MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

Updated Technical Report
Sandman Gold Project
Humboldt County, Nevada USA

Prepared for

Fronteer Development Group Inc.

November 1, 2007

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

MINE DEVELOPMENT ASSOCIATES
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1.0 EXECUTIVE SUMMARY

This updated technical report on the Sandman gold project ("Sandman") was prepared under the supervision of Mine Development Associates ("MDA") at the request of Fronteer Development Group Inc. (Fronteer), a public company based in Vancouver, British Columbia and listed on the AMEX and Toronto Stock Exchanges. 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. MDA previously authored technical reports pertaining to Sandman for NewWest Gold Corporation dated May 1, 2006 and May 31, 2007. The information in this technical report is current as of November 1, 2007, unless otherwise noted.

The Sandman project consists of unpatented lode mining claims owned by NewWest Gold USA Inc., a wholly owned subsidiary of NewWest Gold Corporation (NewWest Gold Corporation and NewWest Gold USA Inc. are referred to as "NewWest" in this report), and fee lands subleased by NewWest from Newmont Gold Corporation ("Newmont"). Fronteer acquired 100% of NewWest, including the properties comprising the Sandman project, on September 24, 2007.

The mineral resources for the deposits at Sandman included in this technical report were estimated in January through April 2007 by NewWest personnel under the guidance of MDA; no mineral reserves were estimated. Michael M. Gustin, MDA Senior Geologist and principal author of this technical report, is a qualified person under Canadian Securities Administrators' National Instrument 43-101. There is no affiliation between Mr. Gustin and Fronteer except that of an independent consultant/client relationship.

1.1 Introduction

Sandman is located south of the Slumbering Hills and west of the Tenmile Hills, approximately 13 air miles northwest of the town of Winnemucca, Nevada. The southern limits of the Sandman project are accessed by driving west from Winnemucca on Jungo Road for nine miles. A network of dirt roads provides access within the property boundaries.

The Sandman project consists of 624 unpatented lode mining claims owned by NewWest and 6,720 acres (2,720ha) of fee lands subleased by NewWest from Newmont, for a total of approximately 19,200 acres (7,770ha). NewWest obtained its interests in Sandman in 2006 by means of a series of transactions with Western States Minerals Corporation, a privately owned Utah corporation, and related companies ("WSMC"). Of the 624 unpatented claims, 510 were staked by WSMC or NewWest and are not subject to third-party royalties. The private lands, which are subleased by NewWest from Newmont,

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and the remaining 114 unpatented claims are subject to net smelter return production royalties of 1% on the first 200,000 ounces of gold production and 5% on all production exceeding 300,000 ounces of gold. Title to the property was verified in an independent title report by Erwin and Thompson LLP that was completed in June 2005, and supplemented in May, July, and August 2006 and July 2007.

1.2 History

No historic mining activities are known to have taken place within the Sandman project limits, although approximately 5,000 ounces of gold are reported to have been produced from an underground mine at the Tenmile property. Tenmile is located immediately adjacent to the Sandman project and is also controlled by Fronteer.

Modern exploration of the Sandman project began in 1987 when Kennecott Exploration Company ("Kennecott") geologists discovered gold in outcrop at North Hill. Kennecott and Santa Fe Pacific Gold Corporation ("Santa Fe") formed a joint venture to explore the property later that year and the joint venture conducted geologic mapping, surface sampling, geophysical surveying, trenching, drilling, and metallurgical testing through 1994. The joint venture drilled 275 reverse-circulation ("RC") holes and three diamond-drill core ("core") holes in this period, as well as 4,000 shallow auger holes to sample bedrock beneath the extensive sand cover. A block of claims staked by U.S. Borax was acquired by the joint venture in 1989. U.S. Borax had drilled 37 RC holes within these claims.

The work of companies that controlled the Sandman project prior to Fronteer led to the discoveries and partial definitions of the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll gold deposits, as well as the identification of the Adularia Hill, Basalt Hills, Sandbowl, Windmill, and other exploration target areas.

Kennecott and Santa Fe terminated their joint venture and conveyed their individual holdings at Sandman to WSMC in 1997. WSMC and NewWest subsequently conducted extensive exploration of the property, including rock chip and soil sampling, geophysical surveying, trenching, drilling, and metallurgical testing. WSMC also excavated a test pit at Southeast Pediment measuring 200-ft long by 50-ft wide by 15-ft deep. A 1,067-ton bulk sample of relatively high-grade mineralization was mined and shipped to the Twin Creeks mine of Newmont for milling and leaching. Fronteer plans to continue exploration programs initiated by NewWest at Sandman.

1.3 Geology and Mineralization

Sandman lies along the north-northwest-trending eastern margin of the Sleeper or King River Rift. The Sleeper Rift consists of a regional aeromagnetic and gravity linear that extends from the Idaho border to the Sleeper gold mine, located 14 miles north-northwest of Sandman, through Sandman and the Goldbanks gold deposit, which lies 30 miles to the south-southeast of Sandman. Much of the property area is covered by windblown sand deposits and Late Tertiary to Quaternary basalt. Mapping, exploration drilling, and extensive shallow auger drilling through the sand indicate that most of the sand and basalt in the project area are underlain by a section of Tertiary tuffaceous rocks and andesite, which in turn overlie Late Triassic to early Jurassic metasedimentary clastic and subordinate carbonate rocks.

The Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll gold±silver mineralization at Sandman are classified as low-sulfidation, quartz-adularia, epithermal deposits. The mineralization is hosted by Tertiary volcanic rocks, primarily in tuffaceous units, andesite porphyry, tuffaceous sedimentary units, and basalt. Northwestern Nevada contains a number of similar middle Miocene gold-silver deposits that occur in silicic volcanic or subvolcanic rocks, including the Sleeper, Tenmile, National, and Hog Ranch deposits (Conrad *et al*., 1993). The abundance of adularia and relative paucity of silicification associated with much of the Sandman mineralization compares more closely to the mineralization type at the Round Mountain mine located to the south in Nye County, Nevada.

The mineralization at Southeast Pediment is controlled by a north-striking and moderately west-dipping fault, the contacts of an andesite porphyry body, and shallowly dipping porous beds of tuffaceous rocks. Adularia-quartz zones with high-grade gold mineralization grade outward into lower-grade zones with argillic alteration. Mineralization at Silica Ridge is hosted by tuffaceous rocks, basalt, and andesite and is associated with quartz-adularia-pyrite alteration that grades outward to argillic alteration with anomalous gold. A north-striking east-dipping fault and the contacts of an andesitic dike appear to be the principle controls of the gold mineralization. At North Hill, the primary controls of mineralization are low-angle contacts between andesite porphyry sills and tuffaceous wall rocks. Additional mineralization is associated with high-angle andesite porphyry dikes. Abel Knoll mineralization is hosted in a polylithic breccia, interpreted to be a steeply plunging diatreme, and its tuffaceous wall rock.

Higher-grade gold mineralization at Sandman typically occurs in structurally controlled lens-shaped pods, while lower-grade mineralization displays good continuity.

1.4 Drill-Hole Database and Data Verification

The Sandman drill-hole database includes at least partial records of 810 drill holes, including 775 RC holes, 27 core holes, and eight holes of unknown type, for a total of 280,608 ft. This drilling was concentrated at the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits; other holes were drilled within various exploration target areas throughout the property. An additional 4,000 auger holes, totaling approximately 100,000 ft, were also drilled at Sandman.

The drill holes used in the mineral resource estimations summarized in this Technical Report are listed in Table 1.1.

Table 1.1 Drill-Hole Data used in the Resource Estimations by Deposit and Drill Type

Area	RC			Core			Total		
	No.	Footage	Meters	No.	Footage	Meters	No.	Footage	Meters
Southeast Pediment	158	50,496	15,391	15	5,613	1,711	173	56,109	17,102
Silica Ridge	169	49,616	15,123	6	814	248	175	50,430	15,371
North Hill	121	31,880	9,717	4	705	215	125	32,585	9,932
Abel Knoll	37	18,730	5,709				37	18,730	5,709
Total	*485*	*150,722*	*45,940*	*25*	*7,132*	*2,174*	*510*	*157,854*	*48,114*

Systematic, consistently implemented data checks and validation procedures appear to have been lacking in the various exploration programs at Sandman prior to 2004. A minor amount of check-assay data are available from drill programs from operators prior to WSMC, check assaying was implemented as part of the 2004 drilling program, and other QA/QC procedures were added in the 2005, 2006, and 2007 programs. Check assays from the 2004 program, as well as the minor amount of check-assay data from earlier programs, generally compare well with the original assays. Quality-control data from the WSMC and NewWest programs, taken in their entirety, do not indicate any significant issues, although the quality-control data collection and analysis continues. Twin-hole data from the Southeast Pediment deposit provide evidence of the variability of the gold mineralization and suggest possible contamination of intervals down-hole from high-grade peaks in some of the pre-WSMC RC holes. Core verification holes drilled in 2006 at Southeast Pediment, Silica Ridge, and North Hill also indicate variability in the gold grades, but give no indication of contamination in twinned WSMC and NewWest RC holes. The bulk sample excavated from the test pit at Southeast Pediment and sent to Newmont’s Twin Creeks mine for milling and leaching, as well as verification sampling by MDA, confirms the presence of significant near-surface gold mineralization at Southeast Pediment.

1.5 Mineral Processing and Metallurgical Testing

Bottle roll, column leach, and some gravity concentration tests have been undertaken on trench and drill-hole samples from the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits. The bottle roll and column data indicate that the gold mineralization tested is amenable to direct cyanidation. The data consistently show that cyanide extractions increase with decreasing particle size for the samples tested. Samples that were pulverized to -100 mesh yielded an average gold extraction of 94.3%, while RC chip samples tested at the ‘as-received’ size and samples crushed to -0.25-inch yielded an average gold extraction of 77.8%. There is no clear relationship between the cyanide extractions and gold grades of the head samples, although there is some evidence that samples with higher head grades require a longer leach time to achieve comparable extractions. Cyanide consumptions and lime requirements are low to moderate.

The bulk sample extracted from the test pit at Southeast Pediment was sent to Newmont’s Twin Creeks mine for milling and cyanide leaching. Over 95% of the gold in the 1,067-ton sample was recovered, which is consistent with the bottle roll results generated from samples pulverized to -100 mesh.

1.6 Mineral Resources

The mineral resources reported herein for the Sandman project were modeled and estimated in accordance with Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") definitions. Gold resources at Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll are summarized in Table 1.2.

Table 1.2 Sandman Gold Resources

Imperial Units

SANDMAN GOLD RESOURCES - MAY 2007

DEPOSIT	MEASURED			INDICATED			MEASURED & INDICATED		
	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces
Southeast Pediment Total	644,000	0.070	45,300	1,300,000	0.034	44,500	1,944,000	0.046	89,800
North Hill	387,000	0.037	14,400	2,684,000	0.029	78,400	3,071,000	0.030	92,800
Silica Ridge	511,000	0.032	16,200	1,382,000	0.028	39,000	1,893,000	0.029	55,200
Abel Knoll	168,000	0.037	6,200	957,000	0.029	27,900	1,125,000	0.030	34,100
TOTALS	***1,710,000***	***0.048***	***82,100***	***6,323,000***	***0.030***	***189,800***	***8,033,000***	***0.034***	***271,900***

DEPOSIT	INFERRED		
	Tons	Grade (oz Au/ton)	Au Ounces
Southeast Pediment Total	109,000	0.026	2,800
North Hill	294,000	0.021	6,200
Silica Ridge	518,000	0.014	7,400
Abel Knoll	497,000	0.043	21,600
TOTALS	***1,418,000***	***0.027***	***38,000***

Note: 0.010 oz Au/ton cutoff for Abel Knoll, North Hill, and Silica Ridge
0.010 oz Au/ton cutoff for SE Pediment above 4,200 ft elevation
0.020 oz Au/ton cutoff for SE Pediment below 4,200 ft elevation

Metric Units

SANDMAN GOLD RESOURCES - MAY 2007

DEPOSIT	MEASURED			INDICATED			MEASURED & INDICATED		
	Tonnes	Grade (g Au/t)	Au Ounces	Tonnes	Grade (g Au/t)	Au Ounces	Tonnes	Grade (g Au/t)	Au Ounces
Southeast Pediment Total	584,000	2.41	45,300	1,179,000	1.18	44,500	1,763,000	1.58	89,800
North Hill	351,000	1.28	14,400	2,435,000	1.00	78,400	2,786,000	1.04	92,800
Silica Ridge	463,000	1.08	16,200	1,254,000	0.97	39,000	1,717,000	1.00	55,200
Abel Knoll	152,000	1.27	6,200	868,000	1.00	27,900	1,020,000	1.04	34,100
TOTALS	***1,550,000***	***1.65***	***82,100***	***5,736,000***	***1.03***	***189,800***	***7,286,000***	***1.16***	***271,900***

DEPOSIT	INFERRED		
	Tonnes	Grade (g Au/t)	Au Ounces
Southeast Pediment Total	99,000	0.88	2,800
North Hill	267,000	0.72	6,200
Silica Ridge	470,000	0.49	7,400
Abel Knoll	451,000	1.49	21,600
TOTALS	***1,287,000***	***0.92***	***38,000***

Note: 0.34 g Au/t cutoff for Abel Knoll, North Hill, and Silica Ridge
0.34 g Au/t cutoff for SE Pediment above 1,280 m elevation
0.69 g Au/t cutoff for SE Pediment below 1,280 m elevation

A cutoff of 0.010 oz Au/ton (0.34 g Au/t) was chosen to reflect mineralization potentially available to open-pit extraction and heap-leach processing, and MDA believes that this cutoff is reasonable for the reporting of the Southeast Pediment mineral resources above an elevation of 4,200 ft (1,280m), as well as all of the Silica Ridge, North Hill, and Abel Knoll resources. Southeast Pediment mineral resources below 4,200 ft (1,280m) may be subject to higher extraction costs, or lower recoveries, and therefore are reported at a cutoff of 0.020 oz Au/ton (0.69 g Au/t).

1.7 Conclusions and Recommendations

Exploration work completed at Sandman to date has resulted in the discovery of four gold deposits and the identification of other target areas that remain to be explored. Sandman provides the potential for near-term production from one or more of the known deposits. There is also excellent potential for the discovery of new precious-metal mineralization beyond the limits of the known deposits, as demonstrated by the Abel Knoll discovery in 2006.

MDA believes that Sandman is a property of merit that warrants significant additional expenditures. Programs aimed at increasing the size of the Sandman mineral resources and defining new areas of mineralization are justified in a Phase I work program (Table 1.3). Drilling at the four deposit areas in 2006 and 2007 concluded with open-ended mineralization in a number of drill holes, and step-out RC drilling in these areas should continue.

Sandman is a large property that is extensively covered by alluvial gravels and wind-blown sand. Four discrete gold deposits have been discovered at Sandman, which proves the existence of multiple hydrothermal systems and suggests that the potential for the discovery of additional deposits is excellent. Geophysical, geochemical, and geological data have led to the identification of a number of quality exploration targets that are not fully explored. The Phase I program recommends first-pass or follow-up drill testing of these targets, as well as infill/confirmatory core drilling at each of the four existing resource areas. Further work aimed at developing new exploration targets is also warranted. Geophysical and geochemical surveys should be completed with the goal of defining new targets. Additionally, scoping-level economic studies should be completed as deposit resources continue to be refined.

The estimated costs of the recommended Phase I programs at Sandman are listed in Table 1.3.

A Phase II work program is also presented in Table 1.3. The Phase II recommended program consists of follow-up definition drilling, infill core drilling, and metallurgical testing of all resource areas. This work is contingent on positive results from Phase I.

Table 1.3 Recommended Sandman Work Program: Phases I and II

Phase I	
80 Core holes (36,000 ft @ $100/ft)	$ 3,600,000
Geophysics/Geochemistry	200,000
Preliminary Economic Assessment	75,000
Plan of Operations	250,000
Holding + acquisition costs	140,000
Total Phase I	*$ 4,265,000*
Phase II	
80 RC holes (36,000 ft @ $25/ft)	$900,000
40 core holes ,(18,000 ft @ $100/ft)	1,800,000
Metallurgical test work	150,000
Total Phase II	*$ 2,850,000*

Drilling costs include contractor costs, site preparation and reclamation, assaying, and geologic personnel.

2.0 INTRODUCTION

Mine Development Associates ("MDA") has prepared this updated technical report for the Sandman project ("Sandman") at the request of Fronteer Development Group Inc. ("Fronteer"), a public company based in Vancouver, British Columbia and listed on the AMEX and Toronto Stock Exchanges. MDA previously authored two technical reports pertaining to Sandman for NewWest Gold Corporation (Gustin, 2006; Gustin, Lanier, and Ashton, 2007).

The Sandman project consists of unpatented lode mining claims owned by NewWest Gold USA Inc., a wholly owned subsidiary of NewWest Gold Corporation (NewWest Gold Corporation and NewWest Gold USA Inc. are referred to as "NewWest" in this report), and fee lands subleased by NewWest from Newmont Gold Corporation ("Newmont"). NewWest obtained its interest in Sandman in 2006 through a series of transactions with Western States Minerals Corporation and related companies ("WSMC"), a privately owned Utah corporation. Fronteer acquired 100% of NewWest, including the properties comprising the Sandman project, on September 24, 2007.

The purpose of this report is to provide a technical summary of the Sandman gold project for Fronteer and to satisfy Fronteer's obligation to file a technical report to be made available to the public. The technical report was written in compliance with disclosure and reporting requirements set forth in the Canadian Administrators' National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1. The mineral resources for the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits were estimated in January through April 2007 by NewWest personnel under the guidance of Michael M. Gustin, MDA Senior Geologist; no mineral reserves are estimated. Mr. Gustin is a qualified person under Canadian Securities Administrators' National Instrument 43-101. There is no affiliation between Mr. Gustin and Fronteer except that of an independent consultant/client relationship. The mineral resources reported herein for the deposits at Sandman are estimated to the standards and requirements stipulated in Canadian National Instrument 43-101. The information in this report is current as of November 1, 2007, unless otherwise noted.

The scope of this study included a review of pertinent technical reports and data in possession of WSMC, NewWest, and Fronteer relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, resources, and metallurgy.

MDA has relied on the data and information provided by NewWest and Fronteer for the completion of this report, including the supporting data for the estimate of the mineral resources at Sandman. The information reviewed by MDA in order to complete this report is the result of work by NewWest and prior operators on the Sandman project; most of the conclusions made in this report are based on MDA's review of this work.

MDA has made such independent investigations as has been deemed necessary in the professional judgment of the principal author to be able to reasonably rely upon the data presented to MDA by NewWest and Fronteer.

MDA's mandate was to comment on substantive public or private documents and technical information listed in Section 22. The mandate also required on-site inspections and preparation of an independent technical report containing the authors' observations, conclusions, and recommendations. Site inspections were conducted on various occasions, including July 9, 2004, July 20, 2006, and January 10, 2007. These visits included: (1) field reviews of ongoing reverse-circulation and core drilling programs; (2) inspections of typical Southeast Pediment mineralization exposed in a pit; (3) review of outcrops of rock types that host mineralization in the subsurface; and (4) independent sampling of exposures in the Southeast Pediment test pit and drill cuttings.

Due to the historic corporate interrelationships between WSMC and NewWest, the two companies are sometimes referred to interchangeably in this report.

Currency, units of measure, and conversion factors used in this report include:

Linear Measure

1 inch = 2.54 centimeters
1 foot = 0.3048 meter
1 yard = 0.9144 meter
1 mile = 1.6 kilometers

Area Measure

1 acre = 0.4047 hectare
1 square mile = 640 acres = 259 hectares

Capacity Measure (liquid)

1 US gallon = 4 quarts = 3.785 liters

Weight

1 short ton = 2000 pounds = 0.907 tonne
1 pound = 16 oz = 0.454 kg = 14.5833 troy ounces

Analytical Values	percent	grams per metric tonne	troy ounces per short ton
1%	1%	10,000	291.667
1 g/tonne	0.0001%	1	0.0291667
1 oz troy/short ton	0.003429%	34.2857	1
10 ppb			0.00029
100 ppm			2.917

Density

g/cc = 32.0369 ÷ tonnage factor (ft^3/ton)

g/cc = 0.016018 x pounds/ft^3

Currency

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

Frequently used acronyms and abbreviations

^{40}Ar/^{39}Ar	Argon isotope ratio radiometric date
AA	atomic absorption spectrometry
AAL	American Assay Laboratories
Ag	silver
American Assay	American Assay Laboratories
Au	gold
avg.	average
Barringer	Barringer Laboratories, Inc.
BLM	United States Department of the Interior, Bureau of Land Management
Bondar Clegg	Bondar Clegg Inc
Boyles Brothers	Boyles Brothers Drilling Company
^{o}C	degrees Centigrade
cc	cubic centimeters
Chemex	ALS Chemex
CIM	Canadian Institute of Mining, Metallurgical, and Petroleum
cm	centimeter
Cone	Cone Geochemical Inc.
core	diamond drill core
Dateline	Dateline Drilling Inc.
DeLong	DeLong Construction and Drilling
Eklund	Eklund Drilling Company
°F	degrees Fahrenheit
Fronteer	Fronteer Development Group Inc.
ft	foot or feet
g	grams
g/t	grams per metric ton (tonne)

Frequently used acronyms and abbreviations, cont.

g Ag/t	grams silver per metric ton (g/t)
g Au/t	grams gold per metric ton (g/t)
gpm	gallons per minute
ha	hectare
Harris	Harris Exploration Drilling and Associates Inc.
ICP	Inductively Coupled Plasma
ID	identification
in	inch
IP	induced polarization
Johnson	Johnson Drilling
K/Ar	Potassium/argon radiometric date
KCA	Kappes, Cassiday & Associates
Kennecott	Kennecott Exploration Company
kg	kilogram
km	kilometer
Lang	Lang Exploratory Drilling Company
Layne	Layne Christensen Company
lbs	pounds
Legend	Legend Laboratories
m	metre
Ma	millions of years ago
McClelland	McClelland Laboratories, Inc.
MDA	Mine Development Associates
mm	millimeter
NDEP	Nevada Department of Environmental Protection
NSR	net smelter return
Newmont	Newmont Gold Corporation
NewWest	NewWest Gold Corporation and NewWest Gold USA Inc.
oz Ag/ton	troy ounces silver per short ton (oz/ton)
oz Au/ton	troy ounces gold per short ton (oz/ton)
PAH	Pincock, Allen & Holt
QA/QC	quality assurance/quality control
RC	reverse-circulation drilling method
Sandman	Sandman gold project
Sandman project	Sandman gold project

Frequently used acronyms and abbreviations, cont.

Santa Fe	Santa Fe Pacific Gold Corporation
SMJV	Sandman Joint Venture (between Kennecott and Santa Fe)
ton	short ton
t	metric tonne
USGS	United States Geological Survey
VLF-EM	Very Low Frequency Electromagnetic
WSMC	Western States Minerals Corporation

3.0 RELIANCE ON OTHER EXPERTS

A title opinion of NewWest's landholdings comprising the Sandman project was prepared by Erwin and Thompson LLP (Erwin, 2005) and updated in several supplements (Erwin, 2006a, 2006b, 2006c, 2007). As MDA is not an expert for assessing the legal validity of properties in the United States, MDA relies on the conclusions of Erwin and Thompson LLP as to the title of the Sandman properties.

MDA relies on Fronteer to provide full information concerning all corporate relationships and other corporate dealings, current legal title, and environmental permitting pertaining to Sandman that is not derived from Erwin and Thompson LLP (Erwin 2005; 2006a, 2006b, 2006c, 2007).

MDA did not conduct any investigation of the environmental or social-economic issues associated with the Sandman project, and the authors are not experts with respect to these issues. Sections 4.5 and 4.6 are based on information provided by Debbie Struhsacker, Environmental Permitting & Government Relations Consultant, who is an environmental specialist contracted by NewWest.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

Sandman is located in Townships 36 and 37 North, Ranges 35 and 36 East, Mount Diablo Meridian, Humboldt County, Nevada, and is shown on the Mormon Dan Butte, Barrett Springs, and Rose Creek 7 ½ minute United States Geological Survey ("USGS") quadrangle maps. The property is situated south of the Slumbering Hills and west of the Tenmile Hills, approximately 13 air miles northwest of Winnemucca, Nevada, and 14 miles south of the currently inactive Sleeper gold mine (Figure 4.1). Sandman is accessed by driving west from Winnemucca on Jungo Road for nine miles, and then a further five miles to the north on dirt roads that lie largely within the property boundaries.

Also shown on Figure 4.1 is the Tenmile property, which lies immediately to the southeast of Sandman. Although not the subject of this report, the Tenmile property is also controlled by Fronteer through its ownership of NewWest.

Significant gold mineralization at Sandman has been identified at the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits (Figure 4.2) for which NI 43-101 compliant mineral resources have been estimated.

4.2 Land Area

The Sandman project consists of 624 unpatented lode mining claims owned by NewWest on ground administered by the U.S. Bureau of Land Management ("BLM") and 6,720.32 acres (2,719.71ha) of fee lands subleased to NewWest from Newmont Gold Corporation ("Newmont"), successor by merger of Santa Fe Pacific Gold Corporation ("Santa Fe"), and administered by the Nevada Department of Environmental Protection ("NDEP"). The claims and fee lands are contiguous with the exception of one small group of 18 claims at the southwestern corner of the property that lies about one-half mile from the rest of the claim block, a second group of 18 claims on the southern edge of the property that has one corner in common with the bulk of the property, a third group of 36 claims on the northwestern edge of the property that has one corner in common with the bulk of the property, and a fourth block of 20 claims east of the northern portion of the main body of the project. Table 4.1 and Figure 4.2 show the land holdings included in the Sandman project. Figure 4.2 shows the location of the Sandman mineral resources described in Section 17 in relation to the property, while Figure 7.3 displays the location of other mineralization and exploration targets. The NewWest claims were staked using a Garmin 76 hand-held Global Positioning System unit. The fee lands comprise whole or half-sections tied to USGS surveyed section corners.

Table 4.1 Sandman Property Land Holdings

Type of Property	No. of Unpatented Claims	Approximate Area (acres)[1]	Approximate Area (hectares)	Annual Holding Costs[2]
NewWest Unpatented Claims (not subject to royalty)	510	10,200	4,128	$ 68,085
NewWest Unpatented Claims (subject to royalty)	114	2,280	923	$ 15,219
Fee Lands Subleased to NewWest (subject to royalty)	-	6,720.32	2,719.71	$ 33,512
Totals	*624*	*19,200*	*7,771*	*$116,816*

[1] Assumes each claim covers 20 acres (8.094ha).
[2] Includes $125 Federal claim- holding fees, $8.50 County filing fees, lease or advance royalty payments, and county taxes.

4.3 Mining Claim Description

The royalty burdens and status of the unpatented mining claims and subleased private lands discussed in this section and Section 4.4 are based on a review of various legal documents provided by WSMC and NewWest, as well as a mineral status report on the Sandman property and associated supplements (Erwin, 2005, 2006a, 2006b, 2006c, 2007).

Out of the total of 624 unpatented lode mining claims within the Sandman project owned by NewWest, 588 claims were reviewed by Erwin and Thompson (Erwin, 2005, 2006c). A total of 510 of these claims (the SAM and SAN claims) are not subject to third-party royalties. The remaining 114 unpatented claims (the Able, NAP, and Sand claims) were originally quitclaimed to WSMC and are subject to the royalty. The remaining 36 unpatented mining claims not reviewed by Erwin and Thompson were staked by NewWest in October 2006. All of the unpatented lode mining claims are listed in Appendix A. All of the unpatented lode mining claims are listed in Appendix A.

Figure 4.1 Location Map

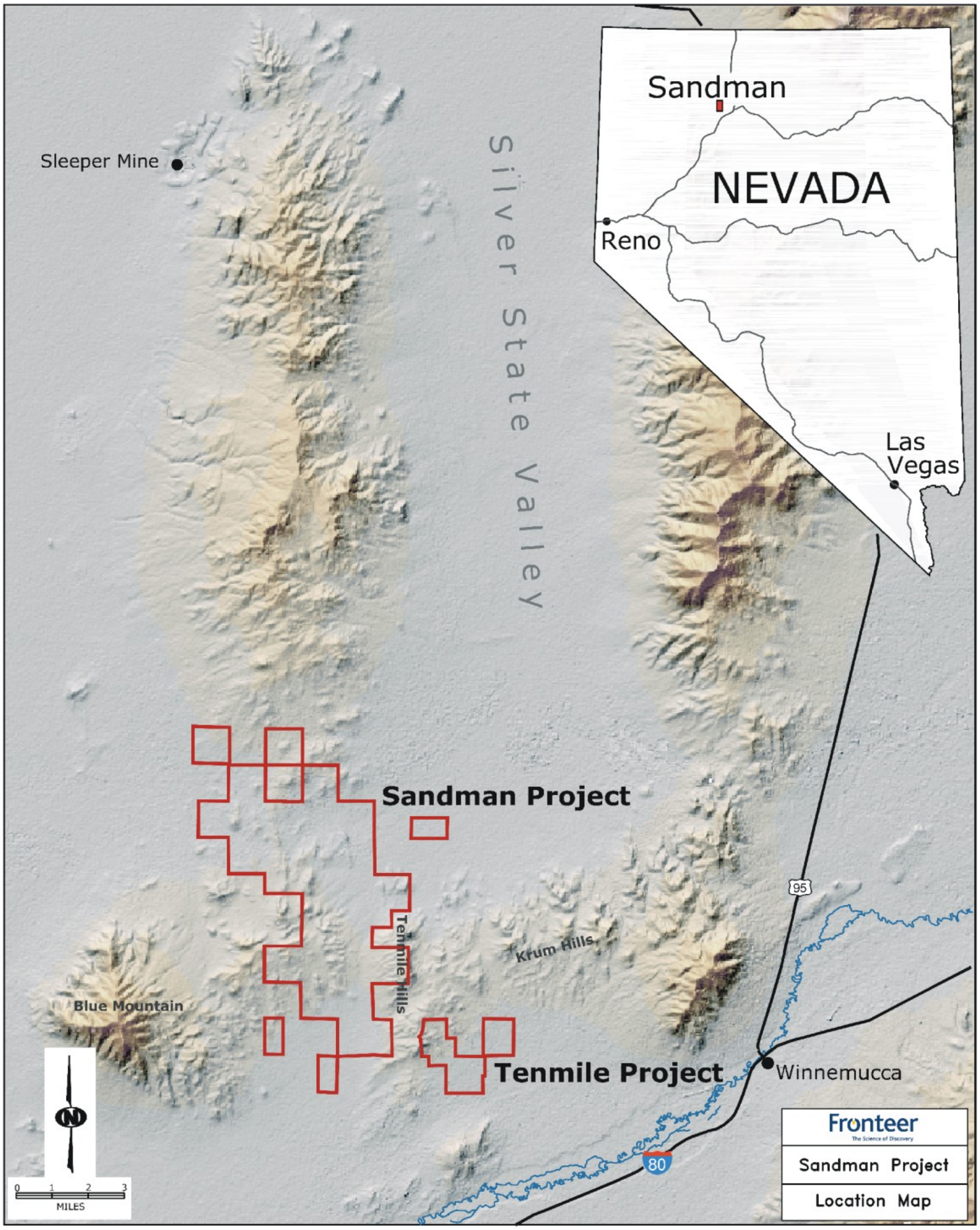
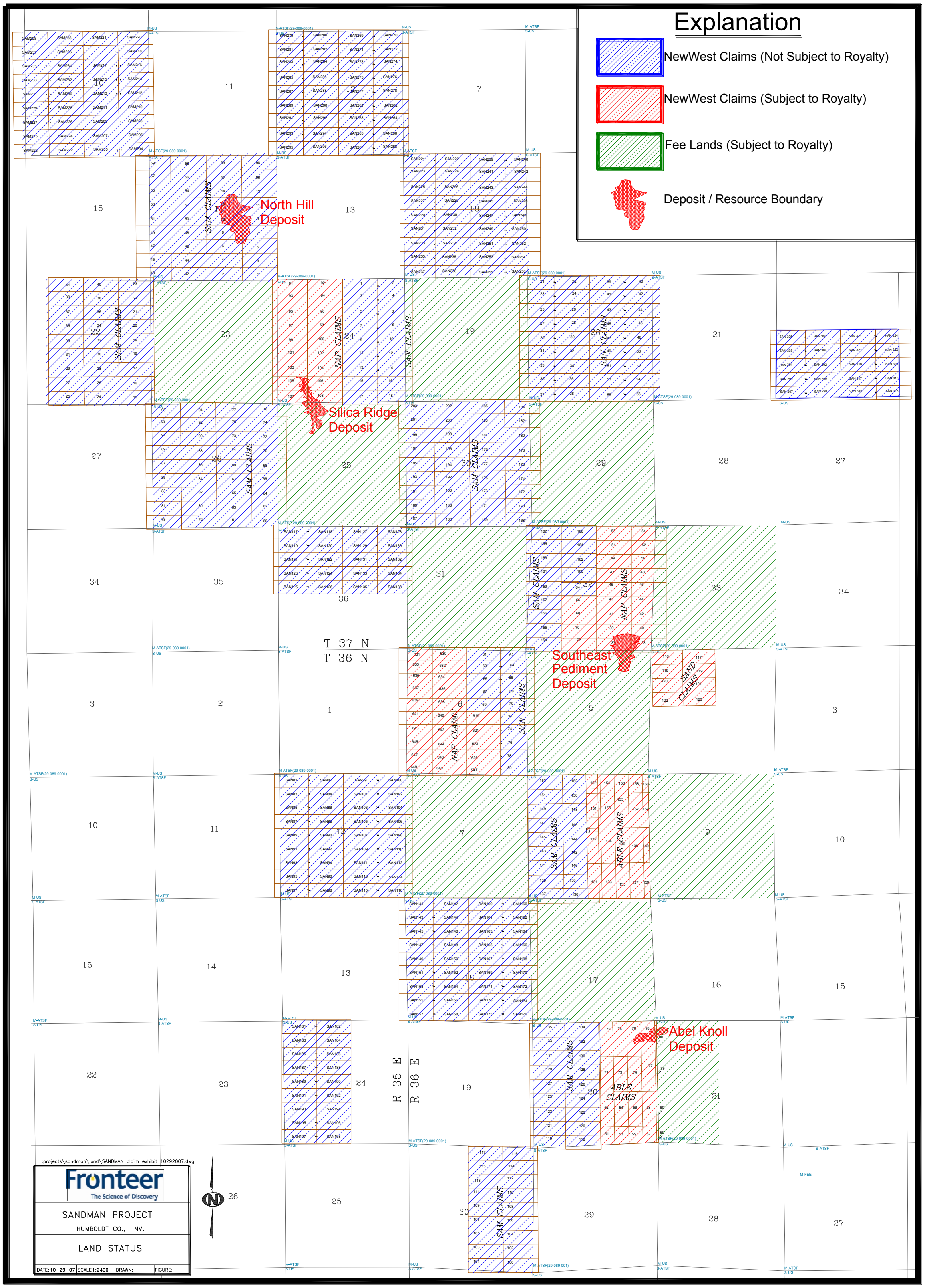


Figure 4.2 Sandman Land Status Map



4.4 Agreements and Encumbrances

The royalty burdens and status of the unpatented mining claims and private lands discussed in this section are based on a review of various legal documents and personal communications provided to MDA by WSMC, NewWest, and Fronteer, as well as the Erwin and Thompson mineral status report and associated supplements (Erwin, 2005, 2006a, 2006b, 2006c, 2007).

