metal riffle set and sliding the un-backed Nomad carpeting into a plastic tub. The entire test plant was washed to mitigate contamination of

Figure 23. Placer sample processing.

subsequent samples. The heavy mineral concentrate was washed into a tub and the carpet slapped against the water surface to remove particles trapped in the weaving. It was visually inspected for gold nuggets, then the sluice was re-assembled for the next sample. The sluice concentrate was poured into a bucket and the original labels from the drill sample were tied to the bucket's bail. The sluice concentrate buckets were organized in preparation for panning. Sluice tailings were occasionally checked by collecting a full gold pan of tailing sands, just below the outfall, then panned to look for gold colors.

Panning
Sluice concentrates were panned over 18-gallon tubs using large, plastic gold pans (Figure 25). Standard panning techniques, including double-panning, reduced the sample to a high-grade pan concentrate. A plunge-magnet removed the magnetic material, such as minor amounts of magnetite and pyrrhotite and occasionally abundant amounts of tramp iron (shards and threads of drill tooling). The magnetic concentrates were described in the Field Panning Log by composition and relative abundance, checked for any gold possibly entrained between magnetic particles, then discarded. Further panning reduced the concentrate to reveal visible gold. A count of all visible gold colors was made according to a visual classification scheme based on estimated gold particle weight. (This scheme is described in the Laboratory Analysis section). The color count and estimated weight were recorded in the Field Panning Log, along with a description and relative abundance of the other heavy minerals. The placer gold was not removed from the pan concentrate. The pan concentrate was rinsed into a labeled plastic bag with a zip-lock closure. Most of the water was decanted, the bags were rolled to squeeze out the air, then sealed and placed into a larger, heavy-duty, plastic ziplock bag. When the entire hole had been panned and the individual samples accumulated, they were sealed together into yet another bag and placed in a U.S. Army ammunition steel can for secure transport.

Figure 24. Placer sample field reduction

Storage and Transport Security

Placer sample concentrates, stored in U.S. Army ammunition cans, were placed into a heavy-duty aluminum strong box in the drill geologist's office. On a purposely semi-regular basis, the pan concentrates were re-inventoried by drill line and by hole, then re-packed into the ammunition cans with copies of the corresponding Field Drill Logs and Field Panning Logs. The cans were sealed with

Figure 25. Panning tent.

a heavy-duty steel strap and sent to Fairbanks via chartered air taxi. A representative from the contractor (Metallogeny, Inc.) met the aircraft at touchdown in Fairbanks or soon after if the samples were in the possession of supervisory company personnel. The sample containers were then transported to the laboratory and stored for analysis.

Sample Preparation, Analyses and Security

Surficial and Lode Samples

Only standard analytical preparation and analytical procedures were used. For all surficial and trench samples, gold was assayed by fire assay on a one-assay ton charge followed by an inductively-coupled plasma determination. Where coarse gold was suspected, particularly in vein samples, a standard 1,000 g metallic screen assay procedure followed. A multi-element MS-ICP procedure was used to determine an array of other elements. ALS Chemex, Fairbanks, was the receiving station where samples from 2004, 2006, 2007, and 2008 were prepared for analysis at the ALS Chemex laboratory in Vancouver, B.C. ALS Chemex holds Certificates of Accreditation including ISO 9001:2000 and ISO 17025. Alaska Assay, Fairbanks, a certified laboratory, performed the 2005 analyses and did check assays for 5-10% of the samples from other years. Alaska Assay is part of Alfred H. Knight Alaska, Inc. and holds a Certificate of Accreditation ISO 17025.

All analytical results from surficial sampling are closely monitored and results of interest are field checked and/or re-sampled. Reverse-circulation drill samples collected from the cyclone for each five-foot interval were collected in duplicate. For samples of interest, about 8% of the total drill intervals, the duplicate splits were weighed and panned for color counts as a check on the laboratory results. Duplicates for panning were brought directly to the camp panning facility by the drill rig geologist. All drill sample collection, sample splitting, and logging of the drill chips were done by Company personnel under supervision of the drill geologist.

Coarse Gold in Veins

Repeatability of assays from Chandalar gold-quartz veins has been inconsistent. Veins that assay several ounces gold per ton may just as likely assay several ppm in another sample from the same exposure. Re-check assays using metallic screen procedures have shown erratic amounts of gold failing to pass the screen. Similarly gold grains up to several mm in size can generally be panned from soil near most quartz prospects, indicating the degree of difficulty of assigning a real value to these veins based on small geologic samples. The problem of "nugget effect" is not apparently as acute for assay results of the lower-grade stockwork and sheeted veinlet zones, but it appears to create a profound uncertainty for the major quartz veins of the district and renders all samples from these veins suspect until bulk sampling can be done. A recommendation to evaluate larger bulk samples to establish a correlation between total recovered gold and gold assays based on conventional sampling is offered at the end of this report.

Data and Sample Archive – HARD-ROCK and Geological Programs

Archive splits of the prepared pulps are held in storage by GRMC in Fairbanks. All analytical data from surficial and trench samples are tabulated with UTM coordinates, specific assay data, sampler, and sample description. Tabulations are digital format (EXCEL^{TM}) and included as Appendix D in digital versions of this report. All samples are cross-referenced by year, by sample number, and by prospect area. For reverse-circulation drill samples, the gold assays are entered on the original drill logs and scanned electronically. Additionally, drill-assay cross-sections were prepared and archive chip trays were photographed.

Placer Samples

The use of standards or blanks as an accuracy check on placer drill sampling is not practical. The sample processing flow requires careful separation of the physical gold over multiple reduction steps without un-due losses or possible cross-contamination. Sampling accuracy based on comparison of twinned holes and previous drilling (Fitch, 1997) will be further discussed under Data Verification section to follow.

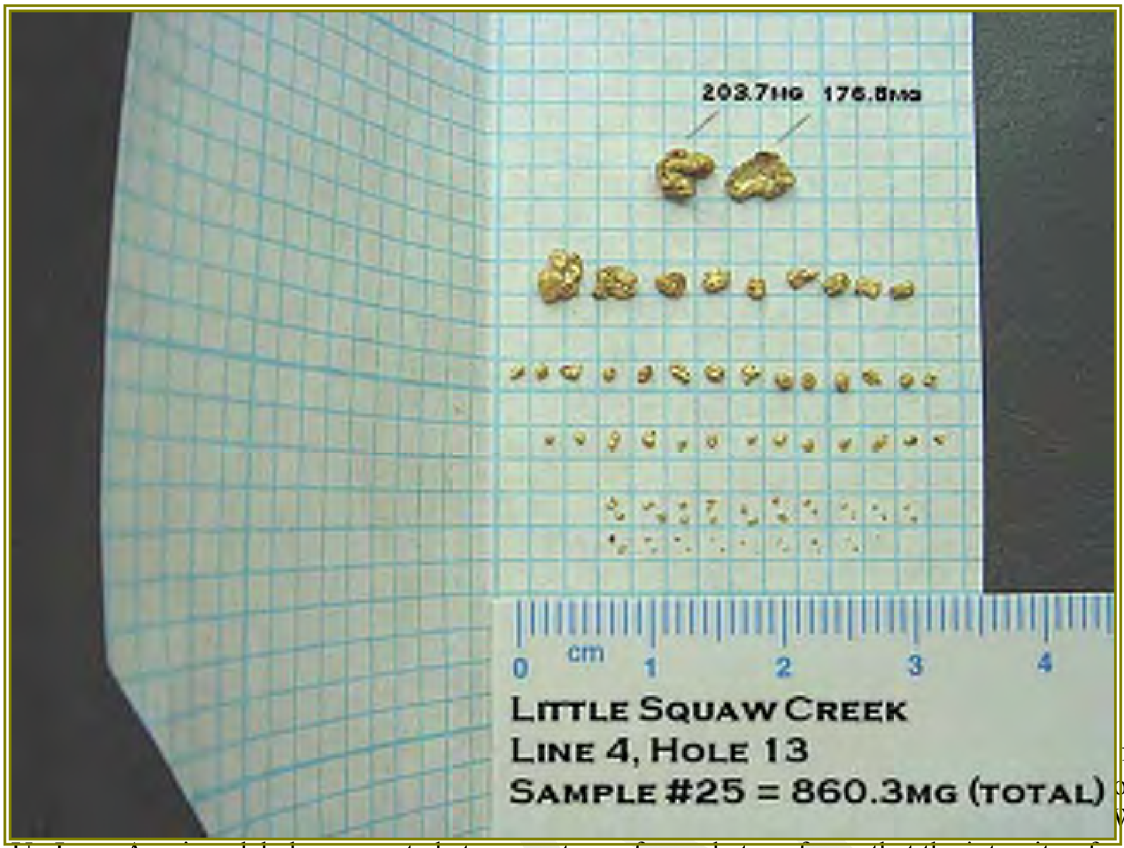
Placer concentrates received in the Fairbanks laboratory were immediately entered into the laboratory's Sample Inventory Log to check for missing sample intervals. Samples were then organized and double-panned into a tub in which all pan tailings were accumulated (composited) for a discreet drill hole. A high-grade pan concentrate was produced from which all visible gold was extracted using a pipette. The gold was transferred to a labeled glass vial for further analysis. The remaining pan concentrates were transferred to an aluminum weighing boat and dried over low-temperature heat. When dry, the heavy minerals were described by relative abundance with the aid of a binocular microscope. The pan concentrate was weighed and placed in a labeled paper envelope for storage. The accumulated pan tailings for each hole were dried and saved in a labeled sealed plastic bag.

The sample vials containing the placer gold particles were organized and analyzed by transferring the gold into a finishing pan for a final concentration and rinse under ethanol. In skilled hands, a nearly clean separation of gold from gangue can be made and the resultant fractions were dried in the finishing pan over low-temperature heat. The gold particles were picked out with a razor blade (or toothpick) and placed on a formed piece of gridded paper in groups according to particle mass (Figure 26). Any remaining gangue minerals were added to the accumulated pan tailings for the drill hole.

Gold particles were classified visually into five weight categories in order to conduct a color count. The mass of each gold color was estimated and grouped according to the color table:

Nuggets -- >150 mg
C -- 5 to 150 mg
B -- 2 to 5 mg
A -- 1 to 2 mg
f -- <1 mg ("flyspeck")

A digital image of each sample with visible gold was captured, edited, and saved on electronic media. The sample was then weighed with an Ohaus™ digital analytical balance, sensitive to 0.1 milligram. Nuggets were weighed and recorded individually. The sample was recombined with the nuggets and placed in a clean, labeled glass 2-dram vial. All the sample vials for a particular hole were bundled in a labeled cloth sample bag. The gold particles (vials), pan concentrates (paper envelopes), and pan tailings (plastic bag) were then placed in a custom, high-strength, labeled cardboard box for storage. These smaller boxes were then placed into larger, heavy-duty labeled cardboard boxes, organized by drill line.



fine oduced Weigh-Up Log. A unique label was created at every stage of sample transfer so that the integrity of sample identity was secure.

Data Verification

Lode exploration at Chandalar has been at the exploration phase only. Surficial sample assays of interest have been followed-up by closer field investigation. No blank or standard samples were inserted in the laboratory submittals, however, about 5 to 10% of the samples for each year were re-run at a second certified laboratory. As discussed in the previous section panning has been used to test reverse circulation (RC) HARD-ROCK drill cuttings, prospective mineralized vein occurrences, and follow-up soil anomalies.

Concern over accuracy of sample assays from the quartz veins has been expressed previously in this report. The problem posed by the “nugget effect”, historically, is mostly one of under-reporting. Bulk sampling is the only measure that is practical at this time to better quantify gold values in the vein systems.

Blanks and standards were not appropriate for analyzing placer (alluvial) samples. The entire RC placer drill sample was processed by the contractor, partially in the field and completed in contractor’s laboratory, and cannot necessarily be duplicated. Sluice tails were panned occasionally to check for wash-through gold particles and concentrates were double-panned to prevent loss of visible gold to tails.

The results of the Company’s drilling program data verification have been reviewed and compiled by ‘Qualified Persons’, James Barker, CPG, and Robert Murray, R.G, (for the purpose of NI 43-101, Standards of Disclosure for Mineral Projects). In addition James Barker , CPG, has reviewed the available data and additional supporting information sources, and believes that the data verification was conducted in a professional and competent manner.

A cross check of the alluvial sectional resources versus the composited RC drill hole values was prepared by Paul Martin, P.E. (author of the following Data Analysis and Preliminary Assessment sections).

Paul Martin, P.E., a' Qualified Person'(for the purpose of NI 43-101, Standards of Disclosure for Mineral Projects), has reviewed the sectional resource calculations and believes that the sectional method of resource calculations are valid and accurate based on his experience as Chief Engineer (prepared mine plans and reserves) and Mine Superintendent at the previously largest surface alluvial placer gold mine in North America, the Valdez Creek surface placer operations south of Fairbanks, AK (1980's to early 1990's).

The following Table 9 illustrates the correlation between average (mean) drill hole and the sectional polygon resource grade and thickness estimates. All estimates are given in fine gold troy ounces per yard cubed (OPY). The sectional polygon estimate results in a more conservative grade (6 percent less) compared to the average drill hole grade due to the smoothing effect of the polygonal analysis. Pay gravel and overburden thickness correlates well as illustrated below.

Table 9. Comparison of sectional and average drill hole data.

GOLDRICH MINING COMPANY
COMPARISON OF SECTIONAL AND DRILL HOLE DATA
AVERAGES WITHIN PRELIMINARY ASSESSMENT MINING LIMITS

METHOD	AVERAGE OVERBURDEN THICKNESS FT	AVERAGE PAYGRAVEL THICKNESS FT	AVERAGE SECTION THICKNESS FT	GRADE OPT AU
SECTIONAL (POLYGONS)	50	82	131	0.0246
DRILL HOLE AVE	48	80	127	0.0262
VARIANCE SECTION-DH	2	2	4	(0.0016)
%VARIANCE	4%	3%	3%	-6%

To illustrate the lithological continuity of the deposit's pay gravel and overburden thicknesses and grade, a north-south longitudinal section was prepared to span the 5,129 feet of the projected deposit strike length (see plan view location, Figure 27, and the longitudinal section map, Figure 28, below). The average overburden and pay gravel thickness for each drill fence line was plotted on the longitudinal section. There are a total of 13 drill fence lines (Lines 1.2, 2, 3, 4, 4.4-8, 5, 6, 7, 8, 8.6, 9, 10 and 11) with an average spacing between fence lines of 395 feet along the strike of the deposit in an approximate north-south direction. The longitudinal section illustrates the continuity of pay gravel zone thickness and grade over the strike distance of the deposit (within the pit limits) and between fence lines in a north-south direction. The drill fence line cross-sections prepared in this report for the sectional resource calculations also demonstrates the lithologic continuity of the pay gravel thickness and grade in an east- west direction within the pit limits. The RC holes are drilled between 50 and 100 feet apart along cross- section (E-W) with some exceptions due to terrain problems.

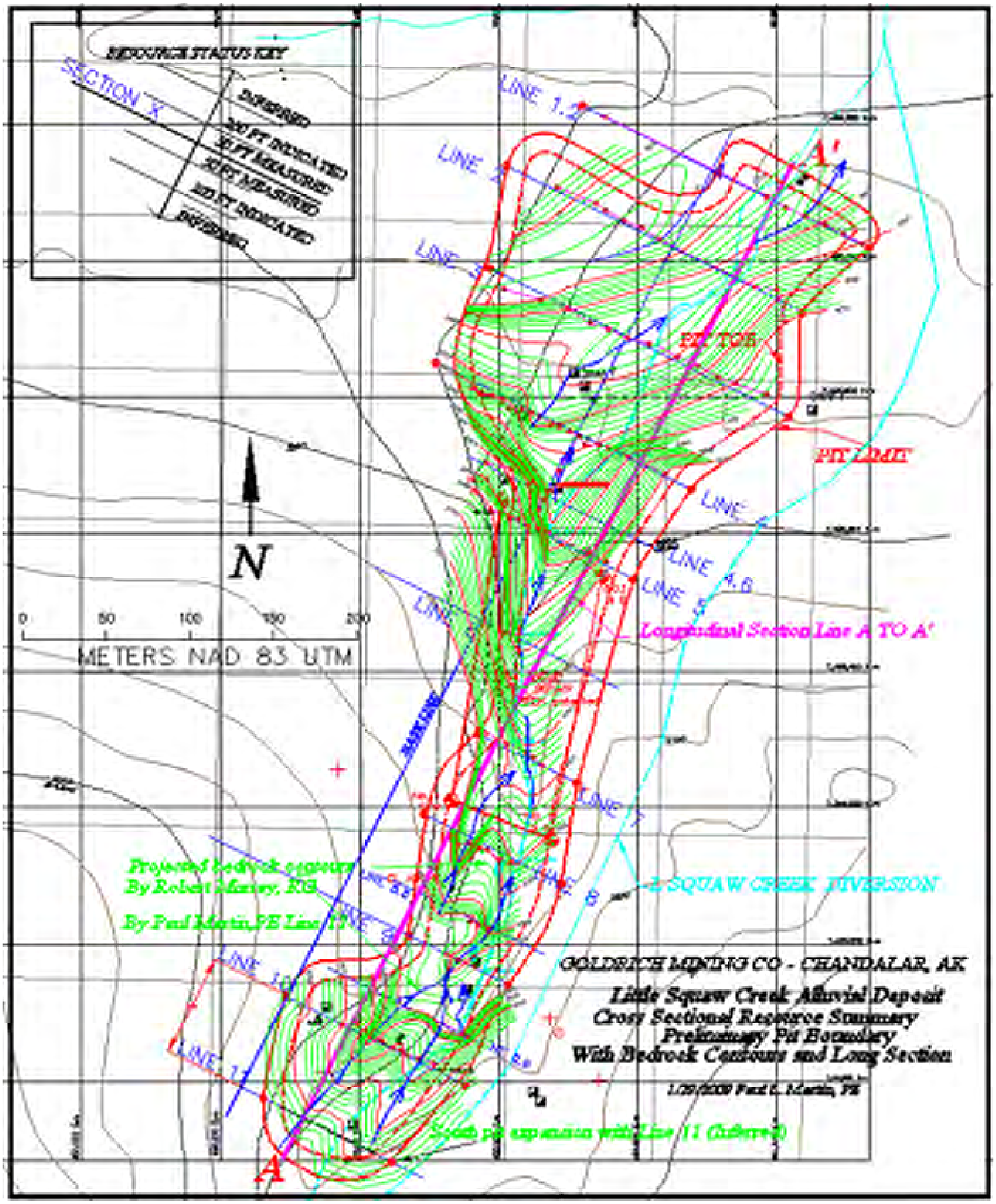


Figure 27. Plan view location map of section lines and long section A-A'.

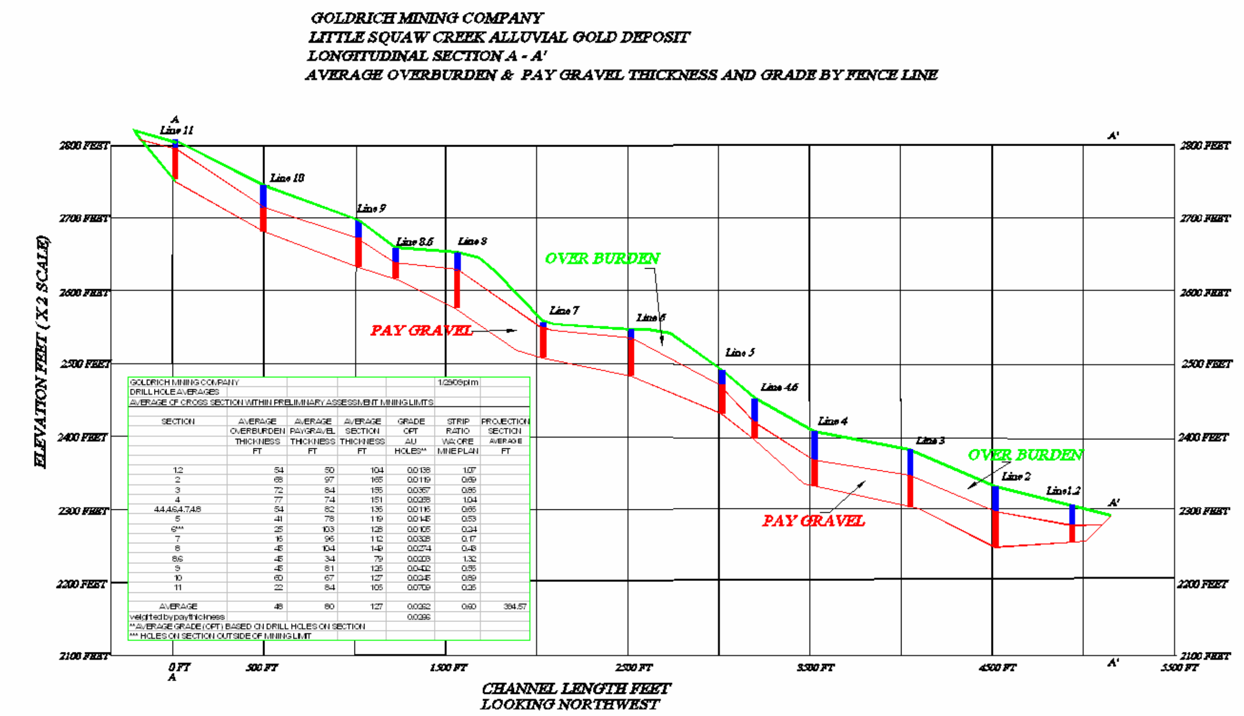


Figure 28. Longitudinal section A-A' (note that vertical is 2X exaggerated scale).

A summary of the cross-section pay and overburden thickness data is summarized below in Table 10 and is used to prepare the longitudinal section A-A'.

Table 10. Average cross-section pay and overburden thickness and pay average grade based on drill holes.

GOLDRICH MINING COMPANY 1/29/09 plm
DRILL HOLE AVERAGES
AVERAGE OF CROSS SECTION WITHIN PRELIMINARY ASSESSMENT MINING LIMITS

SECTION	AVERAGE OVERBURDEN THICKNESS FT	AVERAGE PAYGRAVEL THICKNESS FT	AVERAGE SECTION THICKNESS FT	GRADE OPT AU HOLES**	STRIP RATIO WA:ORE MINE PLAN	INFLUENCE AVERAGE FT
1.2	54	50	104	0.0138	1.07	
2	68	97	165	0.0119	0.69	
3	72	84	156	0.0357	0.86	
4	77	74	151	0.0268	1.04	
4.4,4.6,4.7,4.8	54	82	136	0.0116	0.66	
5	41	78	119	0.0145	0.53	
6***	25	103	128	0.0105	0.24	
7	16	96	112	0.0328	0.17	
8	45	104	149	0.0274	0.43	
8.6	45	34	79	0.0203	1.32	
9	45	81	126	0.0402	0.56	
10	60	67	127	0.0245	0.89	
11	22	84	106	0.0709	0.26	
AVERAGE	48	80	127	0.0262	0.60	394.57
weighted by pay thickness				0.0266		

**AVERAGE GRADE (OPT) BASED ON DRILL HOLES ON SECTION
*** HOLES ON SECTION OUTSIDE OF MINING LIMIT

From the above longitudinal section and the cross-section averages of the pay gravel and overburden thicknesses and pay gravel grades for the Little Squaw Creek alluvial placer deposit, the continuity of this deposit is established graphically. The continuity and resource search criteria will also will be calculated and verified with a detailed data analysis of the drill hole data, included in this report.

A Magellan Mobile Mapper Pro GPS instrument was used for surveying of location of the 2007 alluvial RC drill holes. The instrument consisted of two units, a stationary base unit and a rover unit equipped with external antennas for increased accuracy. The GPS data gathered in the field was differentially corrected (post-processing) for an accuracy of 70 cm for horizontal and vertical datum. Drill data was plotted on the UTM coordinate system, Zone 06 North of the Chandalar C-3 Quadrangle topography map. The cross Sections and Sectional resources we calculated using this topography.

Data Analysis

A detailed data analysis of the Little Squaw Creek alluvial deposit database was performed using Gamma Design Software called GS+, which is a geostatistical analysis program that allows measurement and illustration of spatial relationships in geo-referenced data. The analysis included basic statistics, semi-variograms, multi variate evaluation of grade, thickness and grade multiplied by thickness distributions to verify the lithologic continuity of grade and thickness for the placer deposit.

The results of the Company's Data Analysis have been compiled, reviewed and verified by 'contributing author', Paul Martin, P.E., for the purpose of NI 43-101, Standards of Disclosure for Mineral Projects. Mr. Martin, P.E., believes that the Data Verification was conducted in a professional and competent manner.

At this stage, the experimental variography analysis in Table 11 below is used to establish a basis for search distances for measured, indicated and inferred resource classification and to demonstrate continuity of grade and thickness of the deposit. A reduced percentage of the calculated variography ranges for measured and indicated was used as summarized below.

Table 11. Summary of semi-variogram for range (Ao), Little Squaw Creek placer deposit.

SUMMARY OF SEMI-VARIOGRAM FOR RANGE (Ao)
CHANDALAR PLACER DEPOSIT

Variogram	Range Major feet	Minor feet	Percent Major feet	Minor feet	Resource Range Major feet	Minor feet	Resource Class
Grade	121.00	121.00	83%	83%	100.00	100.00	Measured
Thickness	361.00	180.50	0%	0%	-	-	
Grade X Thickness	680.00	340.00	74%	74%	500.00	250.00	Indicated
Grade X Thickness	680.00	340.00	100%	100%	680.00	340.00	Inferred

Major axis = 0 degrees = North/South
Minor Axis = 90 degrees = East/West

The calculated range criteria above (from variography) is consistent with the continuity of the deposit pay thickness and grade illustrated graphically (and by averaging section data) in the cross sections and longitudinal section analysis illustrated and discussed in the Data Verification portion of this report. The continuity of the pay gravel thickness and grades have been established by averaging thickness and grade for each cross section within the mining and resource limits and graphing the pay and overburden thicknesses on a longitudinal section of the deposit over a pay channel strike length of 5,129 feet (see Figure 27 and Figure 28 for the plan and long section views of the average section pay gravel thicknesses). Over a length of 5,129 feet, the sectional average pay gravel thickness (for 13 cross sections) averages 80 feet based on drill holes and 82 feet based on the weighted average from pay polygons. The average grade over the entire strike length also illustrates continuity of grade confirmed by the data analysis geostatistics.

Table 12 below is a summary of the cross section thicknesses and grade for pay gravel and overburden thickness.

Table 12. Cross-section averages for pay gravel, pay grade, overburden thickness and average distance between drill section lines.

GOLDRICH MINING COMPANY - LITTLE SQUAW CREEK ALLUVIAL DEPOSIT
DRILL HOLE AVERAGES
AVERAGE OF CROSS SECTION ALONG 5,129 FEET OF STRIKE

SECTION	AVERAGE OVERBURDEN THICKNESS FT	AVERAGE PAYGRAVEL THICKNESS FT	AVERAGE SECTION THICKNESS FT	GRADE OPT AU HOLES**	INFLUENCE AVERAGE FT
1.2	54	50	104	0.0138	
2	68	97	165	0.0119	
3	72	84	156	0.0357	
4	77	74	151	0.0268	
4.4,4.6,4.7,4.8	54	82	136	0.0116	
5	41	78	119	0.0145	
6***	25	103	128	0.0105	
7	16	96	112	0.0328	
8	45	104	149	0.0274	
8.6	45	34	79	0.0203	
9	45	81	126	0.0402	
10	60	67	127	0.0245	
11	22	84	106	0.0709	
AVERAGE	**48**	**80**	**127**	**0.0262**	**394.57**
weighted by pay thickness				**0.0266**	

****AVERAGE GRADE (OPT) BASED ON DRILL HOLES ON SECTION**
***** HOLES ON SECTION OUTSIDE OF MINING LIMIT**

In the sectional resource estimation, section 4.4, 6 and 8.6 are not used as they either fall out of the mining limits or have limited data on section.

At least two RC drill holes fall within the overall ranges for measured and indicated resources as drill holes are spaced at between 50 to 100 feet along section, less than the minor distance range used (perpendicular to strike) of 250 feet. Note that the average distance between section lines is 395 feet which is less than the data analysis major range of 500 feet for indicated resources. As described in the Resource Section of this report, within the pay zone, pay polygons were drawn to define the limits of influence for each drill hole and are usually drawn one-half the distance between holes along the

drill cross section, then interpolated along strike between adjacent sections as defined by the data analysis drill hole influence criteria. For inferred resources, at least one drill hole is always used for inferred resource estimation.
The sectional resource method compares to the nearest neighbor method of 3D block models and is appropriate for placer resources due to the variability of assay grades between holes and to prevent smearing of high-grade values.

Anisotropic variograms were prepared to determine if a direction dependent trend in the data existed. No anistrophy was determined, so isotropic (principal axis is 0 degrees, north south) spherical variograms were used to determine variography. The minor axis is east-west or perpendicular 90 degrees to the major axis.

The cumulative frequency curves indicate some outlier high-grade assays, and thus a capping of 150 mg Au was used to cap high-grade gold 5-foot composites in the database.

The preparation of the semi-variograms and cross variogram for the Little Squaw Creek alluvial deposit follows the recommendations for determining experimental semi-variograms from the SME Mining Engineering Handbook, 2008, Second Edition, pages 350 to 351. Conforming to the recommendations from the SME Mining Handbook, the deposit experimental semi-variograms have:

- Samples that are within a zone of similar mineralization (all sample data is within pay gravels and confined to the mining limits);
- Declustered data (weighted average grades over entire pay thickness for each hole, twined holes averaged);
- Semi-variograms with a minimum of 30 pairs for grade and thickness;
- The distance increment (x-axis) approximates the sample interval along strike (average distance between fence lines).

Please refer to Martin et. al., 2009, Preliminary Assessment and Data Analysis, for additional detail including the semi-variograms and statistics for the data analysis.

Adjacent Properties

The Chandalar mining property of GRMC is surrounded by land managed by the State of Alaska that is open to additional mineral location.

The only adjacent mining property has been held by Gold Dust Mines, Inc., owned by Delmer and Gail Ackels who have operated a small-scale commercial placer mine on Big Creek (**Error! Reference source not found.**). Several of their claims on Big Creek and on Little Squaw Creek are inliers within the GRMC property. On Big Creek, Gold Dust Mines, Inc. has claims that include relatively small portions of the Mikado system, Indicate-Tonapah vein and the Star veins; *cautionary note, that the authors have not examined or evaluated mineralization on the adjacent claims.* There are no significant hard-rock resources known or reported in the Company files concerning these vein segments, although little historic exploration has been done. Inlier claims on Little Squaw Creek similarly include portions of the inferred trace of the Pioneer shear zone and the Grubstake East vein.

