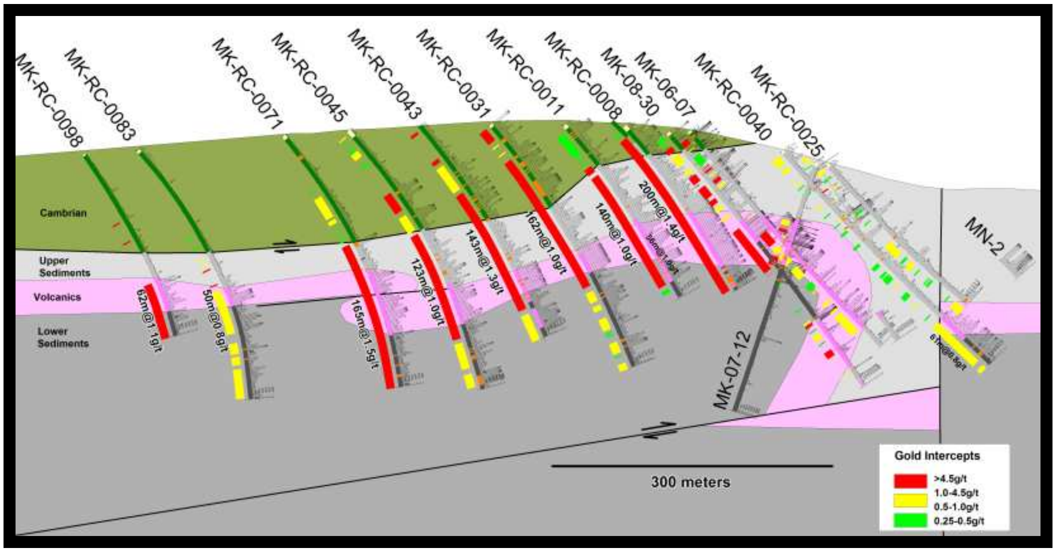

JANUARY 2009
SUMMARY REPORT
ON THE
LIVENGOOD PROJECT,
TOLOVANA DISTRICT,
ALASKA

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TABLE OF CONTENTS

Section **page**

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF FIGURES (cont.)

Figure **page**

LIST OF FIGURES (cont.)

LIST OF TABLES

LIST OF TABLES (cont.)

LIST OF APPENDICES

1.0 Summary

The Livengood property is located approximately 115 km northwest of Fairbanks, Alaska in the Tolovana mining district within the Tintina Gold Belt. The area of interest is centered on a hill named Money Knob. This feature is considered by many to be the lode gold source for the Livengood placer deposits which lie in the adjacent valley to the north and have been actively mined since 1914 with production of more than 500,000 ounces of gold.

The property has been prospected and explored by several companies and private individuals since the 1970's. Some of the past exploration data is available but most derives from the most recent work conducted by AngloGold Ashanti (U.S.A.) Exploration Inc. ("AGA"). Geochemical surveys by Cambior in 2000 and AGA in 2003 and 2004 outlined a 1.6 x 0.8 km area with anomalous gold in soil. Scattered anomalous samples continue along strike for an additional 2 km to the northeast and 1.6 km to the southwest. Eight reverse circulation holes were drilled by AGA in 2003 and a further 4 diamond core holes were drilled in 2004 to evaluate this anomaly. Favourable results from these holes revealed wide intervals of gold mineralization (BAF-7; 138.7m @ 1.07 g/t Au; MK-04-03; 55.3m @ 0.51 g/t Au) along with lesser intervals over a broad area. Over the past 2.5 years, exploration by ITH through its wholly owned Alaskan subsidiary, Talon Gold Alaska, Inc., has been aimed at assessing this area of mineralization through drilling diamond core and reverse circulation holes.

Rocks at Livengood are part of the Livengood Terrane, an east–west belt, approximately 240 km long, consisting of tectonically interleaved assemblages of various ages. These assemblages include the Amy Creek Assemblage which is a sequence of latest Proterozoic and early Paleozoic basalt, mudstone, chert, dolomite, and limestone. In thrust contact above the Amy Creek Assemblage lies an early Cambrian ophiolite sequence of mafic and ultramafic sea floor rocks. Structurally above these rocks lies a sequence of Devonian shale, siltstone, conglomerate, volcanic, and volcaniclastic rocks which are the dominant host to the mineralization currently under exploration at Livengood. The Devonian assemblage is overthrust by more Cambrian ophiolite rocks. All of these rocks are intruded by Cretaceous multiphase monzonite, diorite, and syenite stocks, dikes, and sills. Gold mineralization is believed to be related to this intrusive event.

Gold mineralization occurs in two styles: as multistage fine quartz veins occurring in all lithologies (commonly near intrusive dikes and sills), and as diffuse mineralization within volcanic, intrusive, sedimentary, and mafic-ultramafic rocks without a clear quartz vein association. Mineralization is interpreted to be intrusion-related, consistent with other gold deposits of the Tintina Belt, and has an As-Sb geochemical association. Thrust-fold architecture is apparently key to providing pathways for magma (dikes and sills) and hydrothermal fluid.

Drill results have been used to estimate a gold resource for the Money Knob area. The estimated amount of gold varies significantly according to the choice of cutoff grade. A range of tonnes and grade with corresponding contained ounces have been estimated. **At a 0.5 g/t Au cutoff, an Indicated Resource of 128.6 Mt at an average grade of 0.83 g/t Au and an Inferred Resource of 142.1 Mt at an average grade of 0.93 g/t Au are estimated. This amounts to an Indicated Resource of 3.41M oz Au and an Inferred Resource of 3.39 M oz Au.** This

resource evaluation marks a significant improvement in total Resource ounces and an upgrade of Inferred Resource ounces to Indicated status from the previous Resource estimate in October 2008. Mineralization has not been closed off in any direction but has not been followed to the north of the Lillian Fault.

ITH has identified a significant resource. ITH has proposed exploration expenditures of approximately $8.8 million for the rest of 2009. This program is anticipated to include approximately 40,000m of drilling to further evaluate the Livengood property. It is recommended that exploration of the Money Knob area continue with systematic drilling at evenly spaced centers along regularly spaced lines, fill in key locations to verify continuity of resource, and drill ‘step-out’ locations to identify the limits of mineralization. Overall, the program should undertake a scoping study to determine economic parameters for a potential mining operation. The 40,000m of drilling proposed is an appropriate amount of drilling for the needs of the project and the time available in the field season.

2.0 Introduction and Terms of Reference

2.1 Introduction

Mineral Resource Services Inc. (“MRS”) and Giroux Consultants Ltd. (“GCL”) have been requested by International Tower Hill Mines Ltd. (“ITH”) to provide a revised and updated independent technical report on the Livengood gold project in the Tolovana Mining District of Interior Alaska. Assays for all of the 115 holes drilled through November 8, 2008 (20,521 samples), along with the data from previous drilling programs, forms the basis for a new resource estimate, the results of which are presented in Section 17 of this report.

The property is currently being explored by ITH through its wholly-owned subsidiary Talon Gold Alaska, Inc. (“TGA”). Previous work and an earlier resource estimate based on data generated up to September 27th, 2008 have been presented in similar reports dated October 28, 2008 (Klipfel and Giroux, 2008b), August 1, 2008 (Klipfel, Giroux and Puchner, 2008), February 18, 2008 (Klipfel and Giroux, 2008a) and June 30, 2006 (Klipfel, 2006). The resource evaluation portion of this report has been prepared by GCL (Giroux Consultants Ltd, 2009).

Information used in this report has been provided to MRS and GCL by ITH as it has become available up to January 13, 2009. Data generated prior to 2006 was provided to ITH by AGA. This report also relies on personal observations made by Paul Klipfel in the course of four field visits and on general geologic information available to the public through peer review journals as well as publications by the U.S. Geological Survey and agencies of the State of Alaska.

2.2 Terms of Reference

Dr. Paul Klipfel of Mineral Resource Services Inc., of Reno, Nevada, and Mr. Gary Giroux M.Sc. of Giroux Consultants Ltd. of Vancouver, B.C. were commissioned by ITH to prepare the following report in support of an updated resource estimate for the Livengood deposit. Dr. Klipfel and Mr. Giroux are independent consultants and are Qualified Persons (QP) for the purposes of this report as defined by Canadian Securities Administrators National Instrument. 43-101 ("NI 43-101").

2.3 Purpose of Report

The purpose of this report is to provide an independent evaluation of the Livengood project, the exploration history and discovery potential of the project area, and provide recommendations for future work. This report conforms to the guidelines set out by 43-101.

2.4 Sources of Information

Information for this report was provided to the authors by ITH and consists of data generated by ongoing exploration by ITH and initial data from 2006 and earlier which was provided to ITH by AGA. In addition, Dr. Klipfel has spent an aggregate of twelve days on the site during four visits reviewing core, examining outcrop, and discussing the project with on-site geologic staff and with Mr. Jeffrey Pontius, President of ITH. In addition, Dr. Klipfel has undertaken petrographic evaluation of samples from the project.

2.5 Field Examination

Dr. Klipfel completed a data review on June 6-7, 2006 in AGA's Denver office and then visited the property on Friday, June 16, 2006 to examine the site with Mr. Jeffrey Pontius, president of ITH. The field visit included review of the physiographic, geologic and tectonic setting of the property, drill hole collar locations, as well as detailed examination of outcrop and sampling of the key veins. Drill core was examined at the core storage facility in Fairbanks, Alaska. Dr. Klipfel made a second visit for 2 days on October 4-5, 2007, during which time he reviewed exploration progress, drill core, drill sites, outcrop exposures, and geologic concept development with on-site geologic staff. Seven check samples were collected at that time. A third visit took place from June 30 – July 3, 2008, during which time drill core and RC chips were examined and sampling and down-hole surveying procedures were observed. A fourth visit was made from September 22 – 26, 2008 during which time map and section information was reviewed, field observations were made, drill sites, drill core and chips were examined, and 31 check samples were collected.

3.0 Reliance on Other Experts

The preparation of this report has relied upon public and private information provided by ITH and AGA regarding the property. The authors assume and believe that the information provided and relied upon for preparation of this report is accurate and that interpretations and opinions expressed in them are reasonable and based on current understanding of mineralization processes and the host geologic setting.

4.0 Property Description and Location

4.1 Area and Location

The Livengood project is located approximately 115 km by road (85 km by air) northwest of Fairbanks in the northern part of the Tintina gold belt (**Figure 4.1**). At this location, the property straddles, but lies predominantly to the north of, the Elliot Highway, the main road connecting Fairbanks with the Alaskan far north. The property lies in numerous sections of Fairbanks Meridian T8N and Rs4 and 5W. Money Knob, the principle geographic feature within the area being explored, lies near the center of the claim block and is located at 65^o30'52''N, 148^o27'50''W.

The key area of interest lies on the west flank of Money Knob and is a zone of gold mineralization with, as yet, undetermined extent. This area lies within, and to the south of, a 1.6 x 0.8 km northeast-trending soil sample anomaly and is currently being assessed by drilling. The surface geochemical anomaly is situated within in a broader area of less pronounced anomalism that extends a further 2 km to the northeast and 1.6 km to the southwest. This zone is described further in Section 9.0.

4.2 Claims and Agreements

The Livengood Property (**Figure 4.2**) consists of an aggregate area of approximately 10,593 acres (4,287 hectares) controlled through agreements between TGA and the State of Alaska and TGA and various private individuals who hold state and federal patented and unpatented mining and placer claims. All property and claims controlled through agreements are listed in **Appendix 1**. These agreements are with the Alaska State Mental Health Land Trust (AMHLT), Richard Hudson and Richard Geraghty, Ron Tucker, the Griffin heirs, and Karl Hanneman and the Bergelin Family Trust.

The AMHLT lease (#9400248), signed July 1, 2004 by AGA and assigned to TGA on August 4, 2006, includes advance royalty payments of US$ 5/acre/year which escalates to US$ 15/acre in years 4-6 and US$ 25/acre in years 7-9. The lease has a work commitment of US$ 10/acre in years 1-3, US$ 20/acre in years 4-6, and US$ 30/acre in years 7-9. The lease carries a sliding scale production royalty of 2.5% @ US$ 300 gold up to 5% for a gold price more than US$ 500. In addition, an NSR production royalty of 1% is payable to AMHLT with respect to the unpatented federal mining claims subject to the Hudson & Geraghty and the Hanneman and Bergelin Family Trust lease. AHMT owns both the surface and subsurface rights to the land under lease to TGA.

The Hudson and Geraghty lease, signed April 21, 2003 by AGA and assigned to TGA on August 4, 2006, has a term of 10 years and for so long thereafter as exploration and mining operations continue. TGA is required to make advance royalty payments of US$ 50,000 per year, which are credited to production royalties. Production royalties vary from 2% to 3%, depending upon the price of gold. TGA has the option to buy down 1% of the royalty for US$ 1 million. The 20 claims under this lease are unpatented federal lode mining claims that have no expiry but require a claim maintenance fee of US$ 125/claim/year to keep them in good standing.

The Tucker mining lease of two unpatented federal lode mining and four federal unpatented placer claims has an initial term of ten years, commencing on March 28, 2007 and for so long thereafter as mining related activities are carried out. The lease requires payment of advance royalties of US$ 5,000 on or before March 28, 2009, US$ 10,000 on or before March 28, 2010 and an additional US$ 15,000 on or before each subsequent March 28 thereafter during the initial term (all of which minimum royalties are recoverable from production royalties). ITH is required to pay the lessor the sum of US$ 250,000 upon making a positive production decision. An NSR production royalty of 2% is payable to the lessor. ITH may purchase all interest of the lessor in the lease property (including the production royalty) for US$ 1million. The 6 leased claims are federal claims without expiry. A fee of US$ 125/claim/year or US$ 125 worth of work/claim/year is required to maintain the claims in good standing.

The Griffin lease of three patented federal claims is for an initial term of ten years (commencing January 18, 2007), and for so long thereafter as the Company pays the lessors the minimum royalties required under the lease. The lease requires minimum royalty payment of US$ 10,000 on or before January 18, 2009, US$ 15,000 on or before January 18, 2010, an additional US$ 20,000 on or before each of January 18, 2011 through January 18 2016 and an additional US$ 25,000 on each subsequent January 18 thereafter during the term (all of which minimum royalties are recoverable from production royalties). An NSR production royalty of 3% is payable to the lessors. ITH may purchase all interest of the lessors in the leased property (including production royalty) for US$ 1 million (less all minimum and production royalties paid to the date of purchase), of which US$ 500,000 is payable in cash over 4 years following the closing of the purchase and the balance of the US$ 500,000 is payable by way of the 3% NSR production royalty.

The Hanneman/Bergelin Family Trust ground is held via a binding letter of intent with an effective date of September 1, 2006. The lease of 169 Alaska State mining claims is for an initial term of ten years, commencing on September 11, 2006, and for so long thereafter as mining related activities are carried out. The lease requires payments of US$ 50,000 in each of years 2-5 and US$ 100,000 in each of years 6-10 and work expenditures of US$ 100,000in year 1, US$ 200,000 in each of years 2-5, and US$ 300,000 in each of years 6-10. An NSR production royalty of 2% and 5% is payable to the lessors (depending upon the price of gold). ITH may buy all interest in the property subject to the lease (including the retained royalty) for US$ 10 million.

On Alaska State lands, the state holds both the surface and the subsurface rights. State of Alaska 40-acre mining claims require an annual rental payment of US$ 25/claim to be paid to the state (by November 20), for the first five years, US$ 55 per year for the second five years, and US$ 130 per year thereafter. As a consequence, all Alaska State Mining Claims have an expiry date of November 30 each year. In addition, there is a minimum annual work expenditure requirement of US$ 100 per 40 acre claim (due on or before noon on September 1 in each year) or cash-in-lieu, and an affidavit evidencing that such work has been performed is required to be filed on or before November 30 in each year. Excess work can be carried forward for up to four years. If such requirements are met, the claims can be held indefinitely. The work completed by ITH during the 2008 field season will be filed as assessment work, and the value of the work is sufficient to meet the assessment work requirements through September 1, 2012 on all unpatented Alaska State mining claims held under lease.

Holders of Alaska State mining locations are required to pay a production royalty on all revenue received from minerals produced on state land. The production royalty requirement applies to all revenues received from minerals produced from a state mining claim or mining lease during each calendar year. Payment of royalty is in exchange for and to preserve the right to extract and process the minerals produced. The current rate is three (3%) percent of net income, as determined under the *Mining License Tax Law* (Alaska).

All of the foregoing agreements and the claims under them are in good standing and are transferable. Except for the patented claims, none of the properties have been surveyed.

Holders of Federal and Alaska State unpatented mining claims have the right to use the land or water included within mining claims only when necessary for mineral prospecting, development, extraction, or basic processing, or for storage of mining equipment. However, the exercise of such rights is subject to the appropriate permits being obtained.

4.3 Environmental Requirements

Project activities are required to operate within all normal Federal, State, and local environmental rules and regulations. This includes proper and environmentally conscientious protection of operational areas against spills, capture and disposal of any hazardous materials including fuel, drill fluids, and other materials used by equipment that are part of the drilling and exploration process. Reclamation of disturbed ground and removal of all refuse is part of normal operations.

With over 90 years of placer mining activity and sporadic prospecting and exploration in the region, there is moderate to considerable historic disturbance. Some of the historic placer workings are now overgrown with willow and alder. The old mining town of Livengood is now abandoned except for road maintenance buildings. ITH does not anticipate any obligations for recovery and reclamation of historic disturbance.

A cultural resource survey was completed in 2008 and received by ITH in January, 2009 (Northern Land Use Research, Inc., 2009). This survey, completed by Northern Land Use Research (NLUR), was commissioned by ITH to identify and document any sites, cultural features, or artifacts. The survey was completed as a Level 1 or Identification Phase survey. Twelve previously undocumented historic sites or artifacts were identified. However, no prehistoric artifacts and no previously unknown prehistoric cultural resources were located by the study. Historic features were flagged and noted to ITH staff for avoidance. The survey identified no features that have adversely impacted ITH's ability to conduct exploration at Livengood.

Total disturbance associated with ITH's planned exploration is minimal but drill pads and access ways need to be cleared. For much of the exploration area, disturbance is in areas covered by secondary growth of alder, willow, and spruce. The highest ground is bare or covered in small shrubs.

All drill sites are reclaimed on an on-going basis after exploration activities in that area are finished.

There are no known wildlife issues. Wildlife in the area consists of moose, bear, and various small mammals. None were observed in the course of the site visits.

There are no known existing environmental liabilities.

4.4 Permits

Operations which cause surface disturbance such as drilling are subject to approval and receipt of a permit from the Alaska Department of Natural Resources ("ADNR") and the U.S. Bureau of Land Management ("BLM"). The ADNR permit for ground controlled by the State of Alaska, initially issued to AGA (ADNR #9748) has been transferred to TGA, and was renewed on January 26, 2009 for 2009 and 2010. Exploration on Federal ground is permitted by the BLM under a Plan of Operations covered by EA-AK-024-08-010 (File FF095365) and is effective, without time limit, up until commencement of mining.

A permit is required from the US Army Corps of Engineers ("USACE") for exploration activities that may affect wetlands areas. This permit was granted on November 13, 2008 and enables ITH to drill in areas of shrub and tundra on and around Money Knob according to a USACE Preliminary Jurisdictional Determination. In support of this permit, the Alaska State Department of Environmental conservation has issued, on November 4, 2008, their Certificate of Reasonable Assurance for mineral exploration by ITH near Livengood. These permits require ITH to comply with all Federal and State regulations that apply to these areas.

There are no known issues at this time that would hinder ongoing renewal of any permits.

There are no known issues concerning water beyond normal operational obligations. These fall under operating permits issued by the state as outlined above.

There are no known native rights issues concerning the project area.

5.0 Access, Climate, Local Resources, Infrastructure and Physiography

5.1 Access

The Livengood Project area is located approximately 115 km northwest of Fairbanks on the Elliot Highway, which provides paved year-round access to the area. At present there are no full time residents in the former mining town of Livengood. A number of unpaved roads have been developed in the area providing excellent access.

5.2 Climate

The climate in this part of Alaska is temperate and mild in summer with average lows and highs in the range of 7 to 22°C. Winter is cold with average lows and highs for December through March in the range of -27 to -5°C. Annual precipitation is on the order of 23 cm which arrives mostly in the summer.

5.3 Local Resources

The project is serviced from Fairbanks, population 87,000. As central Alaska's principle center of commerce it is home to many government offices including the Alaska Division of Geological and Geophysical Surveys and the U.S. Geological Survey, as well as the University of Alaska Fairbanks. The town is serviced by major airlines with numerous daily flights to and from Anchorage and other locations. Helicopters and fixed wing aircraft are readily available. All supplies necessary for the project can be obtained in Fairbanks.

5.4 Infrastructure and Physiography

The project is situated in forested hilly countryside with subdued topography partly owing to widespread deposition of loess and gravel in valleys (**Figure 5.1**). Elevation ranges from about 150m (~500') in valley bottoms to 700m (2317') at Amy Dome along the east side of the property. Streams meander through wide, flat-bottomed, alluvial-filled valleys. Ridge lines are generally barren with sparse vegetation. Hillsides host mixed spruce-birch forest with abundant alder.

The area is drained by Livengood Creek which flows to the southwest into the Tolovana River which then joins the Tanana River and ultimately the Yukon River approximately 190 km to the west.

Existing infrastructure includes a paved highway which passes through the property and within ~ 1.6 km of Money Knob. Lesser unpaved roads are developed throughout the property. A repeater tower has been built on Radio Knob approximately 1.6 km east of Money Knob.

6.0 History

Gold was first discovered in the gravels of Livengood Creek in 1914 (Brooks, 1916). Subsequently, over 500,000 ounces of placer gold were produced and the small town of Livengood was established. Since then, the primary focus of prospecting activity has been with the placer deposits. Historically, prospectors have considered Money Knob and the associated ridgeline to be the source of the placer gold. Prospecting in the form of dozer trenches was carried out for lode type mineralization in the vicinity of Money Knob primarily in the 1950's. However, to date no significant production has been derived from lode gold sources.

Several companies have explored in the Livengood District over the past 30 years for lode gold mineralization. A summary of these programs is shown in **Table 6.1**. Placer Dome's work appears to have been the most extensive, but it was focused largely on the northern flank of Money Knob and the valley of Livengood Creek.

TABLE 6.1
EXPLORATION HISTORY

Company / Year	Major Activity	Results	Comment
Homestake / 1976	Geochemistry & 6 boreholes	Significant soil anomaly, low grade gold in drill holes and auger samples	Management decided on other priorities.
Occidental Petroleum / 1981	6 boreholes	Low-grade gold encountered in several holes	Other priorities.
Alaska Placer Development 1981 - 1984	Extensive soil and rock sampling together with mapping, mag, EM, trenching and auger drilling.	Defined soil and rock anomalies; other data not available.	Mostly on flanks of Money Knob. Changed focus to placer deposits.
Amax / 1991	3 RC holes; surface geochemistry and auger testing	Good geological mapping, lots of rock sampling, low grade gold in drill holes.	Other priorities.
Placer Dome / 1995 - 97	Surface exploration; / geophysics & 9 diamond core holes	Intersected some moderate grade mineralization.	Work focused to north of Money Knob. Limited land position.
Cambior 1999	Geochemistry	First to identify the extent of gold on Money Knob.	Corporate restructuring – no follow-up.
AGA / 2003-2005	Geochemistry, trenching, geophysics, drill testing;	Geochemical anomaly, numerous drill intersections	Results discussed in this report
ITH 2006-2007	Surface geochemical sampling; drilling 23 holes	First intersection of extensive zones of > 1g/t Au.	Results discussed in this report
ITH 2008	108 reverse circulation, 7 diamond core holes, and 4 trenches through September 27.	Infill and step-out grid drilling of mineralization	Results discussed in this report

AGA acquired the property in 2003 and undertook an 8-hole RC program on the Hudson-Geraghty lease. The results from this program were encouraging and were followed up with an expanded soil geochemical survey which identified anomalous zones over Money Knob and to the east. Based on the results of this and prior (Cambior) soil surveys, 4 diamond core holes were drilled in late 2004. Results from these two AGA drill programs were deemed favourable and a follow-up core hole drilling program was planned but not executed due to financial constraints. ITH drilled these holes as part of a 1227 m, 8-hole program in 2006. An additional 4400 m in 14 diamond core holes were drilled in 2007 to test surface anomalies, expand the area of previously intersected mineralization, and advance geologic and structural understanding of subsurface architecture.

In 2003, as part of a larger state-wide program, the Alaska Division of Geological and Geophysical Surveys undertook a district-scale program of mapping and whole rock geochemical sampling in support of the mapping. They report "one highly anomalous sample that yielded slightly over one ounce per ton gold" (Athey and Craw, 2004).

Geophysical work in the vicinity includes an airborne magnetic survey by Placer Dome in 1995. This data has not been recovered. They also conducted VLF surveys in the northern part of the district in 1996 with only limited success because of the mixed frozen and thawed ground. This data is only partially preserved. The state of Alaska flew a 400 meter line spaced DIGHEM survey (an aerial, multi-channel electromagnetic technique) over the Livengood District in 1998. AGA ran a series of CSAMT (Controlled-Source Audio-frequency Magneto-Telluric) lines across Money Knob in 2004. This survey was designed to look for resistive intrusive bodies in the subsurface. The survey appeared to map the main thrust zone but did not appear to delineate hidden intrusive bodies.

7.0 Geological Setting

7.1 Regional Geology

The Livengood 'district' is a portion of the broader Tolovana Mining District. It is situated in a complex assemblage of rocks known as the Livengood Terrane (**Figure 7.1**). This Terrane is an east–west-trending belt, approximately 240 kilometres long, bounded on the north by splays of the dextral Tintina-Kaltag strike-slip fault system and other terranes to the south. It is composed of a complex sequence of rocks which do not match assemblages of the adjacent Yukon – Tanana Terrane. Throughout the Livengood Terrane, individual assemblages of various ages are tectonically interleaved. Each assemblage, and perhaps the stratigraphy within each assemblage, is bounded by both low to moderate (?) angle thrust faults and steep faults, of which at least some of the latter type are interpreted to be splays of the Tintina Fault system.

The Livengood Terrane is overprinted by later Mesozoic intrusions believed to have originated in the back-arc position above subducting oceanic crust. These intrusions are quartz monzonite to diorite to syenite in composition and some of them are believed to be responsible for gold mineralization of the Tintina Gold Belt (Goldfarb, et al., 2000). The Livengood district occurs within the Tintina Gold Belt, an arcuate belt of gold mineralization that extends from the Yukon to south-western Alaska and hosts numerous gold deposits, including Fort Knox and other deposits of the Fairbanks District and the Donlin Creek deposit in the Kuskokwim region.

7.2 Local Geology

In the vicinity of the Livengood project, the oldest rocks are Neoproterozoic to early Paleozoic basalt, mudstone, chert, dolomite, and limestone of the Amy Creek Assemblage (IPzZ units on Livengood geology map; Athey et al., 2004) (**Figures 7.2 and 7.3**). These units are believed to represent incipient ocean floor basalt in a continental rift system and overlying sediments. The origin and age are poorly constrained but fossil evidence suggests a depositional age of Neoproterozoic to Cambrian time.

Above the Amy Creek Assemblage lies an early Cambrian ophiolite sequence (Plafker and Berg, 1994). This assemblage consists of structurally interleaved greenstone, pyroxenite, metagabbro, layered metagabbro, and serpentinite (**Figures 7.2** and **7.3**). Metamorphic ages suggest that this assemblage was tectonically emplaced over the Amy Creek Assemblage by north-directed thrust faults during Permian time.

The Cambrian ophiolite sequence is, in turn, overlain by Devonian rocks which include shale, siltstone, conglomerate, volcanic, and volcaniclastic rocks (**Figures 7.3 - 7.6**). This assemblage is the principal host for gold mineralization. These rocks have been subdivided into “Upper” and “Lower” sediments with volcanics between (**Figure 7.3**). The Upper Sediments consist of siltstone, sandstone, conglomerate, and shale. The Lower Sediments tend to be finer grained with shale dominant. Use of trace element ratios has helped discriminate these units from one another. The volcanics consist of flows and pyroclastic rocks. Some of these volcanic rocks were previously mapped as Cretaceous intrusive rocks (Athey et al., 2004). However, through use of trace element ratios, it is now known that most of the rocks mapped as “Ruth Creek Pluton” are volcanics and part of the Devonian stratigraphy.

Structurally above the Devonian assemblage is a klippe of the Cambrian ophiolitic mafic and ultramafic rocks with tectonically interleaved wedges of cherty sedimentary rock believed to belong to the Amy Creek Assemblage (**Figure 7.4**). The thrust contacts between the various rock units indicates that there has been extensive thrust stacking and interleaving of the different assemblages as well as possible local interleaving of some units within the assemblages.

Rocks in each of these assemblages have been folded, but overall, they strike east-west to northwest-southeast and dip shallowly to moderately south, consistent with postulated northward directed thrust transport. Drill intercept patterns and foliation-bedding relations observed in core (**Figures 7.6 d and e**) indicate that these rocks define recumbent folds between thrust surfaces. Later Cretaceous dikes and sills intrude the sequence, some of which intrude along these faults.

The thrust-stacked Paleozoic sequence described above is intruded by back-arc Cretaceous (91.7 – 93.2 m.y.; Athey and Craw, 2004) multiphase monzonite, diorite, and syenite stocks, dikes, and sills with equigranular to porphyritic textures. Athey et al. (2004) concluded that the intrusive rocks were the primary host to the gold mineralization. However, exploration work since then has shown that these rocks are Devonian volcanics which have undergone extensive alteration along with introduction of mineralization in quartz and quartz-carbonate veins. Narrow Cretaceous stocks (?) and large dikes are biotite monzonite. Narrower, late (?) stage dikes are composed of non-biotite feldspar porphyry +/- syenite, and aplitic non-biotite felsic intrusives (**Figure 7.6**). Mineralization appears to be spatially associated with these dikes.

The most significant faults of the area are low to moderately south-dipping thrust faults which juxtapose rock assemblages of different ages and origin (**Figure 7.3**). Other faults are subvertical, trend approximately east-west and are thought to be related to the dextral Tintina-Kaltag fault system. West of Money Knob, a north-south normal fault is known as the Myrtle Creek Fault. Inferred west-side down movement on this fault may have influenced the paleo-drainage system of the area. Based on a number of lines of evidence, it is believed that Livengood Creek used to flow to the northeast. Capture of the stream by the Tolovana River, and reversal of flow could have been related, in part, to movement along the Myrtle Creek Fault (Karl, et al., 1987; Athey and Craw, 2004).

Exploration work from 2006 through 2008 by ITH confirms the structural features and previously interpreted geologic history of the Livengood area. Drilling and surface work have helped define details particularly with the use of principle component geochemical evaluation. This technique utilizes the relative abundance and ratios of various immobile elements and has enabled discrimination of Devonian volcanics from Cretaceous intrusive and dike rocks as well as the upper and lower sedimentary assemblages. Interpretive cross sections (**Figures 7.7 – 7.9)** show the results of ITH work and their interpretation.

