MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

Technical Report on the Long Canyon Project

Elko County, Nevada, USA

Prepared for

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1.0 SUMMARY

Mine Development Associates ("MDA") has prepared this technical report on the Long Canyon gold project, Nevada, USA at the request of Fronteer Development Group Inc. and AuEx Ventures, Inc. ("AuEx"), joint venture partners at Long Canyon. The purpose of this report is to provide a technical summary of the Long Canyon project, including the first estimate of the Mineral Resources. The report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1. The Long Canyon project has been previously described in a 2006 technical report (Griffith, 2006) prepared for NewWest Gold Corporation and a 2008 technical report issued by AuEx (Moran, 2008).

Fronteer Development Group Inc. holds its interest in Long Canyon through its wholly owned subsidiary Fronteer Development (USA) Inc. Fronteer Development (USA) Inc.'s interests in the Long Canyon project are derived from the acquisition of NewWest Gold Corporation by Fronteer Development Group Inc. in September 2007. Fronteer Development Group Inc., Fronteer Development (USA) Inc., and NewWest Gold Corporation are collectively referred to herein as "Fronteer".

Long Canyon, an advanced-stage exploration project, is located in Elko County in northeastern Nevada, on the east flank of the Pequop Mountains, approximately 37 kilometres southeast of the town of Wells. The project is controlled by a joint venture between Fronteer (51% interest) and AuEx (49% interest) (the "Joint Venture"). Fronteer is operator of the Joint Venture.

The property consists of approximately 49 square kilometres of unpatented federal lode mining claims and private mineral lands. The Mineral Resources reported herein are subject to Fronteer and AuEx each retaining a 3% net smelter returns (NSR) royalty on their respective lands contributed to the Joint Venture, as well as the State of Nevada Net Proceeds of Mine Tax, which is limited to 5% of the production net proceeds (similar to a 5% net profits tax). This tax is levied by the State of Nevada on all mine production in the state.

The Effective Date of this report is April 17, 2009 unless otherwise noted.

1.1 Geology and Mineralization

The Pequop Mountains comprise an uplifted block of regionally east-dipping Paleozoic carbonate and siliciclastic rocks. Rocks of particular interest to the project include limestone and dolomite of the Cambrian Notch Peak Formation and limestone of the overlying Ordovician Pogonip Group. At Long

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Canyon, the dolomite horizon at the top of the Notch Peak Formation has been dismembered into a series of northeast-elongated "megaboudins" that strongly control the distribution of gold at the project. Gold mineralization at Long Canyon occurs mainly within limestones along dolomite boudin margins and in boudin neck areas. Significant karsting, likely of both meteoric and hydrothermal origin, is localized along the boudin margins and boudin necks, resulting in large, solution-collapse cavities. Much of the higher-grade mineralization at Long Canyon is hosted within the hematitic matrix of these collapse breccias, as well as in stratiform zones characterized by strong decalcification.

The alteration, mineralization, and geochemistry of the Long Canyon deposit are similar in nature to Carlin-type sediment-hosted gold deposits. The mineralization discovered to date is almost entirely oxidized.

1.2 Exploration and Mining History

Historic mining activities at Long Canyon appear to be limited to several small prospect pits.

Gold-bearing jasperoids were discovered at Long Canyon in 1999 by Pittston Nevada Gold Company ("Pittston") as a result of follow-up work on stream-sediment anomalies defined by Pittston earlier in the year. Pittston staked claims in the area and outlined a 1400 by 300 metres gold-in-soil anomaly, which led to the drilling of seven reverse circulation ("RC") holes in 2000; one of these holes returned a significant gold intercept. AuEx acquired the project in 2005 and drilled seven additional RC holes, six of which intersected significant mineralization. The Fronteer-AuEx Joint Venture was formed later in 2006 when it was discovered that some of the AuEx claims were actually located over private mineral rights held by Fronteer and therefore were invalid. The Joint Venture has subsequently completed an additional 217 drill holes from 2006 through to the date of this report.

1.3 Drilling and Sampling

A total of 231 drill holes, including 170 RC holes and 61 diamond-core holes, have been completed at Long Canyon for a total of 33,848 metres of drilling. Down-hole drill depths range from 30 to 300 metres, with an average depth of 147 metres. Drilling has been completed on a nominal 50-metre spaced grid, with the drill sections oriented northwest-southeast.

Drilling at Long Canyon has been successful in defining potentially economic gold mineralization within four sub-parallel zones along a strike extent of approximately 1700 metres. The four mineralized zones at Long Canyon coalesce in various locations to form a continuous body of mineralization that plunges about ten degrees to the northeast. The mineralization has an apparent dip of five to ten degrees to the southeast in sections cut across the plunge direction, reflecting the control exerted by the upper and lower contacts of the dolomite boudin blocks. Internal to these deposit-scale geometries, boudin noses form subvertical controls to the mineralization that dip to the northwest or southeast depending on the boudin-termination facing orientation.

Drill-hole orientations vary somewhat at Long Canyon due to both the early-stage nature of some of the holes, which were drilled before the geometry of the mineralization was understood, and the varying orientations of the controls to the mineralization. Although there are a relatively small number of holes that are therefore poorly oriented with respect to the mineralization encountered, this is mitigated by the modeling techniques employed, which constrain all intercepts to lie within explicitly interpreted domains that appropriately respect the geologic controls.

An analysis of the Quality Control/Quality Assurance data collected during the AuEx and Joint Venture drilling programs did not identify any serious issues with the sample preparation and analyses of the drill samples. The drill data do indicate the presence of down-hole contamination in some portion of the RC sample database, however. This issue was mitigated to a large extent by removing suspect intervals from the resource modeling, but some uncertainty in the remaining RC data persists.

1.4 Mineral Processing and Metallurgical Testing

Preliminary metallurgical data are limited to cyanide-soluble gold analyses of drill samples and bottle-roll test work on four surface samples. These data suggest that the Long Canyon mineralization is amenable to the extraction of gold by cyanidation.

1.5 Mineral Resource Estimate

The gold resources at Long Canyon were modeled and estimated by evaluating the drill data statistically, utilizing three-dimensional lithologic solids provided by Fronteer to interpret mineral domains on cross sections spaced at 50-metre intervals, rectifying the mineral domain interpretations on cross sections spaced at 10-metre intervals, analyzing the modeled mineralization statistically to establish estimation parameters, and estimating gold grades by inverse-distance methods into a block model with 5 metres (width) x 10 metres (length) x 3 metres (height) blocks that were coded to the mineral domains by the 10-metre mineral domain polygons. All modeling of the diluted resources was performed using Gemcom Surpac® software.

The Long Canyon Resources are presented in Table 1.1.

Table 1.1 Long Canyon Mineral Resources

Long Canyon Indicated Resources			
Cutoff (g Au/t)	Tonnes	g Au/t	oz Au
0.10	6,508,000	1.79	374,000
0.20	5,565,000	2.07	369,000
0.30	***4,808,000***	***2.35***	***363,000***
0.50	3,691,000	2.94	349,000
1.00	2,496,000	4.01	322,000
1.50	1,975,000	4.75	302,000
3.00	1,272,000	6.19	253,000
5.00	743,000	7.84	187,000
10.00	107,000	12.96	45,000

Long Canyon Inferred Resources			
Cutoff (g Au/t)	Tonnes	g Au/t	oz Au
0.10	14,222,000	1.08	492,000
0.20	10,886,000	1.36	476,000
0.30	***8,780,000***	***1.63***	***459,000***
0.50	6,236,000	2.13	428,000
1.00	3,634,000	3.16	369,000
1.50	2,700,000	3.83	332,000
3.00	1,312,000	5.56	234,000
5.00	656,000	7.30	154,000
10.00	53,000	11.50	20,000

A cutoff of 0.30g Au/t was used to tabulate the gold resources. This cutoff was chosen to capture mineralization potentially available to open-pit extraction and heap-leach processing. The block-diluted resources are also tabulated at additional cutoffs in order to provide grade-distribution information, as well as to cover economic conditions other than envisioned by the 0.3g Au/t cutoff.

1.6 Summary and Conclusions

MDA has reviewed the project data and has visited the project site. MDA believes that the data provided to MDA by Fronteer and AuEx are generally an accurate and reasonable representation of the Long Canyon project.

This report presents the first NI 43-101-compliant estimate of the gold resources at Long Canyon. The limits of the gold mineralization within the resources are not fully delineated, as the resources remain open along strike and at depth within the presently defined zones. There is also excellent potential for the discovery of new, parallel zones of mineralization related to presently unidentified occurrences of dolomite boudins.

Rock chip and soil sample results have proven to be direct guides to the definition of shallow drill targets at Long Canyon. While several attractive geochemical anomalies within permissive geologic settings remain to be tested, the gold-in-soil anomaly does not reflect the down-plunge extensions of the known resources. In these areas, more indirect methods, such as subtle flexures in the strike and dip of the overlying Pogonip Group, have successfully led to new discoveries at depth, most notably the Shadow and Crevasse zones.

1.7 Recommendations

Significant, relatively shallow oxide Mineral Resources have been outlined at Long Canyon. These resources remain open, with substantial additions conceivable. Beyond the extensions of known zones of mineralization, there is excellent potential for the discovery of new mineralized zones. It is clear that the Long Canyon project warrants significant additional expenditures.

The Fronteer-AuEx Joint Venture approved a 2009 exploration program with a budget of US$14,850,000 program for Long Canyon. The budget includes 47,000 metres of core and RC drilling, as well as a continuation of the ongoing geological mapping program, further rock, soil and road cut sampling, continued efforts pursuant to refining the Long Canyon geological model and geological controls on mineralization, and the initiation of various engineering, metallurgical, and environmental investigations. MDA believes that Long Canyon is an advanced exploration project of merit that warrants this level of expenditures.

2.0 INTRODUCTION

Mine Development Associates ("MDA") has prepared this technical report on the Long Canyon gold project, located in the state of Nevada, at the request of Fronteer Development Group Inc. and AuEx Ventures, Inc. ("AuEx"), joint venture partners at Long Canyon. This report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1 ("NI 43-101").

Fronteer Development Group Inc., listed on the Toronto Stock Exchange ("TSX") and the New York Stock Exchange (NYSE Amex), holds its interest in Long Canyon through its wholly owned subsidiary Fronteer Development (USA) Inc., a Delaware corporation. AuEx, a Nevada corporation, is also listed on the TSX.

The Long Canyon project has been previously described in a 2006 technical report (Griffith, 2006) prepared for NewWest Gold Corporation ("NewWest") and a 2008 technical report prepared for AuEx (Moran, 2008). NewWest was acquired by Fronteer in September 2007.

For the purposes of this report, Fronteer Development Group Inc., Fronteer Development (USA) Inc., and NewWest will be referred to interchangeably as "Fronteer".

2.1 Project Scope and Terms of Reference

The purpose of this report is to provide an updated technical summary, including the first reporting of Mineral Resources, of the Long Canyon project for Fronteer and AuEx. The Mineral Resources were estimated and classified under the supervision of Michael M. Gustin, Senior Geologist for MDA, who is a qualified person under NI 43-101; no Mineral Reserves are estimated. There is no affiliation between Mr. Gustin and Fronteer or AuEx except that of an independent consultant/client relationship. The Mineral Resources reported herein for the Long Canyon project were estimated to the standards and requirements stipulated in NI 43-101.

The scope of this study included a review of pertinent technical reports and data provided to MDA by Fronteer and AuEx relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. MDA has relied on the data and information provided by Fronteer and AuEx for the completion of this report, including the supporting data for the estimation of the Mineral Resources. The background information for this report, including Section 4 through Section 10, was first compiled by Moira Smith, Fronteer Development Group Inc.'s Senior Geoscientist, before review, editing, and additions by Mr. Gustin. The first draft of this report used the 2008 NI 43-101 technical report on Long Canyon (Moran, 2008) as a starting point; other significant references are cited in the text and listed in Section 21.0.

Mr. Gustin visited the Long Canyon project on November 15, 2006 and July 15, 2008. These site visits included reviews of mineralized core and RC chips, examination of drill-hole cross sections showing the geologic model, investigations of representative exposures in road cuts and outcrops, and the inspection of sampling and logging procedures at active RC and core drill sites and in the project field office. Ms. Smith has worked extensively at Long Canyon and provided most of the detailed geologic descriptions, as well as the geological model, described in the report.

MDA has made such independent investigations as deemed necessary in the professional judgment of Mr. Gustin to be able to reasonably present the conclusions discussed herein.

The Effective Date of this updated technical report is April 17, 2009, unless otherwise stated.

2.2 Definitions and frequently used acronyms and abbreviations

Measurements are generally reported in metric units in this report. Where information was originally reported in English units, conversions have been made according to the formulas shown below; discrepancies may result in slight variations from the original data in some cases.

Frequently used acronyms and abbreviations

AA	atomic absorption spectrometry
Ag	silver
Au	gold
As	arsenic
Tl	thallium
Sb	antimony
Hg	mercury
˚C	centigrade degrees
cm	centimetre = 0.3937 inch
g/t	grams per tonne = 34.2857 ppm = 0.0292 oz/ton
ha	hectare = 2.471 acres
ICP	inductively coupled plasma
kg	kilogram = 2.205 pounds
km	kilometre = 0.6214 mile
m	metre = 3.2808 feet
Ma	million years
oz	troy ounce (12 oz to 1 pound)
ppm	parts per million
ppb	parts per billion
R	range
RC	reverse-circulation drilling method
T	township
t, tonne	metric ton = 1.1023 short tons
Ma	million years old
BLM	United States Department of the Interior, Bureau of Land Management
BMRR	Nevada Bureau of Mining Regulation and Reclamation
NDEP	Nevada Department of Environmental Protection
NSR	Net Smelter Royalty
SEM	Scanning electron microscope
USGS	United States Geologic Survey

Currency Unless otherwise indicated, all references to dollars ($) in this report refer to currency of the United States.

3.0 RELIANCE ON OTHER EXPERTS

The authors are not experts in legal matters, such as the assessment of the legal validity of mining claims, private lands, mineral rights, and property agreements in the United States. The authors did not conduct any investigations of the environmental or social-economic issues associated with the Long Canyon project, and the authors are not experts with respect to these issues.

The authors rely on the information provided by Fronteer as to the title of the unpatented mining claims and private mineral rights comprising the Long Canyon project, the terms of property and joint venture agreements, and the existence of applicable royalty obligations, as well as all information concerning environmental issues and permitting. Section 4.0 in its entirety is based on information provided by Fronteer, and the authors offer no professional opinions regarding the provided information.

MDA has relied on Fronteer to provide full information concerning the legal status of Fronteer Development Group Inc. and related companies, as well as current legal title, material terms of all agreements, and material environmental and permitting information that pertain to the Long Canyon property.

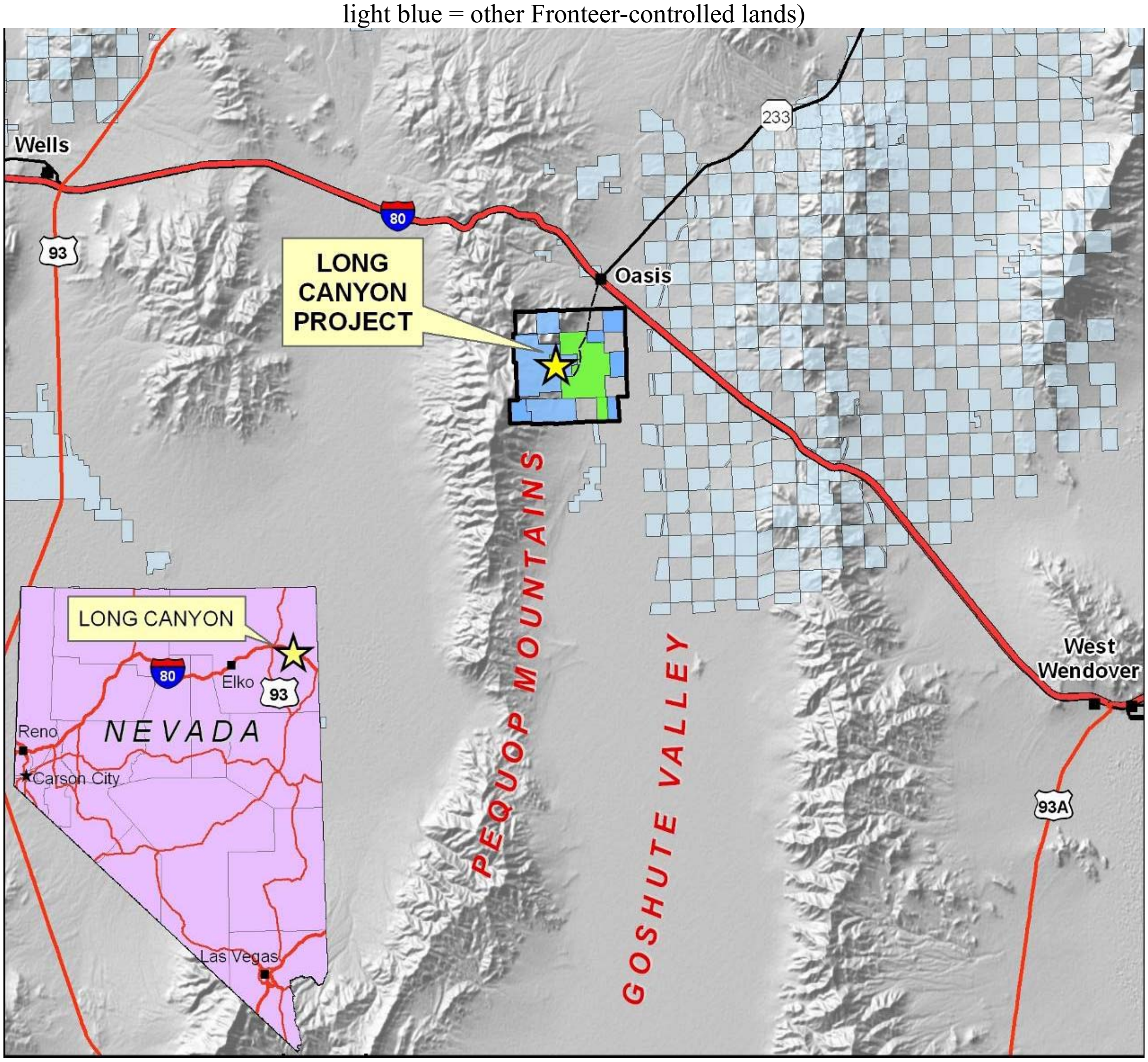
4.0 PROPERTY DESCRIPTION AND LOCATION

The authors are not experts in land, legal, environmental, and permitting matters. This Section 4 is based on information provided to the authors by Fronteer and AuEx. The authors present this information to fulfill reporting requirements of NI 43-101 and express no opinion regarding the legal or environmental status of Long Canyon.

4.1 Property Location

The Long Canyon project is located in the Pequop Mountains, Elko County, northeastern Nevada, approximately 37 kilometres by road southeast from the town of Wells, Nevada (Figure 4.1), and approximately 6 kilometres south of Interstate Highway 80. It consists of approximately 49 square kilometres of land that is located on the east side of the range. The approximate geographic center of the Long Canyon project resources is 40° 58′ 23.70″ N latitude and 114° 31′ 52.33″ W longitude.

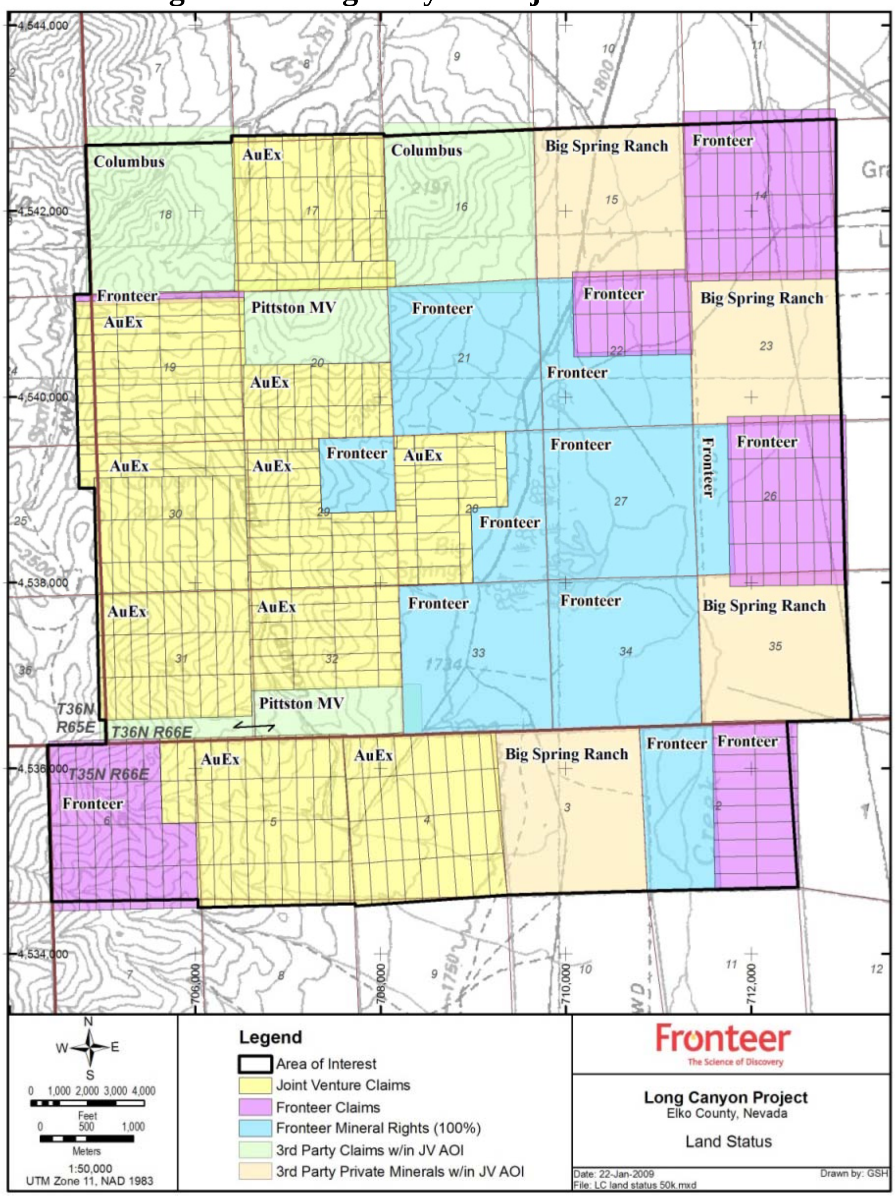
Figure 4.1 Long Canyon Project Location Map
(green = Fronteer mineral rights within Area of Interest; dark blue = Joint Venture unpatented claims within Area of Interest; light blue = other Fronteer-controlled lands)



4.2 Land Area

The Long Canyon project is controlled by a joint venture between AuEx (49% interest) and Fronteer (51% interest) (the "Fronteer-AuEx Joint Venture" or the "Joint Venture"). The Joint Venture Area of Interest (Figure 4.2) includes 438 unpatented mining claims (approximately 3,322 ha) and approximately 1,578 hectares of private mineral rights held by the Joint Venture that lie in portions or all of Sections 14, 17, 19 through 22, and 26 through 34, T36N, R66E and Sections 2, 4, 5 and 6, T35N, R66E, Mount Diablo Baseline and Meridian (Figure 4.2). These claims and mineral rights held by the Joint Venture form a contiguous block of ground. The Area of Interest also includes a few blocks of third-party claims not controlled by the Joint Venture (identified as "Columbus" and "Pittston MV" on Figure 4.2), as well as surface and mineral rights owned by the Big Spring Ranch.

Figure 4.2 Long Canyon Project Land Status



Unpatented Claims. The numbers of claims reported in this section are current as of April 1, 2009 and are listed in Appendix A.

A total of 304 unpatented lode-mining claims are held by Pittston Nevada Gold Company ("Pittston"), which explored Long Canyon prior to Fronteer and AuEx. Pittston is now a wholly owned subsidiary of AuEx subject to completion of a Members' Interest Purchase Agreement dated August 18, 2004. A total of 134 unpatented mining claims are held by Fronteer. Approximately 32 unpatented claims in two parcels within the Joint Venture area of interest were not included in the Members' Interest Purchase Agreement and continue to be held outside of the Joint Venture by Pittston Mineral Ventures (see Figure 4.2). In total, the Joint Venture controls a total of 438 claims inside the Joint Venture Area of Interest.

The unpatented claims within the project were located in the field with wooden posts that meet Nevada regulations. Validity and location of the unpatented mining claims has not been independently verified in the field. Fronteer represents that the list of unpatented claims in Appendix A is complete and accurate as of April 1, 2009 and that all claims are valid through August 31, 2009.

Ownership of unpatented mining claims is in the name of the holder (locator), subject to the paramount title of the United States of America, under the administration of the U.S. Bureau of Land Management ("BLM"). Under the Mining Law of 1872, which governs the location of unpatented mining claims on Federal lands, the locator has the right to explore, develop, and mine minerals on unpatented mining claims without payments of production royalties to the U.S. government, subject to the surface management regulation of the BLM. It should also be noted that in recent years there have been efforts in the U.S. Congress to change the 1872 Mining Law to include, among other items, a provision of production royalties to the U.S. government. Currently, annual claim maintenance fees are the only federal payments related to unpatented mining claims. Nevada BLM records of mining claims can be searched on-line at www.nv.blm.gov/lr2000/.

The holding costs of the unpatented mining claims in 2009 are estimated at about $75,000 (Table 4.1).

Table 4.1 Unpatented Mining Claims: 2009 Filing and Holding Costs

BLM Maintenance Fee Payment	$54,750.00
Elko County Annual Filing	4,994.00
New Claim Filing BLM[1]	12,240.00
New Claim Filing Elko County[1]	2,702.00
Total Filing and Holding Cost	*$74,686.00*

1. Filing Fees for 98 claims staked in September 2008

Private Mineral Rights. Fronteer owns the right to metalliferous minerals in the private mineral estate beneath portions of the Big Spring Ranch surface lands, including Sections 21, 28, and 33, T36N R66E, where the project access roads are located. Fronteer enjoys a broad right to use the surface of the land for exploration and mineral development purposes as successor in interest to the mineral estate reserved pursuant to the mineral reservation in the officially recorded Grant, Bargain, and Sale Deed to Joint Tenants dated October 18, 1946. This mineral reservation reserves to the owner of the mineral estate, (*i.e.*, Fronteer) "...all right, title and interest, to coal, oil, gas and other minerals of every kind and within said lands, including the right to the use of so much of the surface thereof as may be required in prospecting for, in locating, developing, producing and transporting said coal, oil, gas or minerals and any of their by products thereof."

Fronteer acquired these private mineral rights through a series of transactions. Western States Minerals Corporation acquired from its affiliate, Stampede Investments Inc., the private mineral interests of the Bernard H. Grube estate underlying a large part of northeastern Nevada, which Stampede acquired on May 3, 1994. NewWest acquired the metalliferous mineral rights of Western States Minerals Corporation in August 2006 and contributed these mineral rights to the Joint Venture when it was formed in 2006. Fronteer acquired NewWest in 2007.

Private Surface Rights. Except for the NE ¼ of Section 29 and the W ½ of Section 21, T36N, R66E, Big Spring Ranch owns the surface rights overlying Fronteer's private minerals estate. The surface estate in the NE ¼ of Section 29 and the W ½ of Section 21, T36N, R66E is public land managed by BLM. This land, which was formerly part of the Big Spring Ranch, is now BLM-administered public land by virtue of a land exchange with the Big Spring Ranch that closed on May 20, 1999 and was recorded on May 26, 1999.

4.3 Agreements and Encumbrances

Gold production from Long Canyon is subject to the State of Nevada Net Proceeds of Mine Tax, which is limited to 5% of the production net proceeds (similar to a 5% net profits tax). This tax is levied by the State of Nevada on all mine production in the state.

Members' Interest Purchase Agreement. AuEx entered into a Members' Interest Purchase Agreement dated August 18, 2004, as amended (the "MIPA"), between MPI Gold (USA) Ltd. and PMV Gold Company, the owners of the outstanding membership interests in Pittston, and AuEx. AuEx completed the terms of the Members' Interest Purchase Agreement and acquired all of the outstanding ownership interests in Pittston. As of March 31, 2005, AuEx is the sole member.

AuEx is subject to the following obligations as per the Members' Interest Purchase Agreement:

- A contingent payment of 250,000 common shares of AuEx capital stock if AuEx defines at least 500,000 troy ounces of gold as measured and indicated resources by SME-1999 definitions on lands subject to the MIPA, which includes the AuEx unpatented claims within the Joint Venture Area of Interest. This obligation expires if the resource is not defined prior to the fifth anniversary of the August 18, 2004 effective date.
- A contingent payment of an additional 250,000 common shares of AuEx capital stock if AuEx defines an additional 500,000 troy ounces of gold as measured and indicated resources definitions on lands subject to the MIPA, which includes the AuEx unpatented claims within the Joint Venture Area of Interest. This obligation expires if the resource is not defined prior to the fifth anniversary of the August 18, 2004 effective date.
- AuEx assumes the liability for the reclamation of existing surface disturbance, drill roads, and drill sites as of the August 18, 2004 effective date, as well as the cost of annual land holding fees. This liability was subsequently assumed by the Joint Venture.

The obligations listed above apply to unpatented mining claims originally held by Pittston both within and outside the limits of the Long Canyon Joint Venture Area of Interest.

Fronteer-AuEx Joint Venture Agreement. The Joint Venture agreement, which became effective May 23, 2006, has the following key provisions:

- each Party retains a 3% net smelter returns (NSR) royalty on their respective lands contributed to the Venture Agreement;
- to maintain a 51% interest in the Long Canyon Property, Fronteer was required to expend the first $5,000,000 on the joint properties, which was completed in September 2008; and
- the interests in the Joint Venture will remain at 51% Fronteer - 49% AuEx unless the interest of either party is diluted for failure to participate in funding an approved program.

4.4 Location of Mineralization

The gold mineralization identified and drilled thus far on the Long Canyon project is located on both the land holdings of Fronteer and AuEx, as shown in Figure 4.3.

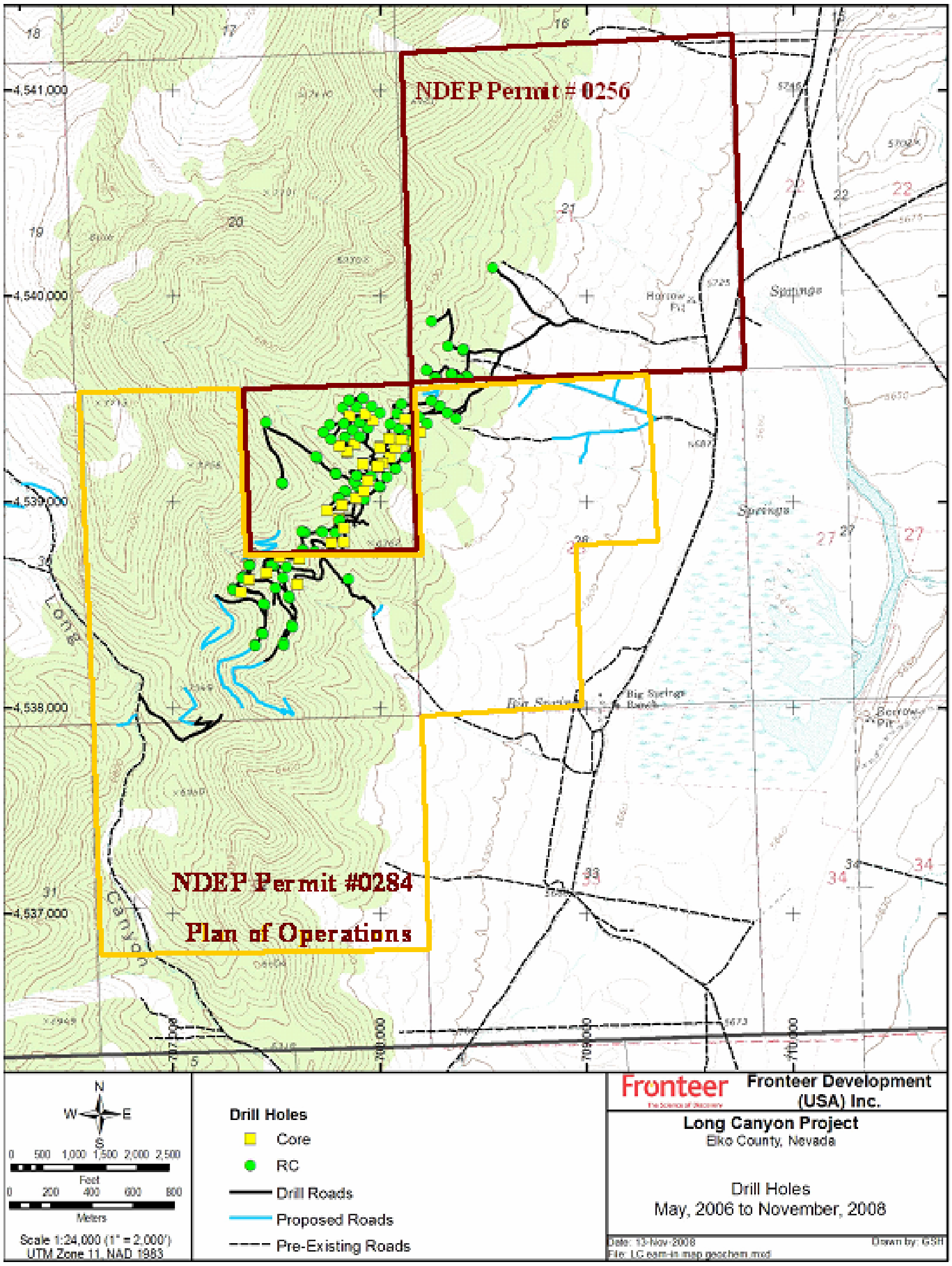
4.5 Environmental Permits and Licenses

Fronteer has acquired all of the state and federal regulatory approvals and permits required for the 2009 exploration program. Three permits currently govern exploration activity at Long Canyon: NDEP/BMRR Reclamation Permit No. 0256, NDEP/BMRR Reclamation Permit No. 0284, and BLM Plan of Operations NVN-82445 (Table 4.2).

Table 4.2 Permits Covering Operations at Long Canyon

Permit	Land Status	Land Areas	Approval Date	Bond Amount	Authorized Disturbance	Current Disturbance	Comment
NDEP/BMRR Reclamation Permit No. 0256 (amended)	Public and Private Surface & Private Mineral Lands	NE1/4 Section 29, Section 21, T36N, R66E	19-Mar-09	$233,000	54.93 acres (22.22 ha)	19.7 acres (8.0 ha)	Original Permit No. 0256 granted in 2006; amended to authorize additional disturbance in 2009
NDEP/BMRR Reclamation Permit No. 0284/BLM Plan of Operations NVN-82445	Public Surface - Mining claims over Public Minerals	Sections 28, 29, and 32, T36N, R66E	Permit 0284: 8/28/08 Plan of Ops: 9/15/2008	$131,964; secured with $300,000 statewide bond	44.53 acres (18.02 ha)	10.79 acres (4.37 ha)	24.53 acres (9.93 ha) of disturbance currently bonded

Figure 4.3 AuEx Claims and Fronteer Private Mineral Rights Within Area Drilled
(not all project claims and mineral rights shown; AuEx claims outlined in yellow, Fronteer mineral rights in brown)



<u>Disturbance on Unpatented Mining Claims on Public Lands</u>. BLM Plan of Operations NVN-82445 and the corresponding BMRR/NDEP Reclamation Permit No. 0284 (the "Plan of Operations") authorizes 44.53 acres (18.02 ha) of surface disturbance in Sections 28, 29, and 32, T36N, R66E, which together form the eastern and central portion of the unpatented mining claims on Federal lands. This disturbance is associated with exploration work that will be conducted in two or more phases over a period of five years. Phase 1 authorizes 19.60 acres (7.93 ha) of new surface disturbance, which required a bond of $131,964. Fronteer provided the BLM with a $300,000 Statewide bond to satisfy the $131,964 reclamation

bond requirement. Fronteer anticipates starting Phase 2 activities during 2009. Prior to commencing Phase 2, Fronteer will have to provide the BLM with additional financial assurance to secure the increased bonding obligation. The $300,000 Statewide bond that Fronteer has with the BLM will be used to satisfy the increased bonding requirement associated with the Phase 2 work. A total of 10.79 acres (4.37 ha) had been disturbed under this permit as of January 2009.