Disputed issues of claim validity and past lease obligations between Gold Dust Mines Inc and GRMC have been raised by GRMC. Litigation was initiated in 2007. See the Litigation section of this report for discussion of the court findings. The most serious matter involved in the litigation is the Gold Dust claims on the Mello Bench placer area where there is direct conflict with placer resources and camp facilities of GRMC. As discussed previously under litigation the Company took the issues of conflicting claims to Superior Court Fairbanks. In December, 2008, following trial the Jury found in favor of GRMC and the final ruling by the Judge is awaited.

Gold Dust also has claims that extend downstream on Big Creek for more than two miles. Unlike most other Chandalar streams, Big Creek is not believed to have been glaciated and gold occurs as a normal pay steak and is mined directly off bedrock. Overburden does not exceed 40 feet. Historic accounts from shafts and drill holes led Strandberg (1990) to suggest an exploration placer target on Big Creek of 2.4 million bcy. Gold in streambed gravels could extend up to eight miles or more below GRMC property but again the authors caution no examinations or creditable evidence has been found. No direct geologic comparison of the Big Creek placer to the placer areas held by the Company can be made.

Metallurgical Studies

HARD-ROCK Metallurgy

The quartz-hosted gold ores in the Chandalar Mining district have long been known to contain about 65-90 percent free-milling gold, with the balance intergrown with sulfide minerals (Table 13), which comprise about 5-to-15 percent of the high-grade mineralized veins. The free-milling gold in this particular sample was readily observed, ranging from approximately 300 microns down to 10 microns and probably smaller.

Table 13. Mineralogy of a metallurgical sample from the Mikado Mill, Chandalar district, from Jankovich (1961).

Sulfide Minerals	Gangue Minerals
Pyrite	Quartz
Arsenopyrite	Chlorite
Chalcopyrite	Talc
Sphalerite	Phlogopite
Pb-Sb-Bi-Fe sulfide*	Sericite
Magnetite	Ankerite
Galena	Fe-Mg carbonates
	Limonite
	Barite
	Tourmaline

* Unidentified sulfide occurs as elongated columns and needles that cleave lengthwise into fine splinters.

A 15 tpd stamp mill was installed at the Summit Lode in the 1930s but proved to be inadequate to achieve reasonable recovery. Later tests performed at the School of Mines in Fairbanks demonstrated that the quartz ores required finer grinding followed by amalgamation (Boadway, 1933). Tests on a minus-60 mesh grind of the Mikado ore achieved 76 percent recovery. Additional tests attained up to 90 percent recovery from the Little Squaw vein. A grinding, gravity separation, amalgamation mill was then proposed to be located on the Spring Creek mill site to be fed by a 2-mile-long aerial tram. This infrastructure was never built.

A series of bench scale metallurgical tests of samples from the district ultimately led to construction of a 100 tpd mill at Tobin Creek in 1970. Table 14 is a chronology of milling and metallurgical studies in the Chandalar Mining district.

Table 14. Summary of milling and metallurgical studies, Chandalar district.

Year	Private Operator/ Institution	Summary of Activity
1954	Denver Equipment Company	Study of Summit Lode ores. Recommended an agitation cyanide leach circuit (0.50 percent NaCN) without flotation (Toussaint, 1954).
1961	University of Alaska SME	Hoch (1961) reported results of mill tests on Mikado ore, including gold sizing and amalgamation tests.
1961	Gallagher Company	Straight cyanidation was performed on Mikado ores with a grind of 52 percent at 325 mesh; extracted 98.7 percent of gold in 24 hours; leaving 0.04 percent oz/ton in tails; recommended gravity circuit and cyanide leach (Liss, 1961).
1962	American Cyanamid Company	Jankovich (1961) recommended a 60 percent -200 mesh grind followed by amalgamation of tails.
1963	Day Mines Company	Ziegler (1963) reported that flotation might work on ores from the Mikado and Little Squaw lodes, but graphite could pose a dilution problem.
1973	Harrison Western Corporation	Designed mill on the basis of ore test by Denver Equipment Company in 1954.
1976	Mountain States Research and Development, Inc.	McAllister (1976) tested Mikado ores at Tobin Creek mill and achieved gold recoveries of 85.6 percent with amalgamation, 92.0 percent with cyaniding of tails after amalgamation, and 98.0 percent with cyaniding of table tails after steps above.

Test samples from Mikado were briefly described, but the degree of oxidation, both in situ and oxidation occurring during shipment to laboratories, is unknown. Samples submitted were no more than several hundred pounds. There has been no metallurgical testing of other lodes in the Chandalar district although minor production from the Summit, Eneveloe, and Little Squaw veins was processed at the Mikado Mill. Recommended flow sheets all included an initial first step of grinding to minus-60 mesh or finer and a gravity separation circuit (jigs, Deister tables, and spirals), followed by combinations of flotation, amalgamation, cyanide, and retort recovery. This generally recovered about 75 percent or more of the head assay in bench tests.

Flotation of a sulfide concentrate posed the problem of either shipping a heavy product from the remote location and finding a smelter willing to accept the high arsenic concentrate, or cyaniding the sulfide product and producing a bullion product on-site. Some problems were encountered with either amalgamation tails or flotation sulfides fouling the cyanide dissolution and with flotation reagents being carried over into cyanidation or amalgamation treatment. Some tests also encountered graphite, which possibly could pose a recovery problem (Zeigler, 1963). With cyanide dissolution, recoveries exceeding 90 percent on materials containing at least 1.0 oz/ton of Au were generally achieved. Tests with a total cyanide leach of the mill feed demonstrated recoveries could be raised to as high as 98 percent.

The Tobin Creek 100 tpd mill (Figure 29) was designed to handle the high-grade (multi-ounce) auriferous feed from all of the known lode deposits (Strandberg, 1990). The mill is equipped with a jaw crusher to ball mill grinding circuit, followed by gravity separation. Initially a Denver jig followed by Deister tables was installed, but tabling problems continually led to poor recovery because (1) table sliming occurred with subsequent fine gold losses, (2) surges of gold in the table feed, due to the highly variable nature of the gold content in the mine run, resulted in lack of separation control and additional gold loss, and (3) the high percentage of arsenopyrite in the table concentrates was difficult to amalgamate even after an attempt to roast the material. The gravity concentrate was amalgamated and the gold recovered in a retort. Later, in 1981, the tables were replaced with a jig followed by a bank of six Denver 18S flotation cells.

Figure 29. Mill on Tobin Creek, circa early 1980s.

Flotation concentrates were treated in a cyanidation circuit, and pregnant solutions were precipitated in a carbon tower; however, mill recovery was still only 77.9 percent for 1981 and 69.8 percent for 1982 (Hoffman, 1981). At least part of the problem continued to be the occasional high-grade surges of sulfides and gold when rich charges were received. Other problems persisted with the mill flow sheet, including the sticky nature of the gouge contained in the Mikado ore, which clogged feeders and bins, and differing characteristics of ore from the other quartz lodes. Additionally, flotation reagents, such as Aerofloat 25, were difficult to clean from the flotation concentrate and resulted in frothing in the cyanide leach tank, which floated sulfide and gold grains. Mill tailings for 1981-1982 were reported to contain 0.115 oz/ton Au (Strandberg, 1990) and were pumped to a nearby tailings pond. In 2006 an array of six core samples collected by the author from the top 5.0 feet of the tailings pond and averaged 2.25 ppm Au; tailings below 5.0 feet were frozen but expected to be somewhat higher in grade.

In summary, beneficiation tests indicated acceptable recoveries can be achieved using standard gravity and cyanidation processes, perhaps incorporating flotation. In practice, however, the Tobin Creek mill failed to attain similar recoveries for reasons cited.

Placer Metallurgy

Placer gravel process characteristics

Engineering parameters relating to the processing characteristics of the placer gravel have yet to be generated. Based on field observations and extensive processing experience with a small test plant that generally emulates a larger production screening/sluicing plant, the gravel disaggregates easily under high pressure water and over a simple vibrating screen. A slickplate ahead of the screen helped to produce a primary slurry of the gravel and to achieve a constant feed to the screen. Drill samples are not appropriate for generating grain-size data of bank-run material, since the drill bit purpose and design is to break rock. Bulk samples will be necessary to generate data such as grain size, classification, and amenability to other gravity recovery methods.

Placer gold characteristics

Gold particles recovered from placer samples collected on Little Squaw Creek are coarse and exhibit angular to sub-rounded morphology with a high Corey shape factor. Gold "colors" settled quickly when suspended in slurry while panning. The small amounts of other heavy minerals recovered in placer samples were typically no hindrance to recovering gold particles. Some 2007 drill holes on Little Squaw Creek, however, penetrated mineralized bedrock, which produced abundant fine-grain pyrite, pyrrhotite, and minor galena, and required more careful panning. Based on placer sampling results so far, blinding of gravity recovery apparatus by heavy minerals does not appear to pose a significant problem on Little Squaw Creek.

By observation, gold particles recovered on Big Squaw Creek are finer grained than those found on Little Squaw Creek and other heavy minerals were more abundant. Drill sampling on Spring Creek yielded sparse gold, but is considered inconclusive due to very difficult drilling conditions. Gold recovered from reconnaissance pan sampling on other streams traversing the Chandalar property are typically sparse and fine-grained.

Placer gold grain size, Little Squaw Creek

A preliminary grain-size analysis was performed on placer gold recovered from 2007 drilling on Little Squaw Creek. All the gold recovered for each drill hole was composited and sieved with three-inch certified Tyler mesh screens. The results are given in Figure 30 and Figure 31.

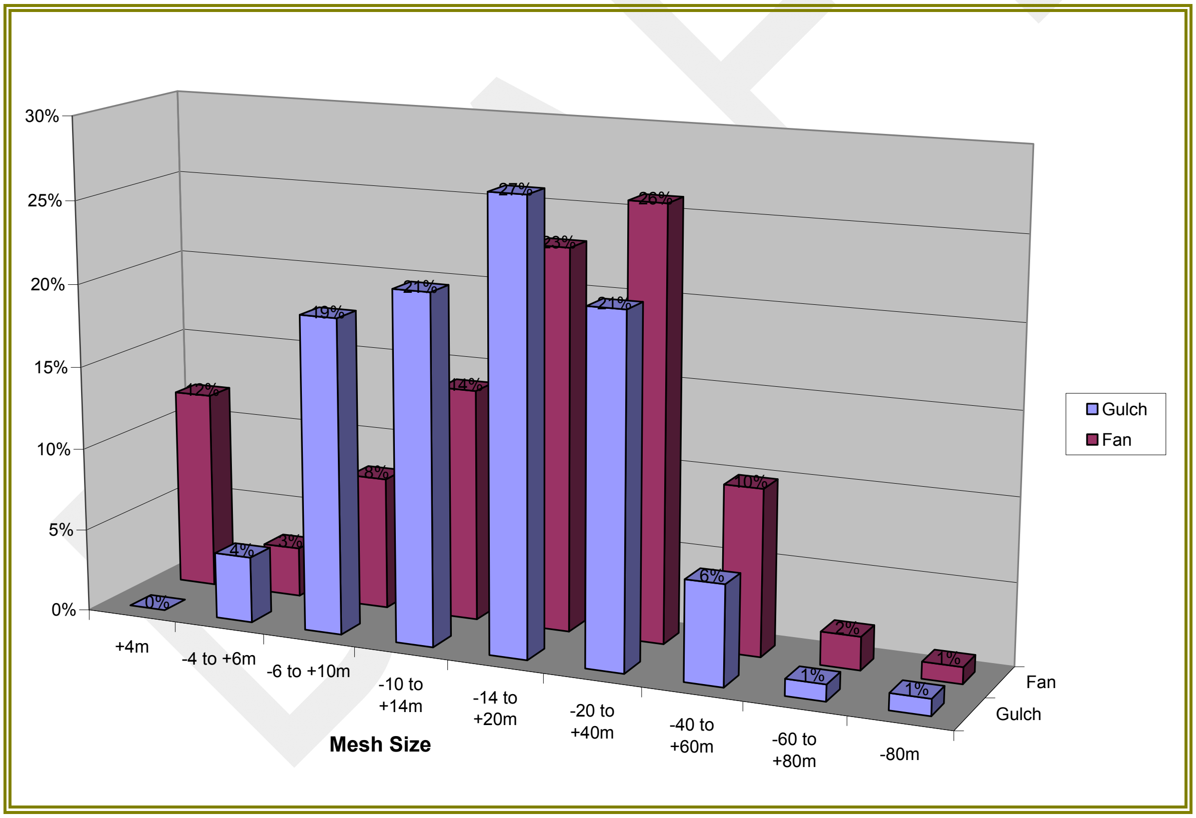


Figure 30. Grain size on Little Squaw Creek Line 8, Hole 2.

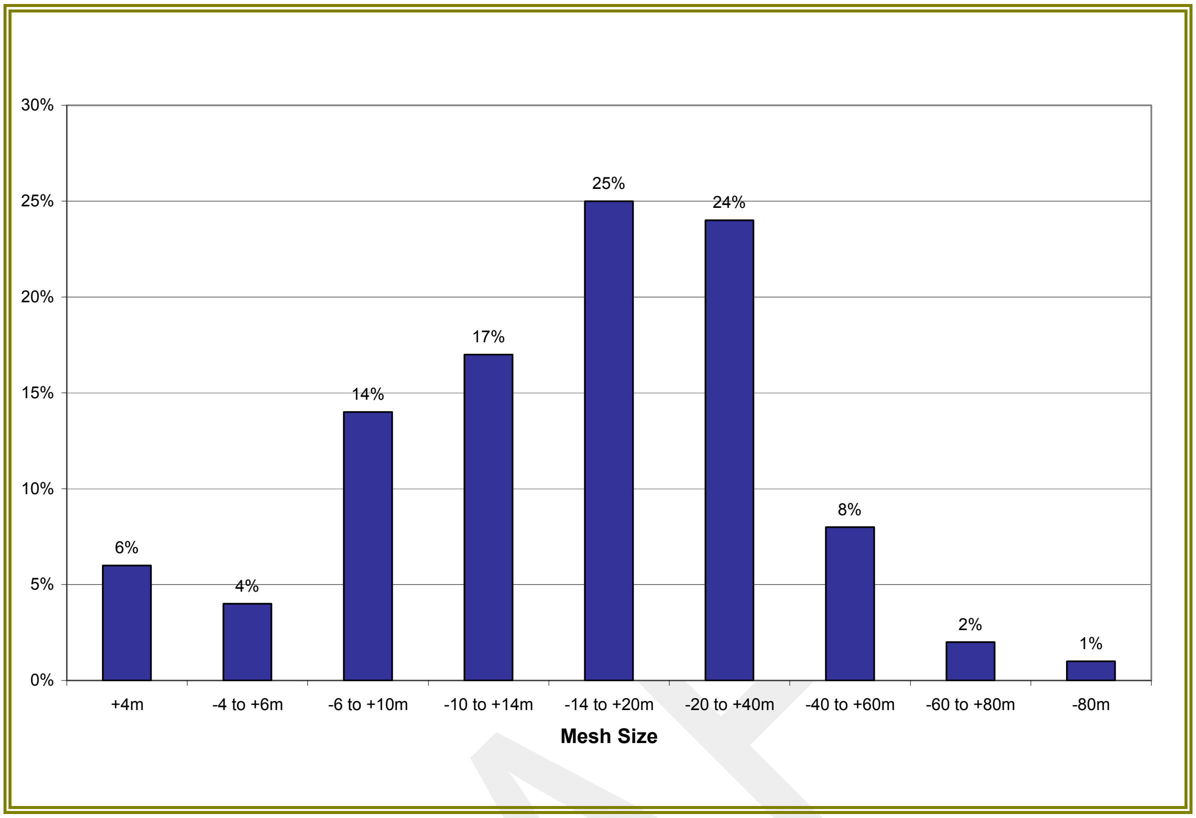


Figure 31. Grain Size on Little Squaw Creek Line 4, Hole 3B.

Figure 30 shows the cumulative size fractions grouped according to those lines located on the canyon portion and on the fluvial fan portion of the Little Squaw placer deposit. Figure 31 shows the cumulative size fraction for the combined pay gravel (canyon and fan) of the Little Squaw placer deposit.

The gold is quite coarse-grained in the canyon but becomes finer grained below the canyon, with little gold finer than -60 mesh at either location, whereas, the -6 mesh to +14 mesh size fractions were well distributed across all drill lines. Small nuggets greater than 150 milligrams and up to 1,703 milligrams (LS-L4-H6-S35) were recovered in drill samples from Little Squaw Creek on Line 4 and upstream, but not downstream. No nuggets were recovered from Big Squaw Creek or Spring Creek.

The coarse unique nature of the placer gold found on Little Squaw Creek suggests that a premium price may be earned for the gold product coarser than 14 mesh. This potential should be investigated further.

Placer gold purity, Little Squaw Creek

A placer gold purity analysis was performed on gold particles recovered from the 2007 drill program on Little Squaw Creek. Samples were organized as either canyon or fan. The placer deposit was subdivided into the canyon (Lines LS-5 to -10) and the fan (Lines LS-3 and -4). These were subdivided into “upper”, “middle”, and “lower”. Composite samples of the pay section for each subdivision were assembled to represent nine distinct portions of the Little Squaw pay streak. An additional sample was prepared from an outlying hole on the east end of Line LS-3 in order to test for any differences from the central part of the pay streak. These results are given in Table 15.Placer gold purity varied from 86.3 % to 89.9% pure gold, an average fineness of 883. No significant difference can be seen in the gold recovered from the alluvial subdivisions tested.

Table 15. Placer Gold Purity on Little Squaw Creek.

Line	Hole	Combined Sample Interval (ft)	Assay Location	Au (%)	Ag (%)	As (ppm)	Bi (ppm)	Cu (ppm)	Fe (ppm)	Hg (ppm)	Pb (ppm)	Sb (ppm)	Zn (ppm)
10	2	45 to 140	Canyon	89.41	7.22	168	134	196	3800	pending	32	20	34
9	3	45 to 140											
8	1	30 to 150											
7	1	5 to 105	Canyon	89.68	6.53	138	128	216	3600	pending	366	62	24
6	1	15 to 135	Canyon	86.27	6.86	488	106	214	6000	pending	336	38	62
5	1B	35 to 135											
4	2	65 to 90	Fan	87.38	6.87	10	332	236	600	pending	12	12	60
4	4	75 to 100	Upper										
4	6	65 to 100	Pay Zone										
4	2	90 to 115	Fan	88.24	6.65	64	226	248	2800	pending	54	24	64
4	4	100 to 125	Middle										
4	6	100 to 130	Pay Zone										
4	2	115 to 145	Fan	87.79	6.49	132	162	240	2400	pending	144	30	28
4	4	125 to 150	Lower										
4	6	130 to 175	Pay Zone										
3	1	45 to 90	Fan	89.90	6.63	70	132	206	4800	pending	158	38	52
3	3	60 to 100	Upper										
3	5	65 to 95	Pay Zone										
3	1	90 to 135	Fan	88.13	6.68	58	104	210	2600	pending	84	24	16
3	3	100 to 140	Middle										
3	5	95 to 145	Pay Zone										
3	1	135 to 160	Fan	86.89	6.86	126	88	224	4800	pending	44	22	16
3	3	140 to 185	Lower										
3	5	145 to 180	Pay Zone										
3	12E	70 to 100	Fan, Outlier	88.88	6.93	156	82	252	6400	pending	46	40	32
			Averages*	**88.26**	**6.77**	**141**	**149**	**224**	**3780**	**pending**	**128**	**31**	**39**
			Standard Deviation for Au	**1.21**	**Therefore, use the mean minus one standard deviation as purity standard = 870 fine**								

*Does not include 1,703.1 mg nugget

Mineral Resource Estimates

With contributions by Paul L. Martin

For the purpose of NI 43-101, Standards of Disclosure for Mineral Projects, the results of the Company's drilling program and resources have been reviewed, verified (including sampling ,analytical and test data) and compiled by 'Qualified Person', Robert Murray, R.G. and Jeffrey Keener, Geologist. In addition James Barker, CPG, and Paul Martin, P.E., have reviewed the available data, including drill logs, assay certificates and additional supporting information sources, and believe that the resource calculation was conducted in a professional and competent manner.

Lode

The Chandalar lode property and numerous prospects are in an exploration-stage and a drill evaluation to define a resource has not yet been done. Consequently, there are no hard-rock resources to report at this time.

Placer

<u>Resource estimation methods</u>

The Little Squaw Creek drill plan employs closely spaced holes, nominally 50 to 100 feet apart along lines spaced 500 feet apart. This plan was used by the Fairbanks Exploration Department of the United States Smelting, Refining, and Mining Company to examine and analyze the results of resource exploration and definition of Alaskan placer deposits targeted for dredging operations (Nordale, ca. 1942). Holes spaced 50 feet apart on lines spaced 500 feet apart was the exploration approach used also by the Goodnews Bay Mining Company to evaluate the Goodnews Bay platinum placer dredge field in southwest Alaska and the Colorado Creek gold placer, Kuskokwim Mining district, both are major placer deposits (Goodnews Bay internal drilling reports examined by one of the authors).

The mineral resource estimates for the Little Squaw Creek placer deposit are calculated by standard sectional resource-polygon methods and tested for accuracy using semi-variograms for grade and grade multiplied by thickness. The mineralized fluvial section within the proposed resource area averages 82 feet thick and the overburden averages 50 feet thick along a pay channel strike distance of 5,129 feet. The resource calculation method is a common resource estimate technique and was used successfully at the Valdez Creek Operations (located south of Fairbanks, Alaska) to determine resources, mine plans and reserves. The cross sectional method is described in detail in the <u>SME Mining Engineering Handbook,</u> Volume 1, pages 352 and 353 and in the <u>Open Pit Mine Planning and Design,</u> Volume 1, Fundamentals, pages 176 to 196. A cross section was prepared for each drill fence line and on section, the pay and overburden areas are determined based on the drill hole assays. Within the pay zone, pay polygons were drawn to define the limits of influence for a drill hole and are usually drawn one-half the distance between holes. To determine the appropriate search criteria and number of holes for measured, indicated and inferred resources a detailed Data Analysis (geostatisitcal evaluation) was prepared and previously described in this report.

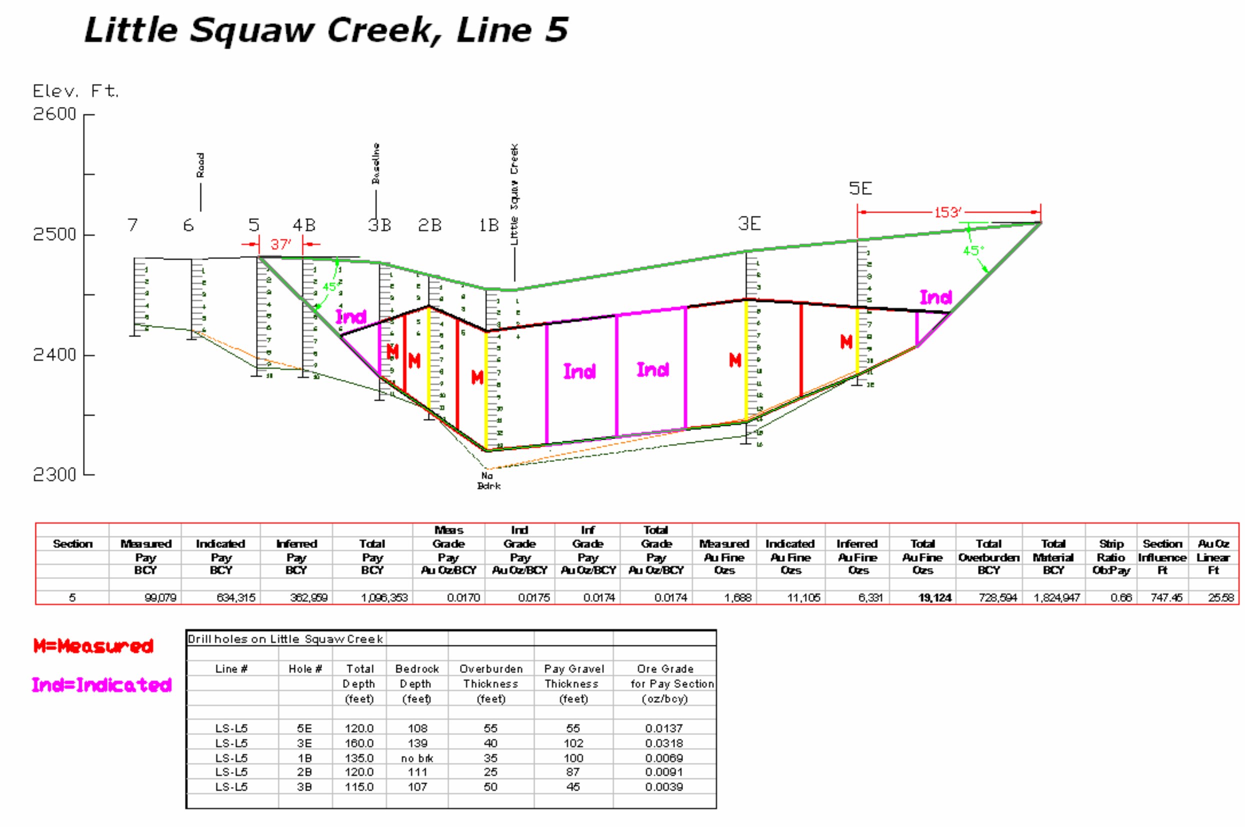
Drill holes were sampled on five foot intervals through the unconsolidated glacial till and fluvial sediments and penetrated at least several feet into bedrock. In some locations bedrock was not reached even with the full length of available drill rod (210 feet). Holes that were abandoned due to excessive caving were not used for the resource estimate, however, holes that penetrated potentially economic gold-bearing sections to a depth of 210 feet without reaching bedrock are used with this depth acting as the base of the pay section.

On Little Squaw Creek, 87 holes were completed to bedrock and nine holes were drilled to the maximum depth without reaching bedrock or drilled through the gold-bearing units and into older barren glacial deposits. Five holes were abandoned without penetrating the base of the pay section, thus were excluded from the resource estimate.

For the purpose of estimating placer resources, the gold-bearing section including two to three feet of bedrock of each drill hole (or the maximum depth of 210 feet) is composited and treated as a bulk deposit. This gives two mine sections: 1) the barren overburden section, and 2) the potentially economic gold-bearing or pay section. Profiles for each drill line are created and the top-of-pay and base-of-pay is drawn using a nominal fine gold cut-off grade of 0.004 opy (see Appendix C). Barren and sub-economic intervals within the pay section are included to derive the average grade for the drill hole giving the bulk amount of gold potentially available for extraction. Right and left limits to the resource blocks are selected where a clear truncation of the pay streak is observed on a drill fence due to diminished values of gold or a geologic feature such as steeply rising bedrock, otherwise they are inferred 50 feet beyond the end of a line that is open to further continuity of mineralization.

In order to determine the corresponding overburden volume and stripping ratio for each fence line, a 45 degree highwall is drawn to the surface on the lateral extents of each section. The interception point of the highwall to the surface is then plotted on plan view and a crest or pit limit is drawn on plan view. The highwall design angle will be further investigated based on future geotechnical evaluations.

Alluvial mineral resources can be estimated with other, more detailed methods, such as three-dimensional computerized block modeling. With subsequent phases of fill-in drilling, one of these may become more appropriate for Little Squaw Creek. The 2007 drill hole pattern can be applied in any of the methods. Limited historic data are available for old shafts and drilling in the 1990s, however, only holes drilled by Goldrich in 2007 are used to calculate placer resources. A typical cross section of a drill hole fence line with polygons between drill holes is as follows (Figure 32):



Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Meas Grade Pay Au Oz/BCY	Ind Grade Pay Au Oz/BCY	Inf Grade Pay Au Oz/BCY	Total Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY	Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
5	99,079	634,315	362,959	1,096,353	0.0170	0.0175	0.0174	0.0174	1,688	11,105	6,331	**19,124**	728,594	1,824,947	0.66	747.45	25.58

Drill holes on Little Squaw Creek

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L5	5E	120.0	108	55	55	0.0137
LS-L5	3E	160.0	139	40	102	0.0318
LS-L5	1B	135.0	no brk	35	100	0.0069
LS-L5	2B	120.0	111	25	87	0.0091
LS-L5	3B	115.0	107	50	45	0.0039

Figure 32. Typical cross-section showing drill hole fence line with placer resource polygons.

Units and Factors

All values reported for mineral resources are in Imperial units. Ore-grades or pay-grades are reported in fine troy ounces per bank cubic yard (opy). A bank cubic yard (bcy) is defined as a cubic yard of material in place before excavation. Placer material will swell from 125% to over 150%, depending on the material (clay, sand, and/or gravel), when excavated. Placer samples are empirically measured in loose volumes and then converted to bank volumes in consideration of the estimated swell factor. All reported grades incorporate a placer gold purity of 870 fine. Gold nuggets are cut at 150 milligrams and gold recovered from drilled intervals are adjusted for volume recovery of the sample. Conventionally, a fluvial placer deposit is described as having a right-limit and a left-limit as viewed downstream.

Geological Continuity

Comparison between drill line profiles, Line 1.2 through Line 11 (5,129 feet), demonstrates the stratabound, sub-horizontal, nature of the pay section. This construct is particularly evident below the canyon constriction defined by Line 5 and Line 6. Typical of stratabound deposits, there is a degree of predicable continuity when the deposit is viewed as a whole while ignoring the smaller-scale local variations of grade and thickness that are internal to the “pay section”. For instance, the width and overall grade of the pay section on Line 3 and Line 2, are quite predictable based on its drilling results on Line 4, and specifically relate to the geological correlation of Line 4 to Line 5. At the ‘exploration-stage’, larger, commercially exploitable placer deposits are typically predictable based on drill line spacing of 500 feet, and have been evaluated this way historically.

At a local scale, the truncated nature of individual fluvial channels/strata composing the Little Squaw placer deposit (see description in Deposit Types) is challenging for correlating specific high-grade pay streaks from line to line, however, most fluvial units are gold-bearing, giving the bulk-continuity of mineralization described above. Ultimately mine feasibility studies of the Little Squaw placer prospect will require at least some, more closely spaced lines to perform detailed analyses.

General Data

Although there is much variation from place to place, the average depth to bedrock under the Little Squaw Creek placer deposit is 137.2 feet. To further break this down into the two parts of the Little Squaw Creek placer deposit, the thawed canyon section of the paystreak is located from drill Line 6 to drill Line 11 and the frozen alluvial fan is located from drill Line 1.2 to drill Line 5. A detailed bedrock topography map (Figure 27) was prepared using all available drill hole data on 5 foot contour intervals. This bedrock interpretation is used as the base for interpolation of bedrock between holes on each fence line cross section.