The 114 Able, NAP, and Sand claims were staked by Kennecott Exploration Company ("Kennecott"), quitclaimed to WSMC on September 19, 1997, and obtained by NewWest in 2006 as result of a series of transactions with WSMC. These claims, which cover portions of the Southeast Pediment, Silica Ridge, and North Hill resources discussed in Section 17, are subject to a 1% Net Smelter Return ("NSR") mineral production royalty payable to Newmont (0.5674%) and Kennecott (0.4326%). The royalty expires after 200,000 ounces of gold have been produced from the Able, NAP, and Sand claims and/or the Newmont subleased private lands. After a total of 300,000 ounces of gold have been cumulatively produced from the Able, NAP, and Sand claims and/or the subleased Newmont private lands, a 5% NSR royalty on mineral production from the Newmont private lands is payable to Newmont and a 5% NSR royalty on mineral production from the Able, NAP, and Sand claims is payable to Kennecott.

The 6,720.32 acres of Newmont fee ground is held by NewWest by means of a 10-year sublease, which commenced on September 22, 1997 and can be extended for two successive five-year periods. NewWest renewed the sublease by payment of the required advance royalty on August 2007. The sublease provides for annual advance royalty payments of $5 per acre ($33,511.60). While NewWest may reduce the acreage of the sublease, the agreement stipulates that the advance royalty payments cannot be less than $19,200 annually. The advance royalty payments escalate to $10 per acre in years 11 through 15 of the sublease and to $20 per acre beginning with the sixteenth year. The advance royalty payments apply to: (1) Newmont's portion of the 1% Net Smelter Return ("NSR") production royalty jointly paid to Newmont and Kennecott on the first 200,000 ounces of gold produced from the subleased private lands and the Able, NAP, and Sand claims, as described above; and (2) a 5% NSR production royalty payable to Newmont on production from the subleased Newmont private lands once production from the subleased Newmont private lands, Able claims, NAP claims, and Sand claims exceeds 300,000 ounces of gold.

The Southeast Pediment, Abel Knoll, and Silica Ridge deposits are located on the private lands and the 114 claims quitclaimed to WSMC, and therefore subject to the royalties described above, while the North Hill deposit lies on NewWest claims that are not burdened by third-party royalties.

The Federal annual unpatented mining claim maintenance fees for the annual assessment year through and including September 1, 2006 to September 1, 2007 were properly and timely paid on the Sandman unpatented claims (Erwin, 2007). Erwin (2007) reports that the BLM mining claim records indicate that the Sandman unpatented claims are active and in good standing through September 1, 2007. MDA has reviewed documents provided by Fronteer that indicate that the maintenance fees for the Sandman unpatented claims have been paid for the September 1, 2007 to September 1, 2008 assessment year.

The Newmont fee ground is split estate in which the mineral estate is held by Newmont as Lessee and successor-in-interest to the 1987 and 1986 Minerals Leases between Southern Pacific Land Company

(Lessor) and SFP Minerals Corporation (Lessee). Nevada Land and Resources Company, LLC ("NLRC") a land development company, is now the Lessor as they are the successor-in-interest to Southern Pacific Land Company. NewWest is the Sublessee of these Minerals Leases. The Mineral Leases have a primary term of 25 years and will remain in effect for so long thereafter as mineral activities continue on the lands.

Under the terms of these Minerals Leases, the mineral estate includes all hardrock minerals, including gold and silver. These Minerals Leases give the Lessee (and NewWest as Sublessee), broad rights to use the surface of the land for all exploration and mineral development purposes, including the right to destroy the land and underlying water resources without compensating the Lessor. The Lessor, (i.e., NLRC) owns the Excluded Substances, which the Minerals Leases define as placer deposits, oil, gas, geothermal resources, and sand and gravel. The Lessor has the right to use and enjoy the surface so long as Lessor's surface uses do not unreasonably interfere with or impede the Lessee's rights with respect to the minerals. NLRC has sold the surface estate in the Sandman project area to various third-parties.

NLRC appealed the Humboldt County Regional Planning Department's decision to approve NewWest's application for a Conditional Use Permit ("CUP") for Phase 1 activities to support NewWest's ongoing exploration program and Phase II activities for mining and mineral processing (See Section 4.6.2 for a discussion of the CUP). NLRC asserted that the Regional Planning Commission needed to obtain the signatures of the various surface owners of the property prior to approving the CUP. On March 5, 2007, the Humboldt County Board of Commissioners unanimously rejected NLRC's appeal and voted to uphold the Humboldt County Regional Planning Department's decision to issue the Sandman Project CUP. NLRC subsequently filed a lawsuit against the Humboldt County Board of Commissioners in the Sixth Judicial District Court seeking temporary and permanent injunctions to stay the CUP along with a petition for judicial review asking the court to set aside the Humboldt County Commissioners' decision to deny NLRC's appeal.

Ruling from the bench at a May 17, 2007 court hearing in Winnemucca, District Judge Iroz rejected NLRC's request for an injunction. On June 28, 2007, Judge Iroz issued his written order denying the stay and dismissing the petition.

Additional amounts may be required to be paid to surface rights owners in connection with exploration, development, or mining activities on NewWest's minerals subleases at Sandman, where NewWest does not own or lease the surface estate. Although NewWest has contractual rights to make such use of the surface as is reasonably necessary in connection with those activities, the owners of the surface estate of those properties under some circumstances may seek to interfere with or delay NewWest's activities, through objecting to those activities or by seeking compensation from NewWest for its use of the surface. Successful challenges to the use of the surface of any of the NewWest Properties could impair the development of operations on those properties.

4.5 Environmental Liabilities

Reclamation of surface disturbance created in the course of mineral exploration is the only environmental liability at the Sandman project. The gentle topography at Sandman allows for access to most drill sites by overland travel; road and drill pad construction is not necessary at most sites. Sumps to contain drill cuttings and fluids have been excavated at each drill site. Other exploration surface disturbances include several exploration trenches and a small test pit at the Southeast Pediment deposit (see Section 10 for a description of this test pit.)

NewWest has implemented a reclamation policy to reclaim the drill sumps at the end of every field season. All drill sumps constructed through 2006, and some of those built in 2007, have been backfilled and regraded. These areas have not yet been reseeded because additional drilling at or near these sites is likely to occur in the future.

NewWest has provided financial assurance to the BLM to cover the costs to reclaim these sites. The aggregate reclamation bond for the exploration surface disturbance in the four deposits and at other mineral targets within the Sandman project on public land is $75,875. NewWest has also provided $85,000 of financial assurance to the Nevada Division of Environmental Protection/Bureau of Mining Regulation and Reclamation (“BMRR”) to cover the costs of reclaiming the Southeast Pediment test pit and the other exploration features on private land at this deposit, and $17,000 for reclamation of the exploration features on private land at the Abel Knoll deposit.

4.6 Environmental Permits

4.6.1 Environmental Setting

In October 1999, Environmental Management Associates prepared a preliminary environmental report for the Sandman project, which presents the findings from baseline vegetation and wildlife surveys, an assessment of jurisdictional waters of the United States, and a summary of cultural resource inventories (Environmental Management Associates, 1999).

The vegetation baseline survey identified the Lahontan indigobush (*Psorothamnus kingii*), a perennial subshrub that is considered a special status species, on the crest and base of sand dunes in the Sandman project area. In 1996, BLM requested that exploration activities avoid disturbing areas in which this plant species is present (Ashton, 1997). Because the dunes lie well beyond the presently identified areas of mineralization, avoidance of these areas is anticipated to be sufficient mitigation should a mining project be undertaken at Sandman. As of 1999, there were no regulatory protection requirements for this species (Environmental Management Associates, 1999). Recent correspondence from BLM authorizing NewWest’s exploration activities has not mentioned the Lahontan indigobush as an issue of concern.

An old stagecoach road dating from the 1860’s traverses the Sandman project (Environmental Management Associates, 1999). Future mine permitting may require additional fieldwork or research to evaluate whether any cultural resources are present (Ashton, 1997). However, because this road is used by many parties as a primary access route in the project area, the likelihood of finding intact artifacts appears to be small. In 2006, the BLM requested that NewWest upgrade a portion of this road by armoring the surface with a layer of gravel.

NewWest's exploration drilling has encountered ground water in numerous drill holes at depths ranging from 65 to 500 ft below the surface. NewWest has initiated hydrogeological studies to help define how the presence of a shallow water table could impact the mining and permitting of an open-pit operation (Lanier and Ashton, 2003). Shallow water was also encountered during open-pit mining of the Sleeper gold deposit, located about 14 miles north of the Sandman project. Although high water flows affected mining, permitting, and reclamation at Sleeper, it did not preclude mine development. It is not known at this time whether mining at Sandman would entail pit dewatering and closure measures similar to those required at Sleeper.

4.6.2 Existing Exploration Permits

Exploration permitting at Sandman has required a number of Notices of Intent ("Notices") from the BLM for drilling and trenching on public lands. NewWest has eight active notices for exploration activities in the Sandman project area. As mentioned above, NewWest has provided the BLM with $75,875 of financial assurance for these Notices.

BMRR issued Interim Reclamation Permit No. 0267 in March 2007 for the test pit and other exploration activities on the private land at the Southeast Pediment deposit. This permit authorizes NewWest to disturb up to 20 acres of private land and includes an $85,000 financial guarantee. NewWest anticipates that BMRR will issue the Final Reclamation Permit in the near future.

NewWest recently submitted an application for an Interim Reclamation Permit to disturb 10 acres of private and public land at the Abel Knoll area and expects BMRR to issue this permit in the near future. NewWest has provided a $17,000 financial guarantee for the existing and planned exploration disturbances at this deposit.

NewWest will soon develop a Plan of Operations and Reclamation Permit Application for the Sandman project to cover expanded exploration activities. The BLM and BMRR will jointly review this permit application.

NewWest has obtained a Conditional Use Permit ("CUP") from the Humboldt County Regional Planning Commission for exploration and future mining at Sandman (as discussed in Section 4.4, the Lessor, NLRC, pursued an administrative appeal and a lawsuit to challenge the issuance of the permit). The CUP allows for the establishment of an on-site field and security office to support ongoing mineral exploration and potential future mine development (Phase I), the development of four open-pit gold mines, and the construction of a heap-leach processing facility and other mineral-development support and ancillary facilities (Phase II). As one of the compliance obligations included in the Conditional Use Permit, NewWest has obtained a Surface Area Disturbance Air Quality Operating Permit.

4.6.3 Permit Requirements for Mining

Developing a mining and heap-leach mineral-processing project at Sandman will require a number of federal, state, and local permits and authorizations. Permitting this type of project in Nevada is a comprehensive process that is initiated by submitting a Plan of Operations/Reclamation Permit application to the BLM and BMRR, as well as a Water Pollution Control Permit application to BMRR. In order to prepare these permit applications, NewWest will need to perform numerous environmental, technical, and engineering studies, some of which are already underway.

As part of the permitting process, the BLM will have to prepare a National Environmental Policy Act (NEPA) environmental analysis, which will involve public scoping, consultation with Native American tribes, and coordination with other federal agencies. The BLM will most likely prepare an Environmental Impact Statements (EIS) to satisfy this NEPA obligation for the Sandman project.

The private ground at Sandman are split-estate lands in which the mineral estate is subleased from Newmont; see Section 4.4 for further details. Developing a mining project will require ongoing management of these split estate lands to minimize potential conflicts with current and future landowners and to ensure that development of the surface estate does not unreasonably interfere with development of the mineral resources.

5.0 ACCESS; CLIMATE; LOCAL RESOURCES; INFRASTRUCTURE; AND PHYSIOGRAPHY

5.1 Access

Sandman can be reached by driving nine miles on Jungo Road, an improved gravel road, west from Winnemucca to the property boundary. The central portion of the property is accessed by driving an additional five miles north on dirt roads within the property limits. These unimproved dirt roads would have to be upgraded for regular access during mining.

5.2 Climate

Maximum daytime summer temperatures are generally below 100º F with nighttime temperatures usually exceeding 40º F. Winter temperatures generally range between highs in the 50's to lows below zero degrees Fahrenheit. Precipitation averages six to ten inches annually with most occurring as winter snows and, to a lesser extent, summer thunder showers. Pan evaporation is estimated at 60 inches per year. There are no perennial water sources in the area.

5.3 Local Resources and Infrastructure

The city of Winnemucca, which lies about 13 air miles southeast of Sandman, is the nearest regional center for servicing mine-related activities. Winnemucca has approximately 10,000 inhabitants, is located on Interstate Highway 80, and services mining operations at Newmont's Twin Creek open pit gold mine.

A power line, not of sufficient capacity to use for mining according to NewWest staff, traverses the Sandman project, and a natural gas line passes south of the property limits. The topography within the property area includes plentiful flat-lying areas that would be favorable for the siting of mining facilities. The Sandman property, as described in Section 4 and according to the understanding of MDA, includes sufficient surface rights for all necessary mining infrastructure.

There are no permanent or perennial streams at Sandman. There is a well on NewWest's Tenmile property to the east of Sandman that could potentially be used as a water source, although mining operations would probably require the purchase of water rights from one or more ranchers in the area and the installation of a production well on the property. At the Southeast Pediment deposit, the west-dipping andesite porphyry forms an aquifer that might be used as a source of water for an operation (Lanier and Ashton, 2003).

At Southeast Pediment, six drill holes encountered water at depths of 65 to 75 ft (Lanier and Ashton, 2003). Water was reported at depths of 90 to 520 ft at 74 other holes at Southeast Pediment.

5.4 Physiography

The Sandman project lies in an area of moderate relief west of the Tenmile Hills (Figure 4.1). The terrain ranges from flat valleys to rolling hills to somewhat mountainous with an elevation range of 3,500 to 5,000 ft. Common landscape features include basalt-capped hills, angle-of-repose talus slopes, and sand dunes.

Vegetation is sparse due to the very sandy, loose, and unstable surface soils, and the aridity of the property area. Areas of drifting sand are common. Sagebrush and bunchgrasses are the characteristic plants with cheat grass especially common in areas that were burned in the past.

6.0 HISTORY

No historic mining activities are known to have taken place within the Sandman project. Approximately 5,000 ounces of gold are reported to have been produced from an underground mine at the Tenmile prospect (WSMC, 2000a), which is adjacent to the Sandman project on the southeast and is also controlled by Fronteer through NewWest. The following discussion of modern exploration activities is largely summarized from Master (1997a) and Lanier (1999 update of 1997 report).

The first known exploration at Sandman appears to have been by Kennecott who discovered gold mineralization in outcrop at North Hill in 1987. In July 1987 Kennecott and Santa Fe formed the Sandman Joint Venture ("SMJV") to explore the area. Kennecott was the operator of the joint venture through 1989, while Santa Fe was the operator from 1990 to 1997. It is not clear exactly what work described below by Kennecott in 1987 was completed before or after the formation of the SMJV.

Kennecott undertook detailed mapping and sampling and completed three gradient-array induced polarization ("IP")-resistivity, aeromagnetic, and gravity geophysical surveys. Great Basin Geophysical, Inc. and Practical Geophysics conducted the IP-resistivity surveys in the Abel Knoll, Southeast Pediment, and North Hill areas. An L-shaped survey 10,400 ft north-south by a maximum of 6,400 ft east-west identified an anomaly at Abel Knoll. This survey consisted of 400-ft line spacing with some 200-ft infill lines, and stations every 200 ft along the lines. The Southeast Pediment survey covered an area of 9,600 ft by 4,800 ft using 400-ft line spacing with stations every 200 ft. At North Hill, the IP-resistivity survey covered a 9,600 ft by 8,000 ft area and also used 400 ft line spacing with stations every 200 ft. The details and results of Kennecott's aeromagnetic and gravity surveys were not available for review by MDA for this report.

Kennecott drilled 211 reverse-circulation ("RC") holes of the SM- and DAF-series and three SMC-series diamond-core ("core") holes for a total of 82,077 ft (excluding one hole of unknown depth) in the period from 1987 through 1990. The SMJV also completed 7,200 ft of trenching. This work led to the further definition of the North Hill mineralization, the discovery of the Silica Ridge and Southeast Pediment gold deposits, and the identification of the Adularia Hill and Abel Knoll targets. Southeast Pediment was the only deposit completely covered by post-mineral gravels and was discovered by a program that consisted of float mapping and sampling, geophysics, and drilling.

Kennecott added claims purchased from U.S. Borax to the Sandman project in 1989. U.S. Borax drilled 37 RC holes of the RR series totaling 12,570 ft on these claims in 1988.

Santa Fe continued exploring the Sandman project for the SMJV in 1990 and drilled 64 DSA-series RC holes for a total of 35,880 ft by 1994. This drilling concentrated on the Southeast Pediment deposit, the Abel Knoll target area, and an area referred to by the SMJV as Basalt Fields. Santa Fe also drilled 4,000 shallow auger holes on a 400 ft by 400 ft grid over a large portion of the property in an effort to sample bedrock below the extensive sand and gravel cover. The total footage of the auger holes was 100,000 ft. Samples were collected immediately above and at the bedrock contact in these auger holes.

The claims covering the mineralization at North Hill were dropped in 1995 and the SMJV property was offered to interested companies. WSMC signed an option-to-purchase agreement on the Sandman project with Kennecott and Santa Fe on May 20, 1996. Kennecott and Santa Fe terminated their joint venture and subsequently conveyed their individual holdings at Sandman to WSMC in 1997 subject to royalty interests (Section 4).

In addition to the exploration work summarized above, several ground-magnetic surveys were completed within the property area at unknown times and by unknown operators. This work included two 2,200-ft ground-magnetic lines completed over the Southeast Pediment deposit.

WSMC's exploration at Sandman began with the re-staking of the North Hill area, the acquisition of all of the SMJV rock and soil geochemical data, and the completion of additional soil surveys. Seven 60-m soil grids were sampled by WSMC within the limits of the property. Multi-element geochemical results of 3,583 soil samples and 3,521 rock samples taken by all previous operators and WSMC within and adjacent to the Sandman project were then compiled into a computer database by WSMC.

WSMC drilled 192 RC holes for a total of 43,590 ft (excluding one hole of unknown depth) and five core holes totaling 585 ft in the Southeast Pediment, Silica Ridge, and North Hill areas in 1996 and 1997. An additional 35 RC holes, for a total of 9,075 ft (excluding one hole of unknown depth), were also drilled on various other exploration targets during this time.

WSMC completed almost 15,000 ft of trenching in 1997 and 1998, as well as a deep resistivity E-scan survey at Southeast Pediment and Very Low Frequency Electromagnetic ("VLF-EM") surveys in the Southeast Pediment, North Hill, CM Zone, K7, Basalt Hills, and Abel Knoll areas (Master, 1998b; WSMC, 2000a,b). The E-scan survey was conducted over a one-square mile area using a grid spacing of 500 ft by Premier Geophysics Inc. The electric current induced on that grid was received from over 4,000 directions in order to model a three-dimensional picture of the current resistance to flow, which is affected by moisture, alteration, and rock type. The E-scan identified two resistive linears and a circular resistivity high beneath the Southeast Pediment deposit (Master, 1998a). The VLF-EM surveys at Southeast Pediment, North Hill, CM Zone, K7, and Basalt Hills used 50-ft station spacings on lines that were generally 100 or 200 ft apart; the Abel Knoll survey used 400-ft line spacings. According to Master (1998b), a grid with lines 100 ft apart gave the best definition of zones in the most efficient amount of time. A Scopas SE-81 VLF receiver was used for these surveys.

Surficial and bedrock geology were re-interpreted in 2000, primarily based on a compilation of existing auger and exploration drill-hole data. RC drill samples were obtained by Newmont in 2000, and re-logging of lithology and rock hardness in Southeast Pediment drill holes was also initiated. Four RC holes for a total of 2,670 ft were drilled at Southeast Pediment; each of these holes encountered gold and silver mineralization at the upper and lower contacts of andesite.

In 2001, the re-logging and rock hardness studies of the Southeast Pediment drill holes were completed, and the deposit was modeled on east-west cross sections.

A 15-hole confirmatory RC drill program was undertaken at Southeast Pediment in 2002 to provide additional confidence in the deposit modeling and to attempt to intercept high-grade mineralized areas. Some rock density determinations were made on previously drilled core samples. In addition, two RC holes were completed at Southeast Pediment to test the down-dip and western extensions of known mineralization. A total of 3,455 ft of drilling was completed during the year. Thirteen assay pulps from intervals in some of these holes were submitted to American Assay Laboratories ("American Assay") for 70-element four-acid digestion Inductively Coupled Plasma ("ICP") analyses as part of a geochemical orientation study (Lanier, 2002b). This study confirmed that the Southeast Pediment deposit has a geochemical signature that is typical of low-sulfidation epithermal systems. It also indicated that there are up to 1.5-times potassium enrichment and 3.3-times uranium enrichment in zones of gold mineralization at Southeast Pediment.

Also in 2002, eight trenches were cut over a shallow portion of the Southeast Pediment mineralization to confirm the location of the main north-trending SEP fault. The topsoil in the area was then removed and air-track drilling on a 5-ft (east-west) by 10-ft (north-south) grid was completed. A total of 171 holes were drilled to depths ranging from 17 to 23 ft, sampled at five-ft intervals, and the 672 drill samples were sent to American Assay for analysis of gold and silver. Based on the assay results, a test pit measuring 200-ft long by 50-ft wide that averaged 15-ft deep was excavated. A 1,067-ton bulk sample of relatively high-grade mineralization was mined and shipped to the Twin Creeks mine of Newmont for milling and leaching (see Section 16). Inspection of the air-track drill results showed that while high-grade gold along the SEP fault is highly variable, the zone is predictable and continuous. The test pit remains open.

In 2003, a district-scale, high-resolution custom helicopter aeromagnetic-radiometric survey covering 32,000 acres with 50 m north-south line spacing was jointly conducted with Newmont; the data were processed by Newmont. The results of this survey are considered sensitive by WSMC and will not be discussed further in this report. Soil geochemical surveys were run at geophysical anomalies. ^{40}Ar/^{39}Ar geochronology of Southeast Pediment dated the Silica Vein as 16.38 ± 0.13 Ma; and basalt as 22.42 ± 0.23 and 22.64 ± 0.29 Ma (Lanier, 2003). The test pit was surveyed during the year.

Twenty-five RC holes for a total footage of 7,850 ft were drilled by WSMC in 2004. Fifteen of the holes were drilled at Silica Ridge and the remaining at various exploration targets throughout the property. Six RC holes were drilled in 2005 at the West Southeast Pediment target; results are discussed in Section 9.

WSMC drilled 284 RC and core holes for a total footage of 70,838 ft within the Sandman project. Details of the drilling programs are discussed further in Section 11.

NewWest conducted a major project-wide drilling campaign in 2006 that ended in the first quarter of 2007. The objectives of the campaign were to increase the size of the then three known deposits, and achieve a drill spacing that would allow resource estimation with a significant proportion of material classified higher than inferred. In addition, district targets were to be drilled to discover new deposits. All of these objectives were achieved by a drill program that included 172 RC and core holes with a total footage of 60,337 ft. The size of each of the known deposits was increased, and a new deposit was discovered at Abel Knoll.

The 2006 drilling campaign ended in the first quarter of 2007 and included 11 RC holes (6,440 ft) and 10 exploration and verification core holes (4,423 ft) at Southeast Pediment, four RC holes (2,320 ft) at West Southeast Pediment, 51 RC holes (13,080 ft) and four core verification holes (705 ft) at North Hill, six RC holes (2,160 ft) at Sandbowl, 55 RC holes (15,905 ft) and three core verification holes (389 ft at Silica Ridge), one hole (740 ft) at the CZ target, 27 RC holes (13,775 ft) at Abel Knoll, and one RC hole (400 ft) at South Windmill.

NewWest's 2007 drilling program began in May and is continuing under Fronteer's ownership. The objectives of the program are to continue to increase the size of the deposit resources and make new district discoveries. To this report date, a total of 29 RC holes have been drilled and assayed including 18 holes at Abel Knoll (11,265 ft), five holes at South Windmill (2,040 ft), two at Sandbowl (780 ft), three at Adularia Hill (1260 ft), and one at North Hill (335 ft). Assay results for these holes are summarized in Appendix C, as are the results from two core holes that were drilled at the end of the 2006 program and not included in the May 31, 2007 resource estimate (AK07-28C and SR07-150C).

The mineral resources for the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits are presented in Section 17.

NewWest conducted an orientation gravity survey in 2007 over the central portion of the Southeast Pediment deposit and over the Abel Knoll deposit (Carpenter, 2007). The purpose of the survey was to determine if a gravity contrast can be measured between mineralized quartz-adularia alteration and the surrounding less-dense argillic alteration. The results of the orientation survey and its possible application to district exploration are presently being evaluated by Fronteer.

Royalty Exploration conducted a surface gas geochemical survey (GORE^{TM} Survey) at the Abel Knoll and Silica Ridge deposits for NewWest in 2007 (Johnson, 2007). The survey was evaluated for its applicability to explore for Sandman-type mineralization. Chemical compound assemblages were identified that suggest the presence of mineralization. However, these assemblages did not consistently locate the mineralization at the deposits. The low sulfur nature of Sandman-type deposits may have contributed to the low geochemical response.

6.1 Historic Resource and Reserve Estimates

A number of internal company estimates of mineralization at the Southeast Pediment, Silica Ridge, and North Hill deposits were completed from early in the 1990's to 2002. There are insufficient details available on the procedures used in most of these estimates to permit MDA to determine that they meet NI 43-101 standards, and the estimates were not classified according to NI 43-101 standards. Accordingly, the mineral inventory figures are presented here merely as an item of historical interest with respect to an exploration target and should not be construed as being representative of actual Mineral Resources and Mineral Reserves (under NI 43-101) present at the Sandman project.

Table 6.1 shows a mineral inventory estimate prepared by Santa Fe for the Southeast Pediment deposit, as well as two estimates for Southeast Pediment and one for Silica Ridge by WSMC that have been reviewed by independent consultants. Numerous other estimates of the three deposits by WSMC are not discussed here as these have not been independently derived or reviewed.

Pincock, Allen & Holt ("PAH") reviewed the 1996 in-pit estimations of WSMC at Southeast Pediment and Silica Ridge (PAH, 1997). The Southeast Pediment "in-pit resource" consists of material grading in excess of 0.020 oz Au/ton lying within a pit designed at a break-even cutoff of 0.022 oz Au/ton. A gold price of $375/oz and a recovery of 75% were used in the calculations. PAH concluded that a structurally controlled zone of high-grade gold (>0.3 oz Au/ton) contains the bulk of the mineralized material within the calculated pit. PAH found that although sample grades within this high-grade zone are extremely erratic, "…the relatively good continuity of the high-grade zone along strike and at depth adds a certain degree of comfort to the resource estimate" (PAH, 1997). Although the high-grade values were not capped in the estimation, samples exceeding 0.6 oz Au/ton were projected 25 ft in the grade estimation, a distance that PAH considered conservative.

PAH (1997) analyzed the uncertainties in the Southeast Pediment and Silica Ridge "in-pit resource" estimations and concluded that "…there is considerably greater risk than is associated with many other gold deposits; however, the only way to decrease this risk is through additional drilling…"

Table 6.1 Historical Mineral Inventory Estimates: Southeast Pediment and Silica Ridge

<table>
<tr><th colspan="8">Southeast Pediment</th></tr>
<tr><th>Company</th><th>Date</th><th>Method</th><th>Cutoff (oz Au/ton)</th><th>Tons</th><th>Grade (oz Au/ton)</th><th>Au Ounces</th><th>Category[1]</th></tr>
<tr><td>Santa Fe</td><td>?</td><td>?</td><td>?</td><td>?</td><td>0.07</td><td>80,000</td><td>"reserve"[2]</td></tr>
<tr><td>WSMC</td><td>11/96</td><td>Inverse Distance</td><td>0.020</td><td>422,472</td><td>0.174</td><td>73,510</td><td>"in-pit resource"[3]</td></tr>
<tr><th colspan="8">Silica Ridge</th></tr>
<tr><td>WSMC</td><td>12/1996</td><td>Inverse Distance</td><td>0.020</td><td>616,667</td><td>0.071</td><td>43,598</td><td>"in-pit resource"[3]</td></tr>
</table>

[1] Category as internally reported by company; does not imply Mineral Resources and Reserves under 43-101
[2] As reported by Master (1997a)
[3] As reported by PAH (1997)

7.0 GEOLOGIC SETTING

Much of the following information regarding regional and local geology at Sandman has been taken from reports by WSMC geologists referenced in Section 22, especially the WSMC (2000b) report.

7.1 Regional Geology

Sandman is located on the western side of the Tenmile Hills in northwestern Nevada (Figure 7.1) in a region characterized by Jurassic compressional tectonics and Tertiary extension. Basement rocks are Late Triassic to Early Jurassic metasedimentary units of the Jungo terrane (Silberling, 1991), part of the Fencemaker Thrust allochthon, which was thrust to the southeast in Jurassic time. The Jungo Terrane includes relatively continuous and thick sequences of fine-grained, basinal, terrigenous clastic rocks that were regionally metamorphosed to greenschist facies to form mainly phyllite and orthoquartzite. Mesozoic granodioritic intrusions ranging in age from 175 Ma to 71 Ma are exposed throughout northwestern Nevada and likely include the small plutons mapped in the Sandman area that intrude the metasedimentary units. Tertiary volcanism and high-angle faulting characterize the north-northwest-trending Sleeper Rift (Figure 7.2).