Disturbance on Private Mineral Lands. The Nevada Division of Environmental Protection/Bureau of Mining Regulation and Reclamation ("NDEP/BMRR") approved an amendment to Reclamation Permit No. 0256 on March 19, 2009, which increases the authorized surface disturbance for exploration activities on private mineral lands to 54.93 acres (22.22 ha). Reclamation Permit No. 0256 governs the exploration activities on the private mineral lands in the NE ¼ of Section 29 and all of Section 21, T36N, R66E, which together form the northwestern part of the area of private mineral rights owned by Fronteer (Figure 4.2). Fronteer provided a reclamation bond in the amount of $233,000 to NDEP/BMRR on April 16, 2009. With this permit in hand, Fronteer can conduct close-spaced drilling to support additional resource definition and to extend the road network and drilling effort to the northeast to allow for testing of extensions of the presently identified mineralized zones. As of January 2009, a total of 19.7 acres (8.0 ha) had been disturbed on private mineral lands subject to NDEP/BMRR Permit No. 0256.

Hydrologic Investigations. At present, Fronteer is in the process of satisfying a permit condition in the Plan of Operations to drill a supplemental water production well for the cities of Wendover, Utah and West Wendover, Nevada to address the cities' concerns about potential impacts from exploration drilling to the nearby Johnson Springs, one of the cities' water sources. Fronteer has worked closely with the cities to identify three targets in the Northern Goshute Valley, roughly 16 kilometres southeast of Long Canyon, for the supplemental well. A hydrologic test hole 305 metres in depth was completed on one of the sites in late March 2009. A hydrogeologic investigation is in progress to evaluate the suitability of this site for the supplemental well. Once the supplemental well is completed, drilling activities can proceed beneath the elevation of the spring (1,733 metres), which will allow the Joint Venture to test mineral targets deeper than has been possible to date and obtain information about the groundwater characteristics of the deposit.

In addition to working together on the supplemental well, Fronteer and the cities have entered into a conceptual Memorandum of Understanding ("MOU") to work together to establish a mutually beneficial public sector-private sector working relationship to characterize and develop groundwater resources to support future municipal growth and mineral development. Recognizing the importance of these key stakeholders, Fronteer is looking forward to finalizing the MOU and initiating the hydrologic activities described in the MOU.

4.6 Environmental Considerations

Environmental liabilities at the Long Canyon project are limited to the reclamation of disturbed areas resulting from exploration work conducted by Pittston, AuEx, and Fronteer since 2000. Evidence of previous mineral exploration activity consists of several small, widely spaced shallow prospect pits of unknown origin and age. Class III cultural resource surveys, conducted in 2000, 2006, 2007, and 2008, recorded a number of minor prehistoric and historic artifact sites within the project area. In accordance with applicable permits, exploration activities will avoid or mitigate cultural resources.

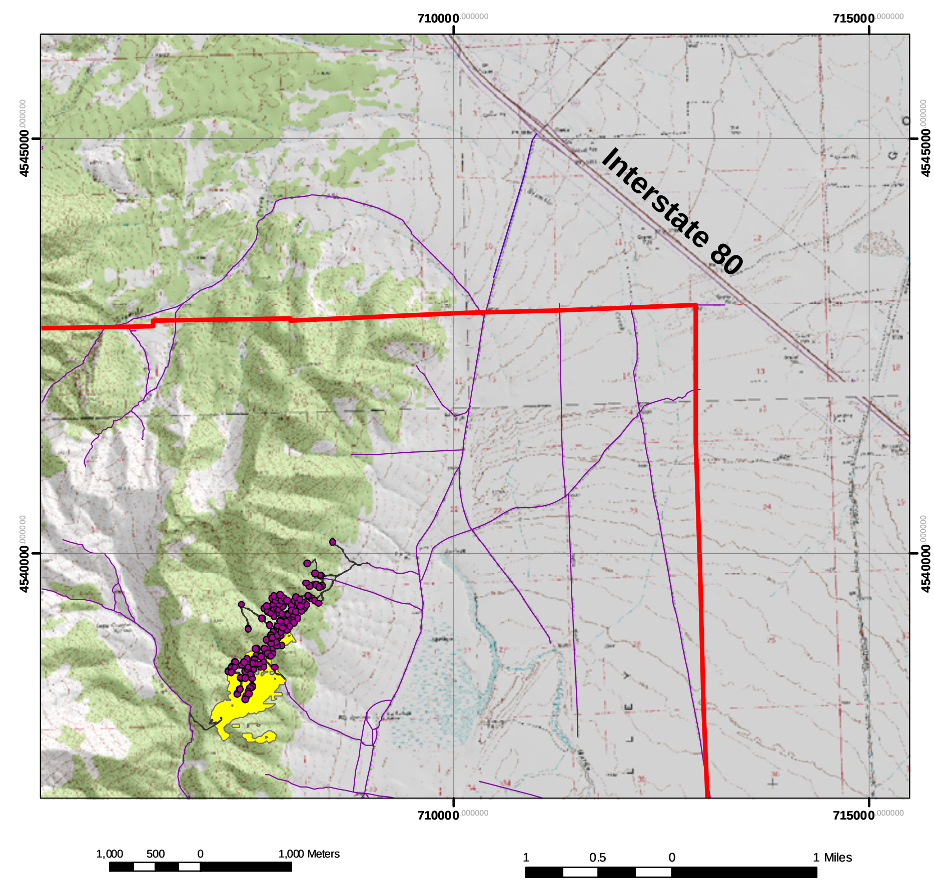
5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Access to Property

Access to the Long Canyon project is via Interstate Highway 80 to exit 378 (the Oasis exit), 42 kilometres east of Wells, Nevada, then proceeding 6.4 kilometres south on Elko County Road 790, which is an all-weather gravel road to the Big Spring Ranch.

In April 2009, Fronteer entered into a five-year road maintenance agreement with Elko County. Under the terms of this agreement, Elko County and Fronteer now share the responsibility to maintain County Road 790. Although this road proceeds through the Big Spring Ranch and provides public access to points south of the Ranch, at the request of the lessee of the Ranch, exploration traffic uses a dirt by-pass road that AuEx constructed and improved in 2005 to minimize impacts to the Ranch headquarters. This bypass road is located on lands in Sections 28 and 33 where Fronteer owns the private mineral estate. The bypass road circumnavigates the Ranch headquarters on the uphill side, and it is also used by the public to avoid driving through the Ranch. From the by-pass road, several short, unimproved dirt roads access the drill grid area. The drill grid area is located approximately 1.6 kilometres west of the Big Spring Ranch (Figure 5.1).

Figure 5.1 Long Canyon Project Access



5.2 Climate

Climate is typical for the high-desert regions of northeastern Nevada with hot, dry summers and cold, snowy winters. Summer high temperatures range from 30˚ to 38˚C, with winter low temperatures typically -20˚ to -10˚C and winter high temperatures of 0˚ to 5˚C. Most of the precipitation in the region falls as snow in the winter months, with lesser precipitation as rain in the spring and thunderstorms during the late summer. Winter storms can deposit several metres of snow, with elevations above 2100 metres being continually snow covered from November through April.

In the absence of all-weather road access to drill sites, a typical exploration-operating season for the Long Canyon project is from mid-May through early November. Improved road access and road maintenance/snow removal equipment could extend the exploration operating season through the winter months if necessary.

5.3 Physiography

The Long Canyon project lies in the Basin and Range physiographic province of Nevada and western Utah. The project site is located on the eastern side of the Pequop Mountains in northeastern Nevada (Figure 5.2), which has elevations ranging from 1675 to over 2750 metres on the ridge tops. Elevations for Long Canyon exploration drill-hole collars range from 1900 to 2050 metres.

The lower slopes of the project area are covered by sagebrush, progressing up-slope to piñon and juniper woodlands typical of high desert mountain vegetation in northeast Nevada. Locally scattered subalpine fir, limber pine, and mountain mahogany are present at higher slope elevations, giving way to sagebrush and grasses on ridge tops. The majority of the Long Canyon exploration activities to date have been in tree-covered (piñon and juniper) areas on the lowermost, eastern slopes of the range.

The resource area lies on moderate to steep slopes that require road construction to develop drill sites and access.

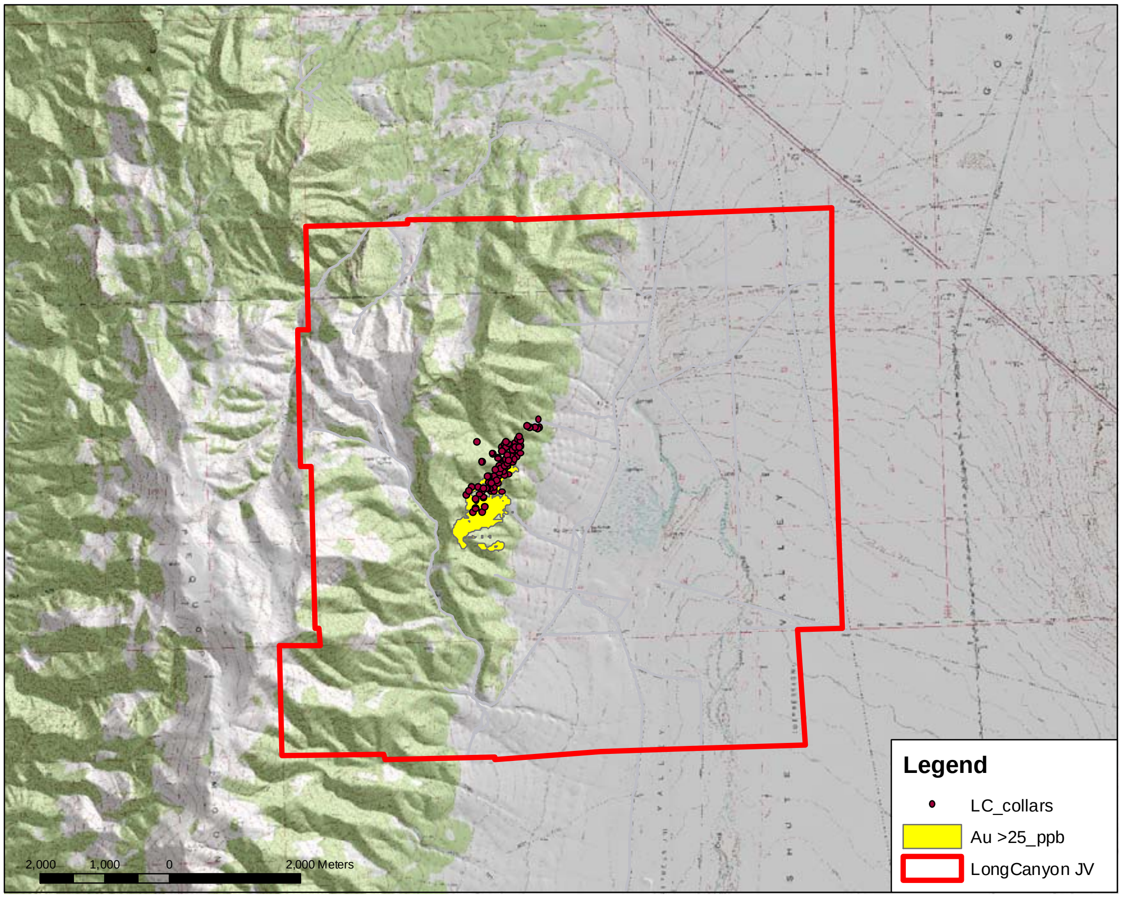
5.4 Local Resources and Infrastructure

Reverse circulation (“RC”) and diamond core drilling (“core”) contractors, heavy equipment contractors, and field technical personnel to support continued exploration activities are all available from service companies and contractors in Elko, Nevada. Should an economic gold deposit be delineated on the Long Canyon project, experienced mining personnel and equipment suppliers are available in Elko as well as elsewhere in Nevada.

Electric power for domestic use extends to the Big Spring Ranch. The nearest major power grid is near an east-west rail line located approximately 15 kilometres north of the Long Canyon project, north of Interstate 80.

Water for drilling at Long Canyon is available from a well at the Oasis Truck Stop located 6.4 kilometres north of the project. Fronteer has a five-year lease with the owner of the truck stop to use water from the well to support the exploration activities. Fronteer has also obtained a temporary waiver from the Nevada Division of Water Resources authorizing the use of water from the Oasis well for mineral exploration drilling and dust control at the Long Canyon project. The agreement with Oasis also allows Fronteer to lease land for the purpose of establishing a field headquarters to support the Long Canyon project. Fronteer will locate up to four trailers at the Oasis truck stop. Electricity and telephone/internet service will be provided to the trailers.

Figure 5.2 Physiographic Map of Project Area
(Showing Drill-Hole Collars and Gold-In-Soil Anomalies)



Accommodations for field personnel are available in Wells, Nevada, the nearest town to provide food and lodging (Figure 4.1). The town of Wendover, located approximately 48 kilometres to the east on Interstate 80, is another alternative. There is no campsite or other housing facilities on the project. Fronteer is planning to locate up to four trailers at the Oasis truck stop.

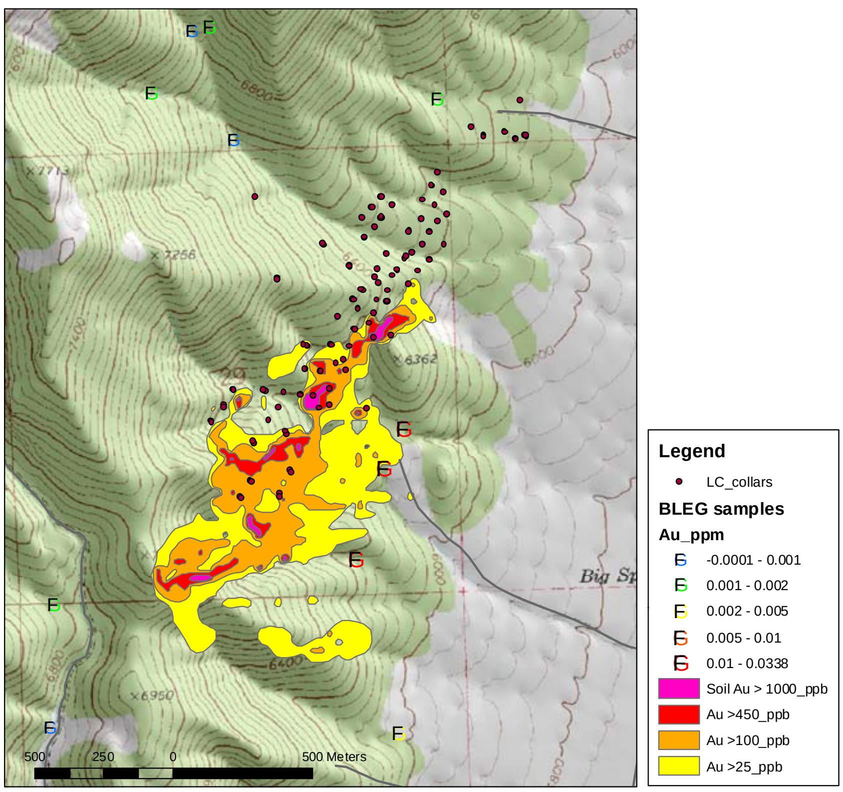
6.0 HISTORY

This section describes work conducted prior to formation of the Long Canyon Joint Venture in 2006. Work completed by the Joint Venture is described in subsequent sections of this report. Some specifics of the Pittston exploration program were provided by S. Green and S. Mason, former Pittston employees.

Aside from a few, small, historical lead-zinc prospect pits within the Long Canyon project area, there is no evidence of significant historical mining production.

Pittston conducted the first known modern gold exploration within the Pequop Mountains in 1994 when it conducted a regional Bulk Leach Extractable Gold ("BLEG") sampling program. This program returned anomalous gold from dry washes draining the western flanks of the Pequop Mountains. Pittston expanded this program to include the Long Canyon project area on the east side of the range in 1999. A number of BLEG samples in the Long Canyon region yielded anomalous gold (Figure 6.1).

Figure 6.1 Pittston BLEG Anomalies, 2000 Soil Anomalies, and Drill-Hole Collars



The detailed BLEG sampling was followed by prospecting up drainage and the discovery of gold-bearing jasperoids. Ridge-and-spur soil sampling followed, as well as soil sampling on a 61 metres x 61 metres grid up drainage from anomalous BLEG samples and over areas that yielded gold-bearing jasperoids. Pittston staked the first claims of record at Long Canyon in 2000. The soil sampling yielded a >25ppb soil anomaly over 1.5-kilometre long, elongate in a northeast direction (Figure 6.1). In addition to gold, multi-element ICP geochemical analyses showed anomalous arsenic, antimony, and mercury to be present in areas of anomalous gold. Rock chip sampling and road cut sampling were also done in advance of drilling.

Later in 2000, Pittston drilled seven RC holes, for a total of 1148 metres, to test the far northeastern portion of the soil anomaly. Five holes encountered weak gold mineralization, but the discovery hole, LC-03, encountered 21 metres averaging 2.7g Au/t, including 3 metres averaging 5g Au/t.

Pittston terminated exploration activities in the U.S. in December 2000. AuEx acquired Pittston in August 2004 and renewed exploration at Long Canyon in 2005, including mapping, surface sampling, road-cut sampling, and drilling. The drill program consisted of seven RC holes for a total of 768 metres. Significant gold mineralization was encountered in six of the seven holes.

In November 2005, Fronteer recognized that some of the claims controlled by AuEx at Long Canyon covered public surface lands but were underlain by private mineral rights owned by Fronteer and therefore were not open to mineral entry and staking. As a result, a Joint Venture agreement for the Long Canyon project was drafted between Fronteer and AuEx, with Fronteer contributing private mineral lands and AuEx contributing federal lode claims.

Fronteer has operated the Joint Venture and conducted all exploration at Long Canyon Property since May 23, 2006. Work completed by Fronteer for the Joint Venture is described in subsequent sections of this report.

6.1 Historic Mineral Resource and Reserve Estimates/Production

No historical resource or reserve estimations have been made at Long Canyon, and there is no known historical mineral production from the project or adjacent properties.

7.0 GEOLOGIC SETTING

7.1 Regional Geology

Most of northeast Nevada is underlain by carbonate and siliciclastic rocks that record a passive margin setting throughout most of the Lower Paleozoic, transitioning to a more active continental margin from the mid-Paleozoic onward. A major east-trending, crustal-scale fault known as the Wells Fault of unknown (post mid-Paleozoic) age, separates primarily platform and platform margin rocks on the south side of the fault (including most of the Pequop Mountains, shown in Figure 7.1) from platform margin and slope facies to the north. This separation suggests considerable (tens of kilometres) right-lateral offset across the fault. In the Long Canyon project area, Cambrian and Ordovician rocks record many cycles of sea level rise and fall, with periods of low sea level marked by dolomite horizons and sheets of cross-bedded orthoquartzite.

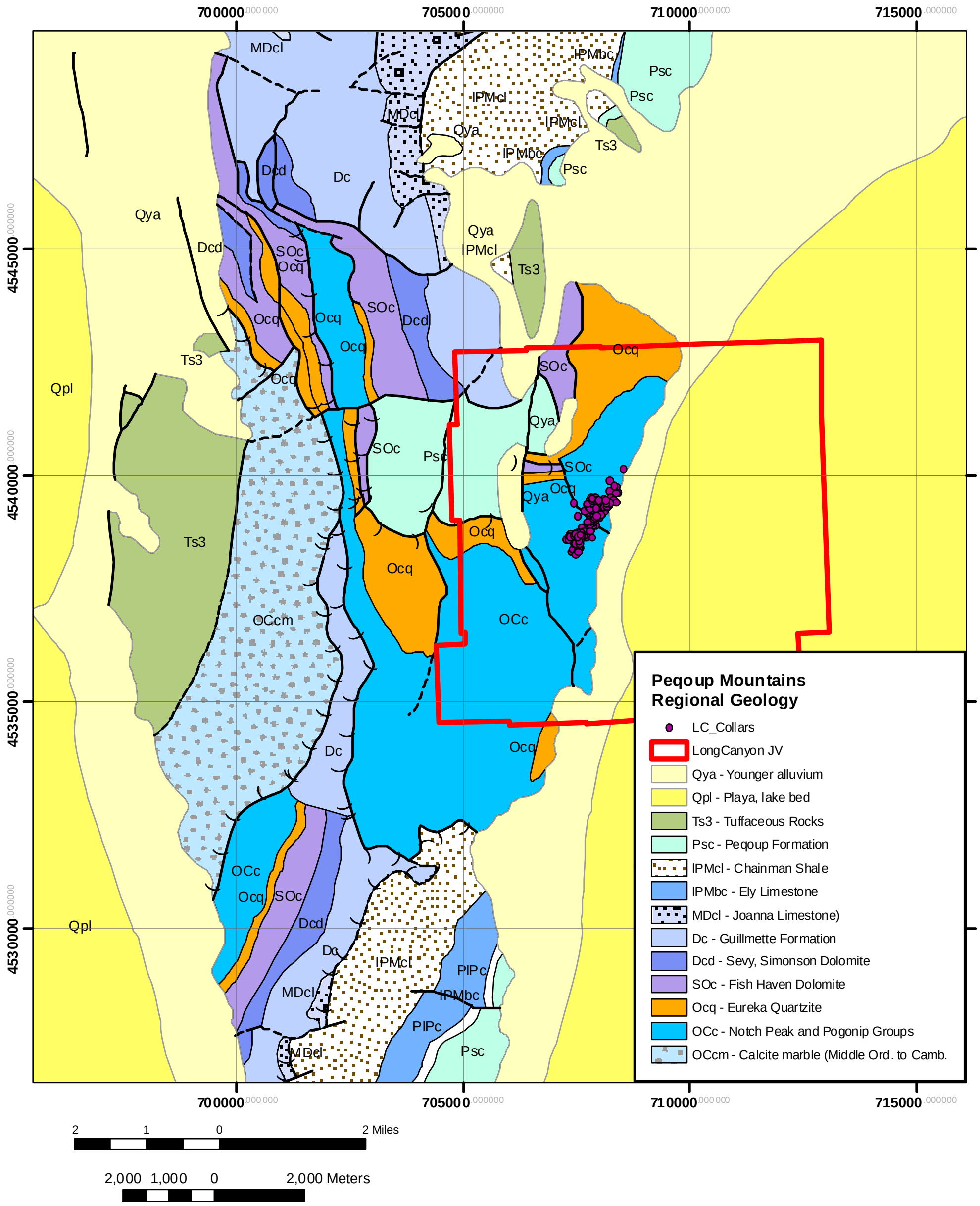
To the north of the Wells Fault, the Paleozoic section records the mid-Paleozoic Antler Orogeny in the form of the Roberts Mountains thrust fault and emplacement of deeper-water siliciclastic rocks of the Roberts Mountains Allochthon over platform and slope facies rocks. To the south of the Wells Fault, the Antler Orogeny is manifested by thick accumulations of foreland-basin sediments of Early Mississippian age that were shed eastward off the Roberts Mountains allochthon.

In mid-Jurassic time, rocks throughout northeastern Nevada and easternmost Utah were affected by the Elko Orogeny. The Elko Orogeny resulted in metamorphism and plastic deformation of primarily Lower Paleozoic strata over a large area. Manifestations include weak to strong, near-bedding-parallel foliation, northeast-trending folds, east-southeast-trending stretching lineations, and older-over-younger and younger-over-older layer-parallel faults (attenuation faults). Metamorphic effects are strong in the Wood Hills to the west of the Pequop Mountains, weaker in the western Pequop Mountains, and weaker still in the Long Canyon project area. The Elko Orogeny is presumed to be approximately coeval with mid-Jurassic plutonism in eastern Nevada.

The Tertiary Period includes a number of episodes of extension in the Great Basin, including Eocene volcanism and normal faulting and mid-Tertiary low-angle listric normal faulting. The latter includes periods of "hyperextension" from approximately 33 to 20 Ma, including the formation and unroofing of the Ruby Mountains Core Complex, located approximately 80 kilometres to the west. Rocks as young as 10 Ma in the eastern Great Basin are tilted up to 50° to the east, suggesting that low-angle normal faulting continued until fairly recently. High-angle basin and range faulting, resulting in the familiar pattern of mountain ranges and valleys, continues to the present. Most ranges, including the Pequop Mountains, are bounded by steep faults on one or both sides.

Gold occurrences in the eastern Great Basin are widely spaced and generally small, but most appear to be of the sediment-hosted type that is more prolific and well documented in the Carlin and Cortez Trends in the central Great Basin. Mineralization of this type was emplaced approximately 38 million years ago throughout the region, more or less coeval with two phases of felsic to intermediate volcanism in the region. Some examples are present in the vicinity of the Pequop Mountains, including the Tug and KB deposits, located to the northeast. Gold is also associated with mid-Jurassic intrusions in the region, including some or all of the mineralization at Bald Mountain, located to the southwest of Long Canyon.

Figure 7.1 Regional Geologic Map of Long Canyon Area



7.2 Property Geology

The following discussions are derived primarily from the mapping study completed by Smith (2009), which built upon earlier efforts by AuEx and Pittston. The reader is referred to unpublished company reports by consulting stratigrapher Jon Thorson (2007, 2008) for more details on the stratigraphy of the Notch Peak Formation and Pogonip Group. Previous mapping in the Long Canyon area was carried out by Thorman (1970), Camillari (1994), Coolbaugh (2006), and Pittston geologists, who provided a framework for subsequent work.

7.2.1 Local Lithology

The Pequop Mountains are underlain primarily by Paleozoic carbonate rocks and lesser siliciclastic rocks representing a transition from slope through platform facies over time (Figure 7.2). The Long Canyon project is underlain primarily by the Notch Peak Formation and the Ordovician Pogonip Group and Eureka Quartzite, with younger rocks (Fish Haven Dolomite and Pequop Formation) mapped on the northern boundary of the project area. Stratigraphic units presented in this report (Figure 7.3) reflect mappable subdivisions defined by Smith (2009) for regional mapping efforts.

Cambrian Candland Shale. Thinly bedded calcareous siltstone and silty limestone are exposed at the extreme south end of Long Canyon ridge. The strata, as well as the contact with the overlying Notch Peak Formation, are highly strained, but the contact appears to be depositional. These strata are tentatively assigned to the Candland Shale (Ccs) mapped elsewhere in the region based on discussions with Jon Thorson (pers. comm., 2008.)

Cambrian Notch Peak Formation. Cambrian carbonate rocks are widely distributed in the region, but are mostly referred to as “undifferentiated”. The name “Notch Peak Formation” is used to describe mainly massive limestone and/or dolomite in adjacent ranges to the east, and has been adopted here.

The lowest mappable unit in the Notch Peak (Cnp1) consists of a massive dolomite horizon approximately 20 to 30-metres thick exposed in the extreme south end of Long Canyon ridge. Overlying the massive dolomite unit in the southern part of the project area is a unit of unknown thickness (probably up to a few hundred metres thick) of fairly massive dolomite and limestone with 3 to 5-centimetres thick chert ribbons and nodules (Cnp2). Dolomite is suspected to be a secondary feature (late diagenetic, metamorphic, or possibly hydrothermal).

The Cnp2 unit grades upward into mainly limestone (Cnp3). This unit consists of an amalgamation of at least four shallowing-upward depositional cycles. Overall, however, the unit can be characterized by the predominance of fairly massive, medium- to thick-bedded, medium to pale gray, sparsely fossiliferous, finely crystalline limestone with areas of thinner, silty interbeds (Figure 7.4). Small-scale depositional features, including fossil hash, oolitic and oncolitic horizons, and rarely mudcracks, are noted locally. Several small dolomite lenses have also been mapped within the Cnp3 unit. Some appear to be derived from primary dolomitic deposits, while others appear to be related to alteration along fault zones or fold hinges.

The highest unit in the Notch Peak Formation consists of a thick (up to 70 metres) sequence of massive dolomite (Cnp4; Figure 7.5). This unit ranges from light to dark gray in colour, from coarse to (rarely) fine grained, and from massive to (rarely) well bedded, probably reflecting degree of secondary recrystallization. The best-preserved examples are typically dark gray, relatively fine-grained, oncolitic, and fetid when broken. In most areas, however, the rocks are paler gray, massive and jointed to weakly brecciated, with areas of “zebra” texture.

Figure 7.2 Long Canyon Project Geologic Map

(after Smith, 2009)

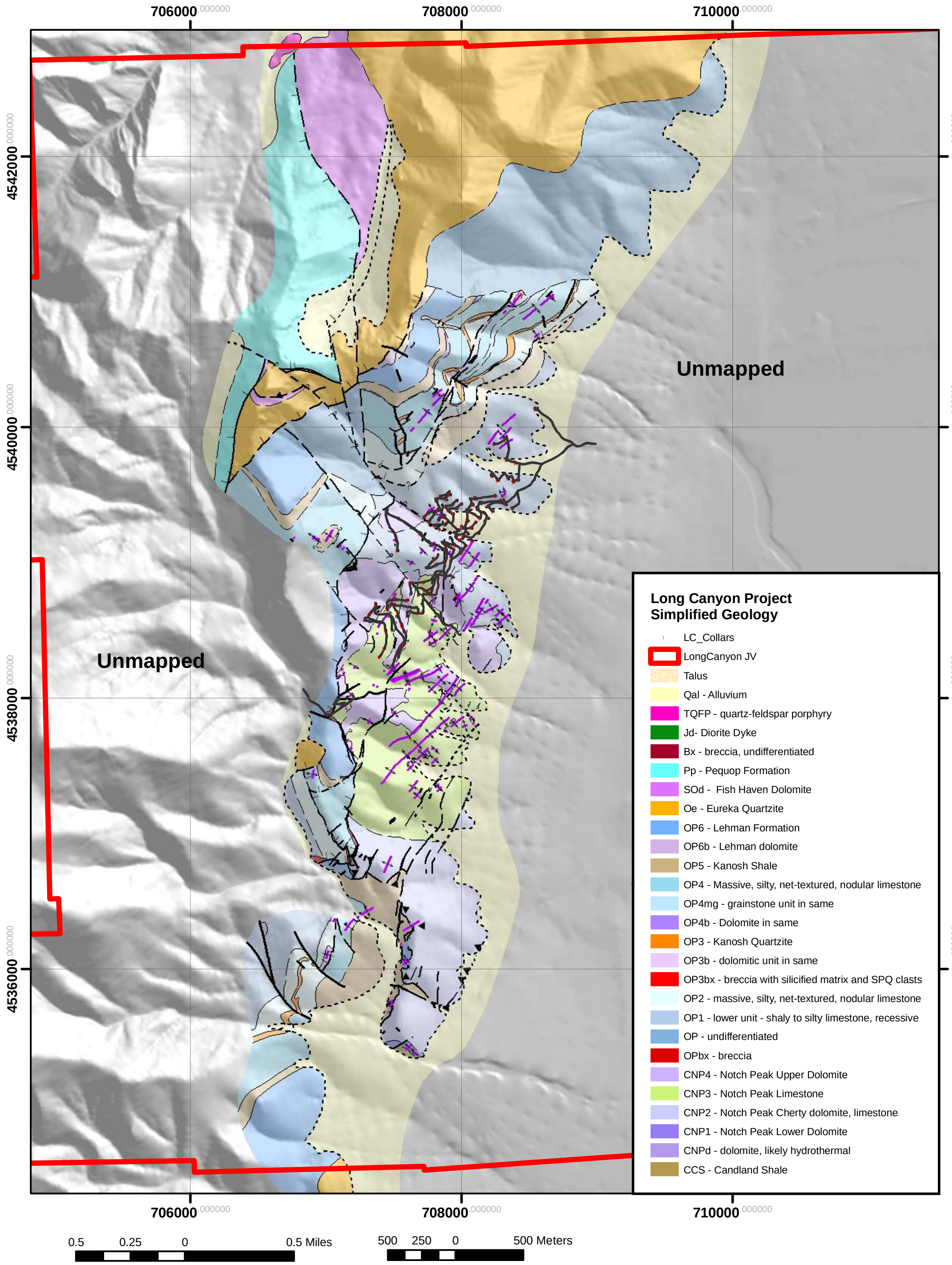


Figure 7.3 Stratigraphy of the Long Canyon Project Area
(after Smith, 2009; Thorson, 2007, 2008)

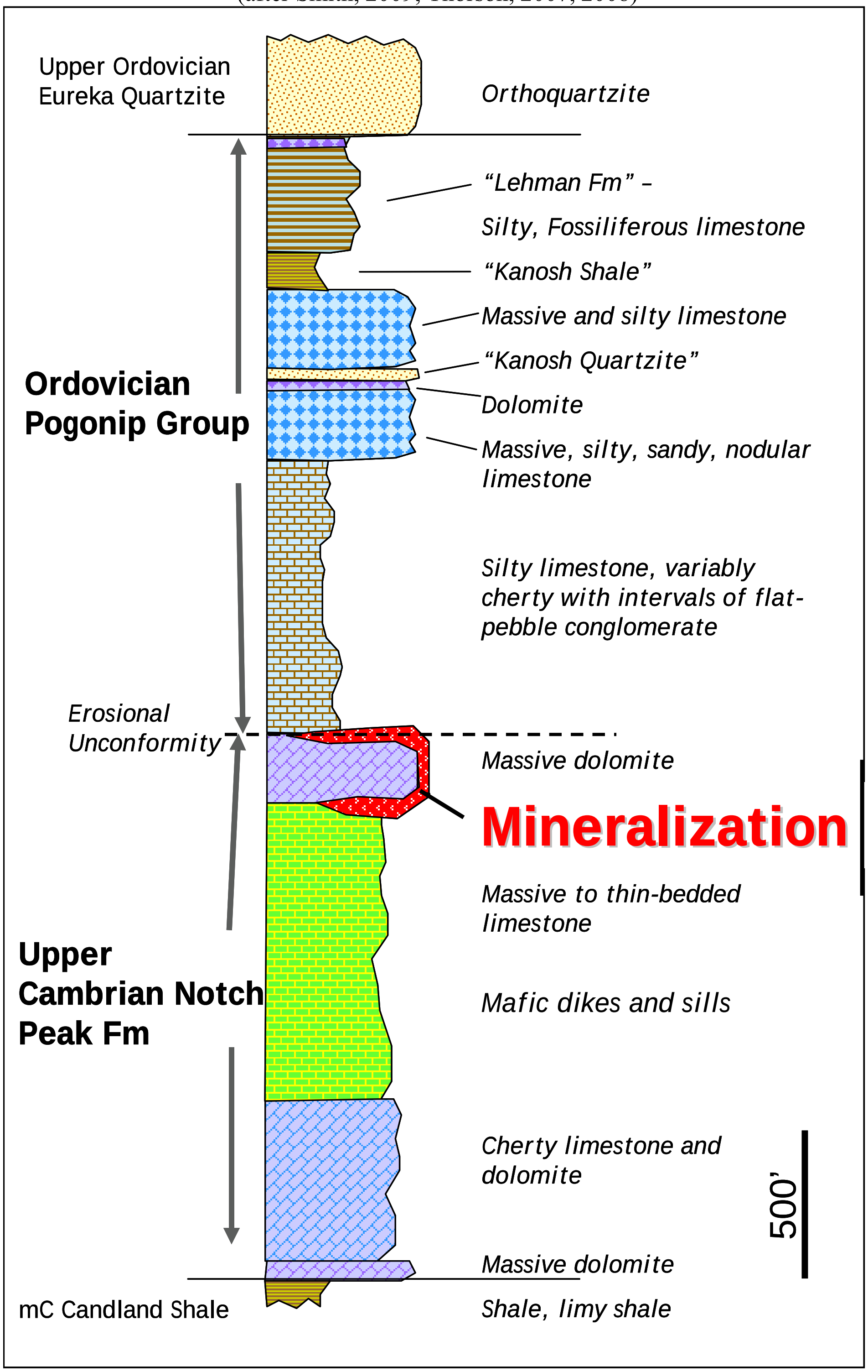


Figure 7.4 Notch Peak Formation Limestone (Cnp3)

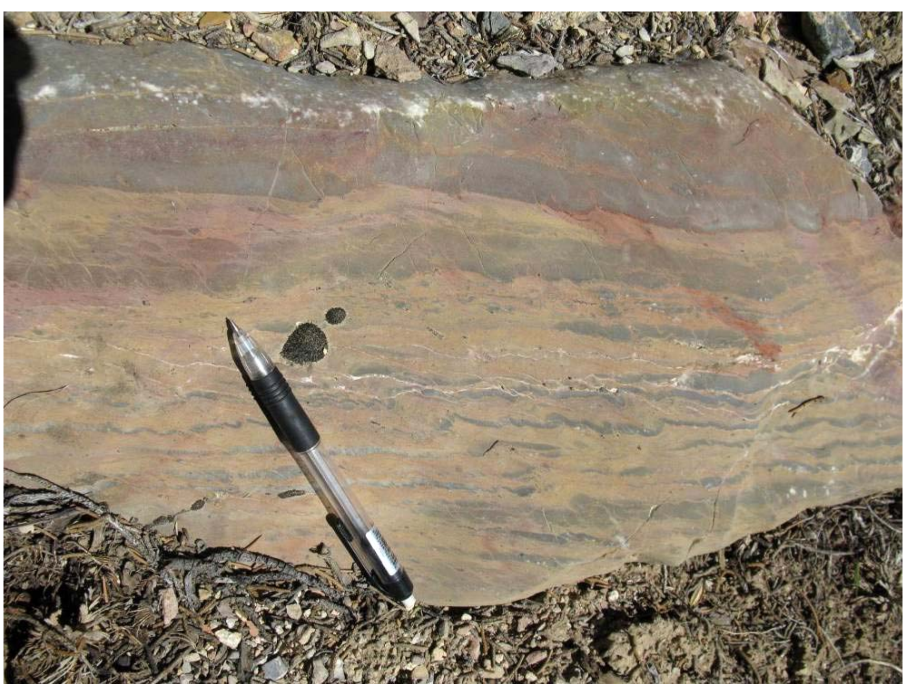
Figure 7.5 Notch Peak Formation Dolomite (Cnp4)

Ordovician Pogonip Group. Following the deposition of the Notch Peak Formation, there was likely an emergent period (global sea level low-stand) spanning up to several million years, represented by an erosional unconformity and local areas where a paleosol and/or breccias are present between the top of the Notch Peak Formation and the base of the Pogonip Group.