Resource definitions

Measured Resource: The portion of a mineralized block or area having a high level of confidence that the grade and tonnage estimate is within close limits and that any variation from the estimate would not significantly affect the potential economic viability. The estimate is based on detailed and reliable samples obtained through appropriate techniques, e.g. RC drill holes. The locations of samples are closely spaced enough to confirm geological and grade continuity.

Indicated Resource: The portion of a mineralized block or area whose grade and tonnage can be estimated with a reasonable level of confidence. The estimate is based on samples obtained through appropriate techniques such as drill holes. The locations of samples are spaced too widely to confirm geological and grade continuity but are close enough to allow confident geologic interpretation and to assume continuity of grade. The confidence in the estimate is sufficient to allow evaluation of economic viability.

Inferred Resource: The portion of a mineralized block or area whose grade and tonnage can be estimated with a low level of confidence. The estimate is based on samples obtained through appropriate techniques such as drill holes. The samples have identified a mineral concentration or occurrence but the data is insufficient or too widely spaced to allow the geological and/or grade continuity to be confidently interpreted.

<u>Resource Classification</u>

At this stage, the experimental variography analysis in Table 16 below is used to establish a basis for resource influences for measured, indicated and inferred resource classification and to demonstrate continuity of pay section grade and thickness of the deposit. A reduced percentage of the calculated variography ranges for measured and indicated was used as summarized below.

Table 16. Summary of semi-variogram for range (Ao), Little Squaw Creek placer deposit.

SUMMARY OF SEMI-VARIOGRAM FOR RANGE (Ao)
CHANDALAR PLACER DEPOSIT

Variogram	Range Major feet	Minor feet	Percent Major feet	Minor feet	Resource Range Major feet	Minor feet	Resource Class
Grade	121.00	121.00	83%	83%	100.00	100.00	Measured
Thickness	361.00	180.50	0%	0%	-	-	
Grade X Thickness	680.00	340.00	74%	74%	500.00	250.00	Indicated
Grade X Thickness	680.00	340.00	100%	100%	680.00	340.00	Inferred

Major axis = 0 degrees = North/South
Minor Axis = 90 degrees = East/West

The calculated range criteria (from variography) shown in Table 16 is consistent with the continuity of the deposit pay thickness and grade illustrated graphically (and by averaging section data) in the cross sections and longitudinal section analysis illustrated and discussed in the Data Verification portion of this report. The continuity of the pay gravel thickness and grades have been established by averaging thickness and grade for each cross section within the mining and resource limits and graphing the pay and overburden thicknesses on a longitudinal section of the deposit over a pay channel strike length of 5,129 feet (see Figure 27 and Figure 28 for the plan and long section views of the average section pay gravel thicknesses). Over a length of 5,129 feet, the sectional average pay gravel thickness (for 13 cross sections) averages 80 feet based on drill holes and 82 feet based on the weighted average from pay polygons. The average grade over the entire strike length also illustrates continuity of grade confirmed by the Data Analysis geostatistics.

Based on the Data Analysis and the continuity of the composited drill hole pay thickness and grade, the resource classification or levels of confidence have been divided into three categories; measured, indicated and inferred.

<u>Placer resources</u>

In 2007 GRMC initiated a placer drilling exploration program consisting of 107 holes (101 on Little Squaw Creek) totaling 15,304 vertical feet. This drilling discovered significant placer mineralization underlying lower Little Squaw Creek. The deposit consists of perched pay streaks on glacial sediments in the Little Squaw Creek canyon and within a large buried pre-glacial fan below the mouth of the canyon.

Resource calculations as of February 9, 2009, for measured and indicated volumes in bank cubic yards (bcy) and fine gold ounces per bcy for mineralized gravel are summarized in Table 17.

Table 17. Measured and Indicated Resources.

GOLDRICH MINING COMPANY 2/9/2009
LITTLE SQUAW CREEK ALLUVIAL DEPOSIT
MEASURED AND INDICATED RESOURCES

Resource Status	Total Pay Gravel BCY	Grade Pay Gravel Au Oz/BCY	Total Au Fine Troy Ozs
Fan			
Measured	1,136,376	0.0243	27,622
Indicated	5,308,654	0.0239	126,857
Subtotal	6,445,030	0.0240	154,479
Canyon			
Measured	453,130	0.0272	12,316
Indicated	2,203,440	0.0247	54,481
Subtotal	2,656,570	0.0251	66,797
Total	9,101,600	0.0243	221,276

An inferred resource was also calculated as of February 9, 2009 (Table 18):

Table 18. Inferred Resources.

GOLDRICH MINING COMPANY 2/9/2009
LITTLE SQUAW CREEK ALLUVIAL DEPOSIT
INFERRED RESOURCES

Resource Status	Total Pay Gravel BCY	Grade Pay Gravel Au Oz/BCY	Total Au Fine Troy Ozs
Fan			
Inferred	830,750	0.0196	16,271
Subtotal	830,750	0.0196	16,271
Canyon			
Inferred	570,916	0.0365	20,822
Subtotal	570,916	0.0365	20,822
Total	1,401,666	0.0265	37,093

Preliminary Assessment

By Paul L. Martin, P.E.
Contributing authors Robert Pate, Geological Engineer, Robert Murray, R.G., and Jeffrey Keener, Geologist, and James Barker, C.P.G.

Cautionary Statements
Pursuant to NI 43-101 Section 2.3 (2) and 2.3 (3) measured, indicated and inferred resources are used in this preliminary assessment of the Little Squaw Creek Alluvial Deposit. This project is in the 'Exploration Stage' and the preliminary assessment is in no way intended to be a 'Prefeasibility Study.' The preliminary assessment is a scoping study to be used to validate the continued funding of the project for additional exploration and development activities based on a positive outcome of the preliminary assessment of the current total resources. Mineral resources, including measured, indicated and inferred resources, which are not mineral reserves, do not have demonstrated economic viability.

The preliminary assessment includes inferred resources that have not been sufficiently drilled to have economic considerations applied to be categorized as reserves. Until there is additional drilling to upgrade the inferred to measured and indicated resources, there can be no certainty that the preliminary assessment will be realized.

Objectives
The mine plan, mining method and preliminary assessment study replicates mining methods utilized at the mined-out Valdez Creek placer deposit, which is of comparable size and which the author was employed as the Chief Mine Engineer and Mine Superintendent during the 1980's. The Valdez Creek placer produced over a half million ounces of raw gold mostly by surface mining methods. The author has used the same surface mining and pay washing techniques for the Little Squaw Creek preliminary assessment, with the use of boiler driven steam pads to thaw pay gravels at the wash plant and steam injection for plant wash water to allow mining and washing during sub zero temperatures. The Valdez Creek deep alluvial deposit was a year round operation in discontinuous permafrost mining conditions just below the Arctic Circle (between Cantwell and Paxton on the Denali Highway in Alaska).

This study is the first in a series of development studies for the project assessing the potential viability of a conventional open-pit mining operation on the alluvial property using long-term average metal prices. The operating and capital costs estimated in the study were developed to be reasonable estimates within industry benchmarks. The study is intended to quantify the project's cost parameters, which will, in turn, be used to guide ongoing exploration and engineering work and to define the optimal scale and method of the operation for a Prefeasibility Study.

A surface mine plan and preliminary assessment was prepared based on the total resources for the Little Squaw alluvial gold deposit (Table 19) on Little Squaw Creek, Chandalar Mining district, Alaska (see cautionary statement above). The mining method is also discussed as a part of this section of the technical report.

Resource Summary

Table 19. Summary of the mine plan volumes, grade, fine gold ounces and strip ratio.

GOLDRICH MINING COMPANY 2/9/2009
LITTLE SQUAW CREEK ALLUVIAL DEPOSIT
MEASURED, INDICATED AND INFERRED RESOURCES

Resource Status	Total Pay Gravel BCY	Grade Pay Gravel Au Oz/BCY	Total Au Fine Troy Ozs	Overburden (waste) BCY	Total Material BCY	Strip Ratio Ob:ore
Fluvial Fan						
Subtotal	**7,275,779**	**0.0235**	**170,751**	**7,006,021**	**14,281,800**	**0.96**
Gulch						
Subtotal	**3,227,486**	**0.0271**	**87,619**	**2,291,873**	**5,519,359**	**0.71**
Total	**10,503,265**	**0.0246**	**258,369**	**9,297,893**	**19,801,159**	**0.89**

Discounted Cash Flow Analysis (DCF)

Based on the results of the preliminary assessment in Martin, et. al., 2009, the mine plan discounted cash flow generates a positive 19.51% internal rate of return (IRR) for the startup capital investment amount of $23.1 million (including pre-stripping) over a mine life of 13 years.

The DCF analysis is run at a gold price of $800/oz per fine gold ounce and determines that the full cost per fine gold ounce is $670 and the cash costs per fine ounce of gold is $441. The breakeven full cost per fine gold ounce determined in the DCF analysis is $616 per gold ounce.

The preliminary assessment suggests that the deposit may offer a return on investment at today's gold metal price ($940 per fine ounce on March 6, 2009) and is breakeven at approximately $616 per ounce gold. Since the preliminary assessment indicates that a bulk surface alluvial project may be economically viable at Little Squaw Creek, it is recommended to conduct in-fill development drilling to firm up the inferred resources. Based on successful drilling, add the inferred resources to the Mine Plan and conduct a preliminary Feasibility Study to convert the measured and indicated resources at the Chandalar placer deposit into proven and probable reserves pending a positive return on the Preliminary Feasibility Study and DCF. Table 20 below is a summary of the Life-of-Mine economics.

Table 20. Life of mine economics.

LIFE OF MINE (LOM) DCF FINANCIALS		
Minimum Mine Life (Years)		13.0
Total Gold Produced		258,369
Average annual gold production		19,875
Price of Gold/Oz	$	800.00
LOM Net Revenues	$	202,561,487
LOM Operating Profit (loss) before taxes	$	80,952,735
NET CASH FLOW	$	33,337,430
Discount Rate		5.00%
Net Present Value (NPV)	$	18,495,172
Internal Rate of Return (IRR)		19.51%
Ave Cash cost/Au Oz =	$	441.85
Ave Full cost/Au Oz =	$	669.69
Pay Back Years =		4.67
LOM Strip Ratio =		0.89
Start up Capital	$	23,082,631
Mine Life Capital	$	33,889,212

Internal Rate of Return (IRR) and Net Present Value (NPV) Sensitivity Analysis

A sensitivity analysis was prepared on the internal rate of return (IRR) for gold price, fuel price, mine unit cost, plant unit cost and capital (including sustaining capital) by varying costs by plus and minus (+/-) 10%, 20% and 30%. A sensitivity analysis was also prepared for net present value (NPV) of net cash flow (NCF) at a 5% discount rate varying gold price from $640 to $1,120 per fine ounce. Refer to Table 21, A, B, and C below for the results of the sensitivity analysis.

Table 21A. Sensitivity analysis.

GOLDRICH MINING COMPANY - LITTLE SQUAW ALLUVIAL GOLD DEPOSIT
%IRR SENSITIVITY GRAPH DATA ENTRY

	-30%	-20%	-10%	BASE	10%	20%	30%
Capital Costs $M	$ 23.72	$ 27.11	$ 30.50	$ 33.89	$ 37.28	$ 40.67	$ 44.06
Cost of Mine/bcy	$ 2.80	$ 3.20	$ 3.60	$ 4.00	$ 4.40	$ 4.80	$ 5.20
Cost of Plant/bcy	$ 4.68	$ 5.34	$ 6.01	$ 6.68	$ 7.35	$ 8.01	$ 8.68
Cost of fuel/gal	$ 2.77	$ 3.16	$ 3.56	$ 3.95	$ 4.35	$ 4.74	$ 5.14
Price of gold/oz	$ 560	$ 640	$ 720	$ 800	$ 880	$ 960	$ 1,040
brekeven gold price =		$ 616.00					

GOLDRICH MINING COMPANY - LITTLE SQUAW ALLUVIAL GOLD DEPOSIT

	-30%	-20%	-10%	Base($800)	10%	20%	30%
%IRR ($M Capital)	31%	27%	23%	20%	16%	13%	9%
%IRR ($Mine/bcy)	24%	23%	21%	20%	18%	16%	14%
%IRR ($Plant/bcy)	25%	23%	21%	20%	17%	15%	13%
%IRR ($/gal fuel)	23%	22%	21%	20%	18%	17%	16%
%IRR ($/Oz Au fine)	-7%	3%	11%	20%	27%	34%	41%

GOLDRICH MINING COMPANY - LITTLE SQUAW ALLUVIAL GOLD DEPOSIT
NPV SENSITIVITY GRAPH DATA ENTRY

Gold Price	$640	$720	$800 Base	$880	$960	$1040	$1120
NPV @ 5% ($ Millions)	$ (2.73)	$ 8.29	$ 18.50	$ 27.10	$ 36.19	$ 45.28	$ 54.35

(Net Present Value of Net Cash Flow from Pro Forma Discounted Cash Flow

Table 22B. Sensitivity analysis.

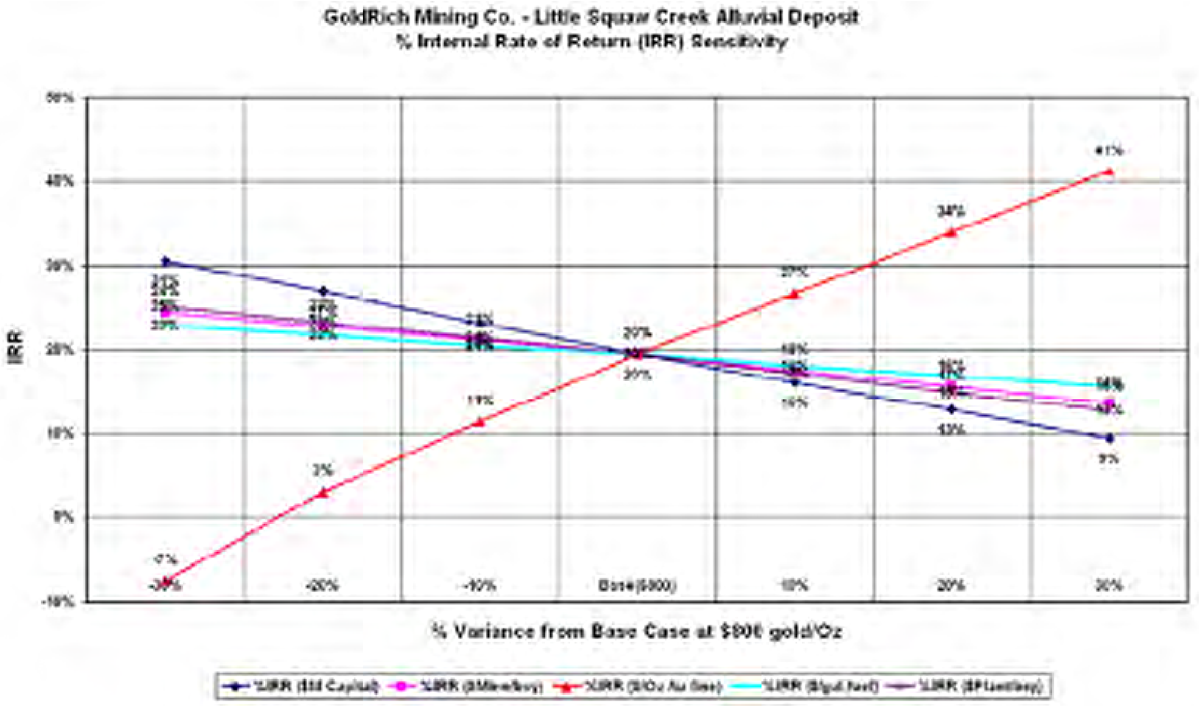


Table 23C. Sensitivity analysis.

Capital and Operating Costs

Capital cost estimates for the preliminary assessment cash flow include permitting, archeological clearances, working capital, geotechnical, dewatering, concurrent reclamation analysis, plant, camp, settling ponds, power, mine equipment including capital rebuilds, water diversion, closure and demobilization costs. The preliminary assessment is considered conceptual at this time as not all capital and operating cost estimates have detailed engineering designs to back up capital cost estimates including engineering of the stream diversion, process plant, permitting and settling ponds. For this reason the study, at this time, is conceptually prepared to determine an order of magnitude estimate of the potential economic viability of the measured, indicated, and inferred resources (see cautionary statement).

A summary of the capital cost estimates used in the preliminary assessment (Table 24) is as follows:

Table 24. Capital cost summary.

Goldrich Mining Company - Little Squaw Alluvial Deposit		
Life-of-Mine Capital Cost Estimates		**Total**
Permitting	**$**	**1,250,000**
Water Diversion/Steam Pad	**$**	**1,965,625**
Cat Train Mobilization+Demob	**$**	**2,400,000**
Archeological Clearances	**$**	**500,000**
Geotechnical and pit dewatering	**$**	**1,600,000**
Closure	**$**	**750,000**
Development Drilling	**$**	**1,800,000**
Tank Farm	**$**	**200,000**
EPCM/Due Diligence	**$**	**400,000**
Mine	**$**	**14,772,712**
Plant	**$**	**4,465,625**
Camp	**$**	**1,389,625**
Fairbanks Office/Apartment	**$**	**905,000**
Ponds	**$**	**965,625**
Concurrent Reclamation	**$**	**525,000**
Working Capital ($4 million in Yr 1 & 2)	**$**	**-**
Total Capital	**$**	**33,889,212**

Operating cash costs are based on a surface mine plan, haul cycle analysis, drill and blast cost analysis, including actual quotes for fuel, equipment, explosives, operating supplies with delivery to the remote mining site by either air (landing strip at the mine site) or by dozer train. Remote labor rates and burdens were used which are consistent with other remote mining operations in the Arctic region of Alaska. Operating unit costs (Table 25) are summarized below:

Table 25. Operating unit (BCY) cost.

Goldrich Mining Company
Conceptual Economic Scoping Study Operating Unit Costs

		Labor $/BCY		Material $/BCY		Total $/BCY
Winter Stripping*	**$**	**1.22**	**$**	**2.78**	**$**	**4.00**
Summer Sluicing**	**$**	**3.07**	**$**	**3.61**	**$**	**6.68**

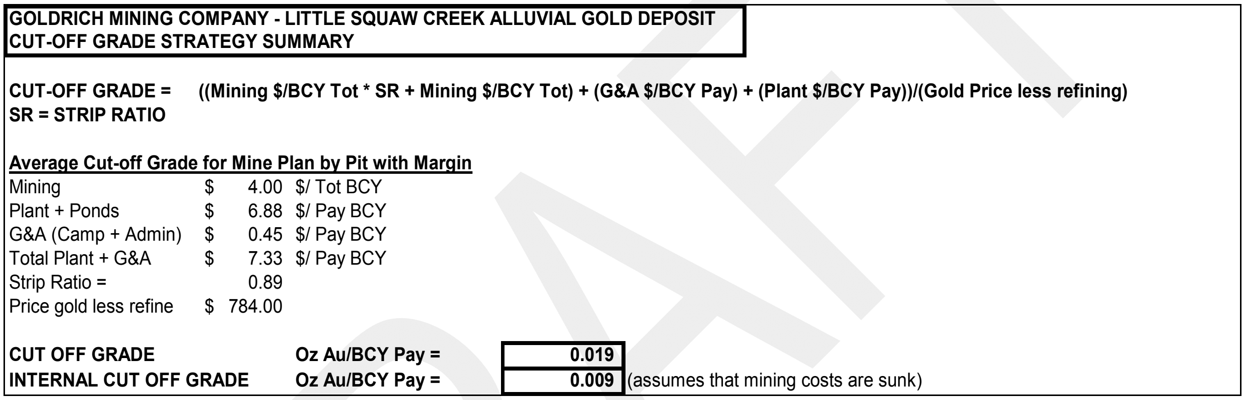
*** $ per overburden BCY BCY = bank cubic yard**
**** $ per pay gravel BCY**

All applicable Federal and State income taxes are included in the discounted cash flow analysis. Gold refining and transportation costs are included. A buyout of a 2% NSR royalty is included.

Cut-off Grade Strategy (opy)

A cut-off grade strategy was used to limit the resources to within the internal cut-off grade value. The internal cut-off grade assumes that low grade waste (overburden material) will be hauled to the pit limits for disposing either to a waste dump or as backfill into mined out areas. The drill, blast, load and haul costs of the low grade/waste material are assumed to be sunk, and the incremental haul for this material to the wash plant versus the waste dump plus the cost of washing and a profit is then compared to the recovered value of the low grade material at the pit limit. If the low-grade material can cover the incremental mining, processing, and general and administrative (G&A) costs, then this material is processed through the wash plant (meets the internal cut-off criteria). A summary (Table 26) of the internal (design) cut-off grade and external (full) cut-off grade calculations based on preliminary assessment values for mining, G&A, processing, gold price and recovery are as follows:

Table 26. Cut-off grade determination.



GOLDRICH MINING COMPANY - LITTLE SQUAW CREEK ALLUVIAL GOLD DEPOSIT
CUT-OFF GRADE STRATEGY SUMMARY

CUT-OFF GRADE = ((Mining $/BCY Tot * SR + Mining $/BCY Tot) + (G&A $/BCY Pay) + (Plant $/BCY Pay))/(Gold Price less refining)
SR = STRIP RATIO

Average Cut-off Grade for Mine Plan by Pit with Margin

Mining	$	4.00	$/ Tot BCY
Plant + Ponds	$	6.88	$/ Pay BCY
G&A (Camp + Admin)	$	0.45	$/ Pay BCY
Total Plant + G&A	$	7.33	$/ Pay BCY
Strip Ratio =		0.89	
Price gold less refine	$	784.00	

CUT OFF GRADE	**Oz Au/BCY Pay =**	**0.019**	
INTERNAL CUT OFF GRADE	**Oz Au/BCY Pay =**	**0.009**	(assumes that mining costs are sunk)

Surface Mining Methods

Mining the Little Squaw Creek placer will be accomplished by conventional open pit methods using blast hole drills, trucks, and loaders/excavators. The type and cost of the mining equipment is shown in Table 27 below:

Table 27. Mining equipment capital cost.

GoldRich Mining Company
Goldrich Mining Company Draft Mine Plan and Cash Flow - Sectional Resource
Mining Equipment Capital Cost Summary

1/29/09 plm
PRELIMINARY ASSESSMENT

Item	**Year 1 and 2**	units
CAT quote furnished by Bob Pate/CAT/SANDVIK		
Mining Equipment		
Loaders/Excavator		
385CL*	$ 865,022	1
980H	$ 460,000	1
988H*	$ 971,421	1
Subtotal	$ 2,296,442	3
Sales Tax	$ -	
assembly/freight	$ 90,000	
Subtotal/capital repair	$ 2,386,442	
Dozers		
D10T*	$ 1,223,626	1
D8T*	$ 686,816	1
Subtotal	$ 1,910,442	2
Sales Tax	$ -	
assembly/freight	$ 60,000	
Subtotal/capital repair	$ 1,970,442	
Blade		
Used 14G	$ 300,000	1
Sales Tax	$ -	
freight/assembly	$ 30,000	
Subtotal/capital repair	$ 330,000	
Trucks (40 ton, 6 WD, Articlulated with eject)		
740	$ 3,048,759	5
Sales Tax	$ -	
assembly/freight	$ 150,000	
Subtotal/capital repair	$ 3,198,759	
Drills (hammer)		
D25KS Drilltech	$ 917,266	1
Used Drill	$ 458,633	1
Sales Tax	$ -	
freight/assembly/hammer	$ 100,000	
Subtotal/capital repair	$ 1,475,899	
Sub Total CAT	$ 9,361,542	13
***Other Equip + Rebuild**	$ 1,404,231	
Grand Total	$ 10,765,773	
Other Equip =	15%	

*(contingency light plants, tail gates, small mobile equip, water truck, service truck, powder truck, skid loader, fork lift, hydroseeder, etc.)

All above price quotes were obtained in 2009 from NC Machinery, the Caterpillar Tractor dealer in Fairbanks, Alaska and others. The assembly costs were estimated on the cost of trucking the equipment 250 miles to Coldfoot, Alaska where it would be assembled and tested. Coldfoot is the starting point of the winter trail that would be used to “dozer train” the equipment to the project site.

All diesel fuel and explosives were priced in Fairbanks with cost figures for both being delivered from Fairbanks by DC-6 sized planes.

A mining season 245 days long was used in the calculations. Of the 245 days, 92 days were considered “winter stripping” where only overburden was moved by drill, blast, and haul. The periods of winter stripping begin March 15th to April 30th and again October 1st to November 15th. The rest of the mining season, 153 days, from May 1 until September 30th is spent mining pay gravel and where needed, with equipment availability, more overburden. The plant is placed on care and maintenance between mid November to mid March.

Operations are two 12 hour shifts/day, seven days per week. Crew rotation is two weeks on, one week off, using three crews housed on-site in a company man camp. Personnel average in camp during the summer months are 35 people. During the "winter stripping" season 39 people would be in camp. Personnel wages used in calculations were union wages for Fairbanks, plus a 20% remote site factor used and a 40% payroll burden.

Haulage distance was assumed to be level, with a one way haul of 3,300 feet when hauling either pay gravel or waste. Loading will be accomplished using both the 988 loader and the excavator mining two faces with four haul trucks running. The fifth truck will be standby, for use when other trucks need maintenance or repairs. Haulage cycle times were prepared using 50 minutes of work/hour for trucks. In a 12 hour shift the fleet of four trucks could haul 11,421 yd^3 with a 45% swell or 22,842 yd^3 per day.

Overburden haulage used in calculations was 14,087 bank cubic yards (bcy) hauled in a 24 hour period. During the 92 day "winter stripping" season 1,296,000 bcy would be removed from the pit. In Year 1, only pre-stripping is shown. The mine plan utilizes a 45-degree high wall slope and includes a geotechnical and dewatering program. Haulage ramps from the pit will be no more than 10 percent gradient. Pay gravel hauled per year (season) is 864,000 bcy.

Blasting calculations used a drill pattern 15 foot (spacing) by 13 foot (burden) and 30 foot deep holes with a powder factor of 1.2 pounds/yd^3. The drilling rate was 90 feet/hour. With this scenario between 13,000 and 14,000 bcy of material in a 24 hour period can be drilled. As there is no extra capacity in the drilling program with just one drill, a second used drill will be purchased for backup. Blasting was used in all "winter stripping" and for 28 days during the summer pay gravel mining months. The two person dedicated blasting crew will be shifted to other work during the summer months. The remainder of the time (125 days) summer heat will melt the frozen gravels enough to be ripped and dozed for loading, reducing explosive costs. Two dozers working can push to the loading equipment as needed. As the site is north of the Arctic Circle, the sun never sets during the summer months contributing to the melt rate.

A steam pad 300 feet by 300 feet, heated by water from boilers will be located adjacent to the process plant. The steam plant will melt frozen gravels prior to running through the process plant. The conventional sluicing process facility will be located inside an insulated metal building. Moving the pay gravel from the steam pad to the process plant feeder will be handled by the Cat 980 loader and 864,000 bcy of pay gravel will be processed during the five-month summer sluice season. Process water back will be re-circulated from the settling ponds to the process plant. A boiler will be used to inject steam into the return water.

Other Relevant Data

All data known to be available on the Chandalar Mining district have been reviewed as part of the earlier technical report (Barker and Bundtzen, 2004), which in turn was used to prepare the present document. All relevant data since 2004 were supervised and reviewed by the authors.

Interpretation

Regional Geology

The Chandalar Mining district, within the Coldfoot terrane, includes regional greenschist facies-metamorphosed Proterozoic to Paleozoic metasedimentary and meta-igneous rocks. A nearly flat to gently northward-dipping décollement surface separates the north-directed Upper Plate sequences from those of the Lower Plate. The Upper Plate hosts most of the known gold occurrences as well as recently identified disseminated low-grade sections of bulk-tonnage style gold mineralization. Due to regional compression, a conjugate system of west-northwest, northwest, and northeast striking, high-angle, deep-seated faults cut the district. The west-northwest faults are the primary mineralization control but intersections with the northeast faults are now seen as highly favorable.

Most mineral occurrences in the Upper Plate are hosted in a gray-black carbonaceous fissile rock, termed the Mikado Phyllite, that is typically highly folded and deformed, locally exhibiting a crenulated texture. This unit occurs as large mappable elongate bodies of dark chloritic fine-grain rock closely associated with the shear zones.

Age of the thrust surface separating the plates may relate to earlier crustal shortening predating the deep-seated mineralization but this is conjectural at present. The presence of mineralization at the Pallasgreen prospect, located in the Lower Plate, is suggestive that the vein systems cut across the thrust, however, the abruptly truncated east strike extensions of the Pioneer and Crystal veins do not cut Lower Plate rocks. This important structural question is unanswered. Therefore, it remains unknown if the mineralized systems extend to considerable depth.

Surficial Geology

Prior to the Pleistocene glacial advances there was a more extensive weathering surface at 5,000 to 5,500 foot levels; this surface constituted the present Chandalar Mining district. A paleo-surface remnant is presently confined to a small area near the Summit and Kiska prospects, a broad ridge above the old Mikado Mine, and a series of adjoining sculptured knife ridges that divide the local watersheds. Ancestral drainages, including Big Squaw and Little Squaw Creeks, Little McLellan and Nugget Creeks, were immature second-order streams that formed relatively large alluvial fans on the base level lowland to the north. Location of the fluvial fans was, in part, controlled by a series of east-west trending resistant bedrock units including greenstone sills that buttressed the high paleo-surface to the south from the Squaw Lake lowlands. These bedrock units created knick-points that caused a marked change in gradient of stream channels that cut through the sills and created loci for placer gold accumulation.

At the onset of the Pleistocene period, glaciation initially resulted in trunk glaciers that followed the ancestral river valleys of the upper forks of the Chandalar River southward out of the high elevations of the Brooks Range. The glacial advances bifurcated and lower energy branches of the glaciers encroached upon the north flank of the Chandalar district, covering the Squaw Lake lowland. Pre-glacial surficial features were subsequently buried under ice and ultimately lateral moraines, which include exotic till, and meltwater silt, clay, and glaciofluvial marginal deposits. The buried pre-glacial fluvial fan on Little Squaw Creek is well defined on drill lines1.2 to 5.

2007 drilling demonstrated that the gold-bearing pre-glacial fluvial gravel in the lower reaches of Little Squaw Creek was not scoured by the glaciers; rather, it is preserved under the till. A similar scenario is inferred on lower Big Squaw and Nugget Creeks. Consequently, below the 2,800 foot elevation there are two distinct ages of placer deposits, the pre-glacial fluvial system and the overlying Pleistocene till and complex interglacial fluvial sediment deposition.