The area around and including the Tenmile Hills is underlain primarily by Upper Triassic metasedimentary rocks that are overlain by a Tertiary volcanic section of tuffaceous rocks and basaltic flows. The oldest of the Triassic metasedimentary rocks belong to the Winnemucca Formation, which is present at Winnemucca Mountain east of Sandman and at Little Tabletop Mountain (Figure 7.3) just south of Sandman. The Winnemucca Formation at Winnemucca Mountain consists of calcareous shale, thin-bedded to massive carbonates, calcareous sandstone, shale and slate, and feldspathic quartzite. At Little Tabletop Mountain it includes limestone, phyllite, sandstone, and quartzite.

An unnamed unit overlies the Winnemucca Formation and consists of quartzite, phyllite, and phyllitic shale (Willden, 1964). It is characterized by a lack of calcareous beds and may correlate with the O'Neill Formation as described below.

Above this unnamed unit in the western Krum Hills and Tenmile Hills lies the Upper Triassic Raspberry Formation, which in this area is made up of phyllitic shale with subordinate feldspathic quartzite and carbonate beds plus rare chloritized volcanic rocks. In the Krum Hills, the Raspberry Formation is at least 7,000 to 8,000 ft thick.

Overlying the Raspberry Formation in parts of the Tenmile Hills and Krum Hills is the pre-Late Tertiary, possibly early Tertiary, Pansy Lee Conglomerate, which includes pebble conglomerate and sandstone with subordinate cobble conglomerate, sandstone, and siltstone. The formation is 400 to 500 ft thick at the crest of the Krum Hills.

Granodioritic intrusions are present in the region but are undated. They are thought to be Cretaceous and/or Tertiary in age, but gneissic textures in some of the stocks indicate that at least some of the intrusions may have been syntectonic (Willden, 1964). Diorite east of Sandman on Winnemucca Mountain and gabbro southwest of Sandman at Blue Mountain (Figure 7.1) are thought to be Jurassic(?) - Cretaceous in age (Willden, 1964). Tertiary basalt and andesite with local rhyolite or sedimentary

Figure 7.1 Regional Geology

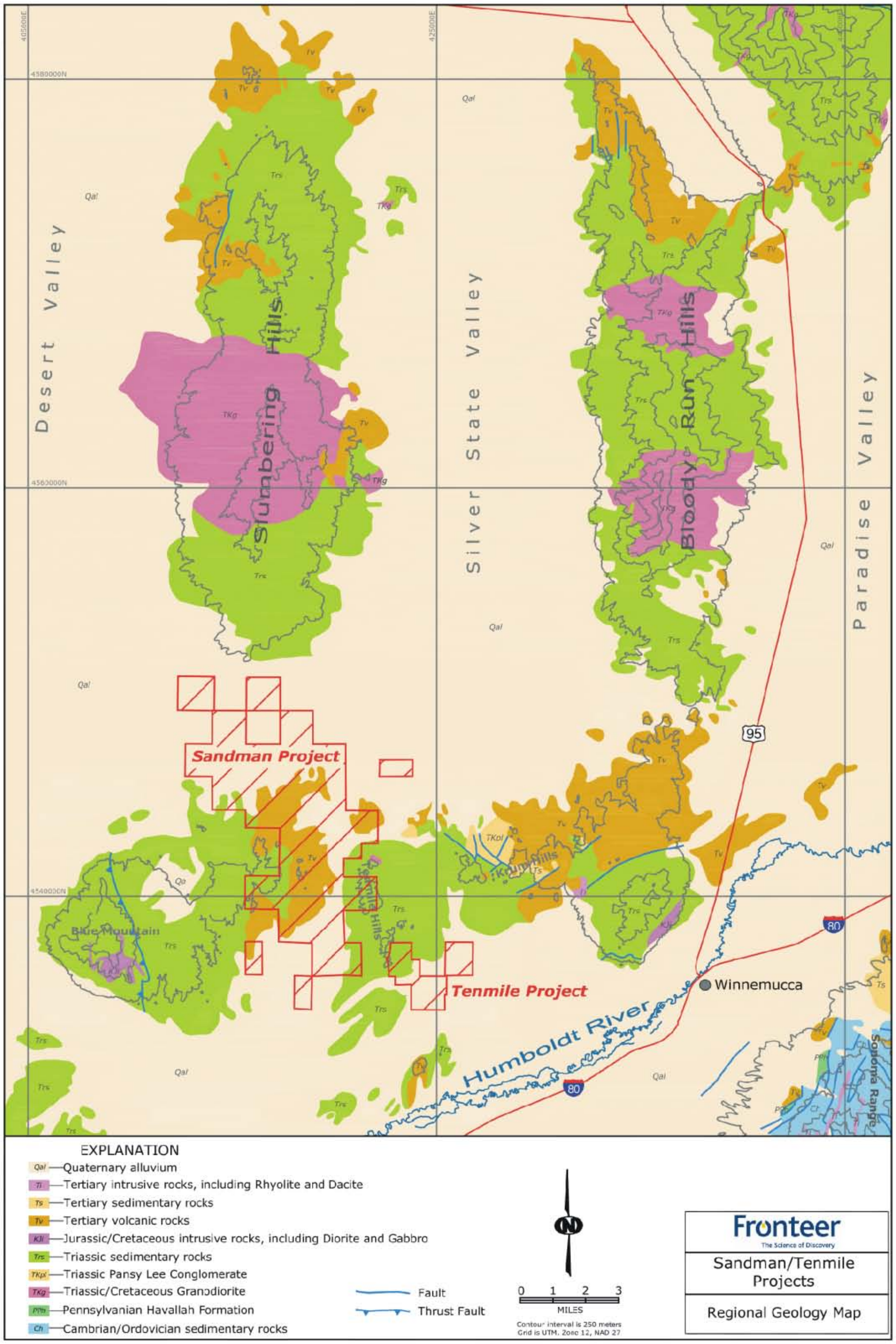
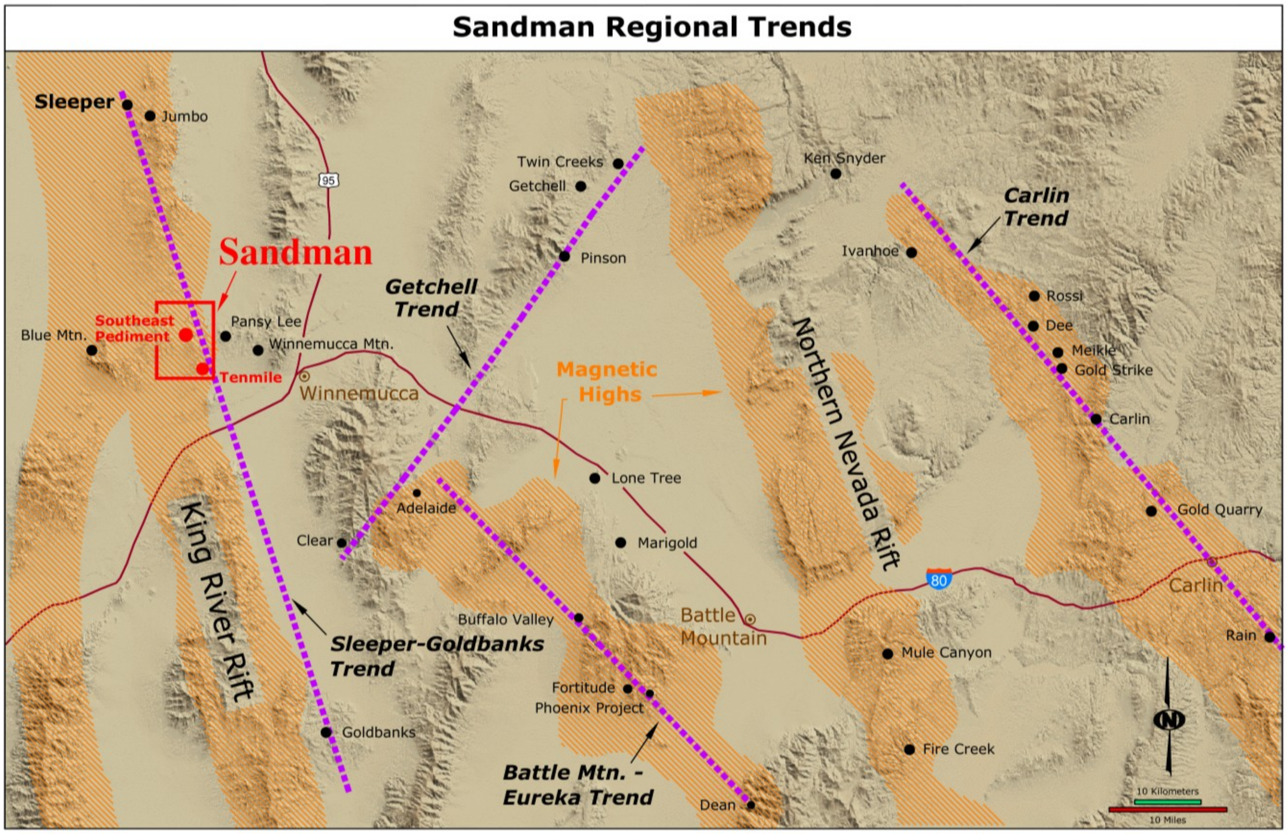


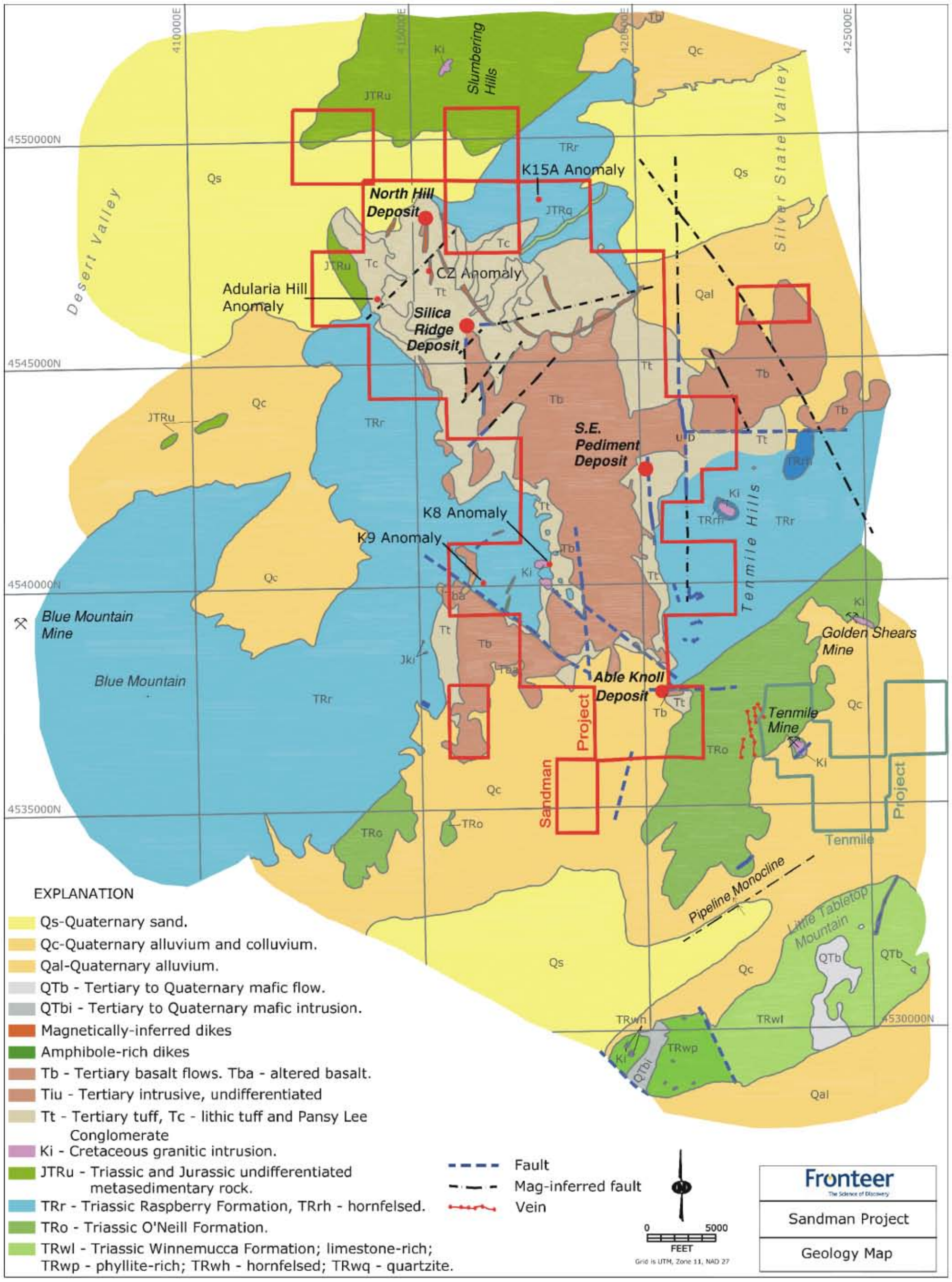
Figure 7.2 Regional Trends and Structures



rocks at the base make up much of the area between the Krum Hills on the east and Blue Mountain on the west of Sandman (Figure 7.1).

The earliest positively identified deformation in the Krum Hills – Tenmile Hills area is tight isoclinal folding and thrust faulting with overturning of folds toward the southeast. Triassic rocks generally strike northeast and dip northwest as a result of this deformation. Younger high-angle faulting offsets the Tertiary rocks.

Figure 7.3 Local Geology



7.1.1 Regional Trends

Figure 7.2 places the Sandman project in a regional context along the eastern side of the north-northwest-trending Sleeper or King River magnetic rift. This rift forms a lineament that also includes the Sleeper and Jumbo mines to the north and the Goldbanks deposit to the south. All of these deposits are epithermal gold deposits that are roughly the same age, 16.38±0.13 Ma at Southeast Pediment, 16.2±0.3 Ma at Sleeper, and 17.3±0.5 at Jumbo (Conrad et. al., 1993). The age of the Goldbanks deposit is not known, but it is hosted in Tertiary volcanic rocks. The Sleeper Rift is defined by a positive aeromagnetic and gravity linear that likely reflects Tertiary high-angle faulting and intrusion (WSMC, 1999).

7.2 Local Geology

Sandman lies along the north-northwest-trending eastern margin of the Sleeper Rift. Much of the property area is covered by Quaternary windblown sand and gravel deposits and late Tertiary basalt. Mapping, RC rotary and core drilling, and extensive shallow auger drilling through the sand indicate that most of the sand and basalt in the property area are underlain by Tertiary rhyolitic tuffaceaous rocks intruded by andesite, which in turn overlie Late Triassic to early Jurassic metasedimentary clastic and subordinate carbonate units. A summary of depositional, tectonic, and mineralizing events at Sandman is shown in Table 7.1.

7.2.1 Stratigraphy

A geologic map of Sandman is shown in Figure 7.3. Bedrock geology below large areas covered in alluvium and wind-blown sand are shown on the map. The bedrock geology is based on mapping of outcrops and data derived from exploration drill holes and auger holes that penetrated the surficial sand and gravel deposits. Stratigraphic units are summarized in the geologic column on Figure 7.4; stratigraphic nomenclature and descriptions follow those from Willden (1964). Thicknesses given for Mesozoic formations are rough approximations.

Late Triassic to possibly Early Jurassic basement rocks are part of the Fencemaker Thrust allochthon, or Jungo Terrane. From oldest to youngest, reported Late Triassic formations that crop out at or very near Sandman are presumed to underlie the property and include the Winnemucca Formation, the unnamed unit that may correlate with the O'Neill Formation elsewhere in the region, and the Raspberry Formation. This sequence may be as thick as 40,000 ft in the property area and has no exposed base or top. The Jungo Terrane rocks appear to have been deposited in a developing and collapsing backarc basin and are interpreted to represent deep slope to basinal sediments (WSMC, 2000b).

Table 7.1 Sandman Property Geology Summary

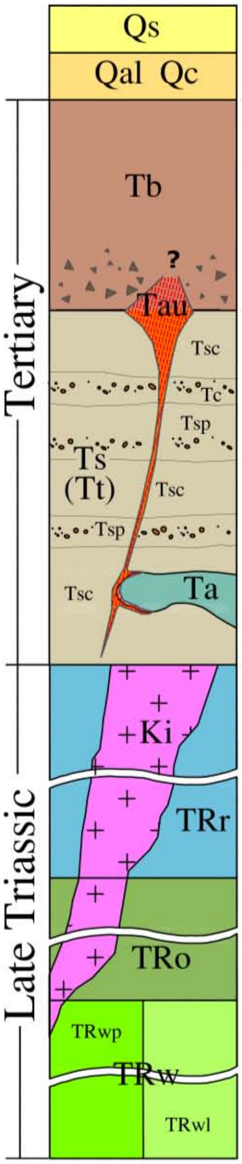
(revised from WSMC, 2000b)

TIME	GEOLOGIC FEATURES
Holocene	Alluvium, colluvium, and eolian sand deposits
Unconformity…………………………………………………………………………………………..	
Late to Post Mineral	Southeast Pediment (SEP) Breccia of unknown origin
Middle Miocene 16.38± 0.13 Ma)	Low-sulfidation epithermal Au-Ag mineralization.
Early Miocene (22.42±0.23 Ma)	Basalt flows [mineral host at Silica Ridge (SR)].
Diastem[1]…………………………………………………………………………………………	
Tertiary (coevil with or post Tuff, Pre-mineral)	Andesite porphyry dikes, sills, and intrusive breccia [mineral host at SEP, SR, North Hill (NH), and Abel Knoll (AK)].
Tertiary (Pre-Miocene)	Rhyolitic lithic tuffaceous rocks [mineral host at SEP, SR, NH, and AK].
Late Eocene-present	Basin and Range high-angle N-, NE-, NW- and E-striking normal fault and joint sets [N-S, NW, and E-W mineral controls].
Unconformity………………………………………..……………………….………………………………...	
Late Cretaceous	Metamorphism-related low-sulfide gold-quartz veins.
Cretaceous	Granodioritic intrusions (mineral host at Tenmile and Basalt Hills).
Late Jurassic-Cretaceous	Lower greenschist facies metamorphism.
Late Jurassic	Southeast-directed Fencemaker Thrust (not exposed at property) with E-NE-trending monoclinal fold and bedding plane faults.
Late Triassic-Early Jurassic	Marine clastic and minor carbonate sedimentary rocks: Winnemucca, O’Neill, and Raspberry Formations (hosts at Tenmile).

[1] Diastem: A relatively short interruption in deposition with little or no erosion before deposition is resumed.

Figure 7.4 Generalized Geologic Column

GENERALIZED GEOLOGIC COLUMN
SANDMAN PROJECT



Quaternary alluvium, colluvium, and eolian sand deposits (Qs, Qal, Qc).

Unconformity

Basalt (Tb). Flows. Up to 500 ft thick. Dark-gray where fresh, locally red to red-brown where weathered. Porphyritic, aphanitic to glassy. Locally massive, flow foliated, and vesicular. Amygdules can be filled with clay, chalcedony, and zeolite. Local flow breccia at base.

Diastem

Andesite Porphyry (Ta). Sills and dikes. Up to 250 ft thick. Black to dark gray-green where propylitized, tan where mineralized. 80% groundmass. 20% phenocrysts of plagioclase and diamond-shaped hornblende. Locally vesiculated.

Sandman Formation (Ts or Tt). Up to 750 ft thick. Tuffaceous rocks subdivided into members based on compostion of lithic component: chert-bearing (Tsc) and phyllite-bearing (Tsp). All lithologies are composed of rhyolitic crystal ash with or without lapilli-size liths or pebbles. Chert-bearing members include thin conglomerate-like interlayers similar to the Pansy Lee (Tc). Local alluvial phyllite breccia at base. Main host for epithermal mineralization (Tau) at Sandman.

Unconformity

Granitic Intrusion (Ki). Small stocks and sills.

Raspberry Formation (TRr). 20,000 ft thick. Phyllite, light-green to light-gray, wavy shaly foliations and cleavage; 5 to 10% discontinuous quartzite beds, light-brownish-gray to light-gray, thin-to thick-bedded, fine-grained, and feldspathic. Uncommon light- to dark-gray carbonate beds are scattered through the section. Bioclastic limestone is present near the base.

"O'Neill Formation" (TRo) (Quartzite and Mudstone Formation). 10,000 ft thick. Phyllite, olive-tan, shaley foliations; 5 to 10% discontinuous quartzite beds, light-brownish-gray to light-gray, thin- to thick-bedded, fine-grained, feldspathic and locally muscovite-bearing. Generally noncalcareous.

Winnemucca Formation (TRw). 11,000 ft minimum thickness. East block (TRwl): mudstone-phyllite and numerous limestone, sandstone and quartzite interbeds. West block (TRwp): phyllite and minor sandstone.

The Late Triassic metasedimentary rocks were intruded, probably in the Cretaceous, by small granodioritic stocks. At least four of these stocks and related apophyses and sills are exposed in and adjacent to the property area.

The basement Triassic rocks and Cretaceous stocks are unconformably overlain by Tertiary volcanic rocks. The volcanic rocks form a 1,250-ft thick sequence composed mainly of tuff and reworked tuff that were deposited in the bottoms of paleovalleys, and early Miocene basalt that forms present-day ridges. The volcanic rocks were deposited on an erosional surface with moderate to high relief developed on the metasedimentary rocks. Relatively thin Quaternary deposits of alluvium, colluvium, and eolian sand cover much of the property area.

The stratigraphic units that underlie the Sandman project are described in more detail below. These descriptions are taken from WSMC (2000b) and Willden (1964).

Winnemucca Formation (TRw)

The oldest Late Triassic formation, the Winnemucca Formation, occurs immediately south of the property at Little Tabletop Mountain where two lithologically distinct sequences of the formation are juxtaposed by a northwest-trending fault. The sequence on the east side of the fault, which consists of phyllite interbedded with alternating intervals of limestone, sandstone, and quartzite, is relatively limestone rich (TRwl). The western section is more phyllitic with only minor sandstone and even fewer beds of limestone (TRwp). Bedding on both sides of the fault is near vertical; the combined thickness of the two sections is over 10,000 ft.

Unnamed Unit (TRo)

A thick sequence of Late Triassic metasedimentary rocks occurs in the Tenmile area and is referred to by Willden (1964) as a quartzite-mudstone unit that he considered correlative with the O'Neill Formation in the nearby Bloody Run Hills and Santa Rosa Range. The unnamed unit consists of a monotonous sequence of interlayered olive-tan phyllite and discontinuous beds of feldspathic and locally muscovite-bearing quartzite. Phyllite makes up 90 to 95% of the sequence and forms subdued outcrops. Quartzite beds are light-brown to light-gray, thin- to thick-bedded, fine-grained, and can form bold outcrops.

This unnamed sequence overlies the Winnemucca Formation and grades into the overlying Raspberry Formation with the upper contact arbitrarily placed at the top of the last prominent quartzite bed. The sequence is distinguished from the underlying and overlying formations by its lack of limestone and other calcareous beds. The unnamed unit is generally nonfossiliferous and is at least 10,000 ft thick.

This sequence hosts some of the gold mineralization at the Tenmile prospect, which lies southeast of the Sandman project.

Raspberry Formation (TRr)

The Late Triassic Raspberry Formation occurs in the northern half of the Tenmile Hills, probably the very southern end of the Slumbering Hills, and the eastern slopes of Blue Mountain (Figure 7.3). The formation conformably overlies the unnamed unit and is unconformably overlain by Tertiary volcanic rocks in the property area. Just north of the property, the formation grades upward into very similar undifferentiated Late Triassic and Jurassic(?) rocks (JTRu). The upper contact of the Raspberry Formation is arbitrary, but an estimated thickness for the formation is 20,000 ft. The Raspberry Formation is lithologically similar to the O'Neill Formation but is differentiated by the local presence of calcareous units, including limestone.

The Raspberry Formation consists of approximately 85 to 90% muscovite phyllite and siltstone. The phyllite is light-green to light-gray, has planar to wavy cleavage, and forms subdued outcrops. Discontinuous orthoquartzite beds make up 5 to 10% of the formation. The quartzite is light-brownish-gray to light-gray, thin- to thick-bedded, fine-grained, feldspathic, and commonly stands in relief. Up to 5% light- to dark-gray fine-grained carbonate rocks are locally present within the formation, and light-gray bioclastic limestone can be present near the base of the formation.

The Raspberry Formation underlies the Tertiary volcanic rocks at the Southeast Pediment deposit (WSMC, 2000b).

Volcanic and Related Sedimentary Rocks

Tertiary volcanic rocks at Sandman consist of a complex, undated tuffaceous section (Tt and Ts), early Miocene andesite intrusions (Ta), early Miocene basalt flows (Tb), and a late Tertiary to Quaternary basaltic flow (QTb). The tuffaceous unit, andesite, and early Miocene basalt are important hosts of gold mineralization at Sandman.

The poorly exposed tuffaceous unit is referred to informally as the Sandman formation by NewWest. Its distribution is defined mainly by exploration and auger drill-hole data, and was probably preserved within paleo-topographic lows developed into the basement rocks. The pre-volcanic valleys are interpreted to have formed due to undefined structural features that may have played a role in the location of younger epithermal mineralization. The thickness of the tuffaceous section, as defined by the drill holes, is up to 750 ft.

The Sandman formation is lithic-rich and includes lithic fragments of presumably Tertiary rhyolite, Late Triassic phyllite, siltstone and quartzite, and chert of unknown derivation (WSMC, 2000b) supported in a rhyolitic (quartz-bearing) tuffaceous matrix. WSMC used variations in grain size and the proportions of the matrix, crystal, and lithic components in RC drill cuttings to subdivide the formation into layers and lenses of fine ash tuff, crystal ash tuff, lithic ash to lapilli tuff, and crystal lithic ash to lapilli tuff. At Southeast Pediment, NewWest grouped these layers and lenses into cyclically occurring members up to 250 feet thick that reflect two lithic assemblages derived from two distinct sources. One member assemblage contains chert, quartzite and rhyolite fragments; the other contains phyllite, quartzite, and siltstone. The source of the fragments in the chert-bearing tuffaceous rock is unknown; the source of the fragments in the phyllite-bearing rock is the Late Triassic metasedimentary section.

Most of the coarser layers that are composed of the chert-bearing fragments show rounding of the chert and quartzite fragments, both normal and inverted crude grading, and rare cross bedding, suggesting a sedimentary origin. These conglomerate-like beds (Tc) resemble the Pansy Lee Conglomerate and can be locally present throughout the Sandman formation as thin layers or lenses.

Lacustrine tuffaceous deposits are known from trenching to be present below alluvial gravel east of the Tenmile property. These lake deposits are older than the dated adularia-quartz veining hosted by the deposits (16.5 ± 0.5 Ma; Boden, 1996).

The tuffaceous rocks are the main host of gold mineralization at the Southeast Pediment and Silica Ridge deposits and are important hosts at most other mineralized occurrences on the Sandman project.

The early Miocene basalt was deposited on an erosion surface developed on the tuffaceous section and represents the youngest known host rocks at Sandman. Flow foliations in the basalt generally dip east with variations to the northeast and southeast. The basalt section is up to 500 ft thick and consists of several flows that may be partially vesicular and may include basal flow breccias. Vesicles can be partially to completely filled with zeolite, clay, and silica. Kennecott reports an unpublished K-Ar age date of 26.4±1.2 Ma (Gibson and Potter, 1987) for a basalt sample collected somewhere west of Southeast Pediment. Peters (2003) reports an ^{40}Ar/^{39}Ar date of 22.42±0.23 Ma for basalt with a glassy groundmass collected from the top of a hill located northeast of Southeast Pediment. Peters also reports a corroborating date of 22.64±0.29 Ma for more coarsely crystalline and hematitically altered basalt collected from the top of a ridge west of Southeast Pediment. The basalt is locally hydrothermally altered, and the base of the basalt section is a host for gold mineralization at the Silica Ridge.

A younger episode of late Tertiary to Quaternary mafic volcanism is represented by a basaltic flow that was deposited directly on the Winnemucca Formation on Little Tabletop Mountain.

An enigmatic breccia unit, considered by NewWest to be a probable post-mineral landslide deposit (Lanier, pers. comm., 2004), has been identified in trenches in the northern and northeastern portion of the Southeast Pediment deposit (Tmb on Figure 9.1). The breccia overlies mineralized tuffaceous units and includes mineralized fragments of tuff.

Unconsolidated Quaternary deposits are extensive at the Sandman project. Deposits shown as Qc on Figure 7.3 are alluvial pediment gravels and colluvial deposits on steeper slopes. Two active fields of sand dunes (Qs) cross the property area with an east-northeast alignment (the prevailing winds originate from the west-southwest). Significant alluvial deposits (Qal) are associated with the Humboldt River located just south of Little Tabletop Mountain. The extensive Quaternary cover at the Sandman project adds a degree of difficulty to exploration. Many of the discovered mineral occurrences are mostly to entirely hidden by cover.

7.2.2 Intrusive Rocks

Except for Miocene mafic intrusions, intrusive rocks in the Sandman project area have not been dated. Intrusive rocks include andesite dikes, sills, and fragmental intrusions that are possibly related to the Miocene basalt flows, mafic dikes associated with basalt flows at Little Tabletop Mountain, amphibole porphyry dikes that generally trend northeast (too small to show on maps), and granitic stocks with related apophyses. Based mainly on regional relationships, the granitic rocks are interpreted as Mesozoic intrusions, while the mafic intrusions are early Miocene (based on a single age date) and late Tertiary to Quaternary. The amphibole porphyry dikes present at Sandman are found only intruding Late Triassic metasedimentary rocks and are not classified at this time.

Mesozoic Intrusions (Ki)

Four small granitic stocks and numerous related apophyses, dikes, and sills have been mapped at or near Sandman (Figure 7.3). Others are present just south of the property on the western side of Little Tabletop Mountain and north of the property in the Slumbering Hills. These intrusive rocks have been correlated with Mesozoic, possibly Cretaceous, backarc magmatism (WSMC, 2000b). The Basalt Hills (K8) pluton is the only mapped stock-sized granitic intrusion that lies within the property; it is shown as two small bodies in Figure 7.3 that may be connected. There are numerous sills related to the Basalt Hills stock that are too small to show in Figure 7.3.

Epithermal alteration with anomalous gold mineralization has been superimposed onto, and adjacent to, each of the four stocks within and adjacent to the property. The Tenmile stock appears to be the principal host for explored and exploited mineralization at the historic Tenmile mine, which lies to the southeast of Sandman.

Tertiary Mafic Intrusions (Ta)

Andesite porphyry is the classification given to a group of mafic intrusive rocks that are similar in appearance to a sill at Southeast Pediment with prismatic hornblende phenocrysts, some of which show diamond-shaped cross sections (Honea 2000). The ^{40}Ar/^{39}Ar intrusion age, reported with qualification, of an andesite dike with propylitic alteration from Silica Ridge is 23.00 ± 0.09 Ma (Peters 2005). At Southeast Pediment and North Hill, altered andesite porphyry sills up to 250 ft thick are generally conformable to the enclosing tuffaceous section, and dilate the section above the sills a distance equivalent to the thickness of the sills. An andesite porphyry sill at North Hill bifurcates, is locally vesiculated near its contacts, and is the main host of mineralization at the deposit. At Silica Ridge, a 40-ft thick, high-angle andesite dike is present that trends easterly and flattens upwards and to the north. At Abel Knoll, vesiculated andesite fragments in a steeply plunging breccia are interpreted to represent juvenile magma of a diatreme. Also at Abel Knoll, rock previously interpreted as a vesiculated basalt flow may actually be another andesite sill.

Andesite intrusions, both sills and dikes, are important hosts of mineralization at North Hill, Southeast Pediment, Abel Knoll, and Silica Ridge, and are also present at district exploration targets including Sandbowl, Windmill, and the Central Zone. Where present, gold mineralization often occurs along and parallel to contacts of the mafic intrusions.

Tertiary to Quaternary Intrusive Rock (QTbi)

A large basaltic dike with associated small apophyses occurs on the western side of Little Tabletop Mountain (Figure 7.3). The dike is aphanitic with high-angle flow foliations and intrudes phyllite of the Winnemucca Formation. Because of its close proximity to the younger mafic flows on Little Tabletop Mountain, it is considered related and approximately the same age as the flows, late Tertiary to Quaternary (WSMC, 2000b).