7.3 Geological Interpretation

At the district scale, thrust stacking of rock assemblages (Amy Creek, Cambrian ophiolite, Devonian sedimentary and volcanic rocks) is reasonably well understood. Drilling reveals that there are numerous local fold and thrust complications which are only partially understood at this stage. It is likely that faults and fractures produced during the fold-thrust deformation localized dikes and auriferous hydrothermal fluid. Gold mineralization largely appears to be controlled by and is spatially related to the thrust architecture. The gold mineralization envelope encloses and lies parallel to axial planes of thrust-related recumbent folds. It appears as if mineralization occupies a broad ‘damage zone’ related to the fold-thrust architecture. Patterning in the resource block model is consistent with this interpretation.

Local lithologic effects may contribute to detailed vein patterning and or location of diffuse mineralization. Mineralization spatially associated with dikes appears to occur within ‘damage zones’ related to the thrust faults. However, the exact relationship and relative orientations of these features is not fully understood. Structural measurements in drill core indicate that the dominant dike orientation is east-west striking with dips 30-50 degrees to the south. Many of the dikes are in faults or are bounded by faults suggesting that they, at least partially, follow thrust faults. Measured fault orientations in core reveals a broad scatter of attitudes but with clustering reminiscent of the dike orientations. This pattern of partial coincidence between dikes, faults, and mineralization envelopes reinforces the interpretation that the dikes and faults are key controls for mineralization.

Despite these apparent relations, mineralization in sections 428850, 428925 and 429075 appear to lie oblique to the thrust fault contact between rocks of the Cambrian ophiolite and the Devonian assemblage (**Figures 7.7-7.9**). Although it is not possible to reliably correlate individual dikes between the drill holes on these sections it is clear that the 30-50 degree dip of the dikes and associated structures is compatible with the southerly dipping zones of mineralization. These relationships need further evaluation. Improved understanding ought to offer predictive information for the location of more mineralization.

8.0 Deposit Types

Gold occurs in vein and disseminated styles of mineralization. It occurs in and adjacent to narrow (≤10 cm) multistage quartz veins dominantly in volcanic rocks, but also in intrusive, sedimentary, and ophiolite rocks, generally near intrusive dikes and sills. Gold also occurs as diffuse mineralization through the same rocks without a clear association with quartz veins. Many of the dikes appear to fill thrust-related structures and some of the diffuse mineralization occurs in envelopes around these zones. Mineralization associated with dikes and sills is analogous to that at the Donlin Creek deposit where gold occurs in fine quartz veins associated with dikes and sills of similar composition (Ebert, et al., 2000). However, mineralization at Money Knob is not tied to arsenopyrite as it is at Donlin Creek. In the broader sense, mineralization at Money Knob appears to be spatially and temporally (?) related to Cretaceous intrusions, consistent in style, timing, and composition to numerous gold deposits and mineral occurrences of the Tintina Gold Belt (McCoy, et al., 1997; Smith, 2000).

Vein mineralization of the Livengood property is interpreted to be intrusion-related epigenetic type. The character and geochemical association of As-Sb is suggestive of formation at a crustal level higher than mesothermal depths (~5-10 km) and deeper than shallow epithermal systems (≤3 km). Thrust-fold architecture is apparently key to providing pathways for magma (dikes and sills) and hydrothermal fluid.

9.0 Mineralization

Historically, the Livengood district has been known for its >500,000 ounce placer gold production. The source of this gold is unknown, but the principal drainages which fed the placer gravels are sourced from Money Knob and the associated ridgeline. Prospecting in this area has revealed numerous gold-bearing quartz veins, generally associated with dikes, sills and stocks of monzonite, diorite, and syenite composition. The reduced magma type and porphyritic to brecciated textures as well as local zones rich with arsenopyrite, are characteristics common to many deposits of the Tintina Gold Belt (e.g. Brewery Creek, Donlin Creek) (McCoy, et al., 1997; Smith, 2000).

No lode production has taken place at Money Knob. Exploration of the area by various companies, including soil surveys by Alaska Placer Development, Cambior, AGA and ITH, reveals a 6 x 2 km northeast-trending anomalous area in which a 1.6 x 0.8 km area forms the locus of current exploration interest (**Figure 9.1**). Despite drilling of 157 holes to September 27, 2008, this area has been only partially drill tested.

The 2003 reverse circulation drilling program conducted by AGA intersected gold mineralization interpreted to be the result of a large intrusive-related gold system. Multiple intercepts of > 1g/t Au were encountered in 7 of the 8 holes. Subsequent drilling by AGA in 2004 and ITH in 2006 through 2008 has consistently intercepted significant gold-bearing intervals, evaluation of which has demonstrated the presence of Indicated and Inferred resources. Some of the results of this drilling are highlighted in **Table 9.1**.

TABLE 9.1
HIGHLIGHTS OF LIVENGOOD DRILLING

Hole ID	From (m)	To (m)	Length (m)	Au (g/t)	GT*
BAF-7	161.5	300.2	138.7	1.06	147.25
MK-06-07	160.8	216.1	55.3	1.79	99.19
MK-07-18	121.3	199.9	78.6	1.09	85.68
MK-07-20	127.1	185.1	58.0	1.19	68.78
MK-08-30	127.9	183.8	55.9	1.05	58.75
MK-08-33	117.9	254.2	136.3	1.08	147.17
MK-RC-0001	138.7	204.2	65.5	1.56	102.27
MK-RC-0007	128.0	187.5	59.4	1.99	118.01
MK-RC-0008	10.7	210.3	199.6	1.37	273.80
MK-RC-0023	196.6	254.5	57.9	2.51	145.29
MK-RC-0024	102.1	152.4	50.3	1.38	69.50
MK-RC-0031	42.7	204.2	161.6	1.02	165.02
MK-RC-0039	132.6	190.5	57.9	1.30	75.33
MK-RC-0043	85.3	228.6	143.3	1.32	188.84
MK-RC-0045	134.1	257.6	123.5	1.09	134.93
MK-RC-0050	178.3	274.6	96.3	1.11	106.55
MK-RC-0060	254.5	336.8	82.3	1.10	90.49
MK-RC-0064	170.7	332.2	161.5	1.32	213.75
MK-RC-0065	196.6	257.6	61.0	1.04	63.58
MK-RC-0069	202.7	256.0	53.3	1.01	53.88
MK-RC-0071	137.2	301.8	164.6	1.54	254.15
MK-RC-0078	164.6	298.7	134.1	1.03	138.43
MK-RC-0085	227.1	277.4	50.3	1.11	55.79
MK-RC-0089	138.7	239.3	100.6	1.16	116.36
MK-RC-0095	141.7	268.2	126.5	1.23	154.99
MK-RC-0098	157.0	219.5	62.5	1.09	68.34
MK-RC-0099	121.9	175.3	53.3	1.04	55.33
MK-RC-0110	149.4	355.1	205.7	1.44	295.80

*GT – grade thickness = Length m x g/t

Drilling in 2008 has provided adequate detail to show that mineralization occurs primarily in volcanic rocks, but is also present to a significant degree in the upper and lower sediments and to a lesser degree in mafic-ultramafic rocks. Mineralization appears to be contiguous over an area approximately 1 km square and ranges up to 160m thick. The dip of mineralized envelopes ranges from subhorizontal to 45 degrees to the south; nearly all drill holes are inclined at 50 degrees to the north in an effort to cross the mineralized zone as close to perpendicular as possible. Surveys show that the RC holes steepen to approximately 70 degrees over the length of the hole. The limits of the mineralized system are not closed off in any direction, although the Lillian Fault produces a significant discontinuity along the northeast side of the mineralized zone.

Better gold values (>1 g/t) tend to be associated with dike margins and broad zones within adjacent volcanic and sedimentary or mafic-ultramafic rocks. Mineralization occurs internal to some of the dikes. Gold can be associated locally with increased concentrations of quartz veining +/- scattered coarse blebs of arsenopyrite and/or stibnite. Where gold occurs in sedimentary host rocks, veins are most common in brittle siltstone, sandstone, and pebble conglomerate as opposed to shale. The diffuse style of mineralization is spatially associated with areas containing vein mineralization, but gold can be present where there is no discernable quartz veining to explain it.

Mineralization is accompanied by complex alteration assemblages, which are currently the subject of ongoing investigation. Preliminary results indicate that there is widespread albite alteration which occurs as radiating plumose rosettes (**Figure 9.2**). In addition, secondary silica, sericite, and carbonate are also present. Sericite is widespread through many rocks, particularly the sedimentary ones. Carbonate occurs throughout the rocks and in sulphide-bearing quartz veins and veinlets. Where rocks have been albitized, quartz-carbonate veinlets cross-cut the albite indicating that this stage of veining post-dates albitization. Silicification is widespread and may accompany albitization.

10.0 Exploration

10.1 Past Exploration

Several companies have explored the Livengood area as outlined in Section 6 (History). Results from that work include identification of a sizeable area of anomalous gold in soil samples and drilling significant intervals of anomalous gold mineralization (described in previous sections).

ITH has collected 81 soil samples in 2006 and 180 soil samples along with 78 surface rock samples in 2007. These samples have helped ITH better define the distribution of gold in soils on the southwest side of Money Knob and better delineate the distribution of gold and rock types between Money Knob and Radio Knob.

ITH undertook drilling of areas beneath the surface geochemical anomalies in 2006 with favourable results. In 2007, the area was drilled sufficiently to produce a resource evaluation

(Giroux, 2007; Klipfel and Giroux, 2008a) and a program for 2008 was planned that would improve that evaluation. Drill results through September 27, 2008 were used as part of a revised resource evaluation in October, 2008 (Giroux, 2008; Klipfel and Giroux, 2008b). Geochemical results received and drilling completed after that date have been used for a subsequent resource update (Giroux, 2009) which is reported in Section 17 (Resource Evaluation).

10.2 Current Exploration

To date, ITH has drilled 28,613m in 108 RC holes and 7,678m in 29 diamond core holes. Assayed sample data from these holes, along with past holes from other explorers, has allowed three rounds of resource estimation (2008 early, 2008 fall, and 2009). Results from this most recent evaluation are presented in Section 17 (Resource Evaluation).

A winter drill program is currently in progress and is anticipated to complete 25 more RC drill holes in areas which have been recently been permitted. Results from these holes along with others planned for 2009 will form the basis for a scoping study and new resource evaluation later this year.

11.0 Drilling

11.1 Past Drilling

All of the companies that have explored at Livengood in the past, except Cambior, have undertaken drill programs to evaluate their targets. In each case, drill holes were targeting different geologic concepts such as veins in bedrock beneath the alluvial gold. Drilling to date by AGA and ITH has focused on a modest portion of the surface anomaly area (**Figure 11.1**).

Drilling in 2003 by AGA consisted of 1,514 m of vertical and angled reverse circulation (RC) drilling in eight holes. It identified broad zones of gold mineralization (BAF-7; **Table 9.1**). Drilling in 2004 by AGA consisted of 654m of HQ coring in 4 diamond drill holes which were designed to test for gold mineralization beneath the soil geochemical anomaly that occurs along the thrust fault at the base of the Cambrian rocks. These holes were up to 1.7 km to the west of 2003 drill holes. This drilling identified thick zones of gold mineralization in Devonian rocks beneath relatively barren, thrust-emplaced Cambrian rocks. (MK-04-03; **Table 9.1**). These results highlighted the fact that significant mineralization could exist beyond the limits of the main soil anomaly, particularly in blind locations beneath thrust faults.

Core drilling (HQ) in 2006 (8 holes, 1,230m) and 2007 (14 holes, 4,400m) focused on extending and defining the geologic setting of mineralization first recognized in MK-04-03. This mineralization is hosted primarily in the Devonian volcanic rocks and, to a lesser degree, in the overlying and underlying Devonian sedimentary rocks where it is commonly associated with dikes (**Figure 11.2**).

The RC drilling in 2003 was conducted by Layne Christiansen Company using an MPD 1500 Track RC drill. Drilling in 2004 was also by Layne using a CS1000 core drill. No drilling took place in 2005. In 2006 and 2007, ITH completed 22 core holes.

11. 2 Current Drilling

In 2008, ITH drilled 30,653m of RC and core in 108 RC and 7 core holes. Approximately 53% of this drilling was completed and had assay reports returned as of September 27th, 2008. Those results were used for an interim resource evaluation reported in October, 2008. The remaining drilling and sample results were completed by the end of the year and formed the basis for a revised resource calculation which is presented in this report. The goal of the 2008 drill program was to better define and expand the Resource calculated early in 2008 based on 2007 drill data. Objectives included:

1 Drilling enough holes at a suitable spacing to convert some of the current Inferred Resource to Indicated.
2 Testing anomalous surface geochemistry outside of the area previously drilled to expand the Resource.
3 Testing conceptual targets and geologic models for continuations of mineralization at depth and across faults.

Out of 115 holes drilled in 2008, 108 were mineralized (e.g. >0.25g/t) over more than 10% of their length and 55 were mineralized for over 40% of their length. The 2008 drill program did not identify limits to mineralization in any direction. A thicker zone of mineralization was identified (up to 199m; **Table 9.1**) as well as the new understanding that mineralization occurs in all rock types, not just in Devonian volcanic rocks. This is important as it indicates that there is broader potential for mineralization than envisioned prior to the 2008 drill program.

Drill hole locations were measured using sub-meter differential GPS surveys at the drill collar. For core holes, azimuth and inclination were measured using an EZ-Shot bore hole surveying device. Orientation of reverse circulation drill holes was determined using the Gyro-Shot survey instrument. Precision and accuracy of these methods was assessed through a series of duplicate surveys using both instruments. These surveys were completed by Northern Associates, Inc. and observed in the field by Dr. Klipfel. Results of surveys and duplicate tests show normal minor deviation in azimuth and inclination with reproducibility within a close margin of error.

Beginning in February, 2009, ITH will be undertaking a winter drill program within areas that are sensitive to disturbance during the summer season. This drilling will allow the infill of information in key areas.

12.0 Sampling Method and Approach

12.1 Past Sampling

The sampling procedures of previous companies are not known but the major companies that did the work are known for their conscientious QA/QC protocols. Sample data from past programs are consistent with more recent data generated by AGA and ITH. On this basis, there is no reason to doubt the validity or credibility of samples from Occidental, AMAX, Homestake, or Placer Dome. The similarity of results for each program suggests that sample collection and analytical procedures are sufficiently similar to allow use of their data by ITH in current exploration efforts.

For samples collected by AGA, all soil, stream sediment, rock, and drill sampling was done according to AGA in-house protocols for geochemical sampling. These protocols specified technical procedures for collection and documentation of samples. In general, -80 and -200 mesh material was analyzed for soils and stream sediment respectively. Dr. Klipfel reviewed these protocols as well as AGA's security procedures and verified that they met or exceeded standard industry practices. Sampling procedures remained the same through the course of the 2003 and 2004 exploration programs.

All AGA geochemical samples were secured and shipped to Fairbanks according to AGA protocols for sample preparation (drying, crushing, sieving, and pulverizing) at ALS-Chemex in 2003 and Alaska Assay in 2004. Sample splits (300-500g for rock material; -80 mesh for soil samples) were sent to ALS Chemex in Vancouver for analysis. Analytical methods used were standard 50g fire assay with AA finish and four-acid digestion, multi-element ICP-MS. These are standard analytical packages for the exploration industry and are performed to a high standard. Analytical accuracy and precision were monitored by the analysis of reagent blanks, reference material and replicate samples. Quality control was further assured by the use of international and in-house standards. ALS Chemex is accredited by the Standards Council of Canada, NATA (Australia) and also has ISO 17025 and 9001 accreditation.

AGA reverse circulation drill samples were collected at five foot intervals as measured by the driller. Pulverized material from the hole was passed though a cyclone to separate the solids from the drilling fluid and then over a spinning conical splitter. The splitter was set to collect two identical splits each of which weighed 2-5 kg. Representative material was also collected and saved in chip trays for later visual inspection. The split material was put into pre-numbered bags by the drillers' helpers on site. One of the splits was sent for analysis while the other was retained for future reference. Samples were secured and transported to the sample preparation facility of ALS Chemex in Fairbanks for drying, crushing, pulverization, and splitting. 120 gram splits were sent to Vancouver for analysis by standard 50 gm fire assay with AA finish and multi-element ICP-MS. The RC chips were logged by project geologists by recording basic information on the lithology, alteration, and mineralization for each interval.

AGA's core material was collected at the drill site and placed in core boxes under the supervision of an experienced geologist and Qualified Person for the purposes of NI 43-101. It was logged for rock type, alteration, structure, and with detailed descriptions. Dr. Klipfel has examined the core logs and core from the four 2004 holes and can verify the reliability of the logging. Sample intervals were determined on the basis of the distribution of veining and alteration with a minimum sample width of 30 cm and the maximum width of 1.5m. Samples were collected to isolate different components of the alteration and mineralization to characterize them.

After the samples were marked out, the core was sawed in half and one half sent for analysis. The other half was either kept on site or at AGA's core storage facility in Fairbanks. The average recovery in the core program was in excess of 90% and there is no indication that poor recovery is an issue in the interpretation of the assay data. Sampling was selective but barren samples were always collected to bracket zones of mineralization so that reliable boundaries could be defined in the intercepts. Dr. Klipfel examined this core in the course of the site visits.

12.2 Current Sampling

ITH has adopted and continued the sampling protocols used by AGA and described in the previous section, with the exception that all drill holes are sampled from surface to total depth. This assures a high level of reliability in the sample data set and assures continuity of methodology, laboratory standards and conventions as well as confidence in the data generated.

13.0 Sample Preparation, Analyses and Security

13.1 Past Procedures

Soil and drill samples obtained in 2003 and 2004 exploration programs were subject to AGA's in-house methodology and Quality Assurance Quality Control (QA/QC) protocols. Samples were analyzed by various methods by different laboratories.

The QA/QC program implemented by ITH meets or exceeds industry standards. The program involves analysis of blanks, standards and duplicates. Blanks help assess the presence of any contamination that might be introduced by analytical equipment. Standards help assess the accuracy of the analyses, and duplicates help assess the reproducibility or precision of the analytical methods and equipment used.

All sampling campaigns were subject to insertion of blanks and standards at a rate of 1 blank and 1 standard for every 23 samples (total = 2QA/QC samples per 25 submitted samples). Blank samples consist of material known to contain below detection amounts of the metal for which the sample is being tested. Standards consist of sealed sachets of material with a certified abundance of the metal for which the sample is being tested. Standards were purchased from RockLabs and GeoStats.

Duplicate core and rock samples were run from pulp and coarse reject splits along with sample repeats approximately every 20 samples. Duplicate samples were also collected at the drill rig for 2003 RC drilling. Results of AGA's QA/QC program have been reviewed by Dr. Klipfel. Overall, the QA/QC samples indicate that sampling and analytical work is accurate and reliable. In 2004, there were two instances of issues with blanks and standards out of compliance with AGA protocols, but these were satisfactorily resolved by AGA. The sample database does not appear to be compromised.

13.2 Current Procedures

ITH has continued with the QA/QC protocol of AGA as described above and increased the number of control samples (blanks and standards) to 1 in 10. Duplicate splits of drill samples are prepared for every 20 samples. ITH has undertaken rigorous protocols to assure accurate and precise results. Among other efforts weights are tracked throughout the various steps performed in the laboratory to assure accurate assignment of results to the appropriate sample. ITH weighs all core samples before shipping. They are then reweighed by the laboratory when received and logged in. RC samples are dried and then weighed at the laboratory. Sample reject material is weighed again by the laboratory after the sample aliquot has been removed for pulverization. This tracking of sample weights enables constant verification of quality throughout the preparation process. Key results of this protocol include minimization of sample switches and transcription errors.

Samples are analyzed by standard 50g fire assay for the gold determinations. All core samples and select RC drilling samples are also submitted for multi-element ICP-MS analyses using a 4 acid digestion technique. All RC samples are analyzed on site for trace elements using a Thermo Fisher Scientific NITON portable XRF. Trace element abundances as determined by ICP and XRF are used to help discriminate lithologic units such as Devonian volcanics from Cretaceous intrusive rocks and the sedimentary rocks above the volcanics from those below the volcanics. Also, because arsenic correlates strongly with gold, an XRF determination of arsenic abundance has helped ITH anticipate gold-bearing zones before assays are returned. This information has proved constructive for drill planning and execution.

The QA/QC data from ITH sampling program has been reviewed by Dr. Klipfel. Analyses of blanks and standards that fall outside of an acceptable range, such as 3x detection limits for blanks or 10% for standards, are flagged for investigation. Unless a suitable explanation, such as a sample switch, can be found, the error is reported to the laboratory and the sample intervals around the questionable sample are rerun. A new certificate is issued by the lab for the reanalysis if the correct values for the standards and blanks are determined. Errors are generally attributable to sample switches, weighing errors and contamination of the first sample in a batch. Multi-element QA/QC is monitored using the compositions of the blank and standard materials.

Duplicate samples are used to assess reproducibility of the laboratory procedures and to ensure that the sampling procedure is representative. Pulp duplicates (334 in 2008), representing multiple assays of the same pulverized material show that the laboratory procedures are precise and that the pulp material is uniform with errors of mostly less than 10% (**Figure 13.1**). Errors greater than 10% are believed to be due to normal nugget effect typical of gold deposits. Coarse duplicates (736 in 2008, 187 in 2007), created by splitting either core samples after coarse crushing or splitting raw RC chips, show a somewhat higher degree of variability but demonstrate no bias to either high or low grade (r=0.85, Mean original samples = 0.54g/t, Mean of duplicates=0.58g/t). The reproducibility of the pulp duplicates also indicates that the gold is not so coarse that it causes major nugget effects. The variability in the coarse duplicates indicates that mineralization is not uniformly distributed within the sample material. This is consistent with the interpretation that gold is, at least partially, hosted in narrow veins and veinlets, which when crushed produce a small number of mineralized fragments in the overall sample, thereby causing a type of nugget effect during the coarse sample splitting. In recognition of this effect sample preparation procedures have been modified so that 1kg of sample material is now pulverized rather than 350g aliquot previously used. Dr. Klipfel considers these results to be appropriate for Livengood mineralization and indicative of sound QA/QC procedures.

14.0 Data Verification

Field and drill core observations made by Dr. Klipfel during site visits are consistent with the style of mineralization and alteration interpreted and reported in ITH documents. Outcrop exposures in drainages, trench faces, road cuts, and along the ridge lines were examined and found to be consistent with existing geological maps.

Drill logs, sections and maps were reviewed and are to a high quality. Provided information is consistent with observations of core and surface exposures.

In 2006, Dr. Klipfel collected a single sample along 3 m of a trench face where intrusive material with quartz veins is exposed. This sample was crushed, split, pulverized and assayed with a 50 g fire-assay AA finish method by ALS Chemex in Reno, Nevada. The sample contains 1.31 g/t Au, a value consistent with results from AGA sampling and expectations for material of that type and location.

In 2007, Dr. Klipfel collected seven samples from portions of two different drill holes, MK-07-18 and MK-07-20, from the remaining half of drill core previously sampled by ITH. Samples were selected for a range of gold content and rock type. The range of gold content in these samples is from below detection to 16.8 g/t Au. The core was quartered for the same sample interval as previously collected by ITH. Core material was bagged, labelled and information recorded by Dr. Klipfel and by ITH staff. Sample bags were sealed and transported to the ALS-Chemex laboratory in Fairbanks for sample preparation. Pulverized material was split into 300 gram master pulps and 120 gram analytical pulps before being sent to ALS Chemex in Vancouver for analysis. All samples except one returned results reasonably consistent with results from the ITH original sampling. The single sample that is different contains 0.61 g/t Au compared to 6.92 g/t Au in the original ITH analysis. This discrepancy is similar to the few discrepancies that occur in ITH’s QA/QC sample duplication procedures. For this reason, the discrepancy is interpreted to reflect normal variation attributable to nugget effect. To the extent that this type of error is throughout the database, it is equally likely that a corresponding number of samples report low when the other half of core might report higher.

In 2008, 31 samples (26 RC and 5 core) were collected by Dr. Klipfel for verification analyses. These samples came from 5 different RC holes and 1 core hole. Samples were selected at random and specifically for a range of gold content from near detection limits (0.005 g/t Au) to high grade (20.9 g/t Au). Half-core that remains after a first sample was quartered and analyzed. Two standard and two duplicate samples demonstrated good reproducibility. RC samples demonstrated reasonable reproducibility, and core samples showed a range. No systematic bias was observed. Dr. Klipfel interprets these results to show normal scatter and nugget effect typical of mineralization at Livengood and for gold in general.

In addition to three rounds of sample verification, Dr. Klipfel witnessed the sluicing and panning of concentrated "clean up" material shovelled from a trench face. The material contained a significant amount of fine colors as seen in the panning dish verifying the presence of free gold at a range of sizes in that part of the trench face.

Data from duplicates, standards, and splits for drilling after September 27th, 2008 have been reviewed by Dr. Klipfel and conform to previous QA/QC assessments.

Dr. Klipfel has not verified all sample types or material reported. To the best of the authors' knowledge, ITH has been diligent in their sampling procedures and efforts to maintain accurate and reliable results.

15.0 Adjacent Properties

Another claim block called the Shorty Creek claims is controlled by Select Resources and is located approximately 10 km to the SW of the Livengood project area. This area is actively being explored for gold mineralization by Select Resources.

The Alaska Pipeline, the main means of transporting crude oil from Alaska's North Slope to the south coast of Alaska, runs northwest-southeast about 8 km to the west. This feature is not expected to have any impact on the project.

16.0 Mineral Processing and Metallurgical Testing

In 2004, AGA attempted to test the cyanide solubility of gold in drill sample material by analyzing samples containing more than 200 ppb Au. Samples were sent to ALS Chemex for a 30g cold cyanide leach assay (Au-AA24). 198 samples were analyzed in this manner and they show consistent CN soluble assays, on average about 60% of the fire assay value (AGA in house memorandum to files). The significance of this result is unclear because there are many variables which could affect this outcome. These include small sample size, nugget effect, host rock type, sulphide content, other mineral content, encapsulation, and possible inappropriate testing method. Of these, nugget effect is expected when there is coarse free gold which was witnessed by Dr. Klipfel in the sluice sample of trench face material. Sulphide is present and also could be a significant factor. In an effort to determine which minerals might impact the cyanide test, AGA used principle component analysis for four sets of ‘factors’. They concluded that As and Sb had little impact, but that sulphide content and coarse gold were the leading contenders for lowering recovery in the CN leach samples.

In Dr. Klipfel’s opinion, this test was inconclusive due to small sample size and nugget effect. However, it should be an indicator of processing and recovery possibilities and issues. It also showed that gold and sulphide characterization studies are needed for metallurgical and process planning. Any such study should address sample size, coarse free gold content, distribution and location of gold in host rock, material type (shale, volcanic, intrusive) , and sulphide content. At this stage, the results should only be considered as a preliminary indicator of potential refractory issues for a cyanide leach process.

In 2006, ITH submitted a single sample of unoxidized vein-related mineralization to Hazen Research for a gold characterization study. The sample showed that the bulk of the gold occurs as micron-scale native gold grains in and adjacent to pyrite and arsenopyrite grains with a smaller number of grains associated with silicate gangue. Cyanide recovery in a bottle roll test was 61% (**Table 16.1,** Sample 1A).

In 2007 six more samples were submitted to Hazen Research for additional gold characterization studies. These samples represented both high and low grade mineralization from oxidized, partially oxidized and unoxidized material. Cyanidization of the samples shows that the cyanide extraction of gold is very high on the oxide samples and partially oxidized samples (**Table 16.1**) and somewhat less in the sulphide material. Two of the sulphide samples (**Table 16.1**, samples 3 and 1A) were from rock with albitic alteration and they each returned 60% cyanide recovery. The 3rd sulphide sample (**Table 16.1**, sample 5) came from rock with sericite alteration and had only a 42% recovery.

A very important result of this work is the observation that, for all the samples tested in 2007, the bulk of the gold recovered by cyanide extraction is released the first 16 hours. This implies that the gold is readily available to the cyanide solution. Further studies will address the cyanide extraction on both fine and coarse material as a first step in the determination of the optimal recovery process.

TABLE 16.1
GOLD RECOVERY RESULTS FROM CYANIDE EXTRACTION TESTS

Sample #	Ore Type	Average Grade (g/t)	% Cyanide Extraction*
1	Oxide Sediments	1.52	99.9%
2	Oxide Sediments High-grade	10.80	96.9%
3	Un-Oxidized Volcanic	1.52	59.7%
4	Oxide Sediments	1.39	99.9%
5	Un-Oxidized Volcanic	1.38	42.3%
6	Weakly Oxidized Volcanic	1.06	90.2%
1A	Volcanic Un-Oxidized	2.30	60.9%

** Samples were 300 gram bottle rolls with sample material crushed to ~200 mesh and sampled every 8-10 hours for a total of 48 hours.*

In 2008 an additional 24 samples were submitted to Hazen research for bottle roll testing on coarse material from a variety of lithologies and oxidation states (**Table 16.2**). This was undertaken as a separate study from a previous one with Chemex. Results indicate that overall average cyanide extraction was approximately 70% with 15 of the 24 samples showing greater than 70% recovery. Interestingly many of the unoxidized samples showed better recovery than some of the partially oxidized samples. These data also show that the majority of the gold is released to solution within the first 16 hours. The same sample materials have been submitted to Kappes Cassiday in Reno for fine grinding and tests of gravity recovery and cyanide extraction.

TABLE 16.2
GOLD RECOVERY RESULTS FROM CYANIDE EXTRACTION TESTS

Sample ID	Ore Type	Hazen Head Au g/t	Chemex Head Au g/t	Calculated Head Au g/t	Residue Assay Au g/t	Hazen Head Extraction	Chemex Head Extraction	Calculated Head Extraction
100112113	Partial Oxide Um	0.48	1.26	0.81	0.17	64%	87%	79%
100123124	Trace Oxide Um	0.83	0.83	0.81	0.33	60%	60%	59%
100588589	Partial Oxide Um	0.88	1.03	1.13	0.47	47%	54%	58%
100772773	Partial Oxide Intr	0.77	0.74	0.96	0.23	70%	69%	76%
100829830	Unoxidized Lower Seds	1.18	1.04	1.33	0.31	74%	70%	77%
101024026	Unox Volc	1.30	0.85	1.04	0.31	76%	64%	70%
101273274	Unox Volc	1.00	0.92	1.11	0.25	75%	73%	78%
101291292	Partial Oxide Volc	1.24	0.71	1.51	0.21	83%	70%	86%
101437438	Partial Oxide Volc	0.60	1.44	1.12	0.46	23%	68%	59%
101548549	Partial Oxide Volc	2.47	1.17	3.22	0.16	94%	86%	95%
101604605	Partial Oxide Volc	1.70	0.80	1.36	0.35	79%	56%	74%
101618619	Partial Oxide Volc	1.15	0.96	1.14	0.47	59%	51%	59%
101774775	Partial Oxide Volc	1.13	0.82	1.06	0.16	86%	80%	85%
101827829	Partial Oxide Volc	0.72	0.84	0.59	0.12	83%	86%	80%
101847849	Partial Oxide Volc	0.80	0.81	1.05	0.44	45%	46%	58%
101896897	Partial Oxide Volc	3.36	1.16	1.17	0.89	74%	23%	24%

Sample ID	Ore Type	Hazen Head Au g/t	Chemex Head Au g/t	Calculated Head Au g/t	Residue Assay Au g/t	Hazen Head Extraction	Chemex Head Extraction	Calculated Head Extraction
102070071	Trace Oxide Volc	0.44	0.49	0.74	0.06	86%	88%	92%
102096097	Trace Oxide Volc	1.35	1.03	0.94	0.28	79%	73%	70%
102536537	Comp Ox Upper Seds	1.67	1.09	0.69	0.07	96%	94%	90%
102575576	Part Oxide Upper Seds	0.77	1.96	1.16	0.05	94%	97%	96%
102642643	Part Oxide Upper Seds	0.58	0.71	0.81	0.25	57%	65%	69%
102886887	Part Oxide Upper Seds	0.96	0.95	1.05	0.69	28%	27%	34%
102925926	Part Oxide Upper Seds	1.46	1.16	1.49	0.77	47%	34%	48%
103110111	Part Oxide Upper Seds	0.63	0.91	0.87	0.22	65%	76%	75%

**Samples were 1400 gram bottle rolls with sample material crushed to -10 mesh and sampled in multiples of 4 hours for a total of 72 hours.*

17.0 Mineral Resource Estimate

ITH commissioned Mr. G. Giroux of GCL to prepare an initial resource estimate in early 2008 based on drill intercepts through the end of 2007. An interim resource estimation was completed in October, 2008 based on results from approximately 75% of the 2008 drill program. A new resource estimate, presented here, is based on drill sample assay results for the entire 2008 campaign and includes data received from ALS Chemex for 65 additional holes above and beyond the data available for the October, 2008 resource estimate (Klipfel and Giroux, 2008b).