The Pogonip Group in the map area is suspected to be up to 600 metres thick, and on the scale of the mapping for this report, is comprised of six main units and several sub-units. Nomenclature varies considerably throughout the region, likely a result of facies changes and the formation's broad regional extents (from eastern California to western Utah). Thorman (1970), following Hintze (1951), divided the Pogonip Group in the Wood Hills and Pequop Range into four formations, which include (from lowest to highest) the Wahwah and Juab Limestones, Kanosh Shale, Lehman Formation and Crystal Peak Dolomite. The Wahwah and Juab Formations are also known as the Garden City Formation in the Toano Range. In the Toano Range, a quartzite referred to as the Swan Peak Quartzite occurs between the Lehman Formation and the Crystal Peak Dolomite. Smith (2009) used a numbering system based on units felt to be consistently and reliably applicable in the field at the scale of mapping (approximately 1:2400).

The basal unit of the Pogonip Group in the Long Canyon area (Op1) is the host for much of the mineralization in the Long Canyon deposit, and consists of recessive, thin-bedded, silty limestone (Figure 7.6) with thicker (up to 1 metre thick) interbeds. Limestone ranges from medium gray to buff and typically weathers in a platy, rounded habit. Chert comprises approximately 5% of the lower part of this unit. Thicker beds are often conglomeratic, with tabular limestone clasts in a sandy (grainstone) matrix. Near the top of the section in the north, Op1 is very recessive and poorly exposed, covered by an apron of talus from the overlying, cliff forming unit Op2. Unit Op1 is subdivided into a basal chert-bearing unit and an overlying silty unit in drill logging.

Figure 7.6 Silty, Thin-bedded to Laminated Limestone of Lower Pogonip Group (Op1)



Unit Op2 is a massive, cliff-forming unit exposed mainly in the northern part of the map area. The unit consists of massive beds of heavily burrowed limestone. Burrow fill consists of tan-weathering, partly dolomitic, silty, buff-coloured, partially silicified limestone, giving the rock a "net-textured" or nodular appearance.

Unit Op3 consists of approximately 15 metres of white, cross-bedded quartz arenite. In the Wood hills, this quartzite is named the "Kanosh Quartzite" by Thorman (1970.)

Unit Op4 is similar in nature to unit Op2, consisting of fairly massive, burrowed, "net textured" to nodular, silty limestone, as well as massively bedded limestone with minor wispy silt laminae, cherty limestone, and grainstone.

Unit Op5 consists of a very recessive weathering shale horizon, known regionally as the "Kanosh Shale". The Kanosh Shale is rarely exposed, and is usually defined by a zone of gray- to olive-weathering shale and thin-bedded silty limestone float with very minor outcrop of thin-bedded, silty limestone. Shale typically displays a slaty cleavage at low angles to bedding.

Unit Op6 consists mainly of massive gray limestone with 20% to 70% buff to red silt "wisps". Silt wisps were likely continuous silty beds, which have been deformed into a series of rootless isoclinal folds on a centimetre scale.

Ordovician Eureka Quartzite. The Ordovician Eureka Quartzite caps the higher ridges above and to the north and west of the Long Canyon deposit. The Eureka quartzite consists of white to pale gray, hard, massive, variably cross-bedded orthoquartzite, and exceeds 100 metres in thickness in this area. The contact with the underlying Pogonip Group is usually covered by thick talus. Where exposed, quartzite near the base of the unit is often brecciated and re-healed with silica, suggesting the bottom contact may be modified by low-angle, layer-parallel faulting.

Units present in the Long Canyon project area above the Eureka Quartzite include the Late Ordovician to Silurian Fish Haven Dolomite and the Permian Pequop Formation.

Pre-Middle Jurassic Mafic Sills and Dikes. Thin dioritic to lamprophyric(?) sills and possibly dikes are present throughout the map area, usually as rubble trains. Most of the sills are likely less than (and mostly substantially less than) one-metre thick. Sills are fine to medium grained and variably porphyritic. They are invariably altered, with alteration ranging from regional metamorphic effects of low greenschist facies (chlorite-muscovite-phlogopite) to propylitic, argillic, or phyllic altered in mineralized zones. Secondary biotite is suspected in some areas. Sills range from nearly undeformed to schistose, the latter suggesting that they may pre-date mid-Mesozoic(?) ductile deformation, or that there may be more than one phase of intrusion. Whole-rock data from variably altered samples shows silica content as low as 38%, suggesting that the intrusive rocks may be lamprophyres.

Quaternary/Holocene Unconsolidated Deposits. Lower elevations of the map area are covered by alluvium, characterized by the presence of relatively rounded boulders (up to several metres in diametre) of Eureka Quartzite, as well as a diverse range of other lithologies. IP resistivity data suggest that the alluvial deposits thicken gradually basinward, and then thicken abruptly on the east side of a high-angle Basin and Range fault.

7.2.2 Structure

The structural history of the Long Canyon area was elucidated primarily through geological mapping, examination of drill core, and research.

The structural history of the Long Canyon area is complex, with at least four deformational events. These events are generally not well described or dated in the eastern Great Basin, but some tentative correlations can be made between regional and local events. Strata throughout the area are characterized by a penetrative fabric at low angles to bedding, local areas of tight to isoclinal, intrafolial folds on a centimetre scale, development of a southeast-plunging stretching lineation, northeast-trending folds, and boudinage, on a regional scale, of brittle dolomite units. The ductile deformation event that created these structures is attributed to the Jurassic Elko Orogeny.

Northeast-trending folds include open to tight and upright to overturned folds. All fold the foliation, but some appear to be fairly ductile in nature, while others range from tight folds to kink folds. A northeast-plunging crenulation lineation is present locally. Two roughly coaxial phases of folding are suspected.

Faults range from early, ductile, older-over-younger and younger-over-older low-angle faults, to more brittle low-angle to moderate-angle reverse and normal faults, to late brittle northwest- and northeast-striking faults.

The deformational history is described below in a spectrum from older, more ductile deformation to younger, more brittle deformation.

Early (Jurassic?) Ductile Deformation. The Early Jurassic Elko Orogeny was defined by Thorman et al. (1991), although the existence of ductilely deformed rocks in the eastern Great Basin has been documented for several decades by many different researchers. The lines of evidence that are most compelling in terms of documenting a mid-Mesozoic orogenic event in the eastern Great Basin are: 1) ductile folds and other fabrics in rocks as young as early Mesozoic are cross-cut by approximately 155 Ma intrusive rocks in several mountain ranges; and 2) the presence of the Morrison Formation, comprising one thousand metres or more of terriginous sediment of mid- to Late Jurassic age, in Utah and Colorado, interpreted as foreland-basin sediments shed off the Elko orogenic highland.

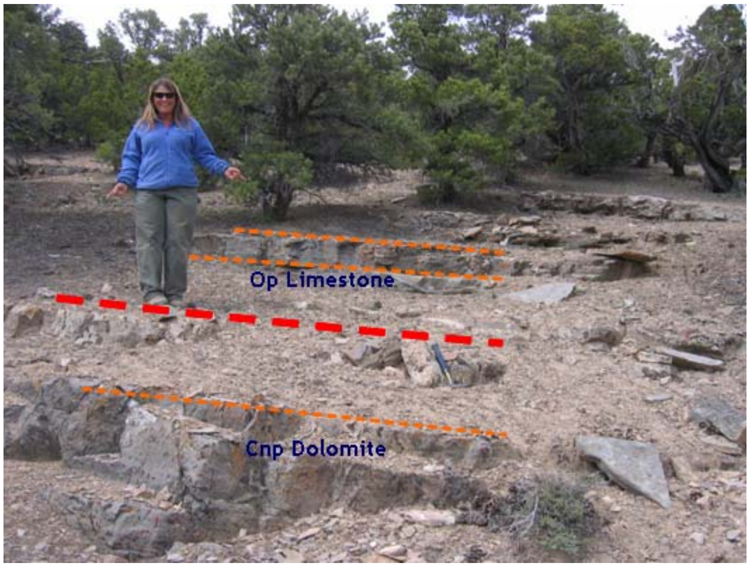
The earliest deformation documented in the Long Canyon area is manifested by variable development of a penetrative cleavage or foliation in all calcareous or dolomitic rocks. Foliation is defined by a slaty to phyllitic cleavage in silty or shaly rocks, or by recrystallization of calcite or dolomite in more massive rocks. The foliation typically is parallel to or slightly discordant to bedding in thin-bedded, shaly or silty units, and refracts and is more discordant in massive or thick-bedded units. It is only weakly developed in dolomite, and is absent in quartzite. Locally, such as along the lower contact of the dolomite unit (Cnp4), the foliation is particularly strongly developed. This deformation is locally accompanied by a NW-SE to WNW-ESE stretching lineation in the plane of the foliation.

The most profound manifestation of the Elko Orogeny in the Long Canyon area consists of boudinage of the thick, brittle dolomite horizon at the top of the Notch Peak Formation. The development of these dolomite boudins created structural/stratigraphic settings that were critical to the localization of the Long Canyon mineralization. The boudinage is interpreted by examination of mapped outcrops, drill intercepts, and observation of bedding and foliation directions both internal and external to the boudins. At the top or the bottom of a boudin, bedding in the dolomite and overlying or underlying limestone is parallel or subparallel, and generally dips gently to the southeast (Figure 7.7). Along a block nose (the terminated end of a boudin), the bedding/foliation in the enveloping limestone wraps around the nose and may be vertical or locally overturned, whereas the bedding in the dolomite remains unchanged (Figure 7.8 and Figure 7.9). Bedding in the dolomite unit is difficult to discern close to a block nose as the dolomite is typically recrystallized, strongly jointed, and locally brecciated.

Boudins are irregular in shape, although boudin necks (the area between adjacent boudins) generally trend north to northeast, perpendicular to the stretching lineations. The thin-bedded basal Pogonip limestones are often highly folded and contorted along the limestone-on-limestone contacts in the boudin neck areas. Where the boudins are covered by the Pogonip Group, boudin necks in the subsurface can be traced for some distance by mapping of north- to northeast-trending synclines in the lowermost Pogonip Group rocks.

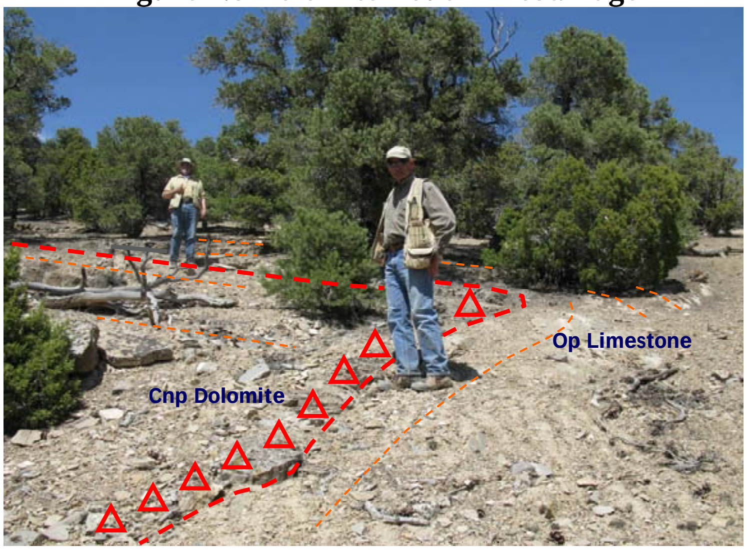
Folding associated with the Elko Orogeny in the Long Canyon area appears to be in large part controlled by the megaboudinage of the Notch Peak dolomite. The largest folds in the area occur in the Notch Peak Formation limestone, where boudin necks accommodate the limestone by formation of open, ductile, upright anticlines, and to a lesser extent in the overlying Pogonip Group, where boudin necks accommodate the limestone by formation of upright synclines. Hinge areas are rounded and they tend to be massive. Bedding and foliation are difficult to discern, possibly due to recrystallization. The foliation is folded, suggesting that the folding event happened later than initial foliation of the rocks. No secondary axial planar cleavage is discernable in these folds.

Figure 7.7 Top of Dolomite Boudin Block



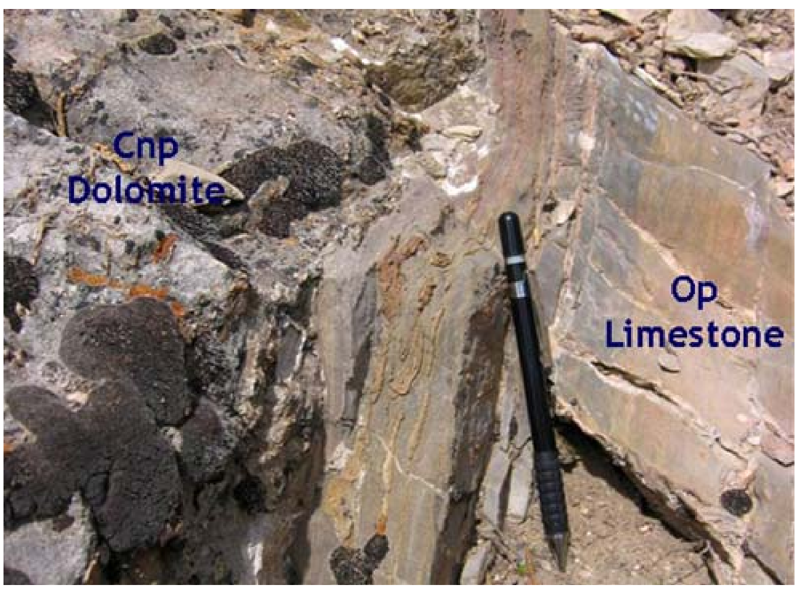
(Note that bedding and foliation (orange) are parallel to the contact between the Cnp dolomite and Op limestone).

Figure 7.8 Dolomite Boudin Nose/Edge



(Bedding in the Cnp dolomite is truncated, whereas bedding/foliation in the Op limestone is folded over the boudin nose.)

Figure 7.9 Dolomite Boudin Nose Contact



(Op limestone is highly strained, with near-vertical orientation of foliation.)

The basal part of the Pogonip Group in the boudin necks and along boudin noses is characterized by tight folding on a centimetre scale, with the foliation axial planar to the folds.

Open upright folds and intrafolial folds described above are affected by a later, roughly coaxial phase of folding that is more brittle in nature. These folds, which occur primarily in units immediately above and below the Notch Peak dolomite, have more angular hinge areas than the early, open folds, and a weakly developed axial planar cleavage. These folds may in part represent "tightening" of the axial areas of earlier folds as deformation progressed. The late fold set is also manifested as a northeast-trending crenulation lineation locally visible in the plane of foliation where the foliation is developed in silty rocks.

Bedding-parallel thrust faults and attenuation faults have also been noted within the project area.

Post – Jurassic Deformation. Structures attributed to post-Jurassic tectonism are generally brittle in nature. These may be in part associated with the Late Cretaceous Sevier Orogeny. Structures noted in the project area include:

- Moderate-angle, west-northwest-dipping reverse faults;
- Low to moderate-angle, west-dipping normal faults;
- Tight folds with northeast-plunging axes and variously oriented axial planes;
- Northeast-trending, high-angle breccia zones.

Brittle structures noted within the drilled area described below.

North- to northwest-trending high-angle faults are believed to be common in the map area, although they tend to occupy gullies and rarely outcrop. These faults can be observed primarily on ridges with good exposures or where they cut either the Kanosh Quartzite or Eureka Quartzite, in which cases offsets can be mapped and the fault planes are silicified and/or contain quartzite clasts. Offset along the faults is variable, but rarely over a few tens of metres. The North Fault, mapped on surface and in drill holes, may be affiliated with other northwest- to north trending faults in the area. This fault exhibits down-to-the-east displacement of a few tens of metres as measured by offset of one of the dolomite blocks. It is believed to be post-mineralization.

The latest phase of faulting in the Long Canyon area is represented by a large, north-trending, range-bounding normal fault along the eastern edge of the project area. The existence of this fault is inferred by: 1) the presence of a large basin; 2) a linear trend of artesian springs; and 3) gravity and IP data suggesting a dramatic thickening of basinal sediments over a short distance.

Two major joint sets are evident in the region: northeast-trending and steep, approximately parallel to the axial planes of most folds in the region, and northwest-trending and steep, parallel to northwest-trending high-angle faults in the region. The former joint set is essentially parallel to weakly developed axial planar cleavage in second-phase folds, as well as northeast-trending faults/breccia zones.

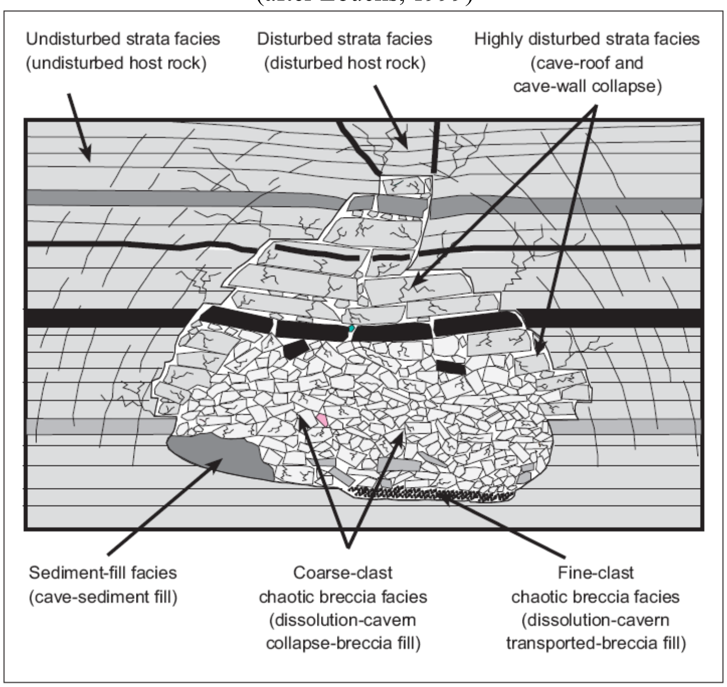
Pressure solution features (stylolites) are noted throughout the region. They are most noticeable in drill core from deformed areas in the Notch Peak Limestone, such as fold hinges. In these areas, stylolites concentrate hematitic silt and are very irregular in orientation. The presence of stylolites in otherwise fairly massive limestones suggests appreciable volume loss and deformation due to pressure solution. Multiple phases of stylolite formation are likely represented and could be of any age(s).

7.3 Karst Breccias

Evidence for control of mineralization in and around dissolution collapse features is substantial and deserves special mention. Karst is generated by chemical erosion of limestone by slightly to strongly acidic water that can be meteoric or hydrothermal in origin. It can result in the formation of extremely irregular topography, sink holes on a metre to kilometre scale, and elaborate cave systems that can stretch for tens of kilometres. Karst terrain and caves can be highly irregular in form, although most are at least partially controlled by structures (joints, faults, *etc*.) and/or stratigraphy.

Idealized dissolution collapse features, which are believed to be present at Long Canyon, are shown in Figure 7.10

Figure 7.10 Idealized Cross Section of a Karst Cave with Dissolution Collapse Breccia
(after Loucks, 1999)



In the case of Long Canyon, the distribution of caves (or cave fill/dissolution breccias) appears to be largely controlled by the dolomite boudin margins, as well as limestone-on-limestone contacts in the boudin necks. Evidence for meteoric and hydrothermal karsting and dissolution collapse breccias at Long Canyon is well documented. Karsted areas may have one or more of the following characteristics:

- Crackle breccias (monomictic, angular, usually calcite cemented, and "jigsaw fit" breccias).
- Dissolution collapse breccias.
- Polymictic to monomictic breccia types.
- Matrix supported breccias.
- Range from nearly 100% coarse calcite cement to nearly 100% matrix hematitic silt/clay material, rarely silicified.

- Clasts (particularly massive limestone) variably rounded and embayed, suggesting erosion by acidic fluids.
- Clasts ranging from virtually unaltered to strongly decalcified and hematitic.
- Matrix ranging from foliated and fairly well indurated (indicating that some karsting predated metamorphism) to unconsolidated mud.
- Fine-grained cave fill (clay to silt, hematitic, rare laminations or spelothems), ranges from uncemented (basically mud) to calcite or silica cemented.

Figure 7.11 shows a cross section through a dissolution collapse-breccia system (karst) as illustrated with selected drill core from Long Canyon (different holes represented).

Figure 7.11 Core Representing Mineralized Dissolution Collapse-Breccia System

8.0 DEPOSIT TYPE

The gold mineralization at Long Canyon is best described as sediment-hosted, Carlin-type gold mineralization. Carlin-type gold deposits are a class of gold deposits that are not unique to Nevada, but exist in far greater numbers and total resource size in northern Nevada than elsewhere in the world. They are characterized by concentrations of very finely disseminated gold in silty, carbonaceous, calcareous rock. The gold is present as micron-size to sub-micron-size disseminated grains, often internal to iron-sulfide minerals (arsenical pyrite is most common) or with carbonaceous material in the host rock. Free particulate gold, and particularly visible free gold, is not a common characteristic of these deposits; significant placer alluvial concentrations of gold are therefore not commonly produced when Carlin-type gold deposits are eroded.

All the Carlin-type deposits in Nevada have some general characteristics in common, although there is a wide spectrum of variants. Anomalous concentrations of arsenic, antimony, and mercury are typically associated with the gold mineralization; thallium, tungsten, and molybdenum may also be present in trace amounts. Alteration of the gold-bearing host rocks of Carlin-type deposits is typically manifested by decalcification of the host, often with the addition of silica, addition of fine-grained disseminated sulfide minerals, remobilization and/or the addition of carbon to the rock, and late-stage barite and/or calcite veining. Small amounts of white clays (illite) can also be present. Decalcification of the host produces volume loss, with incipient collapse brecciation, which enhances the fluid channel ways of the mineralizing fluids. Due to the lack of free particulate gold, Carlin-type deposits generally do not have a coarse-gold assay problem common in many other types of gold deposits.

Deposit configurations and shapes are quite variable. Carlin-type deposits are typically somewhat stratiform, with mineralizing characteristics being best exhibited in specific stratigraphic units, although steeply dipping faults can host high-grade gold mineralization. Breccias can also be primary hosts to mineralization.

The mineralization identified at Long Canyon shares many of the characteristics of Carlin-type gold mineralization, including:

- Stratigraphic control on mineralization - mineralization is hosted primarily in limestone, particularly in silty, thin-bedded units;
- Structural control on mineralization - mineralization occurs in karstic cavities, collapse breccias, and anticlinal fold hinges;
- Geochemical association - elevated arsenic, mercury, antimony, and thallium accompany the gold mineralization, while silver and base-metal concentrations are low; and
- Alteration - mineralization is associated with decalcification, silicification/jasperoid, oxidized variants of pyrite and arsenical pyrite or arsenopyrite, and clay alteration.

The Long Canyon project also displays some characteristics that are unlike typical Carlin-type gold deposits. The prevalent association of hematite with gold mineralization at Long Canyon is not a common characteristic among all Carlin-type deposits, although this phenomenon is associated with weathered/oxidized portions of some of the deposits. The general location of the project is outside the known major gold deposit trends in Nevada. Host rocks are Cambrian-Ordovician platform to platform-margin carbonates, whereas the majority of Nevada Carlin-type deposits are in Ordovician-Devonian platform margin and slope rocks. Finally, mineralization is hosted in plastically deformed rocks and is associated with boudinage structures.

9.0 MINERALIZATION

Four northeast-trending zones of mineralization have been identified to date at Long Canyon (Figure 9.1), each corresponding to a particular dolomite-boudin environment.

The Discovery Zone (Figure 9.2 and Figure 9.3) outcrops in the southeastern limits of the resource area and extends 1,100 metres to the northeast where the mineralization remains open. This zone includes significant mineralization related to a boudin neck and its associated boudin noses.

The West Zone (Figure 9.2) has a strike length of 275 metres at present and consists of mineralization related to the east-facing nose of the westernmost boudin block encountered to date in surface mapping and drilling. Narrow, steeply dipping zones of mineralization related to lamprophyric dikes and sills also occur in this zone.

The north-trending Shadow Zone (Figure 9.3) is located west of the northern part of the Discovery Zone and has a sharp truncation on its southern end. Like the Discovery Zone, the Shadow Zone mineralization is related to a boudin neck and associated boudin noses.

The Crevasse Zone mineralization (Figure 9.3 and Figure 9.4) appears to be related to an incipient boudin, where the dolomite block is broken but has not completely separated. The Crevasse Zone has a northerly trend and lies below unmineralized Pogonip Group cover. Few holes have been drilled into this high-grade zone, and the mineralization remains open.

Geological controls to the Long Canyon mineralization are both stratigraphic and structural. Gold occurs primarily within three structural/stratigraphic settings, listed in order of decreasing importance:

- Along all contacts of dolomite boudin blocks, especially at and near the noses of the boudins (see discussion of boudinage formation in Section 7.2.2;
- The contact between the thinly bedded silty limestone (Op1) of the lowermost Pogonip Group and thin-bedded limestone of the uppermost Notch Peak Formation, where these units have been brought into structural juxtaposition by removal of the dolomite unit along the boudin necks; and
- Stratabound mineralization within what may be favourable limestone bed(s) in the upper Notch Peak Formation.

Significant karsting, likely both meteoric and hydrothermal in origin, is localized primarily in the limey units at their contacts with dolomite at boudin margins, noses, and necks, in some areas resulting in large, silt-filled collapse cavities (see Section 7.3). Much of the higher-grade mineralization at Long Canyon is hosted in the hematitic matrix of dissolution collapse breccias associated with karst processes. Mineralized areas discovered to-date are essentially entirely oxidized.

Mineralization is often stratiform when not hosted within solution collapse breccias. Lamprophyric sills are commonly associated with mineralization in some areas, although they likely are older than the gold mineralization and act as receptive host rocks. It is not yet known what role faults may play in the location of the gold.

Thin sections of mineralized Notch Peak Formation show gold occurring as submicron particles at the margins of oxidized pyrite grains suspected to be authigenic in origin. Some gold grains were observed encapsulated in silica. Gold was also detected by an SEM (scanning electron microscope) analysis of an arsenical rim on one pyrite grain.

Figure 9.1 Simplified Geological Map Showing Drill Holes and Mineralized Zones

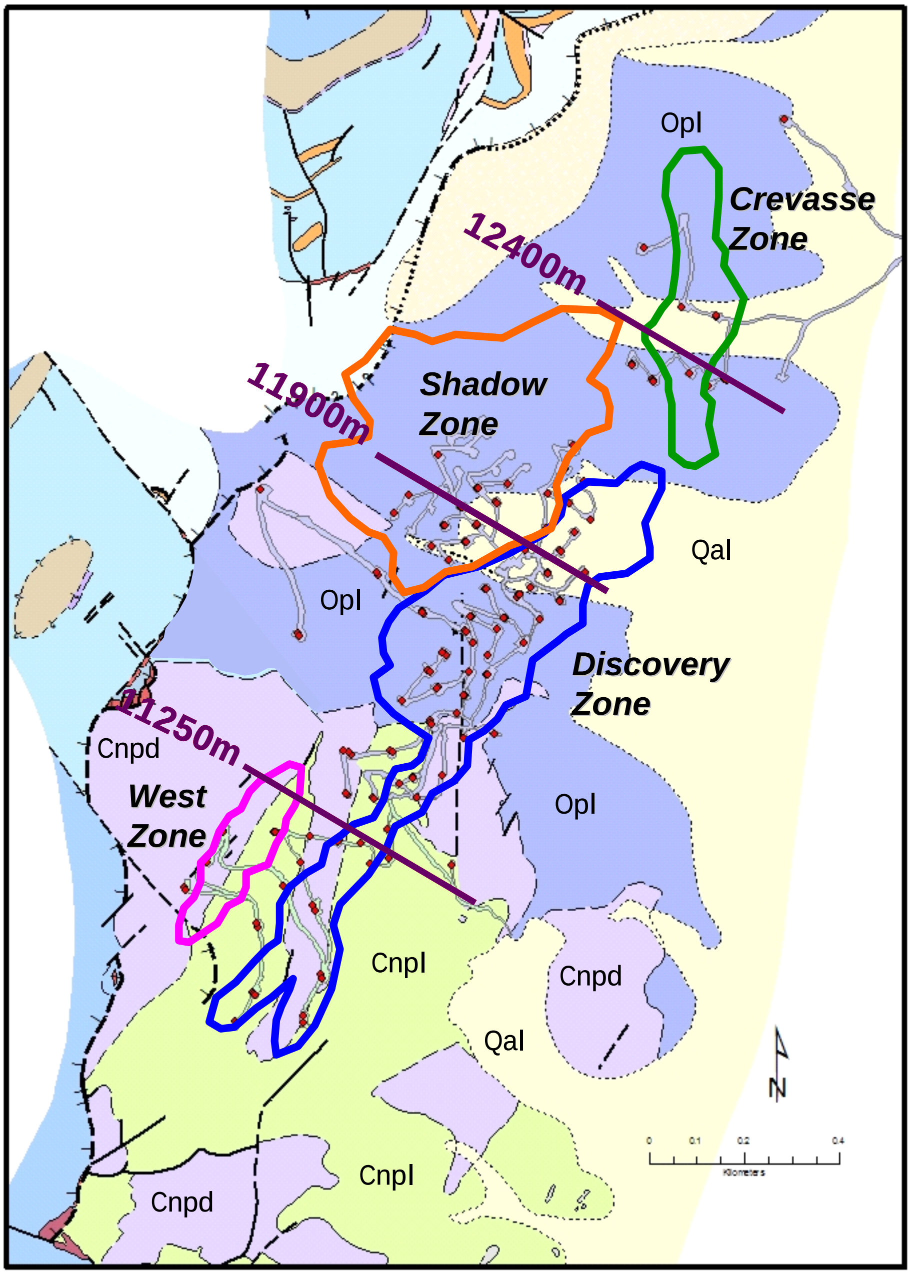


Figure 9.2 Section 11250 Showing the West and Discovery Zones

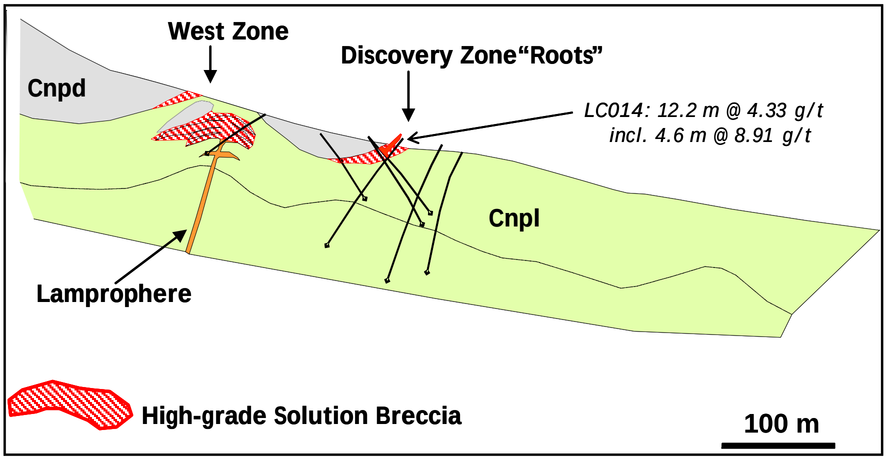


Figure 9.3 Section 11900 Showing the Shadow, Discovery, and Crevasse Zones

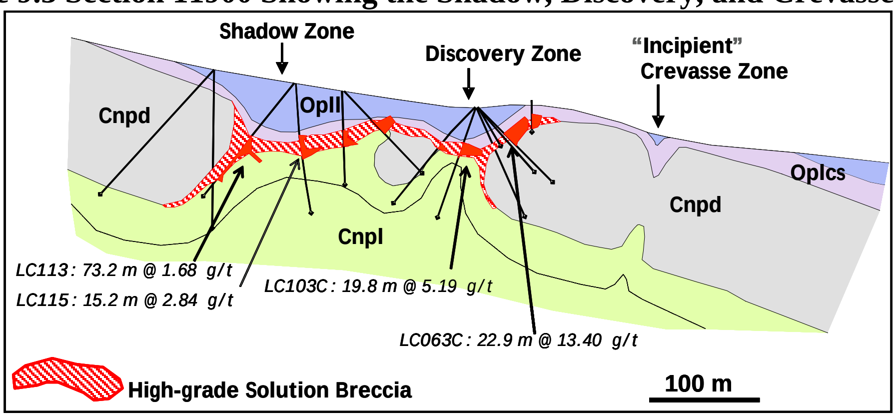
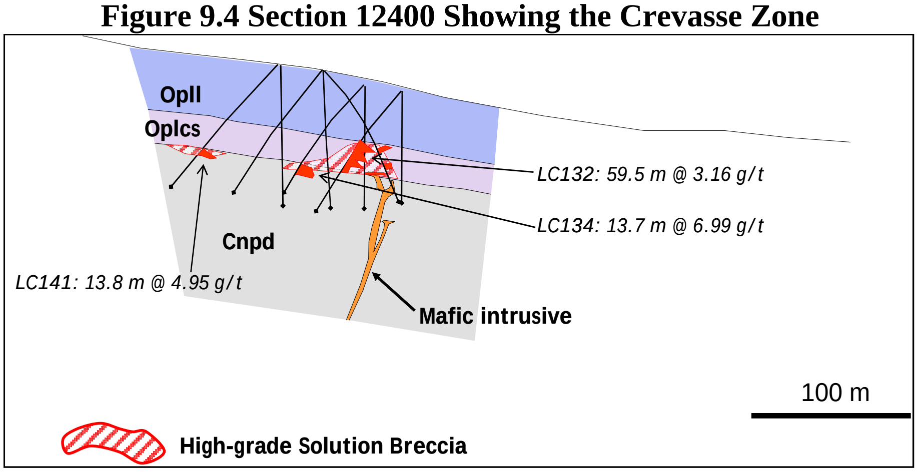


Figure 9.4 Section 12400 Showing the Crevasse Zone



9.1.1 Alteration

Principal alteration minerals that are associated with gold mineralization include hematite, jarosite, scorodite, silicification, and illite. Rocks in the deposit area are essentially entirely oxidized, so inferences regarding the nature of primary mineralization must be made based on examination of oxidized rock.

Decalcification. Decalcification shares a strong spatial association with mineralization. Decalcification is preferentially developed in silty, thin-bedded to laminated strata in the lowermost Pogonip Group, but may also be present locally in the Notch Peak Formation. Decalcification imparts a buff colour and soft, chalky appearance to the rock. Some “sanding” observed in dolomite may represent decalcification of limy matrix to dolomite grains.

Silicification. Evidence from examination of a limited number of polished thin sections and whole-rock geochemical data suggest that weak, pervasive silicification is an important alteration type at the Long Canyon project, and is associated with gold mineralization. Silicification of this type is not obvious in hand sample. Silicification is present as small, ragged grains in limestones, with up to 50% of the rock replaced by silica.