7.2.3 Structure

The Sandman project is situated within the fold and thrust belt of the Fencemaker Thrust allochthon known as the Jungo Terrane. The thrust is exposed to the south of Sandman in the East Range and is projected northward east of the property near Winnemucca. Low-angle and bedding plane faults and breccias are common in the metasedimentary rocks in and adjacent to Sandman and are thought to be related to the southeastward tectonic transport of the Fencemaker allochthon in the Jurassic.

Tertiary units at Sandman are cut by a complex of high-angle faults and joints (Figure 7.3). High-angle structures include northwest-trending faults with indicated significant apparent right-lateral displacement, inferred northeast-trending faults with apparent left-lateral displacement, north-trending faults with normal displacements, and east-trending faults with undefined displacements. The northeast- and northwest-trending faults with lateral movements suggest shortening in a north-south direction. Normal north-trending faults dip both east and west, have minor displacements with a component that is post mineral, are at least in part younger than the northeast- and northwest-trending faults, and suggest east-west Basin and Range extension. These north-trending faults produced small horsts and grabens within the property. Mineralization is associated with all structure orientations.

High-angle Faults
Stereographic analysis of structural measurements from trenches excavated in tuffaceous rocks at Southeast Pediment show three high-angle structure sets that strike northwest, north, and east to east-northeast (WSMC, 2000b). These same structure sets are evident on high-resolution magnetic maps of the project area, and have been mapped and modeled in the district and at the deposits using drill-hole information. Models show that gold mineralization is directly controlled by north-, northwest-, east-, and probably northeast-trending structures.

Northwest-Trending Faults and Joints
Northwest-trending faults show large apparent right-lateral displacements in the district. Northwest-trending jointing is well developed in the Tertiary volcanic rocks. Northwest-striking joints host significant gold mineralization at Silica Ridge.

The northwest-trending faults shown on Figure 7.3 are inferred from the juxtaposition of lithologies and a high-resolution magnetic survey. One fault positions the limestone-rich section of the Winnemucca Formation against the phyllitic section at Little Tabletop Mountain. Other northwest-trending faults, located south of Basalt Hills (K8), are based on auger-hole information supported by magnetic information, and place the Tertiary section against the Raspberry Formation. Structural data from trenches at Southeast Pediment show that northwest-striking joints, which mainly dip about 75º to the northeast, are well developed in tuffaceous rocks. A drill-defined zone of mineralization occurs in basalt at Silica Ridge that trends northwest and dips approximately 70º northeast. The structural control for this mineralization is inferred to be joints, because the base of the basalt does not appear to be offset.

Northeast-Trending Faults

Structures with a northeast orientation are mainly inferred at Sandman. Those shown or Figure 7.3 with left-lateral displacement are inferred from magnetic data. The strongest evidence for the northeast orientation is at Adularia Hill, where a strong geochemical anomaly in drill holes is elongate in a northeast direction.

North-Trending Faults and Joints

North-trending faults and strongly developed north-striking joints are interpreted to be Basin and Range extensional structures. The faults show little to moderate normal displacement, and are important mineral controls at Southeast Pediment and Silica Ridge.

At Southeast Pediment, north-striking structures dip from 55º to the west to vertical. Only moderate displacements of up to 300 ft have been suggested on cross sections; most of the displacement appears to be related to dilation above a thick andesite sill. Mineralization was controlled by the north-striking, west-dipping SEP fault. The youngest movement on the fault, which forms the western side of a small horst block, is post-mineral. At Silica Ridge, part of the mineralization was controlled by the north-striking Silica Ridge (SR) fault, which dips 65º to the east.

East-Trending Faults and Joints

Trench mapping at the Southeast Pediment deposit has defined a near vertical, east- to east-northeast-striking joint set in tuffaceous rocks. Auger-hole data suggest that there is an east-trending fault immediately northwest of the Southeast Pediment deposit that forms a very linear basalt-tuff contact (Figure 7.3). A similarly inferred structure occurs at Abel Knoll. At Silica Ridge, the SR fault and higher-grade mineralization end at an east-trending magnetic linear, which is inferred as an east to east-northeast-trending fault.

Folds

Bedding and cleavage in metasedimentary rocks have an average regional strike of approximately N55ºE. North of Jungo Road, the average dip is 45º northwest, while south of the Jungo Road it is near vertical to overturned to the south. This change in dip is interpreted as a district-scale monoclinal fold related to thrusting in the Jungo Terrane with an axial plane that strikes N55ºE (WSMC, 2000b). The fold is identified as the Pipeline Monocline on Figure 7.3.

7.2.4 Regional Metamorphism

Late Triassic carbonaceous mudstones with minor interbedded sandstone of the Winnemucca Formation, the unnamed unit, and the Raspberry Formation were regionally metamorphosed to muscovite phyllite and orthoquartzite. The phyllite has well-developed wavy cleavage that is grossly conformable to the quartzite beds. The quartzites show well-developed brittle fracturing that is healed with white quartz. This greenschist-facies metamorphism has been related to a regional-scale, deep-crustal, thermo-tectonic event with widespread fluid flow that occurred throughout much of northwestern Nevada during the late Mesozoic (Cheong *et al.*, 2000).

7.2.5 Contact Metamorphism

Contact metamorphism is associated with the intrusion of the Mesozoic granitic stocks, which are surrounded by zones of hornfelsed phyllite that can extend up to 300 ft from the igneous contacts. The hornfels is fine-grained, dense, greenish to purplish in color, and generally retains a phyllitic texture. The contact metamorphism appears to be a dry thermal event that is not associated with significant metallization.

8.0 DEPOSIT TYPE

The Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll gold deposits at Sandman can be classified as low-sulfidation, quartz-adularia, epithermal gold-silver deposits hosted mainly within Tertiary volcanic rocks. Northwestern Nevada contains a number of similar middle-Miocene gold-silver deposits that occur in silicic volcanic or subvolcanic rocks, including the Sleeper, Tenmile, National, and Hog Ranch deposits (Conrad *et al*., 1993). The abundance of adularia and relative paucity of silicification associated with much of the Sandman mineralization compares more closely to the type of alteration and mineralization at the Round Mountain mine, which is located to the south in Nye County, Nevada.

The mined Sleeper gold-silver deposit, which is located 14 miles north of Sandman (Figure 7.1) and was buried beneath alluvial gravels west of the Slumbering Hills, was a world-class deposit that produced about 1,149,274 ounces of gold from 1989 through 2002 (Nevada Bureau of Mines and Geology, 2003). The deposit consisted of high-grade bonanza silica veins, medium-grade breccias, and low-grade stockworks that were hosted by rhyolitic volcanic rocks. Hydrothermal alteration and mineralization at Sleeper have been dated at 16.2 to 13.7 Ma (Conrad *et al*., 1993). Mineralization and alteration included early opal, silica, and adularia with electrum that make up the bonanza veins, and post-vein breccias and stockwork veinlets with microcrystalline quartz, opal, marcasite, and rare adularia. Argillic alteration extends a considerable distance (about 1,640 to about 4,921 ft) beyond the limits of the mined ore. Silicification and mineralization appear to have been controlled by a north-striking fracture zone (Nash *et al*., 1991). The high-grade veins locally averaged over 20 oz Au/ton with up to 195 oz Au/ton, while the breccias and stockworks with silica, pyrite, and minor adularia were richer in silver than the veins. The breccias graded 0.1 to 1 oz Au/ton and the stockworks generally averaged less than 0.1 oz Au/ton (Nash *et al*., 1991).

The Jumbo mine in the Slumbering Hills east of Sleeper (Figure 7.1) produced nearly $1,000,000 in gold through 1963 from quartz-adularia stockworks in Mesozoic slates and phyllites (Willden, 1964; Conrad *et al*., 1993). Adularia from a mineralized vein at Jumbo was dated at 17.3 Ma (Conrad *et al*., 1993).

The Goldbanks deposit, which is located about 35 miles south of Winnemucca, occurs as a blanket-shaped body in Tertiary lithic sandstone and polylithic breccia (Stone *et al.,* 2000). Minor amounts of gold also occur in fractures in Triassic and Tertiary intrusions and Paleozoic sedimentary rocks that underlie the Tertiary section. A major north-trending fault is thought to have introduced the gold-bearing solutions into the Tertiary section, where fluids spread laterally into permeable units. A second deposit that contains about 10% of the gold at Goldbanks consists of a pipe-like breccia body at the intersection of north- and north-northeast-trending faults hosted by Tertiary polylithic breccia, Paleozoic sedimentary rocks, and Triassic rhyolitic flow breccias (Stone *et al.,* 2000). Alteration at Goldbanks consists of silica with fine-grained adularia; clay alteration is paragenetically later.

The Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll gold deposits at Sandman exhibit proximal quartz-adularia alteration and distal clay zones (WSMC, 2000b). This style of alteration differs from that at Sleeper in the relative amounts of silica and adularia. Much of the gold at Sleeper occurred within high-grade quartz and chalcedony veins and lower-grade silicified wall rocks, both of which contained minor amounts of adularia. Strong silica veining and pervasive silicification are not as prevalent at Sandman, while adularia is an important mineral in both the veins and altered wall rocks. Although the chalcedonic silica and quartz veining at Sandman is minor compared to the Sleeper deposit, the highest gold grades at Sandman are generally associated with the strongest silicification.

The deposits at Sandman appear to be more comparable to the Round Mountain deposit in that mineralization is associated with adularization with only minor associated silicification. Adularia dominates in the rhyolitic tuff host at both Southeast Pediment and Round Mountain.

9.0 MINERALIZATION

Epithermal, low-sulfidation gold mineralization at Sandman mainly occurs within a section of Tertiary tuffs, tuffaceous sedimentary rocks, andesite, and basalt that is greater than 600-ft thick. Gold mineralization has also recently been discovered in the underlying Triassic metasedimentary rocksat the Abel Knoll deposit. This discovery greatly enhances the exploration potential at Sandman because all of the known mineral occurrences including deposits and anomalies are underlain by the Triassic basement rocks. This potential is supported by basement-hosted mineralization at the Jumbo mine (Figure 7.1), located to the north in the Slumbering Hills (see Section 8), and the Blue Mountain deposit, located just west of the Sandman project (Figure 7.3). Elsewhere on or near the property, low-sulfidation gold-silver occurrences are also hosted in Cretaceous intrusive rocks, as at Tenmile and the Basalt Hills target at Sandman.

The age of the epithermal mineralization at Sandman is middle Miocene, based on three radiometric dates. Gibson and Potter (1987) reported one K-Ar date of 17.1±0.7 Ma for an adularia concentrate, apparently from Adularia Hill (Figure 7.3). A $^{40}Ar/^{39}Ar$ date of 16.38±0.13 Ma was reported by Peters (2003) from a banded silica-adularia veinlet collected from a trench at the Southeast Pediment deposit. At the Tenmile deposit, southeast of Sandman, adularia lining fractures was dated by K-Ar at 16.5 ± 0.5 Ma (Boden, 1996). These three dates suggest that the epithermal gold deposits formed at roughly the same time, possibly within a hot-spring geothermal field related to a deep-seated magmatic heat source.

Minor gold mineralization at Sandman also occurs within low-sulfide quartz veins. These veins are presumed to have formed from Late Cretaceous regional-scale fluid flow related to greenschist facies metamorphism (Cheong et. al., 2000).

Gold mineralization at Sandman has been identified at the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits, discussed below, as well as at numerous exploration targets. All of these areas contain strong gold and pathfinder-element geochemical anomalies, and many are associated with small hills, apparently because of the presence of more resistant alteration.

9.1 Southeast Pediment

The Southeast Pediment deposit is about 1,300 ft long in a north-south direction and up to 900 ft wide east to west. Mineralization at Southeast Pediment occurs over a vertical extent of 650 ft within a section of Tertiary tuffaceous rocks that overlies Triassic phyllite. The tuffaceous section is intruded by an irregular, but overall tabular, sill of hornblende andesite porphyry near the base of the tuffaceous section (Figure 9.1). The basalt section has been eroded from the area but was probably present just above the current surface and presumably was mineralized. There is no topographic expression of the deposit, which was essentially covered by alluvium and sand.

The main controls of the Southeast Pediment mineralization include the north-striking SEP fault, the contacts of the andesite porphyry sill, and permeable tuffaceous units. The SEP fault dips 50 to 65º west with an estimated normal displacement of approximately 260 ft based on apparent offset of tuff beds above the sill. This structure controls most of the high-grade mineralization. The upper and lower contacts of the andesite porphyry were important controls for the deeper mineralization at Southeast

Pediment. Lower-grade stratiform mineralization occurs throughout the tuffaceous section, but is more developed at shallower depths. The SEP fault and andesite porphyry contacts focused the mineralizing solutions, while jointing and more permeable tuffaceous units have resulted in the formation of more dispersed mineralization outward from the fault and andesite contacts. The SEP fault appears to have been the primary control on gold, as the mineralization within the andesite contacts is strongest near the fault and decreases in intensity away from the structure.

Alteration and mineralization at Southeast Pediment are zoned with respect to the controlling structures. Three macroscopic gradational main-stage alteration zones are recognized along with a late sericite or illite overprint and oxidation, as discussed below. Mineral identifications are by Honea (2000) and Arehart (2002).

Core-Zone Alteration

The tuffaceous rocks host a core alteration zone that follows the SEP fault. This core zone is generally less than five feet in width and is characterized by sparse silica-adularia ± gold veinlets and pervasive quartz-adularia alteration in wall rock directly adjacent to the veinlets. The quartz veinlets range in width from hairline to 0.5 in. and only locally make up a significant volume percent (~5%) of the rock in drill cuttings. High-grade gold mineralization, commonly grading greater than 0.1 oz Au/ton, occurs in discontinuous pods or lens-shaped bodies within bifurcating shears in the core zone. The high-grade mineralization displays more continuity along strike than down-dip.

WSMC excavated a test pit to acquire a bulk sample of the high-grade core zone mineralization along the SEP fault. The pit served to confirm the continuity of the shallow portion of the high-grade zone over the 200-ft length of the pit. The SEP fault was also conclusively recognized as the major control of the higher-grade mineralization, and showed evidence of post mineral movement.

High-grade mineralization in the core zone in and adjacent to the SEP fault can occur in rock that is quite hard, but is lacking an obvious association with silica veining or visible gold. Even in cases of extreme high-grade mineralization, such as the 5.389 oz Au/ton returned from hole SM-135 over the 120 to 125-ft interval, visible gold is not apparent.

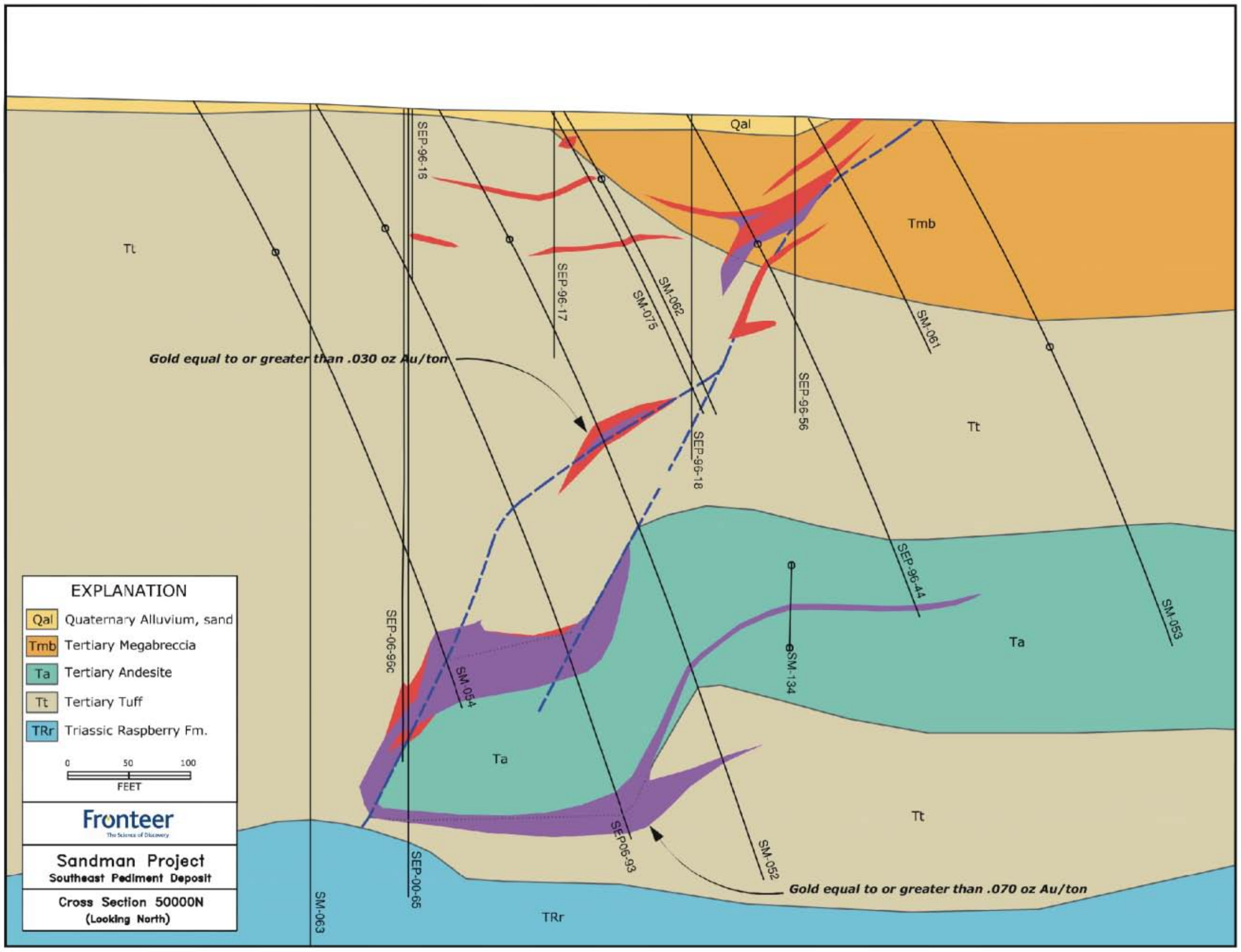
A second occurrence of high-grade gold mineralization is related to the open-space growth of crystalline quartz, chalcedony, electrum, and unoxidized sulfide minerals. The open spaces probably occur in the form of fractures developed within adularized tuffaceous rock. This mineralization is characterized by wiry gold in quartz veins and spongy gold up to one-eighth of an inch in the longest dimension. The spongy gold is intergrown with chlorargyrite (WSMC, 2000b) and may be a supergene alteration product of electrum. The fractures and vein mineralization are slightly younger than the pervasive adularization. An example of this mineralization was found in the interval from 75 to 80 ft in RC drill hole SEP-96-51, which assayed 55.8 oz Au/ton.

Screen-fire assays were completed on 67 drill intervals with grades ≥ 0.007 oz Au/ton. Less than 12% of the gold in these samples is coarse grained (greater than 0.1 mm). A high percentage of the gold is therefore thought to be fine- to medium-grained and disseminated.

Proximal Alteration

Proximal alteration occurs in tuff adjacent to the core zone and consists of a pervasive adularia-quartz-illite-pyrite assemblage without silica veinlets. The zone, which lies on both sides of the core zone, has a maximum width of around 100 ft and thins with depth. Grades of mineralization in this zone are consistently in the 0.0X oz Au/ton range.

Figure 9.1 Geologic Cross-Section of the Southeast Pediment Deposit



Distal Alteration

The proximal assemblage grades outward to extensive distal argillic alteration in tuff that is characterized by an assemblage of montmorillonite ± nontronite ± calcite ± illite ± pyrite ± hydrocarbon. Calcite and calcite-pyrite veinlets occur locally. Argillic alteration may encompass the entire drilled volume of tuff in the deposit area around the core and distal zones. Gold mineralization associated with argillized tuff is generally less than 0.01 oz Au/ton.

Late Illite Overprint

Adularized and argillized rocks are locally broken by fractures that have thin, bleached wall-rock selvages. The selvages are thought to represent a late illite or sericite overprint without sulfide mineralization.

Oxidation

Measured ground-water levels at Southeast Pediment are as shallow as 65 to 100 ft. Pervasive oxidation from weathering extends to an average depth of 85 ft in the deposit area, but can extend to depths well below 300 ft in fractured, adularized, and mineralized rock along open structures. Limonite replaces pyrite within the zone of oxidation. A five- to 15-foot transition zone occurs below the zone of pervasive oxidation and is characterized by the partial replacement of pyrite by limonite. Black encrustations of manganese oxide are also common in the oxide zone, especially on fractures in adularized tuff.

Gold mineralization within oxidized rocks occurs as free electrum. Electrum particle size is generally microscopic, although there is a coarse-gold population that appears to be associated with some silica veining and higher grades. Grades are highest near the SEP structural zone. Here electrum is disseminated in tuff and occurs within and adjacent to silica-adularia veinlets. Away from the controlling structure, mineralization is disseminated in the tuff, and the grade rapidly decreases to a fairly wide low-grade zone.

There is a decrease in the ratio of cyanide-soluble gold (determined by 2-hour shake tests on assay pulps) to fire-assay gold with depth. This decrease can be related to a decrease in oxidation and/or a coarsening in gold-particle size with depth. Even in unoxidized rocks, the ratios suggest that a significant portion of the gold is amenable to direct cyanidation. No study of unoxidized mineralization has been undertaken.

Gold mineralization is continuous within the grade range of 0.01 to 0.10 oz Au/ton and correlates to adularized and silicified rock in geometry and space. The mineralization can be interpolated between drill holes with a high degree of confidence (Lanier, 2002c). Higher-grade mineralization occurs in discontinuous lens-shaped pods; although it appears to be continuous in a north-south direction, it is much less continuous up or down dip (Lanier, 2002c).

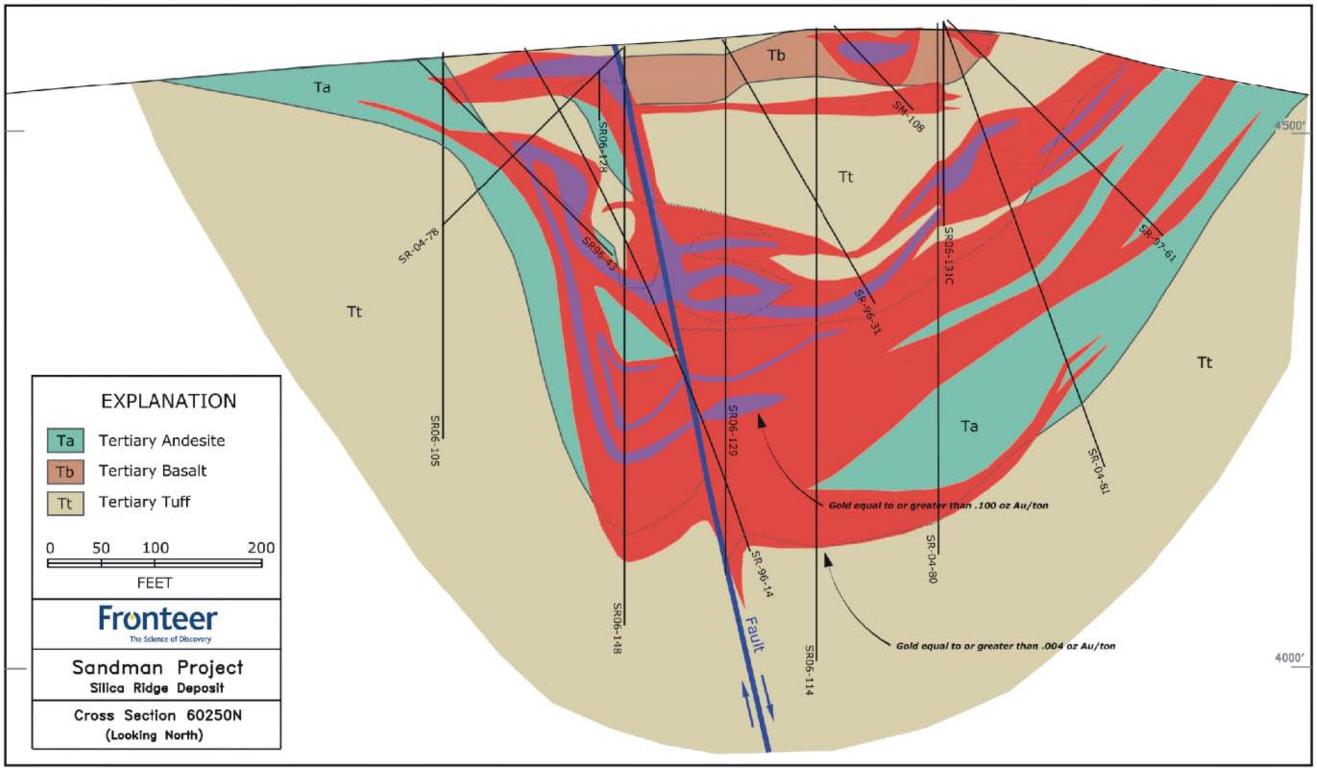
9.2 Silica Ridge

Gold mineralization at Silica Ridge is closely related to structural controls and is hosted by tuffaceous rocks, basalt, and andesite (Figure 9.2). Mineralization occurs within a drill-defined area that extends for 2,150 ft in a north-south direction and 800 ft in an east-west direction. Significant mineralization has been encountered in drilling down to a vertical depth of over 450 ft.

At least six controls on the gold mineralization are recognized at Silica Ridge at this time:

- a north-striking fault that dips 65° east (the SR fault);
- the upper and lower contacts of a steeply dipping, east-trending andesite dike that flattens upward and to the north on the east side of the SR fault;
- joints synthetic to the dike;
- northwest-trending joints in basalt and possibly tuffaceous rock;
- an east-trending fault;
- the basal basalt contact; and
- permeable tuffaceous beds.

Figure 9.2 Geologic Cross-Section of the Silica Ridge Deposit



Alteration mineral assemblages are zoned with respect to these structural and lithologic controls. The alteration assemblages and patterns are generally the same as those at Southeast Pediment, except that the zone of quartz-adularia alteration (core zone alteration) is more broadly distributed and encompasses mineralization of all grade ranges. Argillically altered rocks host only anomalous gold. High-grade (>0.1 oz Au/ton) mineralization occurs in lens-shaped pods, while 0.0x oz Au/ton mineralization displays greater continuity along structures.

The Silica Ridge deposit is at a topographic high, with the water table lying at a depth of around 400 ft. Mineralized rock is generally oxidized above this depth. Two-hour cyanide shake tests indicate that over 75% of the fire assay gold is cyanide soluble. Screen-fire assays from 46 drill intervals with grades ≥ 0.007 oz Au/ton show that less than 2% of the gold in these samples is coarse (greater than 0.1 mm).

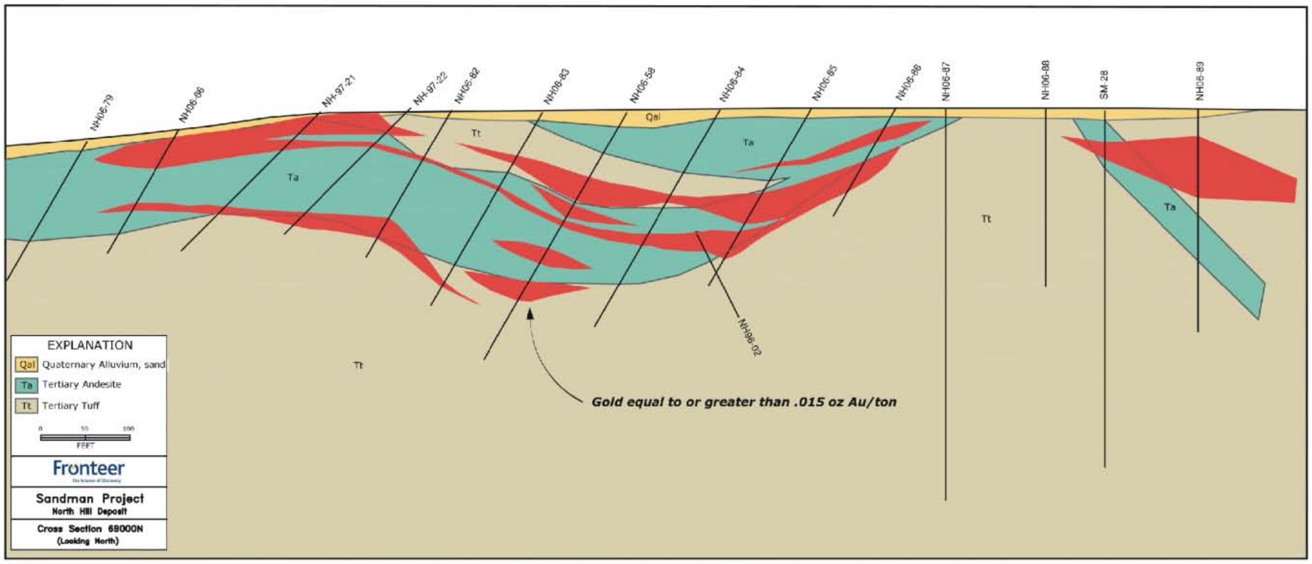
9.3 North Hill

Two areas of drilled mineralization were identified at North Hill prior to the 2006 drilling program – the Hilltop and Northwest areas. The Northwest area was a focus of drilling in 2006. This drilling expanded the gold deposit at the Northwest area to an extent that there is now only a gap of about 200 ft in the drilling between the two mineralized areas. At this time, the mineralization at the two areas is considered parts of a single deposit that is roughly 1800 ft long in a north-northwest direction and 1400 ft wide. The deepest significant gold mineralization at North Hill has been intersected at a vertical depth of 300 ft.

Early work by Santa Fe and WSMC interpreted the North Hill mineralization to be primarily stratigraphically controlled, mainly within vesicular andesitic basalt, massive basalt, conglomeratic sandstone, and mafic porphyritic basalt (Spalding, 1997a and b). Structural influences were also suspected but not defined.

NewWest's 2006 drilling program showed that the vesicular andesitic basalt, which was interpreted as a flow, is an intrusive andesitic sill complex with vesiculation occurring locally at sill margins. The primary controls on mineralization are low-angle contacts between andesite porphyry sills and tuffaceous wall rocks. The deposit, as defined by drilling, is overall stratiform, and the main host rock is the andesite sill. Mineralized areas do occur within the andesite away from contacts, suggesting the presence of high-angle controls that have not been defined. Additional mineralization is associated with high-angle andesite porphyry dikes (Figure 9.3).

Figure 9.3 Geologic Cross-Section of the North Hill Deposit



Alteration and mineralization in the andesite host has not been inspected microscopically. Based on logging of core and RC cuttings, mineralization is associated with oxidized andesite of an undefined alteration type that grades into an unoxidized, propylitically altered andesite without significant mineralization. Silica veining is rare in the mineralized andesite, and there is no visual indication of grade.

Mineralized rock at North Hill is generally oxidized. Two-hour cyanide shake tests indicate that over 70% of the fire assay gold is cyanide soluble.