17.1 Data Analysis

ITH has provided Mr. Giroux with a drill data base for the Livengood Project consisting of 42 diamond drill holes, 11 percussion drill holes, 120 reverse circulation drill holes and 10 trenches in the Money Knob area. A listing of data used in this Resource estimate is presented in **Appendix 2**.

During the historic exploration of this deposit a number of companies have sampled the mineralization in a variety of ways. **Table 17.1** outlines the companies, style of sampling, year of program and number of metres sampled.

While there is no true way of comparing the results from each style of sampling as all are in different volumes of rock (**Figure 17.1**), there appears to be no significant bias present with all styles reporting roughly the same average grade (**Table 17.2**). The one exception was silver in percussion where only 8 samples were taken and all reported 0.001 g/t. Based on this limited review there appears to be no reason not to include all styles of sampling in this resource estimate.

Based on the distribution of drill holes, the area to be estimated was roughly bracketed by the following coordinates (**Figure 17.2** shows this area as a rectangle):

Corner	Easting_UTM6N_NAD27AK	Northing_UTM6N_NAD27AK
NW	428120	7266450
NE	430500	7266450
SE	430500	7264500
SW	428100	7264500

TABLE 17.1
SUMMARY OF SAMPLING HISTORY FOR THE LIVENGOOD PROJECT

Drill Prefix	Company	Year	Type	Number of Holes	Meters	Comments on Data
BAF	AngloGold Ashanti	2003	RC	8	1,514	All original data in possession
L	Occidental Petroleum	1981	Percussion	6	310	Intercepts and locations from 3rd Party
LC	AMAX	1989	Trench	2	160	Original data in possession; partial Lab Certificates
MK	Homestake	1976	Percussion	5	303	Original logs with sample and assay data in possession.
MK-04	AngloGold Ashanti	2004	Core	4	762	All original data in possession
MK-04-TR	AngloGold Ashanti	2004	Trench	4	223	All original data in possession
MK-06	Talon Gold	2006	Core	7	1,227	All original data in possession
MK-07	Talon Gold	2007	Core	15	4,411	All original data in possession
MK-08	Talon Gold	2008	Core	7	2,040	All original data in possession
MK-08-TR	Talon Gold	2008	Trench	4	80	All original data in possession
MK-RC	Talon Gold	2008	RC	109	28,613	All original data in possession
MN	AMAX	1990	RC	3	320	Original data in possession; partial Lab Certificates
TL	Placer Dome	1997	Core	9	1,100	Original Placer Dome data in possession; no Lab Certificates
			Total	183	41,063	

A three dimensional solid was produced by TGA to encompass the main mineralized zone to be estimated. The area of the model is shown in **Figure 17.2**. The drill hole traces are shown in blue and grey.

TABLE 17.2
SUMMARY OF GOLD AND SILVER GRADES SORTED BY SAMPLE TYPE

Sample Type	Number	Mean Au (g/t)	Number	Mean Ag (g/t)
Trench Samples	207	0.48	205	0.57
Percussion Samples	108	0.34	3	0.001
Reverse Circulation	19,863	0.40	2,974	0.31
Diamond Drilling	8,280	0.38	8,276	0.44

17.2 Geologic Model

The geologic block model was developed by Carl Schaefer of Northern Associates Inc. The rationale for the modeling is explained as follows:

"*The Money Knob 3D geologic model has been updated to reflect lithologic data available from all 2008 drilling. This corresponds to drill data through MK-RC-0108 (RC) and MK-08-33 (core). Four solid models are presented, each representing a different stratigraphic unit. In terms of elevation, the top most unit is the "Cambrian Ultramafic" which also includes some minor Ordovician(?) "Amy Chert". This unit is separated from lower units by a thrust fault. Below the thrust is the "Upper Sediments" followed by the "Main Volcanics" and finally at the bottom are the "Lower Sediments". The northern edges of all the models are limited by the roughly east-west trending, high-angle, "Lillian Fault". All models are limited by a vertically oriented 150m buffer surrounding all drilling where sufficient drilling density allows reasonable geologic interpretation. The western limit of modeling is 428325E while the eastern limit is 429560E. Sparse data exists beyond these east-west limits. Modeling was limited downward to an elevation of 80m which represents the deepest hole drilled within the modeling area. This limits the extent of the "Lower Sediment" unit. In some areas of the model a "basal thrust" fault is inferred and the "Upper Sediments" and "Main Volcanics" models stop at this boundary. Where units come to surface they are clipped by topography.*

The lithologic determinations presented in the drilling database are based on a hierarchal system of chemical classification schemes that has been successful at identifying lithologic units even when they are highly altered and mineralized. These chemical classifications are reviewed in conjunction with the logging geologists' calls and a final "Strata Unit" is made. The four geologic solid models are based on this hierarchal classification scheme.

Interpreted hand drawn cross-sections oriented north-south and spaced 75m apart were prepared by the project geologist and were the basis for each of the unit models. Cross-sectional strings were digitized for each unit and a 3D solid wireframe model was formed. Where each unit model came into contact with another, these were reviewed in detail and any overlaps or gaps created by the software where corrected. Software validations indicate valid and closed solid models. Surpac 6.1.1 (Surpac-GemCom) software was used to make the models.

Updated DEM:

A new DEM was generated from an aerial photographic survey flown by Aero-Metric, Inc. in the fall of 2008. A 5m cell size DEM was generated and reprojected to UTMz6 NAD1927 AK space for use in updating old collar coordinates and clipping the unit models to this topographic surface. Older drill hole collars and trenches that were never surveyed using differentially corrected GPS (DGPS) surveys, have had elevations updated based on the new DEM. Collars surveyed using DGPS have not had their elevations changed. Magellan ProMark CP units in a post-processing mode were used to survey collars when available. The DEM supplied has been trimmed to cover the main area of drilling and modeling."

The four modeled lithologies are shown in **Figures 17-3 and 17-4.**

17.3 Sample Statistics and Capping

Drill holes were compared to the geologic solids and assays were tagged with the appropriate code if within one of the four interpreted solids. The statistics for gold and silver within each of these solids is shown below in **Table 17.3**. In addition, the statistics for samples not within these four solids but inside the surrounding broad mineralized zone within the rectangle shown in **Figure 17.2** are presented. Although there is gold and silver in these samples, at present there was insufficient geologic information to extend the solids to include this data. All assays were compared to the mineralized solids and tagged with a Domain code. Gaps between assays not sampled were assigned a value of 0.001 g/t for Au and Ag. Samples assayed for gold but not for silver were left blank for silver.

It is important to note that 2008 drilling identified significant gold and silver mineralization in all rock units, not just volcanics (see section 7.3) as was previously thought to be the case. This fact is borne out by the statistics for gold and silver values shown in **Table 17.3**.

A second observation from the assay statistics is the high coefficients of variation present in most lithologies for both variables. These high coefficients of variation are indicative of erratic high grades that must be addressed by capping.

TABLE 17.3
STATISTICS FOR GOLD AND SILVER IN ASSAYS

Domain	Variable	Number	Mean	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Var.
Cambrian Ultramafic	Au	6,760	0.232	1.259	0.001	56.20	5.42
	Ag	1,179	0.196	0.939	0.001	28.50	4.78
Upper Sediment	Au	5,770	0.460	1.485	0.001	34.20	3.23
	Ag	2,458	0.488	9.029	0.001	440.00	18.50
Volcanic	Au	5,831	0.651	1.131	0.001	22.00	1.74
	Ag	2,448	0.467	1.338	0.001	32.90	2.87
Lower Sediment	Au	4,744	0.367	1.086	0.001	54.50	2.96
	Ag	1,761	0.564	0.536	0.001	5.36	0.95
Outside Solids	Au	5,490	0.267	0.639	0.001	17.90	2.39
	Ag	3,749	0.292	1.453	0.001	84.90	4.97

The grade distribution for gold and silver were examined within each domain to determine if capping was required and if so at what level. Each data set showed positively skewed distributions for both gold and silver. Each variable was evaluated using lognormal cumulative frequency plots and in each case multiple overlapping lognormal populations were observed. In cases where the uppermost population (Population 1) was considered to be erratic high grades the capping level was set at two standard deviations above the mean of population 2. The capping levels and number of samples capped for each lithology are shown in **Table 17.4**. The effects of capping are shown in **Table 17.5** for each domain with slight reductions in mean grade and reductions in coefficients of variation.

TABLE 17.4
CAPPING STRATEGY FOR LIVENGOOD ASSAYS

Domain	Variable	Capping Strategy	Capping Level	Number Capped
Cambrian Ultramafic	Au	2SDAMP3	16.0 g/t	7
	Ag	2SDAMP2	6.0 g/t	4
Upper Sediment	Au	2SDAMP2	24.0 g/t	2
	Ag	2SDAMP2	14.0 g/t	2
Volcanic	Au	2SDAMP2	16.4 g/t	2
	Ag	2SDAMP2	22.0 g/t	3
Lower Sediment	Au	2SDAMP2	11.0 g/t	6
	Ag	2SDAMP1	7.4 g/t	0
Samples Outside Solids	Au	2SDAMP3	4.5 g/t	19
	Ag	2SDAMP2	5.0 g/t	6

Note: 2SDAMP2 stands for 2 Standard Deviations above the mean of Population 2

TABLE 17.5
STATISTICS FOR GOLD AND SILVER IN CAPPED ASSAYS

Domain	Variable	Number	Mean	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Var.
Cambrian Ultramafic	Au	6,760	0.218	0.885	0.001	16.00	4.05
	Ag	1,179	0.175	0.446	0.001	6.00	2.55
Upper Sediment	Au	5,770	0.458	1.441	0.001	24.00	3.14
	Ag	2,458	0.288	0.646	0.001	14.00	2.24
Volcanic	Au	5,831	0.649	1.100	0.001	16.40	1.70
	Ag	2,448	0.457	1.136	0.001	22.00	2.48
Lower Sediment	Au	4,744	0.356	0.748	0.001	11.00	2.10
	Ag	1,761	0.564	0.536	0.001	5.36	0.95
Outside Solids	Au	5,490	0.259	0.530	0.001	4.50	2.05
	Ag	3,749	0.267	0.399	0.001	5.00	1.49

17.4 Composites

Drill holes were compared to the geologic solids with the points each hole entered and left the solids recorded. Uniform down hole composites were then formed to honour the domain boundaries. Small intervals (less than 2.5 m) were combined with adjoining samples to produce composites of uniform support, 5 ± 2.5 m in length. The 5 m composite statistics are shown in **Table 17.6**.

TABLE 17.6
STATISTICS FOR GOLD AND SILVER IN 5m COMPOSITES

Domain	Variable	Number	Mean	Standard Deviation	Minimum Value	Maximum Value	Coef. Of Var.
Cambrian Ultramafic	Au	2,036	0.221	0.582	0.001	10.10	2.63
	Ag	329	0.170	0.334	0.001	4.00	1.97
Upper Sediment	Au	1,635	0.422	0.909	0.001	14.71	2.15
	Ag	733	0.243	0.287	0.001	4.21	1.18
Volcanic	Au	1,589	0.641	0.714	0.001	10.05	1.11
	Ag	657	0.418	0.550	0.001	7.52	1.31
Lower Sediment	Au	1,376	0.347	0.475	0.001	5.87	1.37
	Ag	523	0.571	0.522	0.001	4.02	0.91
Outside Solids	Au	1,344	0.270	0.385	0.001	3.44	1.42
	Ag	893	0.257	0.341	0.001	4.18	1.33

17.5 Variography

Gold and silver were modelled using pairwise relative semivariograms for all composites within the mineralized solids. Due to the fact that gold and silver mineralization occurs in all modeled lithologies, variography was applied to the combined lithological solid. Nested anisotropic spherical models were fit to both gold and silver within the mineralized solids. The semivariogram parameters are tabulated in **Table 17.7** and the models are shown in **Appendix 3**.

Isotropic nested spherical models were fit to gold and silver composites outside the mineralized solid.

TABLE 17.7
SUMMARY OF SEMIVARIOGRAM PARAMETERS FOR AU AND AG IN BOTH DOMAINS

Domain	Variable	Az/Dip	C_o	C_1	C_2	Short Range (m)	Long Range (m)
Inside Solid	Au	100/0	0.25	0.36	0.22	30	50
		10/-50	0.25	0.36	0.22	30	120
		180/-40	0.25	0.36	0.22	12	200
	Ag	100/0	0.10	0.18	0.38	15	30
		0/-50	0.10	0.18	0.38	20	200
		180/-40	0.10	0.18	0.38	30	180
Outside Solid	Au	Omni Dir.	0.36	0.15	0.20	30	180
	Ag	Omni Dir.	0.15	0.10	0.10	20	120

17.6 Bulk Density

A total of 95 samples were sent to Chemex for specific gravity determinations. These include both core samples and washed RC chips. The Chemex results are sorted by rock type and presented in **Table 17.8**.

TABLE 17.8
SPECIFIC GRAVITIES MEASURED BY CHEMEX

	Number	Minimum	Maximum	Average
Ultramafics	16	2.65	2.95	2.78
Upper Sediments	22	2.23	2.79	2.68
Volcanics	36	2.11	2.86	2.72
Lower Sediments	21	2.62	2.84	2.74
Total	**95**			

In the 2007 resource estimate (Giroux, 2007), the grand average of 2.78 was applied to all blocks. For the 2008-09 resource estimate, the individual averages for each lithologic unit were used. When blocks contained more than one lithology a weighted average was applied. For material outside the mineralized solids the SG for Upper Sediments of 2.68 was used.

17.7 Block Model

A block model with blocks 20 x 20 x 5 m high was superimposed on the various geologic solids with the proportion of each block below surface topography and within each solid recorded. The block model origin is as follows:

Lower Left Corner of Model			
428100 E	Column size:	20 m	120 Columns
7264500 N	Row size:	20 m	98 Rows
Top of Model			
545 Elevation	Level size:	5 m	110 Levels
No Rotation			

17.8 Grade Interpolation

Grades for gold and silver were interpolated into blocks by Ordinary Kriging. For blocks within the mineralized solid, a series of 4 passes was completed with a minimum of 4 composites required to estimate a block in any given pass. Pass 1 used a search ellipse with dimensions equal to ¼ of the range of the semivariogram for the solid being estimated. For blocks not estimated during pass 1, a second pass was made with the ellipse expanding to ½ the semivariogram range. A third pass using the full range was also completed. In all cases, if more than 12 composites were found within any search, the closest 12 were used. Blocks outside the mineralized solid were then estimated in a similar manner. Blocks straddling the outer edge of the mineralized solid were estimated for both and a weighted average grade was determined. Blocks straddling more than one mineralized solid were estimated for both and a weighted average grade was determined. The percentage of the block below surface topography was used to determine the tonnage present. **Table 17.9** lists the search parameters used to estimate each domain. For both inside and outside the solid, the number of silver composites available was much lower than the number of gold composites, so additional passes were required to estimate silver in the blocks estimated for gold.

Three North-South cross sections showing estimated blocks and colour coded drill hole composites are shown in **Figure 17.5 – 7.** These sections match those shown in **Figures 7.7 – 9.**

17.9 Classification

Based on the study herein reported, delineated mineralization of the Livengood Deposit is classified as a resource according to the following definitions from National Instrument 43-101 and from CIM (2005):

> *"In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council, as those definitions may be amended."*

TABLE 17.9
SUMMARY OF PARAMETERS USED TO KRIGE BLOCKS

Zone	Variable	Pass	Az/Dip	Dist. (m)	Az/Dip	Dist. (m)	Az/Dip	Dist. (m)
Inside Solid	Au	1	100/0	12.5	10/-50	30.0	190/-40	50.0
		2	100/0	25.0	10/-50	60.0	190/-40	100.0
		3	100/0	50.0	10/-50	120.0	190/-40	200.0
	Ag	1	100/0	7.5	10/-50	50.0	190/-40	45.0
		2	100/0	15.0	10/-50	100.0	190/-40	90.0
		3	100/0	30.0	10/-50	200.0	190/-40	180.0
		4	100/0	60.0	10/-50	400.0	190/-40	360.0
Outside Solid	Au	1	Omni Directional			45.0		
		2	Omni Directional			90.0		
	Ag	1	Omni Directional			30.0		
		2	Omni Directional			60.0		
		3	Omni Directional			120.0		
		4	Omni Directional			240.0		

The terms "Measured", "Indicated" and "Inferred" are defined by CIM (2005) as follows:

"A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."

"The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports."

Inferred Mineral Resource

"An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, workings and drill holes."

"Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an

Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies."

Indicated Mineral Resource

"An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed."

"Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions."

Measured Mineral Resource

"A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity."

"Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit."

Geologic continuity is well established from surface mapping and drill hole information. Grade continuity can be quantified by the semivariogram. The blocks within the well-drilled mineralized solid and estimated in pass 1 and 2 using up to ½ the semivariogram range for the search ellipse were **classified as Indicated**. All other blocks within the mineralized solid and all blocks outside the solid were **classified as Inferred**. The range of results for specific cutoff grades are tabulated in **Tables 17.10-12**. The location and relative relation of these blocks is shown in **Figure 17.8**.

TABLE 17.10
LIVENGOOD INDICATED RESOURCE WITHIN MINERALIZED SOLID

Au Cutoff (g/t)	Tonnes > Cutoff (tonnes)	Grade > Cutoff			
		Au (g/t)	Ag (g/t)	Ounces Au	Ounces Ag
0.20	281,520,000	0.560	0.307	5,070,000	2,780,000
0.30	223,350,000	0.641	0.301	4,600,000	2,160,000
0.40	170,570,000	0.732	0.297	4,010,000	1,630,000
0.50	**128,580,000**	**0.825**	**0.292**	**3,410,000**	**1,210,000**
0.60	93,760,000	0.928	0.292	2,800,000	880,000
0.70	68,770,000	1.030	0.289	2,280,000	640,000
0.80	50,430,000	1.132	0.292	1,840,000	473,000
0.90	36,330,000	1.243	0.299	1,450,000	349,000
1.00	26,170,000	1.357	0.304	1,142,000	256,000
1.10	19,360,000	1.467	0.310	913,000	193,000
1.20	14,040,000	1.590	0.314	718,000	142,000
1.30	10,530,000	1.705	0.319	577,000	108,000
1.40	8,110,000	1.811	0.324	472,000	84,000
1.50	6,000,000	1.939	0.335	374,000	65,000

TABLE 17.11
LIVENGOOD INFERRED RESOURCE WITHIN MINERALIZED SOLID

Au Cutoff (g/t)	Tonnes > Cutoff (tonnes)	Grade > Cutoff			
		Au (g/t)	Ag (g/t)	Ounces Au	Ounces Ag
0.20	282,020,000	0.504	0.310	4,570,000	2,810,000
0.30	214,220,000	0.586	0.305	4,040,000	2,100,000
0.40	155,860,000	0.674	0.299	3,380,000	1,500,000
0.50	**116,630,000**	**0.750**	**0.291**	**2,810,000**	**1,090,000**
0.60	80,330,000	0.842	0.287	2,170,000	740,000
0.70	54,900,000	0.932	0.278	1,650,000	490,000
0.80	35,760,000	1.031	0.287	1,190,000	330,000
0.90	23,940,000	1.123	0.302	860,000	232,000
1.00	14,100,000	1.243	0.303	563,000	137,000
1.10	9,740,000	1.334	0.315	418,000	99,000
1.20	6,000,000	1.452	0.321	280,000	62,000
1.30	3,660,000	1.585	0.317	187,000	37,000
1.40	2,500,000	1.696	0.311	136,000	25,000
1.50	1,700,000	1.814	0.312	99,000	17,000

No economic studies have been applied yet on this deposit so there is no indication of what an economic cutoff might be. A value of 0.5 g/t has been highlighted as a possible cutoff for an open pit operation.

TABLE 17.12
LIVENGOOD INFERRED RESOURCE OUTSIDE MINERALIZED SOLID

Au Cutoff (g/t)	Tonnes > Cutoff (tonnes)	Grade > Cutoff			
		Au (g/t)	Ag (g/t)	Ounces Au	Ounces Ag
0.20	98,720,000	0.424	0.255	1,350,000	810,000
0.30	65,150,000	0.514	0.270	1,080,000	570,000
0.40	42,460,000	0.604	0.288	820,000	390,000
0.50	**25,420,000**	**0.710**	**0.283**	**580,000**	**230,000**
0.60	15,470,000	0.814	0.244	400,000	120,000
0.70	10,320,000	0.893	0.232	300,000	80,000
0.80	7,300,000	0.952	0.213	220,000	50,000
0.90	3,690,000	1.048	0.239	120,000	28,000
1.00	1,840,000	1.142	0.285	68,000	17,000
1.10	940,000	1.229	0.309	37,000	9,000
1.20	500,000	1.309	0.307	21,000	5,000
1.30	240,000	1.396	0.317	11,000	2,000
1.40	60,000	1.588	0.321	3,000	1,000
1.50	50,000	1.612	0.315	3,000	1,000

Preliminary metallurgical testing has shown that even partial oxidation greatly increases the cyanide extraction of gold. Based on the drill core and chip logging, a modeled surface was constructed for the base of partial oxidation. All blocks are compared to the oxidation surface, the grade and tonnage of oxidized or partially oxidized material is tabulated in **Tables 17.13-14**.

TABLE 17.13
LIVENGOOD INDICATED RESOURCE WITHIN OXIDES

Au Cutoff (g/t)	Tonnes > Cutoff (tonnes)	Grade > Cutoff			
		Au (g/t)	Ag (g/t)	Ounces Au	Ounces Ag
0.20	131,030,000	0.567	0.291	2,390,000	1,230,000
0.30	102,500,000	0.656	0.290	2,160,000	960,000
0.40	78,850,000	0.748	0.290	1,900,000	740,000
0.50	**58,640,000**	**0.851**	**0.294**	**1,600,000**	**550,000**
0.60	42,930,000	0.962	0.301	1,330,000	420,000
0.70	31,850,000	1.072	0.304	1,100,000	310,000
0.80	23,140,000	1.194	0.312	890,000	232,000
0.90	16,890,000	1.323	0.325	720,000	176,000
1.00	12,660,000	1.449	0.331	590,000	135,000
1.10	9,630,000	1.575	0.335	488,000	104,000

1.20	7,520,000	1.695	0.337	410,000	81,000
1.30	5,910,000	1.817	0.339	345,000	64,000
1.40	4,650,000	1.945	0.344	291,000	51,000
1.50	3,700,000	2.073	0.357	247,000	42,000

TABLE 17.14
LIVENGOOD INFERRED RESOURCE WITHIN OXIDES

Au Cutoff (g/t)	Tonnes > Cutoff (tonnes)	Grade > Cutoff			
		Au (g/t)	Ag (g/t)	Ounces Au	Ounces Ag
0.20	171,065,728	0.477	0.241	2,620,000	1,330,000
0.30	120,187,352	0.575	0.244	2,220,000	940,000
0.40	84,516,608	0.672	0.253	1,830,000	690,000
0.50	**58,683,068**	**0.772**	**0.255**	**1,460,000**	**480,000**
0.60	43,430,888	0.851	0.248	1,190,000	350,000
0.70	29,542,386	0.947	0.254	900,000	240,000
0.80	19,623,812	1.048	0.266	660,000	168,000
0.90	13,121,393	1.149	0.292	480,000	123,000
1.00	8,479,311	1.260	0.296	343,000	81,000
1.10	6,418,426	1.330	0.308	274,000	64,000
1.20	3,656,007	1.472	0.306	173,000	36,000
1.30	2,193,247	1.625	0.294	115,000	21,000
1.40	1,399,415	1.788	0.285	80,000	13,000
1.50	1,091,953	1.882	0.273	66,000	10,000

A comparison between the results reported in the February 2008 report (Klipfel and Giroux, 2008) based on 2007 drilling, the resource estimated in October, 2008 based on most of the 2008 drilling and the resource estimated in January 2009 using all 2008 drilling is presented in **Table 17.15**.

TABLE 17.15
COMPARISON OF LIVENGOOD RESOURCES FROM 2007 TO 2008

Year	Classification	Au Cutoff (g/t)	Tonnes (millions)	Au (g/t)	Ag (g/t)	Million Ozs Au	Million Ozs Ag
2007	Inferred	0.50	82.88	0.71	0.32	1.89	0.85
2008	Indicated	0.50	69.53	0.83	0.27	1.86	0.60
	Inferred *	0.50	87.88	0.77	0.19	2.17	0.55
2009	Indicated	0.50	128.58	0.83	0.29	3.41	1.21
	Inferred *	0.50	180.14	0.77	0.28	4.43	1.61

Note: The 2007 Inferred resource was reported in the Feb. 2008 Report (Klipfel and Giroux, 2008)
The 2008 resource was reported in the Oct. 2008 Report (Klipfel and Giroux, 2008)
* Inferred represents total inferred both inside and outside the solid.

The additional drilling included since September 2008 has increased the indicated tonnage by 85% with no change in gold grade at a 0.5 g/t Au cutoff. The total inferred has increased 105% with no change in gold grade at a 0.5 g/t Au cutoff.

17.10 Model Verification

In order to verify the model cross sections were produced showing kriged block grades and drill hole composites (eg. See Figures 17-5 to 7). A visual review of these cross sections showed in general very good agreement between estimated grades and drill hole composite grades.

A second verification was completed using swath plots. These are graphical representations showing swaths across the data base where block grades and composite grades are averaged for the width of the individual swaths and plotted at the midpoint of the swath. East-west, north-south and up-down slices were taken through the Livengood Deposit and are shown as **Figures 17-8 to 17-10.**

No bias is indicated with estimated grades in general following composite grades in each graph. The first part of the Northing Swath plot shows considerable deviation but it is based on very few samples.

18.0 Other Relevant Data and Information

No additional information or explanation is known by the authors to be necessary to make the technical report understandable and not misleading.

19.0 Interpretation and Conclusions

The Livengood property is centered on an area (Money Knob) considered by many for a long time to be the lode source for gold in the Livengood placer deposits which have produced in excess of 500,000 ounces of gold. Anomalous gold in soil samples occurring in a northeast trend cover an area of approximately 6 x 2 km with a principal concentration of surface anomalies in a smaller area measuring approximately 1.6 x 0.8 km. Drilling by past companies, AGA, and ITH identified wide intervals (>100 m @ ≥ 1.0 g/t Au) of gold mineralization with local higher grade narrow intervals beneath the soil anomaly and in rocks beneath thrust surfaces which are not expressed geochemically at the surface. The presence of mineralization over broad areas beneath thrust faults is encouraging and suggests that there is still further discovery potential at Livengood.

The style of mineralization is consistent with other deposits in the Tintina Gold Belt. Superficially, it appears to be most consistent with mineralization at Donlin Creek to the extent that quartz veins and gold content are spatially and possibly genetically related to multi-stage dikes and sills in volcanic and sedimentary rocks. Veining and mineralization occurs in each of the rock assemblages, which means that there is favourable scope for mineralization to occur over a wide area. Also, the surface geochemical anomaly in soil probably reflects only a portion of the mineralization present. Mineralization may continue down-dip along and/or beneath thrust surfaces and therefore be blind at the surface. This possibility should be included in further evaluation of the deposit. The area drilled currently represents only a portion of the surface geochemical anomaly. Taken together, these factors suggest that the identification of more mineralization over a broader area is likely.

Drill results through 2008 have been used to revise previous resource estimates for the Money Knob area. The current resource estimate has significantly increased the tonnage and total number of ounces contained in estimated Indicated and Inferred categories of resource. The amount of gold in the resource varies significantly according to the choice of cutoff grade. A range of tonnes and grade with corresponding contained ounces of gold are presented in **Tables 17.10 - 17.14**. Drilling by ITH in 2008 has successfully increased the previous Inferred Resource (at 0.5 g/t Au) from 87.88Mt @ 0.77 g/t Au (2.17 M contained oz) to 180.14 Mt @ 0.77 g/t Au (**4.43 M contained oz**). Also, the newly identified Indicated resource has been upgraded from 69.5 Mt @ 0.83 g/t Au (1.86 M oz) to 128.58 Mt @ 0.83 g/t Au (**3.41 M contained oz**). The total acquisition and exploration expenditure between 2003 and end of 2008 when the last hole included in this resource estimate was drilled is approximately US$ 15M yielding a discovery cost on the order of US$ 2.50 per resource ounce.

It is concluded that a substantial gold resource has been identified and that further drilling is appropriate for continued evaluation of this resource. ITH has now advanced the Livengood project to the point that a scoping or pre-feasibility study should be a goal. Toward this end, the following activities should be considered for the 2009 exploration program:

1. Continue step out drilling to identify the extent of mineralization, particularly:
    a. to the north of the Lillian Fault,
    b. down dip of currently identified mineralization, and
    c. to the southwest along the trend of the surface geochemical anomaly.

2. Continue systematic drilling on lines 75m apart and at 75m spacings along those lines to:
    a. Improve continuity of mineralization over a broader area, particularly in areas that are now categorized as Inferred Resource, and
    b. Improve understanding of the structural relations and architecture that hosts the deposit.

3. Drill several test holes in E-W directions to:
    a. Help verify the patterning determined with the current drill pattern, and
    b. Test for north-south oriented (‘feeder’?) structures that may be mineralized.

4. Drill holes in select key locations between current north-south lines to:
    a. Validate lateral correlation of mineralization between north-south lines of holes, and

b. Raise confidence in strike continuity of mineralization.

5. Utilize 3D modeling software to model the structural architecture. This should help understand the mineralization better and offer predictive capabilities for exploration.

6. Continue and advance metallurgical, ore characterization, and mineral processing studies.

7. Undertake environmental base line studies.

8. Assess geotechnical characteristics of the mineralized zone.

9. Initiate a scoping study that evaluates the basic economic, logistic, and processing factors for a mining operation at Livengood.

20.0 Recommendations

20.1 Recommended Exploration Program

Exploration of the Livengood project should continue with the aim of advancing the project toward a prefeasibility status. Activities that will help advance the project in this direction include those listed in the previous section.

ITH plans to drill 40,000 m in 2009 to accomplish this goal. The proposed program is an appropriate amount of drilling for the needs of the project and the time available in the field season.