At the end of each Pleistocene glacial advance gold-bearing placer deposits formed in channels cut into the top of the glacial till. The rich gold-bearing gravel mined from the Mello Bench and gravel mined in the modern stream between the 2,500-foot and 2,700-foot elevations were in perched fluvial channels in the upper glacial section. Drilling on the east of lines 3 and 4 also indicates a late-glacial or early post-glacial gold-bearing bench. In contrast the auriferous gravel on Big Creek and the portion of Tobin Creek that was not glaciated formed as more conventional bedrock placers.

Deposit Model Discussion

Lode Deposits

The meta-sediment-hosted mesothermal orogenic quartz vein deposit model with high-grade ore shoots remains valid, although most of the known auriferous zones or systems (i.e., Pioneer, Mikado, Eneveloe, Kiska, Summit, Uranus, and Pallasgreen) now appear to comprise zones of discontinuous, pinching and swelling, pulverized quartz lenses, ore shoots, quartz stringers, and fault zones (**Error! Reference source not found.**). Note that this style of mineralization is similar to the Pioneer (Figure 15) but contrasts to banded veins, e.g., Little Squaw (Figure 16).

Figure 33. Eneveloe 200 Level shear zone hosted, contorted, highly pulverized quartz, clay and wall rock fragments cemented with ice.

Some vein features are mineralized and some are not. A second but related group, the Little Squaw veins, the Crystal, Star, Indicate-Tonapah, McLellan, Rock Glacier, Grubstake, Jackpot, and at least a portion of Bonanza-Jupiter veins, appear to be more contemporaneous, semi-persistent quartz veins, subparallel with but more distal from the shear zones.

There are vein systems that appear gradational between the two mineralization types. They tend to intercept or cross the major shear zones at slight angles, 2° to 5°. As a consequence, where the systems (e.g., Pioneer and Summit) are within the shear zones, recurrent fault movement results in highly distorted lenses of pulverized quartz and wall rock fragments in a clayey gouge matrix. One-to-several-thousand feet along strike, these vein systems take on the characteristics of the second class of more persistent veins, represented by the Grubstake and Prospector East prospects, which occur west on the Pioneer system, and the Bonanza-Jupiter and Big Creek Bowl veins that occur to the west and east, respectively, of the Summit system. The distal vein segments, lying outbound of the shear zone, are not further sheared by the recurrent post-mineralization movements and compositional banding that grades into ribbon texture is preserved. In a somewhat similar manner the Eneveloe shear on Robbins Gulch hosts highly pulverized quartz lenses (**Error! Reference source not found.**) that extend eastward to where they splay into six or more persistent banded veins at the Rock Glacier. Consequently on each of the vein-system examples, the degree of repeated movement on the major shear zones controls the style of vein composition.

Recurrent movement observed near the intercept of the shear-hosted first group of veins and the major shear zones appears to have developed sufficient permeability that locally allows wider zones of lower grade deposition of mineralization. Consequently, lateral subordinate zones of sheeted and stockwork auriferous veinlets subparallel with the larger veins occur nearby. It has not yet been determined if the lower grade mineralization is cotemporaneous with the larger quartz veins. An excellent example of this is exposed in Trench #41 of the Mikado mineralized system where intermittent sheeted and stockwork zones containing 0.25- to 1.9 g Au occur as multiple sets or swarms, each individually 10-to 25 feet thick, and within several hundred feet of the Mikado footwall zone.

A vertical component to the intensity of mineralization is now suspected on several of the major prospects. Where the Eneveloe vein system passes over the topographically high Eneveloe saddle, the veins contain only trace levels of gold, but they are strongly auriferous at lower elevation exposures to either side of the ridge, the Robbins Gulch mine workings on the west and the Rock Glacier prospects on the east. At the Mikado, stronger mineralization including the old mine workings are found mostly below Trench 3E at an elevation of 4,600 feet. Southeasterly, on the opposite side of St. Mary's Pass the St. Mary's mineralization is also found below 4,600 feet. On both sides of the mountain northwesterly oriented zones of magnetic low fields are closely associated with these areas of mineralization, and suggest pyrrhotite destruction due to alteration. Magnetic high fields flank the northwest-oriented mineralized structures.

At most Chandalar prospects there is a poorly understood association with an over-lying or flanking, altered but un-mineralized, red-weathering schist that is slightly to moderately magnetic. The magnetic expression of the capping schist appears to be due to disseminated magnetic pyrrhotite. It overlies or abuts trough-like, northwest-oriented, variably mineralized, low-magnetic fields (e.g., magnetic schist near the Summit Mine (adjoining drill hole 12 and trenches 8, 10), vein systems in Big Creek Bowl (both northeast and southwest sides), Ratchet Ridge (drill hole 33), Crystal (drill hole 30), and the disseminated and sheeted mineralization at Aurora Gulch. At none of these locations has mineralization been found in or structurally above this schist unit. Based on the magnetic surveys, the mineral occurrences confined below this schist unit appear hosted in local greenschist-facies phyllite and quartz chlorite epidote schist stratigraphy that dips moderately to the north and east. A spatial association exists, for instance, between the 95 foot-thick zone of low-grade mineralization cut in RC hole SUM 12 which apparently dips northeastward and likely represents the same mineralized structure that daylights and exhibits the pronounced soil Au-As anomaly above the Rock Glacier. A continuing northeast projection at a -14° to 15° dip would underlie the Rock Glacier, outcrop at the Aurora prospect, and intersect the Little Squaw Creek bedrock upstream of Mello Bench. No significant placer has been found in the creek above this location but rich placer occurs below it. The implication of a northeast control and a strata-bound aspect to mineralization at Chandalar, likely inter-related to the northwest shear structures, is unclear and investigation continues.

The presence of gold-antimony mineralization at the Chiga, the highest elevation prospect in the district, is recognized but not understood. The Chiga prospect occurs southwest of the mineralization cut in drill hole SUM 12 described above. Antimony can occur in the epizonal levels of an orogenic system; it can also represent a distinctly separate stage of mineralization. Lesser levels of antimony occur in the Summit system; elevated soil antimony forms an apparent geochemical halo over the Aurora Gulch area.

At Aurora Gulch a body of at least low-grade mineralization associated with narrow quartz lenses, stockwork, and disseminated gold values are present in carbonaceous chloritic phyllite. Mineralization varies to sheeted veinlets in the overlying quartz-chlorite schist. Criteria for this type of mineralization seem to require a capping rock (e.g., at Aurora Gulch a silicic blocky weathering meta-sandstone or massive greenstone sills), the presence of carbonate in upper level rocks, and a proximal set of underlying deep-seated northwesterly (100°-to-120°-striking) shear zones. Additionally, at Aurora Gulch, fault zones oriented 070° and 145° intersect within the prospect area and represent the same orientation of the regional conjugate fault set at Chandalar. Pervasive hematitic alteration as hematite spotting, sericite and minor carbonate occurs in the schist directly below the capping rock and above the auriferous zones. This type of meta-sediment bulk tonnage gold mineralization has not been identified in the past at Chandalar but is analogous to the mineralization found at Sukhoi Log (Large, et al., 2007). While overall grade and size are entirely unknown at Aurora, there is potential for additional similar discoveries in the district.

Lastly, the greenstone sills and dikes are suspected of hosting mesothermal auriferous alteration zones although no actual occurrences have yet been identified. Mineralized meta-igneous float rock at the Northern Lights prospect was found at two tundra-covered locations.

Where lower grade auriferous zones (0.2 to 1.0 ppm Au) occur in proximity to the major gold-quartz veins, the combined mineralization occurs across wider intervals that suggest bulk tonnage potential. The multiple, mile-long vein systems at Chandalar offer a reasonable expectation to contain both high-grade and bulk mineable resources. The Aurora Gulch prospect is particularly intriguing, as it represents a new style of bulk tonnage mineralization. Furthermore, additional shear-hosted auriferous west-northwest vein systems may occur under the glacial sediments that mantel the north of the Chandalar district. Such a structure may have been encountered in bedrock at placer drill hole #3 on Line 4.8.

Placer Deposits

The model includes; 1) aggradational pre-glacial channel, terrace, and fluvial fan deposits, and 2) intra-glacial and post-glacial aggradational, stacked, truncated channel-segments that composite into placer deposits. The later type is formed by combined fluvial and glaciofluvial processes and is deposited on glacial false-bedrock. These processes result in deposition of significant thickness of auriferous sediment as exhibited at Little Squaw Creek and possibly within other drainages along the north side of the district. Aggradational deposition may have taken place at Big Squaw Creek, where similar placer resources are suspected. The distribution of Coldfoot sub-terrane rocks as favorable auriferous source rock and various historical accounts of placer gold suggest this general model should also be the focus of exploration at McLellan, Nugget, and several small creeks southeast of the Company's property that are tributaries to Middle Fork, including Rock, Tribley, Day, Dictator, and Agitator Creeks.

Little Squaw Creek is a second-order stream with valuable gold deposits concentrated in placers in its upper reach and in a wide alluvial fan placer where it exits the canyon (Figure 17). Similar geologic settings are inferred at other northeast-flowing streams draining the district. A recent paper by Russian placer geologist Yuri Goldfarb proposes to reclassify placer deposits found in northern latitudes based on source, morphology, and dynamic ("lithomorphodynamic") processes that influence the character of placer gold particles and placer gold deposits (Goldfarb, 2007). His classification can be extrapolated to generalize about size and grade and, thus, to economic parameters of placer deposit classes. A large body of field data from exploration and mining projects, mostly Russian, but some Alaskan, served as his basis. Under his scheme, the Little Squaw placer deposit would be classified as an "aggradational placer" due to its close proximity to source rock, steep gradient, high variability of gold grain size, great thickness of gold-bearing gravel, and stacked, complex lithofacies with an overprint of an "erosional placer", which is actively eroding through the aggradational placer. Examples of this type of placer deposit where productive mining has taken place include the Hogum, Osceola, and Manhattan placers of Nevada (Vanderburg, 1936) and the Greater Kuranakh placer in the Aldan gold province of northeastern Russia (Goldfarb, 2007) and others described in Deposit Types of this report. Goldfarb states that "the aggradational placers are the most realistic targets of long term economic development in the near future."

Big Squaw Creek is interpreted to have been glaciated in its upper reaches and only small shallow placers of limited economic potential have formed on bedrock in the valley floor. In contrast, the two 2007 scout holes drilled on the lower reaches of the creek encountered thick deposits of gold-bearing fluvial sediments. Grade increased at depth, suggesting that the lower valley may host deeply buried, large aggradational placers that have not been destroyed by cirque glaciers descending the creek valleys nor the trunk glacier in Squaw Lake lowlands. Spring Creek may represent a former fluvial or ice marginal channel of Big Squaw Creek; and contain valuable placer deposits preserved below the glacial tills. Nugget Creek might be analogous to pre-glacial Little Squaw Creek, since it is actively eroding gold-bearing source rocks (Northern Lights and Pallasgreen prospects).

Tobin Creek is more typical of interior Alaska placer deposits and would be classed as an erosional stream placer, possibly modified or partly destroyed below its confluence by a cirque glacier flowing down Woodchuck Creek. Big Creek is, similarly, a more typical erosional stream placer, but may have escaped any modification or destruction by glaciation.

Conclusions

The Chandalar is a significant gold district that, because of its remote arctic location, has not been previously evaluated. GRMC has acquired mineral rights to nearly the entire district. The authors find that numerous mineralized deep fault-related structures are present that have individual strike-lengths of a mile or more with variable but persistent gold concentrations. It is reasonable to expect that bulk mineable-style mineralization may be found with continued exploration. Erosion of these mineralized systems has liberated placer gold into all of the surrounding drainages. The placer exploration program of 2007 has identified significant resources on Little Squaw Creek. These resources occur in:

1) fluvial channels that are pre-glacial, lying on bedrock; intra-glacial, occurring on false bedrock of semi-cemented glacial sediments, in turn buried by younger glacial till and glaciofluvial deposits; and post-glacial, deposits in the modern stream bed and in shallow marginal bench channels; and in
2) pre-glacial fluvial fans that contain most of the resource indentified to date.

Preliminary exploration of Big Squaw Creek indicates a similar geological setting with auriferous source rock. Gold was found in two scout holes, which suggests that a potential exists to discover and define a placer resource on Big Squaw Creek similar to or larger than the one found on Little Squaw Creek. No work was done at McLellan or Nugget Creeks, but these creeks may represent similar exploration targets. Tobin Creek was also examined but apparent glaciation may have destroyed pre-glacial resource potential.

Recommendations

Overview

Between 2004 and 2007 technical geologic and mineral exploration programs conducted on Chandalar property held by GRMC have addressed both lode mineralization and placer deposits. Lode exploration work included geological mapping and prospect-level mapping, geochemical sampling, magnetic surveys, trenching, and reconnaissance-level (7,763-foot, 39-hole) reverse-circulation drilling. Placer reconnaissance mapping was followed by a 15,300-foot, 107-hole reverse-circulation drill evaluation in 2007. The foregoing report summarizes these ***early exploration phase*** programs and their findings and provides the basis for recommendations about whether the exploration should continue. Specific recommended tasks listed below are part of an ***advanced exploration and resource evaluation program***:

Placer Drilling

The authors recommend continued placer resource evaluation and develop, as warranted, a placer mine capable of processing 400 cubic yards of gravel per hour and producing 15,000 to 30,000 oz raw gold per year.

A successful placer development, if properly evaluated and engineered, can move into production in a short time frame. An active placer mine can logistically support the continuing hard-rock exploration and subsequent development of valuable lodes. Permitting placer exploration and mining activities in Alaska is routine and streamlined through an efficient regulatory review known as the Annual Placer Mining Application (APMA). Placer mining in Alaska is encouraged and is a commonly permitted activity, thus well-engineered permit applications are processed by regulatory agencies in timely fashion.

Placer Exploration Drilling of Little Squaw Creek

The 2007 exploration placer drilling successfully located and initiated the definition of an important placer deposit on Little Squaw Creek with measured and indicated mineral resources of 221,276 oz of fine gold. Additionally, an inferred resource of 37,093oz fine gold was estimated. Extent of the placer resource is open to the north and south, as well as possible inclusion of left and right limit bench deposits. It is the opinion of the authors that a mineable deposit is present and amenable to conventional extraction methods and that, with more drilling, it is possible to expand the Little Squaw placer deposit by an additional 50 percent over the current estimate.

Initially, pay gravel would come from a mine pit on the Little Squaw Creek fluvial fan feature. It would be possible to expand capacity to process pay gravel from a pit developed on Big Squaw Creek using a central processing facility located just north of the airfield. Haul distances to the farthest ends of both prospective pit areas are less than 6,000 feet.

The order of development of placer deposits is important to accommodate drainage, tailings disposal, and settling ponds. The largest and most accessible currently defined placer resource is located on the alluvial fan portion of the Little Squaw pay streak. Logically, this lower area would need to be mined before the upper canyon area could be mined. Therefore, it is recommended to implement Phase 1, resource evaluation drilling program on lower Little Squaw Creek as soon as practical.

Phase 1: Resource Drilling of the Little Squaw Creek Alluvial Fan

This proposed Little Squaw alluvial fan placer resource evaluation drill program will complete the 2007 drill lines that are open to further mineralization or holes that were abandoned due to wet surface conditions (Figure 34). It will upgrade indicated and inferred resources to measured resource class. Importantly, it will define the resource limits and provide the necessary criteria for mine design. Specifically, the recommended work is:

- Complete existing lines LS-L1.2, -L2, -L3, and -L4 and extend all lines to the east and west, maintaining initial hole spacing (approximately 25 holes); and
- Explore north of LS-L1.2 by stepping-out 600 feet to drill line LS-L0 with 15 holes spaced 100 feet apart. If encouraging results are found then five scout holes should be drilled on LS-L1N, 500 feet to the north (approximately 20 holes).

This program of 45 holes totals an estimated 8,000 feet. The time required to complete the field program is about 50-60 days using a single day shift at a cost estimated to be $985,600 (Table 26).

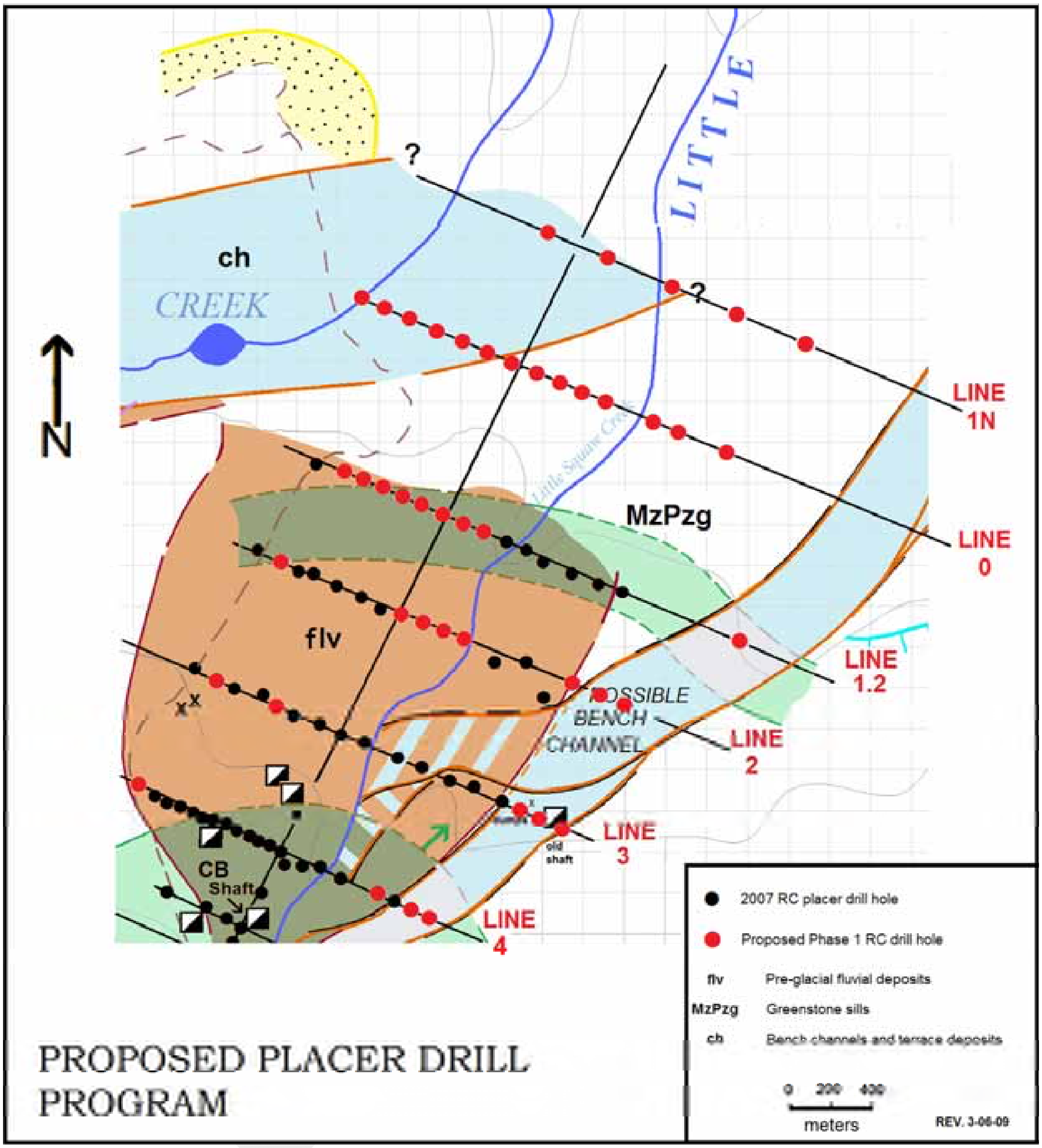


Figure 34. Location of proposed drill holes for Phase 1 placer drill program.

Table 28. Budget for Phase 1, Resource Evaluation of the Alluvial Fan, approximately 45 vertical holes, totaling 8,000 feet.

Item/Task	Units/Cost per unit	Cost
Pre-field contract and permitting	15 days @ $600/day	$ 9,000
Contract drill cost, RVC, 6-inch, 300-foot capability	16,000 feet @ $45/ft	400,000
Mob/de-mob equipment transport		5,000
Mob/de-mob, C-130 (staged from Coldfoot)	4 sorties @ $30,000/sortie	120,000
Mob/de-mob, standby	5 days @ $2,000/day	10,000
Contract geological support, single shift		
Drill Supervisor-Geologist (includes report writing and resource estimation)	150 days @ $600/day	72,000
Rig Geologist (includes report writing and data entry)	150 days @ $500/day	60,000
2 Field assistants	2 x (100 days @ $300/day)	36,000
Field and sampling supply		10,000
Camp support, meals, lodging, travel (air taxi & ATV) for drill crew (2) and geological crew (4)	6 x (100 days @ $150/person-day)	54,000
Fuel, 200 gallons per day	20,000 gallons delivered @ $6.00/gal	72,000
Placer sample analysis	3,200 samples @ $30/ea	48,000
Project management (work-comp., insurance, recruiting and contract management)	10% of sub-total	89,600
Total		**$985,600**

Phase 2: Future Resource Placer Drilling

These future programs are not deemed essential to the initial development of a mining operation on Little Squaw alluvial fan but they could add substantial mine life to the over-all placer operation. Phase 2 will constitute a continuing series of seasonal programs that will be individually designed and budgeted prior to each drilling season. The order in which they are done is dependent upon drill results of Phase 1.

Phase 2-A: In-Fill Drilling for Improved Resource/Reserve Calculations on the Little Squaw Alluvial Fan

Final design of Phase 2-A will be determined by drill results of Phase 1, and will consist of:

- In-fill between completed lines with additional lines (LS-L1N, -L0.5N, -L0.5, -L1.5, -L2.5, and -L3.5) to create a line spacing of 250 feet and a hole spacing of 100 feet (approximately 87 holes); and
- Complete LS-L4.6 to the east on holes spaced 50 feet apart and extend LS-L5 to the east with holes spaced 50 feet apart (approximately 11 holes);

Phase 2-B: Resource Evaluation of the Little Squaw Canyon

This drilling program will complete 2007 drill lines that are open to further mineralization or holes that were abandoned due to unstable drill pads. It will upgrade indicated and inferred resources to measured resource class and provide additional mineable resources to follow mining of the alluvial fan, and will consist of:

- Complete existing lines LS-L6, -L7, -L8, -L8.6, -L9, -L10 and -L11 and extend all lines to the east and to the west, as warranted, maintaining 50-foot hole spacing (approximately 45 holes); and
- Drill 5 holes on L-12; and

- In-fill between completed lines with additional lines (LS-L5.5, -L6.5, -L7.5, -L9.5) to create a 250-foot line spacing and a 50-foot hole spacing (approximately 45 holes).

Phase 2-C: Exploration Drilling on Big Squaw Creek and Spring Creek
The two scout holes drilled on Big Squaw Creek in 2007 yielded encouraging gold prospects, so more exploration drilling is warranted. A large placer gold resource could occur at depth in deposits similar to those discovered on Little Squaw Creek. Two lines are presently believed to be justified, with ten holes on each, spacing holes 100-to-200 feet apart. The line started on BS-L6-H3E should be completed to the west. The second line can be placed 1,000 feet up- or downstream, depending on the results from BS-L6. The depth to bedrock is unknown, but it is deeper than 210 feet; a minimum drill string of 300 feet should be available to complete these holes to bedrock. This program will require construction of a drill road up Big Squaw Creek.

In 2007, the one hole completed to bedrock on Spring Creek resulted in sparse, inconclusive data. Another attempt at drilling on Spring Creek should be made. If the creek proves to be barren of economic values, the drainage may be condemned for use as a pond to provide make-up water for a process facility and could be important for mining of Little Squaw canyon (Line 6 and higher). The ground surface is very wet and the unconsolidated sediments are at least partly, if not completely, thawed. Timing of drill exploration is critical because the ground must be frozen. Casing may be necessary to prevent collapse of the drill holes.

Placer Exploration: Specific Studies and Recommendations

Conduct regional placer reconnaissance, seismic surveys, define the geomorphic classification of the Chandalar placer deposits in comparison to other deposits worldwide, assess marketability for coarse size fraction of placer gold, and present specific recommendations based on the 2007 drilling program.

Placer Reconnaissance

The authors have described preglacial and inter-glacial placer mineralization at Chandalar. There is no comparable known deposit in the region but it is believed future exploration will benefit from continuing comparison to placer deposits worldwide.

The Company should undertake an evaluation of geomorphic features in the Chandalar region that suggest a similar sedimentation history as Little Squaw Creek. It is likely that additional occurrences of placer mineralization can be found, considering the glacial history and the extent of source rock erosion within the greenschist-facies Coldfoot subterrane. This topical work can be undertaken at any level of commitment by staff and contract personnel committed elsewhere in the program. Therefore no detailed budget is offered at this time.

- Evaluate known district placer deposits such as Tobin Creek and McLellan Creek.
- Explore for pre-glacial and ice-marginal channels along the south rim of Lake Creek.
- Examine other creeks that erode east-west shear structures.
- Compile a database of placer deposits and prospects in the Chandalar-Wiseman mining districts with an emphasis on lithomorphodynamic modeling.

Seismic Survey

A limited refractive seismic survey, about 9,000 line-feet over three or four 2007 drill lines and at least two lines across Big Squaw Creek, would allow evaluation of the technique's application as a placer exploration tool. If the efficacy of the geophysical method can be demonstrated, then additional surveys of Big Squaw Creek, plus Spring Creek, McLellan Creek, and possibly lower Nugget Creek can be planned. These data could be the basis to identify new drill targets and gain engineering data critical for developing drainage for a large-scale placer mining operation. The contract seismic survey budget estimate at this time is $30,000.

Technical Recommendations for Placer Drilling, Sampling, and Analysis

In general, the reverse-circulation drilling equipment and methods used in 2007 satisfactorily extracted placer samples from the maximum drill-string depth, 210 feet; however, six holes reached the maximum without penetrating bedrock. Future drilling operations on lower Little Squaw Creek and Big Squaw Creek should have at least 300 feet of drill pipe available for this deep ground.

The problem of thawing, unstable drill pads must be addressed. Construct drill pads with as little disturbance of the surface organic mat as possible, as usual, but if an excavation is required on frozen hillsides (cut and fill), the pad should be built no earlier than the day before the drilling equipment is moved onto the pad. This mandates that the necessary equipment (dozer, excavator, and operators) be dedicated to only this task. It is also imperative that these problem areas be identified, prioritized, and drilled as early in the spring as possible to reduce time lost because of stuck equipment and abandonment of drill pads.

In future placer drilling operations, it is recommended that the cyclone be replaced with a concentrator, such as a Denver Goldsaver, to process the placer samples as they are being produced from the hole. This method eliminates the hundreds of buckets, repeated bucket handling, and labor-intensive processing experienced in the 2007 drilling program. Results are known by the rig geologist immediately, by panning the samples in a tub next to the drill rig and counting colors. Pan concentrates are saved in labeled plastic bags and analyzed later, in a controlled environment or laboratory. This method is being used more commonly in Alaska with very reliable results. The sample volume can be measured by catching all tailings in a graduated tub. Some fine material will be lost as slimes over the lip of the tub, however, a slime loss factor can be derived by placing several tubs in-line to catch the overflow from each preceding tub and measuring the amount of settleable solids. A number of trials by drilling differing unconsolidated materials should be run to develop slime factors. This method has been used by one of the authors on a number of placer drilling projects in interior Alaska with confidence and satisfaction.

A quality control – quality assurance program should be instituted by introducing standards into the sample stream in the laboratory. Placer standards may be prepared by combining a known number of gold particles with blank material. This will test recovery of fine gold by laboratory technicians. Sample security in 2007 is considered satisfactory and the same measures should be employed in the future.

In 2007, special drill tooling (Symmetrix) and casing were mobilized to the Little Squaw airstrip, but were never used. It is possible that in thawed, caving ground where conventional reverse-circulation drilling methods fail (e.g., Spring Creek), this alternative tooling may prove successful. It is recommended to test the tooling and evaluate its performance.

Access drill roads for future drill explorations will be required. A drill road up the Big Squaw Creek valley beyond The Forks should be constructed when equipment is available. An access route to Nugget Creek and continuing on to the McLellan Creek placer area will be needed.

Trenching

Continue the trench program with emphasize on the St. Mary's Pass, Aurora Gulch, Summit (inc. Bonanza), Pioneer, and Chiga prospects. Trenching utilizing a Hitachi 200 excavator with a 36-inch quick-release bucket and interchangeable ripper tooth proved very successful. The machine readily navigated talus-covered slopes up to about 30 % grade or it could build access roads on steeper slopes. Trenching as deep as 12 feet was possible. In 2007, it was found that trenching, mapping, and sampling could be completed at a rate of about 300 feet-per-day when using a 3-person geologic crew plus operator. However, efficiency drops to near-zero during wet weather. Trenching requires adequate ground thaw and dry weather, so personnel and equipment must be scheduled to be available during this mid-summer climatic window. The -follow-up proposed project (Table 29) is designed to be completed in approximately one month. Anticipated costs, about $135 thousand, are presented in Table 30.

Table 29. Proposed Trenching Program

Prospect	East	North	Feet	Orientation	Comment/Target
	NA-27 Alaska datum				
St Mary Pass	^{4}47450 47350	^{74}91020 90850	600	N20°E	Old report of veins with + 1 oz Au/ton; center trench over old trench 7E as possible
Kiska	48850	91210 91150	200	N-S	Extend 2007 trench 16 south to cut several south veins
	48960	91230 91100	400	N-S	Extend 2007 trench 17 south to cut several south veins
	49065	91235 91125	350	N-S	Overlay RC hole KIS 19 to cut three possible veins
Pioneer	51290 51250	93640 93570	225	S30°W	Northwest ext. mineralized zone on Pioneer shear, add second trench to NW if warranted
Pallasgreen	52725 52705	94260 94230	75	S15°W	Deepen trench PG27 to bedrock on mag target, possible vein
	52740 52725	94330 94290	75	S15°W	Deepen trench PG28 to bedrock extend trench NE as needed on mag target, possible vein
Eneveloe	48615	92560	75	N30°E	Trench sample LS1977 as possible above gully
Aurora Gulch	49975	92860 92775	275	N-S	Test phyllite unit with Au-As occurrences. Expect variable frost and wet conditions
	n.a.		150	N15°E	Complete 2007 trench; Au-As in meta-carb rock
Jackpot	49450	93825 93810	50	N-S	Old caved adit, banded vein
Little Squaw West	49150	93510 93470	135	N-S	Steep slope, dry weather only, VG in float, anomalous soil samples
	n.a.		125	N10°W	Clean &sample old trench over hole LS-5 which cut south vein
Chiga	48850	91500 91625	410	N-S	Over trench 2007 trenches 14, 15 left open to thaw, stibnite-gold zone in larger soil anomaly
	48900	91475 91550	250	N-S	Will encounter permafrost, target is soil Au-Sb anomaly
	49000	91440 91525	280	N-S	Will encounter permafrost, target is soil Au-Sb anomaly
Summit	49400 49370	91800 91720	350	N20°E	Clean and sample CDC trc 6, vein w/ 0.6 oz Au/ton reported, extend SW if necessary
	49175 49190	91825 91750	300	N20°E	Clean and sample CDC trc 2, extend SW, target 100 level vein
	n.a.		175	N10°E	Extend 2007 Trench 8 N 75ft and S 100 ft
	n.a.		75	N10°E	Extend 2007 Trench 10 75 ft N, veinlet zone
	49900	91910 91810	325	N-S	Top trench hole SUM 12 which cut apparent sheeted veinlet zone with near vertical dip
Big Creek Bowl	49310 49315	91615 91630	50	N20°E	Re-open Trc BCB24, extend SW, possible sheeted vein zone from Trench 8 uphill
	49260	91410 91550	460	N-S	Re-open Trc BCB25 and extend to intended limits, may encounter landslide bedrock slab
	49470 49450	91660 91615	165	N20°E	Dry weather required, target is off-set main Summit vein, strong soil Au-As anomaly
Bonanza-Jupiter	48725 48775	92220 92350	490	N25°E	May be permafrost, target Bonanza vein and two possible side veins.
Indicate-Tonapah Ext'n	49725 49650	91250 91175	375	N25°E	Strong soil Au anomaly
UNASSIGNED			1,000		
TOTAL			**7,440**		

Table 30. Proposed Trenching Program Budget.