9.4 Abel Knoll

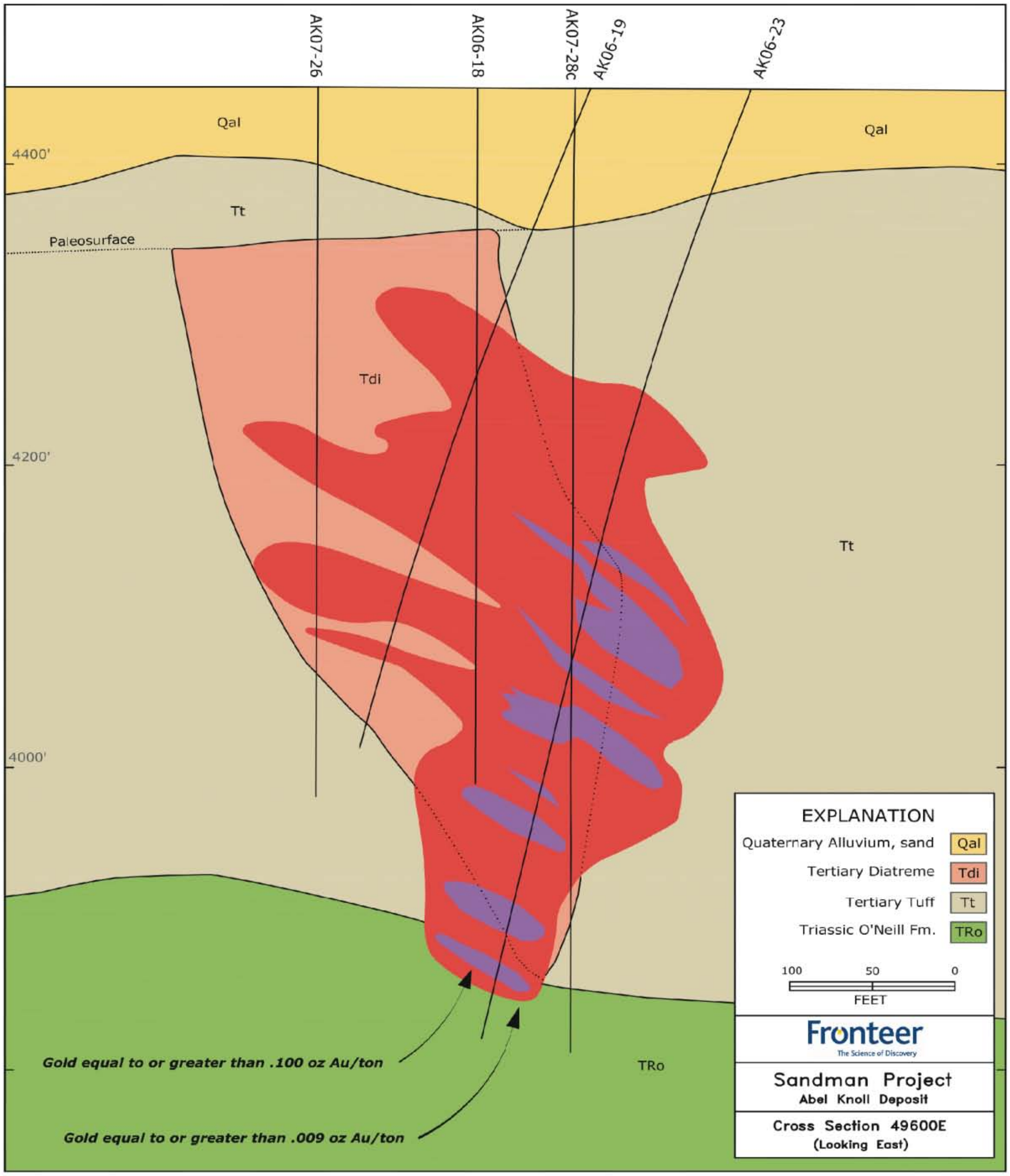
A new gold deposit was discovered at the Abel Knoll geochemical anomaly during the 2006 drilling program (Figure 7.3). The deposit occurs near a low hill on the eastern side of Abel Flat. Kennecott first identified the target area, presumably based on the presence of altered basalt in float and sparse outcrops. Thirteen widely spaced RC holes drilled in the area by Kennecott and Santa Fe were designed to test possible north-trending fault controls. This drilling defined a strong subsurface gold anomaly hosted in what was thought to be altered basalt, phyllite-rich tuffaceous rocks, and basement phyllites and quartzites. Kennecott vertical hole DAF-6 intercepted anomalous gold values in Tertiary rocks over an interval of 205 to 330 ft, which includes 30 ft grading 0.031 oz Au/ton. Santa Fe hole DSA-214 was drilled at an angle of -45° and encountered anomalous gold mineralization in basement phyllite over the interval of 410 to 600 ft. Intercepts of 0.011 oz Au/ton over 20 ft, 0.052 oz Au/ton over 5 ft, and 0.315 oz Au/ton over 5 ft are included in this interval. WSMC identified a weak soil anomaly at Abel Knoll and completed three additional RC holes in 2004 and 2005. These holes were drilled to further test the concept of a north-south control, and in addition, tested for an inferred east-trending structural control. Hole K1-04-1 encountered a thick zone of quartz-adularia alteration with grades up to 0.025 oz Au/ton, which was hypothesized by NewWest to be along an inferred east-trending structure.

NewWest discovered the Abel Knoll deposit with exploration drilling completed in 2006 to test the inferred east-west structural control. The second hole of the program intercepted a 420-ft continuously mineralized interval grading 0.087 oz Au/ton between 245 and 665 feet.

The Abel Knoll deposit includes two areas of gold mineralization: (1) a western area where mineralization, including AK06-2, is hosted mainly in and around a small diatreme, possibly related to mafic magmatism (Figure 9.4); and (2) an area to the east of the diatreme where mineralization is hosted in altered andesite and basement phyllite and quartzite along the eastern projection of the structure. The diatreme was recognized in core verification hole AK07-28C, which showed that the host is a polylithic breccia that includes vesiculated mafic fragments in addition to fragments derived from the tuffaceous section.

Most of the drill-defined resource at Abel Knoll is in the western area associated with the diatreme. The mineralization occurs in a near-vertical, pipe-shaped volume of rock that is up to 450 ft long in an east-west direction, 350 ft wide north-south, and has a near-vertical dimension of 600 ft. Mineralization is associated with quartz-adularia alteration that abruptly changes to distal argillic alteration within a few feet. Crystalline clear quartz veinlets are present, but are not necessarily associated with high gold grades that can exceed 1 oz Au/ton. The mineralized volume of rock is oxidized and contains a higher abundance of red, orange, and brown limonite minerals than at other deposits at Sandman. Two-hour cyanide shake tests indicate that over 75% of the fire assay gold is cyanide soluble. Three 72-hour bottle roll tests yielded 94% of the fire assay gold from the samples.

Figure 9.4 Geologic Cross-Section of the Abel Knoll Deposit



The mineralization to the east of the diatreme has been a focus of exploration drilling in 2007. Table 9.1 lists highlights of this drilling; all drill assays received subsequent to the resources summarized in Section 17 are provide in Appendix C. As of this report date, drilling indicates that the mineralized area is at least 700 feet long east-west, and 550 feet wide north-south. Discontinuous mineralization extends to a depth of around 600 feet where it is hosted mainly in the basement phyllites and quartzites. This mineralization occurs as thick, generally lower-grade zones that can contain local high-grade intercepts up to 0.4 oz Au/ton. Mineralization also occurs in shallow andesite above the basement mineralization that appears to be related to an east-trending high-angle fault. The eastern area contains both oxidized and unoxidized host rock. A bottle roll test on a sample of oxidized quartzite extracted 99% of the fire-assay gold. Cyanide soluble gold in unoxidized rock has not been tested.

Table 9.1 Abel Knoll Drilling Highlights, May 2007 to Present

Drill Hole	Hole Length (feet)	Intercept Footage		Imperial units		Metric units	
		From	To	Length (feet)	Grade (oz Au/ton)	Length (meters)	Grade (g Au/tonne)
AK07-28C	639	202	536.5	334.5	0.069	101.96	2.35
Including	-	339	349	10	0.234	3.05	8.02
Including	-	379	389	10	0.282	3.05	9.66
Including	-	389	393	4	0.752	1.22	25.78
Including	-	408	428	20	0.173	6.10	5.92
AK07-30	580	95	120	25	0.012	7.62	0.43
and	-	155	160	5	0.019	1.52	0.64
and	-	175	235	60	0.016	18.29	0.56
and	-	440	450	10	0.012	3.05	0.42
and	-	500	510	10	0.012	3.05	0.40
and	-	525	535	10	0.037	3.05	1.28
AK07-31	580	235	240	5	0.030	1.52	1.02
and	-	260	275	15	0.021	4.57	0.73
and	-	285	300	15	0.023	4.57	0.78
and	-	310	335	25	0.086	7.62	2.93
and	-	345	355	10	0.013	3.05	0.43
and	-	385	390	5	0.010	1.52	0.34
and	-	400	405	5	0.076	1.52	2.60
and	-	430	435	5	0.011	1.52	0.36
and	-	445	450	5	0.012	1.52	0.42
and	-	485	545	60	0.016	18.29	0.55
and	-	560	565	5	0.015	1.52	0.53
AK07-32	550	250	275	25	0.117	7.62	4.01
and	-	280	305	25	0.012	7.62	0.40
and	-	360	410	50	0.016	15.24	0.55
and	-	420	460	40	0.027	12.19	0.92
and	-	490	505	15	0.018	4.57	0.60
and	-	515	520	5	0.017	1.52	0.58
AK07-34	400	245	320	75	0.052	22.86	1.80
Including	-	265	295	30	0.099	9.14	3.40
AK07-35	700	175	215	40	0.029	12.19	1.00
and	-	220	225	5	0.010	1.52	0.35
and	-	275	285	10	0.022	3.05	0.75
and	-	335	415	80	0.022	24.38	0.74
and	-	425	455	30	0.025	9.14	0.87
and	-	465	470	5	0.010	1.52	0.34
and	-	485	495	10	0.019	3.05	0.65
and	-	550	555	5	0.012	1.52	0.40
AK07-36	600	240	245	5	0.010	1.52	0.35
and	-	255	350	95	0.027	28.96	0.94
and	-	360	365	5	0.011	1.52	0.37
and	-	395	405	10	0.021	3.05	0.70
and	-	415	430	15	0.046	4.57	1.59
and	-	500	505	5	0.011	1.52	0.37
and	-	580	585	5	0.253	1.52	8.66

Drill Hole	Hole Length (feet)	Intercept Footage		Imperial units		Metric units	
		From	To	Length (feet)	Grade (oz Au/ton)	Length (meters)	Grade (g Au/tonne)
AK07-37	720	215	650	435	0.046	132.59	1.56
Including	-	525	545	20	0.192	6.10	6.58
and	-	660	665	5	0.020	1.52	0.69
and	-	680	690	10	0.017	3.05	0.57
and	-	700	705	5	0.018	1.52	0.62
AK07-41	670	30	65	35	0.022	10.67	0.75
and	-	95	100	5	0.011	1.52	0.37
and	-	115	165	50	0.098	15.24	3.37
and	-	210	275	65	0.028	19.81	0.97
and	-	365	370	5	0.012	1.52	0.40
and	-	385	420	35	0.021	10.67	0.71
and	-	430	440	10	0.033	3.05	1.12
and	-	455	480	25	0.025	7.62	0.85
and	-	550	560	10	0.011	3.05	0.36
and	-	570	575	5	0.012	1.52	0.42
and	-	615	625	10	0.039	3.05	1.32
AK07-43	620	265	280	15	0.025	4.57	0.87
and	-	305	325	20	0.059	6.10	2.04
and	-	395	410	15	0.016	4.57	0.54
and	-	425	440	15	0.025	4.57	0.84
and	-	470	475	5	0.012	1.52	0.40
and	-	570	575	5	0.041	1.52	1.40
and	-	600	605	5	0.011	1.52	0.39
AK07-45	665	280	295	15	0.013	4.57	0.46
and	-	305	325	20	0.014	6.10	0.47
and	-	350	355	5	0.010	1.52	0.34
and	-	380	400	20	0.014	6.10	0.47
and	-	415	425	10	0.213	3.05	7.30
and	-	485	490	5	0.018	1.52	0.61
and	-	520	535	15	0.014	4.57	0.47
AK07-46	620	195	210	15	0.013	4.57	0.43
and	-	305	320	15	0.028	4.57	0.94
and	-	350	360	10	0.018	3.05	0.61
and	-	485	490	5	0.021	1.52	0.73
and	-	585	590	5	0.053	1.52	1.82

9.5 Exploration Targets

9.5.1 Windmill Hill

The Windmill Hill area contains two targets, South Windmill and Windmill Hill proper. The general area lies about two miles east-northeast of Silica Ridge. South Windmill is roughly 2,500 ft south of Windmill Hill. The presence of a hill within a drainage, altered andesite and tuff float, and geochemical signatures led to the drilling of RC hole WM06-1 by NewWest at South Windmill in 2006. This hole intercepted 10 ft grading 0.016 oz Au/ton in altered tuffaceous rock. Five follow-up RC have been drilled in 2007 (SW07-2 through SW07-6). All five holes encountered anomalous gold mineralization up to 10-foot of 0.024 oz Au/ton in hole SW07-3 (Appendix C).

One RC hole (WM07-2) was drilled at Windmill Hill, also in 2007, and encountered quartz-adularia alteration. Assays on this hole are pending.

9.5.2 Sandbowl

The Sandbowl Target is located 3,000 ft west-southwest of North Hill. The target is completely covered by sand and represents a blind anomaly discovered by NewWest in 2006. Drilling targeted a magnetic pattern similar to that at North Hill, with two holes encountering strongly anomalous mineralization. Vertical RC hole NH06-75 intercepted 20 feet of continuous gold mineralization between 385 and 405 ft with an average grade of 0.017 oz Au/ton. Vertical RC hole NH06-76 intercepted 40 feet of continuous gold mineralization between 175 and 215 ft with an average grade of 0.016 oz Au/ton. As 2007 follow-up drilling to NH06-75 and -76, two vertical holes (SB07-1 and -2) have been drilled as step outs to the west. These two holes gave anomalous results but showed a decrease in grade (Appendix C). Additional drilling in 2007 will test the anomaly to the north. The best mineralization intersected to date at Sandbowl is hosted in a poorly indurated pebble conglomerate with an altered tuffaceous matrix.

9.5.3 Adularia Hill

The Adularia Hill target is a strong surface and drill-hole gold anomaly located on the northwestern side of the project area (Figure 7.3). Six holes have been drilled into the anomaly, three by the SMJV and three by WSMC. Two of the holes encountered significant mineralization hosted in quartz-adularia altered tuffaceous rocks. Hole SM160 intercepted 30 feet of mineralization with an average grade of 0.037 oz Au/ton between 10 ft and 40 ft, and AH96-1 intercepted 10 ft of mineralization with an average grade of 0.039 oz Au/ton at the surface. The six holes indicate that the mineralization may continue at depth and to the northeast and southwest. A southeast-dipping, northeast-trending controlling target structure is inferred from the geochemical pattern, which is strongly supported by geomorphology. In 2007, the inferred target structure was tested down dip with two angle RC holes (AH07-4 and -5), and along strike with one vertical hole (AH07-6). Only anomalous mineralization was encountered (Appendix C).

9.5.4 West Southeast Pediment

Santa Fe drilled RC hole DSA221 over 1,000 feet due west of the Southeast Pediment deposit. The hole was angled at -60º and encountered 20 ft that assayed 0.045 oz Au/ton at a down-hole depth of 530 ft, including a five-ft interval of 0.097 oz Au/ton. Santa Fe did not offset with follow-up drilling. Re-logging of the cuttings and further drilling by WSMC in 2005 indicates that the mineralization in DSA221 occurs at the lower contact of a subhorizontal, altered andesite porphyry sill that lies within an argillically altered tuffaceous section. One of the 2005 holes, SEP05-91, intercepted a thin zone of anomalous mineralization up to 0.04 oz Au/ton in an apparent fault that cuts the tuffaceous section above the inferred eastern margin of the andesite sill. In 2006, two angle holes were drilled to locate and test the eastern margin of the sill. Holes SEP06-114 and -115 found the altered sill margin without significant mineralization. These holes did encounter mineralized tuffaceous rock up to 0.04 oz Au/ton in an apparent fault zone that lies along a southern projection of the inferred mineralized fault intercepted in SEP05-91. The fault-related mineralization in the three holes occurs around 250 vertical ft from the surface. Four RC holes have been drilled in 2007 to test the up-dip projection of the fault . Assay results from these three holes are pending.

9.5.5 Basalt Hills

The Basalt Hills target is shown as "K8" on Figure 7.3. Anomalous gold mineralization was first identified by Santa Fe auger-hole drilling that encountered gold values up to 320 ppb. The target area is underlain by two mostly covered Mesozoic granitic plutons, possibly connected, that intrude the Raspberry Formation. Results from a soil geochemical survey over the northern pluton conducted by WSMC in 2003 showed a 2,000-ft long northeast alignment of anomalous gold with values up to 135 ppb. Three angle holes directed northwest across the anomaly were drilled in 2004. These holes demonstrated that the entire northern pluton is anomalous in gold and silver with local five-ft assay intervals returning values up to 0.084 oz Au/ton (K8-04-2) and 1.78 oz Ag/ton (K8-04-3). A 15-foot interval returned 0.033 oz Au/ton in drill hole K8-04-1. The higher-grade values are associated with quartz veins. The mineralized plutons are considered analogous to Tenmile, which may be the root of an eroded epithermal gold deposit. The bedrock anomaly and down-drainage alluvium represent exploration targets.

9.5.6 K7

The K7 target area is located approximately two miles south of Southeast Pediment. A soil survey conducted by WSMC in 2003 defined a gold anomaly with a high value of 187 ppb in an area that is mostly covered by gravel and sand, although argillized basalt crops out on a small ridge within the anomaly. The anomaly distribution is complex and appears to be strongly influenced by the local drainage patterns. Close-spaced drilling was undertaken in the area of the basalt ridge, while drilling was wide-spaced to the west of the ridge. NewWest plans to use the existing drill information from the previous operators to model the anomaly and develop drill targets.

9.5.7 K15A

The K15A target (Figure 7.3) consists of a large gold soil anomaly identified by NewWest in 2004 that is located at the northern end of the project area. The anomaly includes gold values up to 1010 ppb. The main part of the anomaly is elongate in a northwest direction and is open beyond the existing soil grid. The southern portion of the area is mostly covered by sand, while the northern portion has windows of phyllite and quartzite exposed through the sand. Float of altered phyllite with disseminated limonite after pyrite and limonitic veins was found within the anomaly. A sample of the limonite vein float assayed 0.014 oz Au/ton.

9.5.8 K9

The K9 target lies in an area largely covered by sand that is located about 5,000 ft west of Basalt Hills (Figure 7.3). A low- to moderate-level soil geochemical anomaly with values up to 70 ppb gold that covers an area of almost one square mile was defined by NewWest in 2003. The anomaly is underlain by altered basalt, phyllite, and a thin section of tuff that lies between the basalt and phyllite. The phyllitic basement rocks are intruded by numerous granitic sills that parallel the east-northeast-striking bedding in the phyllite. Steeply dipping amphibole porphyry dikes that trend northeast also intrude the phyllite. The basalt and granitic sills are locally argillized; the amphibole porphyry is propylitically altered. WSMC drilled five angled RC holes in 2004 in the western portion of the anomaly to test the volcanic section as a possible host at inferred structural intersections. All holes tested the phyllite and granitic sills below the basalt-tuff section. The drilling returned weakly anomalous gold mineralization in all lithologies; the highest gold values, up to 316 ppb in RC hole K9-04-4, were encountered in thin zones within the phyllite. The western phyllite portion of the anomaly was not tested.

The K9 anomaly extends eastward to within 1,000 ft of the K8 target area. The two anomalies could be linked by the granitic sills, which may emanate from the mineralized plutons at K8.

9.5.9 Other Targets

Others targets that were explored by operators prior to NewWest include the CZ, Twin Buttes, Middle Hill, Basalt Fields, and Grit Hill areas. Each of these areas has been tested by at least one drill hole; only anomalous gold mineralization has been intercepted to date. NewWest plans to compile all available data and re-assess the potential of each target area.

The CZ target has been tested with 12 widely spaced RC holes. The Adularia Hill prospect has been drilled with six RC holes. The Twin Buttes, Middle Hill, and Grit Hill areas include small hills that show epithermal alteration and anomalous geochemistry.

10.0 EXPLORATION BY ISSUER

Fronteer has only recently assumed management of the exploration programs at Sandman. All exploration work completed at Sandman is summarized in Section 6.

11.0 DRILLING

11.1 Summary

The Sandman drill-hole database includes at least partial records of 810 drill holes, including 775 RC holes, 27 core holes, and eight holes of unknown type for a total of 280,608 ft (Table 11.1). This drilling was concentrated at the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits; the remaining holes were drilled within various exploration target areas throughout the property (Table 11.2). An additional 4,000 auger holes, totaling 100,000 ft, were also drilled on the property by Santa Fe as part of the SMJV. The drill holes used in the resource estimations discussed in Section 17 are summarized in Table 11.3. The locations of holes drilled after the resources estimation are shown in Figure 11.1

Table 11.1 Drill-Hole Data by Company

Company	Date	Drill Type	No. of Holes	Footage
Unknown	-	-	8	2,450
Kennecott (SMJV)	1987-89	RC	211	81,047
	1989-90[1]	Core	3	1,030
U.S. Borax	1988	RC	37	12,570
Santa Fe (SMJV)	1990-94	RC	64	35,880
WSMC NewWest Fronteer	1996-97[2]	RC	227	52,665
	1996	Core	5	585
	2000-2005	RC	52	17,588
	2006	RC	152	53,610
	2006	Core	13	4,812
	2007	RC	32	16,890
	2007	Core	6	1,481
	WSMC-NewWest Subtotal		*487*	*147,631*
		TOTAL	*810*	*280,608ft*

[1] Footage does not include one hole of unknown depth.
[2] Footage does not include two holes of unknown depth.

Table 11.2 Drill-Hole Data by Area and Drill Type

Area	RC		Core		Unknown		Total	
	No.	**Footage**	**No.**	**Footage**	**No.**	**Footage**	**No.**	**Footage**
Southeast Pediment[1]	181	64,795	15	5,613			196	70,408
Silica Ridge	171	50,360	7	951	2	805	180	52,116
North Hill	129	34,970	4	705			133	35,675
Abel Knoll	62	32,435	1	639			63	33,074
Other Targets[2]	232	87,690			6	1,645	238	89,335
Total	*775*	*270,250*	*27*	*7,908*	*8*	*2,450*	*810*	*280,608 ft*

[1] Footage does not include one RC hole of unknown depth.
[2] Footage does not include two RC holes of unknown depth.

Table 11.3 Drill-Hole Data used in the Resource Estimations by Area and Drill Type

Area	RC		Core		Total	
	No.	**Footage**	**No.**	**Footage**	**No.**	**Footage**
Southeast Pediment	158	50,496	15	5,613	173	56,109
Silica Ridge	169	49,616	6	814	175	50,430
North Hill	121	31,880	4	705	125	32,585
Abel Knoll	37	18,730			37	18,730
Total	*485*	*150,722*	*25*	*7,132*	*510*	*157,854 ft*

MDA does not know if holes drilled prior to NewWest-WSMC have been surveyed. NewWest-WSMC hole collars were surveyed with a theodolite and tied to a USGS section corner. Down-hole survey data are available for fifteen holes at Southeast Pediment, five holes at Silica Ridge, one hole at North Hill, and eleven holes at Abel Knoll. A total of 54 of the Sandman holes used in the resource estimations were drilled at an angle with down-the-hole depths greater than 400 ft. The exact locations of the subsurface drill-hole data in these deeper, unsurveyed holes are not certain, as the holes likely would have deviated during drilling. To help minimize potential impacts of this issue, NewWest applied down-hole survey data from holes that were surveyed to nearby holes that were not. A total of ninety holes at Southeast Pediment, one at Silica Ridge, four at North Hill, and seven at Abel Knoll used inferred down-hole surveys and were included in the resource estimations.

While MDA understands NewWest's reasoning in inferring down-hole survey data, it is recommended that this practice be discontinued in the future and all inferred surveys be removed from the database.

The drill-hole database includes both angle and vertical holes, which were predominantly sampled at five-ft intervals. MDA has reviewed the drill-hole data in the context of the geology of the various deposits, and believes that the drill-hole orientations and sample lengths are generally appropriate for the present level of understanding of the style of mineralization in each target area.

11.2 Reverse-circulation Drilling

Kennecott contracted Eklund Drilling Company of Carlin, Nevada (“Eklund”) and Harris Exploration Drilling and Associates Inc. of Escondido, California (“Harris”) for their 1987 drilling. Drilling Services, Harris, Lang Exploratory Drilling Company of Salt Lake City, Utah (“Lang”), and Layne Christensen Company (“Layne”) (one hole) were Kennecott’s drilling contractors in 1988. Drilling Services and Harris were used in 1989. A single 1988 Harris hole is noted as having been drilled with a track rig; the type of rig used in all of the other Kennecott drilling is not known.

Santa Fe contracted Eklund for their 1990, 1992, and 1994 drilling programs and Becker Drilling Inc. for their 1991 drilling. Eklund used an MPD 1500 rig for the 1994 drilling; further details on the rig types used are not known. The only available information on drill bits is that Santa Fe holes DSA 200 to 215, completed in 1990 by Eklund, were drilled with hammer bits. DSA 200 to 213 were drilled with a 5 ½-in. bit, while holes DSA 214 and 215 were drilled with a 5 3/8-in. bit.

The only details available for U.S. Borax holes is that RR-03 was drilled by Boyles Brothers Drilling Company of Sparks, Nevada (“Boyles Brothers”) in 1988 using a Schram 685 rig with a 5 ¼-in. tricone rotary (“tricone”) bit.

WSMC used DeLong Construction and Drilling (“DeLong”) and Johnson Drilling (“Johnson”) in 1996. DeLong used an MPD 1500 rig for at least the first nine SR-series holes. A center-return hammer was used by DeLong on holes SEP-96-1, 9 through 13, and 15; and an unspecified hammer bit was used on other holes drilled in 1996. Johnson drilled with a track-mounted rig.

The 1997 WSMC drilling programs were drilled by Dateline Drilling Inc. (“Dateline”) and Johnson Drilling with unknown rig types. A center-return hammer with a 4 5/8-in. bit was used on holes NH-97-23 through 36 except for hole NH-97-30, which was drilled using a conventional hammer with a 4 5/8-in. bit. Based on available information, conventional hammers with bits varying in size from 4 ¾-in. to in. were used in most of the remaining 1997 holes.

WSMC contracted Dateline Drilling for the four-hole 2000 drilling program. Hole SEP-00-65 was drilled to 340 ft with a 5-in. center-return hammer, to 510 ft with a 4 ¾-in. conventional hammer, and the hole was completed to a depth of 640 ft using a 4 ¾-in. tricone. Holes SEP-00-66 through 68 were drilled to depths around 500 ft using 5-in. conventional hammers and completed with 4 ¾-in. tricone bits.

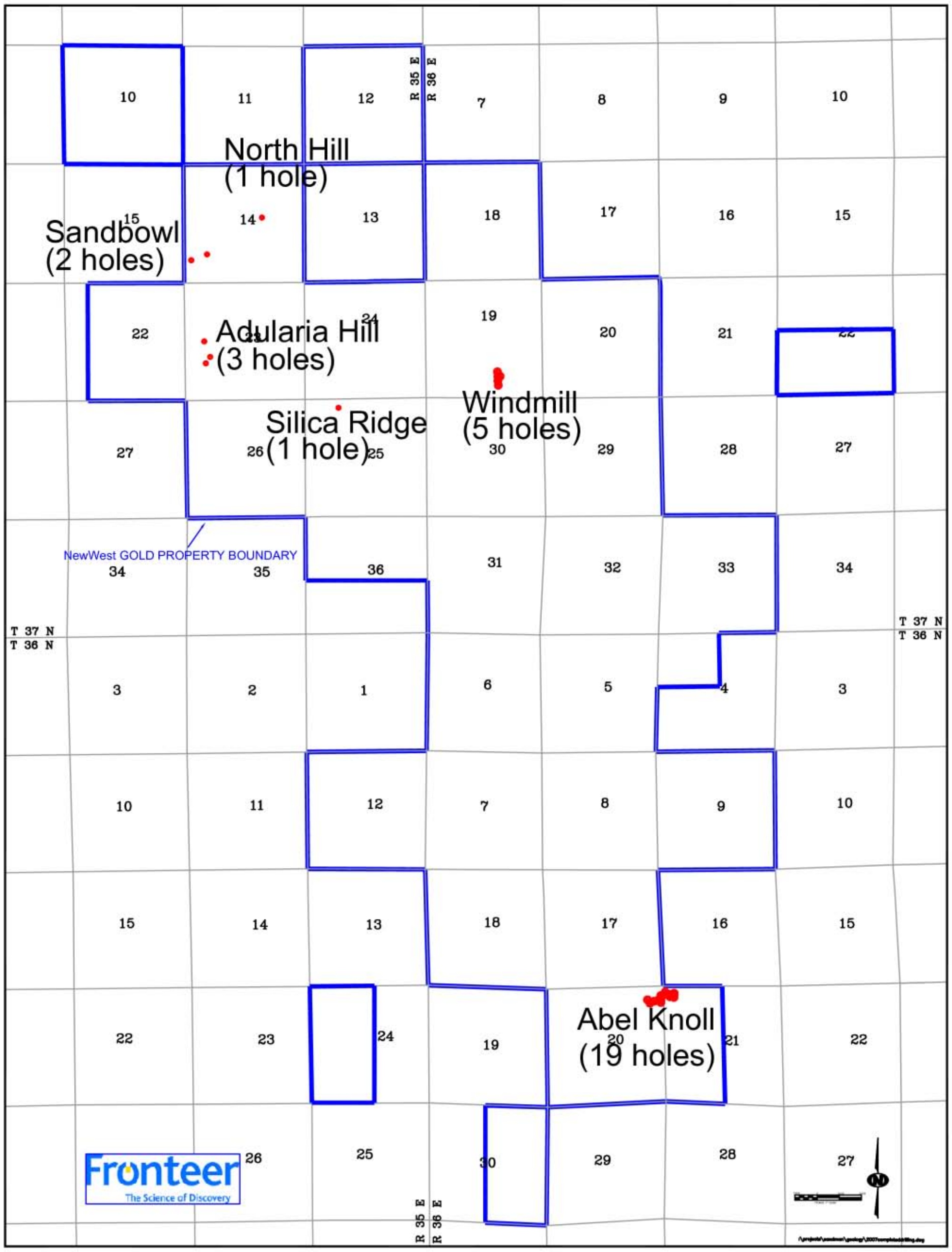
WSMC and NewWest contracted DeLong for their 2002 through 2007 drilling campaigns. Delong used a Foremost Drill Systems MPD 1500 track drill with 900 CFI, 300 PSI, and maximum depth capability of 1,500 ft. The programs were drilled using 5 1/8-in. conventional hammer and tricone bits. Hammer bits were used until significant ground-water flows or broken ground conditions were encountered, after which the drilling was switched to a tricone bit. A number of holes were drilled from the collar with a tricone bit to minimize the effect broken ground and avoid tripping for a bit change. Holes were collared dry with no water injection; water injection was initiated immediately after the holes were successfully collared in order to conform to air-quality regulations. Gel and/or bentonite were added to the water injection when high ground-water flows were encountered near the bottom of some holes, as well as to mitigate some highly broken-ground conditions. During the 2006 drilling program, an attempt was made to survey all angle RC holes that reached a depth of 400 ft and greater. During the 2007 program, all angle holes that reached a depth of 350 ft and greater were surveyed down hole.

11.3 Core Drilling

Kennecott contracted McFeron & Marcus for the three core holes drilled in 1989 and 1990. The five core holes of WSMC were drilled by Boyles Brothers in 1996. The rig types used and core diameters recovered are not known.

In 2006, NewWest contracted Kettle Drilling, Inc. for the Phase 1 core-drilling program. Kettle used an Atlas Copco Diamec® U-6 core rig with a maximum depth capability of 1,280 ft when drilling HQ-size core. NewWest's Phase 2 core-drilling program began in early 2007 and was completed by K & R Drilling, who used an Acker MP5C core drill. HQ core was recovered from both drilling programs, with the exception of Phase 1 hole SEP06-98c, in which the core size was reduced to NQ in order to attain the targeted drill-hole depth. All core holes drilled in the 2006 program were surveyed down hole.

Figure 11.1 Location of Holes Drilled Subsequent to Resource Estimation



12.0 SAMPLING METHOD AND APPROACH

Steeply to moderately dipping, structurally controlled zones and sub-horizontal, stratiform zones host mineralization in the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposits. The deposits are defined by both vertical and angle holes designed to crosscut the mineralization at high angles whenever possible. MDA has reviewed drill-hole cross sections for each of the deposits and concludes that there are no significant sampling biases introduced by drill-hole orientations, and the samples should be reasonably representative of the mineralization.

MDA knows little of the sampling methods and sample handling employed during the various drilling campaigns at Sandman prior to 2000.

12.1 Reverse-Circulation Sampling

RC samples from all Sandman drilling programs were collected on five-ft intervals with the exception of five Kennecott holes and three WSMC holes. These Kennecott holes were drilled outside of the three deposit areas and were sampled at 10-ft intervals. WSMC holes SEP-02-84, SEP-02-85, and SR-04-77 also used 10-ft intervals in the top portions of the holes where no significant mineralization was thought to occur.