20.2 Budget for 2009

ITH has proposed expenditure of approximately $8.8 million dollars in 2009 for further evaluation of the Livengood project (**Table 20.1**). This budget will be allocated primarily to drilling and geological analysis of the deposit. The budget is appropriate for the amount of drilling planned and feasible within the summer field season. The author recommends implementation of this program in order to accomplish ITH's goal of advancing the Livengood project.

TABLE 20.1
2009 EXPLORATION BUDGET

Expenditure	**2009 $ (000)**	**Comments**
Land	200	Claim and lease fees
Geological and Contract Services	3,057	Contract/consulting fees
Drilling	3,665	Drilling, supplies, preparation, hole abandonment
Geochemistry	810	Rock, soil, drill core and cuttings, prep and assay
Environmental and Metallurgy Studies	250	
Admin and Operations	800	Office, salaries, travel, reporting, permitting
TOTAL	**8,782**	

21.0 Date and Signature Page

The effective date of this technical report, entitled "January, 2009 Summary Report on the Livengood Project, Tolovana District, Alaska" is January 28, 2009.

Dated: January 28, 2009

Signed:

(signed) *Paul Klipfel* [Sealed: CPG#10821]
Dr. Paul Klipfel, Ph.D, CPG#10821

(signed) *Gary Giroux* [Sealed]
Gary H. Giroux, M.A.Sc., P.Eng.

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23.0 Illustrations

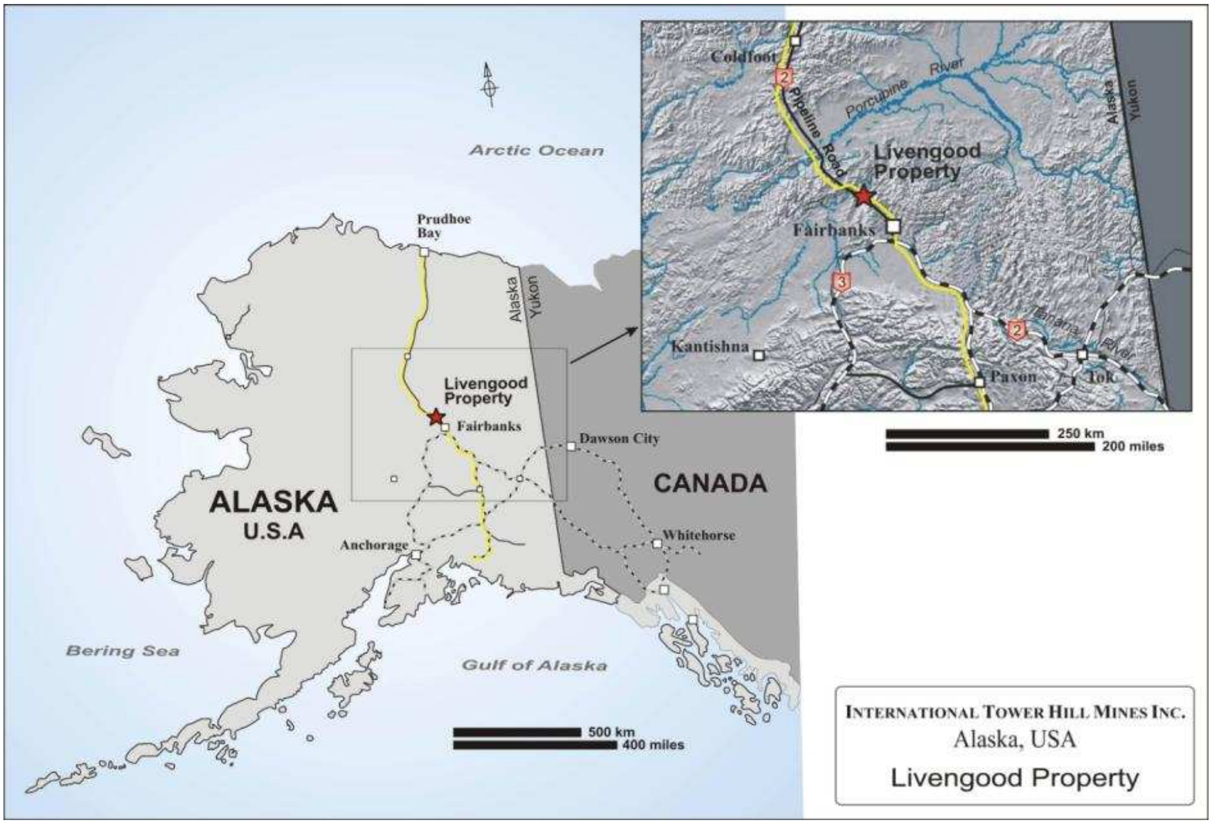


Figure 4.1. Location map showing the location of the Livengood project.

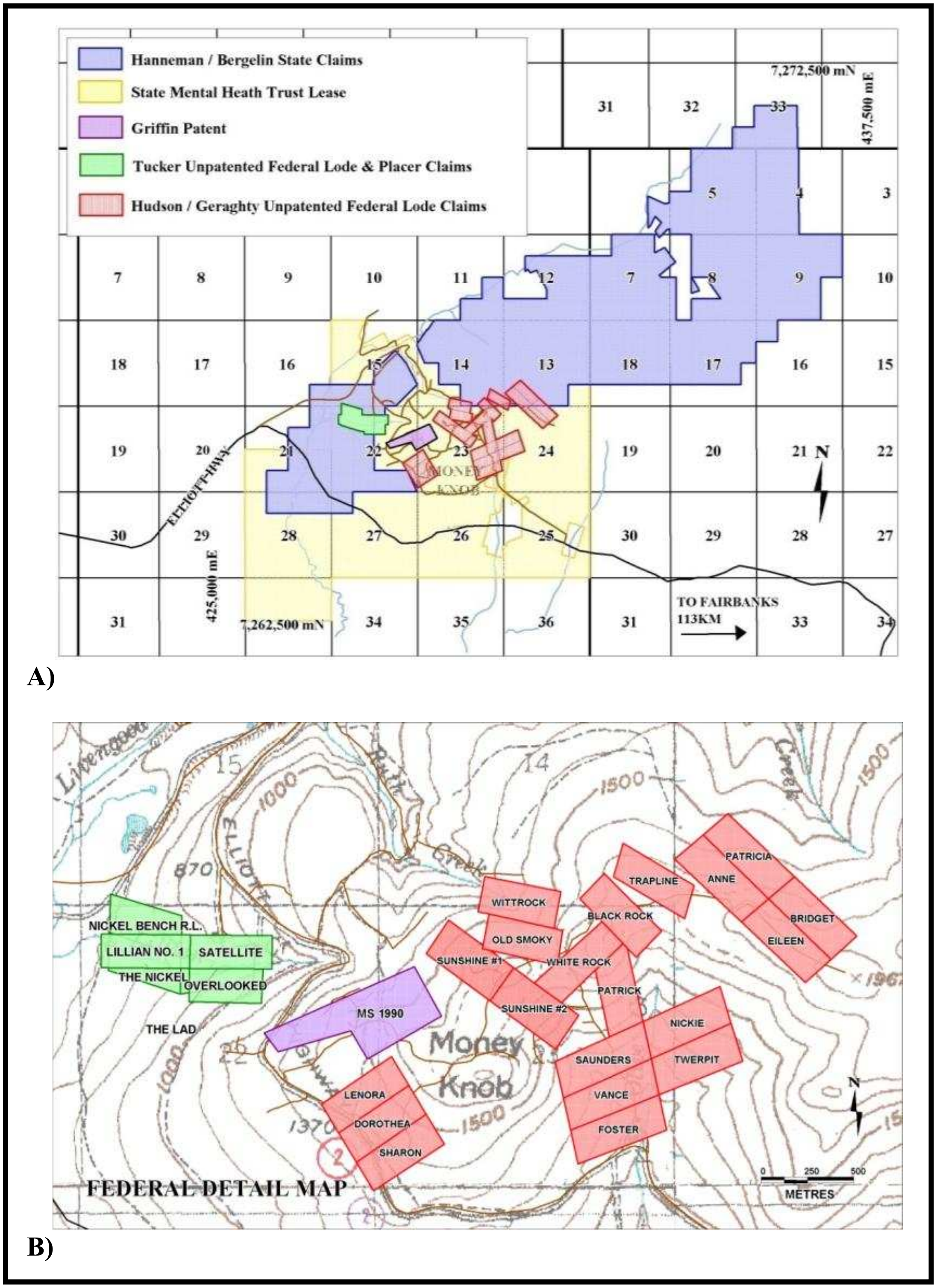


Figure 4.2. Claim map showing the Livengood land position. **A)** The AMHL Lease is shown in yellow and holdings belonging to other parties shown in respective colors. **B)** Detailed map of the individual claims within the AMHL Lease

Figure 5.1. Panorama of Money Knob and the project area. Red outline shows area of soil anomaly. Blue lines outline placer workings to the north in Livengood Creek.

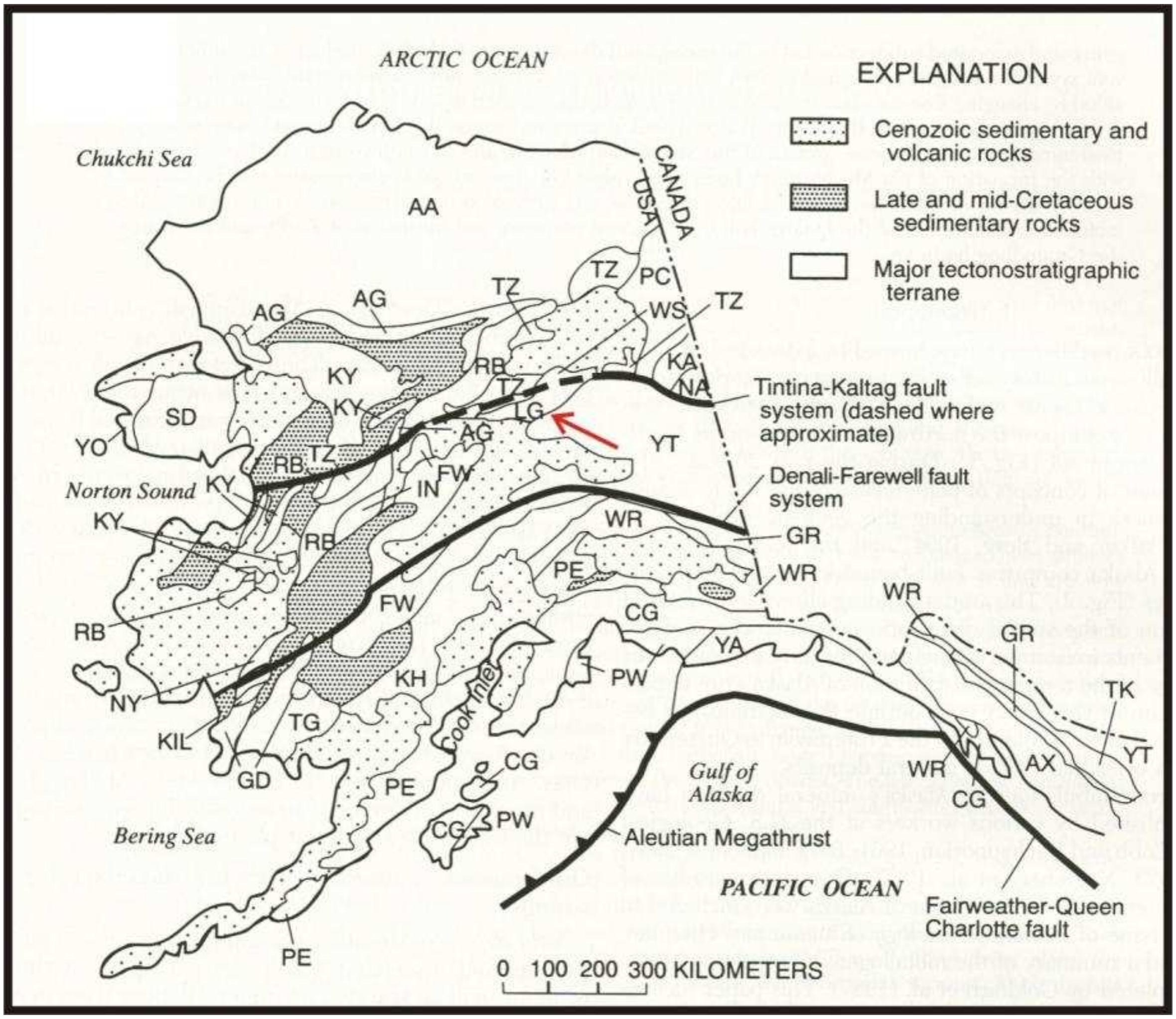
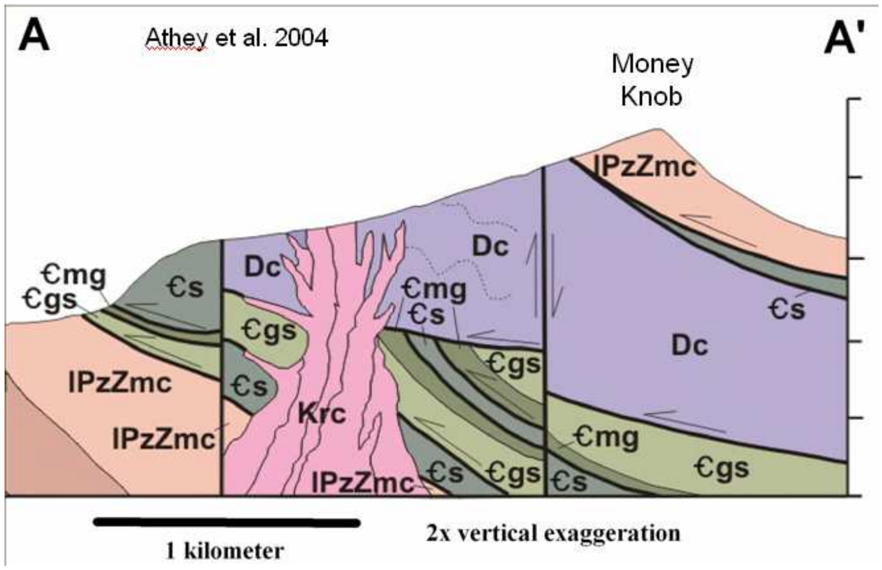
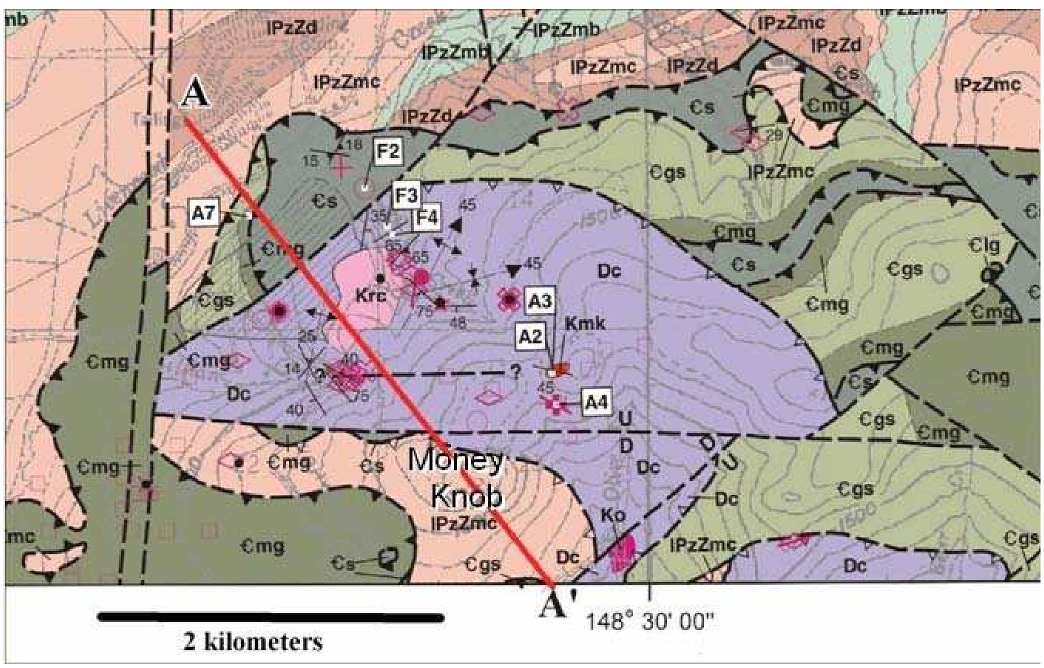


Figure 7.1. Terrane map of Alaska showing the location of the Livengood Terrane (red arrow). The heavy black line north of the Livengood Terrane is the Tintina Fault. The heavy black line to the south of the Livengood and Yukon – Tanana Terrane (YT) is the Denali Fault. The Tintina Gold Belt lies between these two faults. After Goldfarb, 1997.



A



B

Figure 7.2. Geologic cross section and map of the Livengood project area (Athey, et al., 2004). A) Cross section through Money Knob illustrating the geological components of the Livengood District. lPZZmc are older siliceous shelf metasediments. Cs, Cgs and Cmg are Cambrian mafic and ultramafic volcanics and intrusive rocks of oceanic ophiolitic affinity. Dc represents Devonian siliciclastic sediments. The thrust imbrication may reflect two deformation events, one in the Permian and one in the Middle Cretaceous. The thrust package

has been intruded by a number of Cretaceous felsic intrusions. B) Geologic map showing the location of the cross section 'A-A'. Pink symbols identify intrusive rocks.

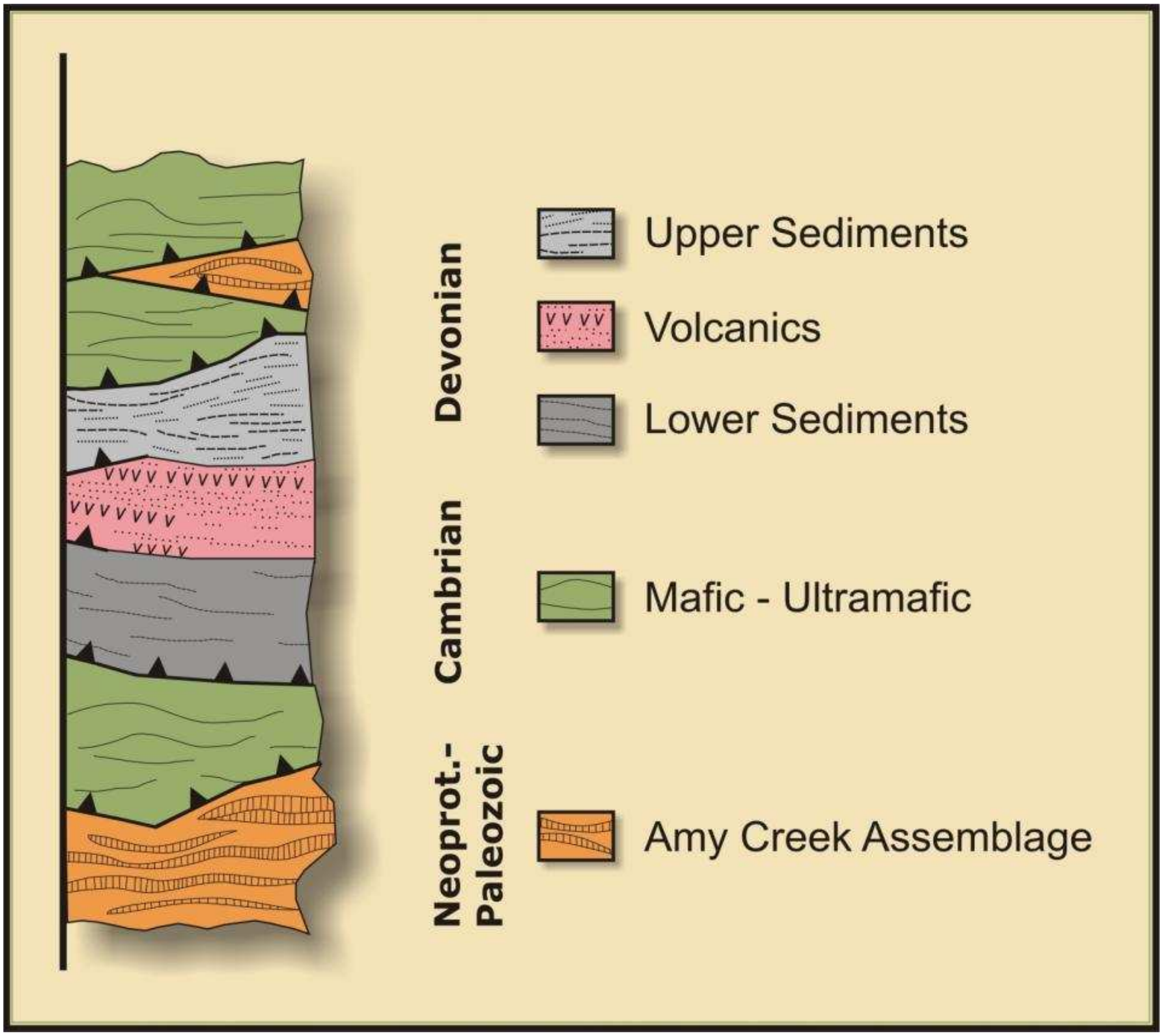


Figure 7.3. Diagrammatic lithologic column shows the tectonic stacking of rock groups in the Livengood area.

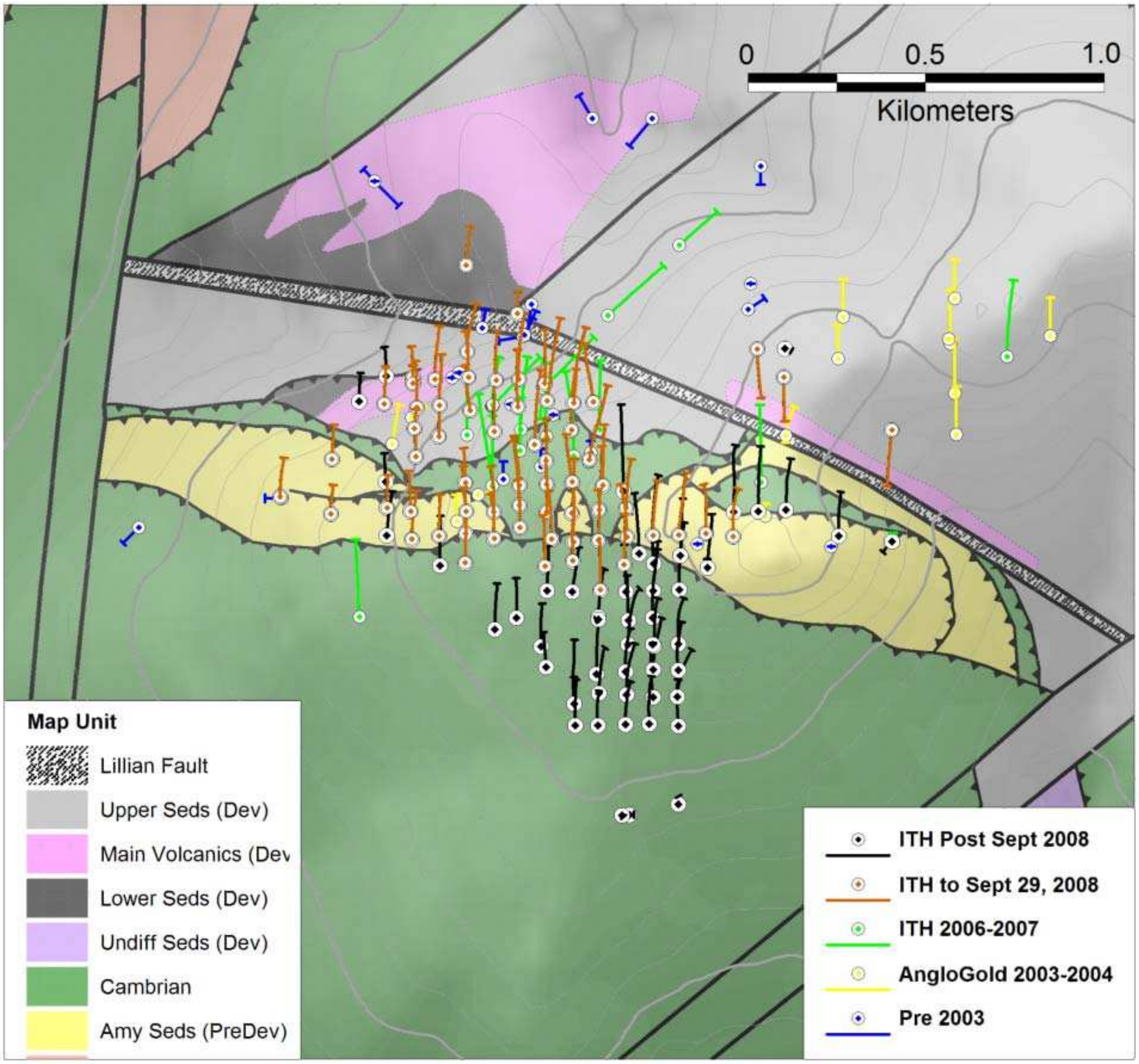


Figure 7.4. Generalized geologic map of the Money Knob area based on geologic work by TGA. Drill holes and traces are shown.

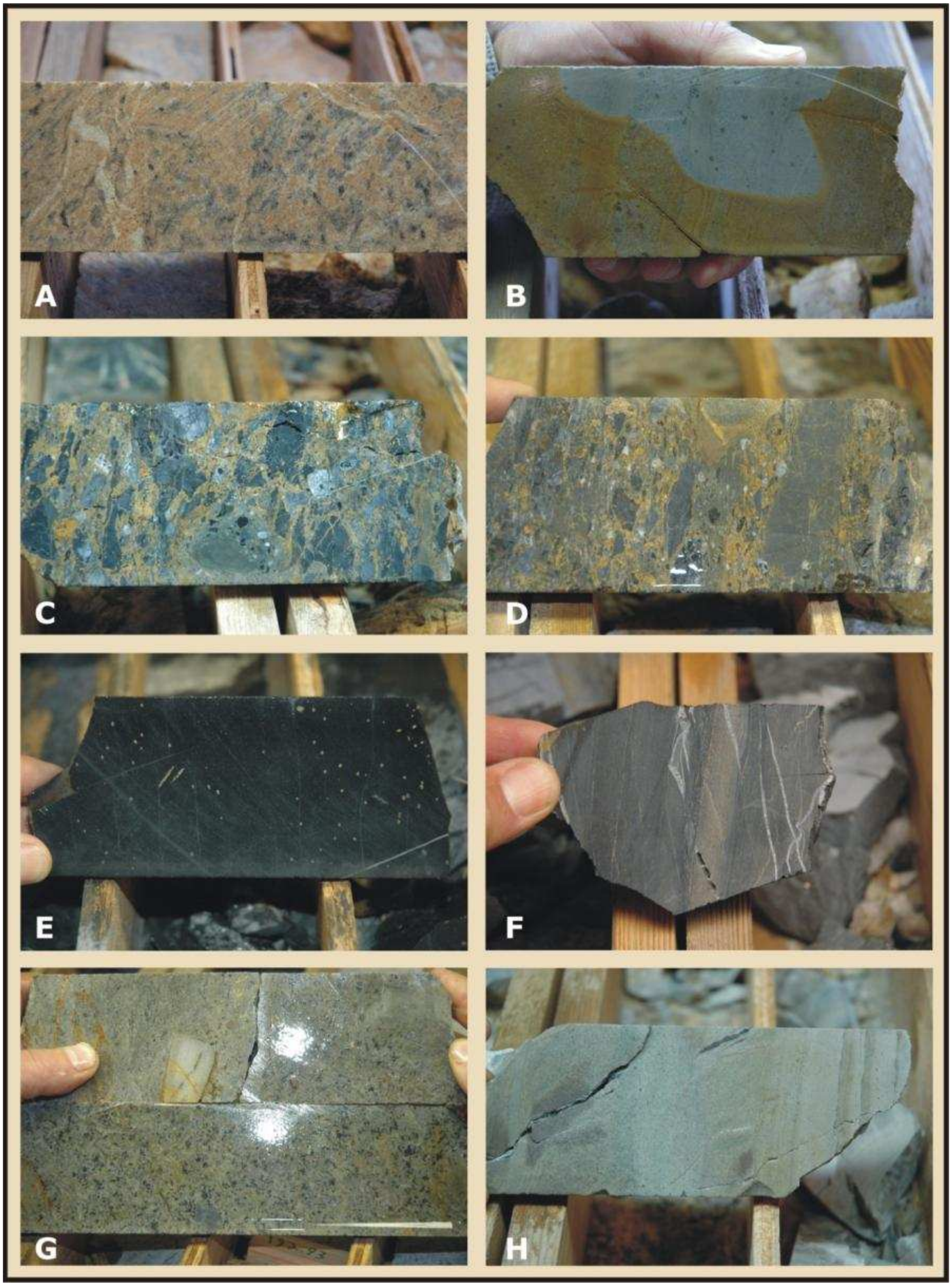


Figure 7.5. Photographs of key rock types at Livengood. **A)** ultramafic rock with carbonate alteration (yellow-brown); MK7-20, 13.5m; **B)** siltstone with carbonate and pyrite knots.

Brown color is oxidation front. MK 07-18, 8.5m **C)** sedimentary conglomerate; at least some clasts appear to be rip-up clasts of similar sedimentary rocks; brown color is probably after introduced carbonate; MK07-18, 41.2m; **D)** sedimentary conglomerate; at least some clasts appear to be rip-up clasts of similar sedimentary rocks; brown color is probably after introduced carbonate; MK07-18, 57.7m; **E)** argillite with pyrite; MK07-20, 222m; F) argillite with siltstone band; MK07-18, 280 ; **G)** tuff showing lithic fragments; this unit contains MK07-18, 190m 0.23 – 0.75 g/t Au; H) fine-grained tuffaceous sediment; MK07-20, 151.5m.