Item/Task	Units @ Cost/Each	Cost
Pre-field planning, contract and permitting	5 days @ $600/day	$ 3,000
Project leader 1 Geologist 1 Assistant/sampler 1 Equipment operator	30 days @ $600/day 30 days @ $500/day 30 days @ $300/day 30 days @ $450/day	18,000 15,000 9,000 13,500
Overhead	15% of Σ(salary)	8,325
Supplies (bags, misc.)		2,000
Assays on 8-foot (average) intervals	900 assays @ $25 each, incl met screen on 25%	22,500
Camp support with catered food, ATV support, camp air support	4 x (30 days @ $150/person-day)	18,000
Fuel, 40 gpd	1,200 gal @ $6.00/gal, delivered	7,200
Graphics and reports	10 days @ $600/day	6,000
Petrology and mineralogy	10 days @ $600/day	6,000
Laboratory fees	varied	2,500
TOTAL		**$131,325**

Lode Drilling Design Program

A core drill program should be designed and budgeted based on trench results from 2007 and the follow-up trenching recommended above. Evaluate the tonnage potential at Mikado, St Mary's Pass, Aurora Gulch, Pioneer, and Summit prospects; the results will be the basis for future recommendations of resource delineation drilling. Scout holes are recommended at the Rock Glacier, Chiga, Pallasgreen, Little Squaw, and possible Northern Lights west extension. Based on the coarse-gold nature of the quartz veins, a minimum of HQ-size drill tools should be fielded. Proposed drill sites, elevations and surface vein exposures of the targets should be surveyed prior to a drilling program.

As possible, drill sites should be chosen at locations generally accessible to a self-propelled, track-mounted core drill with dozer support. Several sites, such as Aurora Gulch and Pallasgreen, will require significant preliminary access development, coupled with reasonably fair weather. If possible, these access requirements should be developed prior to the year of drilling. The Company should pre-arrange to have the means of hauling water to drill sites where natural sources are remote. Springs at the Chiga and Rock Glacier prospects, and the old open-pit at Mikado, should be developed as water sources.

During negotiations with prospective drill contractors it must be understood that pulverized quartz veins and clayey gouge/shear zones will be encountered at all drill sites. At Chandalar the target zones likely include pulverized and clay-altered rock and quartz sand that are held in place by ice that will disintegrate in the circulating drill water. Mud additives will be required in order to retrieve a core sample. It is also likely that some holes will encounter open or ice-filled voids in the vicinity of the vein systems. All drilling will be in frozen ground.

Data Verification

Plan and execute laboratory and on-site testing of vein-hosted zones of mineralization to obtain repeatable estimates of gold grade where coarse gold grains are present. Samples of several hundred to five hundred pounds should be cut across the mineralized zones, then crushed and pulverized to passing 60 mesh. Equipment to handle this volume will have to be procured, as the GRMC sample preparation equipment at Tobin Creek is too small. Separations should be done on a small table (e.g., Gemini table or similar device) that can be regularly and efficiently cleaned. Free gold will be recovered and weighed, and concentrates must be cleaned and assayed due to gold possibly contained in sulfide minerals. Middlings should be restaged twice. Multiple splits of the tails should be assayed. Weights and assays should be calculated to determine the overall grade of the vein sample.

Where mineralized zones are exposed in open trenches a hand-held XRF device should be tested for reconnaissance use as well as for future core logging. Minimum detection ability is 1 ppm Au and about 100 ppm As. It can also detect useful elements such as Cd, Sb, Pb, Cu, and W. This equipment can be rented or purchased in Fairbanks.

Mineral Exploration

Continue exploration for potential bulk minable tonnage deposit(s) based on including lenses or ore shoots of gold-quartz veins with subparallel sheeted and stockwork quartz vein systems and metasediment-hosted disseminated or stratabound gold mineralization. Develop further understanding of the mode, structural control, and timing of mineralization. These studies are on-going and should be budgeted at approximately $125,000/year. Specific topical studies include:

a) petrography, SEM, fluid inclusion determinations, gold trace-metal content, and isotope (Pb, ^{18}O, ^{34}O) analyses of Chiga gold-antimony prospect and carbonate- and schist-hosted gold mineralization at the Aurora Gulch and Mikado prospects; compare to other prospects in the district to determine if these prospects represent a distinct and separate stage of mineralization and if they correlate to specific periods of metamorphism.

b) map N-S and E-W cross-sections over the Aurora Gulch-McLellan prospect area and compare stratigraphy, structure, metamorphic grade, path-finder minerals and geochemistry.

c) the role of a north-northeast-dipping strata-bound magnetic schist unit that occurs in the turbidite section at or near the top of higher grade mineralization at Aurora, Mikado, Summit, Chiga, and Ratchet prospects; i.e., can this unit be used as an exploration guide?

d) attempt to age-date and obtain geochemistry of the greenstone dikes and sills and determine original rock types;

e) determine if the Mikado Phyllite, host to many of the vein systems, is a meta-formational unit, a result of alteration, or possibly a form of mylonite. Use of elemental mobility ratios may be an effective determinant;

f) merge ground magnetic surveys of the southwest of Aurora Gulch and the Rock Glacier-Ratchet survey area. Additional closely-spaced lines will be necessary to define the apparent converging magnetic anomalies; the intersecting west-northwest Eneveloe shear, northwest Ratchet faults, the tentative northeast structure, and the swarm of auriferous quartz veins underlying the Rock Glacier. Surveys should recommend drill sites;

g) evaluate the possible multiple source(s) of gold forming the placers underlying Little Squaw Creek;

h) structural interpretation and age of mineralizing events that may determine if mineralization continues across the thrust surface between the Upper and Lower Plates; and

i) the possibility that east ridge is overlain by a northeast-plunging anticline of the Lower Plate and whether a Lower Plate contact truncates or overlies east extensions of Crystal and Pioneer vein systems.

Expand Lode Exploration

Conduct a regional exploration program to include the gold occurrences between Myrtle Creek on the west and the Middle Fork of the Chandalar on the east. Continue to evaluate the numerous outlying gold-quartz prospects and unevaluated shear zones throughout the district, particularly under the sediment cover in the north of the district. Specifically, evaluate the Kelty prospect in the west margin of the property and the Day, Weasel, and Tribley Creek area to the southeast. Helicopter support will be required.

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d. Evaluation and Recommendations, the Mikado Prospect, including the Big Tobin and St. Mary's Pass Areas, 2007.
e. Rock Glacier to Eneveloe Prospect Area, 2007.
f. Evaluation and Recommendations, Summit Prospect, including Bonanza-Jupiter, Big Creek Bowl, and Indicate-Tonapah Areas, 2007.
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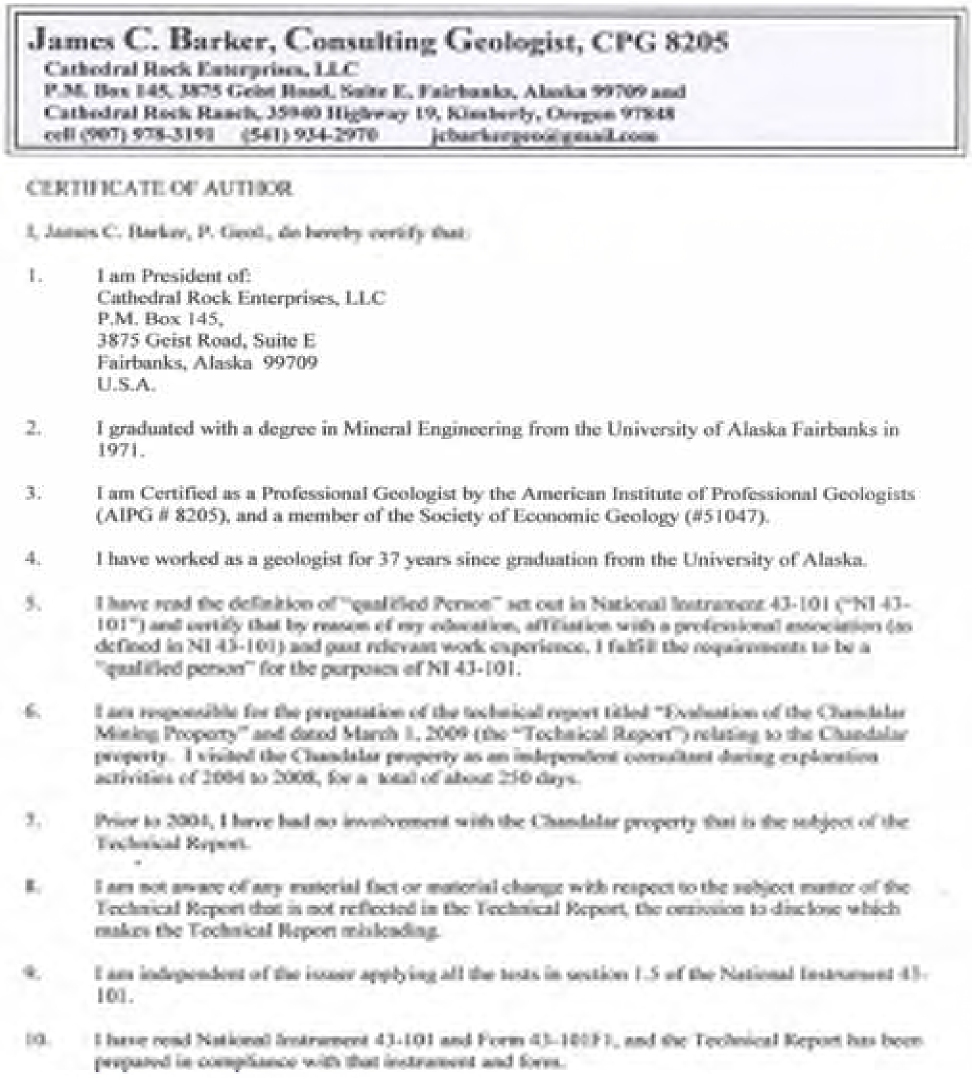
Appendix A. Authors' Qualification Statements

Appendix A-1. James C. Barker, CPG



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CERTIFICATE OF AUTHOR

I, James C. Barker, P. Geol., do hereby certify that:

1. I am President of:
   Cathedral Rock Enterprises, LLC
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2. I graduated with a degree in Mineral Engineering from the University of Alaska Fairbanks in 1971.

3. I am Certified as a Professional Geologist by the American Institute of Professional Geologists (AIPG # 8205), and a member of the Society of Economic Geology (#51047).

4. I have worked as a geologist for 37 years since graduation from the University of Alaska.

5. I have read the definition of "qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of the technical report titled "Evaluation of the Chandalar Mining Property" and dated March 1, 2009 (the "Technical Report") relating to the Chandalar property. I visited the Chandalar property as an independent consultant during exploration activities of 2004 to 2008, for a total of about 250 days.

7. Prior to 2004, I have had no involvement with the Chandalar property that is the subject of the Technical Report.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying all the tests in section 1.5 of the National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

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

Dated this 1st day of March, 2009.

Signature

JC Barker

James. C Barker

Appendix A-2. Robert B. Murray, RG

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CERTIFICATE of AUTHOR

I, Robert B. Murray, Registered Professional Geologist in the State of Oregon, #G0965, do hereby certify that:

1. I am owner of: Kingegan Mining, 1612 E.43rd Avenue, Eugene, OR 97405-4408.

2. I graduated with a B.S. Degree in Geological Sciences from the University of Oregon in 1982. In addition, I have obtained a M.S. Degree in Geological Sciences from the University of Oregon in 1994.

3. I am a member of the Geological Society of America.

4. I have worked as a geologist for a total of 27 years since my graduation from university.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, professional license from the State of Oregon, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible, with co-authors James C. Barker and Jeffrey O. Keener, for the preparation of all sections concerning the placer deposits within the technical report titled "Evaluation of the Chandalar Mining Property" and dated March 1, 2009 (the "Technical Report") relating to the Chandalar Mining Property. I was present on the Chandalar Mining Property for 111 days in May, June, July, August, and September 2007.

7. I have not had prior involvement with the property that is the subject of the Technical Report.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

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

Dated this 1st Day of March, 2009

Robert B. Murray

Robert B. Murray
B.S., M.S., Oregon Professional Geologist
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ROBERT B. MURRAY
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Appendix A-3. Jeffrey O. Keener

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CERTIFICATE OF AUTHOR

I, Jeffrey O. Keener, Contract Geologist, do hereby certify that:

1. I am President of:
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2. I graduated with a degree in Geology from the University of Alaska Fairbanks in 1991.

3. I am a member of the American Institute of Professional Geologists (MEM #0777) and a member of the Alaska Mining Association.

4. I have worked as a contract geologist for 17 years continuously, since graduation from the University of Alaska.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I do not adequately fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. I will pursue an upgrade of my AIPG membership to that of Certified Professional Geologist in 2009.

6. I am responsible for the preparation of portions of the technical report pertaining to placer sampling titled "Evaluation of the Chandalar Mining Property" and dated March 1, 2009 (the "Technical Report") relating to the Chandalar property. I visited the Chandalar property during exploration activities of 2006 and 2007, for a total of about 36 days.

7. Prior to 2006, I have had no involvement other than data review, with the Chandalar property that is the subject of the Technical Report.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying all the tests in section 1.5 of the National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

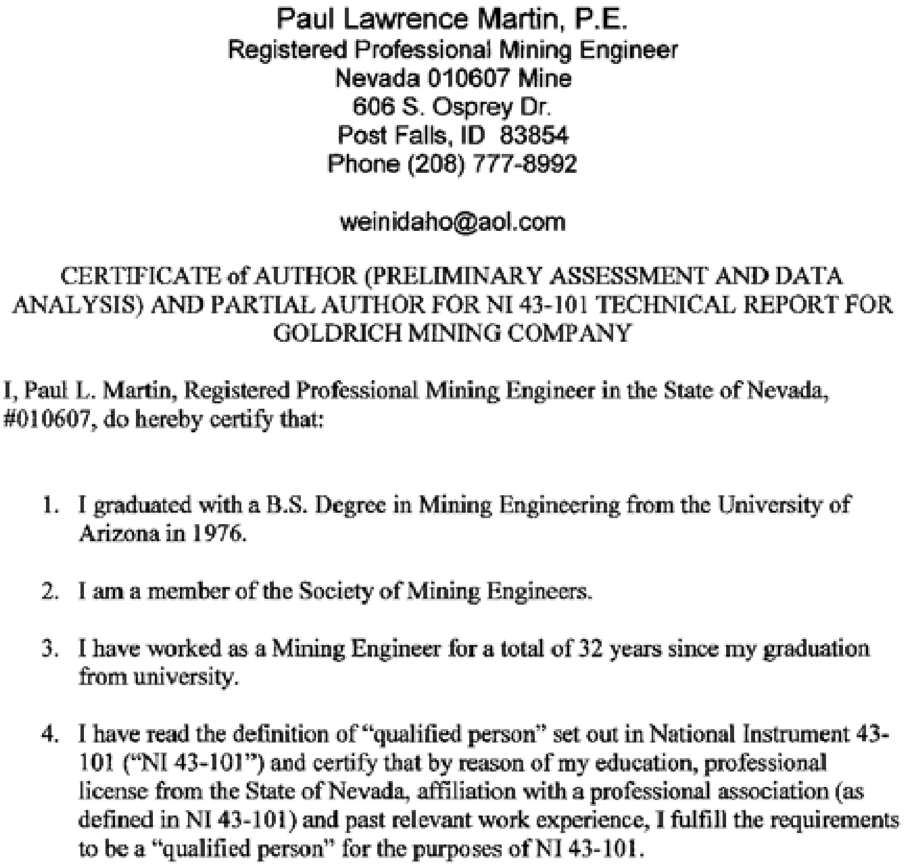
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 1st day of March, 2009.

____
Signature

Jeffrey O. Keener

Appendix A-4. Paul L. Martin, P.E.



Paul Lawrence Martin, P.E.
Registered Professional Mining Engineer
Nevada 010607 Mine
606 S. Osprey Dr.
Post Falls, ID 83854
Phone (208) 777-8992

weinidaho@aol.com

CERTIFICATE of AUTHOR (PRELIMINARY ASSESSMENT AND DATA ANALYSIS) AND PARTIAL AUTHOR FOR NI 43-101 TECHNICAL REPORT FOR GOLDRICH MINING COMPANY

I, Paul L. Martin, Registered Professional Mining Engineer in the State of Nevada, #010607, do hereby certify that:

1. I graduated with a B.S. Degree in Mining Engineering from the University of Arizona in 1976.

2. I am a member of the Society of Mining Engineers.

3. I have worked as a Mining Engineer for a total of 32 years since my graduation from university.

4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, professional license from the State of Nevada, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

total resources. Mineral resources, including measured, indicated and inferred resources, which are not mineral reserves, do not have demonstrated economic viability.

7. The Preliminary Assessment is not compliant with the US SEC, Industry Guide 7 for the Technical and Economic Study Requirements and per the Industry Guide 7 mineral resources should be referred to as 'other mineralized materials'.

8. I have not had prior involvement with the property that is the subject of the Technical Report.

9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

10. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

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

13. Dated this 1st Day of March, 2009

PAUL L. MARTIN
MINING
No. 10607

3/1/09

Paul L. Martin, P.E. Mining Engineering, Nevada Professional Mining Engineer #010607

Appendix B. Little Squaw Gold Mining Company Mining Claim Inventory

Appendix B-1. Ninety-Three Unpatented Alaska State Mining Claims Located 2003 to 2007.

The 160-acre claims were staked according to MTRSC staking regulations. This block of claims is NOT subject to a 2 percent royalty payable to Eskil Anderson.

GRMC Claim Number		ADL Number	Township & Range (Fairbanks Meridian)	Quarter of Section
1	312	641504	31N 3W	NW of 7
2	313	641505	31N 3W	SW of 6
3	314	641506	31N 3W	NW of 6
4	413	641507	31N 3W	SE of 6
5	414	641508	31N 3W	NE of 6
6	513	641509	31N 3W	SW of 5
7	514	641510	31N 3W	NW of 5
8	612	641511	31N 3W	NE of 8
9	613	641512	31N 3W	SE of 5
10	614	641513	31N 3W	NE of 5
11	615	641514	32N 3W	SE of 32
12	711	641515	31N 3W	SW of 9
13	712	641516	31N 3W	NW of 9
14	713	641517	31N 3W	SW of 4
15	714	641518	31N 3W	NW of 4
16	715	641519	32N 3W	SW of 33
17	716	641520	32N 3W	NW of 33
18	811	641521	31N 3W	SE of 9
19	812	641522	31N 3W	NE of 9
20	813	641523	31N 3W	SE of 4
21	814	641524	31N 3W	NE of 4
22	815	641525	32N 3W	SE of 33
23	816	641526	32N 3W	NE of 33
24	817	641527	32N 3W	SE of 28
25	910	641528	31N 3W	NW of 15
26	911	641529	31N 3W	SW of 10
27	912	641530	31N 3W	NW of 10
28	913	641531	31N 3W	SW of 3
29	914	641532	31N 3W	NW of 3

GRMC Claim Number		ADL Number	Township & Range (Fairbanks Meridian)	Quarter of Section
30	915	641633	32N 3W	SW of 34
31	916	641534	32N 3W	NW of 34
32	917	641535	32N 3W	SW of 27
33	918	645336	32N 3W	NW of 27
34	919	641537	32N 3W	SW of 22
35	1010	641538	31N 3W	NE of 15
36	1011	641539	31N 3W	SE of 10
37	1012	641540	31N 3W	NE of 10
38	1013	641541	31N 3W	SE of 3
39	1014	641542	31N 3W	NE of 3
40	1015	641543	32N 3W	SE of 34
41	1016	641544	32N 3W	NE of 34
42	1017	641545	32N 3W	SE of 27
43	1018	641546	32N 3W	NE of 27
44	1019	641547	32N 3W	SE of 22
45	1112	641548	31N 3W	NW of 11
46	1113	641549	31N 3W	SW of 2
47	1114	641550	31N 3W	NW of 2
48	1115	641551	32N 3W	SW of 35
49	1116	641552	32N 3W	NW of 35
50	1117	641553	32N 3W	SW of 26
51	1118	641554	32N 3W	NW of 26
52	1119	641555	32N 3W	SW of 23
53	1216	641556	32N 3W	NE of 35
54	1219	641557	32N 3W	SE of 23
55	1316	641558	32N 3W	NW of 36
56	616	645239	32N 3W	NE of 32
57	1020	645240	32N 3W	NE of 22
58	1120	645241	32N 3W	NW of 23
59	1214	645242	31N 3W	NE of 2
60	1215	645243	32N 3W	SE of 35
61	1217	645244	32N 3W	SE of 26
62	1218	645245	32N 3W	NE of 26
63	1220	645246	32N 3W	NE of 23
64	1317	553169	32N 3W	SW of 25
65	315	653068	32N 3W	SW of 31
66	415	653069	32N 3W	SE of 31

GRMC Claim Number		ADL Number	Township & Range (Fairbanks Meridian)	Quarter of Section
67	515	653070	32N 3W	SW of 32
68	316	653071	32N 3W	NW of 31
69	416	653072	32N 3W	NE of 31
70	516	653073	32N 3W	NW of 32
71	1514	653074	31N 2W	NW of 6
72	1414	653075	31N 3W	NE of 1
73	1314	653076	31N 3W	NW of 1
74	1318	653077	32N 3W	NW of 25
75	1715	653078	32N 2W	SW of 32
76	1615	653079	32N 2W	SE of 31
77	1515	653080	32N 2W	SW of 31
78	1415	653081	32N 3W	SE of 36
79	1315	653082	32N 3W	SW of 36
80	1816	653083	32N 2W	NE of 32
81	1716	653084	32N 2W	NW of 32
82	1616	653085	32N 2W	NE of 31
83	1516	653086	32N 2W	NW of 31
84	1416	653087	32N 3W	NE of 36
85	1717	653088	32N 2W	SW of 29
86	1617	653089	32N 2W	SE of 30
87	1517	653090	32N 2W	SW of 30
88	1417	653091	32N 3W	SE of 25
89	110	657650	31N 4W	NW of 13
90	111	657651	31N 4W	SW of 12
91	211	657652	31N 4W	SE of 12
92	1319	661131	32N 3W	SW of 24
93	920	661132	32N 3W	NW of 22

Appendix B-2. Seven Unpatented Alaska State Mining Claims Located Pre-2003.

These claims are NOT MTRSC and are NOT subject to a 2 percent royalty payable to Eskil Anderson.

	Claim Name	ADL Number	Date Recorded	Recording Document Number	Book:Page (Fairbanks Recording District)
1	Shamrock Lode	515468	08/31/1987	1987-018283-0	541:516
2	Rex Lode	515469	08/31/1987	1987-018284-0	541:518
3	Summit	515470	08/31/1987	1987-018285-0	541:520
4	Chandalar Lode	515471	08/31/1987	1987-018286-0	541:522
5	West Chandalar	515472	08/31/1987	1987-018287-0	541:524
6	Star East Fraction	515473	08/31/1987	1987-018288-0	541:526
7	Golden Eagle Fraction	515474	08/31/1987	1987-018289-0	541:528

Appendix B-3. Nineteen Unpatented Alaska State Mining Claims Located Pre-2003.

These claims ARE subject to 2 percent royalty payable to Eskil Anderson.

	Claim Name Location	ADL Number	Date Recorded	Recording Document Number	Book:Page (Fairbanks Recording District)
1	No. 2 Below Discovery Big Squaw Creek	319523	09/12/1972	011493-0	26:544
2	No. 3 Below Discovery Big Squaw Creek	319524	09/12/1972	011494-0	26:545
3	No. 4 Below Discovery Big Squaw Creek	319525	06/22/1973	007280-0	28:88
4	No. 5 Below Discovery Big Squaw Creek	319526	06/22/1973	007281-0	28:89
5	No. 6 Below Discovery Big Squaw Creek	319527	06/22/1973	007282-0	28:90
6	Spring Creek No. 4 Near Little Squaw Creek	319528	06/22/1973	007285-0	28:93
7	Spring Creek No. 3 Near Little Squaw Creek	319529	06/22/1973	007274-0	28:82
8	Spring Creek No. 2 Near Little Squaw Creek	319530	06/22/1973	007273-0	28:81
9	Spring Creek No. 1 Near Little Squaw Creek	319531	09/12/1972	011489-0	26:540
10	No.1 Below Discovery Little Squaw Creek	319532	06/22/1973	007284-0	28:92
11	Discovery Little Squaw Creek	319533	06/22/1973	007283-0	28:91
12	No. 2 Below Discovery Tobin Creek	515440	08/31/1987	018292-0	541:534-5
13	No. 3 Below Discovery Tobin Creek	515441	08/31/1987	018293-0	541:536-7
14	No. 4 Below Discovery Tobin Creek	515442	08/31/1987	018294-0	541:538-9
15	No. 4 Below Fraction Tobin Creek	515443	08/31/1987	018295-0	541:540-1
16	Discovery Woodchuck Creek	515444	08/31/1987	018296-0	541:542-3
17	No. 2 Above Discovery Little Squaw Creek	515445	08/31/1987	018297-0	541:544-5
18	Upper Discovery Big Creek	515447	08/31/1987	018299-0	541:548-9
19	No. 5 Below Upper Discovery Big Creek	515452	08/31/1987	018304-0	541:558-9

Appendix B-4. Twenty-three Patented Federal Mining Claims.

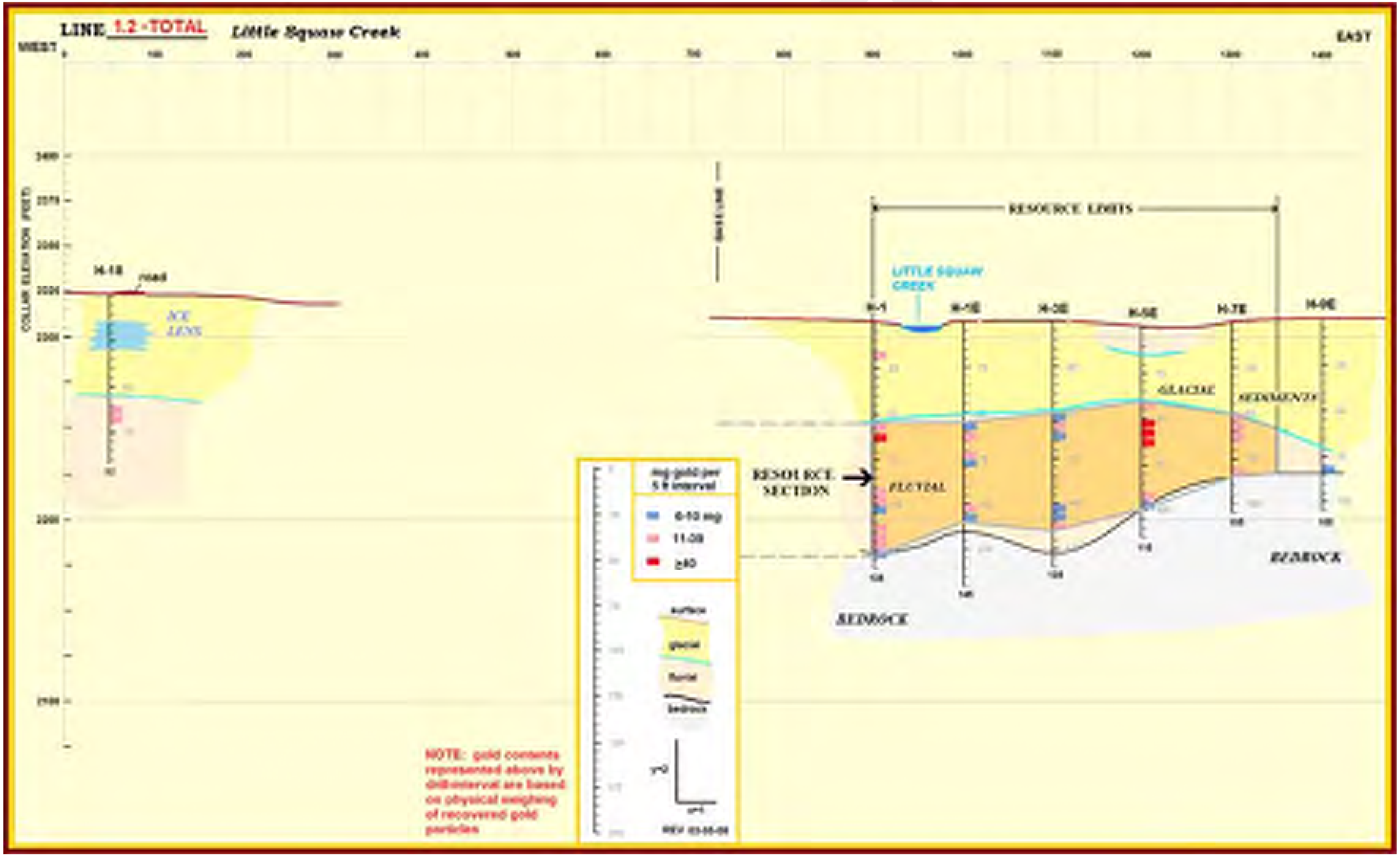
These Claims ARE subject to 2 percent royalty payable to Eskil Anderson.