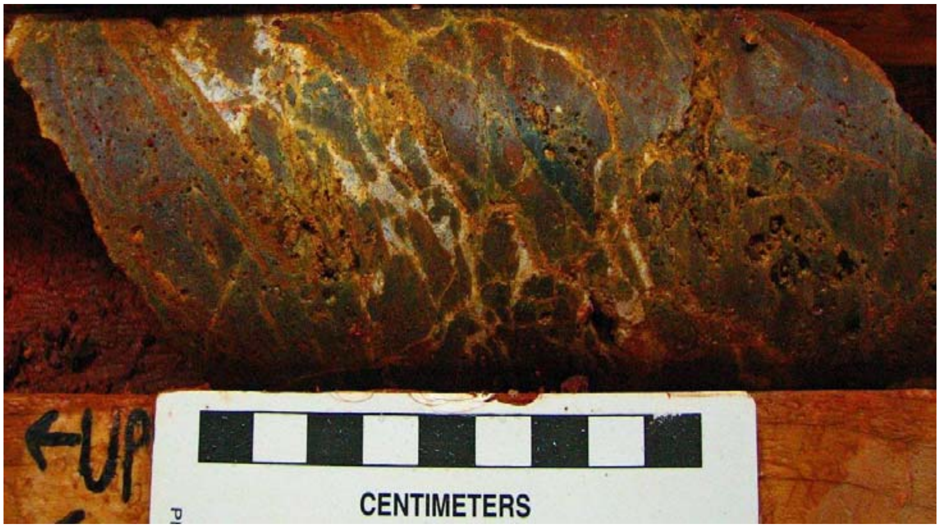
Jasperoid. Jasperoid is relatively rare and largely restricted to the West Zone and the as yet untested South Zone. Jasperoid occurs in zones or lenses up to a few metres wide consisting of massive or “net-textured” silica after limestone, and ranges from pale- to medium-gray and very fine grained to dark-brown and grainy (Figure 9.5). The latter type may also contain vugs with linings of white drusy quartz. In a few drill holes, silica-cemented breccias with silica fragments (after limestone) have been noted. Silicified areas, particularly the brown jasperoids, contain unoxidized pods with very fine-grained disseminated pyrite, and most contain gold.

Dolomitization. Medium-grained, dark-gray, massive dolomite after limestone has been noted along a number of fault zones. Dolomitization obliterates primary textures. Dolomitized rocks along fault zones often exhibit a distinctive “pebbly” texture suggesting brecciation. Dolomite alteration is also manifested in primary (diagenetic) dolomites as areas of light gray, medium gray and coarse white “zebra” dolomite. None of these types of dolomite alteration appears to be spatially related to gold mineralization.

Argillization. Within mineralized areas, mafic sills are “argillized” or clay altered. While sills outside of the mineralized areas are dark green and contain chlorite and muscovite, sills within and immediately adjacent to mineralized areas are bleached and are either white, orange, yellow or red in colour and appear to contain clay minerals. This argillic alteration may be primary and related directly to mineralization, or may be secondary and related to oxidation of pyrite.

The widespread presence of illite was recently confirmed in mineralized silty carbonate rocks and breccia matrix through analysis of core samples using a portable infrared mineral analyzer. The significance and distribution of illite has not yet been quantified.

Figure 9.5 Jasperoid



(Weakly brecciated, dark brown, vuggy jasperoid with hematite and drusy quartz in breccia matrix.)

Limonite. Yellow staining of decalcified or intact silty limestones, bedding planes, tectonic breccias, and (rarely) solution breccias is given the field name "limonite". Yellow, limonitic rocks typically occur in a "halo" over hematite zones, as well as intermixed with hematite. Limonite-only stained rocks rarely contain gold, but are usually anomalous in arsenic, and thus are generally a good indicator of nearby gold mineralization.

Hematite. Bright red-orange staining of decalcified silty limestones (Figure 9.6), bedding planes, tectonic breccias, and solution breccias (particularly matrix material) is interpreted, based on colour, to represent either hematite or goethite or both, and is here referred to as "hematite". Hematite is more strongly developed in the silty, decalcified laminae, and is strongly correlated with gold mineralization.

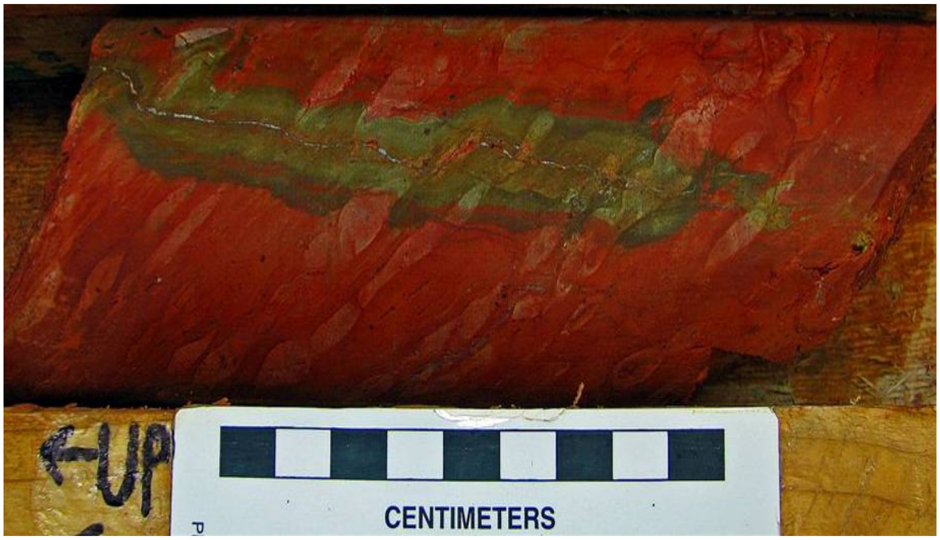
Hematite may have been derived from several sources, including:

- Oxidized wind-blown silt incorporated in shaly or silty limestones, particularly along bedding planes;
- Oxidized silt originating from the surface and deposited in karst caverns;
- Oxidized silt originating from weathering of silty limestones and ponding in surface karst areas ("*terra rosa*");
- Oxidized silt liberated from limestones through decalcification;
- Weathering of authigenic or hydrothermal pyrite; and
- Primarily hydrothermal processes (thought to be unlikely).

Figure 9.6 Hematite Alteration in basal Pogonip Group

Scorodite. Yellowish-green staining is observed along some fractures and fracture selvages and is sometimes coalesces into pervasive patchy alteration where fracture density is high. High concentrations of arsenic associated with this type of alteration, which overprints hematite alteration (Figure 9.7), suggests that it may be partly composed of scorodite ($FeAsO_4$-$2H_2O$). Scorodite is nearly always present in high-grade gold intervals.

Figure 9.7 Hematite Overprinted by Scorodite



Jarosite. Jarosite [$KFe_3(SO_4)_2$-$(OH)_6$] is massive, yellowish-brown, and is locally present in fractures, fracture selvages, and breccia matrix. The presence of jarosite was confirmed by analysis of core samples with a portable infrared mineral analyzer.

9.1.2 Veins

Quartz Veins. Quartz veining is relatively common throughout the drill area. Hairline quartz veinlets are ubiquitous in the Notch Peak dolomite, particularly near the margins of boudin blocks, such that they are diagnostic of dolomite in the field. Larger quartz veins (rarely up to one-metre thick) are present in both limestone and dolomite in fold axes, along high-angle faults, and occasionally along dolomite block margins. These quartz veins are generally relatively coarse grained, white, and are barren of sulfides.

Calcite/Aragonite Veins. Coarse calcite veins are relatively common throughout the drill grid. They tend to be small and erratic in orientation and shape. Coarse calcite also commonly cements dissolution breccia zones. Calcite veins are thought to be syn-, late-, and post-mineralization, related to decalcification and/or meteoric processes.

Aragonite veining is common locally, including an area approximately 1.5 kilometres southeast of the drill grid. Aragonite veins are white to pale yellow, comb-like, and range from 1 centimetre to (rarely) 20 centimetres in width. They appear to be relatively late and unrelated to mineralization.

10.0 EXPLORATION

Joint Venture exploration activities at Long Canyon include surface rock-chip sampling of road cuts, grid-based soil sampling, ridge-and-spur soil sampling, prospecting, a gravity survey, an IP/Resistivity survey, detailed mapping, and drilling. Exploration activities prior to the Joint Venture work (prior to May 2006, are described in Section 6.0. Joint Venture drilling is discussed in Section 11.0

10.1 Geologic Mapping

Geological mapping was conducted in 2006 by Coolbaugh (2006), primarily in the drill grid area. Mapping of contacts between the Notch Peak dolomite and overlying and underlying units was carried out using a sub-metre Trimble GPS unit with a base station. Mapping of road cuts in the drill grid area was carried out at a scale of 1 inch = 20 feet (1:240) and included the collection of information regarding bedding orientations, rock type, fracture orientation, and other data.

Geological mapping over a larger area in the central part of the Joint Venture Area of Interest was carried out on a part-time basis over a four-month period from June to September 2008 by Moira Smith. Contacts and structures previously mapped by AuEx were verified, and mapping was extended to other areas of the property. Approximately 1500 structural measurements, including bedding, foliation, joints, lineations, *etc*., were collected. Results of this work are discussed in Section 7.2.

10.2 Surface Sampling

In 2005 through 2006, 580 samples were systematically collected as three-metre chip channels on all road-cut exposures, including both unaltered and altered rock. In 2006, a total of 61 rock grab samples were collected in the course of mapping by Coolbaugh (2006) and analyzed for gold by fire assay and trace elements by ICP. Gold values returned by these samples were generally low, with the exception of samples in and around the existing drill grid. In addition, 507 road-cut channel samples on approximately three-metre intervals were collected in 2006, targeting primarily areas with visible alteration. This sampling clearly outlined surface mineralization in both the West Zone and the southern portion of the Discovery Zone, with samples ranging up to 21g Au/t and a discrete population of samples >8g Au/t (Moran, 2008.)

A total of 187 rock grab samples were collected in 2007 during prospecting traverses within the Joint Venture Area of Interest, and 198 road-cut channel samples were taken on approximately three-metre intervals from within the drill grid area. As with sampling in 2006, regional prospecting samples generally returned low values for gold, and road-cut channel sampling returned significant gold in hematite-altered road cuts.

A total of 345 rock chip samples from road cuts were collected in 2008; results are discussed in Fronteer press releases and the Fronteer corporate website (www.fronteergroup.com). The samples have variable lengths, most commonly three metres, and were collected as continuous chips across altered rock units in road-cut embankments. The visual guide to mineralization is oxidation of the rocks, exhibited as hematite staining and coatings on fractures. A total of 49 rock grab samples were collected in 2008, primarily during the course of a ridge-and-spur soil-sampling program.

Two grid-based soil-sampling programs were carried out at Long Canyon in 2008 that extended the existing (2000) soil grid to the north (990 samples) and south (153 samples). Samples were collected from C-horizon soil (there is relatively little development of A and B soil horizons at Long Canyon) and analyzed for gold by fire assay with AA finish and for other elements by ICP. Samples were taken at 61 metre by 61-metre intervals.

The combined 2000 and 2008 soil data show that gold forms a tight cluster in the area where mineralization is exposed on surface, with a few areas of interest to the south and southeast (Figure 10.1). Antimony highlights similar areas. Mercury forms a very tight pattern over exposed areas of the Long Canyon deposit. Arsenic has a distribution similar to antimony, with wide dispersion of low-level arsenic values observed around the deposit. Elevated arsenic is also seen in upper units of the Pogonip Group. Zinc is highest in the northwestern part of the soil grid, in the upper units of the Pogonip Group, and low in the deposit area. Lead shows a similar distribution pattern to zinc. Copper, iron, aluminum, and nickel are elevated immediately southeast of the deposit.

A ridge-and-spur soil sampling and prospecting program was carried out in October 2008. The purpose of the survey was to obtain baseline geochemical data for areas in the southwestern portion of the property that had not been sampled previously, to prospect some areas of interest identified during the 2008 mapping program, and to uncover new areas of alteration or mineralization. A total of 273 C-horizon samples were collected. A broad area of low-level anomalous arsenic is evident in the southwestern part of the project area, but gold is generally absent (Figure 10.1). A total of 30 grab and chip rock samples were collected concurrently with the soil samples in areas with hematite or other alteration; the samples contained only low levels of gold.

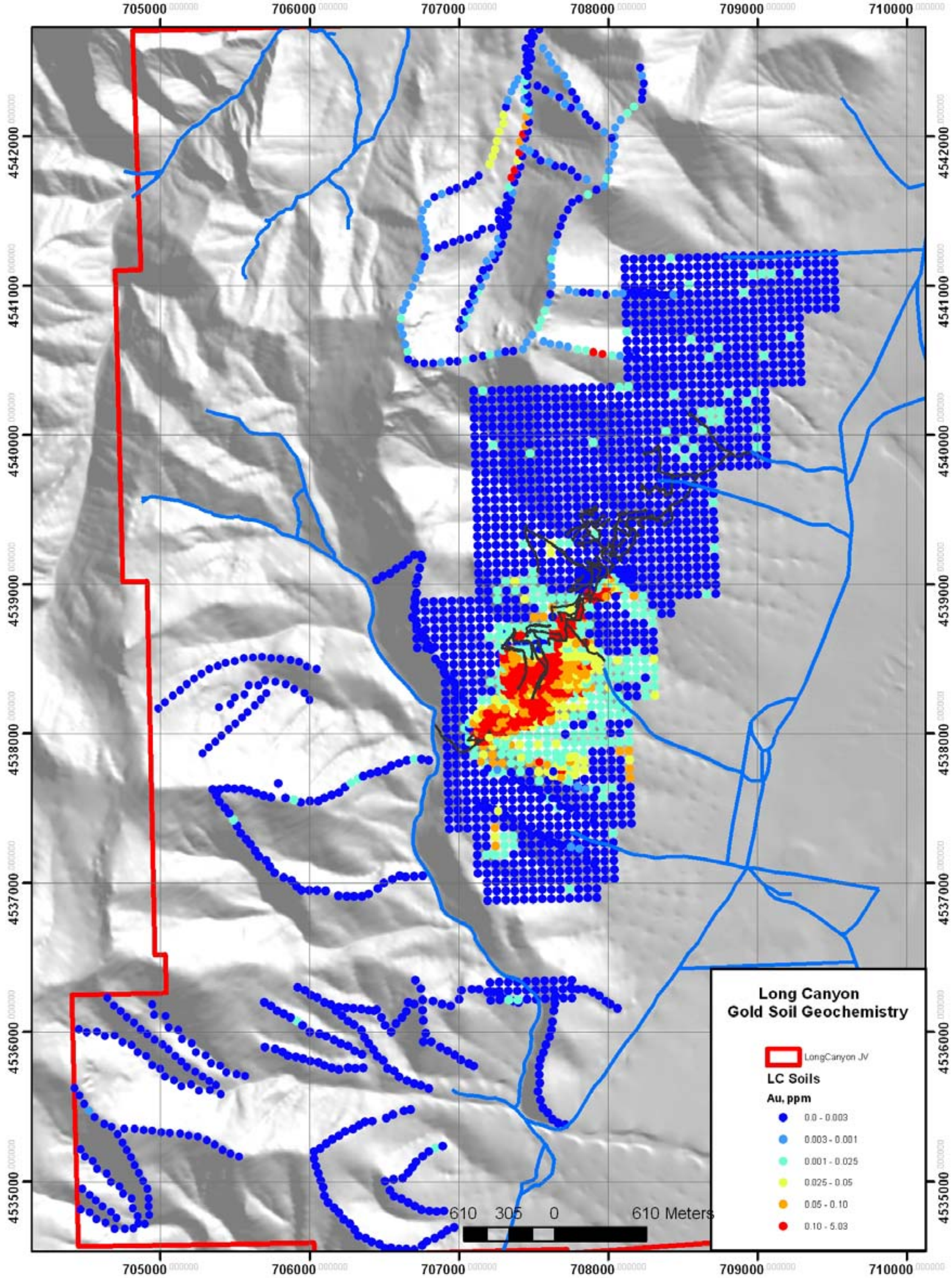
10.3 Geophysics

No geophysical surveys were carried out in either 2006 or 2007. Three ground-based geophysical surveys were completed in 2008, including a gravity survey carried out by Zonge Geophysical ("Zonge") and two IP/Resistivity surveys undertaken by Quantec Geoscience ("Quantec") and Zonge.

Gravity. A ground gravity survey was carried out by Zonge on a 100 metre by 100-metre grid that covered the northern half of the drill grid, as well as areas to the northeast. The reduced-to-pole total Bouguer anomaly map shows a gradient from relatively high gravity in the west to low in the east, consistent with the location of the survey on a mountain front adjacent to a gravel-filled, fault-bounded basin. Two roughly north-trending linear features evident on the horizontal gradient map are interpreted to be range-front faults. A first-vertical-derivative map delineates an additional steep gradient, as well as showing a northwest-trending fabric in the northern project area that may be evidence of northwest-trending faults.

Ground-based gravity surveys, at least on the scale carried out at Long Canyon, can identify large structures, but do not appear to be useful for identifying potential areas of mineralization.

Figure 10.1 Gold-in-Soil Results



<u>*IP/Resistivity*</u>. Two dipole/dipole IP/Resistivity surveys were carried out by Quantec (5 lines) and Zonge (10 lines) over the drill grid and areas to the northeast and southwest. Lines were oriented northwest-southeast and spaced 200 metres apart for the twelve southern lines and 300 metres apart for the three northern lines. The southern lines used an A-spacing of 125 metres in order to collect high-resolution data down to approximately 250 metres. An A-spacing of 150 metres was used on the northern lines to attempt to see deeper into the section. The data were subjected to a 2D inversion and presented on sections, with corresponding pseudo-sections, and plotted as a series of approximate depth maps in plan at 50-metre intervals from 100 to 300 metres.

The resistivity data show an abrupt break in the resistivity from high in the west to low in the east at approximately the same location as the steep gradient modeled in the gravity. This likely corresponds to the abrupt thickening of the basin fill that corresponds to the interpreted Basin and Range fault. Lower resistivity response is also evident along the western edge of the grid, corresponding to middle and upper Pogonip Group strata in the hanging wall of the major low-angle normal fault and stratigraphically above and to the west of the lower Pogonip Group strata in the northern part of the survey area. The most resistive areas correspond to Notch Peak strata exposed on surface; this response is more subdued to the north where the lower Pogonip Group is exposed on surface.

Modeled IP (chargeability) data show a more varied response than the resistivity data, the latter of which can be clearly tied to surface geology. An anomaly was detected in the extreme northwest part of the survey area, corresponding to surface exposures of the upper part of the Pogonip Group. Other anomalous areas were also identified.

Although the source of the IP anomalies is uncertain, there is a good correlation between mineralization and anomalous IP, as evidenced by the distribution of anomalies relative to drill-tested areas.

11.0 DRILLING

11.1 Summary

The Mineral Resources discussed in this report were estimated using the data provided by core and reverse-circulation drilling completed by Pittston, AuEx, and the Fronteer-AuEx Joint Venture.

Drilling at Long Canyon has been successful in defining potentially economic gold mineralization in numerous drill holes that have delineated four sub-parallel zones along a strike extent of approximately 1700 metres. The limits of the gold mineralization are not fully outlined and remain open along strike and at depth within the presently defined zones; there is also excellent potential for the discovery of new zones of mineralization.

A total of 231 drill holes have been completed at Long Canyon since 2000, for a total of almost 33,900 metres (Table 11.1); 164 of the holes were completed in 2008. Down-hole drill depths range from 30 to 300 metres, with an average depth of 147 metres. Drilling has been completed on a nominal 50-metre-spaced grid, with the drill sections oriented northwest-southeast.

Table 11.1 Long Canyon Mineral Resource Database Summary

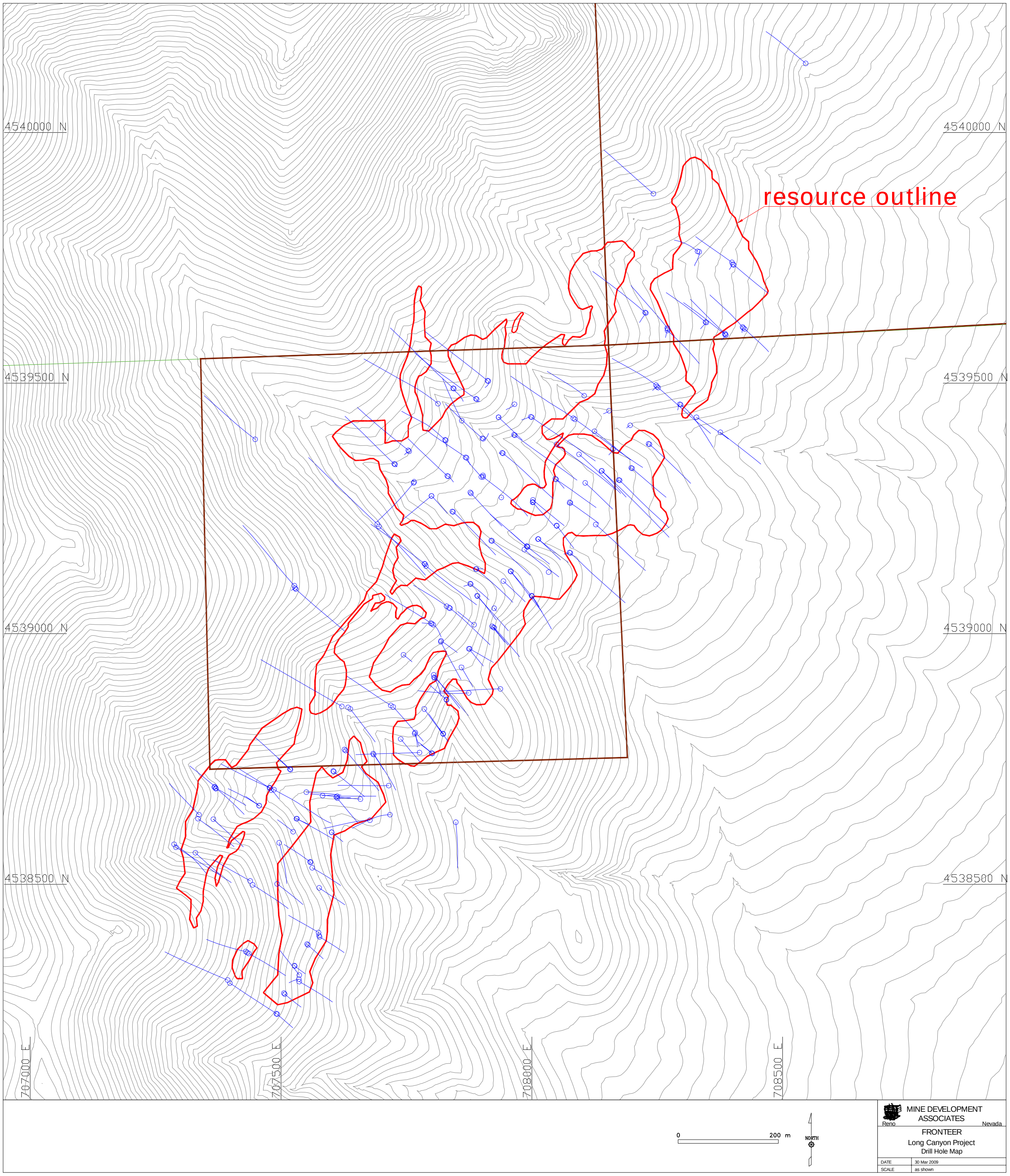
Company	Period	Hole Numbers	Core		RC		Total	
			No.	Metres	No.	Metres	No.	Metres
Pittston	2000	LC001 – LC007	-	-	7	1,147.57	7	1,147.57
AuEx	2005	LC008 – LC014	-	-	7	768.10	7	768.10
Fronteer-AuEx JV[1]	2006-2008	LC015 – LC229C LCMW3 & LCMW4	61	7,319.33	156	24,612.6	217	31,931.93
Totals			*61*	7,319.33	*170*	*26,528.27*	*231*	*33,847.60*

1. AuEx operated the Joint Venture drilling of LC015 to LC030, while Fronteer was the operator for all subsequent drilling.

The four mineralized zones at Long Canyon coalesce in various locations to form a continuous body of mineralization that plunges about ten degrees to the northeast. The mineralization has an apparent dip of five to ten degrees to the southeast in sections cut across the plunge direction, reflecting the control exerted by the upper and lower contacts of the dolomite boudin blocks. Internal to these deposit-scale geometries, boudin noses form subvertical controls to the mineralization that dip to the northwest or southeast depending on the boudin-termination facing orientation.

Drill-hole orientations vary somewhat at Long Canyon (Figure 11.1), due to both the early-stage nature of some of the holes, which were drilled before the geometry of the mineralization was understood, and the varying orientations of the controls to the mineralization. There are a relatively small number of holes that are therefore poorly oriented with respect to the mineralization encountered, which leads to exaggerated lengths of the down-hole intercepts. This is mitigated by the resource modeling techniques employed, which constrain all intercepts to lie within explicitly interpreted domains that appropriately respect the geologic controls.

Figure 11.1 Long Canyon Drill-Hole Location Map



11.2 Pittston 2000 Drilling

Eklund Drilling Company, Inc. of Elko, Nevada ("Eklund"; recently acquired by Boart Longyear Drilling of Elko, Nevada) was the drill contractor and used a Drill Systems MPD 1500 track rig for the seven Pittston RC holes. The drill logs indicate that the hole diametres were 5 inches (13cm).

11.3 AuEx 2005 Drilling

The RC drilling contractor used by AuEx in 2005 was Layne-Christensen Company ("Layne-Christensen"), who drilled 5 ¼-inch (13.3 centimetres) diametre holes using a Foremost Prospector W-750 buggy rig. Stratex six-inch (15 centimetres) surface casing was used for all of the holes to depths ranging from three to six metres.

11.4 Fronteer-AuEx Joint Venture 2006-2008 Drilling

The RC drilling contractor used by Fronteer in 2006 and 2007 was Layne-Christensen, while Eklund drilled the 2008 RC holes. Small samples of the RC cuttings from each sample interval were washed and put into numbered chip trays for logging. the RC chips were logged on-site into a custom-designed Excel spreadsheet for the project. Logging was aided by use of a binocular microscope. Data recorded included dominant lithologies, colour, alteration characterization, dominant structural evidence (brecciated, fault gouge), veining type, and density.

The core-drilling contractor for the six core holes drilled in 2007 was DOSECC Inc of Salt Lake City, Utah. The 2008 core holes were drilled by Major Drilling America, Inc. of Salt Lake City, Utah and Elko, Nevada. All Long Canyon core holes were drilled with HQ-sized core (6.4-centimetre diametre). The core was logged directly into digital files by Fronteer geologists. The digital logs included fields for rock type, colour, alteration, mineralization, and structural data, with a separate log for breccia descriptions. Rock Quality Designation ("RQD") was also captured in the logs. The logs capture data largely in numerical or letter code format. Completed logs were imported into an Access database.

11.5 Drill-Hole Collar Surveys

The drill-hole collars have been surveyed at different times by different contractors. In an effort to standardize the survey data, the collars from all holes that could be identified in the field were surveyed at the end of the 2008 drilling program by All Points North Surveying and Mapping of Elko, Nevada ("All Points North"). Although the collars are marked in the field after completion with a cement plug, wire, and metal tag, subsequent traffic on the drill pads destroyed the evidence of the collars in some cases.

The 2008 survey program was completed using a geodetic survey-grade Trimble 4000-series GPS receiver with a base station for real-time correction. Accuracy of the measurements is ±2 centimetres in the X and Y directions and ±3 centimetres in the Z direction.

A total of 34 holes in the sequence LC001 through LC067C could not be located and surveyed by All Points North. The older survey data therefore remains in the project database, including 27 holes surveyed by M Coolbaugh (AuEx project geologist) in September 2007 using a Trimble backpack GPS unit with sub-metre accuracy (although drill collars for LC007, 010, 011, 013, 014, and 027 through 030 could not be found and therefore were approximately located), five holes (LC031 through 036) surveyed by Carlin Trend Surveying of Elko, Nevada using a Trimble GPS with differential correction (sub-metre accuracy), and two holes (LC063C and 067C) surveyed by project geologists using a standard handheld GPS receiver (±15 metres accuracy). All stated accuracies assume proper techniques employed in open areas with uninhibited access to satellites; accuracies were obtained from www.kowoma.de/en/gps/accuracy.htm. Accuracies in the z direction may be greater than stated.

11.6 Down-Hole Surveys

All Pittston and Fronteer holes, except LC032, 049, 052, 057, 062C, 066C, 085, 126, and 169C, have down-hole survey information in the database. Down-hole surveys for the holes drilled by Pittston (LC001 through LC007) were completed by Silver State Surveys, Inc.; the survey equipment used is not known. Fronteer holes were surveyed using a Surface Reading Gyroscope by International Directional Services of Elko, Nevada. No down-hole surveys were conducted on the AuEx holes (LC008 through LC014), although averaged deviations were added to the database.

12.0 SAMPLING METHOD AND APPROACH

The Long Canyon database includes assay data from both RC and core drill holes. MDA believes that the RC and core sampling procedures provided samples that are sufficiently representative and of sufficient quality for use in the Mineral Resource estimation discussed in Section 17.0. While RC down-hole contamination does present a sample integrity issue in some holes, MDA believes techniques employed during resource modeling have adequately addressed the problem, as discussed below.

12.1 Surface Sampling Methods

Rock chip sampling was conducted as random chip sampling, random grab sampling of selective rock outcroppings, and continuous chip samples along the outcrop or road-cut exposures. Various sample intervals were used, although three-metre samples were standard for road cut chip sampling.

12.2 Drill Sampling Methods

Pittston. The following description of the Pittston RC sampling procedures is taken from the Long Canyon technical report prepared for AuEx (Moran, 2008).

The former Pittston drill project coordinator, RC drill samples were collected at 5 foot (1.524 metres) intervals by Pittston staff as splits from a rotary wet splitter attached to the cyclone sample-collector discharge. Secondary splits of the RC samples were not collected.

AuEx. AuEx used sample collection procedures similar to those described above for Pittston (pers. comm., Eric Struhsacker, US Exploration Manager for AuEx, 2009).

Fronteer. The Fronteer RC drilling was completed with the injection of water to reduce dust at the drill site for health reasons. Samples of RC cuttings were collected every 1.524 metres after passing through a rotary wet splitter. The split samples weighed approximately 4.5 to 9 kilograms.

After logging of the drill core at the Fronteer field office at the Big Spring Ranch, the core was marked for cutting, photographed, and transported by Fronteer personnel to Elko. The sample interval was nominally 1.5 metres unless geological contacts dictated otherwise; sampled intervals vary from 0.15 to 3.048 metres and average 1.40 metres. The marked core was cut into halves with a diamond saw by American Assay Laboratories until mid-2008, when a core cutting facility at the Fronteer field office in Elko was put into service. Half-core samples were sent for assaying.

Long Canyon core holes have average core recovery and rock quality designation (“RQD”) values of 97% and 43%, respectively. Including only those intervals coded to the mineral domains used in the resource estimation (Section 17.0), these averages change to 98% and 47%, respectively.

Gold grades composited over the recovery and RQD intervals are compared to the geotechnical data within the modeled mineral domains in Figure 12.1 and Figure 12.2.

Figure 12.1 Core Recovery *vs.* Gold Grade

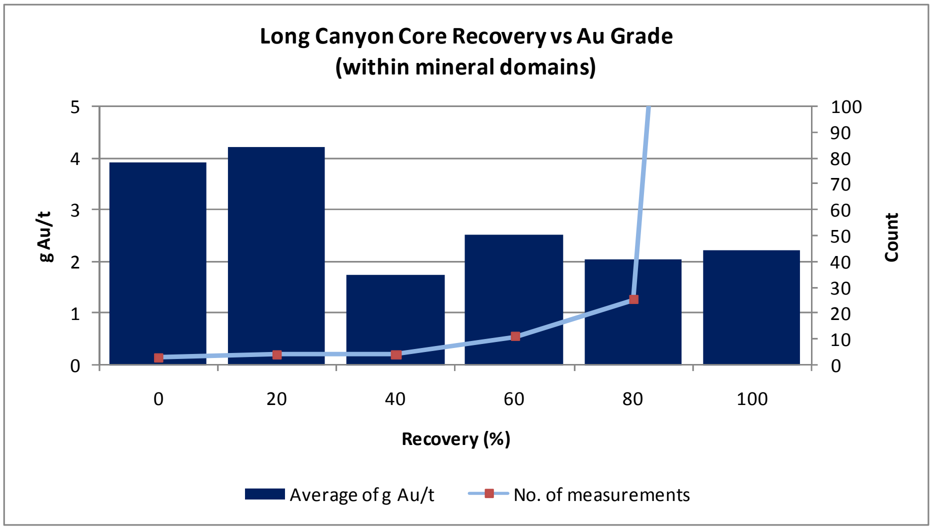
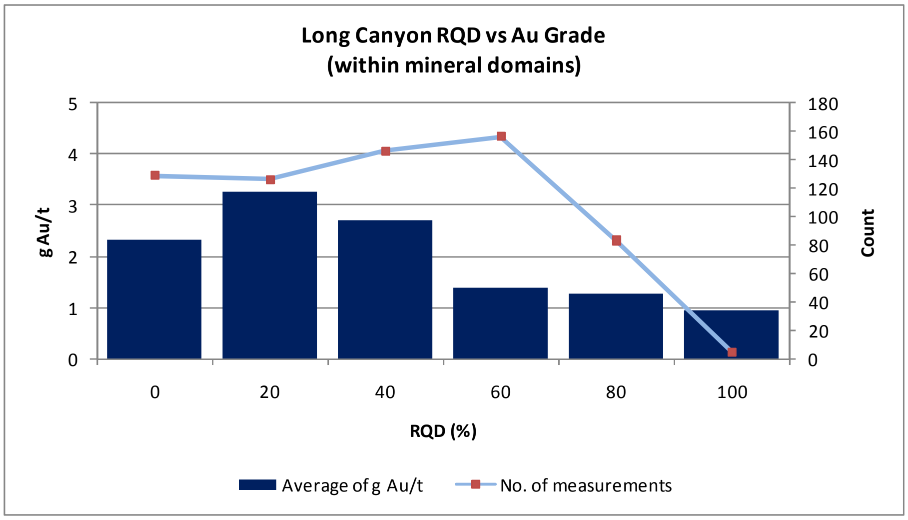


Figure 12.2 RQD *vs.* Gold Grade



It is difficult to conclude there is any correlation between core recovery and gold grade, as too few of the 645 drill intervals within the mineral domains have recoveries lower than the 80 to 100% bin. There is a strong relationship between higher gold grades and lower RQD values, however (Figure 12.2). This negative correlation between gold and RQD is not surprising, as higher gold values at Long Canyon often occur within solution collapse breccias, which tend to be more broken than relatively weakly mineralized limy units.

12.3 Reverse-Circulation Sample Contamination

Due to the nature of RC drilling, the possibility of contamination of drill cuttings from intervals higher in the hole is a concern, especially when groundwater is encountered or fluids are added during drilling. Only one hole intersected groundwater at Long Canyon, but water was injected during the drilling of all of the Fronteer RC holes and at least some of the AuEx and Pittston holes.

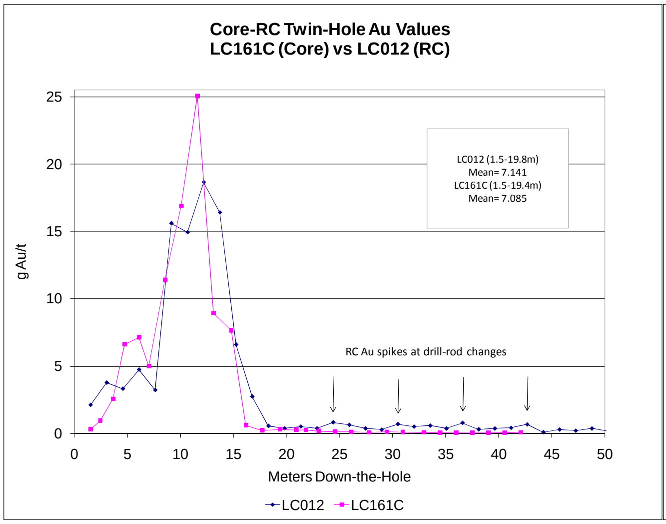
Down-hole contamination can sometimes be detected by careful inspection of the RC drill results in the context of the geology, by comparison with adjacent core holes, and by examining down-hole grade patterns.

A number of the Long Canyon RC holes clearly exhibit cyclic down-hole patterns in the gold assays. These are detected by examining the gold results of each set of four samples derived by the drilling of the same 20-foot (6.1 metres) drill rod. In a classic case, the first sample of the drill rod will have the highest grade, while the following three samples will gradually decrease in grade. This classic 'decay' pattern in grade is caused by the accumulation of mineralized material (present at some level higher in the hole) at the bottom of the hole as the drilling pauses and a new drill rod is added to the drill string. When drilling resumes, the first sample has the greatest amount of contamination, and the successive samples are gradually 'cleaner' as the accumulated contamination is removed and the continuing contamination experienced during the drilling is overwhelmed by the material being drilled. This decay pattern is usually possible to detect only while drilling barren or very weakly mineralized rock. Even in cases where this cyclic gold contamination is of such low grade as to have minimal impact on resource estimation, its presence suggests that similar, and possibly more serious, contamination is occurring higher in the hole within mineralization, where the contamination is impossible to recognize.