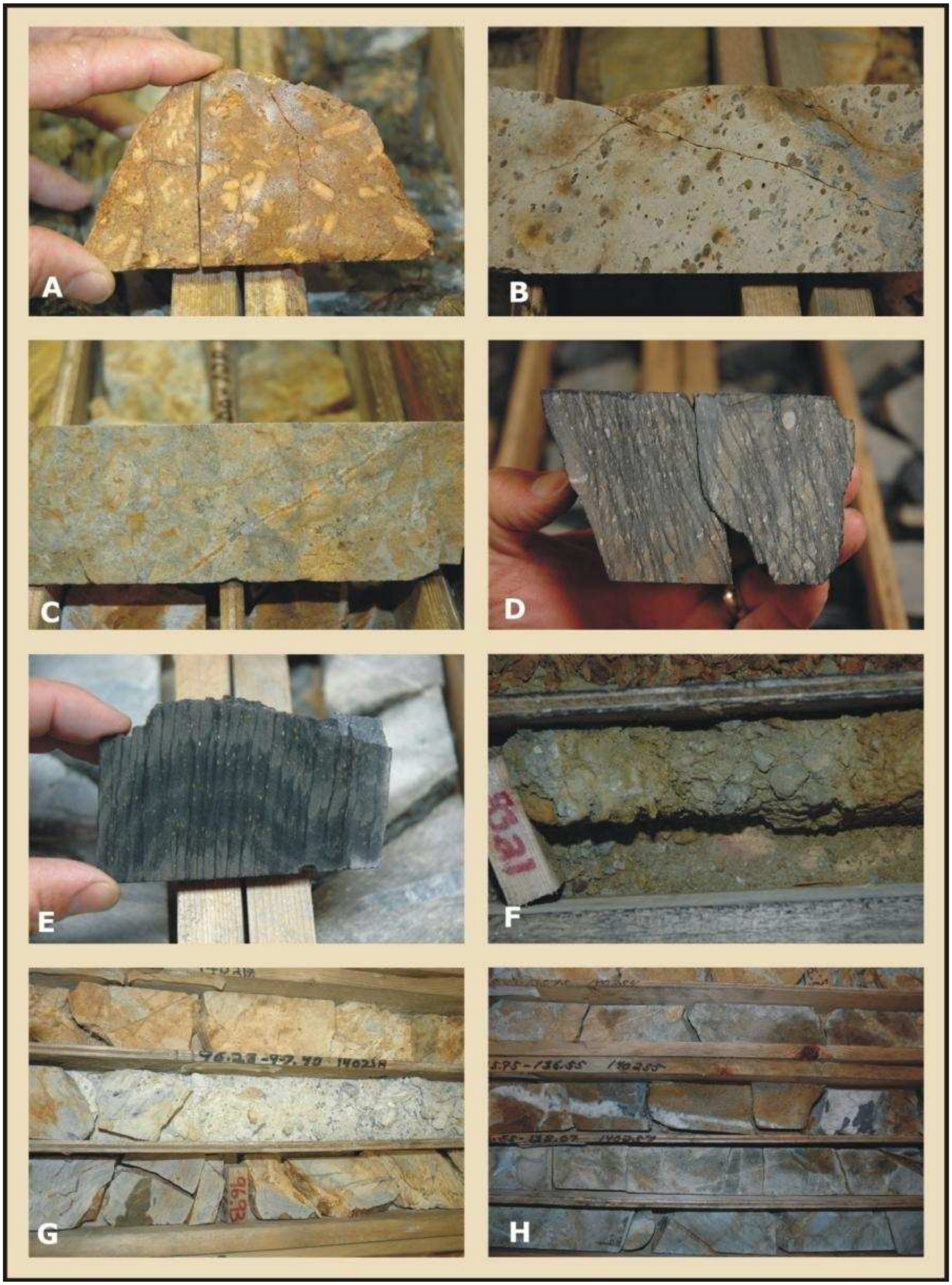


Figure 7.6. Photographs of key rock types and mineralization features. **A)** porphyry dike; MK07-18, 41.2 m; 1.01 g/t Au **B)** amygdaloidal volcanic, presumably a flow, with possible Na alteration; MK07-18, 152-189 **C)** silicified volcanic breccia; MK07-18 **D)** argillite with

more silty band and coral hash; note the shearing which is approximately 30^o to bedding; MK07-18, 288.4m **E)** axial planar cleavage on fold nose in interlayered argillite – silty argillite; MK07-18, 296.11m. This type of feature supports the fold-thrust interpretations of the cross section shown in Figure 10. **F)** fault; broken siltstone fragments in clay gouge/shear zone; this is part of an ~8m interval which contains 2 – 22.4 g/t Au; MK07-18, 77.9 – 86.08m; **G)** broken rock in shear zone within mineralized interval. The material in the photo includes portions of sample intervals that contain 15-16.2 g/t Au; MK 07-18, 96.93m **H)** narrow mineralized quartz vein in silicified volcanic contains 13 g/t Au and 35,900ppm As from arsenopyrite; MK07-18, 136.5m.

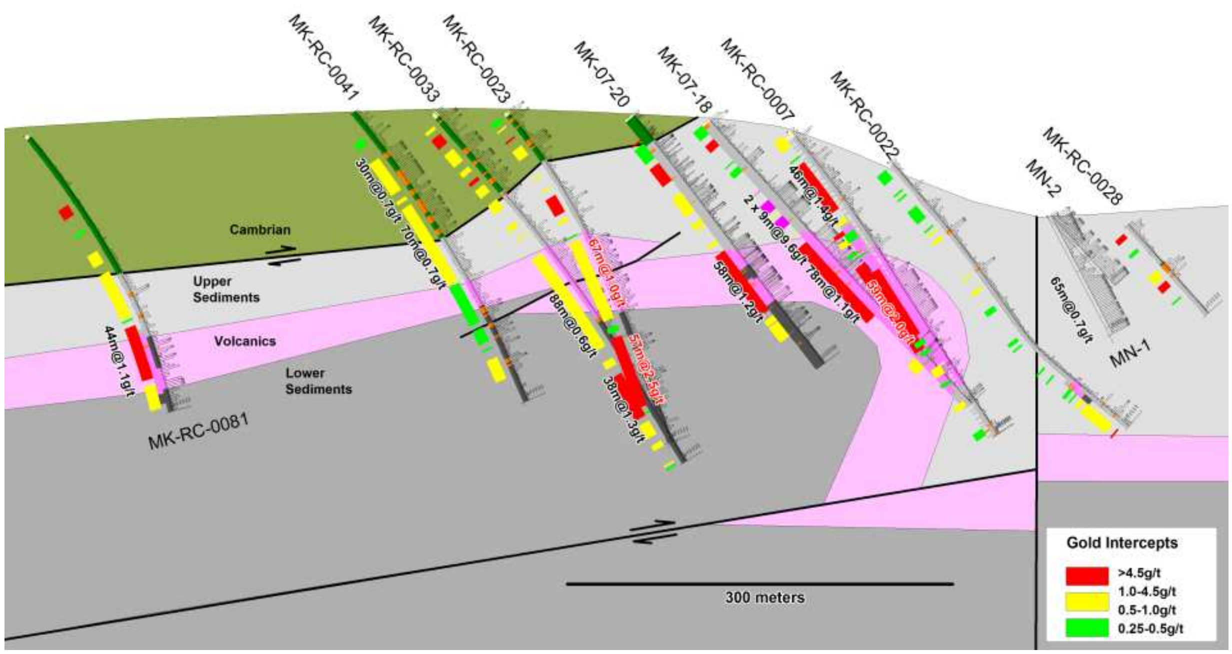


Figure 7.7. N-S Section 428850 illustrates the southerly dip of high grade zone (red) along the general stratigraphic pattern. Histogram on the right side of the drill trace shows arsenic concentrations which generally correlate with zones of gold mineralization.

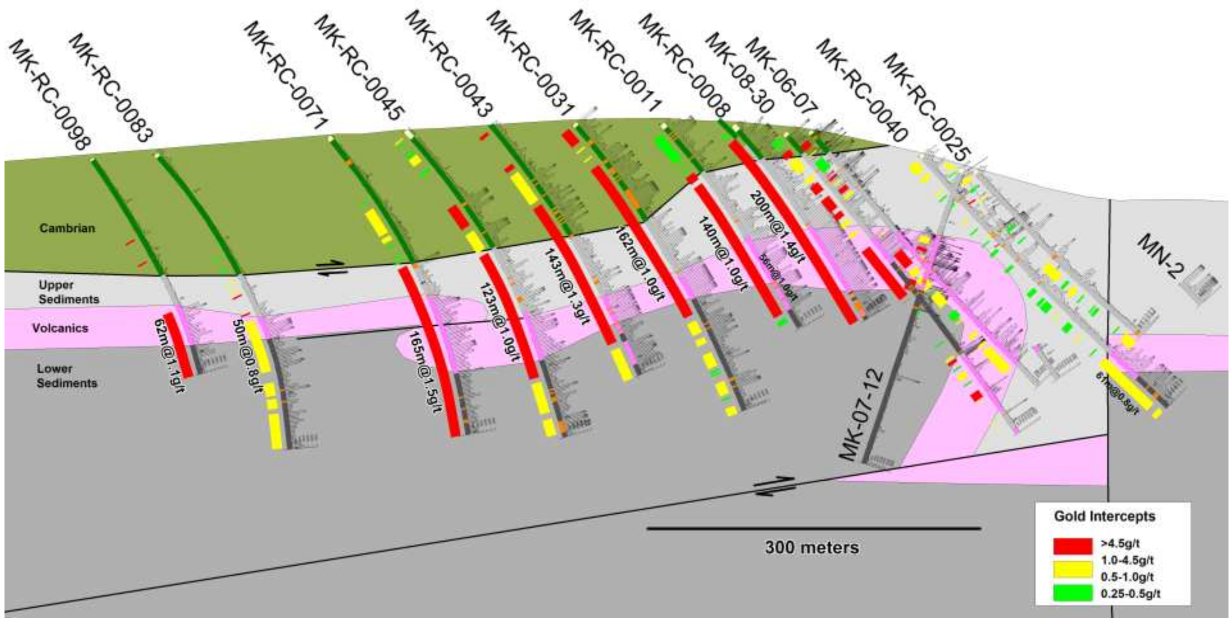


Figure 7.8. N-S Section 428925 illustrates the general southerly dip of mineralization and how it lies along the stratigraphic and structural grain. Histogram on the right side of the drill trace shows arsenic concentrations which generally correlate with zones of gold mineralization.

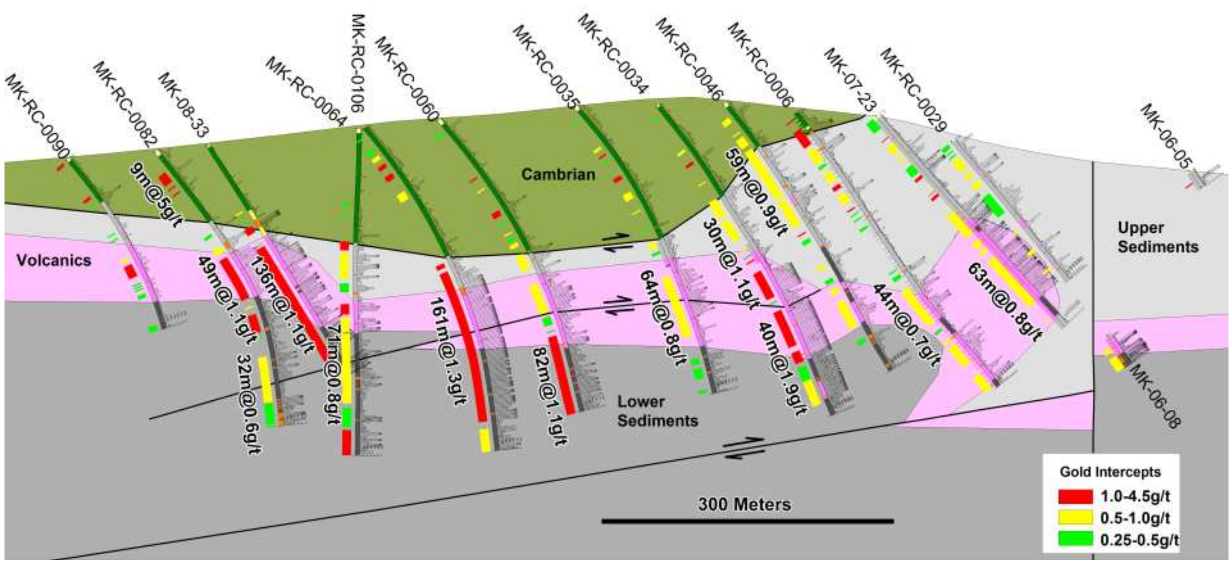


Figure 7.9. N-S Section 429075 illustrates the pattern of mineralization reflecting structural and stratigraphic controls. Histogram on the right side of the drill trace shows arsenic concentrations which generally correlate with zones of gold mineralization.

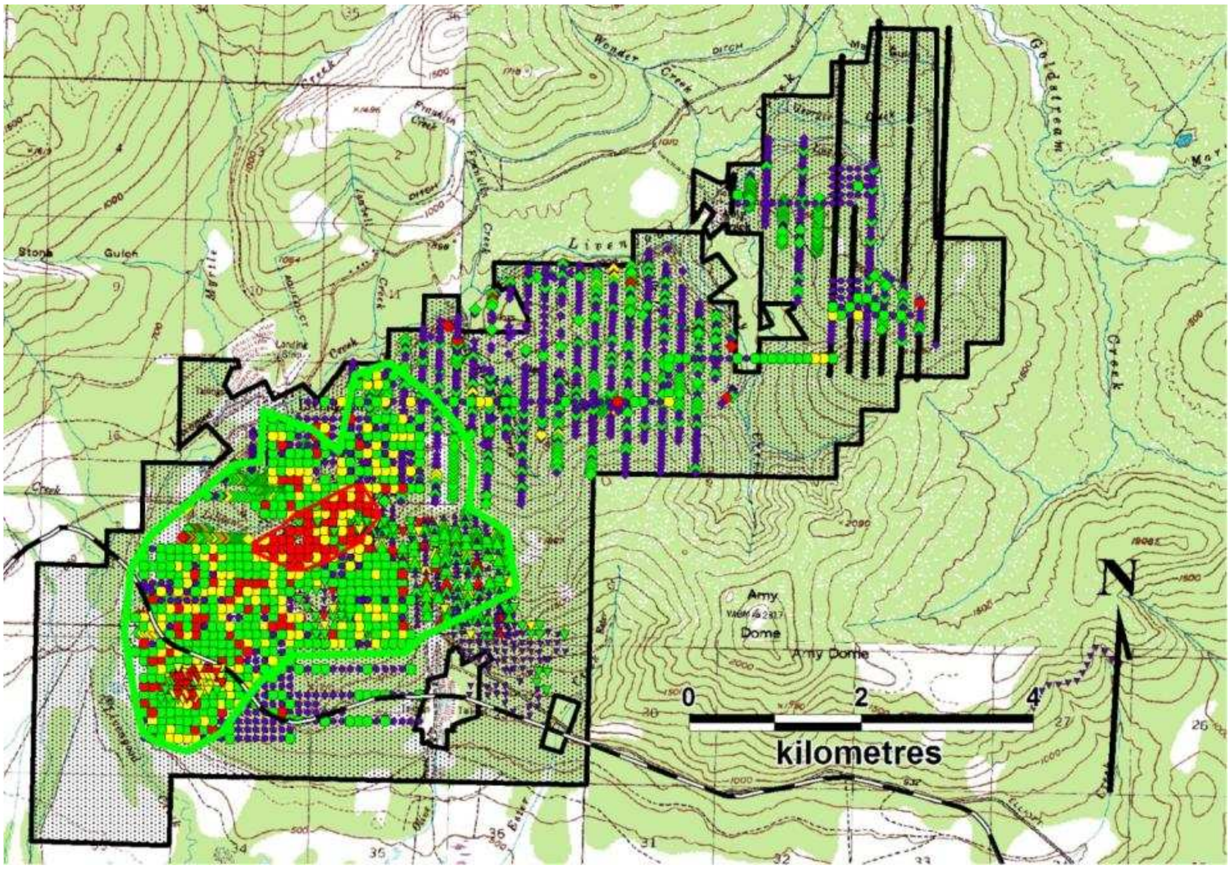


Figure 9.1. Plot of soil samples. Color coding shows relative gold content with red indicating gold ≥0.100 g/t Au. The green line encloses the area containing anomalous gold samples.

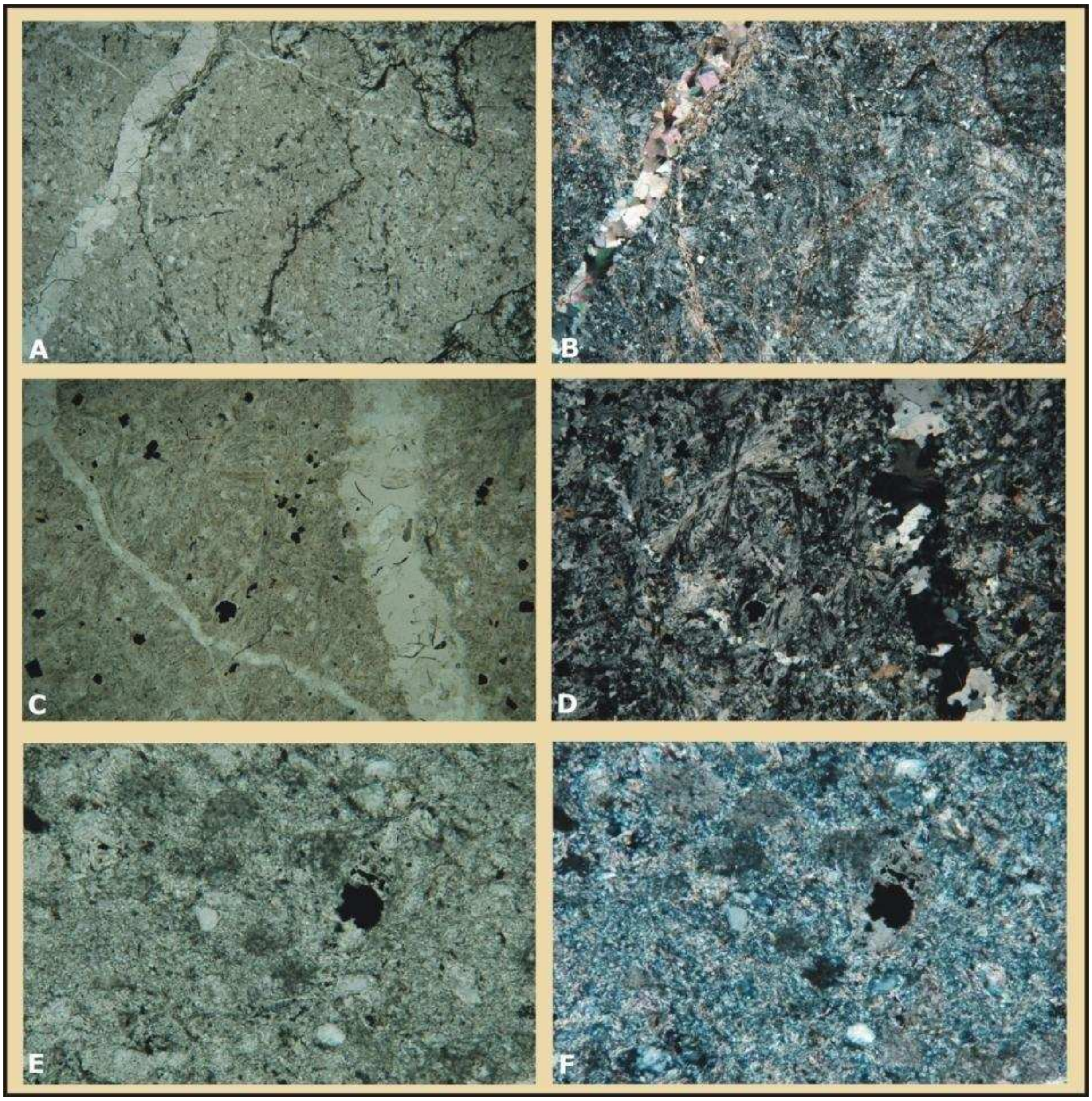


Figure 9.2. Photomicrographs of characteristic alteration among rocks at Money Knob. Plane light on the left; crossed polarized light on the right. **A and B**) Quartz-carbonate veinlet cross-cuts albitized rock. Albite forms radiating, plumose rosettes (lower right) (MK07-20, 182). **C and D**) A quartz-carbonate veinlet crosscuts albitized volcanic rock (MK07-18, 247.5m). **E and F**) Sericite and carbonate replace a silty phyllite (MK07-18, 76.0m).

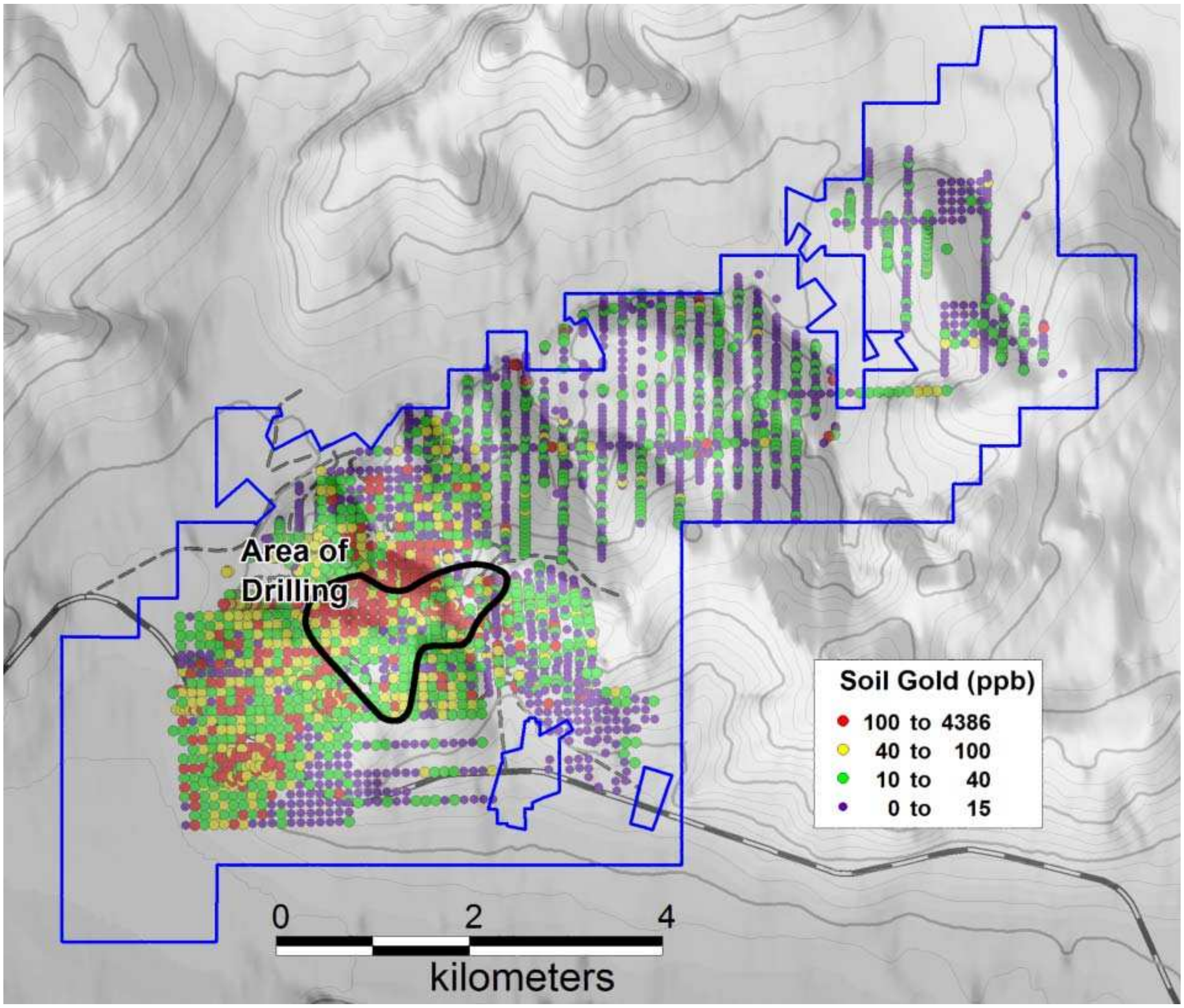


Figure 11.1 Distribution of drilling in the Money Knob area with respect to anomalous soil samples. The majority of the soil geochemical target remains untested.

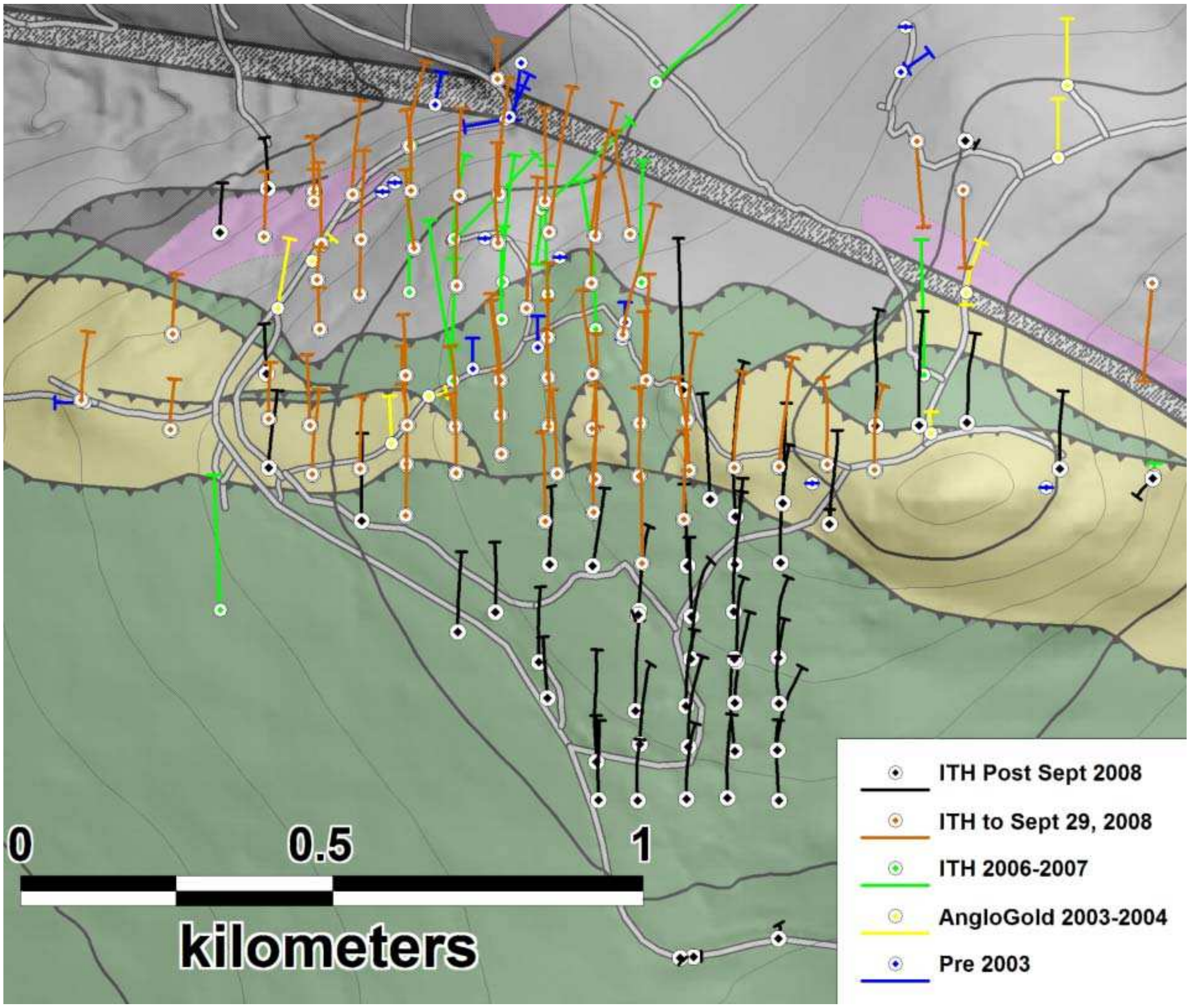


Figure 11.2 Distribution of drilling in the Money Knob area according to year and company.

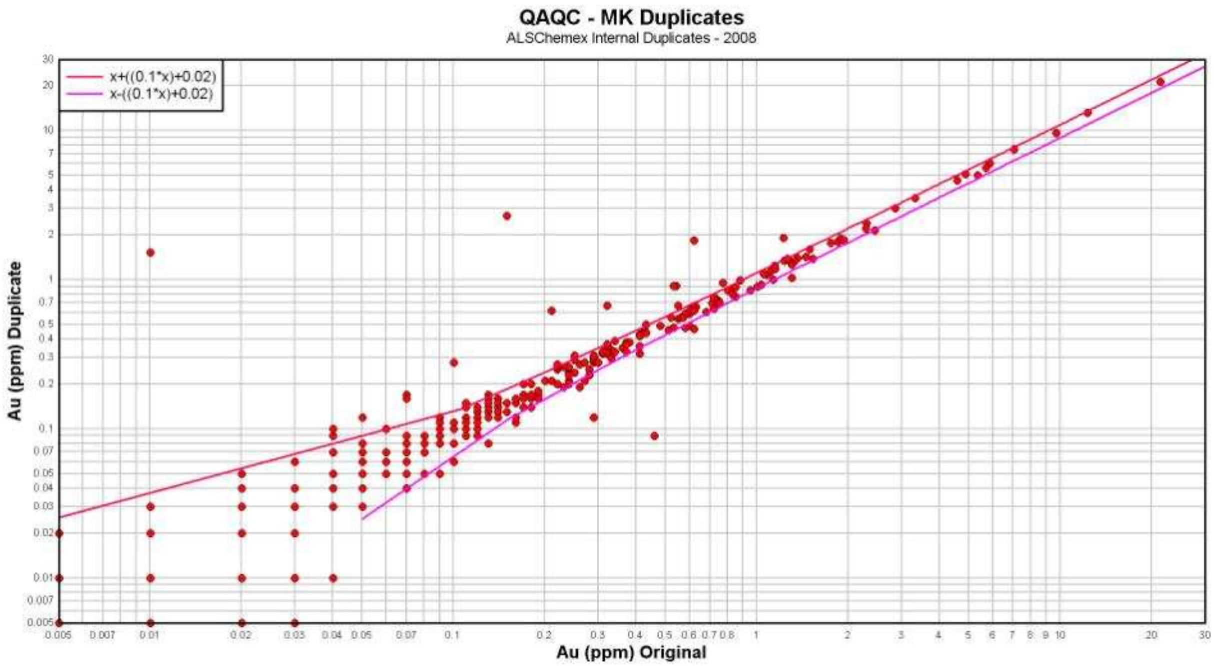


Figure 13.1. This scattergram shows how duplicate samples compare with the original sample analysis. They plot along a slope of 1 and are mostly bounded by a 10% error envelope (red and magenta lines). Sample points beyond this range are considered to be attributable to nugget effect and typical of gold deposits.

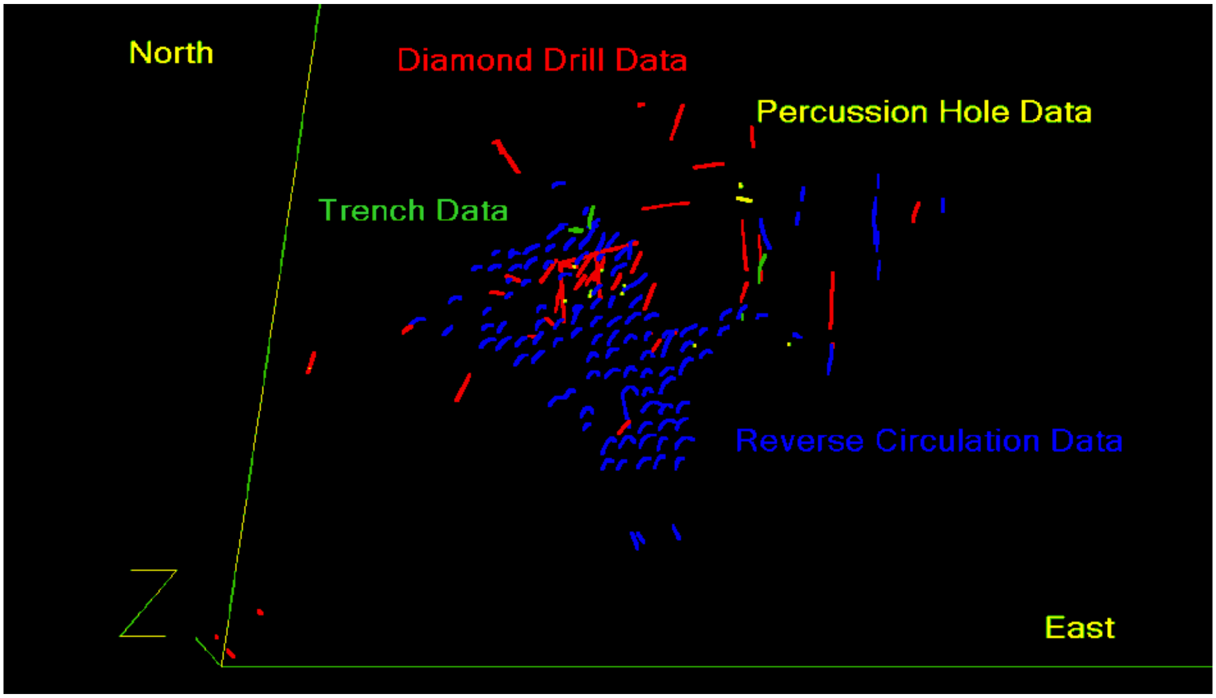


Figure 17.1. Plot showing sample type distribution with RC holes in blue, Diamond Drill holes in Red, Trenches in green and percussion holes in yellow.