Information on RC sampling methods employed prior to 2000 is restricted to WSMC's 1996 and 1997 drilling programs. A total of 227 RC holes were completed in this time period with more than half of the RC holes drilled in the Southeast Pediment, Silica Ridge, and North Hill deposit areas. Cuttings from this drilling were collected over five-ft intervals by the drillers. Cone Geochemical Inc. ("Cone") was solicited to investigate sample splitting size at the drill rig and to investigate sample preparation and assaying techniques in mid-1996 (cited in numerous WSMC internal documents, but apparently no report was prepared by Cone). Cone's study indicated that a 1/8th split at the drill rig should sufficiently represent the interval. Two five- to ten-pound sample splits were collected at the drill rig; one sample was sent for assaying and the other was retained by WSMC as a reject sample. A rotary splitter was used for wet drilling intervals. Each assay interval was logged by a geologist, who recorded information such as rock type, alteration, and degree of sulfide oxidation.

Santa Fe and WSMC recorded the sample intervals as being drilled dry or with water injection for many of their RC holes, including most of the holes WSMC drilled in the three deposit areas.

The WSMC and NewWest 2000 through 2007 drilling programs used essentially the same drilling and sampling procedures (Lanier, pers. comm., 2007). The holes were started by drilling dry with water injection initiating immediately after the hole was successfully collared in order to conform with air-quality regulations. Most of the drill samples were therefore derived from wet drilling and were split using a rotary splitter. The wet-sample splitting was designed to fill 20 x 24-in. cloth bags without overflow. A backup (rig-duplicate) split was collected in 10 x 17-in. olefin bags through 2005; all later rig splits were collected in 20 x 24-in. cloth bags. The few dry samples collected were split using a Jones splitter to fill two 10 x 17-in. bags. Gel and/or bentonite were added to the water injection when high-water flows were encountered near the bottom of some holes as well as in broken ground to stabilize some holes. Sample recovery was reported by WSMC to be generally good except for a relatively few intervals where “very-poor” or “poor recovery” was recorded in the logs. NewWest used the dry weight of the entire sample submitted to the laboratory to track sample recovery.

Whenever possible in 2006 and 2007, drilling during sample collection was done with the blow-by hose closed.

12.1.1 Reverse-Circulation Sample Contamination

In their 2000 through 2007 drilling programs, WSMC and NewWest often installed casing from the collar of the RC holes down to bedrock in order to avoid contamination of bedrock intervals with surficial gravel. The RC holes were also blown clean at the end of every 20-ft interval of drilling (two-rod lengths) during this time.

Drill logs indicate that ground water was encountered at depths of 65 to 300 ft in holes drilled in the Southeast Pediment deposit, which places a significant portion of the mineralization below the water table. Water was usually encountered at a vertical depth of greater than 300 ft in Silica Ridge drill holes, which places most of the deposit above the water table. The depth to ground water at the North Hill deposit is highly variable and suggests compartmenting; most drill holes intersected water within a depth range of 150 and 200 feet. Ground water at the Abel Knoll deposit is spatially related to quartz-adularia-altered rock. In this rock, water is present below a vertical depth of 240 ft, which places more than half of the deposit below the water table.

The possibility of contamination of drill samples with mineralized material from higher in the hole is a concern with RC drilling, especially in cases such as Southeast Pediment and Abel Knoll where some mineralized intervals lie below the ground-water table. PAH (1997) checked drill-hole assays at the Southeast Pediment deposit for contamination and concluded that the high-grade assays “are real and are not the result of any contamination problem.” MDA examined Southeast Pediment drill holes in 2000 and noted intervals from five RC holes that have indications of potential down-hole contamination in low-grade gold intervals (Hardy and Ristorcelli, 2000). WSMC subsequently recognized the presence of possible contaminated intervals in three Southeast Pediment holes (Ashton, 2002a; Lanier, 2002c). Another possible example of contamination was found in the interval 140 to 150 ft in hole SM-76 (Lanier, 2002c). In all cases, the suspect intervals are identified by a trailing off of gold values down-hole from a high-grade interval (> 0.1 oz Au/ton). However, definitive RC contamination is difficult to establish at Southeast Pediment, as the geology of the suspected high-grade source of contamination is in many cases the same as the possible contaminated interval.

An analysis of twin-hole data at Southeast Pediment suggests that spreading of gold values may have occurred down-hole of some high-grade intercepts in RC holes drilled prior to WSMC (see Section 14). Core verification drilling by NewWest during the 2006 drilling program was designed to address the possible contamination concern at the Southeast Pediment, Silica Ridge, and North Hill deposits. Ten of eleven core holes positioned to check RC drill results showed variability in grade between RC and core holes in some cases, as expected in epithermal gold deposits, but showed no indication of down-hole contamination in the RC holes. The other 2006 core twin hole suggested the possible presence of down-hole contamination in a pre-WSMC RC hole.

No twin drilling has been conducted at Abel Knoll, but the drill spacing within the hypothesized diatreme breccia (the major resource host in the deposit) is relatively tight. A combination of high-water flows and anomalous mineralization below a high-grade intercept led to the suspicion of down-hole contamination in hole AK06-23. This issue was addressed in the resource estimation by the removal of the suspicious assays from the grade interpolation routine and the assignment of resources below a depth of 4,000 ft to the Inferred category at Abel Knoll (Section 17).

Twin holes are discussed further in Section 14.

12.2 Core Sampling

MDA has no details on core sampling methods or core recoveries prior to 2006. Kennecott core was sampled at an average length of 5.1 ft, while WSMC core holes were sampled at 2.1-ft intervals on average.

Core drilled in 2006 and 2007 was placed in waterproof core boxes by the driller, with wood blocks marking the depths at the end of each core run. Boxes were taped shut to secure the sample during transport. Core was geologically logged and photographed at a core logging facility in Reno. Once logged, assay intervals, which ranged from 2 ft to 6 ft in length, and sample numbers were marked on the box and core using a marker and metal tag for each interval. Where appropriate, a line was made on the core to orientate the core cutting and assaying, both of which were performed by American Assay.

Average core recovery for the 2006 and 2007 core drilling programs was 87.0%, including intervals within unconsolidated alluvium that experienced essentially no recovery. Core recovery within mineralized zones ($\geq$ 0.010 oz Au/ton) averages 80.5% at Southeast Pediment, 82.3% at Silica Ridge, 94% at North Hill, and 95.8% at Abel Knoll.

13.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

Few details of the sample security, preparation, and analyses are known for the pre-2000 drilling programs at Sandman. The following discussion summarizes the extent of MDA's knowledge based on a review of available drill-hole logs and assay certificates, as well as discussions with WSMC personnel. Only the analytical techniques used in the assaying of the drill samples for gold are discussed. MDA did not attempt to compile silver assaying details due to the overall low concentrations of silver in the Sandman mineralization.

13.1 Analytical Procedures

There are no records of the assay laboratory or analytical procedures used on the Kennecott RC samples. Assaying of samples from Kennecott's three core holes was done by Bondar Clegg Inc. ("Bondar Clegg") by fire assaying of 30-g charges with gold determination by atomic absorption ("AA"). Bondar Clegg is now part of ALS Chemex ("Chemex"), which holds ISO 9002 laboratory accreditation and ISO:9001:2000 for North America.

ALS Chemex analyzed samples from the Santa Fe drilling program by fire assaying 30-g charges with AA finishes. Two samples in the database show the analytical method as one assay-ton (30 g) fire assays with gravimetric gold determinations. Nothing is known about the assaying of the samples from the subsequent Santa Fe drilling campaigns.

There are no data on sample preparation and analyses of the U.S. Borax drill samples.

Samples from the RC holes and two core holes drilled by WSMC in 1996 were analyzed by Barringer Laboratories, Inc. of Sparks, Nevada ("Barringer"). Barringer analyzed 30-g charges by fire assaying with gold content determined by AA. Four samples grading between 0.15 and 1.9 oz Au/ton were re-analyzed by 30-g fire assaying with gravimetric finishes. Samples submitted prior to August 12, 1996 were pulverized by a ring-and-puck pulverizer; later samples were pulverized with a rotating-disc pulverizer as per the recommendations of Cone following a study commissioned by WSMC. Cone analyzed eight RC samples by 30-g fire assaying with AA finishes as part of their study. Cyanide-soluble assays were completed by Barringer on 1996 drill samples that returned fire assay values greater than 0.01 oz Au/ton. The technique involved agitating 30-g splits for 1¼ hours in a hot cyanide solution.

Samples from three of WSMC's 1996 core holes were analyzed by Legend Laboratories of Reno, Nevada ("Legend"). Legend fire assayed 30-g charges with gold contents determined gravimetrically. American Assay Laboratories ("American Assay" or "AAL") became the primary analytical laboratory for WSMC in 1997. American Assay obtained ISO 9002 registration in 2000. The 1997 drill samples were fire assayed using 30-g charges; it is not known whether gold content was determined by AA or gravimetric methods. Samples from the four WSMC RC holes drilled in 2000 were analyzed by Rocky Mountain Geochemical (Inspectorate), who ran 30-g fire assays with AA finishes. Rocky Mountain Geochemical also performed 48-hour cyanide-soluble assays on selected mineralized samples.

WSMC and NewWest used American Assay as the primary laboratory for the 2002, 2004, 2005, 2006, and 2007 drilling campaigns. American Assay analyzed the RC samples by fire assaying 30-g charges with gold determinations by AA; pulps returning high values were re-analyzed with gravimetric finishes. American Assay also analyzed 12 RC samples identified by WSMC as having visible gold by screen-fire assaying methods. Core verification holes drilled during the 2006 program used screen fire assaying for the entire length of mineralized zones. All samples from mineralized zones for the 2002 through 2006 drilling program were also analyzed by American Assay using two-hour cyanide shake tests and two-acid digestion silver analyses. Four-acid digestion silver analyses were also run on at least one hole for each deposit. Check assaying was performed by Chemex on samples from the 2002 through the 2006 programs.

13.2 Sample Security

MDA has no knowledge of the sample handling and security procedures used in any of the drilling programs prior to 2000.

RC drill samples were stored at the drill sites during the 2000 through 2006 drilling programs until they were picked up and transported to the analytical laboratory by personnel of either the analytical laboratory or WSMC and NewWest. For the majority of the samples, however, the laboratory picked up the samples at the drill site, and the change in custody was documented by signature. Although the samples stored at the drill sites were not secured, drill contractor employees and/or WSMC and NewWest personnel were present at the property during most daylight hours. There were no indications of any security problems during the drilling programs (Lanier, pers. comm., 2006).

Core drilled by Kettle Drilling, Inc in 2006 was transported off site by Kettle to their office in Winnemucca. The core was then transported in pickup by NewWest staff to a logging facility in Reno. Once logged and photographed, core boxes were transported to the laboratory for cutting and assaying by NewWest staff. Core drilled by K & R Drilling in 2007 was stored on-site before being transported by pickup to the logging facility in Reno by NewWest staff.

14.0 DATA VERIFICATION

Systematic, consistently implemented data checks and validation procedures appear for the most part to have been lacking in the various exploration programs at Sandman prior to the 2004 drill program of WSMC. A minor amount of check-assay data are available from drill programs from operators prior to WSMC, check assaying was implemented as part of the 2004 drilling program, and other QA/QC procedures were added in the 2005, 2006, and 2007 programs.

MDA has relied on sampling and analytical data provided by NewWest for the purposes of this report. MDA conducted various site visits to the Sandman project, which included inspection and sampling of the gold-silver mineralization exposed in the test pit at Southeast Pediment, the review of NewWest core holes from the various deposits, and check sampling of RC cuttings recovered at the drill site. The bulk sample excavated from the test pit at Southeast Pediment and a series of twin holes drilled at Southeast Pediment, Silica Ridge, and North Hill provide further data for the evaluation of the drill-hole assays.

Discussions concerning the 2006 quality control results, which included analyses of samples from earlier programs as well as the 2006 campaign, are summarized from an independent quality-control analysis contracted by NewWest (Lustig, 2007). This report is included in its entirety in Appendix B. Data from the 2007 drilling at Sandman, which was not used in the mineral resource estimations discussed in Section 17, have not been subject to data verification analysis and therefore are not discussed in this section of the report.

14.1 Quality Assurance/Quality Control Results: 1988 to 2005 Drilling Programs

MDA reviewed assay certificates documenting check assays on coarse rejects by umpire laboratories on a minor amount of drill samples from three holes drilled by Kennecott in 1988 and two WSMC holes drilled in 2000 (Table 14.1). WSMC check assays were performed on second splits collected at the drill rig. The Kennecott umpire assays compare well with the original assays. There are insufficient data to derive conclusions from the WSMC 2000 check results.

Table 14.1 Kennecott 1988 and WSMC 2000 Reject/Duplicate Check Assays

Company	Year	Type	Assay Lab	Mean	Median	Std Dev	CV	Min	Max	No.
Kennecott	1988	Original	Bondar Clegg	0.110	0.008	0.586	5.327	0.000	3.766	41
		Check	Chemex/Barringer	0.112	0.011	0.588	5.250	0.000	3.780	41
WSMC	2000	Original	Rocky Mountain	0.157	0.092	0.204	1.299	0.009	0.515	5
		Check	American Assay	0.077	0.096	0.050	0.649	0.012	0.134	5

WSMC sent 80 coarse rejects, which represents 5.1% of the drill samples, from the 2004 RC drilling program to Chemex for gold and silver check assaying. The holes were drilled at Silica Ridge and various exploration targets on the property. Sample intervals sent for checking were selected to cover the range of grades encountered in the holes. Two to five sample rejects were sent for check assaying from each of the 25 holes. The check analyses compare quite well with the original American Assay results (Table 14.2)

Table 14.2 WSMC 2004 Reject Check Assays

	Au (oz/ton)		Ag (ppm)	
	Chemex	**American Assay**	**Chemex**	**American Assay**
Mean	0.016	0.016	1.2	1.1
Median	0.004	0.005	0.5	0.6
Std Dev	0.032	0.032	1.5	1.4
CV	2.089	2.028	1.3	1.3
Min	0.000	0.000	0.0	0.0
Max	0.184	0.168	6.3	7.9
Count	80	80	80	80
Correlation Coefficient	0.96		0.89	

Other check assay data reviewed by MDA consisted of head assaying of metallurgical samples, internal laboratory check assays on coarse rejects or duplicate splits collected at the drill rig, and internal laboratory repeat assays on pulps. The internal checks on the original pulps were analyzed by the original assay laboratory using the same assaying techniques and reported on the original assay certificates; their usefulness in assessing the validity of the assay database is therefore limited and not discussed further.

Table 14.3 compares the statistics of original assays and internal check assays performed on new pulps derived from coarse rejects or, in the case of the 2004 checks, from duplicate splits from the drill rig. Although no umpire laboratory is involved, which limits the usefulness of the data, the comparisons give some indication of the variability in gold assaying of the Sandman mineralization. The original and check assays compare well in all cases.

Table 14.3 Santa Fe 1992 and WSMC 1996 through 2004 Internal Reject/Duplicate Check Assays

Company	Year		Assay Lab	Mean	Median	Std Dev	CV	Min	Max	Count
Santa Fe	1992	Original	Chemex	0.023	0.008	0.055	2.391	0.000	0.433	160
		Check	Chemex	0.022	0.007	0.059	2.682	0.000	0.580	160
WSMC	1996-97	Original	American Assay	0.021	0.003	0.082	3.905	0.000	0.729	133
		Check	American Assay	0.018	0.003	0.063	3.500	0.000	0.462	133
		Original	Barringer	8.444	0.106	18.736	2.219	0.010	55.772	10
		Check	Barringer	8.784	0.093	19.319	2.199	0.011	57.553	10
	2002	Original	American Assay	0.045	0.004	0.132	2.933	0.000	0.837	53
		Check	American Assay	0.047	0.005	0.133	2.830	0.000	0.729	53
	2004	Original	American Assay	0.002	0.000	0.004	2.000	0.000	0.016	32
		Check	American Assay	0.002	0.000	0.003	1.500	0.000	0.011	32

Head assaying of Sandman drill samples and composites used in metallurgical testing (Section 16) provide a limited amount of check assaying by independent laboratories (Table 14.4). The metallurgical testing was done by Kappes, Cassiday & Associates ("KCA") of Reno, Nevada and McClelland Laboratories, Inc. of Sparks, Nevada ("McClelland"). There is a considerable amount of variation between the original and head assays for the eight composites.

Table 14.4 Southeast Pediment Original versus Head Assays of Drill Sample Composites

Test Date	Deposit	Composite Hole ID	Composite Interval (ft)	Original Assay (oz Au/ton)	Head Assay (oz Au/ton)	Metallurgical Laboratory[1,2]
1989	Southeast Pediment	SM-134	75-135	0.084	0.071	McClelland
		SM-135	120-135	4.086	5.128	McClelland
1996	Southeast Pediment	SEP-96-7	95-105	0.044	0.059	KCA
1996	Southeast Pediment	SEP-96-10 SEP-96-42	50-60 90-100	2.931	5.192	KCA
1996	Southeast Pediment	SEP-96-21 SEP-96-40	80-85 55-60	0.665	0.728	KCA
1996	Southeast Pediment	SEP-96-23	80-85	0.014	0.025	KCA
1996	Southeast Pediment	SEP-96-42	135-155	0.026	0.040	KCA
1996	Southeast Pediment	SEP-96-55	190-195	0.292	0.022	KCA

[1] McClelland head assays: assayed in triplicate by "conventional fire assay fusion" (McClelland, 1987; 1989)
[2] KCA head assays: average of two 30-g fire assays by "two independent commercial laboratories" (KCA, 1996)

Lustig (2007) reviewed the results of 79 Chemex check assays on original American Assay pulps. Three of the pulps were from the 2002 drilling program, while the remainder were from the 1996-1997 drilling campaign. The mean gold value of the check assays is about 10% lower than the original assays for the entire dataset, as well as with 5 outlier samples removed. The median gold value of the check assays is about 10% higher, or 3.3% lower with the outliers removed. Lustig concludes that a larger dataset is needed before a more definitive assessment can be made.

Duplicate samples collected at the drill rig ("rig duplicates") from the 2004 and 2005 programs were also reviewed by Lustig (2007). The original samples were assayed by American Assay, and Chemex analyzed the rig duplicates. Lustig notes that since the primary sample split/rig-duplicate pairs include the maximum amount of geologic variability and sampling error, the usefulness of these check assays is somewhat limited. Lustig also notes that the American Assay analyses of the original samples are biased high at higher grades than the Chemex check assays on the rig duplicates.

14.2 Quality Assurance/Quality Control Results: 2006-2007 Drilling Program

Lustig (2007) reviewed quality control data generated by NewWest during the 2006-2007 drilling program. The NewWest quality-control program included the insertion of certified assay standards, blanks, and rig duplicates into the 2006-2007 sample stream. A number of American Assay pulps from the 2006 program were also sent to Chemex for check assaying ("pulp duplicates"). NewWest also obtained the results from American Assay's internal quality control analyses details. A report that summarizes the NewWest quality control program is attached to the Lustig report (included in its entirety in Appendix B). The following summarizes Lustig's review of the quality control data; Appendix B should be referred to for full details, graphs, and figures.

NewWest Standards Certified analytical standards provide a measure of the accuracy of the American Assay analytical results. Lustig found that 18% of the assays of the analytical standards submitted to

American Assay with the drill samples exceeded the three standard-deviation threshold from the certified (or 'expected') results, with most of these 'failures' being higher-grade than the certified results. These findings led NewWest to request that American Assay re-assay all samples from jobs that included standards that "failed."

As part of check assaying of American Assay pulps by Chemex, discussed below, Chemex also assayed two NewWest standards two times each, for a total of four analyses. All four of the Chemex analyses of these standards returned values higher than the certified results (Lustig, 2007). These results, in combination with the Chemex check assays of original American Assay pulps, discussed below, suggest that the high failure rate of the NewWest standards is likely related to a problem with the standards, not with the original American Assay analyses.

Internal Standards American Assay inserted analytical standards into the NewWest assay jobs and provided the results to NewWest. In contrast to the NewWest standard results, the American Assay standards showed no bias and a low "failure" rate.

Blanks Lustig found that one blank analysis exceeded his 'failure' limit of five times American Assay's analytical detection limit for gold of 3 ppb (5 x 3 ppb = 15 ppb). This 'failure' returned 22 ppb Au, and Lustig concluded that the samples are generally free from laboratory contamination.

Rig Duplicates The NewWest rig-duplicate samples consisted of second splits from the RC rig or the remaining half core following the removal of the primary assay sample in the case of core holes. Lustig reviewed the results of 376 primary/rig-duplicate sample pairs analyzed by American Assay and concluded that the data suggest that a 'nugget effect' has lowered the precision of the NewWest 2006-2007 analytical results. Lustig noted that increasing the sample size could result in increased precision in future programs. He also suggested that screen-fire assaying should be considered.

Pulp Duplicates – Primary Laboratory Lustig examined the results of 738 original pulp/duplicate-pulp pairs analyzed by American Assay. These pairs represent original duplicate analyses of the same pulp by the same laboratory, and therefore are a measure of analytical precision. As with the 2006-2007 rig-duplicate samples discussed above, Lustig concluded that the data indicate that a nugget effect is present at Sandman.

Pulp Duplicates – Check Laboratory A total of 294 check assays by Chemex on original American Assay pulps were reviewed by Lustig. The original/check pairs relate to the accuracy of the American Assay analytical results. Lustig found that the mean and median of the Chemex check assays are about 3% lower and 11% higher than the original American Assay results, respectively. With outliers removed, the Chemex mean and median are about 4% higher and 8% higher, respectively. Lustig concluded that there is no significant relative bias between the American Assay primary analyses and the Chemex check assays.

14.3 Quality Assurance/Quality Control Recommendations

Lustig (2007) made a number of recommendations aimed at improving the NewWest quality control/quality assurance program at Sandman, including:

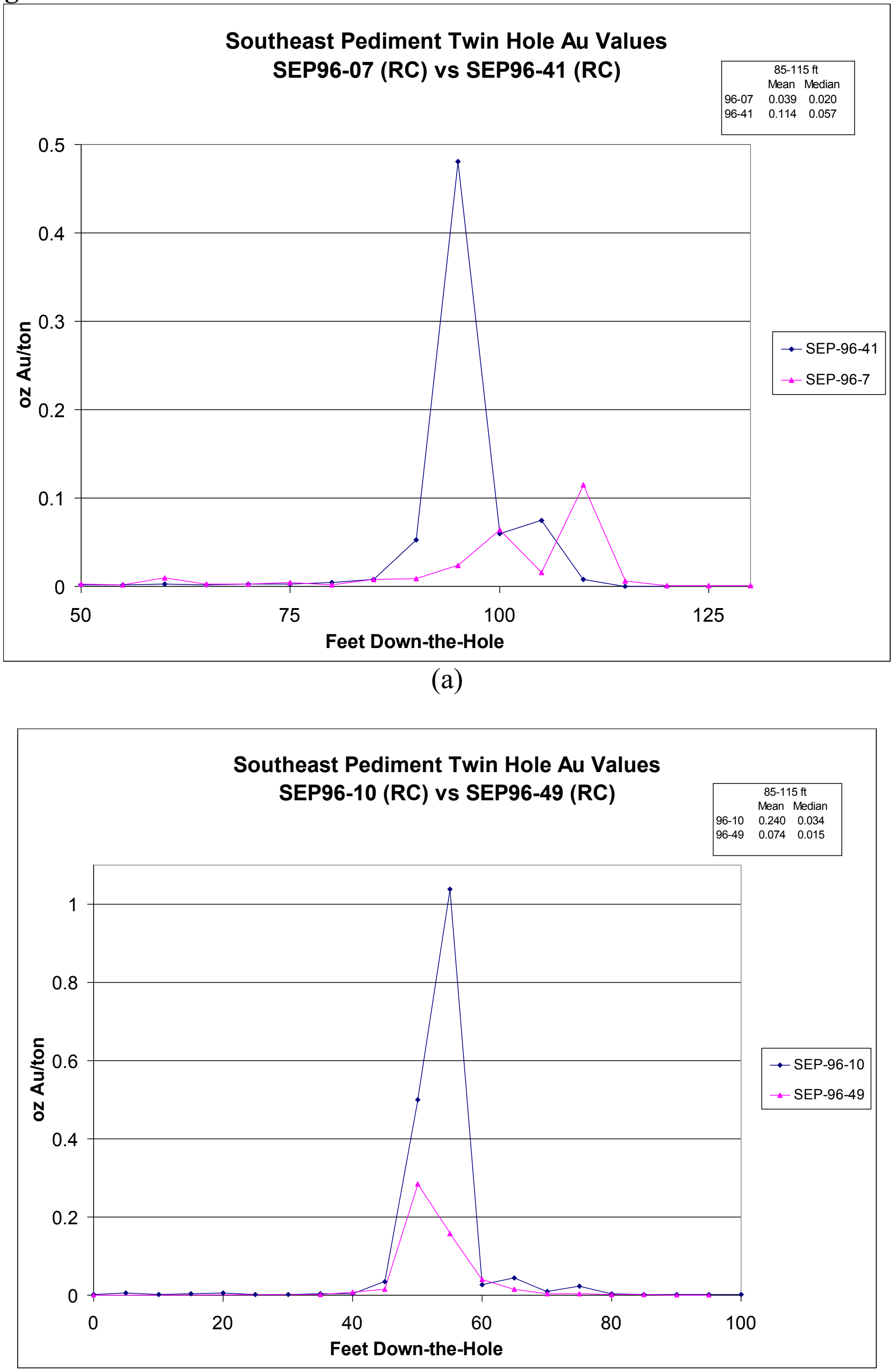
- The collection of larger drill samples should be considered, with the goal of providing better precision.
- The pulp size should be increased to 1 or 1.5 kg, to increase analytical precision.
- Three unique certified analytical standards should be used in the quality-control program. One of the standards should have a grade close to the likely cutoff grade of the deposit should it be mined, another should be of moderate grade, and the third should be representative of high-grade in the deposits.
- The primary analytical laboratory's analyses of the standards should be continuously monitored, so as to identify possible problems as they occur.
- An optimal laboratory procedure for the Sandman mineralization, which shows evidence of a 'nugget effect', should be developed. A homogeneity study should be considered, as should more frequent use of metallic sieve assaying.
- The quality-control sample insertion rate should be increased to achieve a rate of a minimum of one standard, one blank, and one duplicate sample for each 20 primary samples submitted.
- Preparation duplicates, or duplicate samples prepared after the initial laboratory crushing stage, should be done in a routine fashion.
- A larger percentage of primary laboratory pulps should be sent to a second laboratory for check assaying.
- The sample numbering system should be changed to a simple numeric system, which does not identify drill-hole numbers or footages.

14.4 Twin-Hole Comparisons: Southeast Pediment 1996 Drilling Program

MDA reviewed nine sets of twin holes from Southeast Pediment from the 1996 drilling campaign. Two twin sets are composed of one core hole and two RC holes, all drilled by WSMC in 1996. Four sets are made up of single RC holes drilled by WSMC in 1996 that twin older RC holes drilled by Santa Fe or Kennecott. The remaining sets consist of twin pairs of RC holes drilled by WSMC in 1996.

The 1996 RC-RC twin pairs were drilled and assayed under essentially identical conditions and therefore can be used to examine grade variability in the Southeast Pediment mineralization. The down-hole grade curves for each of these three twin pairs are shown in Figure 14.1. While the twin-hole pairs clearly sampled the same mineralization, as shown by the similar overall morphologies of the grade

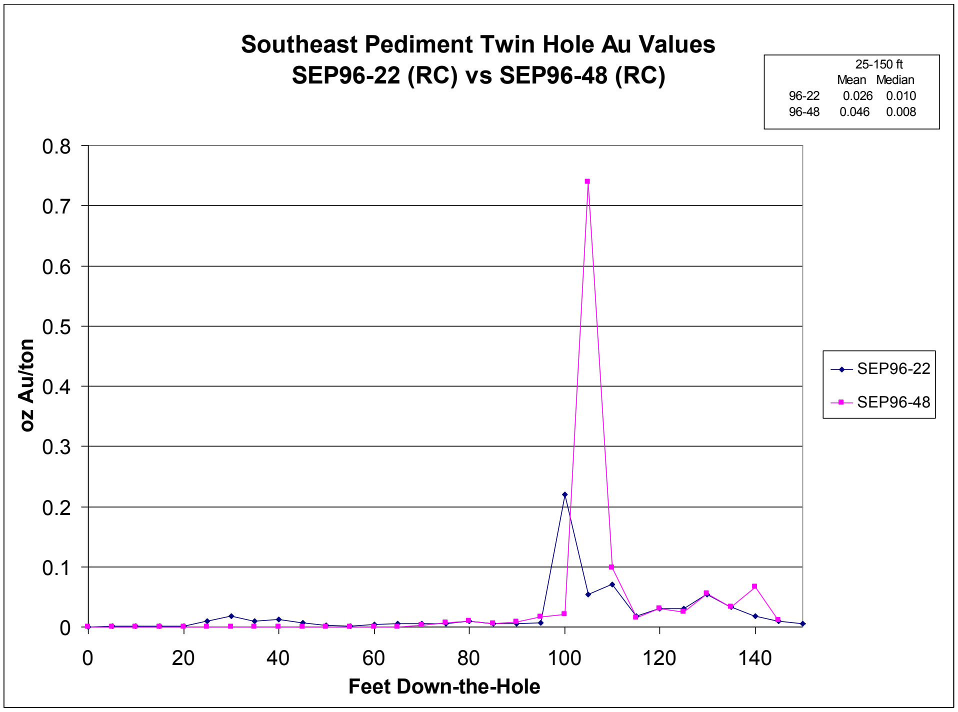
Figure 14.1 1996 RC-RC Twin Sets: Down-Hole Plots of 1996 WSMC Holes



(a)

(b)

Figure 14.1 1996 RC-RC Twin Sets: Down-Hole Plots of 1996 WSMC Holes (cont.)



(c)

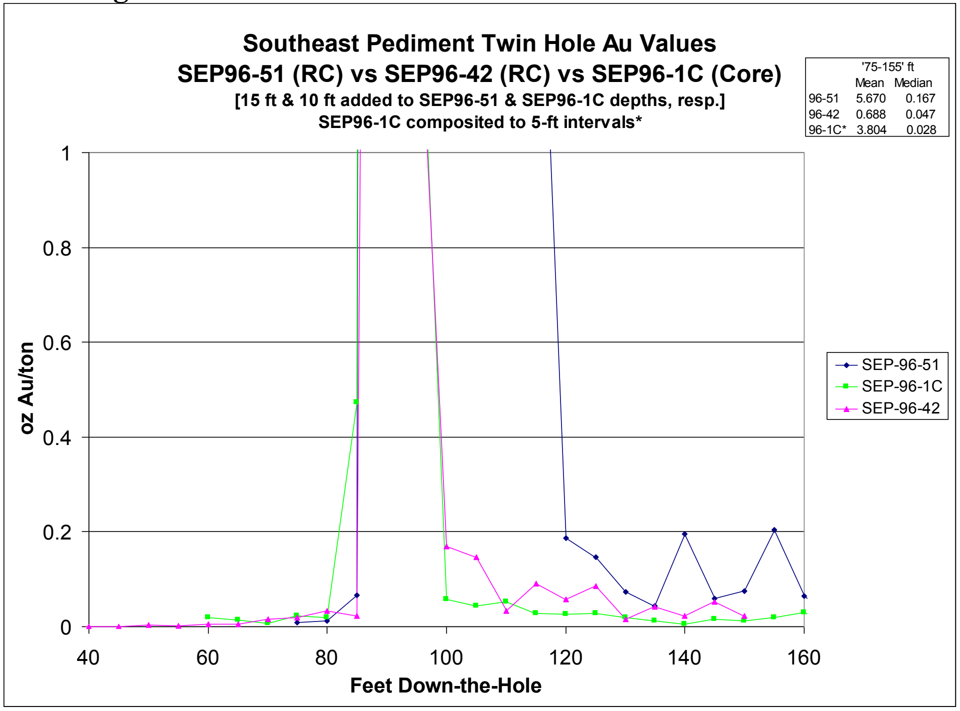
curves, the peak values of the higher-grade zones differ significantly. This is not surprising given the variability in grades in some of the higher-grade zones in the Southeast Pediment deposit.

Figure 14.2 shows the down-hole grade plots for the two core-RC-RC twin sets. The average grade of the mineralized interval in core hole SEP96-1C lies between the means of the two RC holes it twins, although the median of the core hole is lower than those of the RC holes (Table 14.5). Core hole SEP96-3C yields higher mean and median gold values than its RC twin holes. This variability is at least partially the result of the local grade variations demonstrated by the 1996 RC-RC twin pairs, although the data are insufficient to derive definitive conclusions.