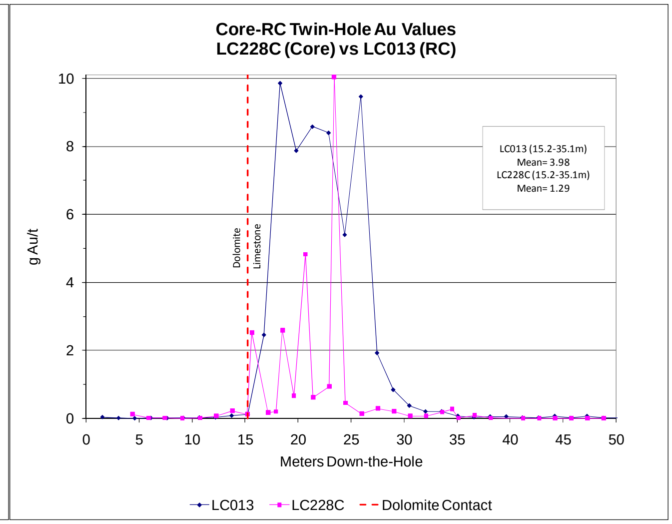
The geologic context can also be used to detect contamination. The dolomite boudins themselves are only locally mineralized, with mineralization usually restricted to brecciation in and around the boudin noses. Highly mineralized intersections within the dolomite boudins that lie immediately down-hole of strong mineralization in the limestones in contact with the boudins must therefore be considered as possible candidates for contamination.

There are six sets of RC-core twin holes at Long Canyon, which are compared in Figure 12.3. These graphs show the down-hole gold plots for each hole in the twin set, as well as the dolomite/limestone contact, where applicable, and mean-grade comparisons of pertinent intervals. The collar elevations of some of the twin sets were adjusted so that both holes intersected the dolomite contact at the same down-hole depth in order for the graphical comparisons to match more closely.

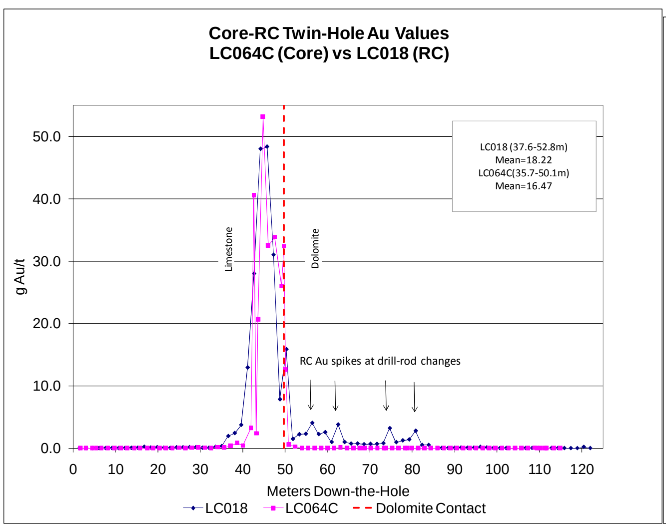
Figure 12.3 RC-Core Twin-Hole Comparisons



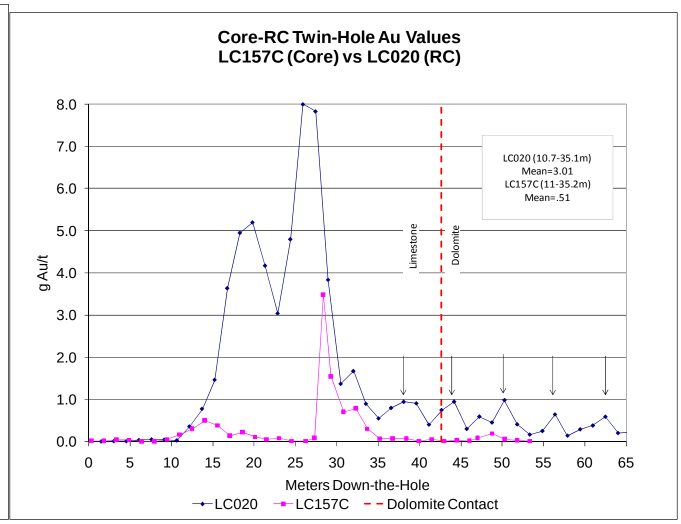
(a)



(b)

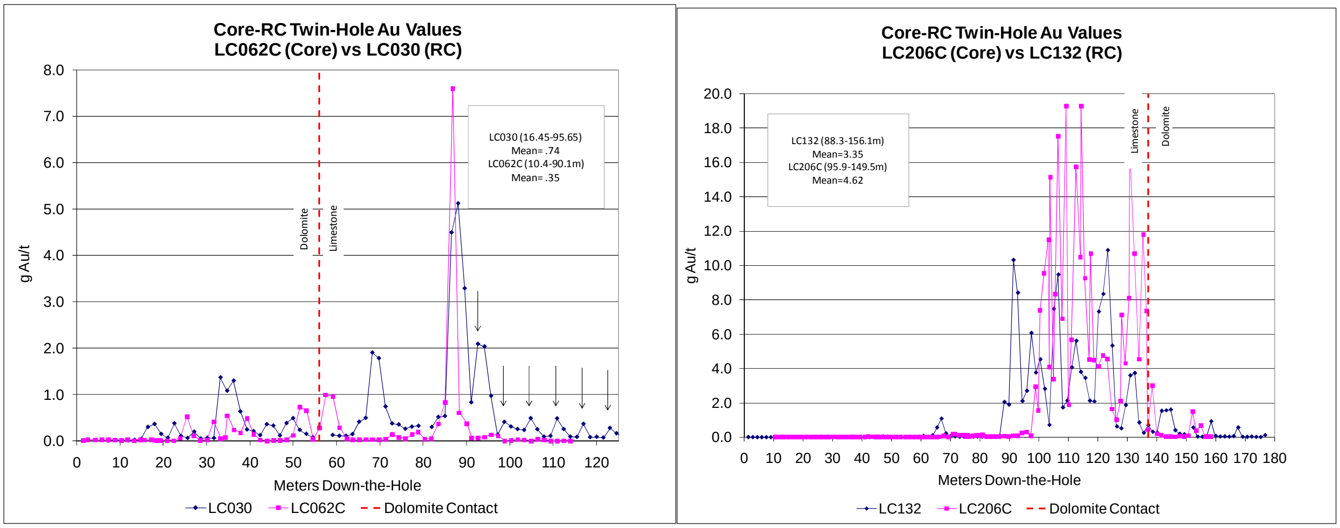


(c)



(d)

Figure 12.3 RC-Core Twin-Hole Comparisons, cont.



(e) (f)

Four out of the six twin sets have clear down-hole cyclic patterns in gold values in the RC holes that correlate with rod changes (as shown by arrows on the graphs), without corresponding patterns in the core holes. In every case, these patterns initiate immediately down-hole of significant gold mineralization, which is the obvious candidate as the source of the contamination. The cyclic patterns in three of the RC holes occur within the dolomite boudins. The suspect gold values within the cyclic patterns spike above the resource cutoff of 0.3g Au/t in all cases, with the values in LC018 spiking to 4g Au/t.

Two twin sets have significant grade variations between the RC and core holes: LC013 - LC228C and LC020 – LC157C. The angles of the holes in the former pair differ by 10˚, and the latter pair intersects the mineralized limestone/dolomite contact at very shallow angles, which in both cases could have led to the sampling of differing geology. Excluding these pairs, as well as the intervals exhibiting the cyclic patterns in the remaining twin pairs, the mean gold grade of the RC holes compares well with the mean of the core holes for the selected intervals selected (Table 12.1).

The twin-hole data, in addition to careful inspection of all of the RC gold data, have clearly identified down-hole contamination of gold in a portion of the Long Canyon RC drill samples that is material to resource estimation. In recognition of this, the mineral domain modeling used in the resource estimation described in Section 17.0 has excluded the mineralized samples suspected of being contaminated. It should be noted that the identification of suspect assays is interpretational; MDA believes it is possible that some excluded mineralization is 'real', and is sure that some mineralized samples included in the resource estimation are affected by contamination.

Table 12.1 Statistical Comparison of RC-Core Twin Holes

CORE - RC TWIN HOLES							
Twin Sets	**Type**	**Collar Separation (m)**	**From (m)**	**To (m)**	**Interval (m)**	**g Au/t**	**Difference**
LC062C	Core	4.00	10.40	90.10	79.70	0.35	111.4%
LC030	RC		10.70	89.90	79.20	0.74	
LC064C	Core	3.60	35.70	50.10	14.40	16.47	10.6%
LC018	RC		35.10	50.30	15.20	18.22	
LC161C	Core	2.70	1.50	19.40	17.90	7.085	0.8%
LC012	RC		1.50	19.80	18.30	7.140	
LC206C	Core	2.00	89.00	149.70	60.70	4.620	-27.5%
LC132	RC		88.30	149.30	61.00	3.350	
All	*Core*				*172.70*	*3.893*	*-0.8%*
All	*RC*				*173.70*	*3.860*	

13.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

The analytical laboratories used by Pittston, AuEx, and Fronteer (American Assay Laboratories and ALS Chemex), as well as the analytical procedures used by the laboratories to obtain the gold assays for Long Canyon, are well recognized and widely used in the minerals industry.

13.1 Sample security

The Pittston RC samples were transported by Pittston personnel to a staging area at the project site. AuEx and the Fronteer-AuEx Joint Venture left their RC drill samples at the drill-site locations. In all cases up to November 2008, American Assay Laboratories of Sparks, Nevada ("AAL") picked up the drill samples and transported them to their sample preparation facility in Elko, Nevada. Joint Venture RC samples generated after 2008 were picked up by either AAL or ALS Chemex of Reno, Nevada ("Chemex"). Some of the coarse rejects from the Pittston drill samples were retained by Pittston and are now in the possession of Fronteer.

Joint Venture HQ core samples were collected at the drill site by Fronteer personnel and transported to a secure trailer at Big Spring Ranch, where the core was logged, marked for sampling, and photographed. The core was then transported by Fronteer to the AAL preparation facility in Elko for sawing, sampling, and sample preparation until mid-2008. Core boxes with the remaining half core were transported by Fronteer from the AAL facility to Fronteer's secure warehouse in Elko. In the latter half of 2008, Fronteer brought the core from the on-site trailer to their secure office in Elko, where the core was cut and sampled before transport by Fronteer personnel to the Elko sample preparation facilities of either AAL or Chemex. The remaining half core is retained by Fronteer in Elko.

Following preparation of the drill samples in the Elko labs, AAL and Chemex shipped the sample splits to their facilities in Sparks and Reno, respectively, for assaying.

Joint Venture coarse rejects from drill samples analyzed by AAL or Chemex currently reside at Fronteer's Elko warehouse. Pulps generated prior to hole LC-068 are stored at Fronteer's warehouses in Reno or Elko, Nevada, while pulps generated subsequent to LC-068 are stored at Fronteer's Elko warehouse.

13.2 Sample Preparation and Analysis

Until November 2008, all samples generated from surface sampling and drilling programs at Long Canyon were prepared and analyzed by AAL. Beginning in November 2008, core samples and some RC samples were sent to Chemex for sample preparation and analysis due to a significant backlog at AAL's Elko sample preparation laboratory.

All samples submitted for assaying were analyzed for gold and the majority of holes have samples with multi-element ICP analyses (30, 69, or 72 elements). AAL and Chemex employed standard sample preparation procedures that included crushing the entire sample to 8 to 10 mesh and splitting the material to 1/8 to 1/16 volume in a riffle splitter. The splits were pulverized to nominal 150 mesh. The standard gold assay for the Long Canyon drill samples used a 30-gram charge fire assay with an atomic absorption spectroscopy ("AAS") finish. AAL and Chemex standard assays that returned values of 10g Au/t or higher were re-analyzed by fire assay with a gravimetric finish on all samples.

AAL and Chemex also completed cyanide-soluble analyses on most samples with reported values of about 0.3g Au/t or higher. AAL placed 30.0 ± 0.1 grams of sample pulp into a 150-millilitre bottle with 60.0 ± 0.1 millilitres of 0.30% NaCN. The bottles were tumbled end over end for 60 minutes at room temperature. After allowing it to settle for two hours, the solution was analyzed for gold by AAS with a background correction. Chemex used their "Au-AA13" analytical method. A nominal 30 grams of sample pulp was continually rolled and leached for one hour at room temperature in a 60-millilitres solution of 0.25% NaCN, maintained at a pH of 11 to 12. Gold was analyzed by AAS.

Select pulps from 25 sample intervals from the 2008 drilling were analyzed by AAL by standard fire-assay methods on +150 mesh and -150 mesh screen-size fractions (known as "metallic sieve" or "screen-fire" analyses).

14.0 DATA VERIFICATION

14.1 Fronteer-AuEx Joint Venture Quality Assurance/Quality Control Results

The Joint Venture Quality Assurance/Quality Control ("QA/QC") program included analyses of standard reference materials ("standards"), blanks, field duplicates, and duplicate pulps, as well as check assays by umpire laboratories. The program was designed to ensure that at least one standard, blank, *or* field duplicate was inserted into the drill-sample stream for every 44 drill samples, which are the number of Joint Venture samples in each AAL analytical batch. In practice, the insertion rates for the QA/QC samples were somewhat higher.

Certified Standards. Standards are used to evaluate the analytical accuracy and precision of the assay laboratory during the time the drill samples were analyzed.

Fronteer acquired four certified reference standards from Rocklabs of Aukland, New Zealand, and one from Minerals Exploration and Environmental Geochemistry of Reno, Nevada ("MEG") for use in their Long Canyon drilling programs (Table 14.1). These standards have a range of certified gold values that is representative of the deposit. In addition, three standards created by Pittston were also used early in the project (Table 14.2). Pittston contracted AAL to prepare standards from RC rejects from holes drilled at a project on the western side of the Pequop range. These standards did not undergo round-robin testing by multiple laboratories, and the accepted values are not certified.

The standards were assigned sample numbers in-sequence with their accompanying drill samples and were inserted into the drill-sample stream of most holes from LC042 through to the last hole drilled as of the date of this report, LC229C. MDA compiled 585 analyses of these standards, which were inserted into the sample sequence of all except four of the holes drilled by the Joint Venture, which equates to an insertion rate of one standard for every 35 drill samples (there are a total of 20,624 drill-sample assays for these holes in the resource database). Most of the analyses were completed by AAL, although Chemex analyzed drill samples and the accompanying QA/QC samples from some of the later holes.

Table 14.1 Certified Standards – Joint Venture Program

Standard	Standard Source	Certified Value (g Au/t)	Standard Deviation
OxE56	Rocklabs	0.611	0.015
OxJ64	Rocklabs	2.366	0.079
OxN62	Rocklabs	7.706	0.117
OxP61	Rocklabs	14.92	0.35
SRM 0.55	MEG	0.524	0.026

Table 14.2 Uncertified Standards – Joint Venture Program

Standard	Standard Source	Accepted Value (g Au/t)	Standard Deviation
PQ-2	Pittston	3.07	0.16
PQ-4	Pittston	3.64	0.43
PQ-10	Pittston	10.1	0.96

The following discussion of the standard results includes graphical representations of the data. These graphs show the dates of the assay certificates ordered along the x-axis, the gold grade of the standard assays on the y-axis, the certified or accepted values of the standards as red lines, and ± two and ± three standard-deviation limits of the standards as blue and green lines, respectively. AAL analyses are shown as blue dots, while Chemex analyses are yellow dots.

In the case of normally distributed data (note that most assay datasets from metal deposits are positively skewed), 95% of the standard analyses should lie within the two standard deviation limits of the certified/accepted value, while only 0.3% of the analyses should lie outside of the three standard deviation limits. As it is statistically unlikely that two consecutive samples would lie outside of the two standard deviation limits, such samples are considered failures unless further investigation proves otherwise. All samples outside of the three standard deviation limits are considered to be failures. Failures should trigger laboratory notification of potential problems and a re-run of all samples included with the failed standard result.

The 448 assays from the Rocklabs standards are presented in Figure 14.1. These standards were submitted with samples from all holes in the sequence LC068 through LC229C, as well as LCMW3 and LCMW4.

Figure 14.1 Rocklabs Standard Results

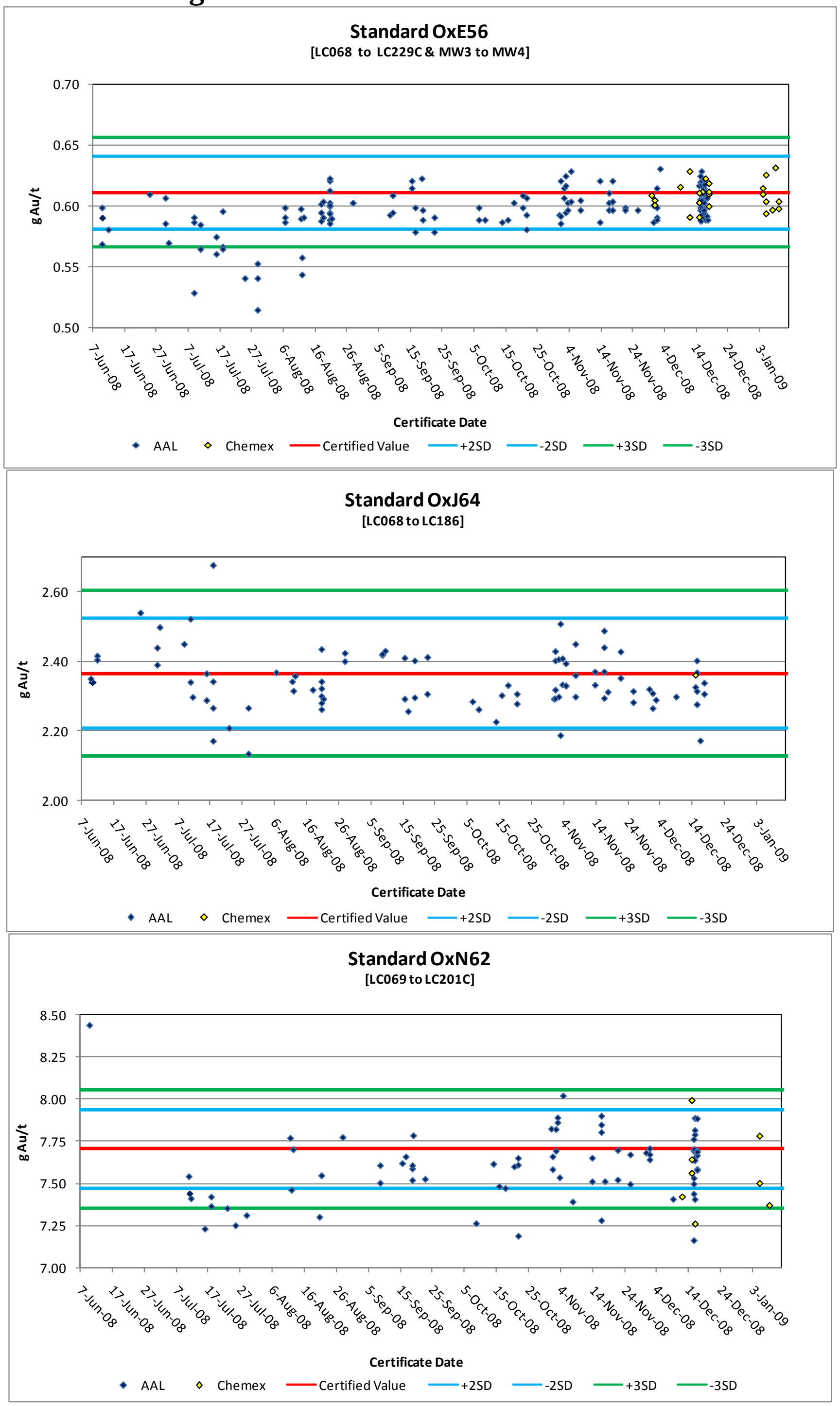
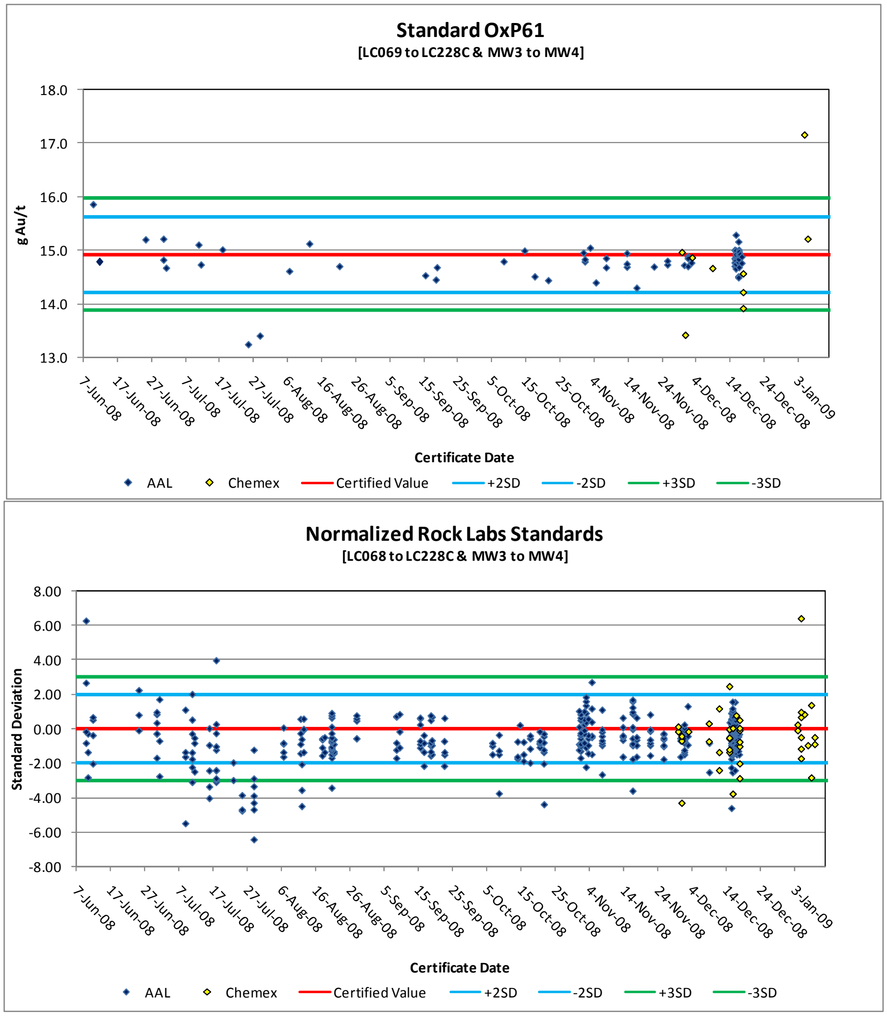


Figure 14.1Rocklabs Standard Results, cont.



The AAL results for standard OxE56 have a clear low bias with respect to the certified value from the initiation of its use through to October 2008, while a slight low bias is evident after October 2008. The overall mean of the AAL analyses is 2.5% lower than the certified value. Twelve results lie outside of the three standard deviation limits, although four lie just outside of the three standard-deviation limits; all of these failures occurred in the period of July through August 2008. All of the jobs including these failures were rerun. The mean of the Chemex analyses of the OxE56 standard is 0.5% lower than the certified value, with no failures.

Although the mean of the AAL analyses of standard OxJ64 is only 0.9% lower than the certified value, a pattern can be discerned in the plot (Figure 14.1), whereby the data points define a serpentine relationship with respect to the certified value. Although the certified values of OxE56 and OxJ64 are quite different, the variations between the AAL analyses and the certified values over time are very similar. One AAL analysis of OxJ64 is a failure, and the job was rerun. One Chemex sample (7.49g Au/t) is removed from the graph due to a presumed misidentification problem (likely OxN62). The single remaining Chemex analysis of this standard is almost identical to the certified value.

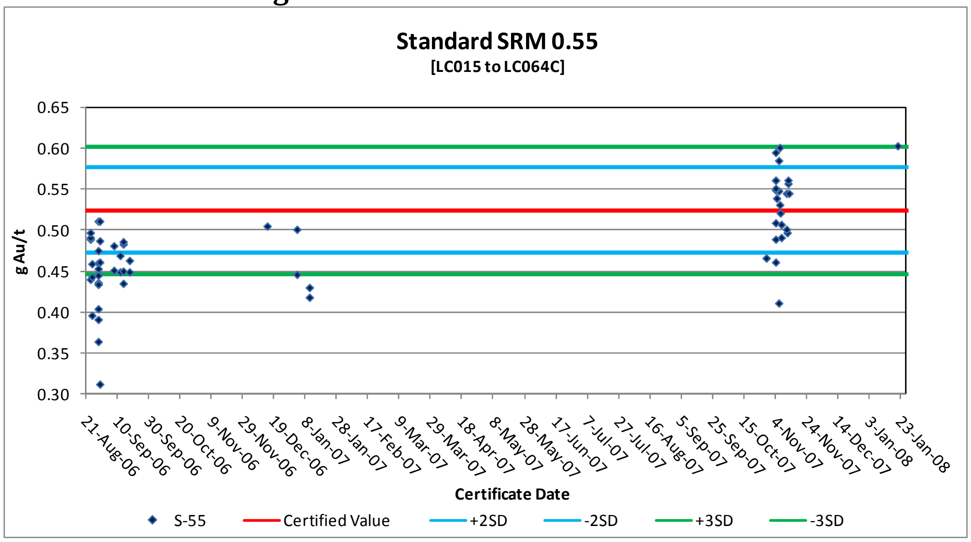
There are ten AAL failures for standard OxN62. Six of the failed assay jobs were rerun; the job for one of the other failures was not rerun due to low grades in the drill samples. The mean of the AAL analyses is 1.3% lower than the certified value. There are only eight Chemex analyses of the standard, one of which was a failure (the job was not rerun).

The AAL analyses of standard OxP61 average 1% lower than the certified value. The nine Chemex analyses also average about 1% lower than the certified value. There are two failures each for the Chemex and AAL standards; two of the jobs that include the failures were rerun.

In order to examine all of the data simultaneously, the AAL and Chemex analyses were normalized based on their position relative to the certified values, expressed in standard deviation units (see final graph of Figure 14.1). The standard analyses have a suggestion of a serpentine pattern, which evidences some analytical drift in the AAL analyses over the time period of the Joint Venture analyses. The 405 AAL analyses of the standards exhibit a slight low bias overall; the standard assays average 0.7 standard deviation units below the normalized certified value. The analyses were particularly low, with many failures, mid-July to the end of the month (six holes within the sequence of LC071 through LC094). The 42 Chemex analyses (excluding the one analysis that was likely mislabeled) average 0.4 standard deviations below the normalized certified value.

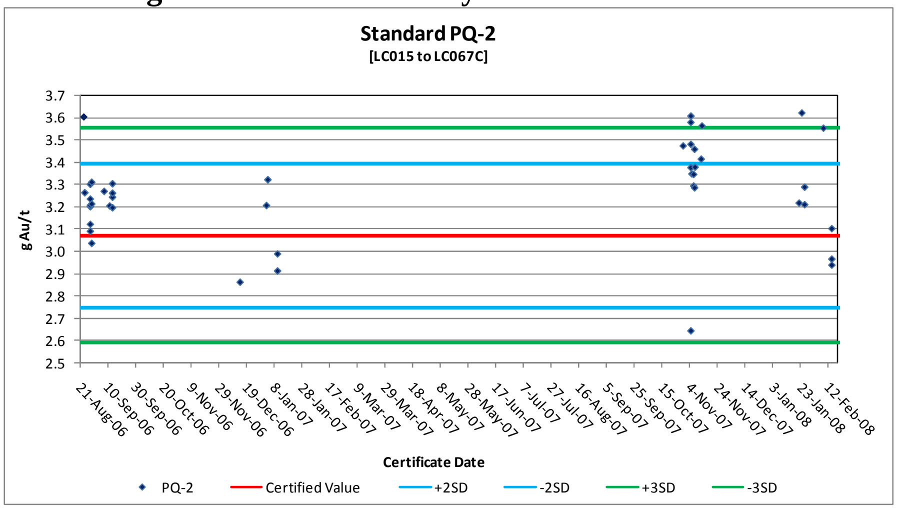
There are 64 analyses of the MEG standard, which was inserted with the drill samples from 40 holes within the sequence LC015 through LC064C (Figure 14.2). Excluding one 3g Au/t analysis, which is likely a misidentified standard, the mean of the AAL standard assays is 0.5% lower than the certified value. This is entirely due to analyses of standards submitted with holes LC015 through LC037 (August 2006 through January 2007), however, as all of these analyses are lower than the certified value, with numerous failures. MDA has no evidence that any of the failures triggered re-assaying of the accompanying drill samples.

Figure 14.2 MEG Standard Results



Uncertified Standards. A total of 73 AAL analyses of the three Pittston standards accompany drill samples from holes 47 holes in the sequence LC015 through LC067C (Figure 14.3). Seven of the analyses are failures, one of which triggered re-assaying of the associated drill samples. The results for standards PQ-2 and PQ-4 average 6% and 2% higher than the certified values, respectively; there are insufficient analyses of PQ-10 for meaningful comparisons. When considering the results of the Pittston standards, it is important to remember that the standards did not undergo round-robin testing and are not certified.

Figure 14.3 Pittston Analytical Standard Results



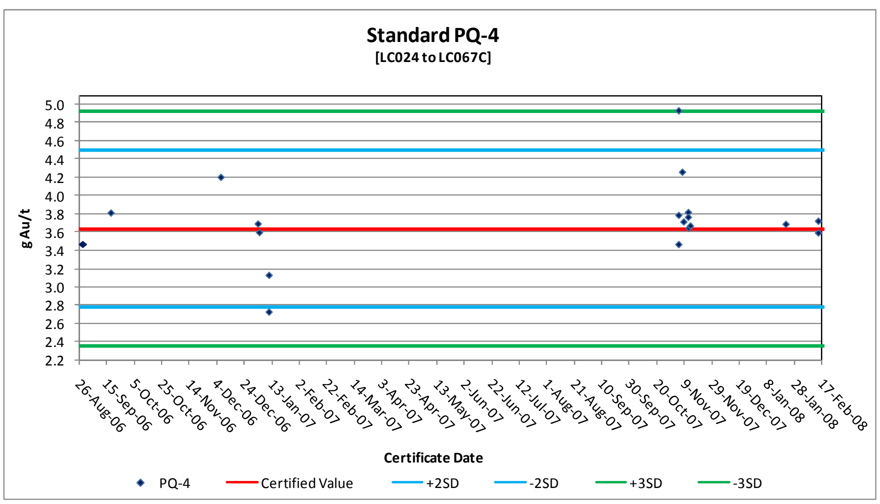
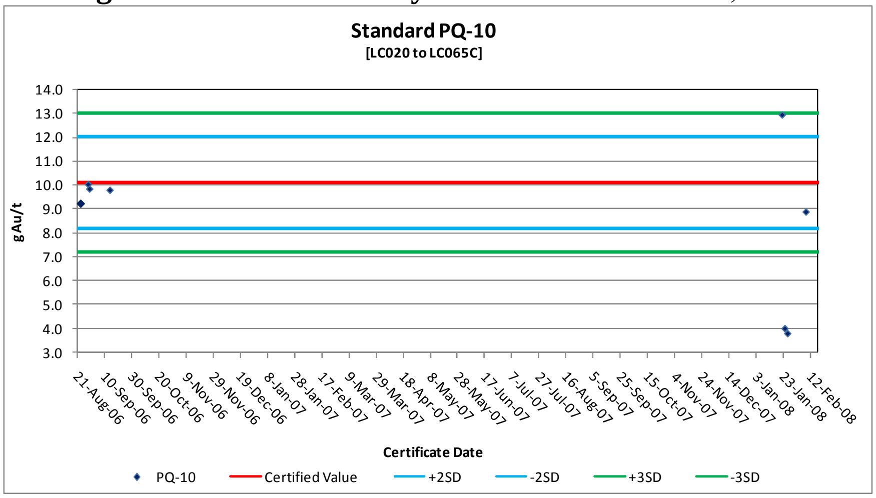


Figure 14.3 Pittston Analytical Standard Results, cont.



Fire-Assay Pulp Checks. A total of 393 original AAL pulps were sent to Chemex for check assaying of the fire-assay gold determinations. The pulps were derived from drill samples from 113 of the holes in the sequence LC031 through LC220.

Figure 14.4 is a graph that shows the difference, plotted on the y-axis, of each check assay relative to the original assay. The x-axis of the graph plots the means of the paired data, with each pair consisting of an original-assay and the corresponding check assays. The red line is a moving average and provides a visual guide to the trend of the relative differences. The graph shows high variability in the data up to about 0.09g Au/t, which is expected due to the lack of analytical precision at lower gold concentrations. The check assays compare well with the original assays at higher grades.

Descriptive statistics of the paired data are summarized in Table 14.3. The check assays compare very well with the original assays throughout a range of cutoffs.

Figure 14.4 Chemex Checks Relative to Original AAL Assays

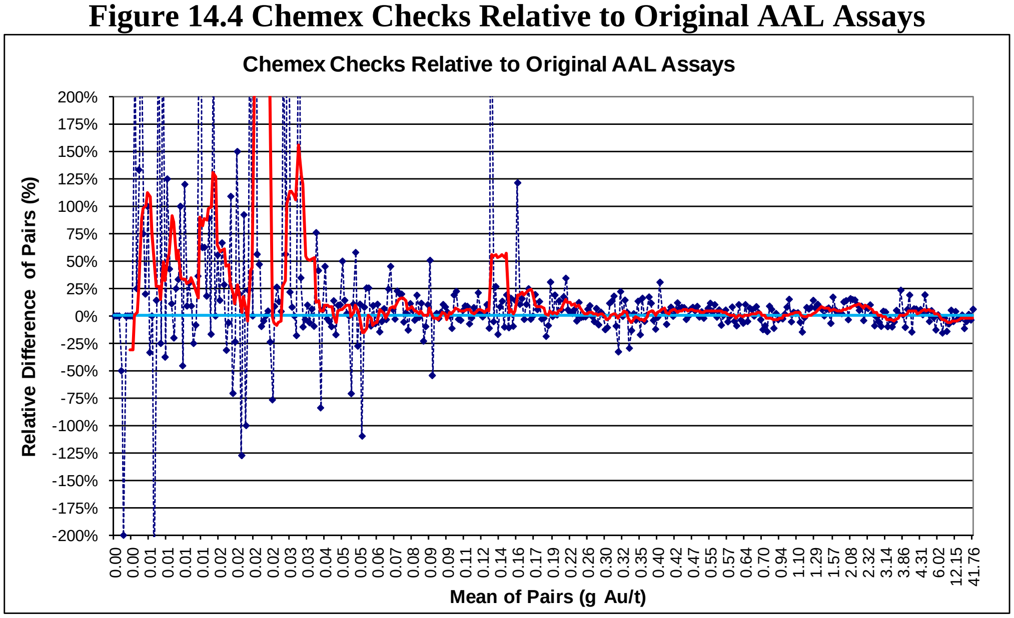


Table 14.3 Chemex Checks *vs.* AAL Original Assays

All Pairs	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	393	393	393		393	393
Mean	1.189	1.192	1.198	1%	19%	31%
Std. Dev.	3.324	3.332	3.358			
CV	2.795	2.796	2.802			
Min.	0.002	0.002	0.002	0%		0%
Max.	41.765	40.529	43.000	6%		1850%

Mean ≥0.2	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	192	192	192		192	192
Mean	2.371	2.379	2.388	0%	2%	7%
Std. Dev.	4.464	4.474	4.512			
CV	1.883	1.881	1.889			
Min.	0.206	0.173	0.206	19%		0%
Max.	41.765	40.529	43.000	6%		34%

Mean ≥0.5	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	125	125	125		125	125
Mean	3.464	3.479	3.488	0%	2%	7%
Std. Dev.	5.219	5.228	5.278			
CV	1.507	1.503	1.513			
Min.	0.514	0.498	0.523	5%		0%
Max.	41.765	40.529	43.000	6%		24%

Mean ≥1.0	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	86	86	86		86	86
Mean	4.735	4.757	4.770	0%	2%	7%
Std. Dev.	5.872	5.879	5.941			
CV	1.240	1.236	1.246			
Min.	1.016	0.955	1.055	10%		0%
Max.	41.765	40.529	43.000	6%		24%

Mean ≥2.0	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	58	58	58		58	58
Mean	6.345	6.398	6.383	0%	1%	7%
Std. Dev.	6.578	6.564	6.667			
CV	1.037	1.026	1.045			
Min.	2.045	1.926	2.010	4%		1%
Max.	41.765	40.529	43.000	6%		24%

CV = coefficient of variation = (Std Dev/Mean); A.V. = absolute value

Chemex assayed the primary drill samples from some of the late-2008 holes. A total of 69 of the original Chemex pulps were sent to AAL for check assaying (Figure 14.5 and Table 14.4).