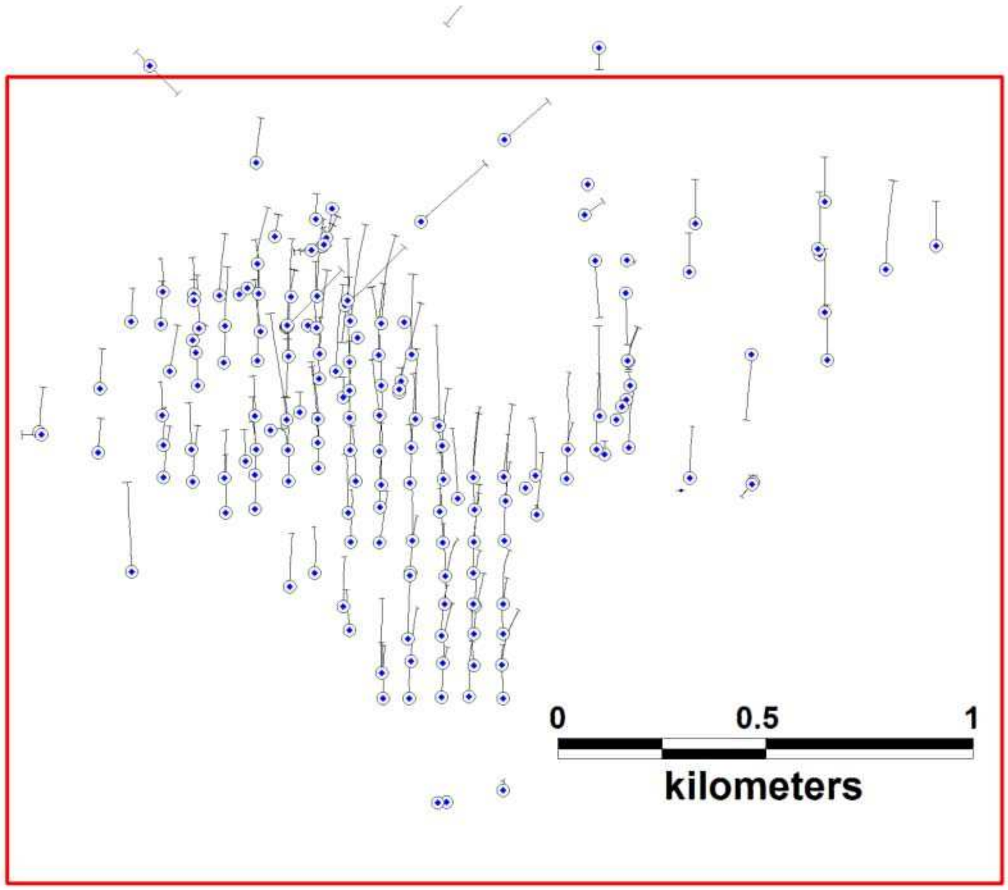


Figure 17.2. Plan view of drill hole traces within the block model limits (red line).

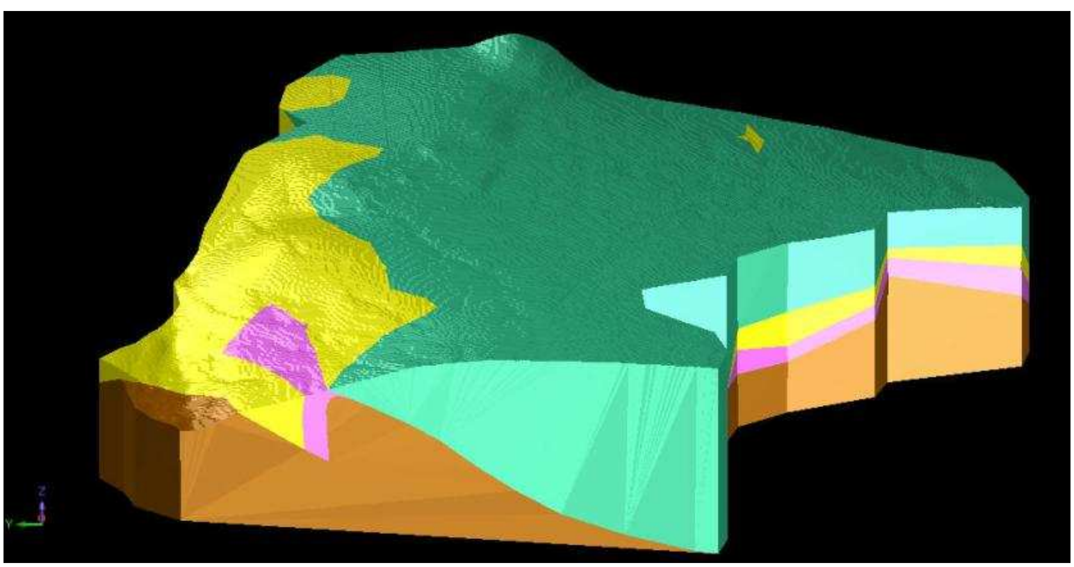


Figure 17.3. Isometric drawing looking E showing solids: Cambrian Ultramafics in green, Upper Sediments in yellow, Main Volcanics in magenta and Lower Sediments in orange.

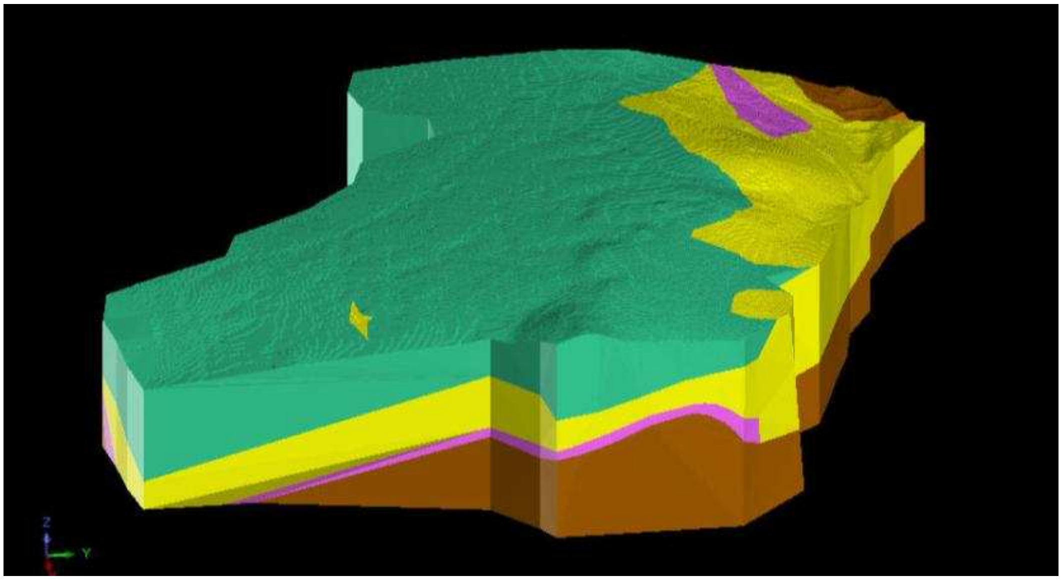


Figure 17.4. Isometric drawing looking west showing solids: Cambrian Ultramafics in green, Upper Sediments in yellow, Main Volcanics in magenta and Lower Sediments in orange.

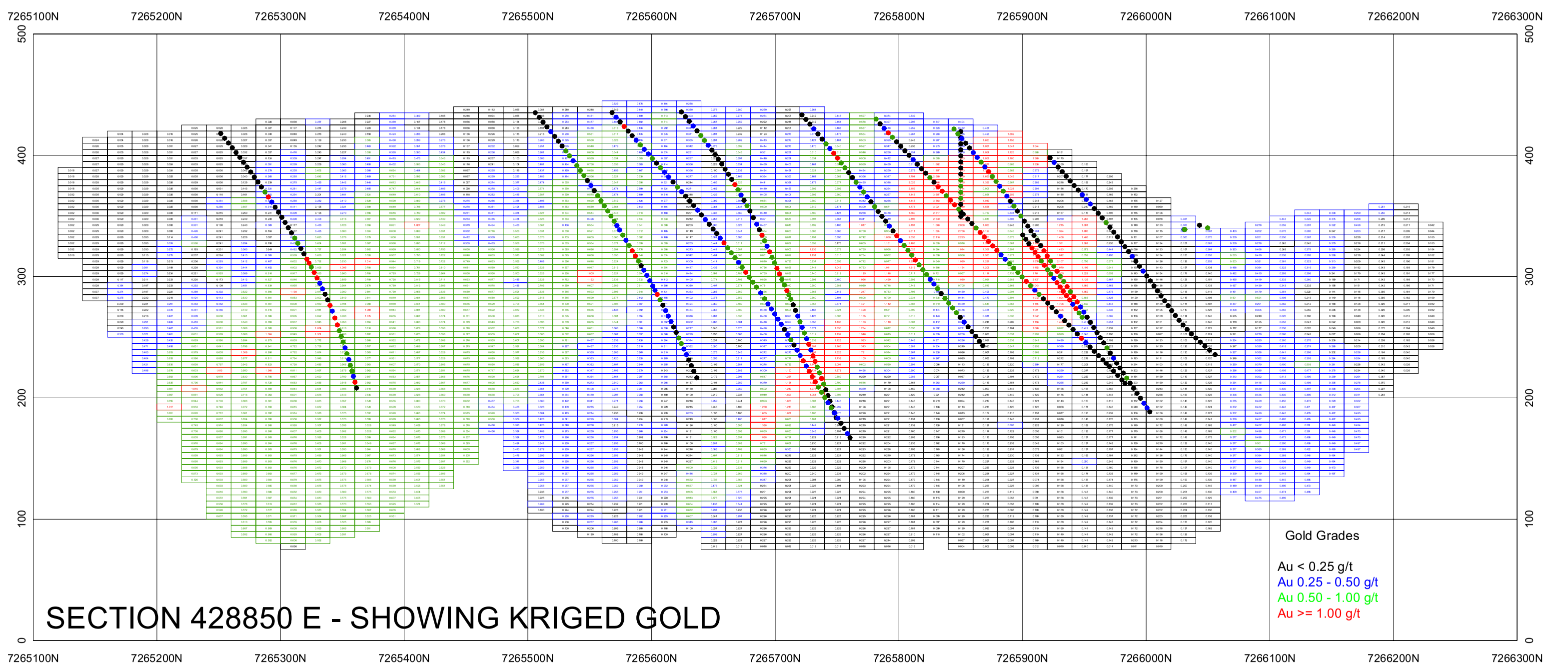


Figure 17.5. Cross Section 428850 E looking west showing estimated blocks and composites colour coded by Au grade.

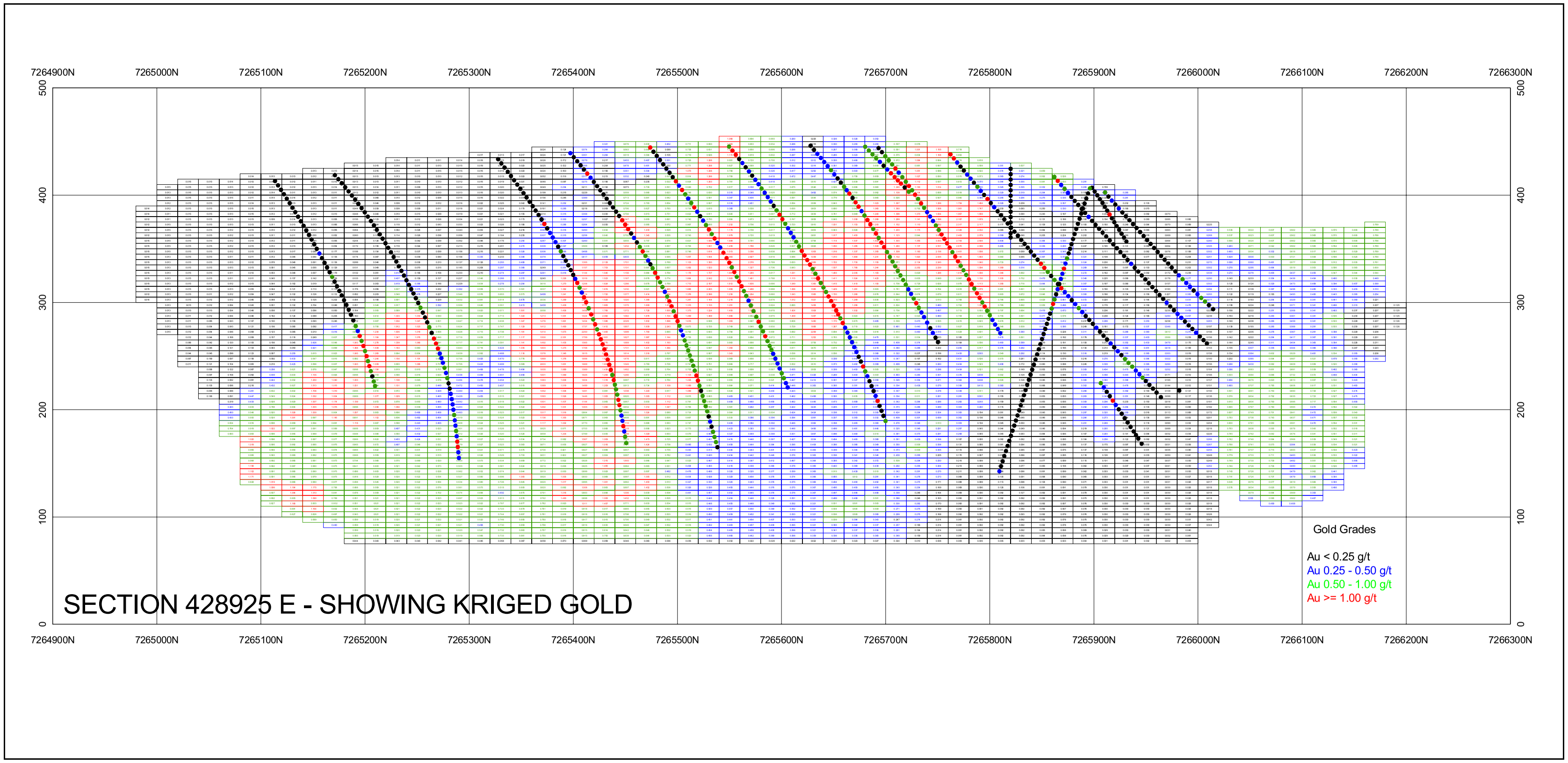


Figure 17.6. Cross Section 428925 E looking west showing estimated blocks and composites colour coded by Au grade.

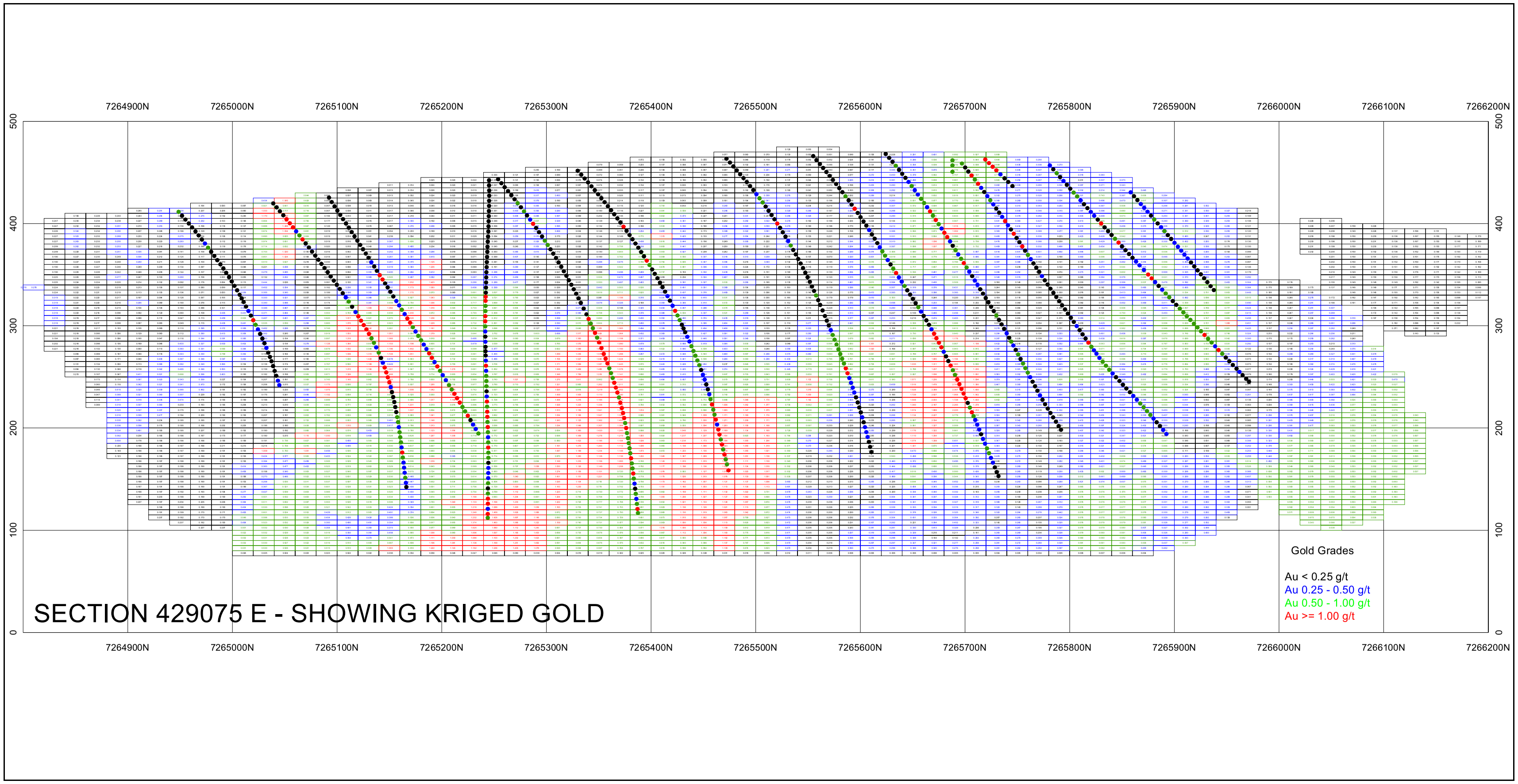


Figure 17.7. Cross Section 429075 E looking west showing estimated blocks and composites colour coded by Au grade.

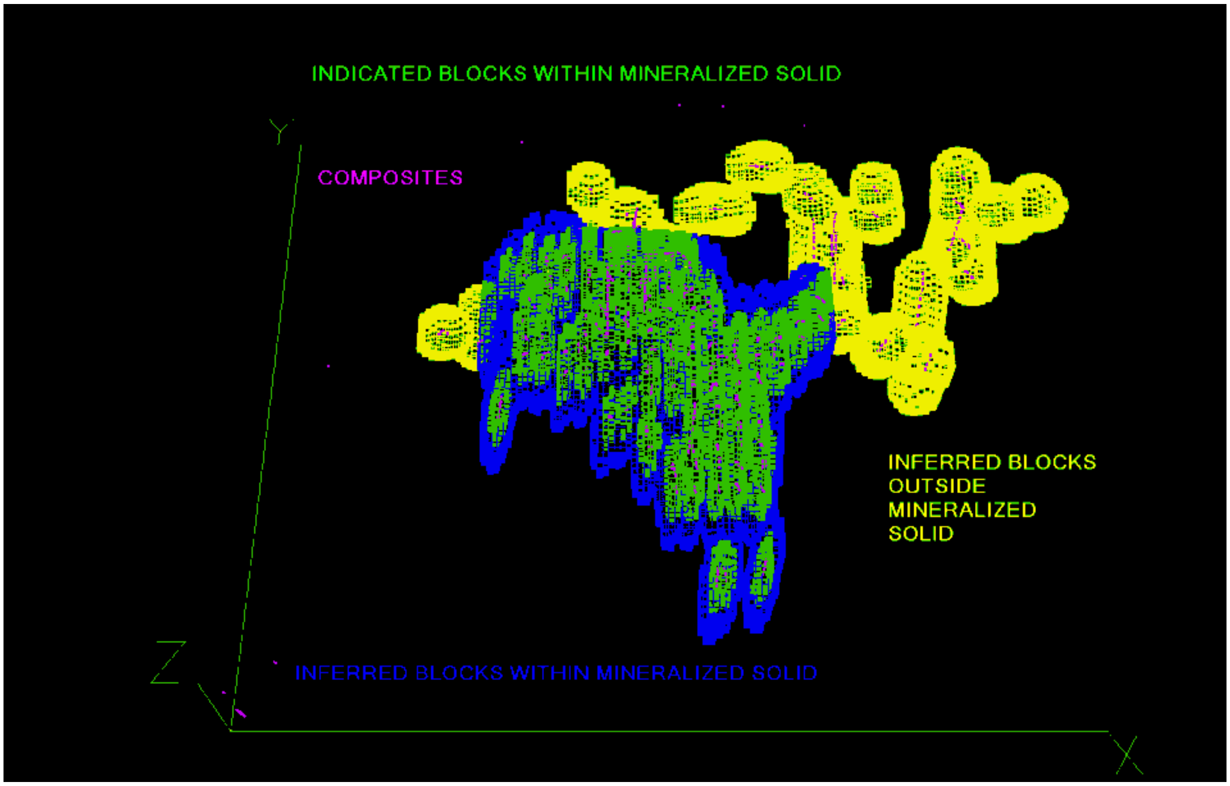


Figure 17.8. Isometric plot showing Indicated (green) and Inferred (blue) blocks within mineralized solid and Inferred (yellow) outside solid.

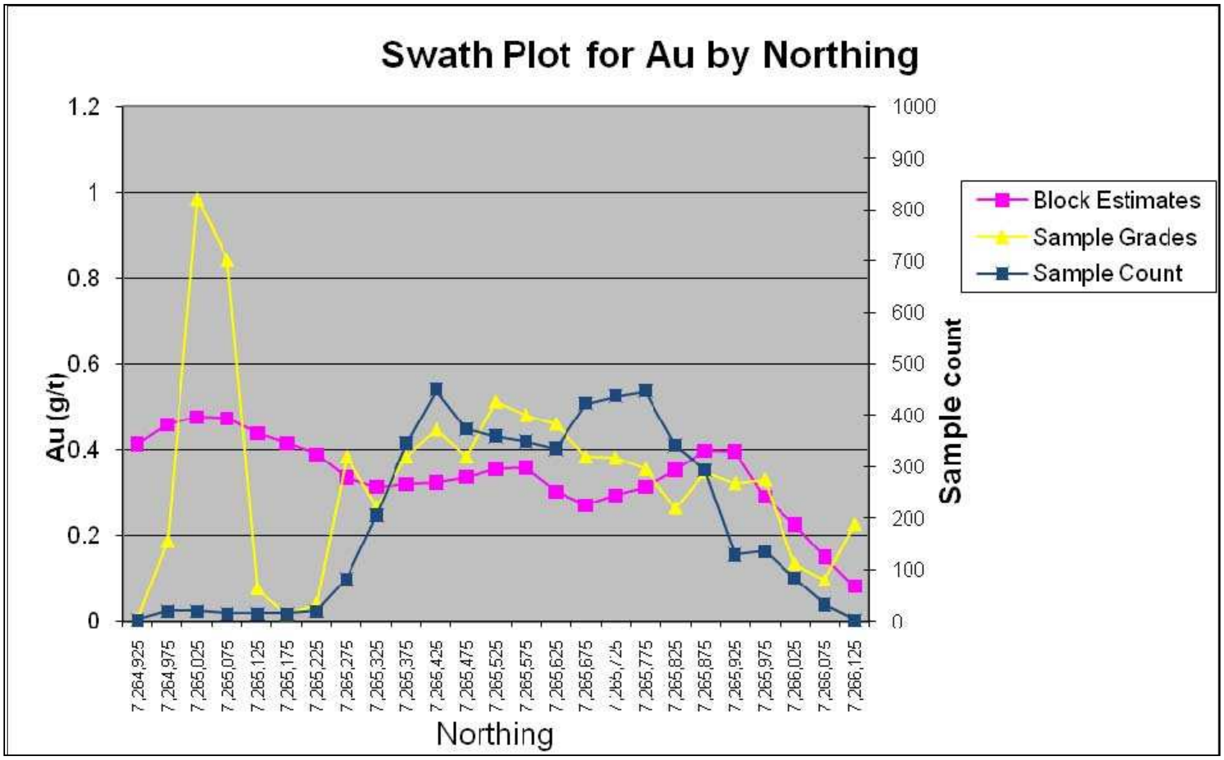


Figure 17.9. Northing Swath Plot showing gold variation in estimated blocks compared with composite grades.

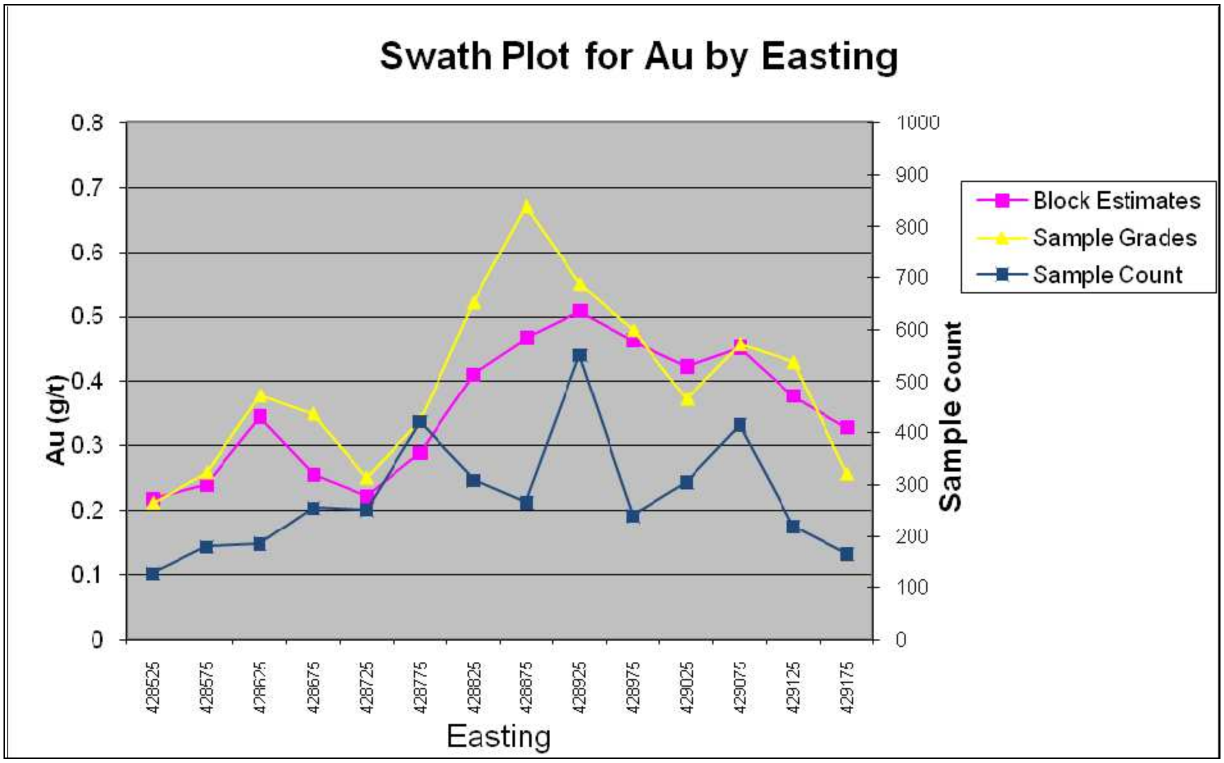


Figure 17.10. Easting Swath Plot showing gold variation in estimated blocks compared with composite grades.

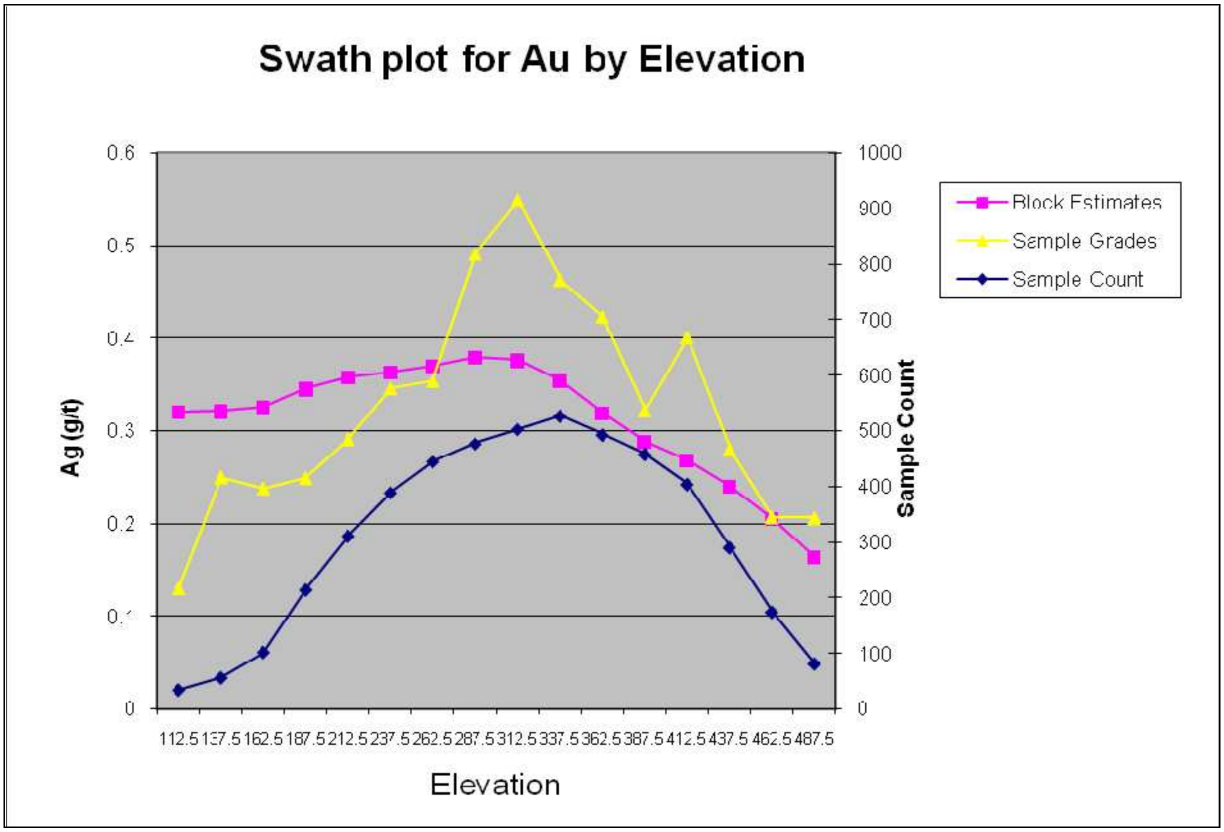


Figure 17.11. Elevation Swath Plot showing gold variation in estimated blocks compared with composite grades.