Claim Name		Claim Group	Acres	U.S. Patent Number	Date Issued	U.S. Mineral Survey Number	BLM Serial Number	No:Vol:Book:Page (Chandalar Mining Precinct, now Fairbanks Recording District)
1	Little Squaw Quartz Lode	Little Squaw	96.215	1022769	01/23/1929	1746	AKF 001374	184:1:Miscel.Rec.:90
2	Big Squaw Quartz Lode							
3	Sine Lode							
4	Cosine Fraction Lode							
5	Crystal Quartz Lode							
6	Tobin Quartz Claim Lode	Mikado	58.964	1024558	03/20/1929	1745	AKF 001373	185:1:Miscel.Rec.:95
7	Mikado Lode Claim							
8	Little Mikado Lode Claim							
9	Golden Eagle Lode Claim	Bonanza Gold	61.446	1036358	04/19/1930	1995	AKF 001887	98:1:Deeds:137
10	Bonanza Lode							
11	Eneveloe Lode							
12	Star No. 1 Lode	Star	50.553	1036359	04/19/1930	1996	AKF 001888	95:1:Deeds:128
13	Star No. 2 Lode							
14	Star No. 3 Lode							
15	Cosine Lode Claim	Little Squaw	20.102	1036360	04/19/1930	1997	AKF 001889	99:1:Deeds:141
16	Crystal No. 2 Lode	Little Squaw	19.582	1036361	04/19/1930	1998	AKF 001890	100:1:Deeds:144
17	No. 1 Above on Little Squaw Creek Placer Mining Claim	Placer	15.718	1036362	04/19/1930	1999	AKF 0011891	97:1:Deeds:134
18	Jupiter Lode Claim	Bonanza Gold	37.209	1085903	09/25/1936	1629	AKF 003020	125:1:Deeds:176
19	Woodchuck Lode Claim							
20	Venus Lode Mining Claim	Bonanza Gold	20.655	1085904	09/25/1936	1630	AKF 003021	126:1:Deeds:179
21	Cosine No. 1	Little Squaw	41.101	1088433	02/16/1937	1628	AKF 003081	127:1:Deeds:181
22	Cosine No. 2							
23	Spring Creek Mill Site	Mill Site	4.961	1094946	01/06/1938	1633	AKF 003021A	130:1:Deeds:186

Appendix C. 2007 Little Squaw Creek Cross-Sections

Geologic cross-sections by J.C. Barker based on data provided by J.O. Keener and R.A. Murray.

Economic profiles by P.L. Martin.
(Note that cross-sections were not created for in-fill lines.)



Little Squaw Creek, Line 1.2

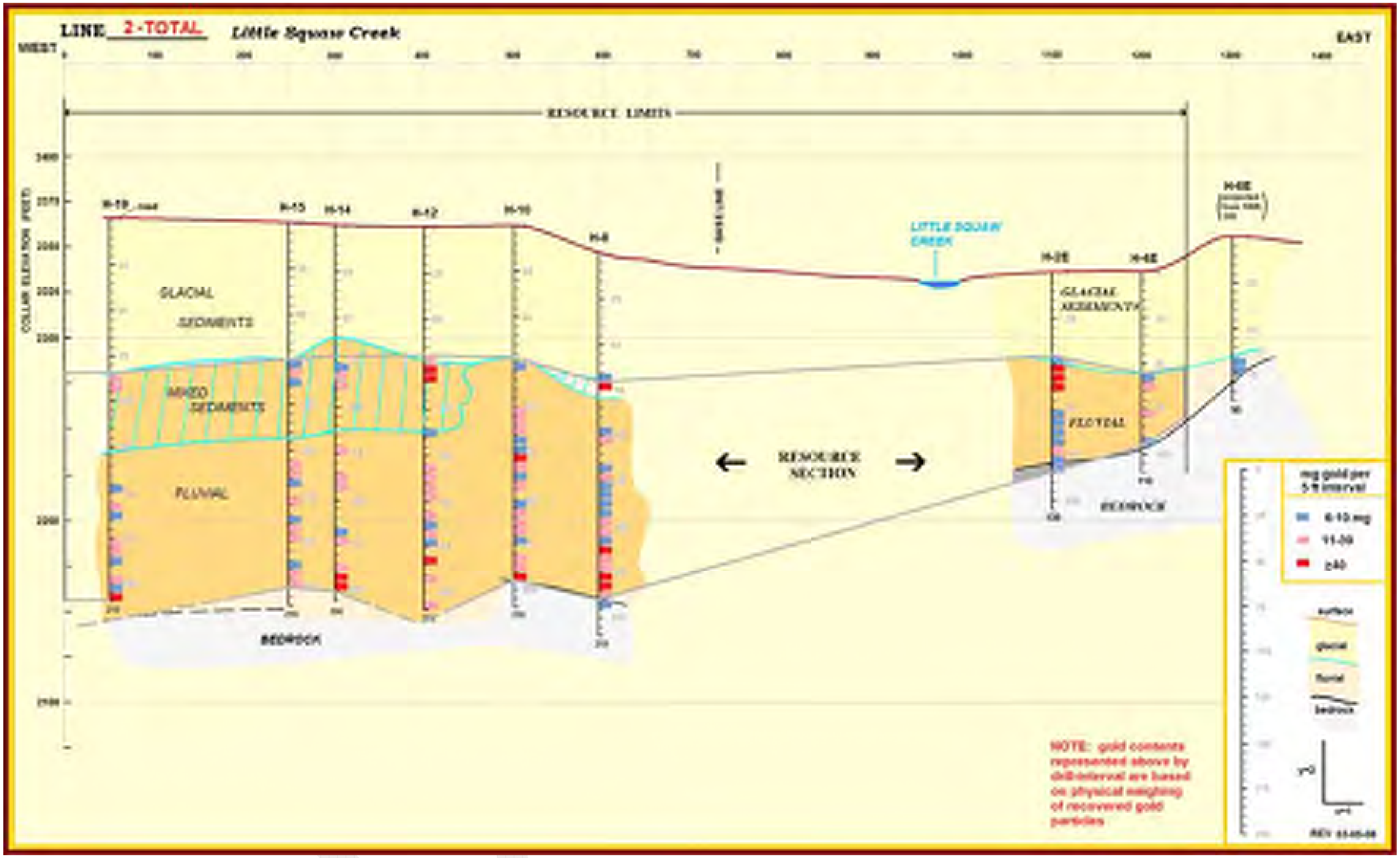
Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/CY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
1.2	210,903	311,643	28,319	550,865	0.0149	2,865	4,774	558	8,197	671,940	1,222,805

M=Measured
Ind=Indicated
Inf=Inferred

Drill holes on Little Squaw Creek

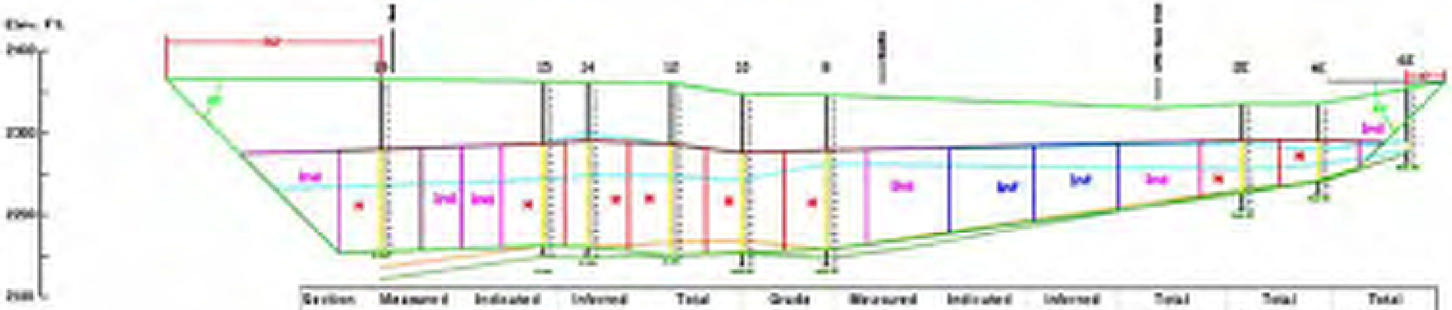
Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L1.2	90	105.0	83	70	5	0
LS-L1.2	70	105.0	85	50	36	0.0098
LS-L1.2	50	115.0	108	48	60	0.0240
LS-L1.2	30	136.0	126	52	63	0.0050
LS-L1.2	10	145.0	114	58	56	0.0075
LS-L1.2	1	130.0	127	58	72	0.0180
LS-L1.2	18	92.0	no b/r	60	10	0.0110

Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
1.22	402.25	20.35



NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 2



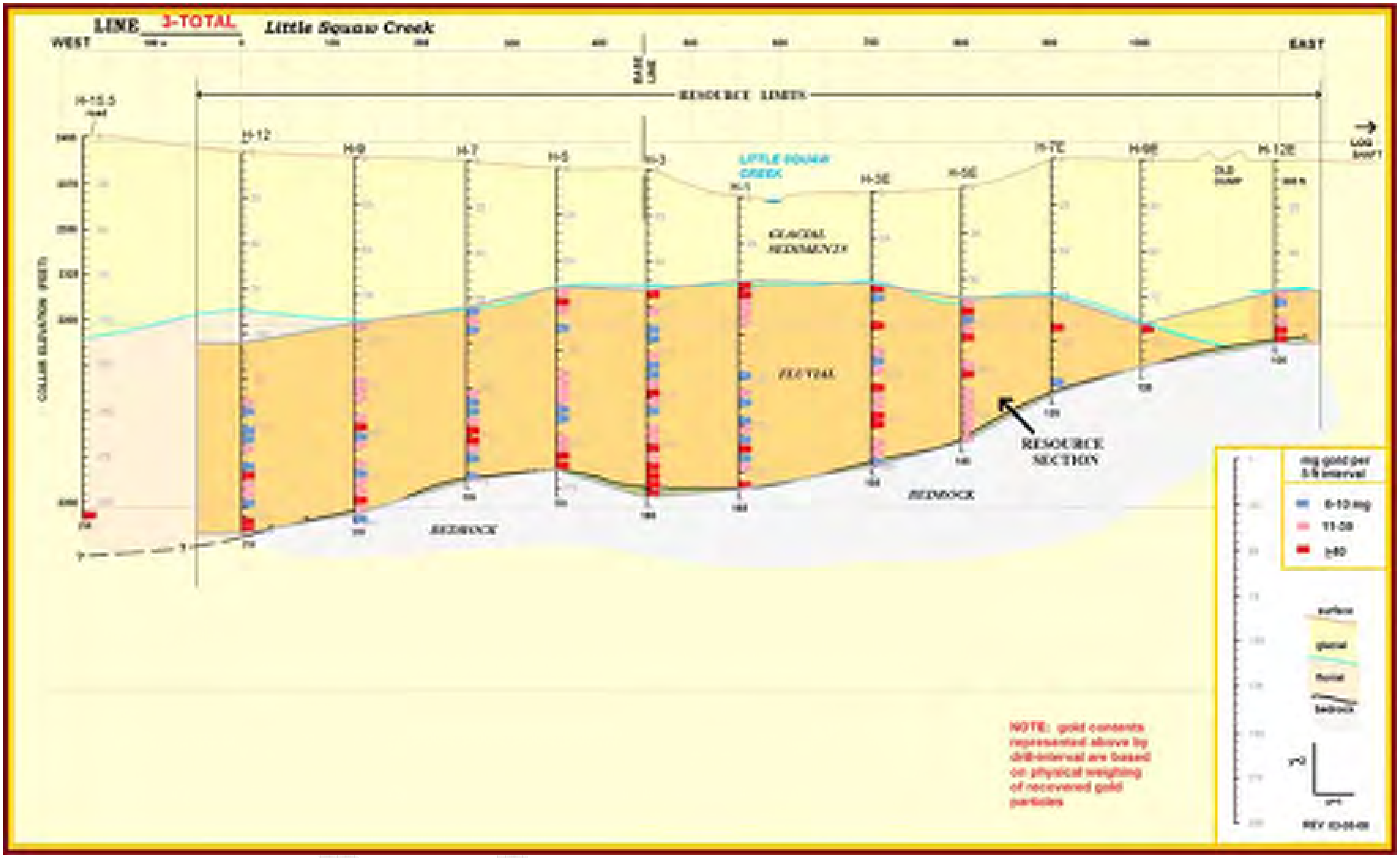
Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
2	[illegible]	1,101,820	300,421	2,213,810	0.0134	7,398	15,260	4,848	27,421	[illegible]	3,768,815

M=Measured
Ind=Indicated
Inf=Inferred

Drill holes on Little Squaw Creek

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L2	6E	90.0	79	65	10	0.0052
LS-L2	4E	110.0	97	55	40	0.0070
LS-L2	2E	130.0	105	45	55	0.0105
LS-L2	8	210.0	189.5	68	122	0.0155
LS-L2	10	210.0	195.5	72	123	0.0160
LS-L2	12	210.0	no b/k	73	137	0.0188
LS-L2	14	206.0	200	70	130	0.0075
LS-L2	15	210.0	200	75	125	0.0087
LS-L2	16	210.0	no b/k	85	125	0.0085

Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
0.70	431.92	63.48



NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 3

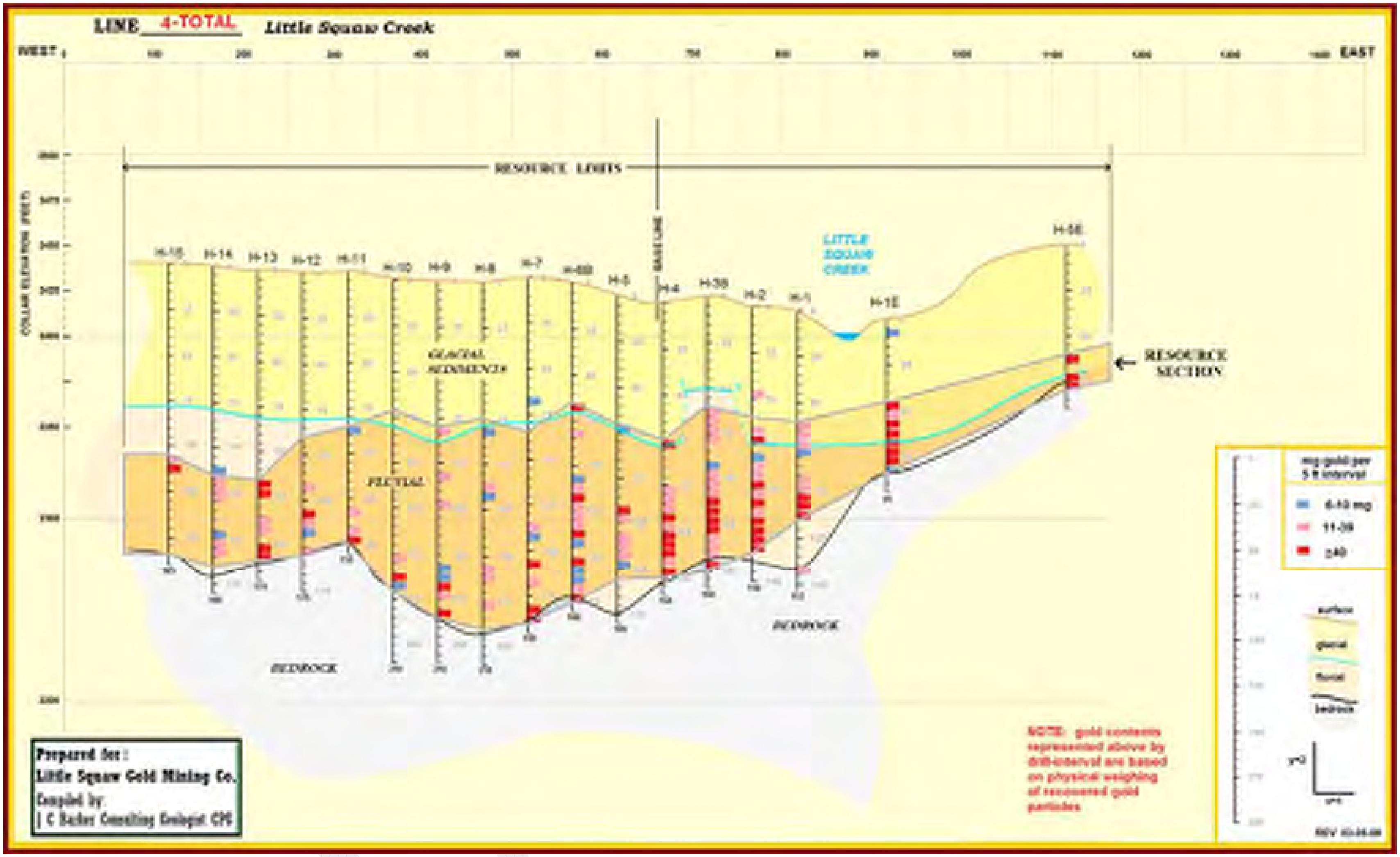
Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
3	677,080	1,314,166	92,619	2,083,865	0.0352	27,196	42,936	3,262	73,394	2,262,323	4,346,188

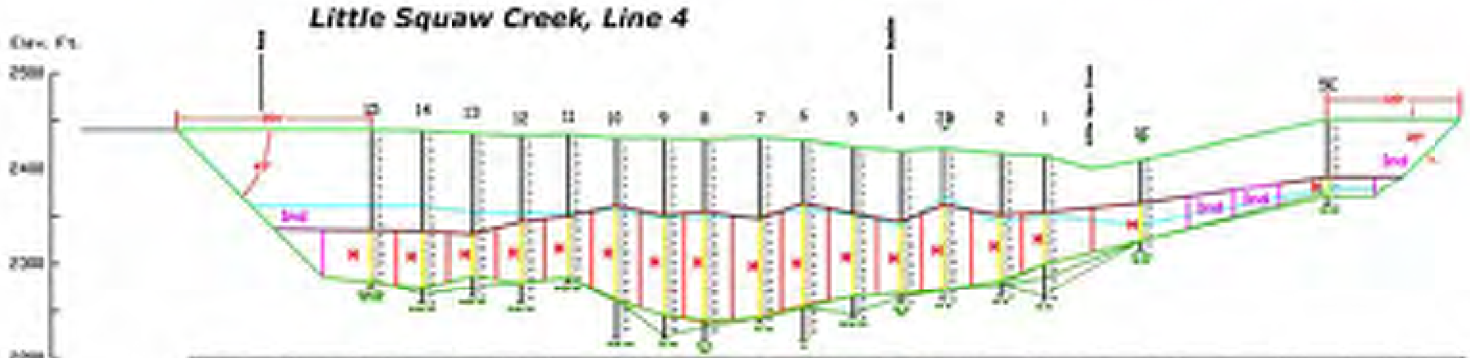
M=Measured
Ind=Indicated

Drill holes on Little Squaw Creek

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L3	12East	105.0	97.5	70	30	0.1078
LS-L3	9East	120.0	114	90	25	0.0568
LS-L3	7East	135.0	130	75	55	0.1619
LS-L3	5East	145.0	140	60	80	0.0365
LS-L3	3East	155.0	150	50	100	0.0219
LS-L3	1	165.0	159.5	45	115	0.0238
LS-L3	3	185.0	180	65	115	0.0302
LS-L3	5	180.0	165	65	100	0.0201
LS-L3	7	180.0	175	80	95	0.0167
LS-L3	9	200.0	195	90	105	0.0170
LS-L3	12	210.0	no Brk	105	105	0.0263
0	0	0.0	0	0	0	0.0000

Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
1.09	523.26	140.26


LINE 4-TOTAL Little Squaw Creek
WEST
EAST
COLLAR ELEVATION (FEET)
RESOURCE LIMITS
BASELINE
H-15
H-14
H-13
H-12
H-11
H-10
H-9
H-8
H-7
H-6B
H-5
H-4
H-3B
H-2
H-1
H-1E
H-5E
LITTLE SQUAW CREEK
GLACIAL SEDIMENTS
FLUVIAL
BEDROCK
BEDROCK
RESOURCE SECTION
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
REV 03-08-08
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles
Prepared for:
Little Squaw Gold Mining Co.
Compiled by:
J C Barker Consulting Geologist CPG

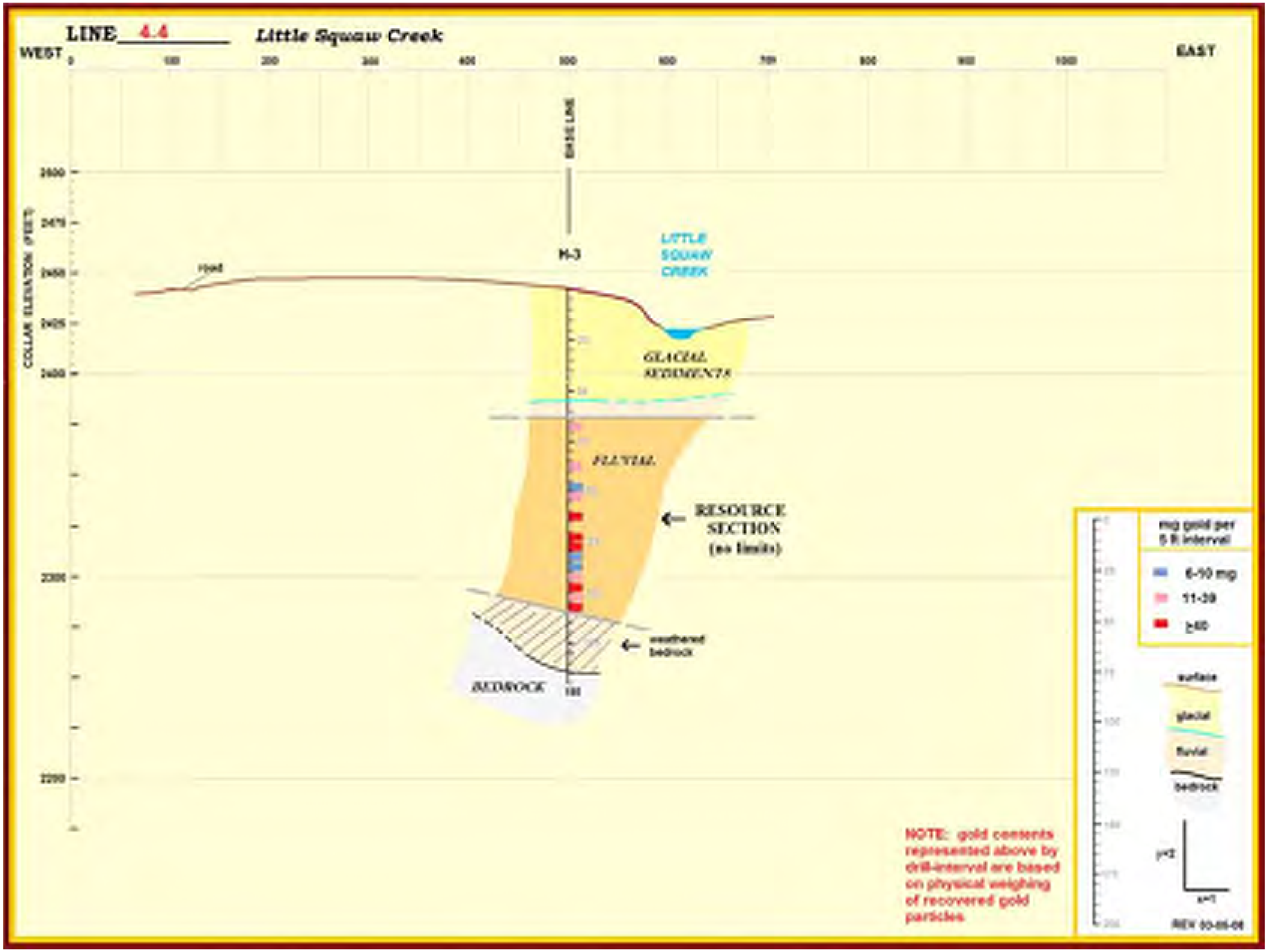


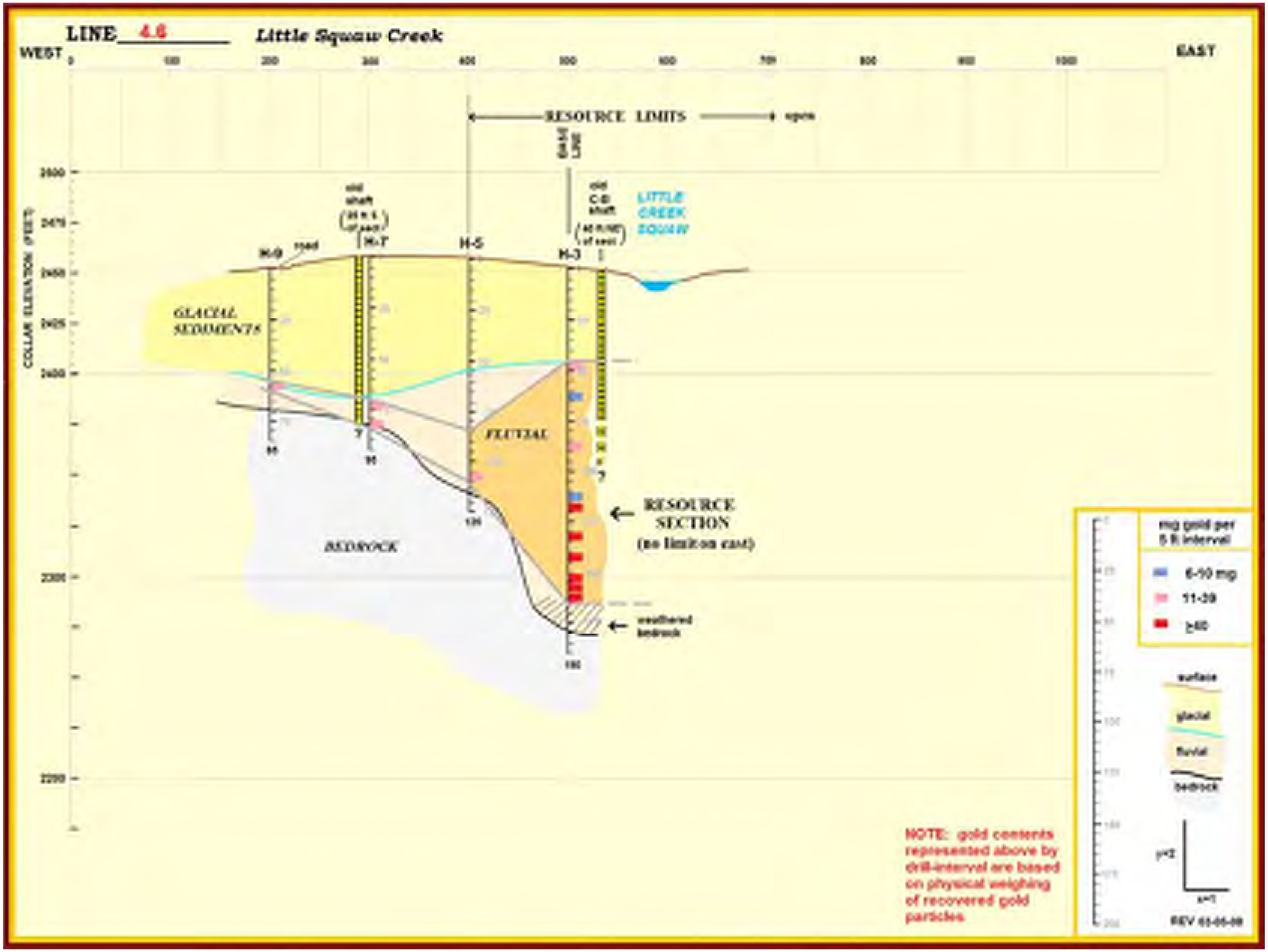
Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
4	513,009	851,692	38,819	1,403,520	0.0320	15,246	28,393	1,241	44,880	1,787,560	3,191,080