The mean of AAL check assays is 7% higher than the mean of the original Chemex analyses, although the difference drops to 1% higher if the two highest-grade sample pairs are removed. There are insufficient pairs at grades of interest (>0.2g Au/t) for definitive conclusions to be drawn, however.

Figure 14.5 Chemex Fire-Assay Checks Relative to Original AAL Assays

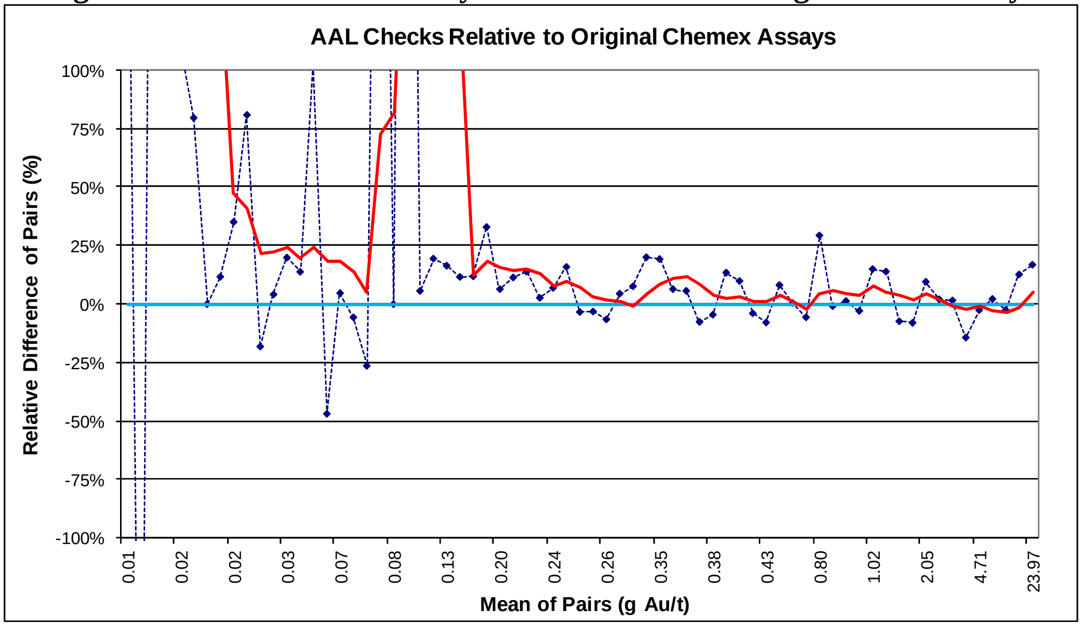


Table 14.4 Chemex Fire-Assay Checks *vs.* AAL Original Assays

All Pairs	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	69	69	69		69	69
Mean	1.374	1.330	1.417	7%	37%	51%
Std. Dev.	3.744	3.544	3.948			
CV	2.726	2.665	2.786			
Min.	0.005	0.002	0.002	0%		0%
Max.	22.235	20.500	23.970	17%		600%

Mean ≥0.2	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	39	39	39		39	39
Mean	2.379	2.308	2.451	6%	4%	8%
Std. Dev.	4.764	4.497	5.037			
CV	2.002	1.948	2.056			
Min.	0.223	0.208	0.226	9%		1%
Max.	22.235	20.500	20.500	0%		29%

Cyanide-Soluble Pulp Checks. As part of the fire-assay pulp-check program, Chemex also performed cyanide-soluble check analyses on 147 samples (Figure 14.6 and Table 14.5). The Chemex check analyses are systematically (7%) higher than the original AAL cyanide-soluble assays. The determination methods of the two laboratories are not identical, which may explain at least part of the discrepancy.

Figure 14.6 Chemex Cyanide-Soluble Checks Relative to Original AAL Assays

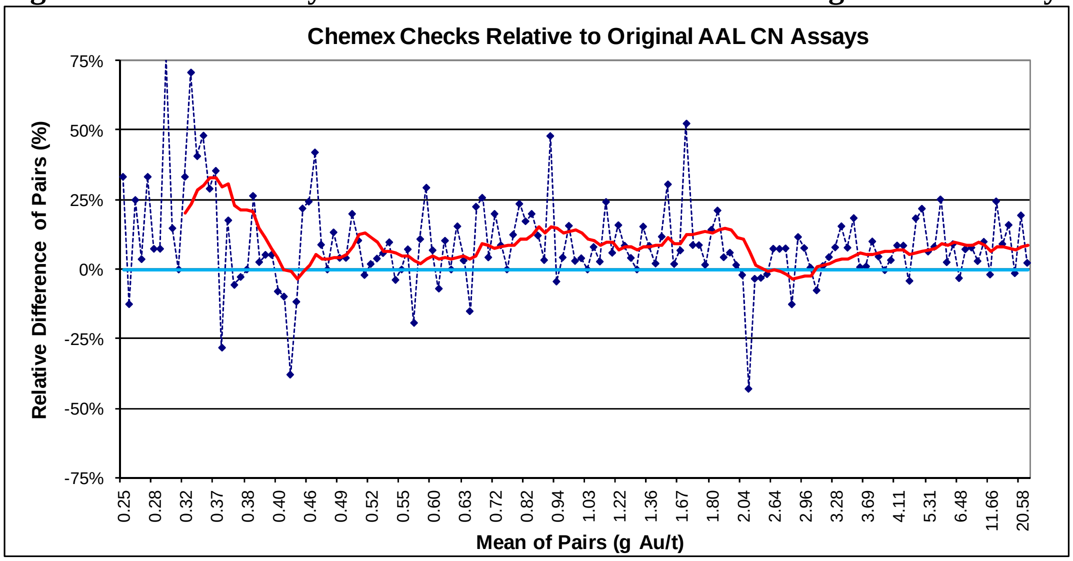


Table 14.5 Chemex Cyanide-Soluble Checks *vs.* AAL Original Assays

All Pairs	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	147	147	147		147	147
Mean	2.631	2.536	2.725	7%	9%	13%
Std. Dev.	4.690	4.548	4.841			
CV	1.783	1.793	1.776			
Min.	0.245	0.210	0.240	14%		0%
Max.	40.525	40.050	41.000	2%		76%

Mean ≥0.2	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	147	147	147		147	147
Mean	2.631	2.536	2.725	7%	9%	13%
Std. Dev.	4.690	4.548	4.841			
CV	1.783	1.793	1.776			
Min.	0.245	0.210	0.240	14%		0%
Max.	40.525	40.050	41.000	2%		76%

Mean ≥0.5	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	110	110	110		110	110
Mean	3.391	3.271	3.511	7%	8%	10%
Std. Dev.	5.210	5.053	5.377			
CV	1.536	1.545	1.531			
Min.	0.495	0.450	0.500	11%		0%
Max.	40.525	40.050	41.000	2%		52%

Mean ≥1.0	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	74	74	74		74	74
Mean	4.711	4.548	4.875	7%	7%	9%
Std. Dev.	5.926	5.751	6.115			
CV	1.258	1.265	1.254			
Min.	1.005	0.990	1.020	3%		0%
Max.	40.525	40.050	41.000	2%		52%

Mean ≥2.0	Mean	Original	Check	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	47	47	47		47	47
Mean	6.583	6.365	6.800	7%	5%	9%
Std. Dev.	6.773	6.572	6.992			
CV	1.029	1.032	1.028			
Min.	2.040	2.060	1.700	-17%		0%
Max.	40.525	40.050	41.000	2%		43%

Duplicate Pulps. Duplicate pulps are new pulps prepared from splits of the original coarse rejects created during the first crushing and splitting stage of the primary drill samples. Duplicate-pulp data provide information about the sub-sampling variance introduced during this stage of sample preparation.

The Long Canyon duplicate-pulp samples are derived from the coarse rejects of samples from 44 holes in the sequence LC037 to LC118. Comparisons of the AAL analyses of these duplicate pulps relative to the original AAL assays are shown in Figure 14.7 and Table 14.6.

Figure 14.7 AAL Duplicate Pulps Relative to Original AAL Assays

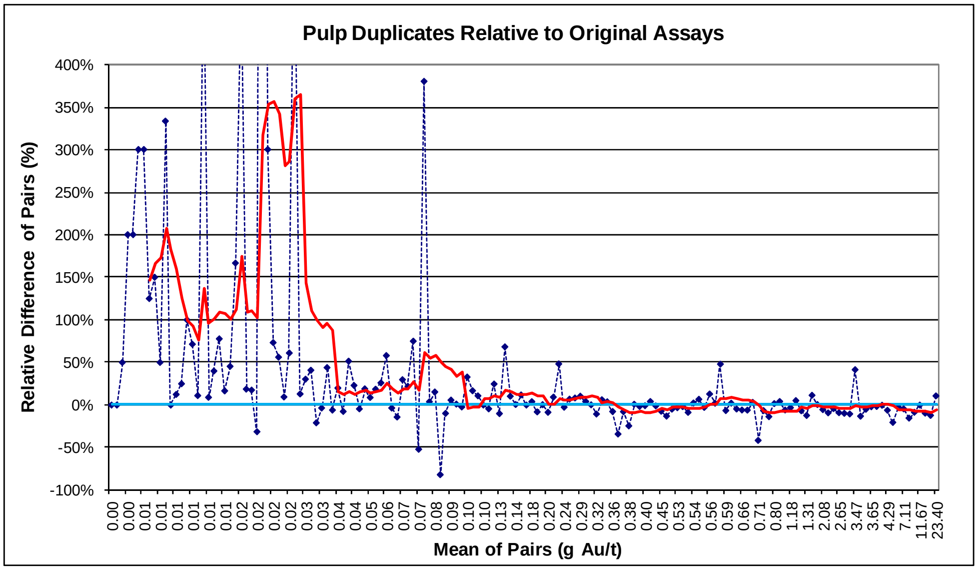


Table 14.6 AAL Duplicate Pulps *vs.* AAL Original Assays

All Pairs	Mean	Original	Dup. Pulp	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	154	154	154		154	154
Mean	1.137	1.152	1.122	-3%	45%	53%
Std. Dev.	2.992	3.010	2.982			
CV	2.632	2.613	2.659			
Min.	0.002	0.002	0.002	0%		0%
Max.	23.397	22.197	24.597	11%		1800%

Mean ≥0.2	Mean	Original	Dup. Pulp	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	72	72	72		72	72
Mean	2.371	2.408	2.334	-3%	-2%	9%
Std. Dev.	4.048	4.065	4.044			
CV	1.707	1.688	1.733			
Min.	0.213	0.178	0.222	25%		0%
Max.	23.397	22.197	24.597	11%		48%

Mean ≥0.5	Mean	Original	Dup. Pulp	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	49	49	49		49	49
Mean	3.320	3.373	3.268	-3%	-2%	9%
Std. Dev.	4.621	4.633	4.627			
CV	1.392	1.374	1.416			
Min.	0.528	0.458	0.512	12%		0%
Max.	23.397	22.197	24.597	11%		48%

The descriptive statistics indicate that the duplicate-pulp assays are slightly lower than the assays of the original pulps, with the relative difference plot showing that this discrepancy is due to a low bias that is prevalent at grades greater than about 0.35g Au/t.

Field Duplicates. Field duplicates are secondary splits of drill samples. In the case of core drilling, field duplicates are obtained by re-splitting the core remaining after the primary samples have been taken. The RC field duplicates are splits of the cuttings collected at the same time as the primary samples. Field duplicates are mainly used to assess inherent geologic variability and sampling variance.

Fronteer submitted a total of 446 field duplicate samples from all holes beginning with LC040 except for LC050, 051, 061, and 126.

The RC duplicate data analyzed by AAL are compared to the original AAL analyses in Figure 14.8 and Table 14.7 after the removal of 17 outlier pairs. All of the outlier pairs have means less than <0.2g Au/t, and the absence of the pairs does not affect the statistical comparisons.

The mean of the RC field duplicates is 5% lower than the mean of the original analyses, although more data at meaningful grades are needed to establish statistically meaningful conclusions.

Figure 14.8 RC Field Duplicates Relative to Original Assays – AAL

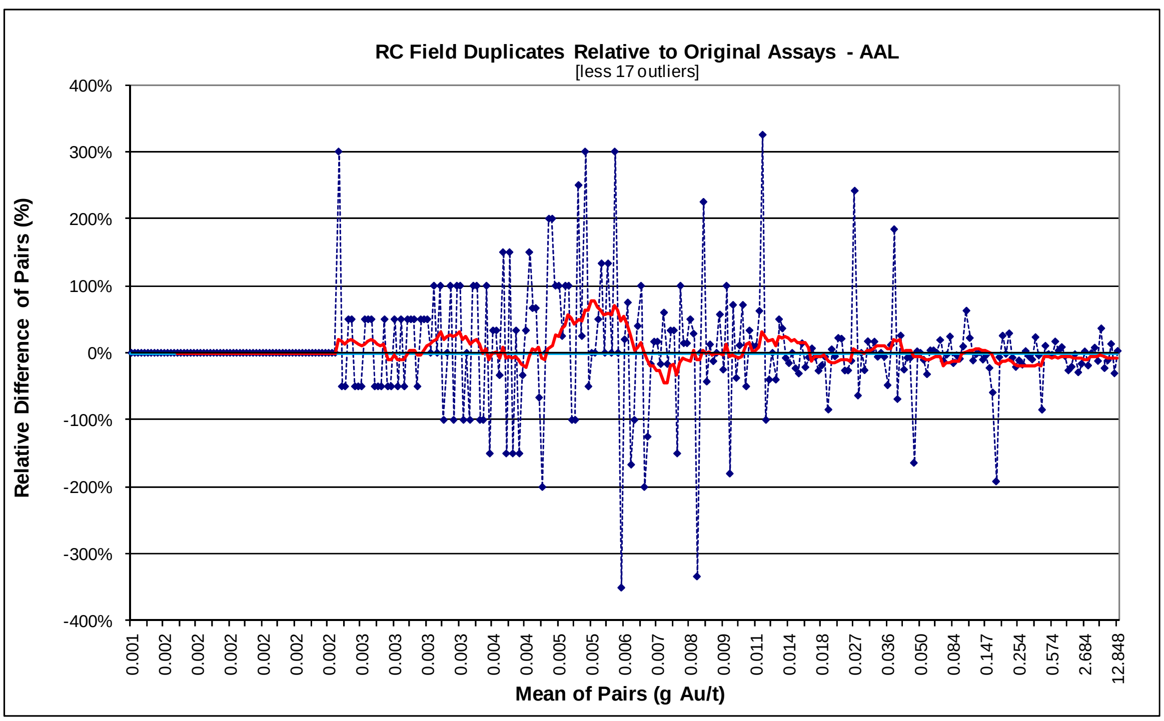


Table 14.7 RC Field Duplicates *vs.* Original Assays – AAL

All Pairs	Mean	Original	Field Dup.	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	296	296	296		296	296
Mean	0.305	0.311	0.298	-4%	3%	43%
Std. Dev.	1.322	1.355	1.298			
CV	4.339	4.351	4.357			
Min.	0.002	0.002	0.002	0%		0%
Max.	12.848	12.665	13.030	3%		350%

Mean ≥0.2	Mean	Original	Field Dup.	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	33	33	33		33	33
Mean	2.590	2.647	2.533	-4%	-6%	14%
Std. Dev.	3.170	3.254	3.120			
CV	1.224	1.230	1.232			
Min.	0.205	0.179	0.210	17%		0%
Max.	12.848	12.665	13.030	3%		85%

The AAL analyses of core duplicates are compared to the original AAL assays in Figure 14.9 and Table 14.8 after the removal of four outlier pairs.

Figure 14.9 Core Field Duplicates Relative to Original Assays - AAL

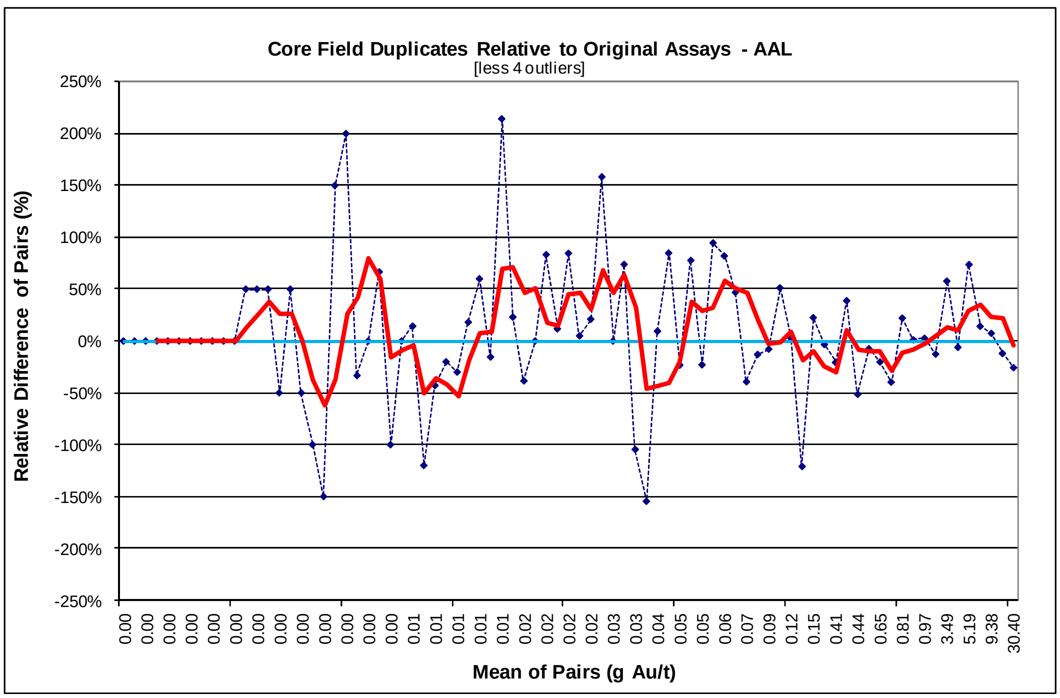


Table 14.8 Core Field Duplicates *vs.* Original Assays – AAL

All Pairs	Mean	Original	Field Dup.	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	81	81	81		81	81
Mean	1.099	1.120	1.077	-4%	8%	43%
Std. Dev.	4.133	4.459	3.832			
CV	3.762	3.980	3.559			
Min.	0.002	0.002	0.002	0%		0%
Max.	30.402	33.863	26.940	-20%		214%

Mean $\geq$0.2	Mean	Original	Field Dup.	Diff.	Rel. Diff.	A.V. Rel. Diff.
Count	14	14	14		14	14
Mean	6.128	6.253	6.003	-4%	4%	22%
Std. Dev.	8.493	9.381	7.662			
CV	1.386	1.500	1.276			
Min.	0.506	0.524	0.488	-7%		1%
Max.	30.402	33.863	26.940	-20%		74%

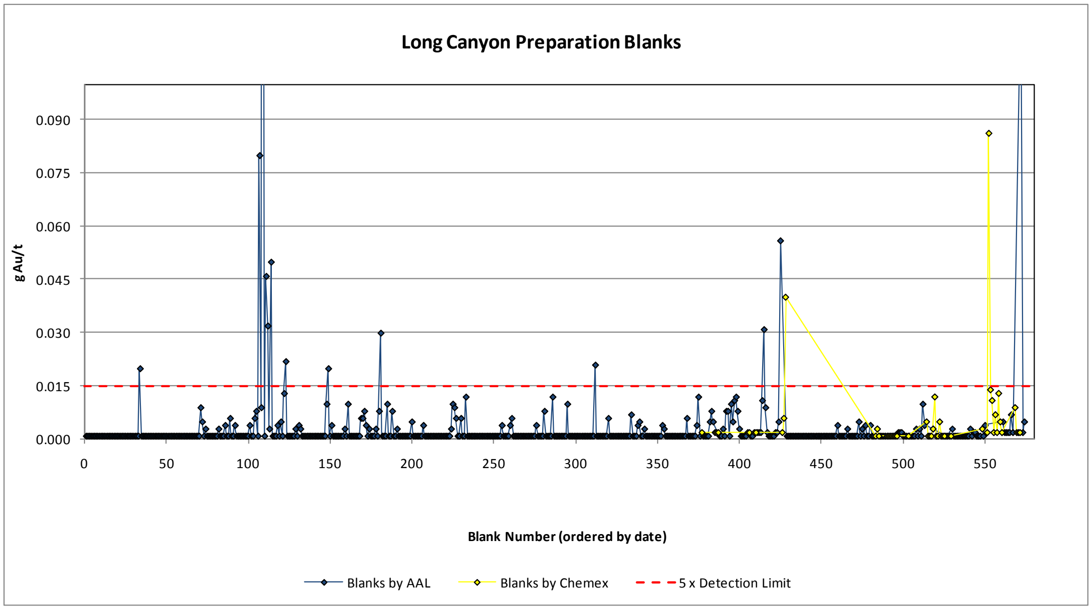
The mean of the duplicate core analyses is 4% lower than the mean of the original assays, but there are far too few samples at meaningful grades.

There are insufficient Chemex analyses of RC field duplicates (16) and core field duplicates (27) for meaningful statistical analysis, especially at grades of interest, but the available data do not show anomalous relationships.

Preparation Blanks. Preparation blanks are coarse samples of barren material that are used to detect possible laboratory contamination, which is most common during sample-preparation stages. In order for analyses of blanks to be meaningful, therefore, they must be sufficiently coarse to require the same crushing stages as the drill samples. It is also important for blanks to be placed in the sample stream immediately after mineralized samples (which would be the source of most cross-contamination issues). Blank results that are greater than five times the detection limit are typically considered failures that require further investigation and possible re-assay of associated drill samples.

The Joint Venture has used coarse blank material from a bulk sample of barren rhyolite originally acquired by AuEx from MEG. Figure 14.10 displays the 574 analyses of preparation blank samples submitted with the drill samples from all Joint Venture holes except for LC164C. The blanks are coloured to identify the assay laboratory and are ordered by date of analysis on the x-axis. There are 13 failures out of 523 AAL analyses and two Chemex failures out of 51 analyses.

Figure 14.10 Blank Analyses



Correlations between anomalously high blank assays and the assays of drill samples that preceded the anomalous blanks provide good evidence of cross contamination. This relationship is not evident with the AAL analyses (Figure 14.11; note low R^2 value), but the limited Chemex data indicate that cross contamination may have been a problem.

Figure 14.11 AAL Blank Analyses *vs.* Grade of Previous Sample

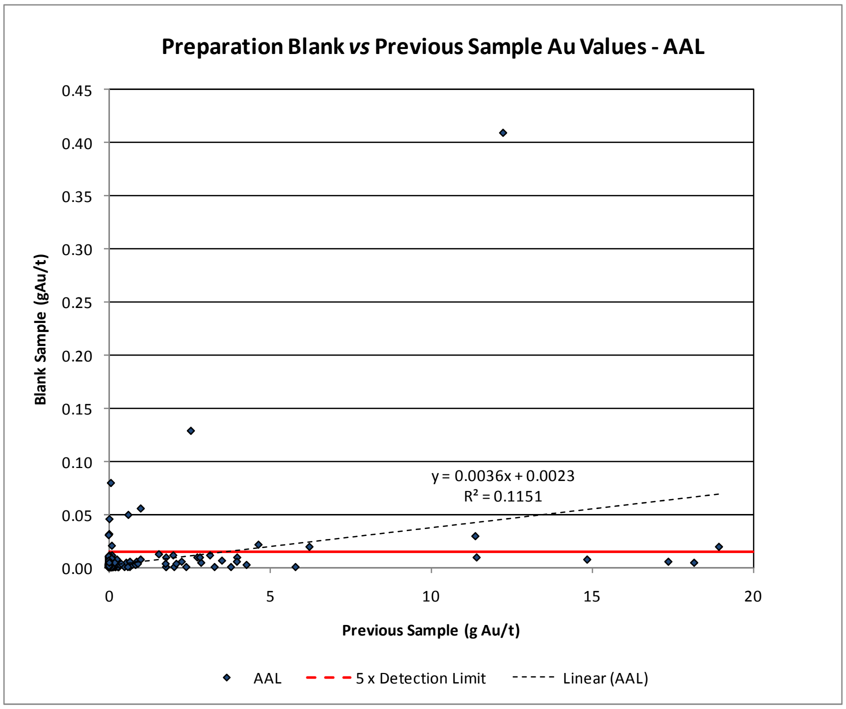
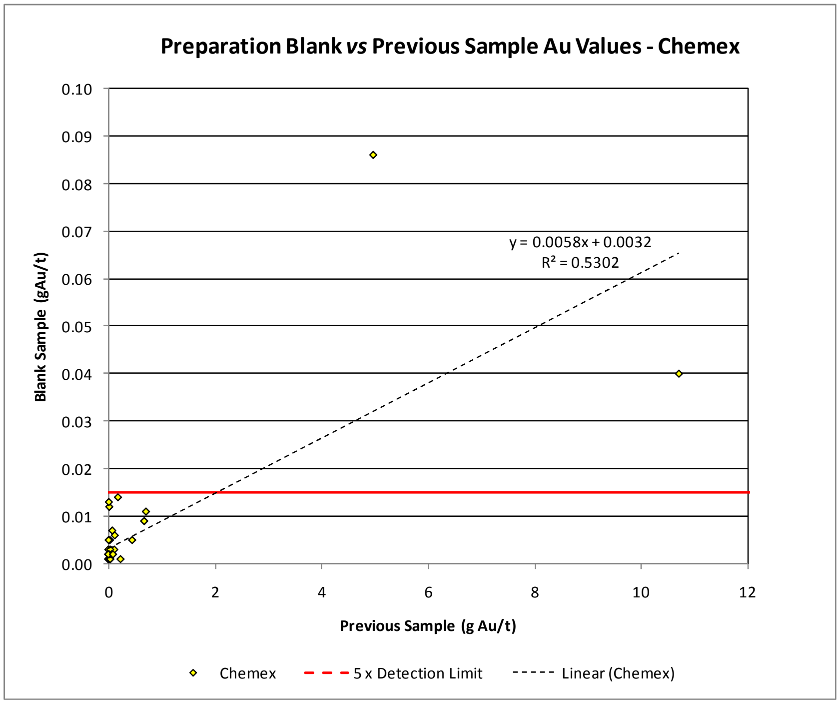


Figure 14.12 Chemex Blank Analyses *vs.* Grade of Previous Sample



Analytical Blanks. Analytical blanks are similar to preparation blanks, with the important difference being that analytical blanks are submitted to the laboratories as pulps, and therefore require no sample preparation. Analytical blanks can only be used to check laboratory accuracy of analyses of material that has gold concentrations less than the detection limit.

AuEx purchased analytical blank material from MEG. MDA has reviewed AAL analyses of 57 analytical blanks that were inserted into the drill-sample stream of 38 holes in the sequence LC015 to LC061. Three of the analyses exceeded the detection limit (0.004, 0.005, and 0.012g Au/t).

14.2 Pittston and AuEx QA/QC Programs

MDA does not have any QA/QC data derived from the drilling programs completed prior to the Fronteer-AuEx Joint Venture.

14.3 Discussion of QA/QC Results

The AAL analyses of the various certified reference standards inserted by the Joint Venture are generally 1 to 3% lower than the certified values. The Chemex analyses of the same standards are also lower, although slightly less so than AAL, but there are insufficient data to form definitive conclusions. Chemex check analyses agree well with the original AAL fire assays. Other than the strong evidence of analytical drift in the AAL analyses, there is no evidence of significant problems with the gold fire-assay database.

While no serious issues are indicated by the duplicate pulp and field-duplicate data, these should continue to be routinely collected. The field-duplicate data require additional sample pairs to allow for meaningful statistical analyses. The available duplicate-pulp analyses are slightly, but systematically, lower than assays of the original pulps. Additional data should help in identifying any issues.

The preparation blank dataset has identified a cross contamination issue with the Chemex analyses that may have affected the relatively small amount of drill-samples analyzed by Chemex. This should be closely monitored in the future.

MDA recommends that the QA/QC data are monitored more carefully in future drilling programs. For example, instead of merely applying pass/fail logic to standard analyses, the evaluation of analytical drift and systematic bias should also be incorporated into the program. All QA/QC failures should be immediately investigated and, when appropriate, they should trigger re-assaying of the relevant samples.

All blank material inserted into the sample stream should be restricted to preparation blanks.

There is limited QA/QC data available from the Pittston and AuEx drilling programs. A check-assaying program using available pulps and coarse rejects from these programs should be considered.

14.4 Assay Database Audit

MDA obtained original digital assay certificates from AAL and Chemex for all Joint Venture and AuEx holes drilled at Long Canyon. These data were then imported into the project database using non-manual methods. MDA used paper copies of the original assay certificates from the seven Pittston holes to manually enter the data, as digital assay certificates were not available. The manually entered data were then compared against the Pittston assays in Fronteer's project database, in which the data were also entered by hand, and the resulting discrepancies were resolved.

14.5 Independent Verification of Mineralization

MDA. On May 23, 2006 Paul Tietz of Mine Development Associates ("MDA") collected 10 samples from road cuts previously sampled by AuEx at the Long Canyon project site. MDA maintained custody of the samples and delivered them directly to the facility of AAL in Sparks, Nevada for assaying. Gold was determined by both 30-gram fire assaying with both AA and gravimetric finishes. Descriptions of the MDA samples, as well as a comparison of the assay results from the MDA and AuEx assays are described in Table 14.9.

The dataset is only sufficient to confirm the presence of gold mineralization in concentrations similar to those in the project drill-hole database.

Michael Gustin also visited the Long Canyon project on November 15, 2006 and July 15, 2008. The site visits included reviews of (1) mineralized core and RC chips; (2) drill-hole cross sections showing the geologic model; (3) representative exposures in road cuts and outcrops; and (4) inspection of sampling and logging procedures at active RC and core drill sites and in the project field office.

Table 14.9 Long Canyon Independent Sampling – MDA

Sample ID	UTM Easting	UTM Northing	Description	AuEx Au Results (ppm)	MDA Au FA30 (ppm)	MDA Au FAG (ppm)
LC-PT-1	4,538,739	707,941	Select 7.5m grab from road cut	1.3 to 7.54	4.90	5.01
LC-PT-2	4,538,707	707,951	6m chip sample	9.70 to 13.20	9.85	10.49
LC-PT-3	4,538,709	707,957	3m chip sample	7.60 to 9.39	8.44	8.81
LC-PT-4	4,538,611	707,853	Select 3m grab from road cut	0.32 to 2.74	0.72	0.62
LC-PT-5	4,538,581	707,833	Select 7.5m grab from road cut	0.68 to 1.39	0.84	0.75
LC-PT-6	4,538,570	707,826	4.5m chip sample	1.52 to 2.77	2.75	2.91
LC-PT-7	4,538,515	707,789	3m chip sample	2.09 to 4.84	1.88	1.75
LC-PT-8	4,538,471	707,712	4.5m chip sample	4.18 to 18.00	16.75	17.14
LC-PT-9	4,538,471	707,712	Select grab of excavated cobbles	4.18 to 18.00	15.88	16.66
LC-PT-10	4,538,442	707,787	Select grab from altered fracture zone	No data	0.19	0.21

SRK. As described in Moran (2008), SRK confirmed the presence of gold by collecting and analyzing six samples (Table 14.10). The following description of Allan Moran's independent sampling is taken from the 2008 Technical Report:

"The author collected 7 [sic] *surface rock samples in 2004 to verify gold mineralization in outcrops and road cuts. These samples are not exact replicates of previous Pittston samples, so direct assay comparison is not presented. The samples verify the presence of gold and the associated trace elements reported for Long Canyon."*

Table 14.10 Long Canyon 2004 Independent Sampling - SRK
(from Moran, 2008)

Sample	UTM N	UTM E (11)	Au ppm	As ppm	Sb ppm	Hg ppm	Tl ppm	W ppm	Comments
AMP-09	4538708	0707954	12.34	436	30	11.00	7.24	4	L.C., Rd-cut, hem limestone
AMP-10	4538698	0707951	6.00	244	5	5.51	9.40	3	L.C., Rd-cut, hem limestone
AMP-11	4538699	0707946	26.33	321	43	13.60	4.51	5	L.C., Rd-cut, hem limestone
AMP-12	4538574	0707838	0.87	89	6	3.21	1.06	2	L.C., Rd-cut, hem limestone
AMP-13	4538507	0707787	3.02	81	10	1.42	2.19	7	L.C., Rd-cut, hem limestone
AMP-14	4538474	0707709	6.03	67	304	8.98	1.48	9	L.C., Jasperoid, silic. flt-bx

15.0 ADJACENT PROPERTIES

The West Pequop project is immediately adjacent to and contiguous with the Long Canyon project. West Pequop is controlled by a joint venture between AuEx and Agnico-Eagle Mines Limited. The West Pequop project, which is described in an NI 43-101 technical report (Moran, 2005), is relevant to the Long Canyon due to the presence of gold mineralization of potential economic interest, similar geochemical signature, and in similar host rocks and structural settings as at Long Canyon.

A number of public sections to the north and south of the Long Canyon Joint Venture area are controlled by a joint venture between Agnico-Eagle and Columbus Gold. Of note is Section 16, located immediately north of Section 21 in the Joint Venture Area of Interest (Figure 4.2), which is on trend with mineralization at Long Canyon. Agnico-Eagle drilled three holes in the southern portion of Section 16 in late 2008, and reported low but anomalous gold values in a recent press release.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 Summary

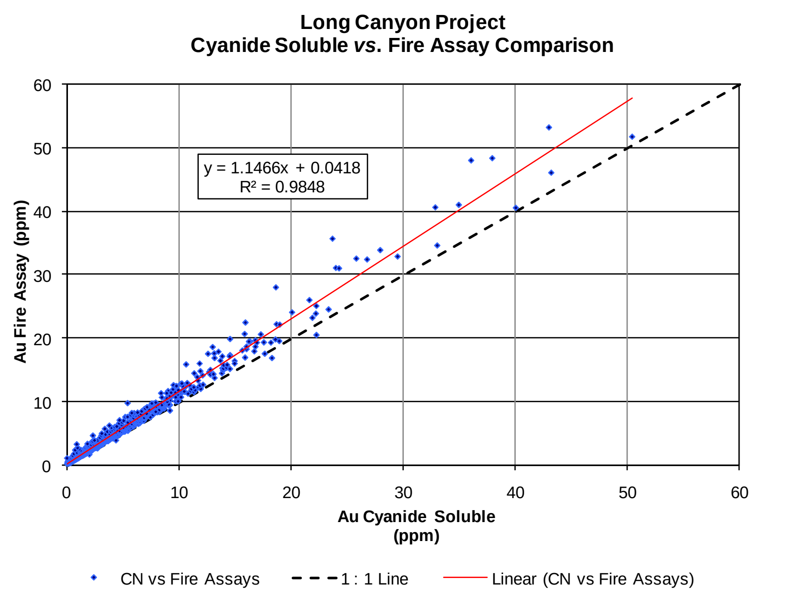
Metallurgical testing of the Long Canyon mineralization completed as of the Effective Date of this report includes a large dataset of drill samples with fire assay and cyanide-soluble gold analyses, as well as bottle-roll tests on four surface samples. Twenty 55-gallon drums of surface material have also been collected for preliminary metallurgical work, including column-leach testing; test results are pending.

Results from the limited test work available suggest that Long Canyon mineralized material tested to date is amenable to extraction of gold by cyanidation. This conclusion is used to support the Mineral Resource cutoff grade discussed in Section 17.2.6.

16.2 Cyanide-Soluble *vs.* Fire Assays

A total of 1774 drill samples have been analyzed by both fire assay and cyanide-soluble methods; the paired data are compared in Figure 16.1. The percent extraction implied by the data are given by dividing the cyanide soluble analysis by the fire assay of a sample, which is presumed to be the total gold content of the sample. Excluding one sample that was clearly misreported or is a sample mix-up, the mean and median of all cyanide-soluble/fire-assay ratios are 0.85 and 0.86, respectively; the mean lowers to 0.84 if the 34 samples with ratios greater than 1.00 are set to equal 1.00. These data indicate that an average of approximately 85% of the gold in the pulverized drill-sample pulps analyzed was extracted.

Figure 16.1 Cyanide Soluble *vs.* Fire Assay Comparison



16.3 Bottle-Roll Tests

Four grab samples of material from road cuts, representing breccia and stratiform mineralization hosted in limestone and dolomite, were sent to McClelland Laboratories, Inc. of Sparks, Nevada (Doolin, 2009) for bottle roll tests. Samples were screened into +1/4 inch (+6.3mm) fractions for 28-day intermittent bottle roll tests and -1/4 inch (-6.3mm) fractions for four-day bottle roll tests. Results are summarized in Table 16.1 and Figure 16.2 and Figure 16.3.