24.0 Certificates of Authors

CERTIFICATE OF AUTHOR

I, Paul D. Klipfel Ph.D., do hereby certify that:

1. I am President of :
   Mineral Resource Services, Inc.
   4889 Sierra Pine Dr.
   Reno, NV 89519

2. I have graduated from the following Universities with degrees as follows:

a.	San Francisco State University,	B.A. geology	1978
b.	University of Idaho,	M.S. economic geology	1981
c.	Colorado School of Mines	M.S. mineral economics	1988
d.	Colorado School of Mines	Ph.D. economic geology	1992

3. I am a member in good standing of the following professional associations:
   a. Society of Mining Engineers
   b. Society of Economic Geologists
   c. Geological Society of America
   d. Society for Applied Geology
   e. American Institute of Professional Geologists
   f. Sigma Xi

4. I have worked as a mineral exploration geologist for 29 years since my graduation from San Francisco State University.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with professional associations 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 all sections of the technical report titled "**January 2009 Summary Report on the Livengood Project, Tolovana District, Alaska"** and dated January 28, 2009 (the "Technical Report") relating to the Livengood property except section 17 on resource evaluation which was prepared by Mr. G. Giroux. I have visited the Livengood property on four occasions, the most recent being September 22-26, 2008.

4889 Sierra Pine Dr. Reno NV 89519 ph: 775 742-2237 p.klipfel@sbcglobal.net

7. Prior to being retained by ITH in 2006, 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 1.4 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.

Dated this 28th day of January, 2009

(signed) *Paul Klipfel* [Sealed: AIPG#10821]
Signature of Qualified Person

Paul D. Klipfel, Ph.D, CPG[AIPG]
Print name of Qualified Person

CERTIFICATE of G.H. Giroux

I, G.H. Giroux, of 982 Broadview Drive, North Vancouver, British Columbia, do hereby certify that:

1) I am a consulting geological engineer with an office at #1215 - 675 West Hastings Street, Vancouver, British Columbia.
2) I am a graduate of the University of British Columbia in 1970 with a B.A. Sc. and in 1984 with a M.A. Sc., both in Geological Engineering.
3) I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
4) I have practised my profession continuously since 1970. I have had over 30 years experience calculating mineral resources. I have previously completed resource estimations on a wide variety of precious metal deposits, both in B.C. and around the world, including La Colorada, La Jojoba and Livia de Oro, La India and Kisladag.
5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Instrument 43-101.
6) This report titled "**January 2009 Summary Report on the Livengood Project, Tolovana District, Alaska**" dated January 28, 2009 (the "Technical Report"), is based on a study of the data and literature available on the Livengood Property. I am responsible for Section 17 on the resource estimations completed in Vancouver during 2009. I have not visited the property.
7) I have previously completed a resource estimate for the Livengood Deposit in 2008.
8) As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9) I am independent of the issuer applying all of the tests in section 1.4 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.

Dated this 28th day of January, 2009

(signed) *Gary Giroux* [Sealed]
Signature of Qualified Person

Gary H. Giroux, M.A.Sc., P.Eng.
Print name of Qualified Person

25.0 Appendices

Appendix 1: Claim/Property Information

Owner	File Number	Tenure Name	Date Acquired	MTRS Location
Alaska State Lease				
Alaska Mental Health Land Trust	9400248	AMHLT - ML	1-Jul-2004	F008N005W
Federal Patented Claims				
Griffin heirs	MS 1990, Patent 1041576	Mastodon	18-Jan-2007	F008N005W
Griffin heirs	MS 1990, Patent 1041576	Piedmont	18-Jan-2007	F008N005W
Griffin heirs	MS 1990, Patent 1041576	Yukon	18-Jan-2007	F008N005W
Federal Unpatented Claims				
Richard Hudson	55469	ANNE	21-Apr-2003	F008N005W24
Richard Hudson	55466	BLACK ROCK	21-Apr-2003	F008N005W24
Richard Hudson	55471	BRIDGET	21-Apr-2003	F008N005W24
Richard Hudson	55453	DOROTHEA	21-Apr-2003	F008N005W23
Richard Hudson	55470	EILEEN	21-Apr-2003	F008N005W24
Richard Hudson	55455	FOSTER	21-Apr-2003	F008N005W24
Richard Hudson	55454	LENORA	21-Apr-2003	F008N005W23
Richard Hudson	55459	NICKIE	21-Apr-2003	F008N005W24
Richard Hudson	55464	OLD SMOKY	21-Apr-2003	F008N005W23
Richard Hudson	55468	PATRICIA	21-Apr-2003	F008N005W13
Richard Hudson	55460	PATRICK	21-Apr-2003	F008N005W23
Richard Hudson	55458	SAUNDERS	21-Apr-2003	F008N005W23
Richard Hudson	55452	SHARON	21-Apr-2003	F008N005W23
Richard Geraghty	55462	SUNSHINE #1	21-Apr-2003	F008N005W23
Richard Geraghty	55463	SUNSHINE #2	21-Apr-2003	F008N005W23
Richard Hudson	55467	TRAPLINE	21-Apr-2003	F008N005W24
Richard Hudson	55457	TWERPIT	21-Apr-2003	F008N005W24
Richard Hudson	55456	VANCE	21-Apr-2003	F008N005W24
Richard Hudson	55461	WHITE ROCK	21-Apr-2003	F008N005W23
Richard Hudson	55465	WITTROCK	21-Apr-2003	F008N005W23
Ronald Tucker	37580	Lillian No. 1	30-Sep-1968	F008N005E22
Ronald Tucker	37581	Satellite	30-Sep-1968	F008N005E22
Ronald Tucker	37582	Nickel Bench R.L.*	30-Jun-1972	F008N005E22 & 15
Ronald Tucker	37583	The Nickel*	12-Aug-1965	F008N005E22
Ronald Tucker	37584	Overlooked*	6-Sep-1975	F008N005E22
Ronald Tucker	37585	The Lad*	12-Aug-1965	F008N005E22
State Claims				
Karl Hanneman and Bergelin Family Trust	330936	LUCKY 55	14-May-1981	F009N004W33
Karl Hanneman and Bergelin Family Trust	330937	LUCKY 56	14-May-1981	F009N004W33
Karl Hanneman and Bergelin Family Trust	330938	LUCKY 64	13-May-1981	F009N004W32 F009N004W33
Karl Hanneman and Bergelin Family Trust	330939	LUCKY 65	14-May-1981	F009N004W33

Owner	File Number	Tenure Name	Date Acquired	MTRS Location
Karl Hanneman and Bergelin Family Trust	330940	LUCKY 66	14-May-1981	F009N004W33
Karl Hanneman and Bergelin Family Trust	330941	LUCKY 72	12-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330942	LUCKY 73	13-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330943	LUCKY 74	13-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330944	LUCKY 75	14-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330945	LUCKY 76	14-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330946	LUCKY 82	12-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330947	LUCKY 83	13-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330948	LUCKY 84	13-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330949	LUCKY 85	14-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330950	LUCKY 86	14-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330951	LUCKY 91	12-May-1981	F008N004W05
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Karl Hanneman and Bergelin Family Trust	330953	LUCKY 93	13-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330954	LUCKY 94	13-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330955	LUCKY 95	14-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330956	LUCKY 96	14-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330957	LUCKY 101	12-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330958	LUCKY 102	12-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330959	LUCKY 103	12-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330960	LUCKY 104	12-May-1981	F008N004W05
Karl Hanneman and Bergelin Family Trust	330961	LUCKY 105	12-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330962	LUCKY 106	12-May-1981	F008N004W04
Karl Hanneman and Bergelin Family Trust	330963	LUCKY 202	13-May-1981	F008N004W08
Karl Hanneman and Bergelin Family Trust	330964	LUCKY 203	13-May-1981	F008N004W08
Karl Hanneman and Bergelin Family Trust	330965	LUCKY 204	15-May-1981	F008N004W08
Karl Hanneman and Bergelin Family Trust	330966	LUCKY 205	13-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330967	LUCKY 206	14-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330968	LUCKY 207	14-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330969	LUCKY 208	14-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330970	LUCKY 302	13-May-1981	F008N004W08
Karl Hanneman and Bergelin Family Trust	330971	LUCKY 303	13-May-1981	F008N004W08
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Karl Hanneman and Bergelin Family Trust	330975	LUCKY 307	14-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330976	LUCKY 308	14-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330977	LUCKY 404	15-May-1981	F008N004W08
Karl Hanneman and Bergelin Family Trust	330978	LUCKY 405	13-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	330979	LUCKY 406	14-May-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	338477	LUCKY 198	17-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338478	LUCKY 199	17-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338479	LUCKY 295	17-Sep-1981	F008N005W12
Karl Hanneman and Bergelin Family Trust	338480	LUCKY 296	17-Sep-1981	F008N005W12
Karl Hanneman and Bergelin Family Trust	338481	LUCKY 297	17-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338482	LUCKY 298	17-Sep-1981	F008N004W07

Owner	File Number	Tenure Name	Date Acquired	MTRS Location
Karl Hanneman and Bergelin Family Trust	338483	LUCKY 299	17-Sep-1981	F008N004W07
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Karl Hanneman and Bergelin Family Trust	338485	LUCKY 395	18-Sep-1981	F008N005W12
Karl Hanneman and Bergelin Family Trust	338486	LUCKY 396	18-Sep-1981	F008N005W12
Karl Hanneman and Bergelin Family Trust	338487	LUCKY 397	18-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338488	LUCKY 398	18-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338489	LUCKY 399	17-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338490	LUCKY 400	23-Sep-1981	F008N004W07 F008N004W08
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Karl Hanneman and Bergelin Family Trust	338495	LUCKY 495	18-Sep-1981	F008N005W12
Karl Hanneman and Bergelin Family Trust	338496	LUCKY 496	18-Sep-1981	F008N005W12
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Karl Hanneman and Bergelin Family Trust	338498	LUCKY 498	18-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338499	LUCKY 499	17-Sep-1981	F008N004W07
Karl Hanneman and Bergelin Family Trust	338500	LUCKY 500	23-Sep-1981	F008N004W07 F008N004W08
Karl Hanneman and Bergelin Family Trust	338501	LUCKY 504	10-Sep-1981	F008N004W08
Karl Hanneman and Bergelin Family Trust	338502	LUCKY 505	10-Sep-1981	F008N004W09
Karl Hanneman and Bergelin Family Trust	338503	LUCKY 589	21-Sep-1981	F008N005W14
Karl Hanneman and Bergelin Family Trust	338504	LUCKY 590	21-Sep-1981	F008N005W14
Karl Hanneman and Bergelin Family Trust	338505	LUCKY 591	21-Sep-1981	F008N005W14
Karl Hanneman and Bergelin Family Trust	338506	LUCKY 592	21-Sep-1981	F008N005W14
Karl Hanneman and Bergelin Family Trust	338507	LUCKY 593	21-Sep-1981	F008N005W13
Karl Hanneman and Bergelin Family Trust	338508	LUCKY 594	21-Sep-1981	F008N005W13
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Karl Hanneman and Bergelin Family Trust	338518	LUCKY 693	22-Sep-1981	F008N005W13
Karl Hanneman and Bergelin Family Trust	338519	LUCKY 694	22-Sep-1981	F008N005W13
Karl Hanneman and Bergelin Family Trust	338520	LUCKY 697	18-Sep-1981	F008N004W18
Karl Hanneman and Bergelin Family Trust	338521	LUCKY 698	18-Sep-1981	F008N004W18
Karl Hanneman and Bergelin Family Trust	338522	LUCKY 699	17-Sep-1981	F008N004W18
Karl Hanneman and Bergelin Family Trust	347943	LC 407	5-Jun-1982	F008N004W18
Karl Hanneman and Bergelin Family Trust	347945	LC 502	5-Jun-1982	F008N004W08
Karl Hanneman and Bergelin Family Trust	347946	LC 503	5-Jun-1982	F008N004W08
Karl Hanneman and Bergelin Family Trust	347947	LC 506	7-Jun-1982	F008N004W09
Karl Hanneman and Bergelin Family Trust	347948	LC 507	7-Jun-1982	F008N004W09

Owner	File Number	Tenure Name	Date Acquired	MTRS Location
Karl Hanneman and Bergelin Family Trust	347949	LC 600	5-Jun-1982	F008N004W17 F008N004W18
Karl Hanneman and Bergelin Family Trust	347950	LC 601	5-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347951	LC 602	5-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347952	LC 603	5-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347953	LC 604	6-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347954	LC 605	6-Jun-1982	F008N004W16
Karl Hanneman and Bergelin Family Trust	347955	LC 695	10-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347956	LC 696	10-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347957	LC 700	6-Jun-1982	F008N004W17 F008N004W18
Karl Hanneman and Bergelin Family Trust	347958	LC 701	6-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347959	LC 702	6-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347960	LC 703	6-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347961	LC 704	6-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347962	LC 790	12-Jun-1982	F008N005W14
Karl Hanneman and Bergelin Family Trust	347963	LC 791	12-Jun-1982	F008N005W14
Karl Hanneman and Bergelin Family Trust	347964	LC 792	11-Jun-1982	F008N005W14
Karl Hanneman and Bergelin Family Trust	347965	LC 793	11-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347966	LC 794	11-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347967	LC 795	10-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347968	LC 796	10-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347969	LC 797	10-Jun-1982	F008N004W18
Karl Hanneman and Bergelin Family Trust	347970	LC 798	9-Jun-1982	F008N004W18
Karl Hanneman and Bergelin Family Trust	347971	LC 799	8-Jun-1982	F008N004W18
Karl Hanneman and Bergelin Family Trust	347972	LC 800	8-Jun-1982	F008N004W17 F008N004W18
Karl Hanneman and Bergelin Family Trust	347973	LC 801	8-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347974	LC 802	8-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347975	LC 803	8-Jun-1982	F008N004W17
Karl Hanneman and Bergelin Family Trust	347976	LC 891	12-Jun-1982	F008N005W14
Karl Hanneman and Bergelin Family Trust	347977	LC 892	11-Jun-1982	F008N005W14
Karl Hanneman and Bergelin Family Trust	347978	LC 893	11-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347979	LC 894	11-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	347980	LC 895	10-Jun-1982	F008N005W13
Karl Hanneman and Bergelin Family Trust	348802	LC 688	4-Jun-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348803	LC 787	4-Jun-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348804	LC 788	4-Jun-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348805	LC 884	31-May-1982	F008N005W16
Karl Hanneman and Bergelin Family Trust	348805	LC 884	31-May-1982	F008N005W16
Karl Hanneman and Bergelin Family Trust	348806	LC 885	31-May-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348807	LC 886	25-May-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348808	LC 887	2-Jun-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348809	LC 888	4-Jun-1982	F008N005W15
Karl Hanneman and Bergelin Family Trust	348810	LC 984	31-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348811	LC 985	31-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348812	LC 986	25-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348813	LC 987	4-Jun-1982	F008N005W22

Owner	File Number	Tenure Name	Date Acquired	MTRS Location
Karl Hanneman and Bergelin Family Trust	348814	LC 1083	30-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348815	LC 1084	30-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348816	LC 1085	30-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348817	LC 1086	25-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348818	LC 1183	29-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348819	LC 1184	29-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348820	LC 1185	29-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348821	LC 1186	25-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348822	LC 1282	28-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348823	LC 1283	28-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348824	LC 1284	28-May-1982	F008N005W21
Karl Hanneman and Bergelin Family Trust	348825	LC 1285	28-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348826	LC 1286	26-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348827	LC 1287	26-May-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348828	LC 1288	2-Jun-1982	F008N005W22
Karl Hanneman and Bergelin Family Trust	348829	LC 1382	27-May-1982	F008N005W28
Karl Hanneman and Bergelin Family Trust	348830	LC 1383	27-May-1982	F008N005W28
Karl Hanneman and Bergelin Family Trust	348831	LC 1384	27-May-1982	F008N005W28
Karl Hanneman and Bergelin Family Trust	348832	LC 1385	27-May-1982	F008N005W27
Karl Hanneman and Bergelin Family Trust	361326	LUCKY 90	24-Oct-1983	F008N004W06
Karl Hanneman and Bergelin Family Trust	361327	LUCKY 100	24-Oct-1983	F008N004W06
Karl Hanneman and Bergelin Family Trust	361328	LUCKY 200	24-Oct-1983	F008N004W07
Karl Hanneman and Bergelin Family Trust	361329	LUCKY 294	28-Oct-1983	F008N005W12
Karl Hanneman and Bergelin Family Trust	361330	LUCKY 300	24-Oct-1983	F008N004W07
Karl Hanneman and Bergelin Family Trust	361331	LUCKY 394	28-Oct-1983	F008N005W12
Karl Hanneman and Bergelin Family Trust	361332	LUCKY 401	24-Oct-1983	F008N004W08
Karl Hanneman and Bergelin Family Trust	361333	LUCKY 402	24-Oct-1983	F008N004W08
Karl Hanneman and Bergelin Family Trust	361334	LUCKY 403	24-Oct-1983	F008N004W08
Karl Hanneman and Bergelin Family Trust	361335	LUCKY 501	24-Oct-1983	F008N004W08

* - Placer claim

Note: Meridian Township Range and Section (MTRS) Location is the Federal land location system. Example F006S013E12 is a section of land located in the Fairbanks Meridian, Township 6 South, Range 13 East, Section 12.

APPENDIX 2: List Of Drill Holes

Drill holes used in Resource are Highlighted

Holes Within Mineralized Solid
Holes Outside Solid
Holes not used

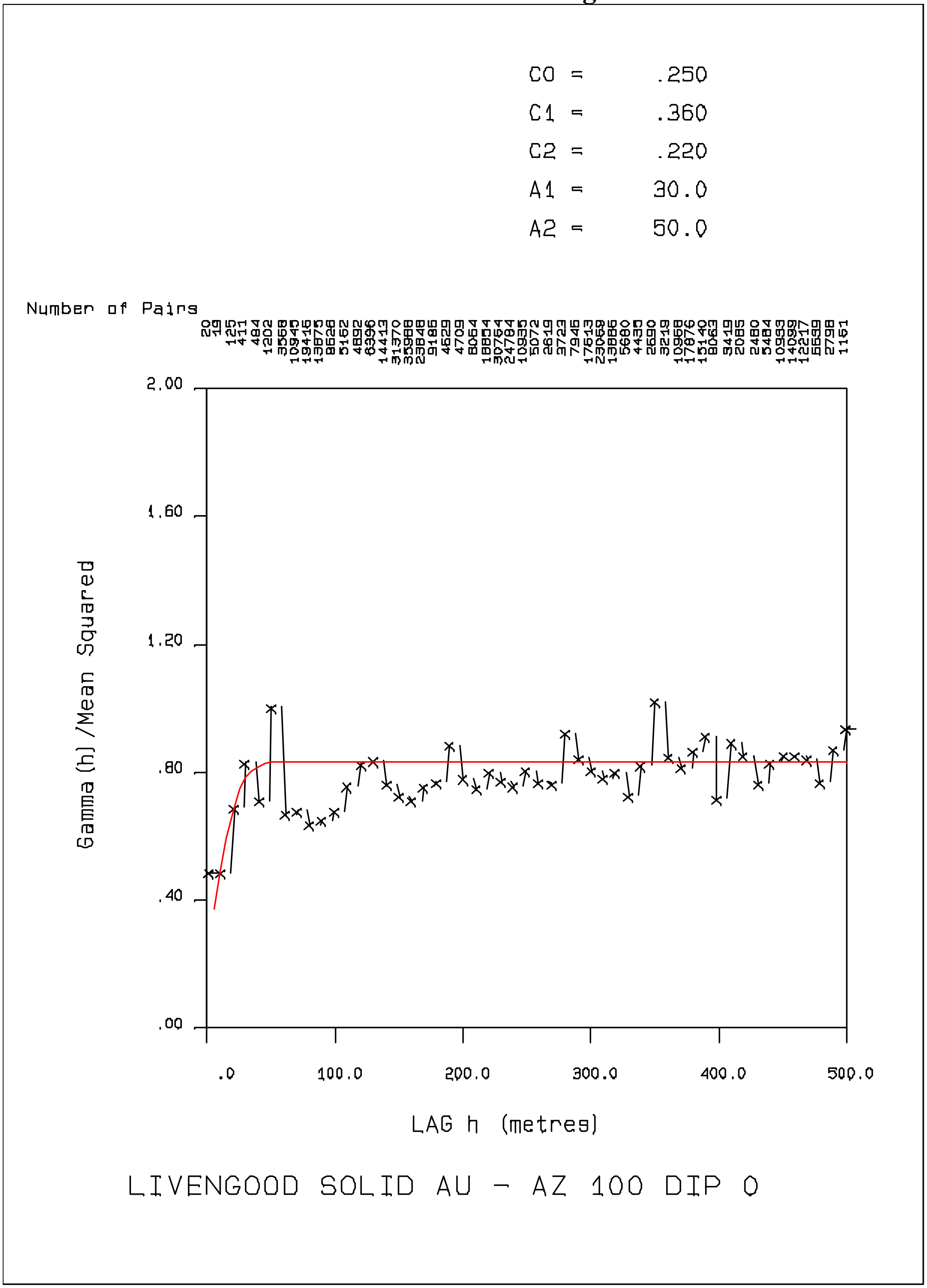
HOLE	EASTING	NORTHING	ELEVATION	HOLE LENGTH (m)
BAF-1	430060.00	7266021.00	518.20	213.40
BAF-2	430073.00	7266149.00	525.50	152.40
BAF-3	429760.00	7266096.00	506.00	150.90
BAF-4	430073.00	7265881.00	476.70	216.40
BAF-5	430078.00	7265765.00	460.20	189.90
BAF-6	429745.00	7265979.00	515.10	134.10
BAF-7	430056.00	7266034.00	518.20	304.80
BAF-8	430342.00	7266042.00	524.90	152.40
L-1	429726.00	7265450.00	503.00	31.00
L-2	429350.00	7265457.00	506.00	73.00
L-3	429050.00	7265715.00	468.00	46.00
L-4	429045.00	7265688.00	470.00	20.00
L-5	428910.00	7265675.00	454.00	70.00
L-6	428805.00	7265640.00	441.00	70.00
LC-TR-01	428883.00	7266132.00	358.10	91.40
LC-TR-02	428859.00	7266041.00	358.10	68.60
MK-04-01	428734.38	7265596.00	421.50	109.70
MK-04-02	428492.13	7265738.00	361.60	305.70
MK-04-03	428674.66	7265520.50	412.20	208.80
MK-04-04	428547.66	7265813.50	354.40	137.80
MK-04-TP1	429594.00	7265670.00	510.00	2.00
MK-04-TP2	429583.00	7265653.00	512.00	2.00
MK-04-TR1	429541.09	7265537.00	524.70	34.00
MK-04-TR2E	429598.03	7265763.00	514.80	85.00
MK-04-TR2S	429598.03	7265763.00	514.80	20.00
MK-04-TR2W	429597.06	7265763.50	514.80	85.00
MK-04-TR3	429602.97	7265704.00	516.40	33.40
MK-04-TR5	429570.00	7265621.00	512.00	15.00
MK-06-05	429099.00	7266101.00	403.00	305.10
MK-06-06	429299.00	7266298.00	405.00	205.40
MK-06-07	428772.31	7265845.00	412.80	276.50
MK-06-08	428915.28	7265897.00	408.70	288.30
MK-06-09	427614.00	7264251.00	223.70	124.70
MK-06-10	427533.00	7264335.00	228.20	10.40
MK-06-11	427691.00	7264430.00	242.30	17.10
MK-07-12	428915.28	7265897.00	408.70	282.90
MK-07-13	428773.31	7265847.50	412.80	351.10
MK-07-14	428774.81	7265846.00	412.80	44.80
MK-07-15	428774.81	7265849.00	412.80	281.60
MK-07-16	430220.00	7265985.00	531.30	332.80

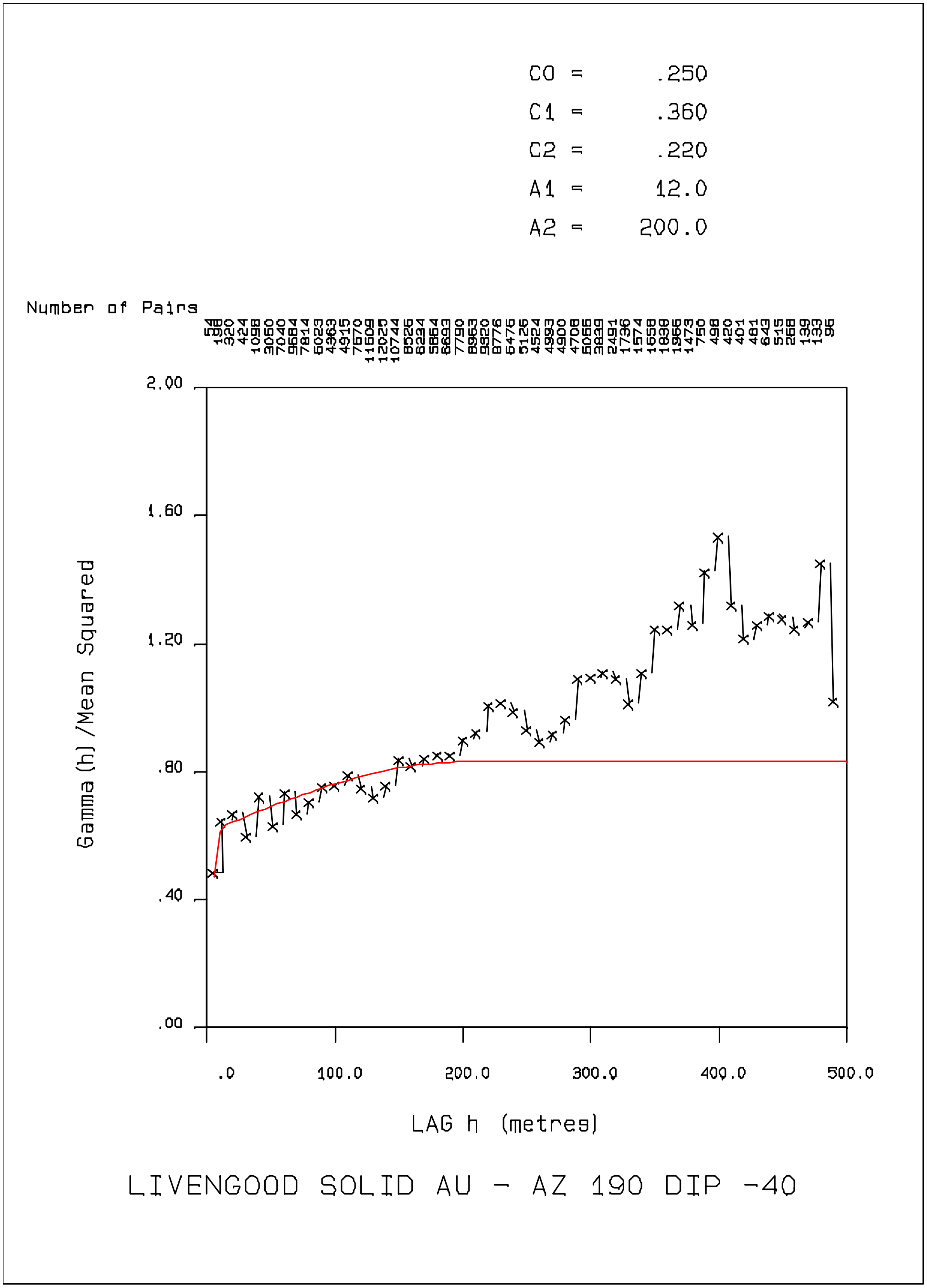
MK-07-17	428773.41	7265621.50	427.70	421.80
MK-07-18	428853.63	7265780.00	431.80	301.10
MK-07-19	429002.63	7265704.00	458.40	436.20
MK-07-20	428851.72	7265720.00	435.30	244.30
MK-07-21	428925.81	7265760.50	440.20	310.00
MK-07-22	428703.31	7265764.00	408.50	382.80
MK-07-23	429075.75	7265779.50	458.80	290.20
MK-07-24	429529.81	7265631.00	508.90	372.20
MK-07-25	428399.63	7265253.00	368.20	330.40
MK-07-26	429900.00	7265470.00	438.00	28.40
MK-08-27	429592.59	7265927.30	499.90	201.80
MK-08-28	429518.31	7266005.70	485.90	229.20
MK-08-29	429896.00	7265778.70	470.10	266.70
MK-08-30	428891.91	7265737.88	438.70	345.20
MK-08-31	429142.44	7265606.61	479.10	376.40
MK-08-32	429186.50	7265431.15	474.10	400.00
MK-08-33	429066.25	7265091.11	427.50	300.00
MK-08-TR01	428869.84	7266061.44	342.40	21.30
MK-08-TR02	428834.63	7266031.09	338.80	28.00
MK-08-TR03	428834.63	7266031.09	338.80	4.10
MK-08-TR04	428869.84	7266061.44	342.40	26.10
MK-1	428945.00	7265820.00	442.00	76.00
MK-2	428825.00	7265850.00	427.00	77.00
MK-3	429500.00	7266190.00	465.00	28.00
MK-4	429493.00	7266117.00	478.00	15.20
MK-4B	429493.00	7266117.00	478.00	106.70
MK-5	428660.00	7265925.00	368.00	0.00
MK-6	428680.00	7265940.00	367.00	0.00
MK-RC-0001	428996.00	7265778.00	449.00	321.60
MK-RC-0002	429001.81	7265854.50	426.10	335.30
MK-RC-0003	428703.19	7265998.50	335.90	222.50
MK-RC-0004	428612.00	7265921.00	343.50	274.00
MK-RC-0005	428561.81	7265841.50	350.00	269.80
MK-RC-0006	429045.69	7265695.50	460.70	353.60
MK-RC-0007	428846.00	7265843.00	423.60	286.50
MK-RC-0008	428925.00	7265691.60	445.90	213.40
MK-RC-0009	428997.91	7265632.10	456.50	246.90
MK-RC-0010	428547.69	7265470.90	393.20	240.80
MK-RC-0011	428925.69	7265626.30	448.00	225.60
MK-RC-0012	428997.00	7265544.70	459.50	307.90
MK-RC-0013	428624.19	7265480.10	403.20	225.60
MK-RC-0014	428176.91	7265590.70	357.30	217.90
MK-RC-0015	428323.09	7265696.50	349.20	195.10
MK-RC-0016	428319.50	7265542.50	367.70	134.10
MK-RC-0017	428779.09	7265774.00	423.20	297.20
MK-RC-0018	428710.91	7265834.00	396.90	252.40
MK-RC-0019	428550.00	7265925.00	330.00	54.90
MK-RC-0020	428549.69	7265909.80	331.50	213.40
MK-RC-0021	428470.00	7265852.10	330.50	213.40
MK-RC-0022	428847.91	7265920.70	399.80	280.40