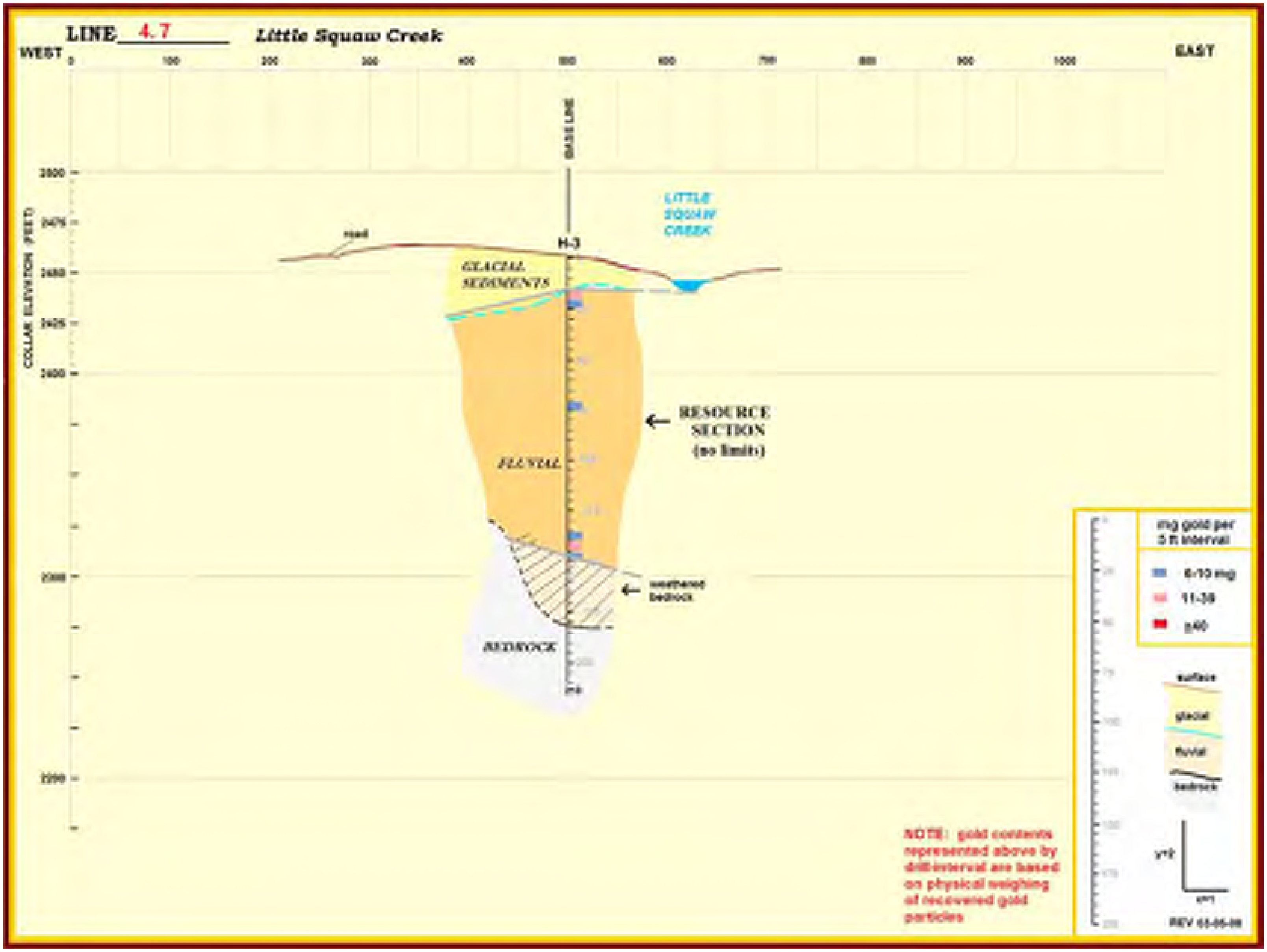
M=Measured

Ind=Indicated

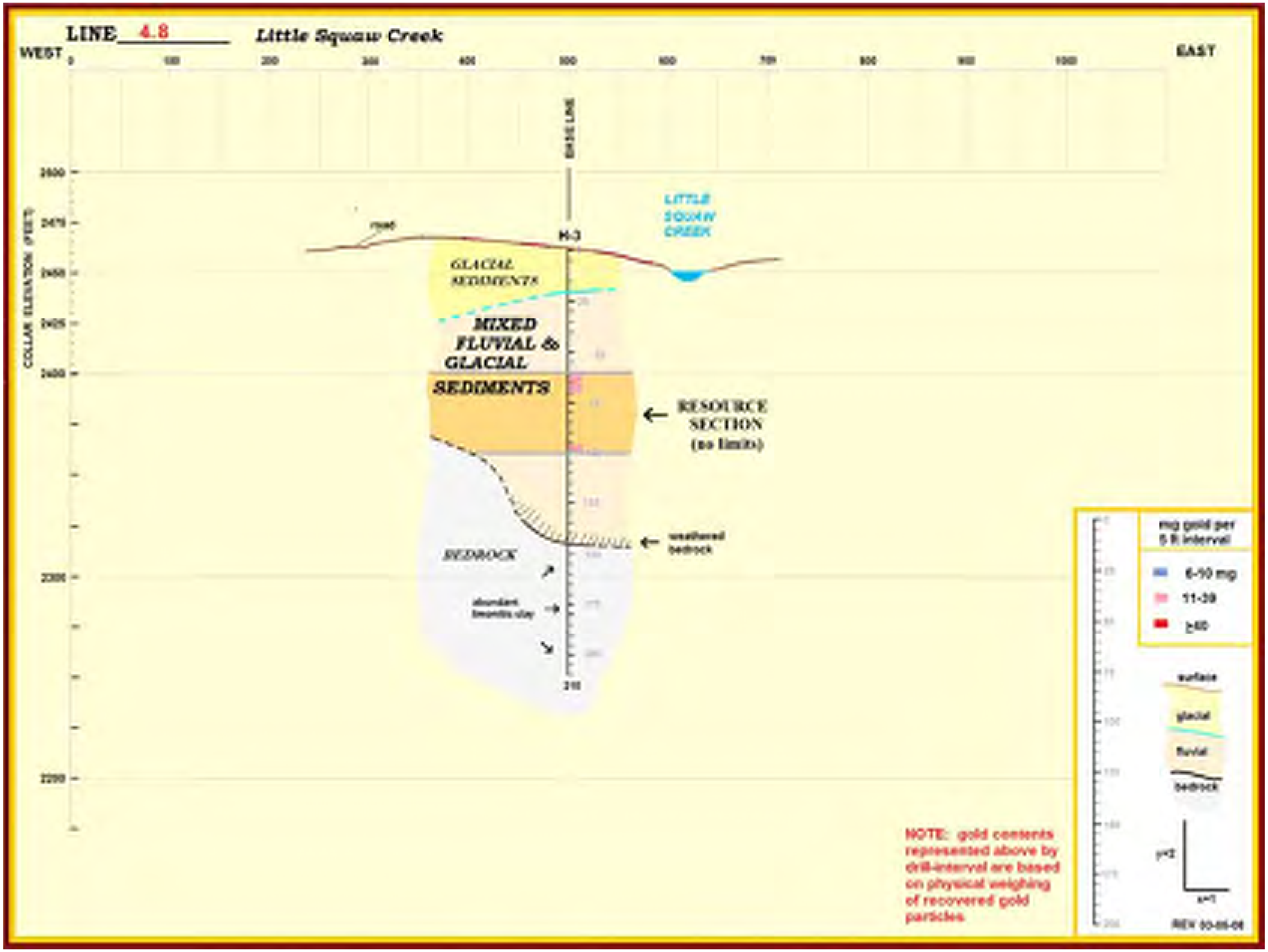
Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
1.27	514.22	87.28

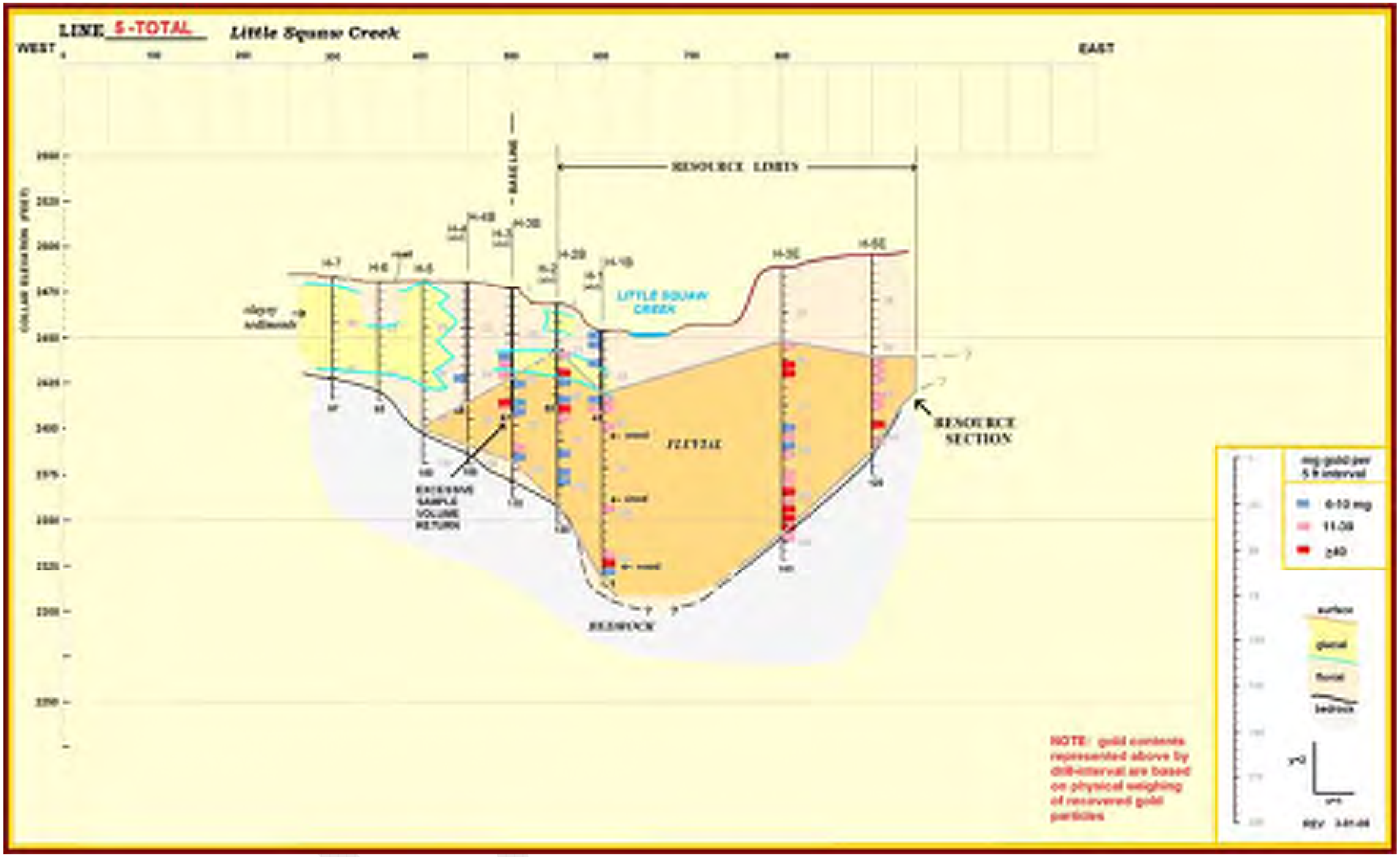

LINE 4.4
Little Squaw Creek
WEST
EAST
0
100
200
300
400
500
600
700
800
900
1000
BASE LINE
COLLAR ELEVATION (FEET)
2500
2475
2450
2425
2400
2300
2200
road
H-3
LITTLE SQUAW CREEK
GLACIAL SEDIMENTS
FLUVIAL
RESOURCE SECTION (no limits)
weathered bedrock
BEDROCK
100
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
y=2
x=1
REV 10-05-08


LINE 4.6
Little Squaw Creek
WEST
EAST
0
100
200
300
400
500
600
700
800
900
1000
RESOURCE LIMITS
open
COLLAR ELEVATION (FEET)
2500
2475
2450
2425
2400
2300
2200
old shaft
old C-B shaft
LITTLE SQUAW CREEK
H-9
road
H-7
H-5
H-3
GLACIAL SEDIMENTS
FLUVIAL
BEDROCK
RESOURCE SECTION (no limit on east)
weathered bedrock
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
y=2
x=1
REV 03-06-08
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles



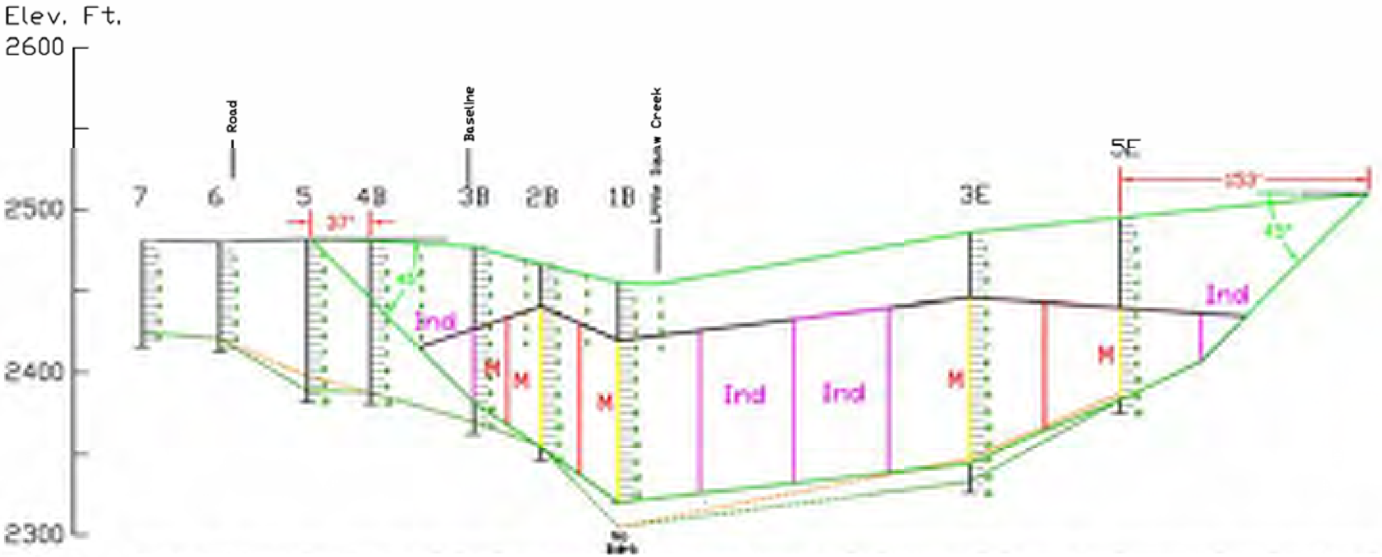
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles


LINE 4.8
Little Squaw Creek
WEST
EAST
0
100
200
300
400
500
600
700
800
900
1000
COLLAR ELEVATION (FEET)
2500
2475
2450
2425
2400
2300
2200
BASE LINE
road
H-3
LITTLE SQUAW CREEK
GLACIAL SEDIMENTS
MIXED FLUVIAL & GLACIAL SEDIMENTS
RESOURCE SECTION (no limits)
weathered bedrock
BEDROCK
abundant bentonite clay
210
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
y=2
x=1
REV 10-05-08
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles



NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 5



Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
5	98,158	635,236	362,959	1,096,353	0.0174	3,376	9,417	6,331	19,124	728,594	1,824,947

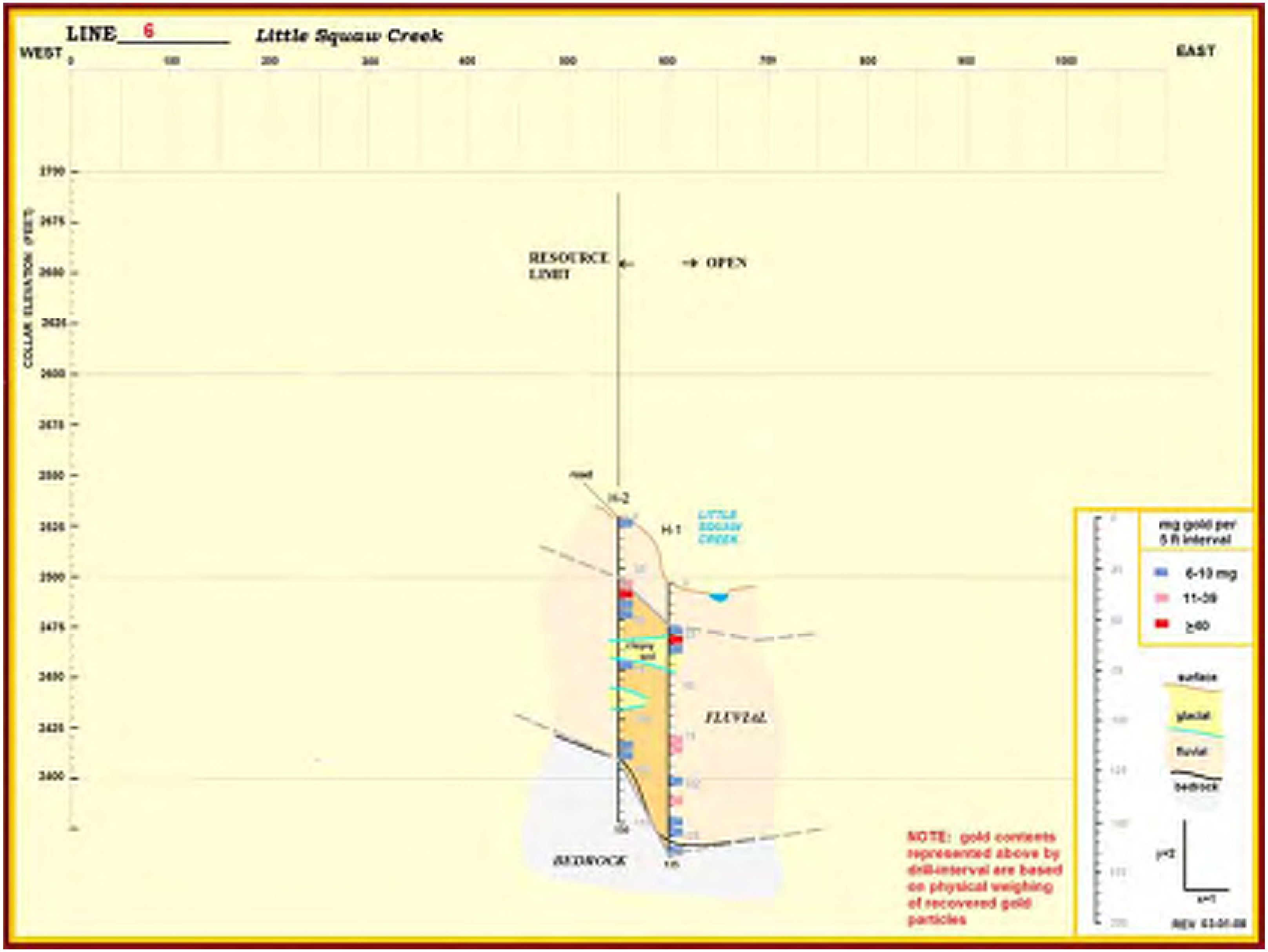
M=Measured

Ind=Indicated

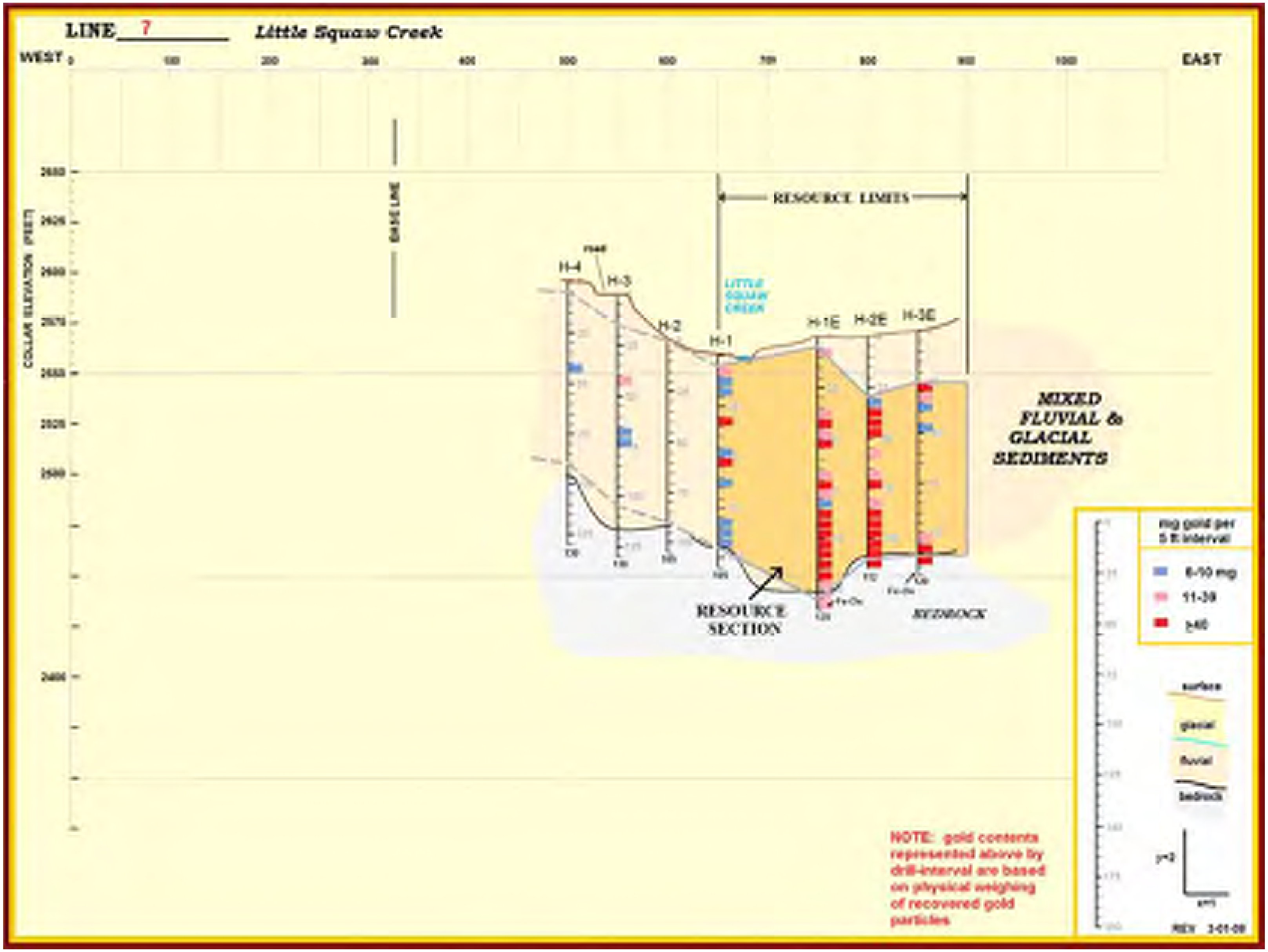
Drill holes on Little Squaw Creek

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L5	5E	120.0	108	55	55	0.0137
LS-L5	3E	160.0	139	40	102	0.0318
LS-L5	1B	135.0	no brk	35	100	0.0069
LS-L5	2B	120.0	111	25	87	0.0091
LS-L5	3B	115.0	107	60	45	0.0039

Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
0.66	747.45	25.58

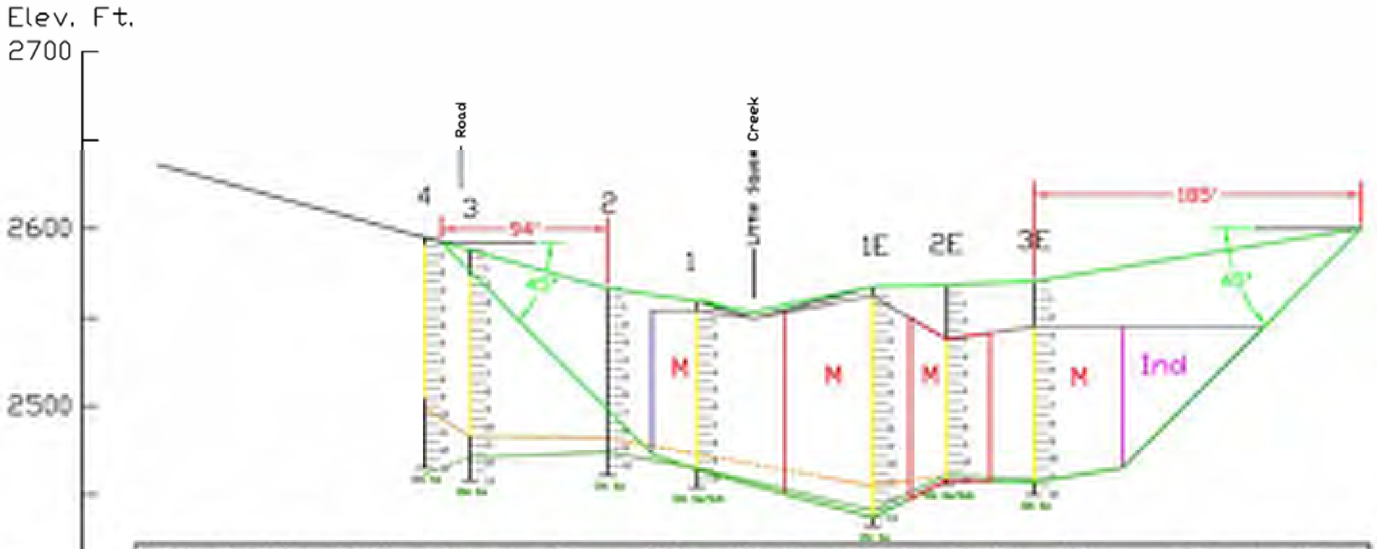


NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles



NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 7



Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
7	185,720	237,659	253,432	776,796	0.0298	5,768	9,845	7,590	23,144	376,922	1,153,718

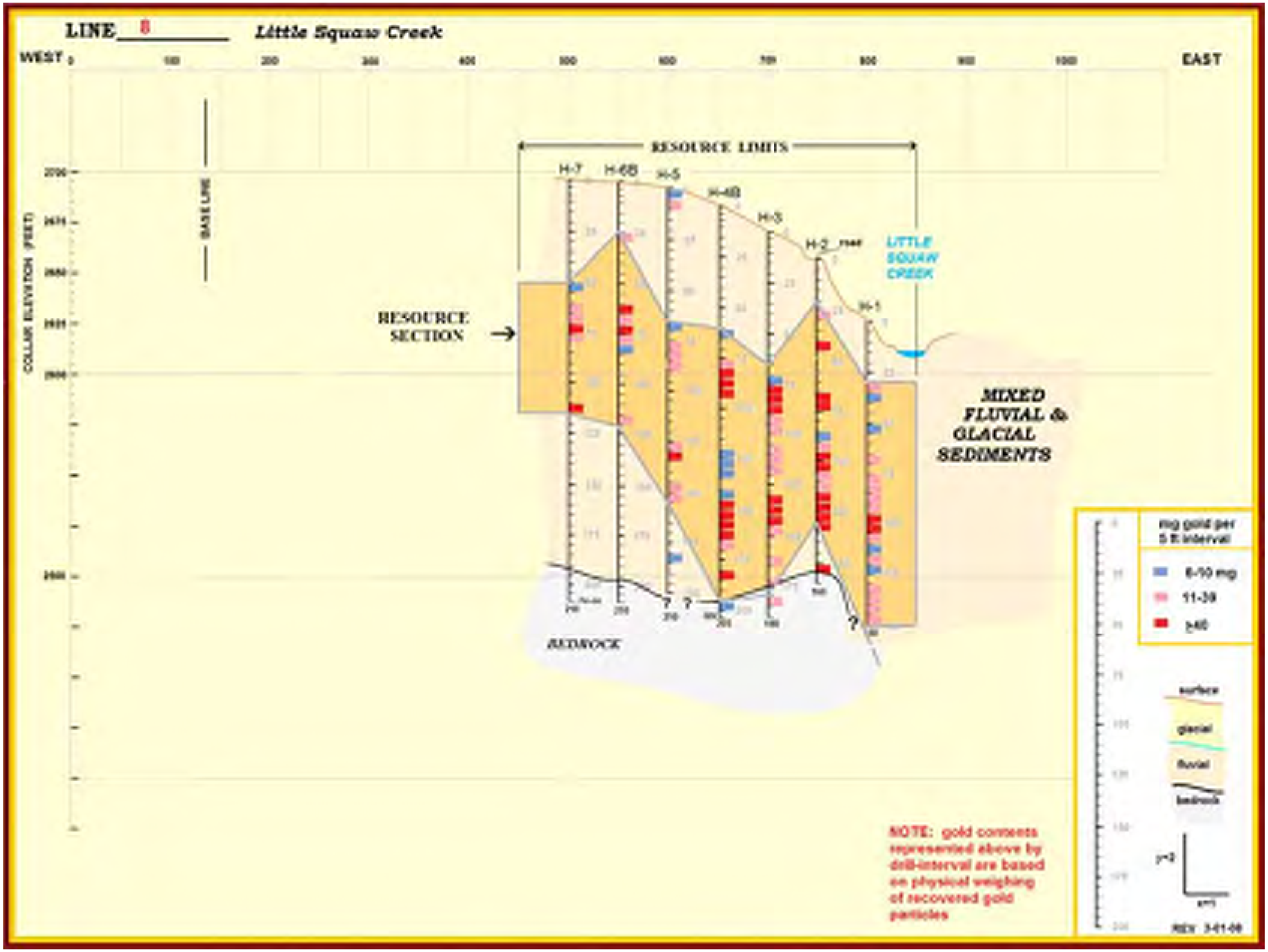
Drill holes on Little Squaw Creek

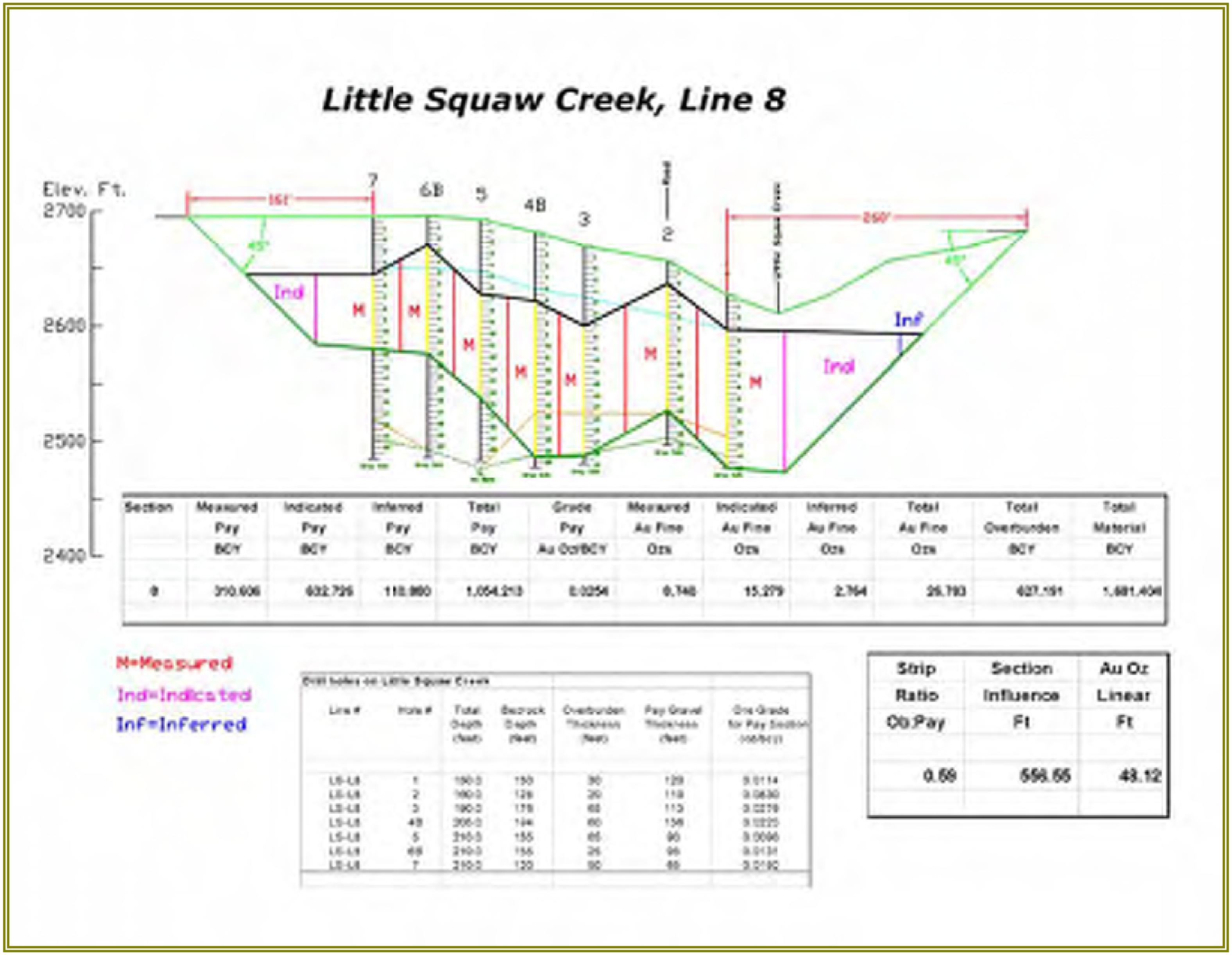
Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/cy)
LS-L7	3E	120.0	111	25	88	0.0307
LS-L7	2E	112.0	107	30	80	0.0515
LS-L7	1E	130.0	126	6	126	0.0884
LS-L7	1	105.0	94	5	90	0.0187
LS-L7	2	106.0	75	0	75	0.0062
LS-L7	3	100.0	90	15	75	0.0019
LS-L7	4	150.0	55	5	50	0.0006