The leach tests on the coarse fractions resulted in extractions ranging from 70 to 98% after 28 days, with most of the gold recovered after 100 hours. The percent extractions correlate with head grades, with higher-grade material yielding higher extractions. The fine-fraction leach tests of the samples resulted in extractions ranging from 91 to 98%. In all cases, cyanide and lime consumptions were low. Total sulfur is also low, suggesting that at least the surficial mineralized material analyzed is fully oxidized, with no evidence of the presence of refractory sulfides.

McClelland concluded that the samples tested were amenable to direct agitation cyanide treatment.

Table 16.1 Bottle Roll Test Results of Surface Grab Samples

Sample	*Fraction*	*Mass*	*Head grade, g Au/t*		*Tail*	*Extraction*	*Reagents, kg/t ore*	
	mm	*%*	*Assay*	*Calc.*	*g Au/t*	*Au %*	*NaCN cons.*	*Lime add*
#1 LC 013	+6.3	84.8	9.60	11.61	1.54	86.7	0.16	2.2
	-6.3	15.2	19.85	21.69	1.80	91.7	0.20	1.7
	Sum	**100.0**	**11.16**	**13.14**	**1.58**	**88.0**	**0.17**	**2.1**
#2 NP Breccia	+6.3	61.8	0.78	1.12	0.30	73.2	0.03	1.3
	-6.3	38.2	2.38	2.43	0.22	90.9	0.08	1.5
	Sum	**100.0**	**1.39**	**1.62**	**0.27**	**83.4**	**0.05**	**1.4**
#3 NP Strata Bound	+6.3	52.4	22.90	29.37	0.47	98.4	0.05	1.7
	-6.3	47.6	29.90	30.20	0.64	97.9	0.18	1.7
	Sum	**100.0**	**26.23**	**29.77**	**0.55**	**98.1**	**0.11**	**1.7**
#4 Pogonip	+6.3	87.5	5.41	3.95	1.17	70.4	0.02	1.1
	-6.3	12.5	3.09	4.08	0.32	92.2	0.13	2.1
	Sum	**100.0**	**5.12**	**3.97**	**1.06**	**73.2**	**0.03**	**1.2**
Simple averages			**10.98**	**12.12**	**0.87**	**85.7**	**0.09**	**1.61**
Weighted average extraction						**92.9**		

Figure 16.2 Coarse-Fraction Bottle Roll Results

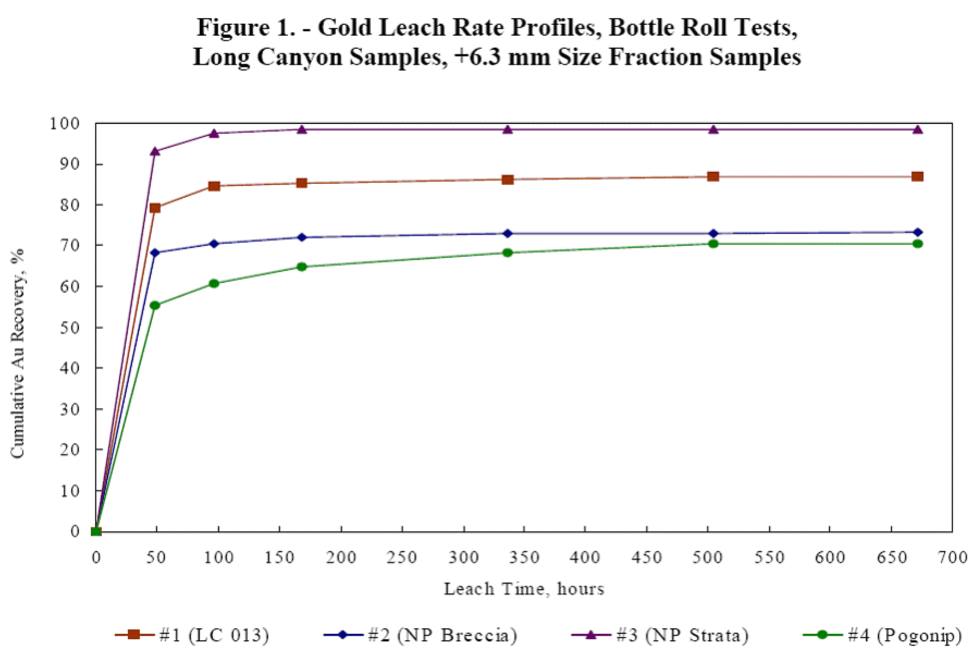
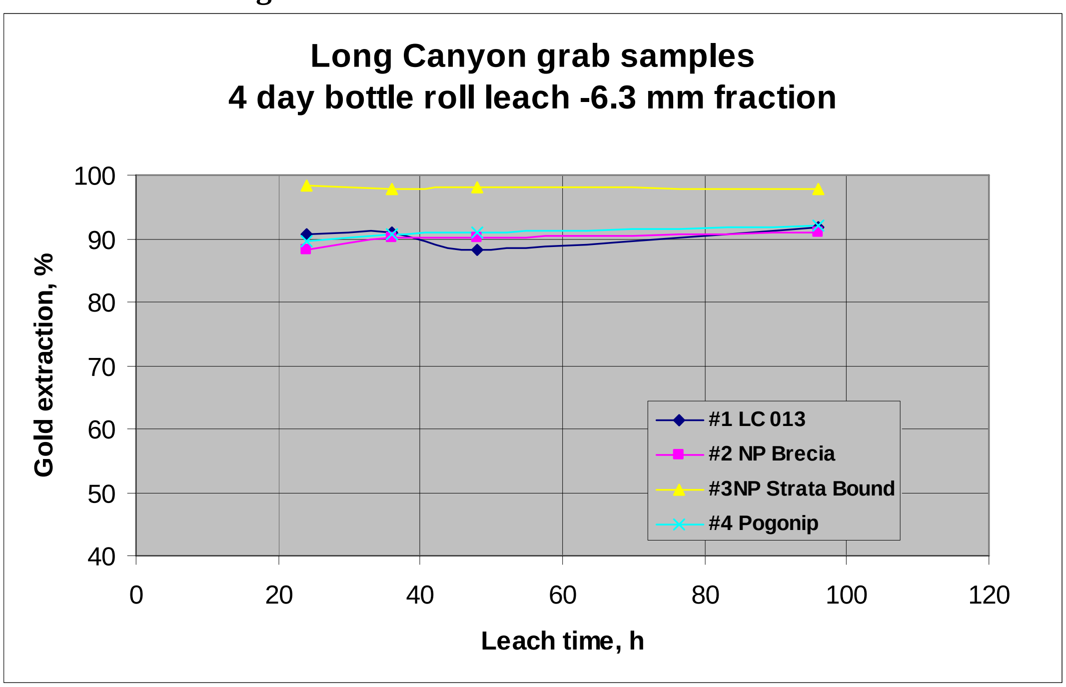


Figure 16.3 Fine-Fraction Bottle Roll Results



17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

17.1 Introduction

Mineral Resources described in this report for the Long Canyon project have been estimated in accordance with standards adopted by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") in August 2000, as amended, and prescribed by Canadian Securities Administrators' NI 43-101 ("NI 43-101"). The modeling and estimate of the Mineral Resources were done under the supervision of Michael M. Gustin, a qualified person with respect to Mineral Resource estimation under NI 43-101. Mr. Gustin is independent of Fronteer and AuEx by the definitions and criteria set forth in NI 43-101; there is no affiliation between Mr. Gustin and Fronteer and AuEx except that of an independent consultant/client relationship. There are no Mineral Reserves estimated for the Long Canyon project as of the date of this report.

Although MDA is not an expert with respect to any of the following aspects, MDA is not aware of any unusual environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that may materially affect the Long Canyon Mineral Resources as of the date of this report.

The Mineral Resources presented in this report for the Long Canyon project conform to the definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") in December 2000 and modified in 2005, and meet the criteria of those definitions, where:

> *A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material 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.*
>
> *Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured 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 for locations such as outcrops, trenches, pits, 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.*
>
> *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.

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.

17.2 Resource Modeling

17.2.1 Data

A model was created for estimating the gold resources at Long Canyon from data generated by Pittston, AuEx, and the Fronteer-AuEx Joint Venture, including geologic mapping, core and RC drill data, and project topography derived from 2007 IntraSearch, Inc. aerial photography and DEM data. These data were incorporated into a digital database using UTM NAD 83 Zone 11 coordinates expressed in metres, and all subsequent modeling of the Long Canyon resource was performed using Gemcom Surpac® mining software.

17.2.2 Deposit Geology Pertinent to Resource Modeling

The Long Canyon gold mineralization occurs primarily within silty and/or thinly bedded limestone units in the lowermost Pogonip Group and the uppermost Notch Peak limestone at their contacts with dolomite mega-boudins at the top of the Notch Peak Formation, especially along the noses of the boudins or within and adjacent to incipient, boudin-forming breaks in the dolomite. The contact of the limestone units between the mega-boudins (boudin neck areas, where the dolomite is absent) is also a favourable horizon for mineralization. Higher-grade gold mineralization occurs primarily within highly decalcified limestone and solution breccias that most commonly are associated with the noses of the boudins or the incipient boudin-forming breaks.

17.2.3 Geologic and Oxidation Modeling

Fronteer provided MDA with computer-generated three-dimensional solids of undifferentiated units lying in fault contact above the Pogonip Group, undifferentiated Pogonip Group, the dolomite unit within the uppermost Notch Peak Formation, and the remaining undifferentiated limestone of the Notch Peak Formation, as well as surfaces representing three fault structures. These solids and surfaces were defined using data from geologic logging of the drill holes as well as detailed surface mapping. During the process of mineral-domain modeling, MDA made minor modifications to the dolomite solid and the lower contact of the Pogonip solid to more precisely honor the logged geology in a handful of holes.

The entire drilled extent of the Long Canyon Mineral Resources is oxidized; only very local occurrences of partially oxidized pyrite have been noted in the drill samples. No explicit modeling of oxidation was therefore necessary.

17.2.4 Density

MDA examined the data derived from 231 dry bulk specific gravity ("SG") determinations completed on core samples submitted to AAL. Samples were taken from all types of mineralized rocks, including stratiform mineralization, breccias, jasperoids, and intrusions, as well as unmineralized limestone and dolomite above and below the mineralized zones. Samples were taken to ensure the general grade distribution within the deposit was properly represented. Twenty-three of the samples selected for SG determination consisted of pieces of half core at least 25 centimetres in length, while the remainder of the samples consisted of whole pieces of core at least 10 centimetres in length. AAL coated the samples with wax and determined the specific gravity by the water displacement method.

Descriptive statistics of the specific-gravity dataset were compiled for the major rock units, as well as by the gold mineral domains defined by MDA (discussed below). Following this analysis, MDA chose to assign unique specific-gravity values to each of the three mineral domains, as well as unmineralized Pogonip Group, the dolomite unit within the uppermost Notch Peak Formation, and the remaining undifferentiated Notch Peak Formation. These values are listed in the "Model SG" column of Table 17.1.

Table 17.1 Long Canyon Specific Gravity Data

Unmineralized Samples	SG Statisitics					Model SG
	Mean	Median	Min	Max	Count	
Pogonip Limestone	2.67	2.70	2.50	3.00	42	*2.70*
Notch Peak Dolomite	2.77	2.80	2.60	2.90	26	*2.75*
Notch Peak Limestone	2.68	2.70	2.40	2.90	35	*2.70*
Mineral Domains						
100	2.52	2.60	1.90	2.80	46	*2.55*
200	2.50	2.50	2.30	2.90	11	*2.50*
300	2.43	2.40	2.10	2.80	27	*2.40*

17.2.5 Gold Modeling

The Mineral Resources at Long Canyon were modeled and estimated by evaluating the drill data statistically, utilizing the lithologic solids and surfaces provided by Fronteer to interpret mineral domains on cross sections spaced at 50-metre intervals, rectifying the mineral domain interpretations on cross sections spaced at 10-metre intervals, analyzing the modeled mineralization geostatistically to establish estimation parameters, and estimating grades into a three-dimensional block model. All modeling of the Long Canyon resources was performed using Gemcom Surpac® mining software.

Mineral Domains. MDA modeled the Long Canyon gold mineralization by interpreting mineral-domain polygons on northeast-looking cross sections that span the extents of the deposit. A mineral domain is a natural grade population of a metal that occurs in a specific geologic environment. In order to define the mineral domains at Long Canyon, the natural populations were identified on quantile graphs that plot the gold-grade distributions of the drill-hole assays. This analysis led to the identification of low-, medium-, and high-grade gold populations. The gold grade populations consist of ~0.1 to ~2, ~2 to 4, and >~4g Au/t (domain 100, 200 and 300, respectively). Ideally, each of these populations can be correlated with specific geologic characteristics that are captured in the project database to define the mineral domains.

At Long Canyon, the high-grade domain (domain 300) occurs primarily within hematitic, highly decalcified units and solution breccias developed in limestones of both the Pogonip Group and Notch Peak Formation along the dolomite contacts, typically around the nose of the mega-boudins or associated with incipient boudin-forming breaks. The higher-grade mineralization tends to have limited cross-sectional extents, on the order of a few metres to a few tens of metres, but can extend for hundreds of metres in northeasterly or northerly directions that have shallow plunges. Lesser amounts of the domain 300 mineralization occur within favourable stratigraphic horizons, especially the Pogonip /Notch Peak contacts in between the dolomite boudins. It is important to note that the solution breccias are often difficult to recognize in the RC drill chips, and therefore are largely defined by core drill holes and are inferred in many instances in the RC drill data. The solution-breccia geology is coupled with the high-grade gold population to define a mineral domain that is assigned a code of 300.

The medium-grade mineral domains (domain 200) typically envelope high-grade domain 300 mineralization. This domain includes less permeable portions of the solution breccia, where matrix-dominated breccia that often hosts higher-grade mineralization grades into crackle breccia along the walls of the karstic structures, and mineralization associated with less intensely decalcified limestone that is typical of domain 300. Lower-grade domain 100 occurs as disseminated mineralization within weakly developed breccias associated with the boudin noses and in the wall rock of the solution breccias. Domain 100 also pervades favourable stratigraphic horizons, particularly on all dolomite-boudin contacts, along the Pogonip/Notch Peak contact between the boudins, and within favourable limey horizons and possible structural zones within the upper Notch Peak Formation.

A total of 38 vertical N40˚E-looking cross sections spaced at 50-metre intervals across the deposit were used for the initial modeling of the Long Canyon mineral domains. The drill-hole traces, topographic profile, and slices of the Fronteer lithologic and structural solids were plotted on the sections, with gold assays (coloured by the grade domain population ranges defined above) and various geologic codes, including hematite percentage and breccias, plotted along the drill-hole traces. These data were used as the base for MDA's interpretations of the mineral domains. Mineral-domain envelopes were interpreted on these sections to more-or-less capture assays corresponding approximately to each of the defined grade populations in combination with available and reasonably assumed geologic criteria. Representative cross sections showing gold mineral-domain interpretations are shown in Figure 17.1 and Figure 17.2.

The 50-metre spaced sectional mineral-domain interpretations were used as control sections to create parallel intermediary sections at 10-metre intervals using Gemcom Surpac's morphing routine. The 10-metre spacing was chosen to match the block length along the northeast axis of the model. The morphing algorithm allows the user to select a mineral-domain polygon on one control section and explicitly correlate it with an associated polygon on an adjacent control section using control points. After sufficient control points correlating the two polygons are created, the software interpolates polygons at the specified distance, in this case 10 metres, which gradually morph from the shape of one control polygon to the shape of the adjacent control polygon. Each of the morphed polygons, as well as the control sections, where then modified as necessary to honor the assay and geologic data. The final product is a set of 10-metre spaced mineral-domain envelopes that three-dimensionally honor the drill data at the resolution of the block model.

Figure 17.1 Cross Section 11900 Showing Gold Mineral Domains

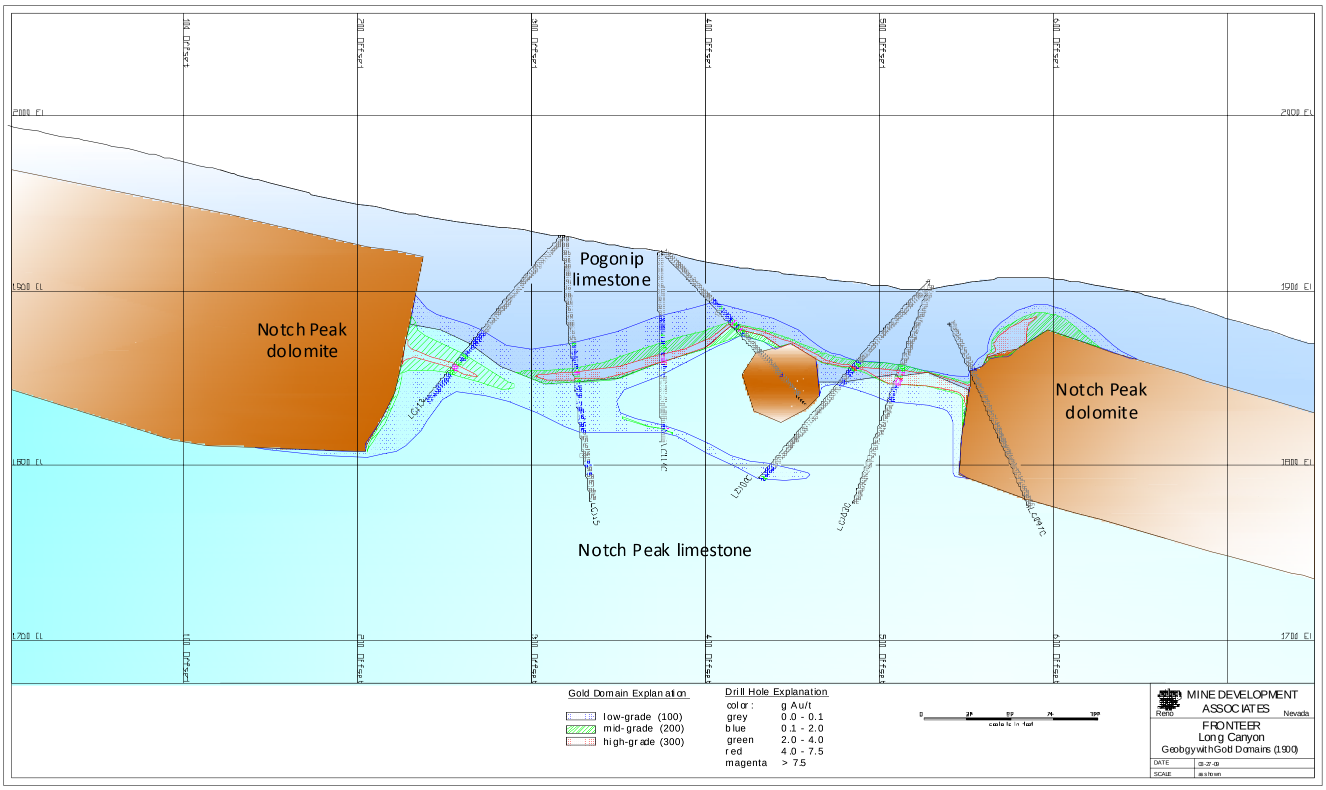
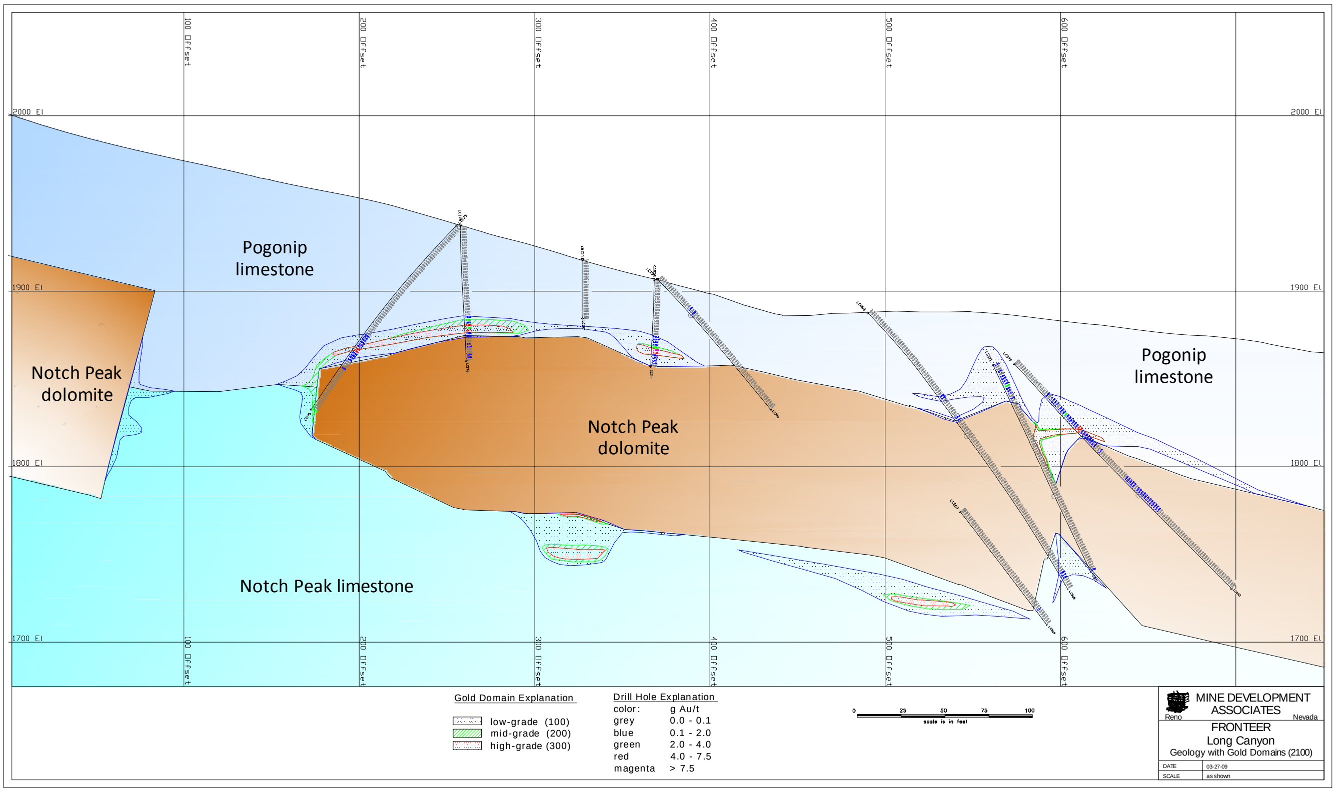


Figure 17.2 Cross Section 12100 Showing Gold Mineral Domains



Assay Coding, Capping, and Compositing. Drill-hole gold assays were coded to their domains by the sectional mineral-domain envelopes. Descriptive statistics of the coded assays are provided in Table 17.2.

Table 17.2 Descriptive Statistics of Coded Gold Assays

All Coded Long Canyon Au Assays

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
From	2502					0.0	242.6	meters
To	2502					1.5	244.1	meters
Length	2502	1.52	1.45	0.25		0.28	2.13	meters
Au	2502	0.586	2.139	4.316	2.018	0.000	53.194	g Au/t
Au Cap	2502	0.586	2.126	4.234	1.991	0.000	45.000	g Au/t
Domain	2502					100	300	

Domain 100 Au Assays

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
From	1779					0.0	242.6	meters
To	1779					1.5	244.1	meters
Length	1779	1.52	1.47	0.20		0.28	1.89	meters
Au	1779	0.310	0.529	0.596	1.127	0.000	10.050	g Au/t
Au Cap	1779	0.310	0.525	0.552	1.052	0.000	4.000	g Au/t
Domain	1779					100	100	

Domain 200 Au Assays

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
From	344					0.0	242.3	meters
To	344					1.5	243.8	meters
Length	344	1.52	1.44	0.25		0.31	2.13	meters
Au	344	2.781	2.898	1.357	0.468	0.003	18.598	g Au/t
Au Cap	344	2.781	2.883	1.242	0.431	0.003	8.000	g Au/t
Domain	344					200	200	

Domain 300 Au Assays

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
From	379					3.0	239.3	meters
To	379					4.6	240.8	meters
Length	379	1.52	1.34	0.36		0.30	1.98	meters
Au	379	7.722	9.700	7.636	0.787	0.136	53.194	g Au/t
Au Cap	379	7.722	9.650	7.386	0.765	0.136	45.000	g Au/t
Domain	379					300	300	

The process of determining assay caps began with inspection of quantile plots of the coded assays by domain to assess the mineral-domain populations and identify possible high-grade outliers that might be appropriate for capping. Descriptive statistics of the coded assays by domain, as well as visual review of the spatial relationships of the possible outliers and their potential impacts during grade interpolation, were also considered in the process of determining appropriate assay caps (Table 17.3). The effects of the assay capping can be qualitatively evaluated by examination of the descriptive statistics of the mineral-domain assays (Table 17.2 and Table 17.3).

Table 17.3 Long Canyon Gold Assay Caps

Domain	Capping Values	
	g Au/t	Number Capped (% of samples)
100	4	5 <1%)
200	8	2 (<1%)
300	45	5 (~1%)

The assay caps for domains 100 and 300 are higher than might otherwise be the case since search restrictions of higher grade portions of these populations were applied in the grade interpolations (discussed below).

The capped assays were composited down-hole by domain. The composite length was initially chosen to match the block height of three metres, but while the mean grades of the composites by domain matched those of the coded assays, the median grade of the low-grade composites (domain 100) was significantly higher (+12%) than the coded assays. A composite length of 1.524 metres, which matches the modal sample length, was therefore used. Descriptive statistics of the composites are shown in Table 17.4.

Table 17.4 Descriptive Statistics of Long Canyon Gold Composites

All Long Canyon Au Composites

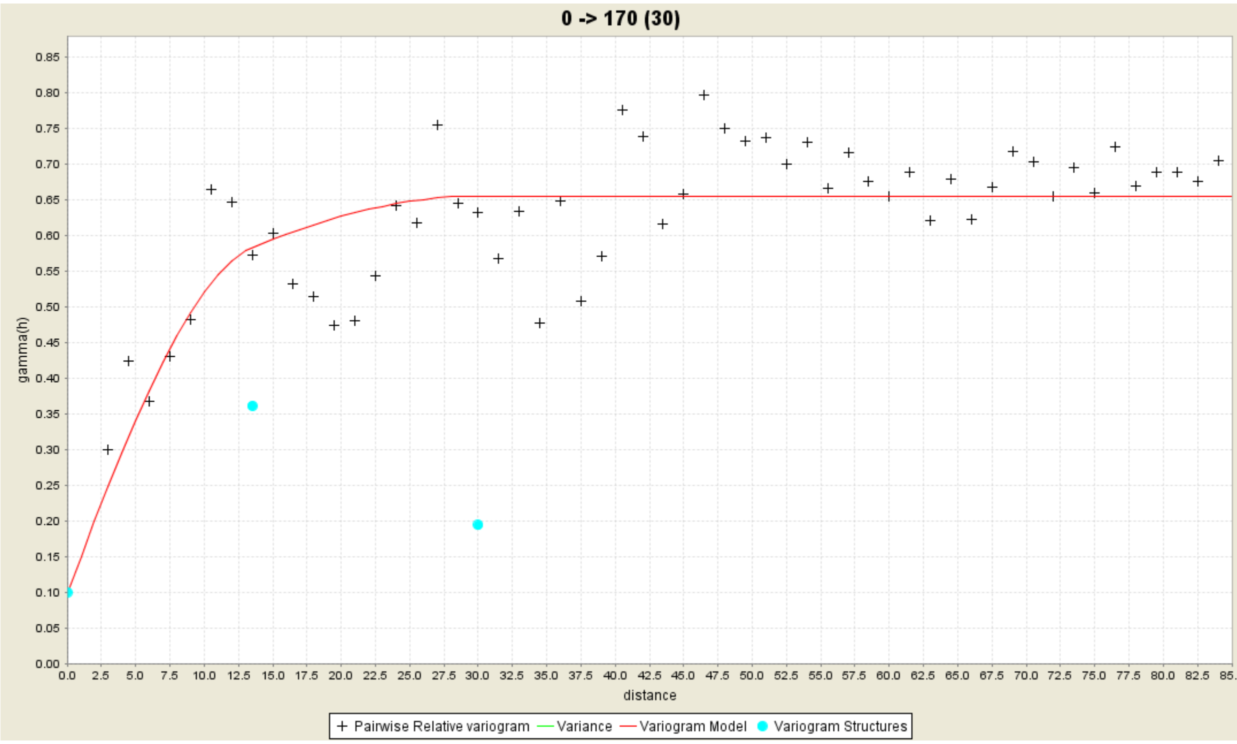
	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
From	2409					0.0	242.9	meters
To	2409					1.5	244.5	meters
Length	2409	1.52	1.50	0.13		0.46	1.52	meters
Au	2409	0.569	2.121	4.098	1.933	0.005	45.000	g Au/t
Domain	2409					100	300	

Block Model Coding. The 10-metre spaced sectional mineral-domain polygons were used to code a three-dimensional block model comprised of 5 metres (width) x 10 metres (length) x 3 metres (height) blocks. In order for the block model to better reflect the irregularly shaped limits of the various gold domains, as well as to explicitly model dilution, the percentage volume of each mineral domain within each block was stored (the "partial percentages").

The model was coded to specific gravity using the lithologic solids and the values listed in Table 17.1. The percentage of each block lying below the topographic surface was also stored.

Grade Interpolation. Variography was performed using the gold composites from each mineral domain, collectively and separately, at various azimuths, dips, and lags. There are insufficient pairs to define reasonable structures for the domain 200 and 300 composites individually. Applying reasonable geologic orientations to the variography of domain 100 composites, domain 100 and 200 composites, and composites from all domains collectively yielded maximum ranges of 30 to 40 metres in the principle orientations of 350˚ (strike) and -10˚ at 080˚ (dip). The variogram in the strike direction for the combined domain 100 and 200 composites is shown in Figure 17.3. Parameters from the variography were used in the ordinary krige interpolation, as well as to guide the choice of estimation parameters in the inverse-distance interpolation and the resource classification.

Figure 17.3 Variogram at Strike Direction



While much of the Long Canyon mineralization plunges shallowly in a northeasterly direction, the Crevasse and Shadow Zones are approximately north-south oriented. These zones were therefore coded into the block model as a unique estimation domain.

MDA completed a number of gold interpolations, varying multiple parameters, in an attempt to optimize the Long Canyon model. Early in this process it was recognized that high-grade portions of the low- (domain 100) and high- (domain 300) grade populations were having excessive influence on the grade interpolations. This led to the use of search restrictions for the high-grade portions of these populations, concomitant changes to higher assay capping, and the use of inverse-distance interpolation (due to software limitations). The search-ellipse orientations and estimation parameters are presented in Table 17.5 and Table 17.6, respectively.

The major and semi-major axes of the search ellipses approximate the average strike and dip directions of the gold mineralization. The first-pass search distances take into consideration the results of both the variography and the multiple iterations of the interpolation to obtain optimal ranges. The second and third passes were designed to estimate grade into almost all blocks coded to the mineral domains that were not estimated in the first pass.

The estimation passes were performed independently for each of the mineral domains, so that only composites coded to a particular domain were used to estimate grade into blocks coded by that domain. The estimated grades were coupled with the partial percentages of the mineral domains and unmodeled waste stored in the blocks to enable the calculation of a single weight-averaged block-diluted grade for each metal in each block.

Table 17.5 Search Ellipse Orientations

Search Ellipse Orientations

Estimation Domain	Major Bearing	Major Plunge	Tilt
Main	035°	-10°	-10°
Crevasse	0°	-5°	-10°

Table 17.6 Summary of Long Canyon Estimation Parameters

Estimation Parameters: Au Domain 100, 200, 300

Estimation Pass	Search Ranges (m)			Comp Constraints				
	Major	Semi-Major	Minor	Min	Max	Max/hole	Min Holes	Search Restrictions
1	50	50	40	2	18	3	n/a	30m for domain300 >20g Au/t
2	100	100	40	2	18	3	n/a	30m for domain300 >20g Au/t 50m for domain100 >1g Au/t
3	175	175	70	1	18	3	n/a	30m for domain300 >20g Au/t 75m for domain100 >1g Au/t

Krige Parameters[1]

Estimation Domain	Model & Type	Orientation			Nugget	First Structure		Second Structure	
		Major Bearing	Major Plunge	Clockwise Tilt	c0	c1	Ranges (m)	c2	Ranges (m)
All	SPH-Pairwise	80	0	-15	0.1000	0.3610	20 13.5 3.8	0.1940	40 30 11

[1] krige interpolation used as a check against the reported inverse-distance interpolation

17.2.6 Long Canyon Mineral Resources

The Long Canyon Mineral Resources are listed in Table 17.7. A cutoff grade of 0.3g Au/t was used to tabulate the gold resources. This cutoff was chosen to capture mineralization potentially available to open-pit extraction and heap-leach processing. The block-diluted resources are also tabulated at additional cutoffs in order to provide grade-distribution information, as well as to cover economic conditions other than envisioned by the 0.3g Au/t cutoff.

Table 17.7 Long Canyon Mineral Resources

Long Canyon Indicated Resources			
Cutoff (g Au/t)	Tonnes	g Au/t	oz Au
0.10	6,508,000	1.79	374,000
0.20	5,565,000	2.07	369,000
0.30	***4,808,000***	***2.35***	***363,000***
0.50	3,691,000	2.94	349,000
1.00	2,496,000	4.01	322,000
1.50	1,975,000	4.75	302,000
3.00	1,272,000	6.19	253,000
5.00	743,000	7.84	187,000
10.00	107,000	12.96	45,000

Long Canyon Inferred Resources			
Cutoff (g Au/t)	Tonnes	g Au/t	oz Au
0.10	14,222,000	1.08	492,000
0.20	10,886,000	1.36	476,000
0.30	***8,780,000***	***1.63***	***459,000***
0.50	6,236,000	2.13	428,000
1.00	3,634,000	3.16	369,000
1.50	2,700,000	3.83	332,000
3.00	1,312,000	5.56	234,000
5.00	656,000	7.30	154,000
10.00	53,000	11.50	20,000

The Long Canyon resources are classified on the basis of the distance of the model blocks to the nearest composite, a minimum number of composites, and minimum number of drill holes. No Measured resources are identified due to the preponderance of both geologic and assay data from reverse-circulation drill holes (see also Section 17.3). Two isotropic estimation passes were used to classify the resources (Table 17.8). All blocks that 'found' at least two composites within 15 metres (pass 1), or composites from two holes within 25 metres (pass 2) are classified as Indicated. All remaining blocks are classified as Inferred.

Table 17.8 Long Canyon Classification Parameters

Classification Passes

Classification	Pass	Search Ranges (m)			Comp Constraints			
		Major	S-Major	Minor	Min	Max	Max/hole	Min Holes
Indicated	1	15	15	15	2	2	2	n/a
	2	25	25	25	2	2	1	2
Inferred	All remaining blocks							

Figure 17.4 and Figure 17.4 show cross sections of the block model that correspond to the mineral-domain cross sections in Figure 17.1 and Figure 17.2, respectively.