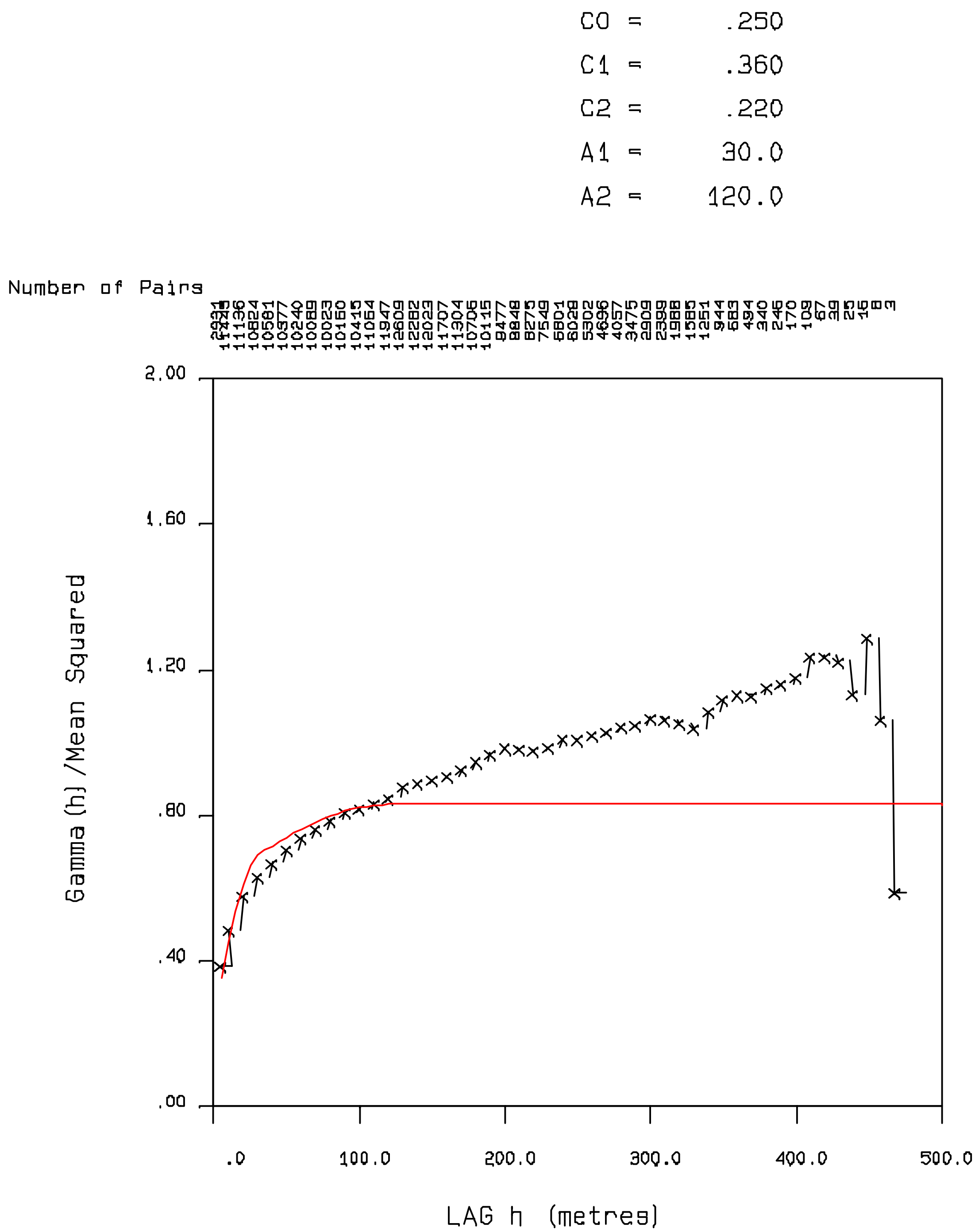
MK-RC-0023	428849.31	7265622.60	437.70	288.00
MK-RC-0024	428697.81	7265630.00	413.90	207.30
MK-RC-0025	428920.91	7265909.10	404.50	213.40
MK-RC-0026	428622.91	7265760.00	385.80	167.60
MK-RC-0027	428559.09	7265703.80	381.60	129.50
MK-RC-0028	428844.53	7266105.70	350.00	93.00
MK-RC-0029	429057.91	7265856.70	432.50	256.00
MK-RC-0030	428777.19	7265548.20	425.80	243.80
MK-RC-0031	428926.47	7265548.00	447.20	303.30
MK-RC-0032	428554.91	7265783.10	363.50	91.40
MK-RC-0033	428849.41	7265566.50	437.10	335.30
MK-RC-0034	429073.81	7265553.40	467.90	365.80
MK-RC-0035	429071.91	7265468.10	467.90	330.70
MK-RC-0036	429001.59	7265463.40	453.20	257.90
MK-RC-0037	429149.41	7265558.70	483.50	295.70
MK-RC-0038	428784.09	7265918.70	392.50	234.70
MK-RC-0039	428999.09	7265410.20	450.70	277.40
MK-RC-0040	428927.38	7265860.42	418.90	335.30
MK-RC-0041	428850.69	7265504.08	437.50	262.10
MK-RC-0042	428778.56	7265473.11	425.90	274.30
MK-RC-0043	428940.28	7265472.30	446.40	265.20
MK-RC-0044	428698.09	7265487.46	417.60	237.70
MK-RC-0045	428922.00	7265395.50	441.10	317.00
MK-RC-0046	429084.03	7265622.27	470.50	323.10
MK-RC-0047	429152.56	7265477.69	475.40	326.80
MK-RC-0048	429144.00	7265399.25	466.90	350.50
MK-RC-0049	428697.66	7265404.66	416.90	274.30
MK-RC-0050	429225.06	7265481.30	488.50	350.80
MK-RC-0051	428699.75	7265549.36	416.60	239.30
MK-RC-0052	428625.53	7265847.83	366.60	249.90
MK-RC-0053	428543.97	7265549.99	393.20	204.20
MK-RC-0054	429297.22	7265483.50	493.40	341.40
MK-RC-0055	428706.44	7265926.89	368.90	262.10
MK-RC-0056	428477.38	7265559.88	384.50	195.10
MK-RC-0057	429374.31	7265486.84	504.80	304.80
MK-RC-0058	428700.06	7266242.25	334.30	213.40
MK-RC-0059	429450.22	7265478.31	511.60	262.10
MK-RC-0060	429077.13	7265328.34	453.50	336.80
MK-RC-0061	429225.78	7265326.36	468.30	302.10
MK-RC-0062	429150.22	7265323.46	460.50	312.40
MK-RC-0063	429299.63	7265329.00	474.40	359.70
MK-RC-0064	429072.38	7265252.31	445.30	363.30
MK-RC-0065	429302.81	7265425.01	484.80	346.00
MK-RC-0066	429156.28	7265243.08	452.10	304.80
MK-RC-0067	429155.28	7265174.77	448.20	349.00
MK-RC-0068	429227.25	7265403.32	476.20	396.20
MK-RC-0069	429147.53	7265098.42	434.70	256.00
MK-RC-0070	429452.13	7265548.90	509.90	378.00
MK-RC-0071	428928.31	7265326.22	435.50	301.80
MK-RC-0072	428997.91	7265323.84	444.90	262.10

MK-RC-0073	429521.63	7265549.72	513.20	335.30
MK-RC-0074	428474.03	7265632.47	377.30	158.50
MK-RC-0075	428477.16	7265481.85	386.50	243.80
MK-RC-0076	429151.06	7265033.41	425.50	285.00
MK-RC-0077	428475.91	7265930.18	312.10	152.40
MK-RC-0078	429225.91	7265026.63	428.20	298.70
MK-RC-0079	428399.41	7265859.17	320.00	161.50
MK-RC-0080	428626.69	7265396.63	402.60	262.10
MK-RC-0081	428841.59	7265250.01	419.90	243.80
MK-RC-0082	429073.56	7265037.48	421.60	317.00
MK-RC-0083	428911.13	7265169.42	420.60	300.20
MK-RC-0084	429224.53	7265250.71	458.20	374.90
MK-RC-0085	429599.09	7265554.41	510.80	326.10
MK-RC-0086	429377.88	7265391.25	491.40	36.60
MK-RC-0087	429148.47	7264949.83	417.20	254.50
MK-RC-0088	429003.38	7265008.70	413.50	115.80
MK-RC-0089	429003.38	7265008.70	413.50	374.90
MK-RC-0090	429070.13	7264946.92	413.30	201.20
MK-RC-0091	429007.06	7264947.97	407.40	283.50
MK-RC-0092	429377.88	7265391.25	491.40	344.42
MK-RC-0093	429226.13	7265103.86	439.00	323.09
MK-RC-0094	429750.00	7265475.00	504.00	327.66
MK-RC-0095	429600.00	7266000.00	513.00	268.22
MK-RC-0096	428780.91	7265217.91	410.00	262.13
MK-RC-0097	429897.41	7265464.74	447.73	237.74
MK-RC-0098	428925.00	7265112.11	415.29	219.46
MK-RC-0099	429296.66	7264946.83	419.03	268.22
MK-RC-0100	429214.03	7264951.65	418.33	274.32
MK-RC-0101	429294.00	7265027.91	429.73	295.66
MK-RC-0102	429296.25	7265176.16	453.02	274.32
MK-RC-0103	429229.09	7265170.67	449.21	306.63
MK-RC-0103a	429225.00	7265175.00	449.78	6.10
MK-RC-0104	429159.75	7264696.23	386.59	128.02
MK-RC-0105	429138.44	7264694.52	387.76	190.50
MK-RC-0106	429071.19	7265245.22	445.85	335.28
MK-RC-0107	429296.03	7264725.13	378.26	224.03
MK-RC-0108	429296.72	7265103.06	442.38	271.27
MN-1	428864.00	7266045.00	358.10	106.70
MN-2	428864.00	7266045.00	358.10	106.70
MN-3	428745.00	7266065.00	335.30	106.70
TL-10	428183.00	7265586.00	358.00	79.00
TL-11	429528.00	7266520.00	370.00	105.00
TL-12	429223.00	7266654.00	318.00	200.00
TL-13	429054.00	7266654.00	307.00	150.00
TL-14	427780.00	7265504.00	266.50	124.00
TL-6	433265.00	7269380.00	277.00	43.90
TL-7	428443.00	7266477.00	317.00	101.00
TL-8	428443.00	7266477.00	317.00	192.00
TL-9	428443.00	7266477.00	317.00	105.00

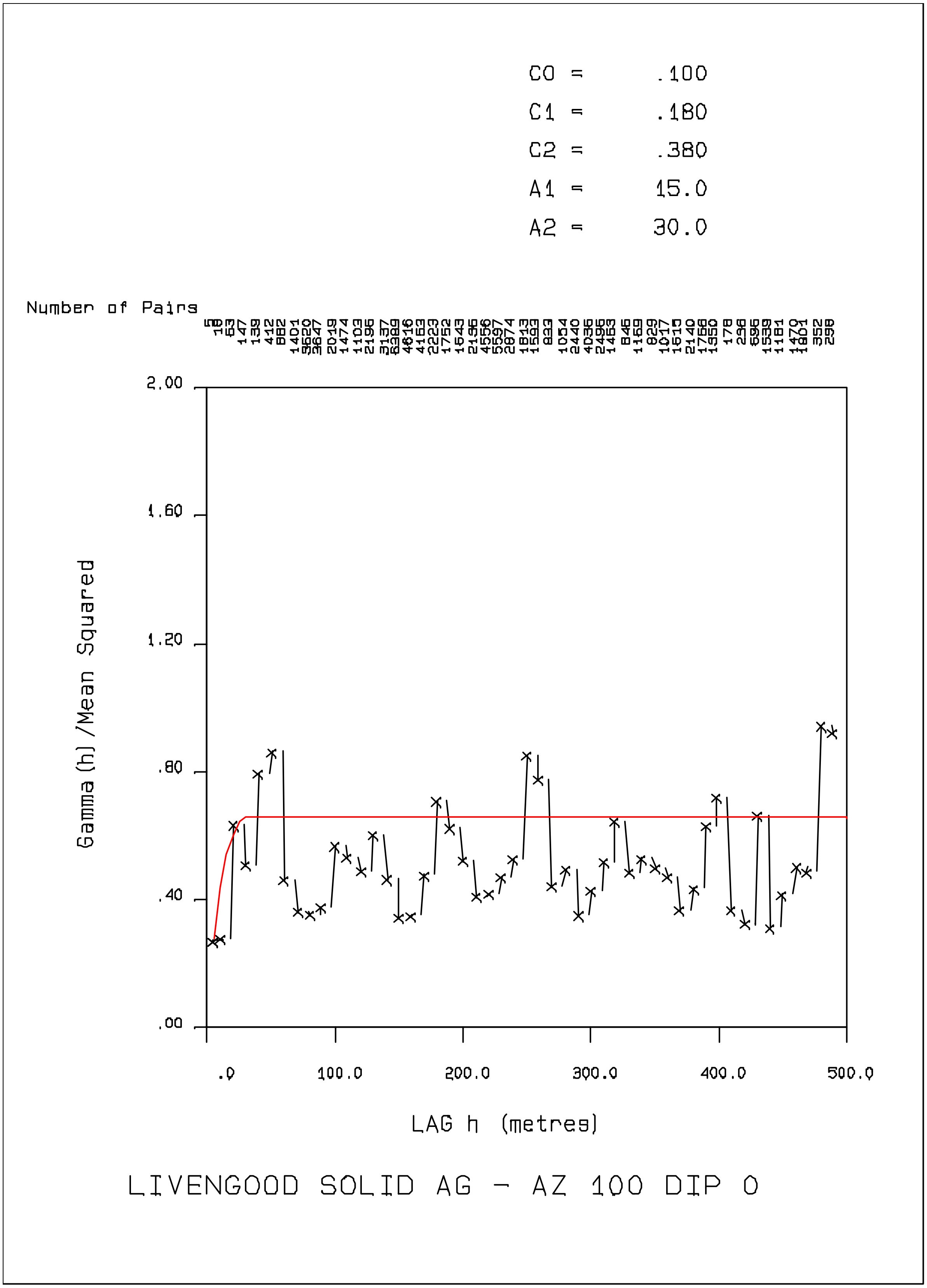
APPENDIX 3: Semivariograms

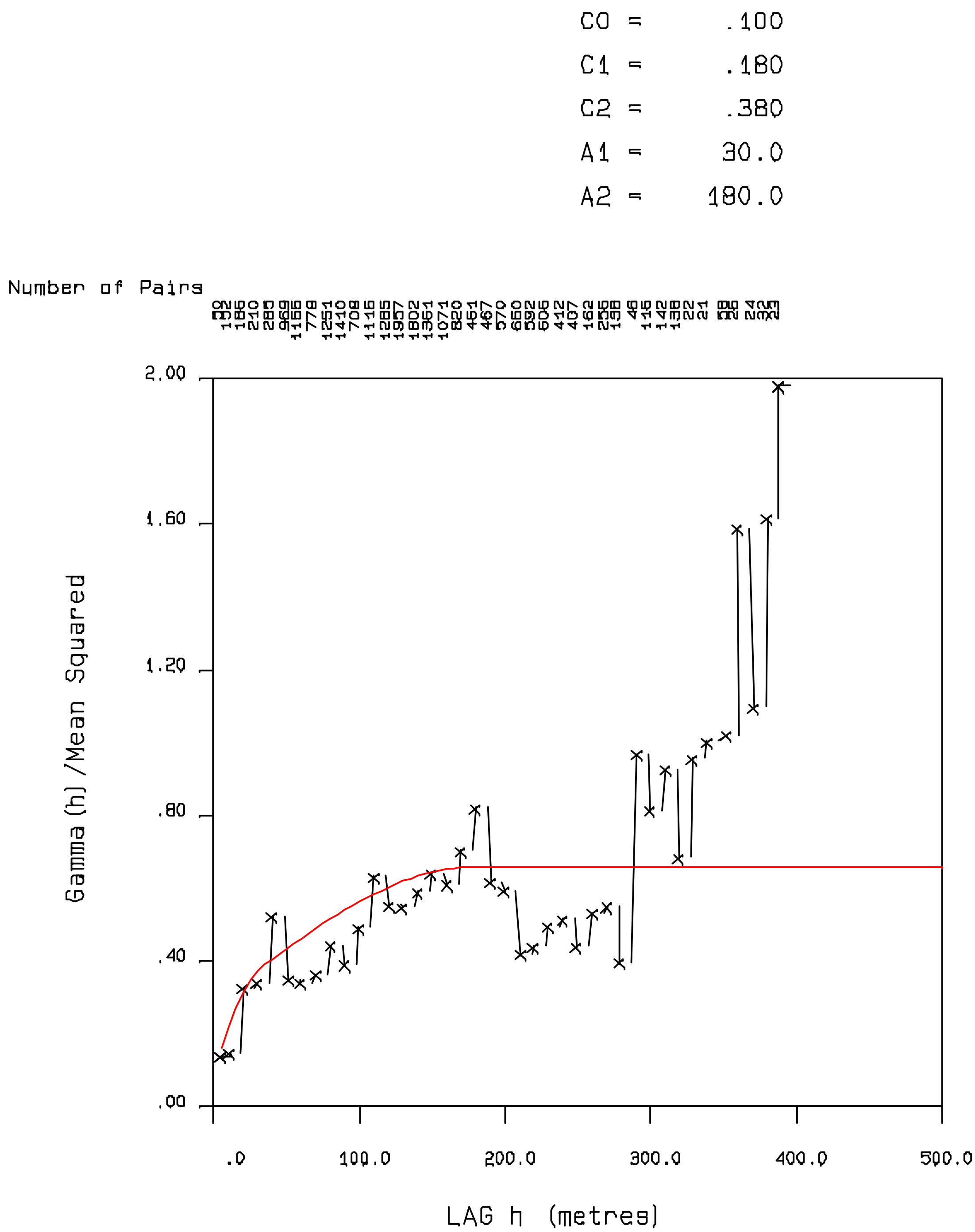



C0 = .250
C1 = .360
C2 = .220
A1 = 12.0
A2 = 200.0
Number of Pairs
Gamma (h) /Mean Squared
2.00
1.60
1.20
.80
.40
.00
.0
100.0
200.0
300.0
400.0
500.0
LAG h (metres)
LIVENGOOD SOLID AU - AZ 190 DIP -40

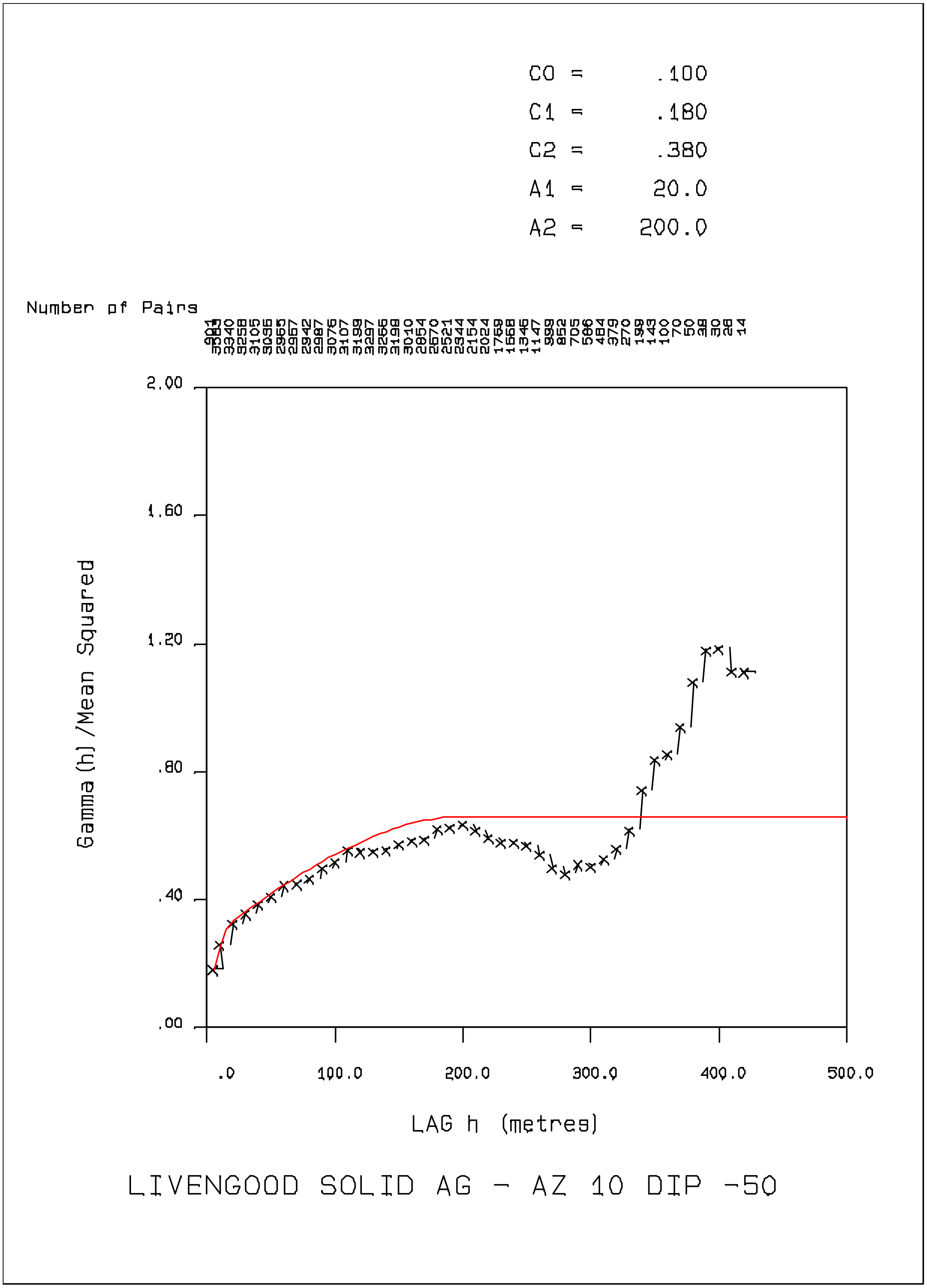


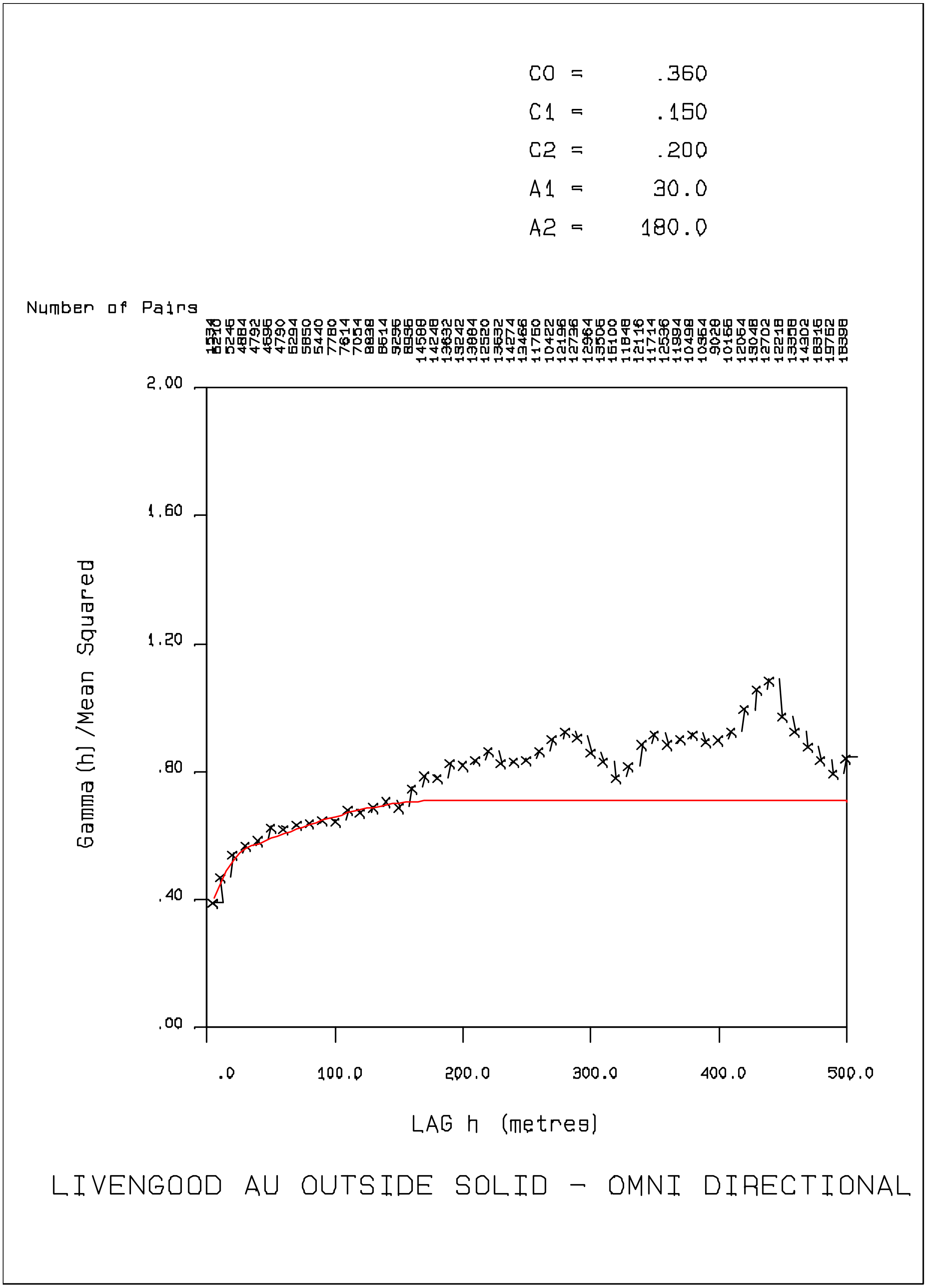
LIVENGOOD SOLID AU - AZ 10 DIP -50

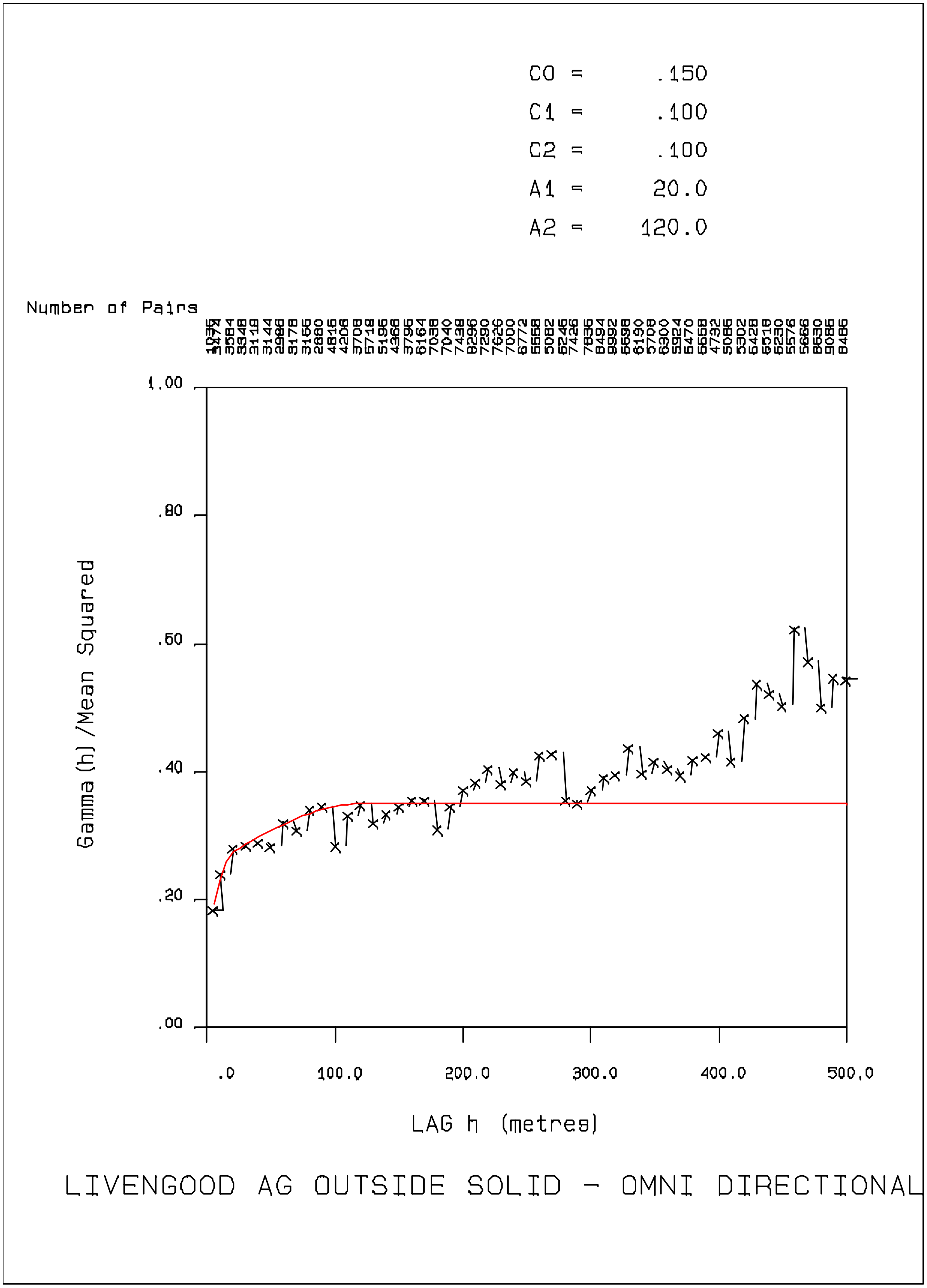

C0 = .100
C1 = .180
C2 = .380
A1 = 15.0
A2 = 30.0
Number of Pairs
Gamma (h) /Mean Squared
2.00
1.60
1.20
.80
.40
.00
.0
100.0
200.0
300.0
400.0
500.0
LAG h (metres)
LIVENGOOD SOLID AG - AZ 100 DIP 0



LIVENGOOD SOLID AG - AZ 190 DIP -40


C0 = .100
C1 = .180
C2 = .380
A1 = 20.0
A2 = 200.0
Number of Pairs
2.00
1.60
1.20
.80
.40
.00
Gamma (h) /Mean Squared
.0
100.0
200.0
300.0
400.0
500.0
LAG h (metres)
LIVENGOOD SOLID AG - AZ 10 DIP -50


C0 = .360
C1 = .150
C2 = .200
A1 = 30.0
A2 = 180.0
Number of Pairs
Gamma (h) /Mean Squared
2.00
1.60
1.20
.80
.40
.00
.0
100.0
200.0
300.0
400.0
500.0
LAG h (metres)
LIVENGOOD AU OUTSIDE SOLID - OMNI DIRECTIONAL


C0 = .150
C1 = .100
C2 = .100
A1 = 20.0
A2 = 120.0
Number of Pairs
Gamma (h) /Mean Squared
1.00
.80
.60
.40
.20
.00
.0
100.0
200.0
300.0
400.0
500.0
LAG h (metres)
LIVENGOOD AG OUTSIDE SOLID - OMNI DIRECTIONAL