M=Measured

Ind=Indicated

Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
0.49	742.08	31.19


LINE 8
Little Squaw Creek
WEST
EAST
0
100
200
300
400
500
600
700
800
900
1000
COLLAR ELEVATION (FEET)
2700
2600
2500
BASE LINE
RESOURCE LIMITS
H-7
H-6B
H-5
H-4B
H-3
H-2
H-1
LITTLE SQUAW CREEK
RESOURCE SECTION
MIXED FLUVIAL & GLACIAL SEDIMENTS
BEDROCK
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
REV 3-01-08
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles



Little Squaw Creek, Line 8

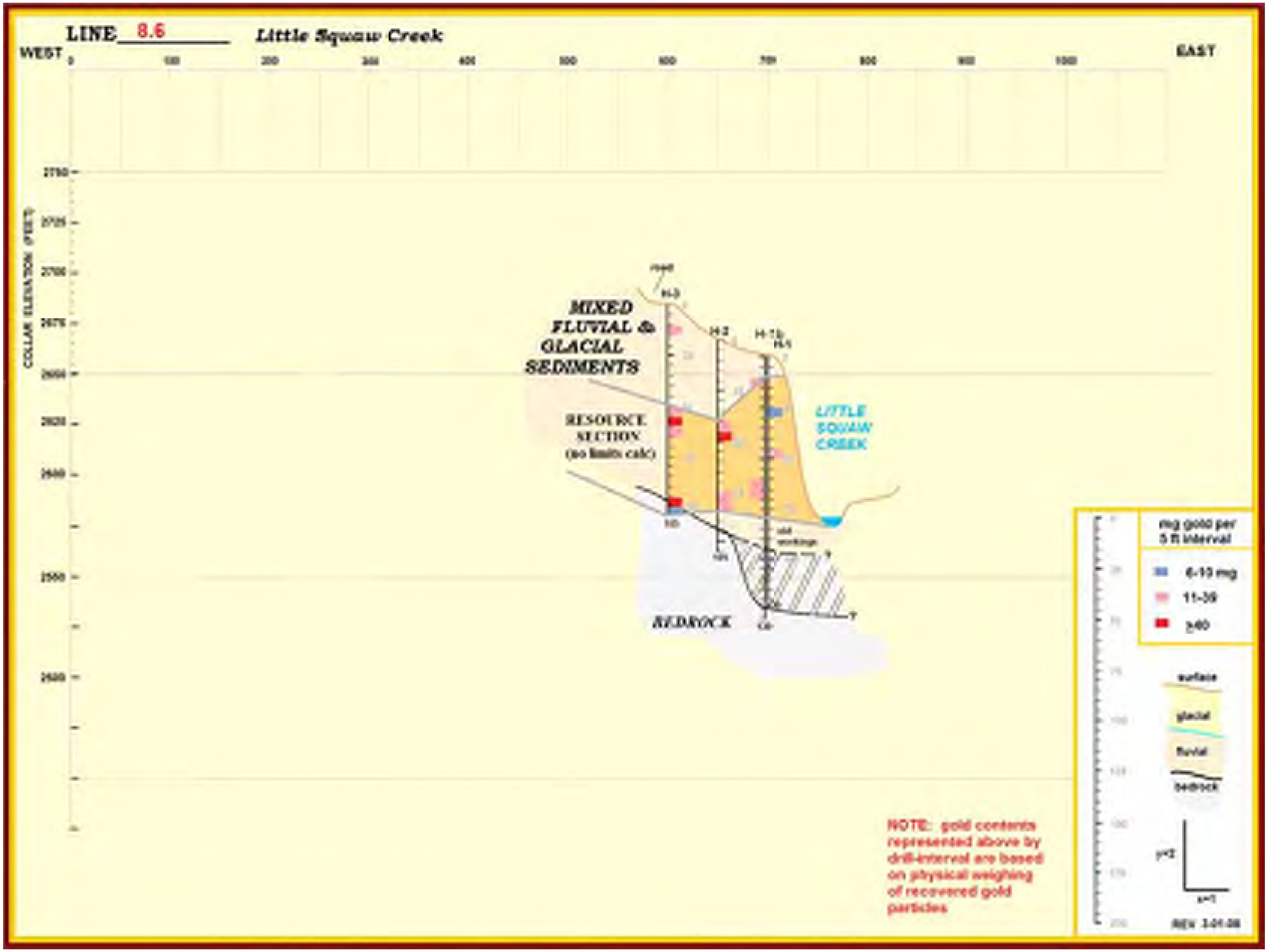
Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
8	310,606	632,726	110,880	1,054,213	0.0254	8,740	15,279	2,764	26,783	627,191	1,681,404

M=Measured
Ind=Indicated
Inf=Inferred

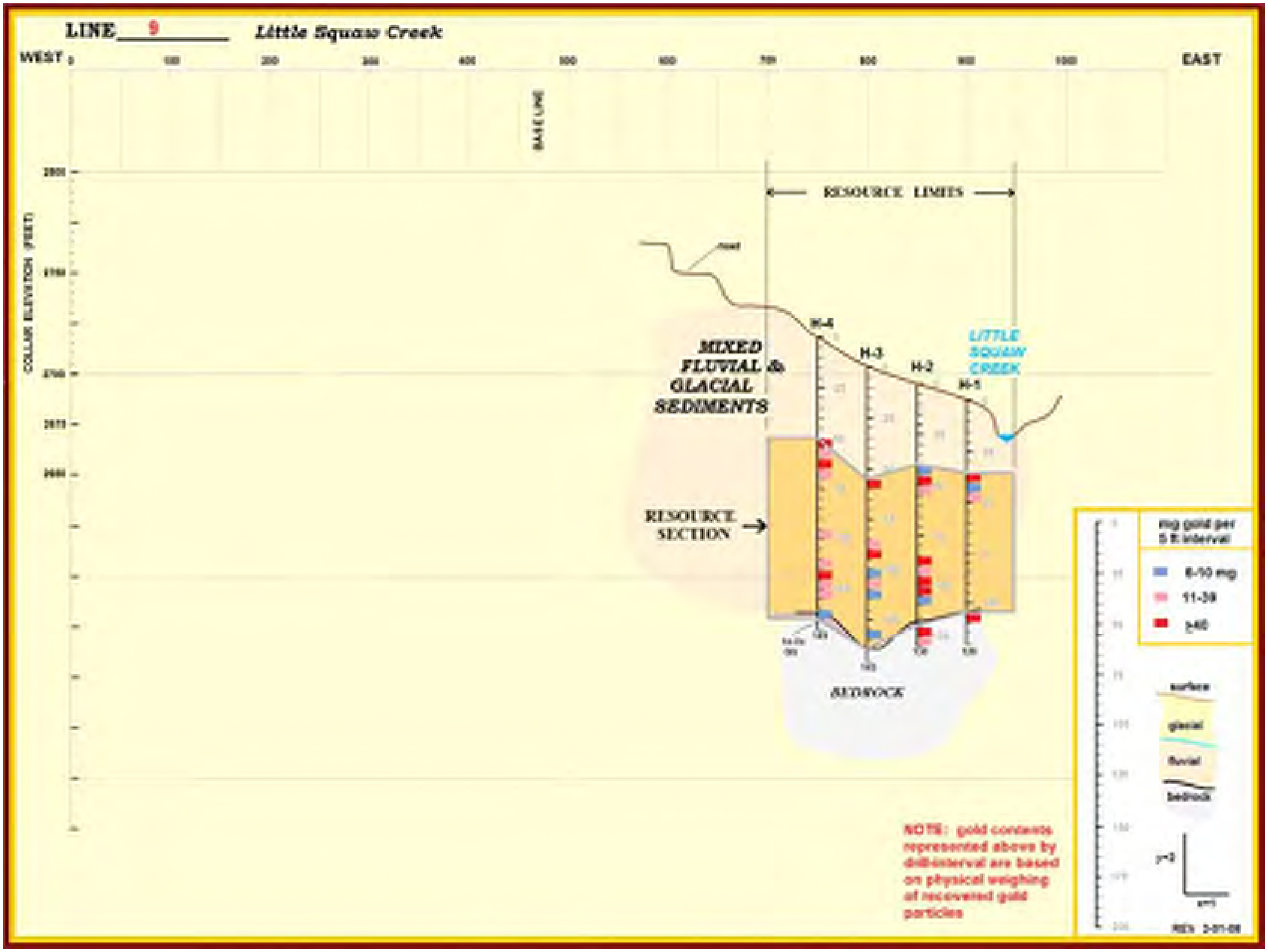
Drill holes on Little Squaw Creek

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L8	1	150.0	150	30	120	0.0114
LS-L8	2	160.0	126	20	119	0.0830
LS-L8	3	180.0	178	68	113	0.0278
LS-L8	4B	200.0	194	60	134	0.0225
LS-L8	5	210.0	155	65	90	0.0086
LS-L8	6B	210.0	156	26	96	0.0131
LS-L8	7	210.0	120	60	60	0.0192

Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
0.59	556.55	48.12

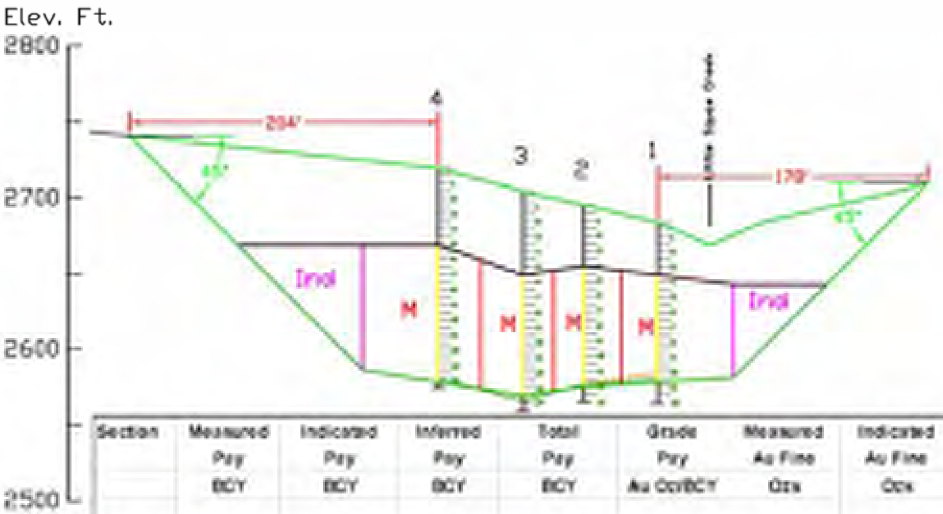


NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles



NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 9



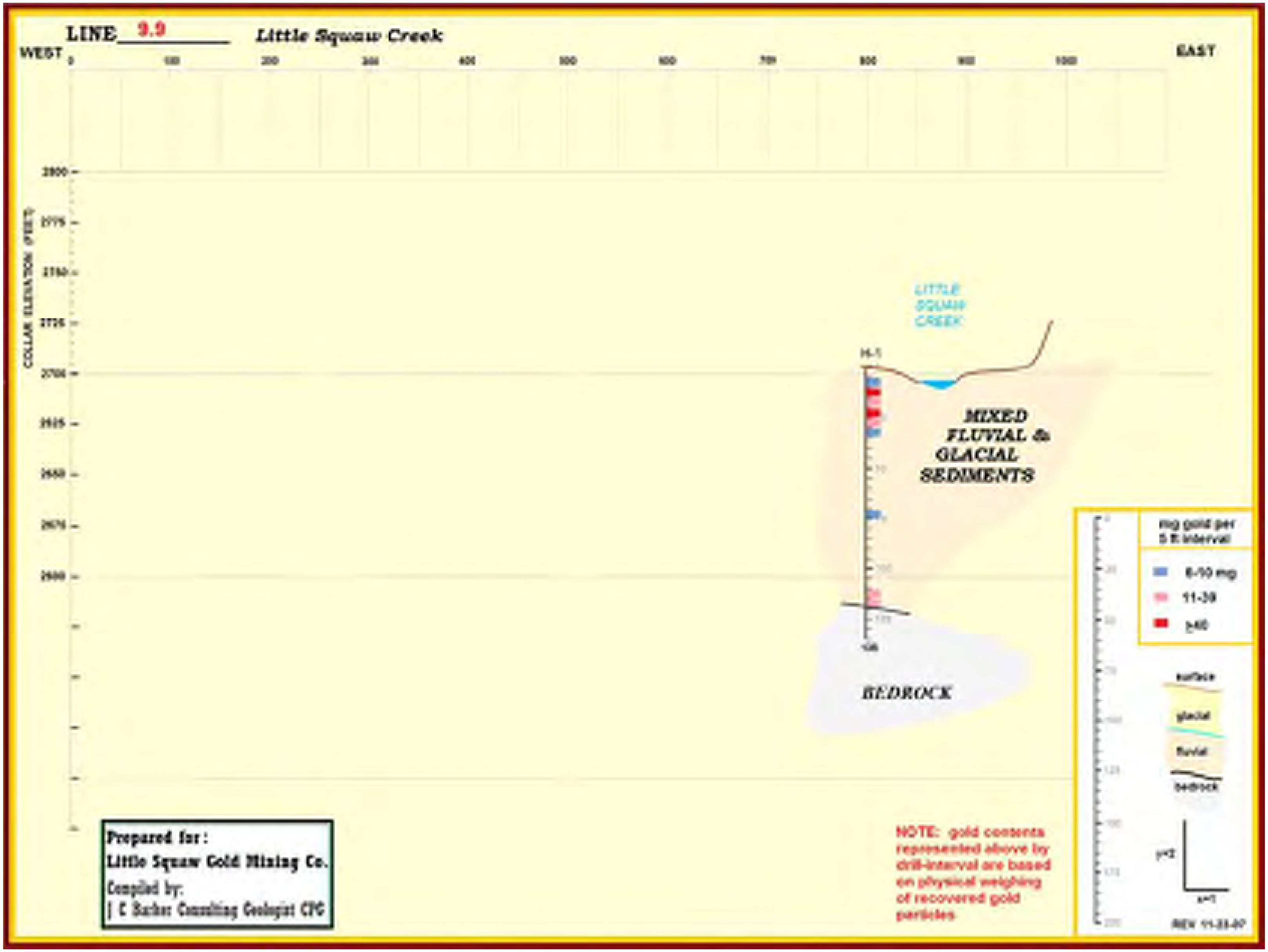
Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
9	143,244	290,302	-	433,546	0.0304	4,884	8,307	-	13,191	392,349	825,894

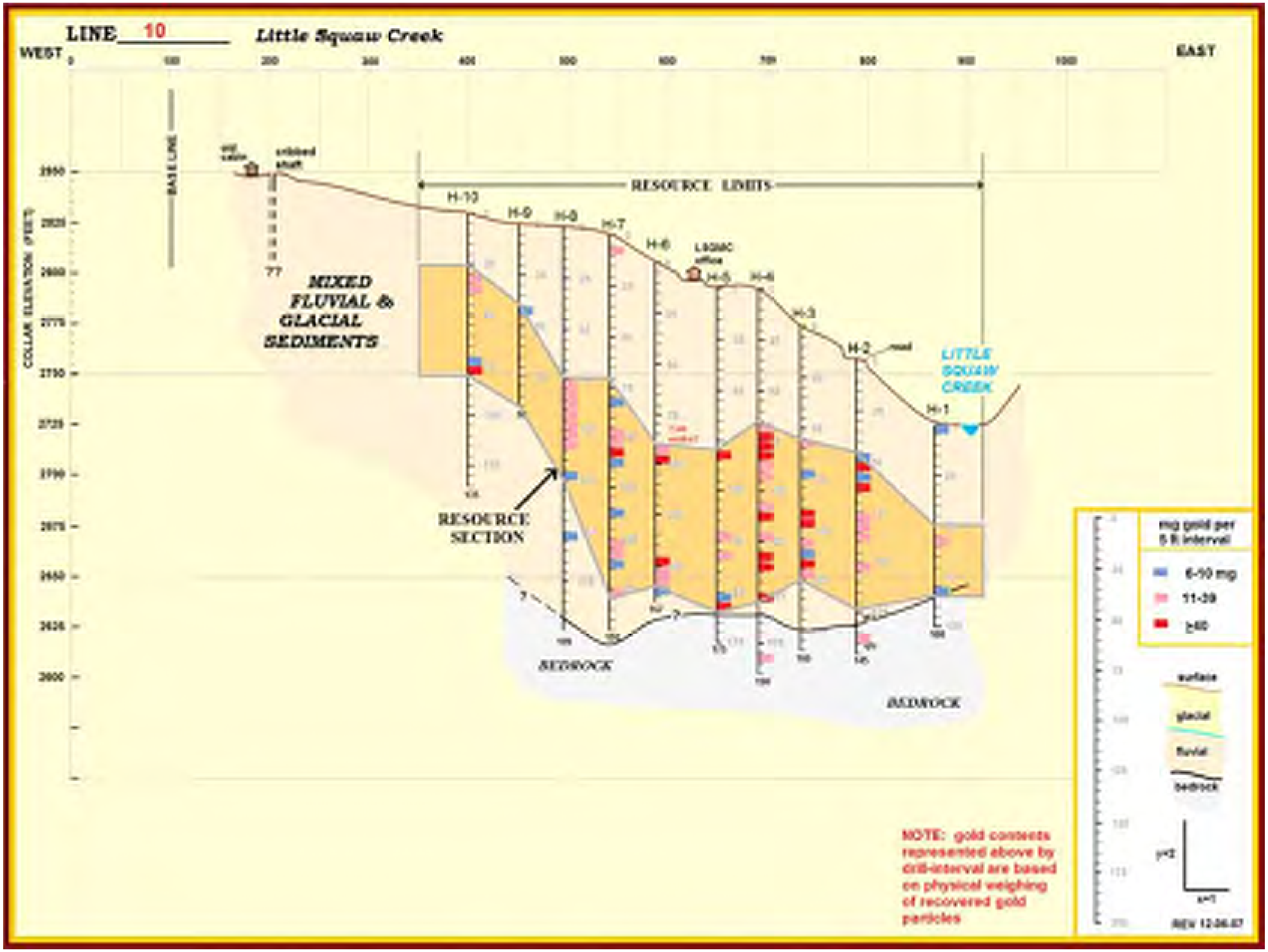
M=Measured
Ind=Indicated

Drill holes on Little Squaw Creek

Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS L9	1	120.0	104	36	71	0.0277
LS L9	2	130.0	116	40	60	0.1134
LS L9	3	145.0	130	65	80	0.0111
LS L9	4	145.0	130	60	84	0.0113

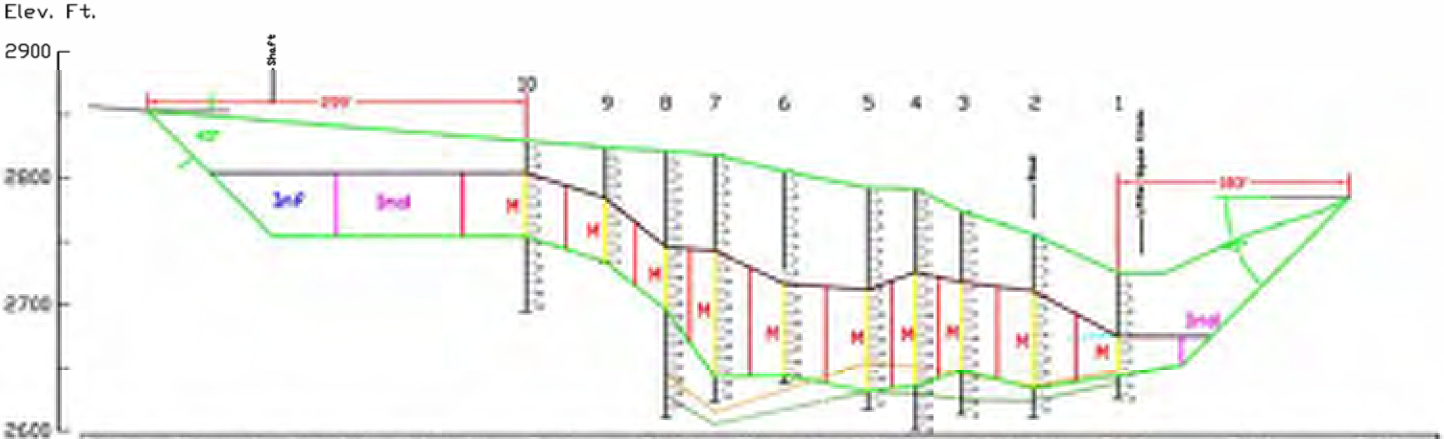
Strip Ratio Ob/Pay	Section Influence Ft	Au Oz Linear Ft
0.90	474.24	27.81


LINE 9.9
Little Squaw Creek
WEST
EAST
0
100
200
300
400
500
600
700
800
900
1000
COLLAR ELEVATION (FEET)
2800
2775
2750
2725
2700
2625
2650
2675
2600
LITTLE SQUAW CREEK
H-1
MIXED FLUVIAL & GLACIAL SEDIMENTS
BEDROCK
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
y=2
x=1
REV 11-23-07
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles
Prepared for:
Little Squaw Gold Mining Co.
Compiled by:
J C Barker Consulting Geologist CPG



NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 10

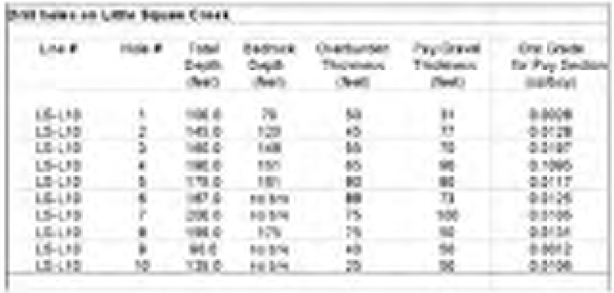


Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY
10	266,685	118,441	34,987	420,113	0.0178	5,259	1,867	371	7,497	430,462	850,575

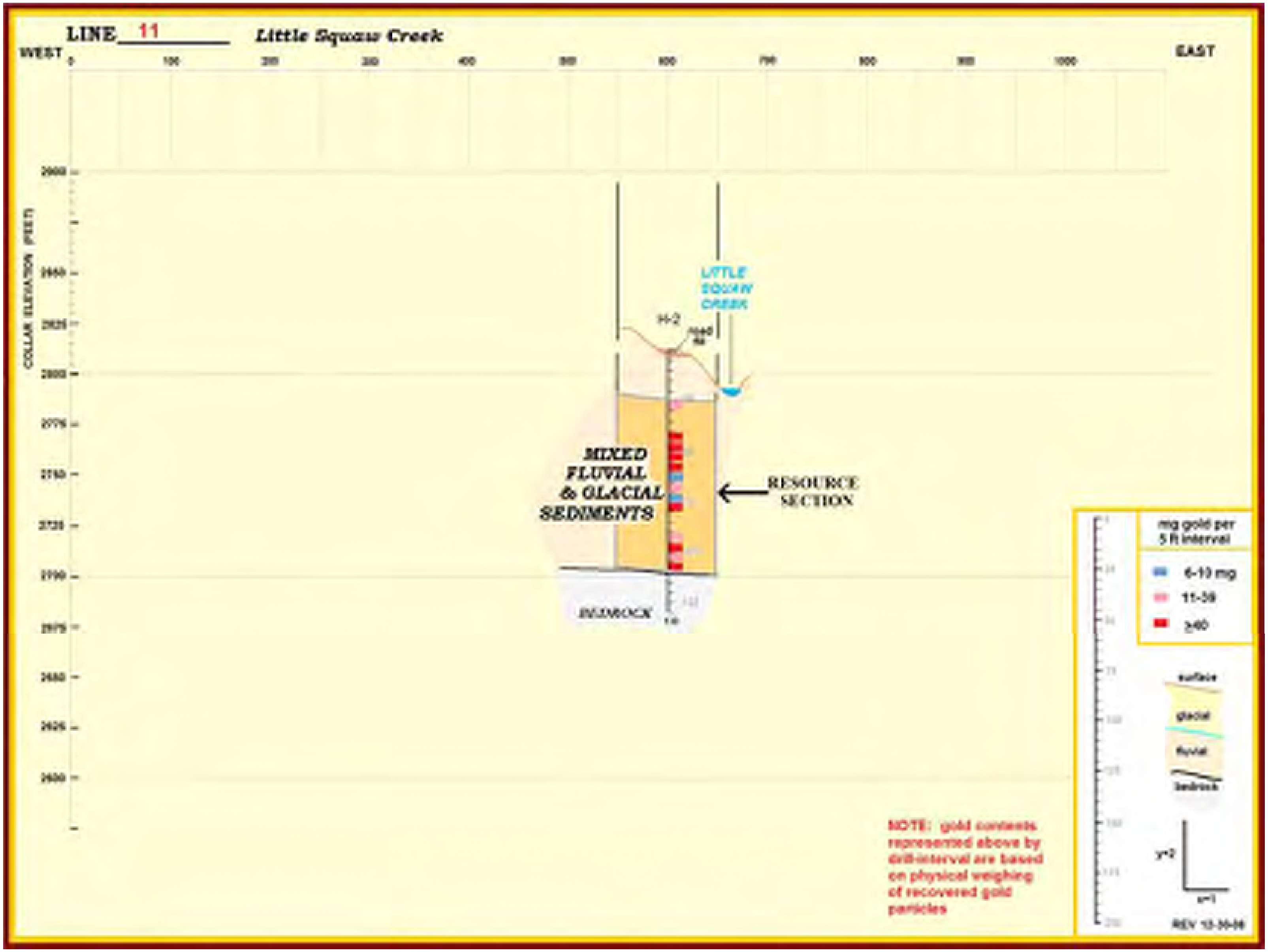
M=Measured

Ind=Indicated

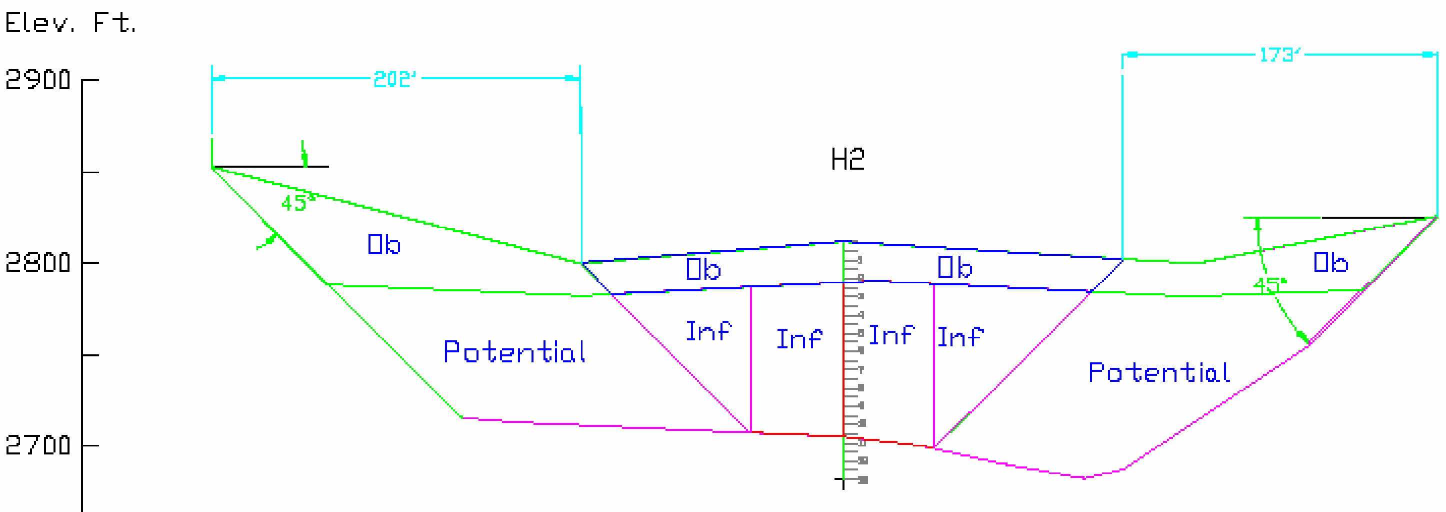
Inf=Inferred



Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
1.02	251.90	29.76


LINE 11
Little Squaw Creek
WEST
EAST
0
100
200
300
400
500
600
700
800
900
1000
COLLAR ELEVATION (FEET)
2900
2850
2825
2800
2775
2750
2725
2700
2675
2650
2625
2600
H-2
road fill
LITTLE SQUAW CREEK
MIXED FLUVIAL & GLACIAL SEDIMENTS
RESOURCE SECTION
BEDROCK
mg gold per 5 ft interval
6-10 mg
11-39
≥40
surface
glacial
fluvial
bedrock
y=2
x=1
REV 12-30-08
NOTE: gold contents represented above by drill-interval are based on physical weighing of recovered gold particles

Little Squaw Creek, Line 11



Section	Measured Pay BCY	Indicated Pay BCY	Inferred Pay BCY	Total Pay BCY	Grade Pay Au Oz/BCY	Measured Au Fine Ozs	Indicated Au Fine Ozs	Inferred Au Fine Ozs	Total Au Fine Ozs	Total Overburden BCY	Total Material BCY	Strip Ratio Ob:Pay	Section Influence Ft	Au Oz Linear Ft
11	-	-	137,927	137,927	0.0709	-	-	9,779	9,779	50,062	187,990	0.36	242.78	40.28

Ob = Overburden

Pos = Possible

Ind=Indicated

Inf=Inferred

Drill holes on Little Squaw Creek						
Line #	Hole #	Total Depth (feet)	Bedrock Depth (feet)	Overburden Thickness (feet)	Pay Gravel Thickness (feet)	Ore Grade for Pay Section (oz/bcy)
LS-L11	2	139.0	no brk	22	84	0.0709
Totals & Avgs	**1**	**139.0**	**no brk**	**22**	**84**	**0.0709**

Appendix D. Chandalar Sample Data Bases, 2004 through 2008

(available only on CD version of report)

Sample analytical data for :

- Soils
- Rock chip
- Stream sediments
- Bedrock intercepts from placer drill program
- Water
- Vegetation
- Trench channel samples

All sample data cross-referenced by year and prospect area