Table 14.5 1996 Southeast Pediment Core-RC-RC Twin Sets: Descriptive Statistics

Twin Set	Type	Max. Collar Separation (ft)	Interval (ft)	Mean	Median	Std Dev	CV	Min	Max	Count
SEP-96-51	RC		60-140	5.670	0.167	14.986	2.643	0.008	55.772	16
SEP-96-42	RC	11.6	75-155	0.688	0.047	2.171	3.156	0.016	8.720	16
SEP-96-1C	Core		68-148	3.805	0.025	18.271	4.802	0.005	112.389	40
SEP-96-20	RC		15-60	0.023	0.020	0.011	0.478	0.011	0.040	9
SEP-96-47	RC	10.4	15-60	0.019	0.010	0.027	1.421	0.004	0.090	9
SEP-96-3C	Core		15-60	0.040	0.026	0.042	1.05	0.008	0.167	23
	All RC			*2.042*	*0.040*	*8.752*	*4.286*	*0.004*	*55.772*	*50*
	All Core			*2.430*	*0.026*	*14.605*	*6.01*	*0.005*	*112.389*	*63*

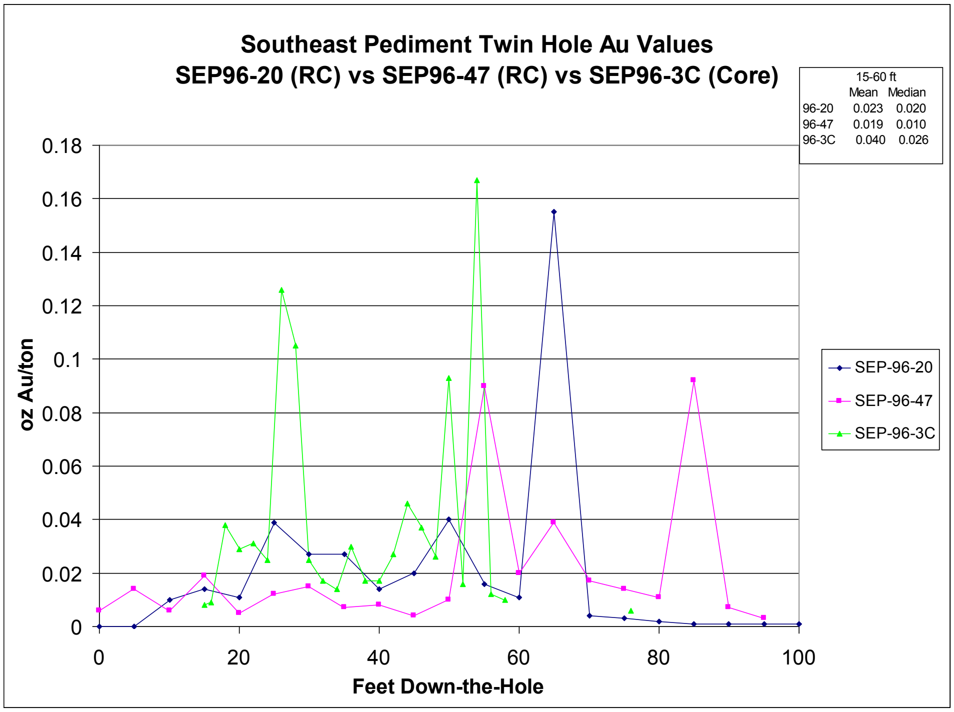
Figure 14.2 1996 Core-RC-RC Twin Sets: Down-Hole Plots



Southeast Pediment Twin Hole Au Values
SEP96-51 (RC) vs SEP96-42 (RC) vs SEP96-1C (Core)
[15 ft & 10 ft added to SEP96-51 & SEP96-1C depths, resp.]
SEP96-1C composited to 5-ft intervals*

	'75-155' ft	
	Mean	Median
96-51	5.670	0.167
96-42	0.688	0.047
96-1C*	3.804	0.028

(a)



Southeast Pediment Twin Hole Au Values
SEP96-20 (RC) vs SEP96-47 (RC) vs SEP96-3C (Core)

	15-60 ft	
	Mean	Median
96-20	0.023	0.020
96-47	0.019	0.010
96-3C	0.040	0.026

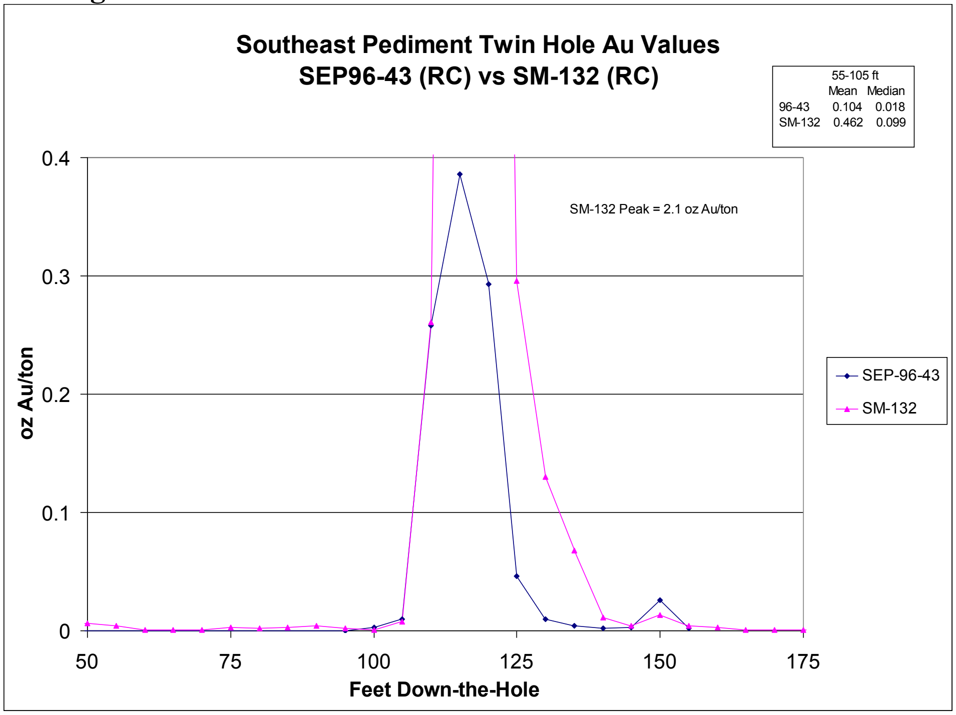
(b)

The morphologies of the down-hole grade curves for each of the 1996 RC-older RC twin pairs compare quite well, verifying that the twins sampled the same geology (Figure 14.3). The mean and median values of the older RC holes taken as a whole are significantly higher than those of the WSMC RC twin holes, however (Table 14.6). In comparison to the grade profiles of the newer RC holes, the older holes are characterized by relatively broad grade peaks. This suggests the older holes experienced more spreading of gold values than the 1996 holes. In addition, the grade curves of two of the RC-RC twin pairs suggest contamination of intervals down-hole from high-grade peaks in the older RC holes (Figure 14.3a and c). Although the data are limited, the four 1996 RC-older RC twin pairs suggest that the 1996 RC drilling provided 'cleaner' samples than the older holes. Further twin drilling is needed to properly investigate the possibility of down-hole contamination in the pre-WSMC RC drilling at Southeast Pediment.

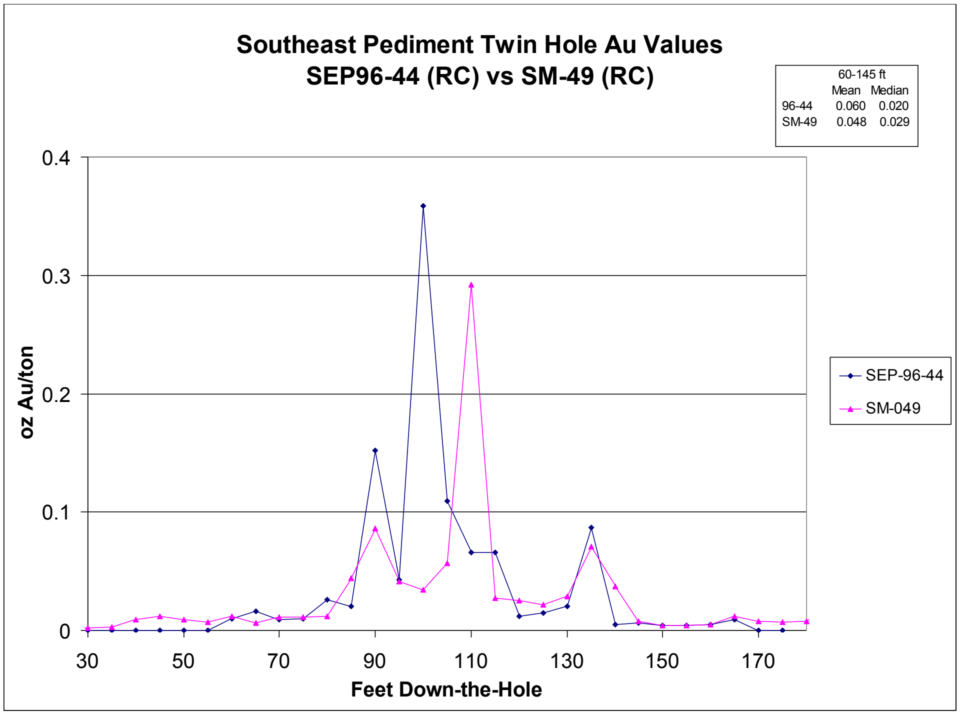
Table 14.6 Southeast Pediment 1996 RC-Older RC Twin Sets: Descriptive Statistics

Twin Pair	Max. Collar Separation (ft)	Interval (ft)	Mean	Median	Std Dev	CV	Min	Max	Count
SEP-96-43	4.2	105-155	0.104	0.018	0.148	1.423	0.002	0.386	10
SM-132		105-155	0.462	0.099	0.776	1.680	0.004	2.064	10
SEP-96-44	5.4	60-145	0.060	0.020	0.088	1.467	0.005	0.359	17
SM-049		60-145	0.048	0.029	0.067	1.396	0.006	0.292	17
SEP-96-45	5.8	60-160	0.024	0.014	0.048	2.000	0.000	0.218	19
SM-074		55-155	0.231	0.014	0.836	3.619	0.002	3.766	20
SEP-96-46	3.0	15-75	0.061	0.024	0.142	2.328	0.006	0.512	12
DSA-230		10-70	0.074	0.020	0.117	1.581	0.007	0.409	12
SEP/SM	SEP		0.055	0.016	0.095	1.727	0.002	0.386	46
Twins	SM		0.214	0.024	0.657	3.070	0.002	3.766	47
All SEP			0.056	0.018	0.105	1.875	0.002	0.512	58
All Others			0.186	0.023	0.590	3.172	0.002	3.766	59

Figure 14.3 1996 RC-Older RC Twin Pairs: Down-Hole Plots

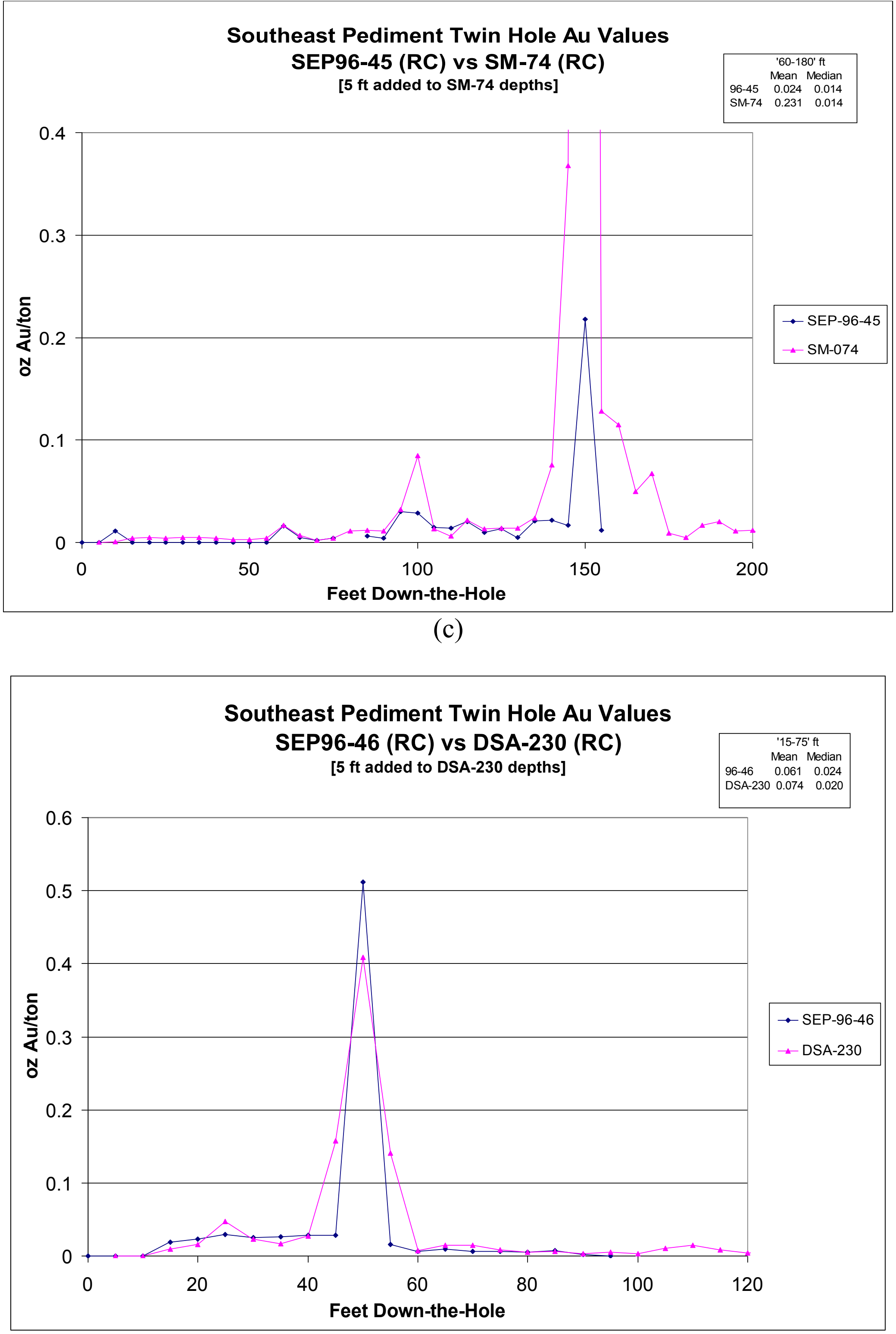


(a)



(b)

Figure 14.3 1996 RC-Older RC Twin Pairs: Down-Hole Plots (cont.)



(c)

(d)

14.5 Twin-Hole Comparisons: 2006-2007 Drilling Program

Ten core holes and one RC hole drilled in 2006 twinned pre-existing RC holes within the Southeast Pediment, Silica Ridge, and North Hill deposit areas (Tables 14.7, 14.8, and 14.9).

The Southeast Pediment core twin-hole data suggest that down-hole contamination was not experienced in the RC holes, even in areas of high ground-water flows. For example, the third RC twin set listed in Table 14.7 tested deep mineralization at the intersection of the andesitic sill and the SEP fault, a setting that often returns relatively strong grades and high water flows. A visual comparison of the core and RC assays strongly suggests that no down-hole contamination was experienced in the RC hole, while confirming the presence of moderately high-grade mineralization in the target area. The second twin set also demonstrated no RC contamination, as well as excellent correlation of a high-grade zone. The three holes in the first twin set vary considerably in grade, which precludes the formation of definitive conclusions. Taken as a whole, the Southeast Pediment twin data show that the grades, while generally correlating well, can vary significantly. This is not unusual in volcanic-hosted epithermal deposits.

Table 14.7 2006 Southeast Pediment Twin Sets: Descriptive Statistics

SOUTHEAST PEDIMENT									
Twin Set	Max. Collar Separation	Interval (ft)	Mean	Median	Std Dev	CV	Min	Max	Count
SEP-96-7	9	100-115	0.065	0.064	0.050	0.773	0.016	0.115	3
SEP-96-41		95-115	0.156	0.068	0.219	1.401	0.008	0.481	4
SEP06-103C		93-114.5	0.028	0.015	0.022	0.789	0.009	0.065	6
SEP-02-73	8	95.155	0.525	0.044	1.553	2.958	0.026	5.450	12
SEP06-104C		92-162	1.209	0.045	3.605	2.981	0.030	12.736	15
SEP-00-65	6	470-515	0.053	0.052	0.020	0.377	0.031	0.090	9
SEP06-96C		465-514	0.048	0.044	0.015	0.308	0.031	0.075	11
	All RC		*0.271*	*0.054*	*1.005*	*3.703*	*0.008*	*5.450*	*28*
	All Core		*0.602*	*0.044*	*2.555*	*4.245*	*0.009*	*12.736*	*33*

The first Silica Ridge twin set in Table 14.8 is an RC – RC pair. The holes intercepted little mineralization of interest, although the grades compare well. Core hole SR06-132C in the second Silica Ridge twin pair intersected the high-grade zone returned in the RC hole, although at a lower grade. More significantly, the core-hole data suggest that the RC hole may have smeared grades below the high-grade zone. This would be consistent with down-hole contamination in older holes suggested by the 1996 twin data (discussed above). The final twin set in Table 14.8 shows excellent correlation of the mineralized zones and suggests that the RC hole has no down-hole smearing of grade.

All four North Hill RC holes intersected higher-grade mineralization than their core twins (Table 14.9), although the core holes did intersect mineralization in the same zones as the RC holes. While this suggests a high bias in the RC grades, North Hill higher-grade mineralization, at the present drill spacing and state of geologic understanding, is characteristically highly variable. The twin sets provide no evidence of down-hole contamination in the RC holes.

Further infill drilling, accompanied by additional core twinning of RC holes, is needed at North Hill.

Table 14.8 2006 Silica Ridge Twin Sets: Descriptive Statistics

SILICA RIDGE

Twin Set	Max. Collar Separation	Interval (ft)	Mean	Median	Std Dev	CV	Min	Max	Count
SR04-87	9	45-185	0.004	0.004	0.003	0.750	0.001	0.013	28
SR06-87A		45-185	0.004	0.003	0.003	0.750	0.000	0.016	28
SM-105	12	0-130	0.272	0.018	0.839	3.084	0.000	4.137	26
SR06-132C		0-129	0.035	0.008	0.099	2.851	0.001	0.473	31
SR04-80	6	130-190	0.098	0.016	0.242	2.469	0.003	0.856	12
SR06-131C		128-190	0.311	0.010	0.778	2.500	0.001	2.866	18
SM-15	7	0-65	0.072	0.057	0.068	0.944	0.004	0.256	13
SR06-130C		0-58	0.119	0.047	0.286	2.415	0.011	1.737	15
	All RC		*0.180*	*0.021*	*0.607*	*3.378*	*0.000*	*4.137*	*51*
	All Core		*0.123*	*0.011*	*0.432*	*3.505*	*0.001*	*2.866*	*64*

Table 14.9 2006 North Hill Twin Sets: Descriptive Statistics

NORTH HILL

Twin Set	Max. Collar Separation	Interval (ft)	Mean	Median	Std Dev	CV	Min	Max	Count
NH06-56	5	50-105	0.061	0.015	0.122	2.000	0.006	0.423	11
NH06-106C		48-102	0.017	0.005	0.030	1.730	0.000	0.107	11
NH-97-17	7	15-130	0.044	0.028	0.055	1.250	0.004	0.217	23
NH06-109C		19-124	0.018	0.013	0.015	0.865	0.002	0.059	22
NH06-54	9	90-150	0.065	0.038	0.061	0.938	0.011	0.207	11
NH06-108C		91-141	0.059	0.040	0.048	0.827	0.006	0.158	11
NH06-50	6	175-225	0.175	0.083	0.204	1.166	0.012	0.566	10
NH06-107C		178-224	0.057	0.023	0.066	1.158	0.003	0.197	10
	All RC		*0.076*	*0.030*	*0.117*	*1.551*	*0.004*	*0.566*	*55*
	All Core		*0.033*	*0.020*	*0.044*	*1.328*	*0.000*	*0.197*	*54*

14.6 MDA Check Sampling

MDA collected two chip samples from the test pit at Southeast Pediment and one duplicate RC sample from a hole at Silica Ridge on July 20, 2006, and two additional duplicate RC samples from a hole being drilled at Abel Knoll on January 10, 2007 (Table 14.10).

Table 14.10 MDA Confirmation Sampling Results

Sample No.	Location/Hole ID	From (ft)	To (ft)	NewWest (oz Au/ton)	MDA (oz Au/ton)	
					Fire Assay-AA Finish	Fire Assay-Grav. Finish
SEP-PIT-01	Southeast Pediment Test Pit	-	-	-	0.010	-
SEP-PIT-02	Southeast Pediment Test Pit	-	-	-	0.028	-
SR06-128 40-45	Silica Ridge SR06-128	40	45	.016	0.011	-
AK0623 445D	Abel Knoll AK06-23	440	445	1.800	0.707	0.749
AK0623 450D	Abel Knoll AK06-23	445	450	0.715	0.796	0.828

The MDA verification sampling has demonstrated the presence of significant gold mineralization at Sandman, in concentrations similar to those in the NewWest drill-hole database.

14.7 NWG Sample Preparation Orientation Study

NWG conducted a homogeneity study in 2007 at the recommendation of Lustig (2007). A selected core sample from Southeast Pediment was used to empirically demonstrate a sample preparation procedure that produces repeatable fire-assay results (Lanier, 2007). The study indicates that: (1) core samples should be crushed to at least ~80% -8 to -10 mesh using both jaw *and* roll crushing stages – the two crushing stages are important to help achieve adequate size reduction and also blending; (2) a 300-gram pulp sized to at least ~80% -120 mesh should be adequate for assay; and (3) a metallic screen fire assay can be useful as an umpire when the nugget effect is indicated by check assays.

15.0 ADJACENT PROPERTIES

The Tenmile property, owned by Fronteer through NewWest, is located adjacent to the southeastern boundary of the Sandman project (Figure 4.1). Tenmile covers a portion of the Ten Mile district, which encompasses several historic gold mines and shares essentially the same geologic setting as the Sandman project. MDA visited Tenmile on July 9, 2004.

Gold in the Ten Mile district occurs primarily in epithermal veins, stockworks, and bonanza-grade pockets within veins (Bowell et. al., 2000). Original underground mining in the Ten Mile district dates back to the late 1930's and early 1940's when a little more than 3,000 tons of ore grading between 0.08 and 3.30 oz Au/ton were mined. Most of the district production came from a later period of production in the 1960's. This later production was not recorded, but Boden (1996) estimated that 10,000 to 20,000 tons were mined based on the size of dumps and accessible stopes. Coarse specimen gold has been and is continuing to be collected from gold-leaf veinlets and high-grade gold pockets within the epithermal quartz veins. Supergene enrichment has enhanced gold grades locally. Sampling of gold pockets by Bowell *et al*. (2000) returned grades up to 2 oz Au/ton.

The gold mineralization at the Tenmile property is hosted mainly in a small, argillically altered late-Cretaceous dioritic stock and within a hornfelsed phyllite contact zone that surrounds the stock. Epithermal veining includes early coarse quartz-sulfide-telluride-gold veins, younger quartz-adularia-gold veins dated at 16.5 ± 0.5 Ma (Boden, 1996), and stibnite-bearing quartz veins of unknown paragenesis. The mineralized veins are complex, sheared, and discontinuous.

A total of 173 conventional rotary and RC holes have been drilled at the Tenmile property for a total of more than 27,000 ft. This drilling, undertaken by CR Exploration, Chevron Resources, Golden Glacier, and Teck Resources in the 1980's and 1990's, led to the identification of a small lode gold deposit. The lode mineralization has been eroded into an alluvial deposit immediately to the east.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Bottle roll, column leach, and gravity tests have been conducted on Sandman drill-hole and trench samples, primarily from the Southeast Pediment and Silica Ridge deposits. In addition to the laboratory testing, a bulk sample from the Southeast Pediment test pit was shipped to the Twin Creeks mine for milling and cyanide leaching.

Due to the historic nature of much of the metallurgical data, MDA cannot definitively comment on the representivity of the samples used in each of the tests summarized below. The test pit sampling, described below, is an exception to this statement, as MDA inspected the pit and determined that it provides an excellent sample of the higher-grade Southeast Pediment mineralization. MDA believes that the metallurgical test results in general can be reasonably relied upon given the present stage of the Sandman project.

16.1 McClelland Laboratories, Inc. Testing

McClelland conducted agitated leach (bottle roll) tests on six Sandman drill-sample composites for Kennecott (McClelland, 1987; 1989).

Bottle roll tests on four composites of RC drill-hole cuttings from Silica Ridge and North Hill were completed by McClelland in 1987 (Table 16.1). Two-kg splits of the composites were tested "as-received", which equated to a feed size of about -¼ inch. The 96-hour bottle roll tests yielded gold extractions of 80.0% and 82.5% for the two North Hill composites and 54.9% and 80.9% for the Silica Ridge composites. Gold extraction was substantially complete in 24 hours in each test. Only the two Silica Ridge samples contained appreciable silver, and these composites yielded silver extractions of 26.6% and 5.4%. Based on tail screen analysis, grinding to a size of -65 to -200 mesh would be required for maximum gold recovery (McClelland, 1987). McClelland considered the cyanide consumptions to be low at 0.10 lbs/ton for all four samples, while lime requirements were considered to be low to moderate (3.6 to 6.4 lbs/ton of mineralized material). McClelland concluded that the "composites are amenable to direct cyanidation at the cuttings feed size."

McClelland also conducted bottle roll tests for Kennecott on two composites of RC cuttings from Southeast Pediment drill holes SM-134 and SM-135 in 1989 (Table 16.1). The tests were performed on 3-kg splits at an as-received feed size (McClelland, 1989). Gold extractions of 84.3% and 82.8% were achieved in 96 hours of leaching. SM-134 gold extraction was substantially complete in 48 hours, while gold extraction was still proceeding at a significant rate when leaching was stopped at 96 hours in the SM-135 sample, which had a head-assay value of 5.1 oz Au/ton. The ongoing leaching of SM-135 gold at the test termination suggested to McClelland the possible presence of coarse gold or gold in sulfides. Tail screen analyses of the samples indicated that fine grinding to -200 mesh or finer would be needed for maximum gold recovery and that some portion of the gold was encapsulated (McClelland, 1989). Silver extractions for the composites were 15.4% and 61.2% with the high-grade gold composite yielding the higher silver recovery. Cyanide consumption was low (0.10 and 0.23 lbs/ton) and lime requirements were moderate with some pH control problems encountered during leaching. McClelland concluded that the two composites were "readily amenable to direct cyanidation at the as-received feed size. Gold recovery would improve with a leaching cycle longer than 96 hours for both composites, especially the high grade composite."

Table 16.1 McClelland Bottle Roll Testing Summary

Test Date	Deposit	Composite		Head Assay[1]		Calculated Head Assay		Extraction (%)	
		Hole ID	Interval	oz Au/ton	oz Ag/ton	oz Au/ton	oz Ag/ton	Au	Ag
1987	North Hill	SM-1		0.034	0.21	0.035	0.07	80.0	28.6
		SM-2		0.072	0.41	0.08	0.1	82.5	40.0
	Silica Ridge	SM-12		0.166	0.81	0.178	0.94	80.9	26.6
		SM-15		0.085	1.3	0.082	1.11	54.9	5.4
1989	Southeast Pediment	SM-134	75-135 ft	0.071	0.57	0.07	0.52	84.3	15.4
		SM-135	120-135 ft	5.128	2.9	3.477	2.24	82.8	61.2

[1] "Conventional fire assay fusion"; assayed in triplicate (McClelland, 1987; 1989)

16.2 Barringer Laboratories, Inc. Testing

According to a report by PAH, Barringer performed bottle roll tests in 1996 on 30 "generally low grade" gold samples from drill intervals ranging from 80- to 155-ft depths (PAH, 1997, citing an August 16, 1996 Barringer report that was not available to MDA). According to PAH the samples were pulverized and leached for three days. Average gold extraction was 96% with no extraction less than 90%. PAH did not specify the deposit from which the drill samples originated.

16.3 American Assay Laboratories, Inc. Testing

American Assay conducted a bottle roll test in 1996 on a composite sample of selected intervals from the T-4, T-5, and T-6 Southeast Pediment trenches (American Assay, 1996). Approximately 10 kg of 80% -1 inch material was tested. The sample yielded a head screen assay of 0.027 oz Au/ton and a calculated head assay of 0.038 oz Au/ton. Fifty-percent of the gold in the sample was extracted following 96 hours of leaching. The majority of the gold was extracted in the first 24 hours, although extraction continued to increase at a slow rate for the remainder of the test. American Assay considered the cyanide and lime consumptions (0.87 lb/ton and 1.58 lb/ton, respectively) to be low.

16.4 Kappes, Cassiday & Associates Testing

KCA completed a series of bottle roll, column leach, and gravity tests on surface and trench samples from the Southeast Pediment (Table 16.2), Silica Ridge (Table 16.3) and Abel Knoll (Table 16.4) deposits in 1996, 1997, and 2007 (KCA, 1996, 1997a, 1997b, 2007).

Southeast Pediment

Bottle roll tests were conducted on six composites of RC cuttings in 1996 (KCA, 1996). KCA tested 500-g splits of the composites pulverized to -100 mesh and one-kg splits at the as-received size (approximately -¼ inch). The pulverized and as-received samples were leached for 48 hours and 144 hours, respectively. Gold extractions averaged 97% for the pulverized samples and 77% for the as-received samples. Silver extractions for the pulverized leach tests averaged 43% after 48 hours and

12.1% over the 144-hour as-received tests. Cyanide consumptions ranged from 0.26 to 1.28 lb/ton for the pulverized samples and 0.45 to 0.77 lb/ton for the as-received samples.

Both bottle roll tests were completed in 1997 on four composites of surface trench samples from Southeast Pediment, as well as a bulk composite of samples from the T-4 and T-6 trenches (KCA, 1977b). The bottle roll tests were conducted on 500-g splits pulverized to -100 mesh and 10-kg splits crushed to -1 inch. The pulverized samples were leached for 48 hours with the exception of the bulk composite, which was leached for 144 hours. The -1 inch samples were leached for 192 hours. Gold extractions from the -100-mesh bottle-roll tests ranged from 84.7% to 97.2%, while the -1 inch tests yielded extractions of 72.4% and 76.2%. KCA concluded that the "bottle roll leach tests generally indicated that the Sandman material received was amenable to leaching both at a fine grind size as well as at larger crushed sizes… Based on the assumption that the ore would be similar to the samples tested…tests…indicate that by heap leaching -½ inch material, an overall gold recovery of 86% could be obtained."

Three column leach tests were conducted for 111 days on 40-kg samples of the bulk composite. Gold extractions of 92.5%, 89.9%, and 87.8% were achieved at feed sizes of -¼ inch, -1/2 inch, and -1 inch, respectively. Cyanide consumptions ranged from 3.42 to 4.0 lbs/ton of material leached; lime requirements ranged from 2.28 to 2.42 lbs/ton.

Three of the trench composites were also crushed to -28 mesh and passed through either a Wilfley No. 13 Table or a Knelson Bowl Concentrator. Gold recovery in the gravity tests ranged from 14.2 to 38.9%; the two higher-grade samples yielded the highest recoveries.

Silica Ridge

KCA completed two series of tests in 1997 on Silica Ridge composites (KCA, 1997a; 1997b). Bottle roll tests were undertaken on two trench composites and one composite of RC cuttings (Table 16.3). The T-8 trench composite was tested at -100 mesh, -1/4 inch, and -1 inch sizes using sample splits of 500 g, 10 kg, and 10 kg, respectively. These samples yielded gold extractions of 95.0%, 68.3%, and 56.9% in order of increasing feed size after leaching for 48 hrs, 168 hrs, and 168 hrs, respectively. Cyanide consumptions ranged from 0.32 to 0.73 lbs/ton; 1.1 to 2.0 lbs/ton of lime was added to the samples. A 10-kg split of the T-4 trench composite was tested at a size of -1 inch for 96 hours, which yielded a gold extraction of 51.6%.

The RC-cuttings composite consisted of 56 five-ft drill intervals from a total of seven SR-96-series holes. A 10-kg split of the composite was leached for 96 hours at the as-received size and yielded a gold extraction of 70.0%.

The T-8 trench composite was also tested in column leaches at -1/4 inch, -1/2 inch, and -1 inch feed sizes. The columns were run with 40-g splits and yielded gold extractions of 77.0 to 86.1% with extractions increasing with decreasing feed size. Silver extractions were less than 5%. A total of 1.73 to 1.79 lbs/ton cyanide was consumed and 2.28 lbs/ton lime was added in the three columns.