Figure 17.4 Cross Section 11900 Showing Block Model Gold Grades

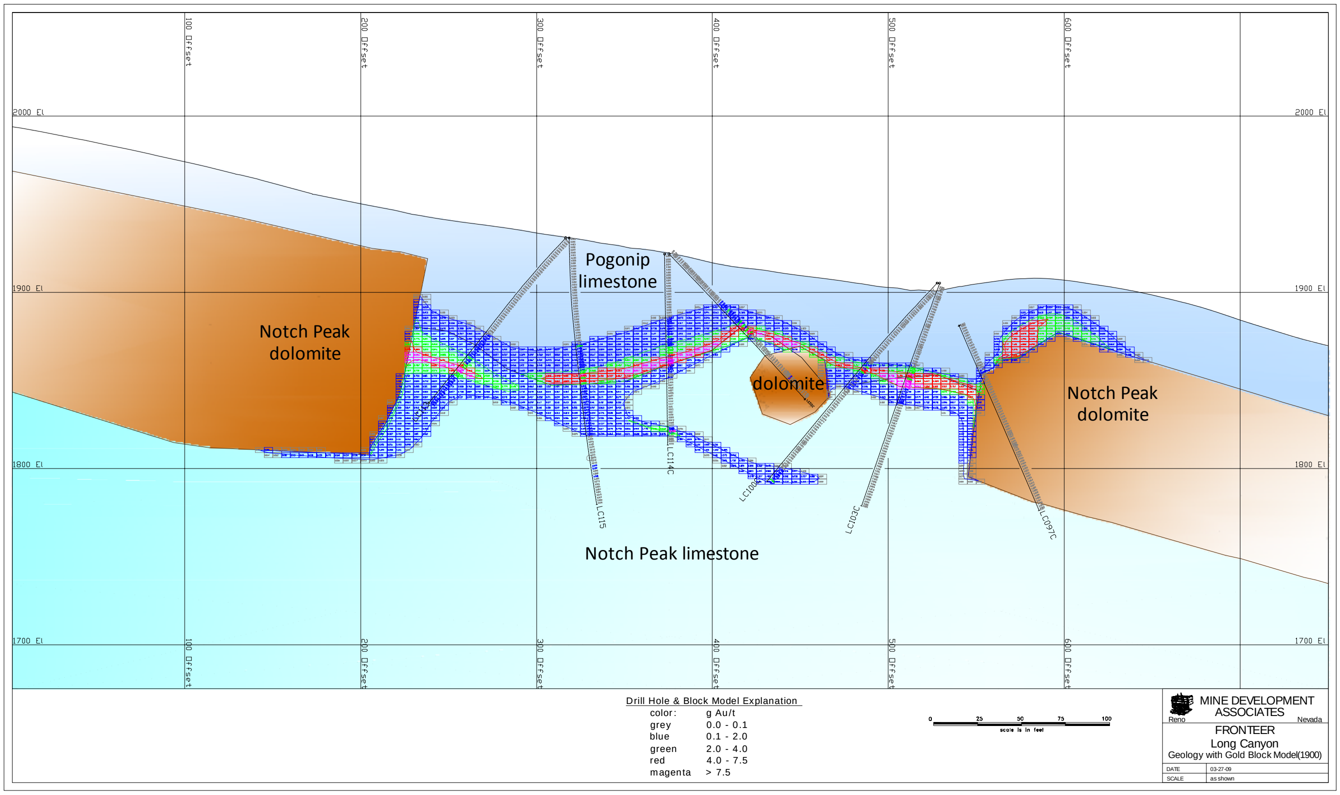
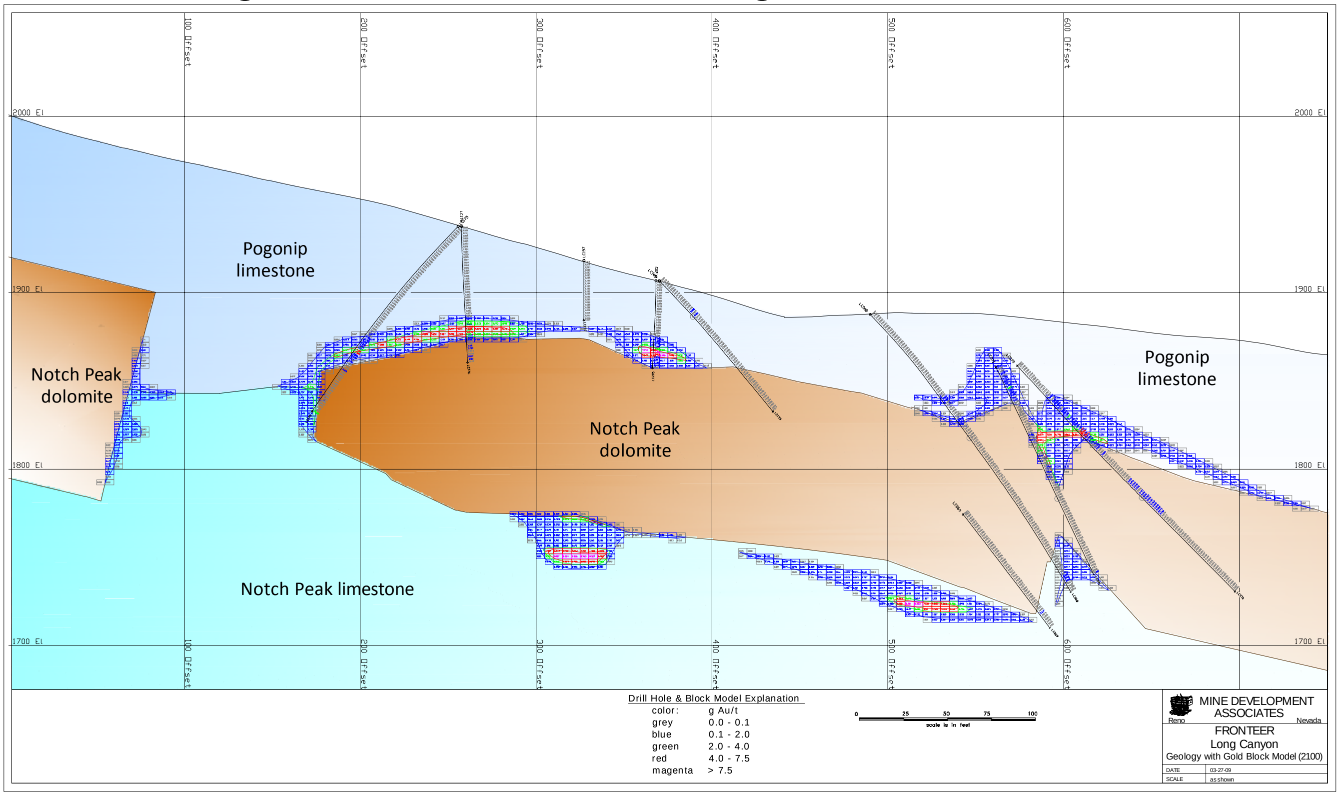


Figure 17.5 Cross Section 12100 Showing Block Model Gold Grades



17.3 Comments on the Resource Modeling

The block size used in the resource modeling has a relatively short vertical dimension (3m). MDA chose this block height so as not to overestimate dilution in the abundant, relatively thin, sub-horizontal mineralized zones that are common along the tops and bottoms of dolomite boudins. The block dimensions allow for re-blocking into blocks with a height of six metres if necessary for economic studies. It should be noted, however, that it is possible that the three-metre height used in the resource study could underestimate dilution, especially if ore/waste boundaries cannot be visually recognized during mining. High-grade mineralization at Long Canyon is typically associated with strong hematite, which should be easily distinguished from unmineralized material. Material close to a mining cutoff grade may not be as easily distinguished from waste, however.

The resources reported herein were estimated without the benefit of the results of surface sampling. Future resource studies should incorporate the surface sampling results to assist in defining the limits of the mineralization, although the actual surface assays should not be used in gold-grade interpolations.

As discussed in Section 12.3, down-hole contamination is an issue with some of the RC drill samples. The uncertainty imparted by the possible effects of contamination in the RC results is reflected in the absence of Measured resources. MDA strongly recommends that diamond-core drilling methods be used to complete all infill drilling at Long Canyon, with RC drilling used in the exploration and early-stage definition of new mineralized zones and extensions of known zones.

18.0 OTHER RELEVANT DATA AND INFORMATION

MDA is not aware of any other data or information relevant to Long Canyon that is not described or discussed in this report.

19.0 INTERPRETATION AND CONCLUSIONS

MDA reviewed the project data and the Long Canyon drill-hole database, visited the project site, and obtained duplicate drill-hole samples for verification purposes. MDA believes that the data provided by Fronteer and AuEx, as well as the geological interpretations Fronteer has derived from the data, are generally an accurate and reasonable representation of the Long Canyon project.

Gold mineralization has been defined within a 1.7 kilometre-long northeast-trending area that is up to 400 metres wide and lies on a portion of the Long Canyon property. Mineralization is of the sediment-hosted gold type and is present in both surface outcrops and in exploration drill holes.

The primary structural/stratigraphic controls of the Long Canyon mineralization are related to the development of mega-boudins within the uppermost dolomite unit in the Notch Peak Formation. Gold occurs in limestones along the margins of the boudins (especially at and near the boudin noses) and within boudin necks. High-grade gold occurs within solution-collapse breccias and zones of strong decalcification within these structural/stratigraphic settings.

Preliminary metallurgical data are limited to cyanide-soluble gold analyses of drill samples and bottle-roll test work on four surface samples. These data suggest that the Long Canyon mineralization is amenable to the extraction of gold by conventional heap-leach processing methods.

Fronteer provided MDA with a project database consisting of information derived from 61 core holes and 170 RC holes completed by Pittston, AuEx, and the Fronteer-AuEx Joint Venture. MDA rebuilt the drill-hole assay portion of the database, and the Mineral Resources reported herein were estimated using this database.

An analysis of the QA/QC data collected during the AuEx and Joint Venture drilling programs did not identify any serious issues with the sample preparation and analyses of the drill samples. The drill data do indicate the presence of down-hole contamination in some portion of the RC sample database, however. This issue was mitigated to a large extent by removing suspect intervals from the resource modeling, but some uncertainty in the remaining RC data, in the form of unrecognized contamination, persists.

This report presents the first NI 43-101-compliant Mineral Resource estimate for the Long Canyon deposit. A cutoff grade of 0.30g Au/t is used to tabulate the resources, which consist of oxidized mineralization potentially available for open-pit extraction. Indicated resources total 4.808 million tonnes averaging 2.35g Au/t, with an additional 8.780 million tonnes averaging 1.63g Au/t assigned to the Inferred category.

Drilling at Long Canyon was successful in outlining potentially economic gold mineralization in numerous drill holes. The limits of the gold mineralization are not fully delineated, however, and the deposit remains open along strike and at depth within the presently defined zones. There is also excellent potential for the discovery of new, parallel zones of mineralization related to dolomite boudins that have yet to be identified.

Rock chip and soil sample results have proven to be direct guides to the definition of shallow drill targets at Long Canyon. While many of the obvious targets have been drilled, several geochemical anomalies in favorable geologic settings remain to be tested. Definition of new targets will likely require the use of more sophisticated exploration methods. The known mineralized zones trend into areas of shallow cover that provide virtually no geochemical response in surface sampling. In these areas, subtle changes in the strike and dip of strata in the basal Pogonip Group can provide evidence of an underlying boudin neck. These indirect methods were successfully employed in the discovery of the Shadow and Crevasse Zones in 2008.

20.0 RECOMMENDATIONS

Significant, relatively shallow oxide Mineral Resources have been outlined at Long Canyon. These resources remain open, with substantial additions conceivable. Beyond the extensions of known zones of mineralization, there is excellent potential for the discovery of new mineralized zones. It is clear that the Long Canyon project warrants significant additional expenditures.

Further drilling at Long Canyon should focus on three objectives: (i) the expansion of resources by drilling open-ended extensions of the four mineralized zones; (ii) the identification of additional zones of mineralization within new structural/stratigraphic settings; and (iii) the upgrading of the resource classification through infill drilling.

MDA strongly recommends that diamond-core drilling methods be used to complete all infill drilling at Long Canyon. Core drilling provides higher-quality samples that will allow for the definition of Measured resources. RC drilling should be confined to the testing of new exploration targets, as well as the initial testing of the extensions of presently defined zones of mineralization. The geologic model should continue to be refined as new drill data are received.

Significant exploration drilling is justified. While several areas beyond the limits of Long Canyon deposit have already been outlined for drill testing, additional detailed geologic mapping, systematic sampling of road cuts along new access roads, extensions of the existing soil grid, and geophysical surveys should be used to identify new targets.

The project resource base is sufficient to justify the initiation of engineering studies. The ongoing metallurgical test work should be significantly expanded, including the completion of mineralogic investigations column-leach testing of representative samples at various size fractions. Geotechnical studies, which will entail the drilling of geotechnical holes, should be initiated.

Environmental work, including the characterization of waste, is also warranted. Hydrologic investigations are needed for general project permitting purposes as well as to identify supplemental community water sources. The hydrologic program will need to include the drilling of a number of holes, as may be recommended by qualified experts.

The Fronteer-AuEx Joint Venture approved a 2009 exploration program with a budget of US$14,850,000 program for Long Canyon. The budget includes 19,000 metres of core drilling and 28,000 metres of RC drilling, as well as a continuation of the ongoing geological mapping program, further rock, soil and road cut sampling, continued efforts pursuant to refining the Long Canyon geological model and geological controls on mineralization, and the initiation of various engineering, metallurgical, and environmental investigations. MDA believes that Long Canyon is a project of merit that warrants this level of expenditures.

21.0 REFERENCES

AuEx, 2008, various project digital files, drill-hole database information, QA/QC assays, assay certificates from ALS-Chemex and AAL, and photographs of core, maps, and sections.

Camilleri, P. A., 1994, *Mesozoic and Cenozoic tectonic and metamorphic evolution of the Wood Hills and Pequop Mountains, Elko County, Nevada*: Ph.D. dissertation, Univ. of Wyoming, Laramie, WY, 196 p.

Coolbaugh, M., 2006, *Geologic map of a portion of the Long Canyon Joint Venture area*: unpublished map prepared in digital format for the Long Canyon Venture.

Doolin, Michael, 2009, *Report on metallurgical testing – Long Canyon grab samples, MLI Job No. 3316*: metallurgical report prepared for Fronteer Development (USA) Inc. by McClelland Laboratories, Inc., 8 p. plus appendices.

Griffith, David J., 2006, *Technical Report, Great Basin East Properties, Elko County, Nevada and Box Elder County, Utah USA*: NI 43-101 technical report prepared by Mine Development Associates for NewWest Gold Corporation, 112 p. plus appendices.

Harrison, S., 2001, *Pequop Prospect – Final Geochemical Report*: internal Pittston Nevada Gold Company report, 51p.

Hintze, L.F., 1951, *Lower Ordovician detailed stratigraphic sections of western Utah*: Utah Geological and Mineralogical Survey Bulletin 39, 99 p.

Larson, Lawrence T., April, September, and October 2000, correspondences with Robert Felder of Pittston Nevada Gold Company, with discussion of petrography, from internal Fronteer Group (USA) Inc. files.

Loucks, R.G., 1999, *Paleocave carbonate reservoirs: origins, burial-depth modifications, spatial complexity, and reservoir implications*: Journal of Sedimentary Research, v. 83, 1795-1834.

McCollum, L. B., and Miller, D. M., 1991, *Cambrian Stratigraphy of the Wendover area, Utah and Nevada*: U.S. Geological Survey Bulletin 1948, 43 p.

Moran, A.V. 2005, *NI-43-101 technical report, Pequop exploration property, Nevada, USA*: NI 43-101 technical report prepared by SRK Consulting for AuEx Ventures, Inc.

Moran, Allan V., 2008, *NI 43-101 technical report, Long Canyon gold exploration project, Nevada,* USA: NI 43-101 technical report prepared by SRK Consulting for AuEx Ventures, Inc., 86 p. plus appendices.

Pittston Nevada Gold Company, Ltd., 2000, *Pequop Project 2000 Exploration Program Technical Report and Recommendations*; internal Pittston Nevada Gold Company report, 27 p.

Smith, M.T., 2008, *Geologic map of a portion of the Long Canyon Joint Venture area*: unpublished map prepared in digital format for the Long Canyon Venture.

Smith, M.T., 2009, *Summary of geology and presentation of a geological model for Long Canyon, with emphasis on field surveys*: Fronteer Development Group Inc. internal report, 98 p.

Thompson, T. B., November 2, 2000, *Summary Notes on the Pequop Property*: internal Pittston Nevada Gold Company document, 2 p.

Thorman, C.H., 1970, *Metamorphosed and non-metamorphosed Paleozoic rocks in the Wood Hills and Pequop Mountains, northeastern Nevada*: Geological Society of America Bulletin, v. 81, p. 2417-2448.

Thorman, C.H., Brooks, W.E., Ketner, K.B., Snee, L.W., and Zimmerman, 1991, *Late Mesozoic-Cenozoic tectonics in northeastern Nevada*, in G.L. Raines, R.E. Lisle, R.W. Schafer, and W.H. Wilkinson, eds., Geology and ore deposits of the Great Basin: Symposium proceedings, Geological Society of Nevada, p. 25-45.

Thorson, J.P. 2007, *Long Canyon project, measured section of the Notch Peak Formation*: Unpublished consulting report for Fronteer Development Group Inc.

Thorson, J.P. 2008, *Long Canyon project, measured section of the Pogonip Group*: Unpublished consulting report for Fronteer Development Group Inc.

22.0 DATE AND SIGNATURE PAGE

Effective Date of report:	April 17th, 2009
Completion Date of report:	April 24th, 2009

"Michael M. Gustin" April 24th, 2009

Michael M Gustin, P. Geo. Date Signed

April 24th, 2009

Moira Smith, P. Geo. Date Signed

23.0 CERTIFICATE OF AUTHORS

MICHAEL M. GUSTIN, P.GEO.

I, Michael M. Gustin, P. Geo., do hereby certify that I am currently employed as Senior Geologist by Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502 and:

1. I graduated with a Bachelor of Science degree in Geology from Northeastern University in 1979 and a Doctor of Philosophy degree in Economic Geology from the University of Arizona in 1990. I have worked as a geologist in the mining industry for more than 20 years.

2. I am a Licensed Professional Geologist in the state of Utah (#5541396-2250), a Licensed Geologist in the state of Washington (# 2297), and a member of the Society of Mining Engineers and the Geological Society of Nevada.

3. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. I am independent of Fronteer Development Group Inc. and AuEx Ventures, Inc., and all of each of their subsidiaries, as defined in Section 1.4 of NI 43-101 and in Section 3.5 of the Companion Policy to NI 43-101.

4. I am responsible, or have co-responsibility, for the all sections in this report titled, "***Technical Report on the Long Canyon Project, Elko County, Nevada***", dated April 24, 2009 (the "Technical Report"), subject to my reliance on other experts identified in Section 3.0.

5. I have had no prior involvement with the property or project that is the subject of the Technical Report.

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

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

8. The Technical Report contains information relating to mineral titles, permitting, environmental issues, regulatory matters, and legal agreements. I am not a legal, environmental or regulatory professional, and do not offer a professional opinion regarding these issues.

9. A copy of this report is submitted as a computer readable file in Adobe Acrobat© PDF© format. The requirements of electronic filing necessitate submitting the report as an unlocked, editable file. I accept no responsibility for any changes made to the file after it leaves my control.

Dated April 24, 2009

"Michael M. Gustin"

____
Michael M. Gustin

MOIRA T. SMITH

I, **Moira T. Smith**, P. Geo., do hereby certify that:

1) I am a geologist residing at 928 Hardrock Place, Spring Creek, NV 89815, and employed by Fronteer Development USA, Inc., as Senior Geoscientist.

2) I am a graduate of Pomona College, with a B.A in Geology in 1983. I obtained a M.Sc. in Geology from Western Washington University in 1986, and a Ph.D. in Geology from University of Arizona in 1990. I have practiced my profession continuously since 1990.

3) I am a Professional Geoscientist registered in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (#122720);

4) I have worked on the property continuously since May 15th, 2008 and have relevant experience having led or participated in geological studies supporting 6 advanced exploration and development projects and/or operations, in 4 different countries.

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

6) I was responsible for the preparation of Sections 4 - 10 of the report entitled "***Technical Report on the Long Canyon Project, Elko County, Nevada***", dated April 24th, 2009, (the "Technical Report") relating to the Long Canyon Property. I have worked on the property in a technical capacity since May 15, 2008 and personally visited the site most recently in April 2009.

7) As of April 24th, 2009, and 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 and I have read the disclosure being filed and it fairly and accurately represents the information in the Technical Report that supports the disclosure.

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 make the Technical Report misleading.

9) I am not independent of the issuer applying all the tests in Section 1.5 of NI 43-101 and acknowledge that I hold securities of Fronteer Development Group, Inc. in the form of stock and stock options.

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

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

Dated this 24th day of April, 2009 in Elko, Nevada

Moira Smith
Senior Geoscientist
Fronteer Development USA, Inc.

APPENDIX A

Long Canyon Project Federal Lode Mining Claims as of April 1, 2009

(compiled and provided by Fronteer Development Group Inc.)

Long Canyon Joint Venture

Elko County, Nevada

Township 35 North, Range 66 East, Sections 1-8, 11, 12

Township 36 North, Range 63 East, Sections 24, 25, 36

Township 36 North, Range 66 East, Sections 7-9,16-21,28,32,10-15,22-26,35,36

Mount Diablo Baseline and Meridian

Total Claims: 438

BLM NMC#	Claim Name	Doc #	Owner of Record[1]
960073	LC 01	574736	NewWest Gold USA Inc.
960082	LC 10	574745	NewWest Gold USA Inc.
960083	LC 11	574746	NewWest Gold USA Inc.
960084	LC 12	574747	NewWest Gold USA Inc.
960085	LC 13	574748	NewWest Gold USA Inc.
960086	LC 14	574749	NewWest Gold USA Inc.
960087	LC 15	574750	NewWest Gold USA Inc.
960088	LC 16	574751	NewWest Gold USA Inc.
960089	LC 17	574752	NewWest Gold USA Inc.
960090	LC 18	574753	NewWest Gold USA Inc.
960091	LC 19	574754	NewWest Gold USA Inc.
960074	LC 02	574737	NewWest Gold USA Inc.
960092	LC 20	574755	NewWest Gold USA Inc.
960093	LC 21	574756	NewWest Gold USA Inc.
960094	LC 22	574757	NewWest Gold USA Inc.
960095	LC 23	574758	NewWest Gold USA Inc.
960096	LC 24	574759	NewWest Gold USA Inc.
960097	LC 25	574760	NewWest Gold USA Inc.
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960099	LC 27	574762	NewWest Gold USA Inc.
960100	LC 28	574763	NewWest Gold USA Inc.
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960104	LC 32	574767	NewWest Gold USA Inc.
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960077	LC 05	574740	NewWest Gold USA Inc.
960078	LC 06	574741	NewWest Gold USA Inc.
960079	LC 07	574742	NewWest Gold USA Inc.
960080	LC 08	574743	NewWest Gold USA Inc.
960081	LC 09	574744	NewWest Gold USA Inc.
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BLM NMC#	Claim Name	Doc #	Owner of Record[1]
932341	PQ 537	558246	Pittston NV Gold Company, Ltd
814578	SM 289	456321	Pittston NV Gold Company, Ltd
814579	SM 290	456322	Pittston NV Gold Company, Ltd
814580	SM 291	456323	Pittston NV Gold Company, Ltd
814581	SM 292	456324	Pittston NV Gold Company, Ltd
814582	SM 293	456325	Pittston NV Gold Company, Ltd
814583	SM 294	456326	Pittston NV Gold Company, Ltd
814584	SM 295	456327	Pittston NV Gold Company, Ltd
814585	SM 296	456328	Pittston NV Gold Company, Ltd
814586	SM 297	456329	Pittston NV Gold Company, Ltd
814587	SM 298	456330	Pittston NV Gold Company, Ltd
814588	SM 299	456331	Pittston NV Gold Company, Ltd
814589	SM 300	456332	Pittston NV Gold Company, Ltd
814590	SM 301	456333	Pittston NV Gold Company, Ltd
814591	SM 302	456334	Pittston NV Gold Company, Ltd
814592	SM 303	456335	Pittston NV Gold Company, Ltd
814593	SM 304	456336	Pittston NV Gold Company, Ltd
814594	SM 305	456337	Pittston NV Gold Company, Ltd
814595	SM 306	456338	Pittston NV Gold Company, Ltd
814596	SM 307	456339	Pittston NV Gold Company, Ltd
814597	SM 308	456340	Pittston NV Gold Company, Ltd
814598	SM 309	456341	Pittston NV Gold Company, Ltd
814599	SM 310	456342	Pittston NV Gold Company, Ltd
814600	SM 311	456343	Pittston NV Gold Company, Ltd
814601	SM 312	456344	Pittston NV Gold Company, Ltd
814602	SM 313	456345	Pittston NV Gold Company, Ltd
814603	SM 314	456346	Pittston NV Gold Company, Ltd
814604	SM 315	456347	Pittston NV Gold Company, Ltd
814605	SM 316	456348	Pittston NV Gold Company, Ltd
814606	SM 317	456349	Pittston NV Gold Company, Ltd
814607	SM 318	456350	Pittston NV Gold Company, Ltd
814614	SM 325	456357	Pittston NV Gold Company, Ltd
814615	SM 326	456358	Pittston NV Gold Company, Ltd
814616	SM 327	456359	Pittston NV Gold Company, Ltd
814617	SM 328	456360	Pittston NV Gold Company, Ltd
814618	SM 329	456361	Pittston NV Gold Company, Ltd
814619	SM 330	456362	Pittston NV Gold Company, Ltd
814620	SM 331	456363	Pittston NV Gold Company, Ltd
814621	SM 332	456364	Pittston NV Gold Company, Ltd
814622	SM 333	456365	Pittston NV Gold Company, Ltd
814623	SM 334	456366	Pittston NV Gold Company, Ltd
814624	SM 335	456367	Pittston NV Gold Company, Ltd
814625	SM 336	456368	Pittston NV Gold Company, Ltd
814632	SM 343	456375	Pittston NV Gold Company, Ltd
814633	SM 344	456376	Pittston NV Gold Company, Ltd
814634	SM 345	456377	Pittston NV Gold Company, Ltd
814635	SM 346	456378	Pittston NV Gold Company, Ltd
814636	SM 347	456379	Pittston NV Gold Company, Ltd
814637	SM 348	456380	Pittston NV Gold Company, Ltd
814638	SM 349	456381	Pittston NV Gold Company, Ltd

BLM NMC#	Claim Name	Doc #	Owner of Record[1]
814639	SM 350	456382	Pittston NV Gold Company, Ltd
814640	SM 351	456383	Pittston NV Gold Company, Ltd
814641	SM 352	456384	Pittston NV Gold Company, Ltd
814642	SM 353	456385	Pittston NV Gold Company, Ltd
814643	SM 354	456386	Pittston NV Gold Company, Ltd
814644	SM 355	456387	Pittston NV Gold Company, Ltd
814645	SM 356	456388	Pittston NV Gold Company, Ltd
814646	SM 357	456389	Pittston NV Gold Company, Ltd
814647	SM 358	456390	Pittston NV Gold Company, Ltd
814648	SM 359	456391	Pittston NV Gold Company, Ltd
814649	SM 360	456392	Pittston NV Gold Company, Ltd
814650	SM 361	456393	Pittston NV Gold Company, Ltd
814652	SM 363	456395	Pittston NV Gold Company, Ltd
814654	SM 365	456397	Pittston NV Gold Company, Ltd
814656	SM 367	456399	Pittston NV Gold Company, Ltd
814658	SM 369	456401	Pittston NV Gold Company, Ltd
814660	SM 371	456403	Pittston NV Gold Company, Ltd
814662	SM 373	456405	Pittston NV Gold Company, Ltd
814664	SM 375	456407	Pittston NV Gold Company, Ltd
814666	SM 377	456409	Pittston NV Gold Company, Ltd
917943	SM 416a	546025	Pittston NV Gold Company, Ltd
917944	SM 418a	546026	Pittston NV Gold Company, Ltd
917945	SM 420a	546027	Pittston NV Gold Company, Ltd
917946	SM 422a	546028	Pittston NV Gold Company, Ltd
917947	SM 424a	546029	Pittston NV Gold Company, Ltd
816759	SM 425	459723	Pittston NV Gold Company, Ltd
816760	SM 426	459724	Pittston NV Gold Company, Ltd
816761	SM 427	459725	Pittston NV Gold Company, Ltd
816762	SM 428	459726	Pittston NV Gold Company, Ltd
816763	SM 429	459727	Pittston NV Gold Company, Ltd
816764	SM 430	459728	Pittston NV Gold Company, Ltd
816765	SM 431	459729	Pittston NV Gold Company, Ltd
816766	SM 432	459730	Pittston NV Gold Company, Ltd
816767	SM 433	459731	Pittston NV Gold Company, Ltd
816768	SM 434	459732	Pittston NV Gold Company, Ltd
816769	SM 435	459733	Pittston NV Gold Company, Ltd
816770	SM 436	459734	Pittston NV Gold Company, Ltd
816771	SM 437	459735	Pittston NV Gold Company, Ltd
816772	SM 438	459736	Pittston NV Gold Company, Ltd
816773	SM 439	459737	Pittston NV Gold Company, Ltd
816774	SM 440	459738	Pittston NV Gold Company, Ltd
816775	SM 441	459739	Pittston NV Gold Company, Ltd
816776	SM 442	459740	Pittston NV Gold Company, Ltd
816777	SM 443	459741	Pittston NV Gold Company, Ltd
816778	SM 444	459742	Pittston NV Gold Company, Ltd
816779	SM 445	459743	Pittston NV Gold Company, Ltd
816780	SM 446	459744	Pittston NV Gold Company, Ltd
816781	SM 447	459745	Pittston NV Gold Company, Ltd
816782	SM 448	459746	Pittston NV Gold Company, Ltd
1001571	LC 33	607390	NewWest Gold USA, Inc.

BLM NMC#	Claim Name	Doc #	Owner of Record[1]
	LC 33 (AMENDED)	608155	NewWest Gold USA, Inc.
1001572	LC 34	607391	NewWest Gold USA, Inc.
	LC 34 (AMENDED)	608156	NewWest Gold USA, Inc.
1001573	LC 35	607392	NewWest Gold USA, Inc.
	LC 35 (AMENDED)	608157	NewWest Gold USA, Inc.
1001574	LC 36	607393	NewWest Gold USA, Inc.
	LC 36 (AMENDED)	608158	NewWest Gold USA, Inc.
1001575	LC 37	607394	NewWest Gold USA, Inc.
	LC 37 (AMENDED)	608159	NewWest Gold USA, Inc.
1001576	LC 38	607395	NewWest Gold USA, Inc.
	LC 38 (AMENDED)	608160	NewWest Gold USA, Inc.
1001577	LC 39	607396	NewWest Gold USA, Inc.
	LC 39 (AMENDED)	608161	NewWest Gold USA, Inc.
1001578	LC 40	607397	NewWest Gold USA, Inc.
	LC 40 (AMENDED)	608162	NewWest Gold USA, Inc.
1001579	LC 41	607398	NewWest Gold USA, Inc.
	LC 41 (AMENDED)	608163	NewWest Gold USA, Inc.
1001580	LC 42	607399	NewWest Gold USA, Inc.
	LC 42 (AMENDED)	608164	NewWest Gold USA, Inc.
1001581	LC 43	607400	NewWest Gold USA, Inc.
	LC 43 (AMENDED)	608165	NewWest Gold USA, Inc.
1001582	LC 44	607401	NewWest Gold USA, Inc.
	LC 44 (AMENDED)	608166	NewWest Gold USA, Inc.
1001583	LC 45	607402	NewWest Gold USA, Inc.
	LC 45 (AMENDED)	608167	NewWest Gold USA, Inc.
1001584	LC 46	607403	NewWest Gold USA, Inc.
	LC 46 (AMENDED)	608168	NewWest Gold USA, Inc.
1003788	LC 47	609322	Fronteer Development (USA) Inc.
1003789	LC 48	609323	Fronteer Development (USA) Inc.
1003790	LC 49	609324	Fronteer Development (USA) Inc.
1003791	LC 50	609325	Fronteer Development (USA) Inc.
1003792	LC 51	609326	Fronteer Development (USA) Inc.
1003793	LC 52	609327	Fronteer Development (USA) Inc.
1003794	LC 53	609328	Fronteer Development (USA) Inc.
1003795	LC 54	609329	Fronteer Development (USA) Inc.
1003796	LC 55	609330	Fronteer Development (USA) Inc.
1003797	LC 56	609331	Fronteer Development (USA) Inc.
1003798	LC 57	609332	Fronteer Development (USA) Inc.
1003799	LC 58	609333	Fronteer Development (USA) Inc.
1003800	LC 59	609334	Fronteer Development (USA) Inc.
1003801	LC 60	609335	Fronteer Development (USA) Inc.
1003802	LC 61	609336	Fronteer Development (USA) Inc.
1003803	LC 62	609337	Fronteer Development (USA) Inc.
1003804	LC 63	609338	Fronteer Development (USA) Inc.
1003805	LC 64	609339	Fronteer Development (USA) Inc.
1003806	LC 65	609340	Fronteer Development (USA) Inc.
1003807	LC 66	609341	Fronteer Development (USA) Inc.
1003808	LC 67	609342	Fronteer Development (USA) Inc.
1003809	LC 68	609343	Fronteer Development (USA) Inc.
1003810	LC 69	609344	Fronteer Development (USA) Inc.

BLM NMC#	Claim Name	Doc #	Owner of Record[1]
1003811	LC 70	609345	Fronteer Development (USA) Inc.
1003812	LC 71	609346	Fronteer Development (USA) Inc.
1003813	LC 72	609347	Fronteer Development (USA) Inc.
1003814	LC 73	609348	Fronteer Development (USA) Inc.
1003815	LC 74	609349	Fronteer Development (USA) Inc.
1003816	LC 75	609350	Fronteer Development (USA) Inc.
1003817	LC 76	609351	Fronteer Development (USA) Inc.
1003818	LC 77	609352	Fronteer Development (USA) Inc.
1003819	LC 78	609353	Fronteer Development (USA) Inc.
1003820	LC 79	609354	Fronteer Development (USA) Inc.
1003821	LC 80	609355	Fronteer Development (USA) Inc.
1003822	LC 81	609356	Fronteer Development (USA) Inc.
1003823	LC 82	609357	Fronteer Development (USA) Inc.
1003824	LC 83	609358	Fronteer Development (USA) Inc.
1003825	LC 84	609359	Fronteer Development (USA) Inc.
1003826	LC 85	609360	Fronteer Development (USA) Inc.
1003827	LC 86	609361	Fronteer Development (USA) Inc.
1003828	LC 87	609362	Fronteer Development (USA) Inc.
1003829	LC 88	609363	Fronteer Development (USA) Inc.
1003830	LC 89	609364	Fronteer Development (USA) Inc.
1003831	LC 90	609365	Fronteer Development (USA) Inc.
1003832	LC 91	609366	Fronteer Development (USA) Inc.
1003833	LC 92	609367	Fronteer Development (USA) Inc.
1003834	LC 93	609368	Fronteer Development (USA) Inc.
1003835	LC 94	609369	Fronteer Development (USA) Inc.
1003836	LC 95	609370	Fronteer Development (USA) Inc.
1003837	LC 96	609371	Fronteer Development (USA) Inc.
1003838	LC 97	609372	Fronteer Development (USA) Inc.
1003839	LC 98	609373	Fronteer Development (USA) Inc.
1003840	LC 99	609374	Fronteer Development (USA) Inc.
1003841	LC 100	609375	Fronteer Development (USA) Inc.
1003842	LC 101	609376	Fronteer Development (USA) Inc.
1003843	LC 102	609377	Fronteer Development (USA) Inc.
1003844	LC 103	609378	Fronteer Development (USA) Inc.
1003845	LC 104	609379	Fronteer Development (USA) Inc.
1003846	LC 105	609380	Fronteer Development (USA) Inc.
1003847	LC 106	609381	Fronteer Development (USA) Inc.
1003848	LC 107	609382	Fronteer Development (USA) Inc.
1003849	LC 108	609383	Fronteer Development (USA) Inc.
1003850	LC 109	609384	Fronteer Development (USA) Inc.
1003868	LC 110	609385	Fronteer Development (USA) Inc.
1003869	LC 111	609386	Fronteer Development (USA) Inc.
1003870	LC 112	609387	Fronteer Development (USA) Inc.
1003851	LC 113	609388	Fronteer Development (USA) Inc.
1003852	LC 114	609389	Fronteer Development (USA) Inc.
1003853	LC 115	609390	Fronteer Development (USA) Inc.
1003854	LC 116	609391	Fronteer Development (USA) Inc.
1003855	LC 117	609392	Fronteer Development (USA) Inc.
1003856	LC 118	609393	Fronteer Development (USA) Inc.
1003857	LC 119	609394	Fronteer Development (USA) Inc.

BLM NMC#	Claim Name	Doc #	Owner of Record[1]
1003858	LC 120	609395	Fronteer Development (USA) Inc.
1003859	LC 121	609396	Fronteer Development (USA) Inc.
1003860	LC 122	609397	Fronteer Development (USA) Inc.
1003861	LC 123	609398	Fronteer Development (USA) Inc.
1003862	LC 124	609399	Fronteer Development (USA) Inc.
1003866	LC 125	609400	Fronteer Development (USA) Inc.
1003871	LC 126	609401	Fronteer Development (USA) Inc.
1003867	LC 127	609402	Fronteer Development (USA) Inc.
1003863	LC 128	609403	Fronteer Development (USA) Inc.
1003864	LC 129	609404	Fronteer Development (USA) Inc.
1003865	LC 130	609405	Fronteer Development (USA) Inc.

[1]NewWest Gold USA, Inc. and Fronteer Development (USA) Inc. claims controlled by Fronteer Development Group Inc. Pittston Nevada Gold Company and Pittston Nevada Gold Company, Ltd. claims controlled by AuEx Ventures, Inc.