Abel Knoll

KCA completed four initial bottle-roll tests in 2007 on composited RC drill samples from Abel Knoll (KCA,2007). Three of the samples tested were from tuffaceous host rock (AK06-14, -15, and – 19), and the other was a feldspathic quartzite (AK07-32). All samples were oxidized. Bottle-roll tests were conducted using 500-g splits pulverized to 100% minus 150 mesh Tyler. The bottle-roll leach tests were conducted over a period of 72 hours. Gold extractions ranged from 88% to 99%, and averaged 95% for the four tests (Table 16.4). Silver extraction averaged 56% for the four tests. Cyanide consumptions averaged 0.75 pounds of sodium cyanide per short ton of material leached. Hydrated lime additions ranged from two to four pounds of hydrated lime per short ton of material leached.

Table 16.2 Summary of KCA Testing of Southeast Pediments Samples

Date	Test	Composite	Type	Head Assay (oz Au/ton) Average	Head Assay (oz Au/ton) Calculated	Size	Time (days)	Au Extraction
1996	Bottle Roll	SEP-96-7 (95-105 ft)	RC chips	0.059	0.090	100 Mesh	3	98.9%
	Bottle Roll	SEP-96-7 (95-105 ft)	RC chips	0.059	0.074	As Rec'd	6	85.1%
	Bottle Roll	SEP-96-10 (50-60 ft) SEP-96-42 (90-100 ft)	RC chips	5.192	5.098	100 Mesh	3	99.7%
	Bottle Roll	SEP-96-10 (50-60 ft) SEP-96-42 (90-100 ft)	RC chips	5.192	8.349	As Rec'd	6	27.4%
	Bottle Roll	SEP-96-21 (80-85 ft) SEP-96-40 (55-60 ft)	RC chips	0.728	0.700	100 Mesh	3	99.6%
	Bottle Roll	SEP-96-21 (80-85 ft) SEP-96-40 (55-60 ft)	RC chips	0.728	0.688	As Rec'd	6	78.6%
	Bottle Roll	SEP-96-23 (80-85 ft)	RC chips	0.025	0.023	100 Mesh	3	91.3%
	Bottle Roll	SEP-96-23 (80-85 ft)	RC chips	0.025	0.021	As Rec'd	6	95.2%
	Bottle Roll	SEP-96-42 (135-155 ft)	RC chips	0.040	0.028	100 Mesh	3	96.4%
	Bottle Roll	SEP-96-42 (135-155 ft)	RC chips	0.040	0.033	As Rec'd	6	84.8%
	Bottle Roll	SEP-96-55 (190-195 ft)	RC chips	0.022	0.027	100 Mesh	3	96.3%
	Bottle Roll	SEP-96-55 (190-195 ft)	RC chips	0.022	0.024	As Rec'd	6	91.7%
1997	Bottle Roll	SEP T-4 (20-25 ft)	Trench	0.017	0.020	100 Mesh	2	85.0%
	Bottle Roll	SEP T-4 (75-80 ft)	Trench	0.052	0.059	100 Mesh	2	84.7%
	Bottle Roll	SEP T-4 (75-80 ft)	Trench	0.052	0.058	1 in.	8	72.4%
	Bottle Roll	SEP T-5 (35-40 ft)	Trench	0.017	0.018	100 Mesh	2	88.9%
	Bottle Roll	SEP T-5 (55-60 ft)	Trench	0.029	0.031	100 Mesh	2	93.5%
	Bottle Roll	SEP T-6 (75-80 ft)	Trench	0.028	0.036	100 Mesh	2	97.2%
	Bottle Roll	SEP T-6 (75-80 ft)	Trench	0.580	0.606	1 in.	8	76.2%
	Bottle Roll	Bulk Composite	Trench	0.171	-	100 Mesh	6	98.9%
	Column	Bulk Composite	Trench	0.171	0.160	0.25 in.	111	92.5%
	Column	Bulk Composite	Trench	0.171	0.159	0.5 in.	111	89.9%
	Column	Bulk Composite	Trench	0.171	0.164	1 in.	111	87.8%
	Gravity Table	SEP T-4 (75-80 ft)	Trench	0.036		28 Mesh		14.2%
	Gravity Table	96-51 (85-90 ft)	RC chips	1.642		28 Mesh		37.3%
	Gravity Table	SEP T-6 (75-80 ft)	Trench	0.559		28 Mesh		38.9%

[1] Average of two 30 g fire assays by "two independent commercial laboratories" (KCA, 1996; 1977b)

Table 16.3 Summary of KCA Testing of Silica Ridge Samples

Date	Test	Composite	Type	Head Assay (oz Au/ton)		Size	Time (days)	Au Extraction
				Average[1]	Calculated			
1997	Bottle Roll	T-8 Met 1&2	Trench	0.058	0.060	100 Mesh	2	95.0%
	Bottle Roll	T-8 Met 1&2	Trench	0.058	0.063	0.25 in.	7	68.3%
	Bottle Roll	T-8 Met 1&2	Trench	0.058	0.072	1 in.	7	56.9%
1997b	Bottle Roll	Composite	RC chips	0.041	0.050	As Rec'd.	8	70.0%
	Bottle Roll	T-4 (310-320ft)	Trench	0.056	0.064	1 in.	8	51.6%
1997	Column	T-8 Met 1&2	Trench	0.058	0.072	0.25 in.	85	86.1%
	Column	T-8 Met 1&2	Trench	0.058	0.065	0.5 in.	85	78.5%
	Column	T-8 Met 1&2	Trench	0.058	0.074	1 in.	85	77.0%

[1] Average of two 30 g fire assays by "two independent commercial laboratories" (KCA, 1997a; 1997b)

Table 16.4 Summary of KCA Testing of Abel Knoll Samples

Date	Test	Composite	Type	Head Assay (oz Au/ton)		Size	Time (days)	Au Extraction
				Average[1]	Calculated			
2007	Bottle Roll	AK06-14 680-695	RC chips	0.017	0.032	150 Mesh	83	88%
	Bottle Roll	AK06-15 355-365	RC chips	0.131	0.099	150 Mesh	3	98%
	Bottle Roll	AK06-19 185-195	RC chips	0.047	0.038	150 Mesh	3	96%
	Bottle Roll	AK07-32 250-265	RC chips	0.179	0.150	150 Mesh	3	99%

[1] Average of 30g fire assays by independent commercial laboratory

16.5 Bulk Sampling from Test Pit

WSMC sent a relatively high-grade bulk sample from a test pit excavated at Southeast Pediment to Newmont's Twin Creeks mill for grinding and leaching in 2002 (see Section 10 for details concerning the test pit). A total of 1,067 dry tons with an average grade of 0.224 oz Au/ton and 0.913 oz Ag/ton were ground to -200 mesh for agitated leaching at the mill. Recovery of gold and silver from milling and leaching was 95.2% and 79.5%, respectively.

16.6 Gekko Systems Testing

WSMC sent a composite of the bulk sample from the Southeast Pediment test pit to Gekko Systems for gravity concentration using the InLine Pressure Jig and extraction using the InLine Leach Reactor (Abols *et al*., 2003). The sample was progressively ground into -1 mm, -600 micron, and -100 micron fractions and each fraction was tabled. An overall concentrate with 27.5% of the gold and 24.0% of the silver was recovered from the sample. Intense cyanidation of the gravity concentrate extracted greater than 97% of the gold in 12 hours and >99% of the gold in 24 hours (Abols *et al*., 2003).

16.7 Discussion

The Southeast Pediment, Silica Ridge, and limited North Hill bottle roll and column data indicate that the gold mineralization tested is amenable to direct cyanidation. The data also consistently show that cyanide extractions increase with decreasing particle size for the samples tested. The 13 samples tested that were pulverized to -100 mesh yielded an average gold extraction of 94.3%, while 16 RC chip samples tested at the ‘as-received’ and 0.25-inch sizes yielded an average gold extraction of 77.8%. The gold recovery from the bulk sample milled at the Twin Creeks mine is consistent with the bottle roll results generated from samples pulverized to -100 mesh. There is no clear relationship between the cyanide extractions and gold grades of the head samples, although there is some evidence that samples with higher head grades require a longer leach time to achieve comparable extractions. Cyanide consumptions and lime requirements are low to moderate.

The limited gravity-concentration testing suggests that it is not a viable, stand-alone alternative for Sandman project beneficiation.

17.0 MINERAL RESOURCE ESTIMATES

Mineral resource estimation described in this technical report for the Sandman project follows the guidelines of Canadian National Instrument 43-101 ("NI 43-101"). The modeling and estimate of gold resources were done by NewWest personnel under the guidance of Michael Gustin, MDA Senior Geologist, a qualified person with respect to mineral resource estimation under NI 43-101. Mr. Gustin is independent of NewWest by the definitions and criteria set forth in NI 43-101; there is no affiliation between Mr. Gustin and NewWest except that of an independent consultant/client relationship. There are no mineral reserves estimated for the Sandman project.

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

The Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll resource modeling procedures are quite similar, and are discussed individually below.

17.1 Sandman Resource Modeling

Under the supervision of MDA, George Lanier and Jim Ashton of NewWest modeled and estimated the gold resources at Sandman by evaluating the drill data statistically, constructing geologic and mineral domains on vertical cross sections, refining the mineral domain interpretations on orthogonal sections, performing geostatistics to establish estimation parameters, and estimating gold grades into three-dimensional block models of the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll deposit areas. All modeling of the Sandman resources was performed using MineSight®.

17.2 Sandman Data

The SMJV created a digital database of the Sandman drill data in 1994. This database was acquired by WSMC in 1996 as part of the acquisition of the property. WSMC and NewWest have continually updated and refined the database since acquiring the project. The databases used in the resource estimations discussed below contain assay and geological information for 779 drill holes (see Section 11 for further details). Drill-hole assay results received subsequent to the mineral resource estimations discussed in this section are listed in Appendix C.

17.3 Sandman Deposit Geology Pertinent to Resource Estimation

The controls on the Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll gold mineralization, as presently understood, are discussed in detail in Section 9 and therefore are only briefly summarized here.

The mineralization at Southeast Pediment is controlled by the north-striking and moderately west-dipping SEP fault, the contacts of an andesite porphyry sill, and shallowly dipping tuffaceous beds. Adularia-quartz zones with high-grade gold mineralization grade outward into lower-grade zones associated with argillic alteration. The SEP fault appears to have been the primary control on gold.

Mineralization at Silica Ridge is closely related to structural controls. Zones of quartz-adularia alteration are broadly distributed and encompass mineralization of all grade ranges, while argillically altered rocks host only anomalous gold. The north-striking SR fault, which dips 65° east, and the upper and lower contacts of a steeply dipping, east-trending andesite dike appear to be the principle controls of the Silica Ridge gold mineralization. The primary controls on mineralization at North Hill are low-angle contacts between andesite porphyry sills and tuffaceous wall rocks. The mineralization at Abel Knoll is hosted in and around a near-vertical, pipe-shaped diatreme that penetrates the tuffaceous section.

Higher-grade gold mineralization at Sandman occurs in pods of variable continuity, while lower-grade mineralization displays good continuity.

17.4 Sandman Density Modeling

NewWest completed dry bulk specific gravity measurements on half-core samples from both mineralized (>.007 oz Au/ton) and unmineralized units (<.007 oz Au/ton) using the water-immersion method (Wilson, 2007).

A total of 445 density measurements collected from the Sandman project were used to determine the tonnage factors for the four deposits (Table 17.1). Rock hardness, using a simplified scale of 1 to 3 (soft to hard), correlates with both hydrothermal alteration and gold grade in Southeast Pediment mineralized zones outside of the andesitic sill. Tonnage factors were therefore assigned to the Southeast Pediment block model based on rock hardness. The tonnage factors for the other three deposits were assigned based on mineralized and unmineralized lithology (Table 17.1).

For quality control purposes, ten samples measured by NewWest were randomly selected and sent to American Assay for density measurement. American Assay uses a similar water-displacement method for specific-gravity determination. The mean of the American Assay determinations is 2.7% higher than the corresponding NewWest measurements on the same samples (Wilson, 2007).

17.5 Sandman Geologic Modeling

The lithology and structure of each deposit was modeled on cross sections using all available drill and surface-trench data. In addition to providing a base for the grade modeling, these sectional interpretations were used to model pertinent lithologic units for use in the coding of tonnage factors into the block models.

Three-dimensional computer solids of andesitic intrusions were created from the sectional interpretations at Southeast Pediment, Silica Ridge, and North Hill, and a solid for a surficial basalt unit was created at Silica Ridge. Three-dimensional contacts between alluvium and bedrock were modeled at Southeast Pediment, North Hill, and Abel Knoll. Surfaces marking the contact between Tertiary tuffaceous rocks and basement phyllites were created at Southeast Pediment and Abel Knoll.

Table 17.1 Density Testing Results for the Sandman Project

Criteria Description	Tonnage Factor (ft^3/ton)	Specific Gravity	Number of Samples
SOUTHEAST PEDIMENT			
Hardness = 1	18.47	1.73	134
Hardness = 2 [unmineralized]	17.06	1.88	34
Hardness = 2 [mineralized]	16.18	1.98	21
Hardness = 3	14.40	2.22	21
Andesite	14.10	2.27	37
Phyllite	15.50	2.07	3
Alluvium	19.00	1.69	-
SILICA RIDGE			
Tuff [unmineralized]	15.71	2.04	23
Tuff [mineralized]	13.29	2.41	34
Basalt	13.91	2.30	12
Andesite	14.10	2.27	From SEP Data
NORTH Hill			
Tuff [unmineralized]	15.57	2.06	20
Tuff [mineralized]	12.92	2.48	11
Andesite	12.71	2.52	69
Alluvium	19.00	1.69	value assigned
ABEL KNOLL			
Tuff [unmineralized]	16.35	1.96	6
Tuff [mineralized]	14.16	2.26	17
Phyllite [unmineralized]	14.87	2.15	4
Phyllite [mineralized]	13.84	2.31	3
Alluvium	19.00	1.69	value assigned

17.6 Southeast Pediment Modeling

The Southeast Pediment modeling procedures are discussed in some detail in this section. Later sections discuss the procedures used in the modeling of the Silica Ridge, North Hill, and Abel Knoll deposits. The modeling of these deposits was similar to Southeast Pediment and therefore is discussed in less detail.

A quantile plot showing the gold-grade distribution of the Southeast Pediment drill-hole assays was examined in order to identify grade-population characteristics and natural population breaks. Populations defined by the distribution plot were then reviewed on drill-hole assay cross sections, in the context of the geology, to assure that the gold-grade populations are present as relatively continuous zones of mineralization. This work led to the determination of grade populations of approximately 0.003 to 0.03, 0.03 to 0.07, 0.07 to 0.6, and greater than 0.6 oz Au/ton, and these grade ranges were assigned to mineral domains 1, 2, 3, and 4, respectively.

East-west vertical sections were plotted on intervals ranging from 100-ft to 25-ft in order to best-fit the drill-hole spacing. The 25-ft sections are located near the central portion of the deposit where drill-hole density is greatest and detailed modeling was required.

Three unique sets of sections were interpreted for this deposit. The topographic profile and drill-hole traces were placed on all sections. The first set shows the rock formation codes plotted along the drill-hole traces, and was used to interpret the geology of the deposit. The second set was used for mineral-domain interpretations and shows the gold assays, colored by the grade-population ranges defined above, plotted along the drill-hole traces. The final set has the rock-hardness codes plotted along the drill-hole traces, which was used to model alteration assemblages and, ultimately, rock density.

Gold-grade envelopes were interpreted on the east-west sections that roughly correspond to the defined grade population for each of the mineral domains, guided by the previously completed geologic sections. Surface trench assay data were also used in the interpretation of the mineral domains, but were not used in the grade interpolations. The east-west sectional mineral-domain envelopes were digitized, and the envelopes were then sliced and transferred to north-south vertical sections. The north-south sections were spaced at 20 ft intervals throughout much of the deposit, with the exception of a north-south corridor along the SEP fault that was modeled on 10-ft spaced sections. The final mineral domains were refined and digitized from these orthogonal sections.

The east-west sectional grade envelopes were used to code the drill-hole assays to the appropriate mineral domain. Descriptive statistics (Table 17.2), quantile population distribution plots of the drill-hole assays in each of the mineral domains, and the spatial relationships of outlier assays were then examined to determine assay caps and/or grades above which search distances would be restricted during grade estimation (Table 17.3). Four assays from low-grade domain 1 were capped at a value of 0.08 oz Au/ton, and five assays from high-grade domain 3 were capped at a value of 0.6 oz Au/ton. Search distance was restricted to 25 ft for grades in excess of 3 oz Au/ton in domain 4.

Table 17.2 Southeast Pediment Descriptive Statistics of Drill-Hole Assays by Mineral Domain

SE Pediment Coded Assays (Domain 1)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	169							
From	3890					0.0	695.0	feet
To	3890					5.0	700.0	feet
Length	3890	5.0	4.9	1.0		1.0	50.0	feet
Au	3771	0.006	0.009	0.009	0.995	0.000	0.160	oz Au/ton
Au Cap	3771	0.006	0.009	0.008	0.912	0.000	0.080	oz Au/ton
Domain	3890					1	1	

SE Pediment Coded Assays (Domain 2)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	87							
From	255					10.0	595.0	feet
To	255					15.0	600.0	feet
Length	255	5.0	4.8	0.7		2.0	6.0	feet
Au	248	0.043	0.045	0.020	0.442	0.001	0.132	oz Au/ton
Au Cap	248	0.043	0.045	0.020	0.442	0.001	0.132	oz Au/ton
Domain	255					2	2	

SE Pediment Coded Assays (Domain 3)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	91							
From	246					20.0	655.0	feet
To	246					25.0	660.0	feet
Length	246	5.0	4.9	0.6		0.5	5.6	feet
Au	246	0.105	0.180	0.293	1.629	0.001	3.766	oz Au/ton
Au Cap	246	0.105	0.158	0.138	0.872	0.001	0.600	oz Au/ton
Domain	246					3	3	

SE Pediment Coded Assays (Domain 4)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	23							
From	35					15.0	170.0	feet
To	35					20.0	175.0	feet
Length	35	5.0	4.5	1.1		2.0	6.1	feet
Au	35	1.420	6.411	16.320	2.546	0.157	112.389	oz Au/ton
Au Cap	35	1.420	6.411	16.320	2.546	0.157	112.389	oz Au/ton
Domain	35					4	4	

SE Pediment Coded Assays (Alluvium)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	28							
From	41					0.0	30.0	feet
To	41					2.0	35.0	feet
Length	41	5.0	5.1	1.1		2.0	10.0	feet
Au	39	0.005	0.012	0.017	1.405	0.001	0.086	oz Au/ton
Au Cap	39	0.005	0.010	0.010	1.015	0.001	0.030	oz Au/ton
Domain	41					10	10	

Table 17.3 Southeast Pediment Assay Capping and Search Restriction Grades by Mineral Domain

Domain	Assay Cap (oz Au/ton)	No. of Samples Capped	Search Restriction Grade (oz Au/ton)
1	0.08	4	-
2	-	-	-
3	0.60	5	-
4	-	-	3.0

The rock-hardness sections were created to assist in the density modeling. Over the course of analyzing Sandman drill cuttings and core, alteration assemblages were found to be closely related to the hardness of the rock matrix, which is in turn closely correlated to gold grade. The rock hardness was therefore logged for each sample interval in order to quantify the alteration type. The hardness subsequently proved to correlate with density.

Rock hardness envelopes were interpreted on the east-west sections guided by the previously completed gold-grade sections. The hardness envelopes were digitized, sliced, and transferred to the north-south vertical sections in a manner similar to that used in the transfer of the mineral domain envelopes.

A three-dimensional block model of the Southeast Pediment deposit area, comprised of 220 rows, 125 columns, and 80 benches, was created with 10 ft x 10 ft x 10-ft blocks. The relatively small block size allows for more accurate modeling of thin high-grade zones, many of which dip moderately to the west along the SEP fault. The block dimensions can accommodate possible selective mining of these zones on 10-ft benches where appropriate, while allowing for 20-ft benches elsewhere (by combining the 10-ft-high blocks into 20-ft-high blocks).

The north-south sectional grade envelopes were projected horizontally to code the blocks to mineral domains 1, 2, 3, and 4. In order for the block model to better reflect the irregularly shaped limits of the various gold domains, the percentage volume of each mineral domain within each block was stored, as well as the percentage volume of each block outside of the mineral domains (the “partial percentages”). Density was coded into the model using the north-south rock-hardness sections, the andesite solid, and the alluvium and phyllite surfaces.

The capped drill-hole assays were composited down-hole at 10-ft intervals and coded by mineral domain. Only assays coded to a particular mineral domain were used to create composites from that domain. Summary statistics of the composites are presented in Table 17.4.

Table 17.4 Descriptive Statistics of Southeast Pediment Gold Composites

SE Pediment Composites

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	169							
From	2541					0.0	690.0	feet
To	2541					5.0	700.0	feet
Length	2541	10.0	8.6	2.3	0.3	0.2	10.0	feet
Au	2469	0.008	0.067	1.193	17.806	0.000	41.683	oz Au/ton
Domain	2541					1	10	

Variography was performed on composites from mineral domains 1 through 4 separately and collectively at varying lags, azimuths, and dips. Well-developed structures were generated on global and directional relative variograms for domain 1, as well as domains 2 and 3 combined. The directional variograms used orientations that are close to the strike and dip of the mineral domains, and provided information relevant to the definition of search ranges, anisotropy, and resource classification.

Two inverse-distance-cubed passes were used to estimate gold grades into each domain of the three-dimensional block model. The estimation passes were performed independently for mineral domains 1, 2, 3, and 4, so only composites coded to a particular mineral domain were used to estimate grade into blocks that were coded to that domain. The estimated grades were coupled with the partial percentages of the mineral domains stored in the blocks, in addition to the percentage of the block below surface topography, to enable the calculation of weight-averaged block-diluted gold grade and tons for each block. This calculation provides explicitly modeled dilution on a block-by-block basis; no dilution factors additional to the modeled dilution need to be applied if the block size is suitable. Material from outside of the mineral domains that is dilutive to the blocks was assigned a grade of 0.00 oz Au/ton.

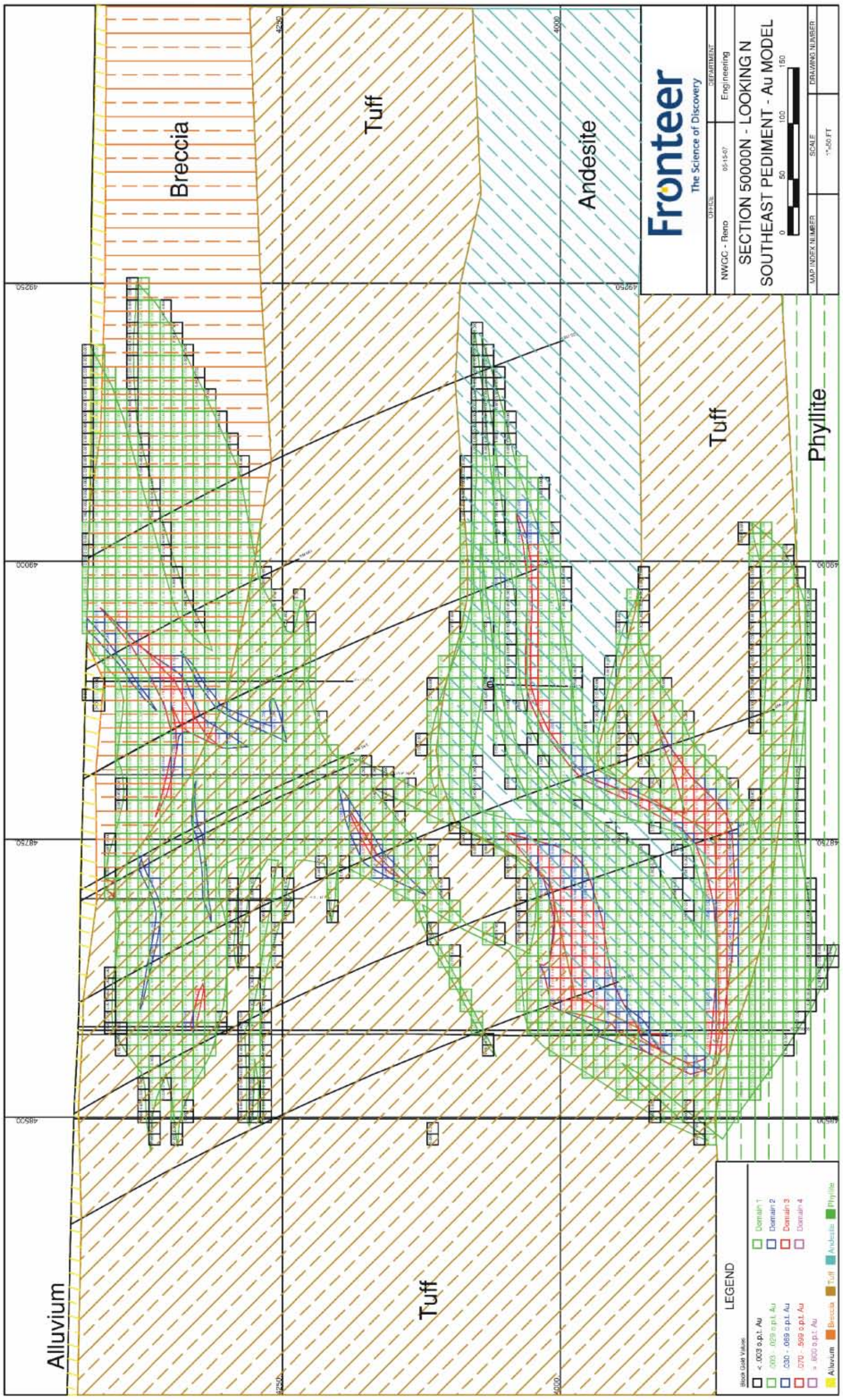
The estimation parameters are shown in Table 17.5. These parameters were derived from the variography, the statistical analysis of the coded assays, and a three-dimensional examination of the gold mineralization. The first estimation pass for each domain essentially estimates a gold grade into every block within the particular domain. The second pass over-writes the results of the first pass and is a more restrictive grade-interpolation pass.

A cross section through the Southeast Pediment block model showing block grades, mineral domains, drill holes, and geology is displayed in Figure 17.1.

Table 17.5 Summary of Southeast Pediment Gold Estimation Parameters

Southeast Pediment Grade Model		
	Domain	**Parameter**
Pass #1 Composites: Min / Max / Max per hole	1,2,3,4	1 / 12 / 3
Pass #2 Composites: Min / Max / Max per hole	1,2,3,4,	2 / 12 / 3
Composite Length-weighting		Yes
Estimation method		Inverse Distance Weighted (Power of 3)
Pass #1 Search Distances (ft)	1	330 / 330 / 100
	2	200 / 200 / 125
	3	200 / 200 / 125
	4	200 / 200 / 50
Pass #2 Search Distances (ft)	1	200 / 80 / 55
	2	125 / 105 / 45
	3	125 / 105 / 45
	4	125 / 105 / 45
Search Restrictions: (oz Au/ton) / ft	1	None
	2	None
	3	None
	4	>=3.0 / 25
Search Directions: Azimuth / Dip / Tilt	1	0º / 0º / 5º
	2	0º / 0º / 50º
	3	0º / 0º / 50º
	4	0º / 0º / 50º

Figure 17.1 Cross Section of Southeast Pediment Block Model



17.7 Silica Ridge Modeling

Silica Ridge modeling was performed in a manner similar to Southeast Pediment. East-west vertical sections were plotted on intervals ranging from 115-ft to 25-ft, depending on the drill-hole spacing. The majority of sections are spaced every 50-ft, while the area requiring a more detailed interpretation was modeled with a 25-ft spacing. Both geology and gold-assay sections were interpreted for the deposit.

Mineral domains 1, 2, and 3 were defined at grade ranges of approximately 0.004 to 0.03, 0.03 to 0.1, and greater than 0.1 oz Au/ton, respectively, and were interpreted on the east-west sections guided by the previously completed geologic sections. The east-west sectional mineral-domain envelopes were digitized, sliced, and transferred to north-south vertical sections. These orthogonal sections are spaced at 20-ft intervals except in the central portion of the deposit, which was modeled on 10-ft spaced sections. The final north-south mineral-domain envelopes were refined and digitized from these orthogonal sections.

The east-west sectional grade envelopes were used to code the drill-hole assays to the appropriate mineral domain. Two assays from low-grade domain 1 were capped at a value of 0.07 oz Au/ton, and one assay from medium-grade domain 2 was capped at a value of 0.15 oz Au/ton. Search distance was restricted to 40 ft for grades in excess of 0.30 oz Au/ton in high-grade domain 3.

Summary statistics of the coded assays are shown in Table 17.6, and assay caps and search-range restrictions are listed in Table 17.7.

Table 17.6 Silica Ridge Descriptive Statistics of Drill-Hole Assays by Mineral Domain

Silica Ridge Coded Assays (Domain 1)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	170							
From	2980					0.0	535.0	feet
To	2980					4.0	540.0	feet
Length	2980	5.0	5.0	0.4		2.0	8.4	feet
Au	2976	0.007	0.009	0.009	0.935	0.000	0.290	oz Au/ton
Au Cap	2976	0.007	0.009	0.007	0.771	0.000	0.070	oz Au/ton
Domain	2980					1	1	

Silica Ridge Coded Assays (Domain 2)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	83							
From	314					0.0	420.0	feet
To	314					3.0	425.0	feet
Length	314	5.0	4.6	1.0		1.0	5.0	feet
Au	313	0.044	0.050	0.025	0.504	0.000	0.198	oz Au/ton
Au Cap	313	0.044	0.050	0.024	0.489	0.000	0.150	oz Au/ton
Domain	314					2	2	

Table 17.6 Silica Ridge Descriptive Statistics of Drill-Hole Assays by Mineral Domain, cont.

Silica Ridge Coded Assays (Domain 3)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	44							
From	115					0.0	365.0	feet
To	115					5.0	370.0	feet
Length	115	5.0	4.4	1.2		1.0	5.0	feet
Au	115	0.160	0.333	0.535	1.605	0.000	4.137	oz Au/ton
Au Cap	115	0.160	0.333	0.535	1.605	0.000	4.137	oz Au/ton
Domain	115					3	3	

Silica Ridge Coded Assays (Alluvium)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	4							
From	5					0.0	5.0	feet
To	5					5.0	10.0	feet
Length	5	5.0	5.0	0.0		5.0	5.0	feet
Au	5	0.011	0.014	0.006	0.417	0.010	0.025	oz Au/ton
Au Cap	5	0.011	0.014	0.006	0.417	0.010	0.025	oz Au/ton
Domain	5					10	10	

Table 17.7 Silica Ridge Assay Capping and Search Restriction Grades by Mineral Domain

Domain	Cap (oz Au/ton)	No. of Samples Capped	Search Restriction Grade (oz Au/ton)
1	0.07	2	-
2	0.15	1	-
3	-	-	0.30

A three-dimensional block model of the Silica Ridge deposit area was created with 20 ft (north-south) x 10 ft (east-west) x 10-ft (vertical) blocks. As is the case at Southeast Pediment, the 10-ft high blocks were chosen to more accurately model thin mineralized zones and avoid over dilution. The model is comprised of 150 rows, 200 columns, and 72 benches. The north-south sectional grade envelopes were projected horizontally to code the blocks to mineral domains 1 and 2. Mineral domain 3 was coded using a three-dimensional solid constructed using both the east-west and north-south sectional envelopes. The partial percentages of each mineral domain, the percentage area outside of the mineral domains, and the percentage of the block below topography were stored in each block.

The capped drill-hole assays were composited down-hole at 10-ft intervals and coded to the mineral domains. Only assays from a particular mineral domain were used to create composites coded to that domain. Summary statistics of the composites are presented in Table 17.8.

Table 17.8 Descriptive Statistics of Silica Ridge Gold Composites

Silica Ridge Composites

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	170							
From	1924					0.0	535.0	feet
To	1924					4.0	540.0	feet
Length	1924	10.0	8.7	2.2	0.3	2.0	10.0	feet
Au	1924	0.009	0.023	0.098	4.257	0.000	2.652	oz Au/ton
Domain	1924					1	10	

Variography generated structures on global and directional relative variograms for domain 1, as well as domains 1, 2, and 3 combined.

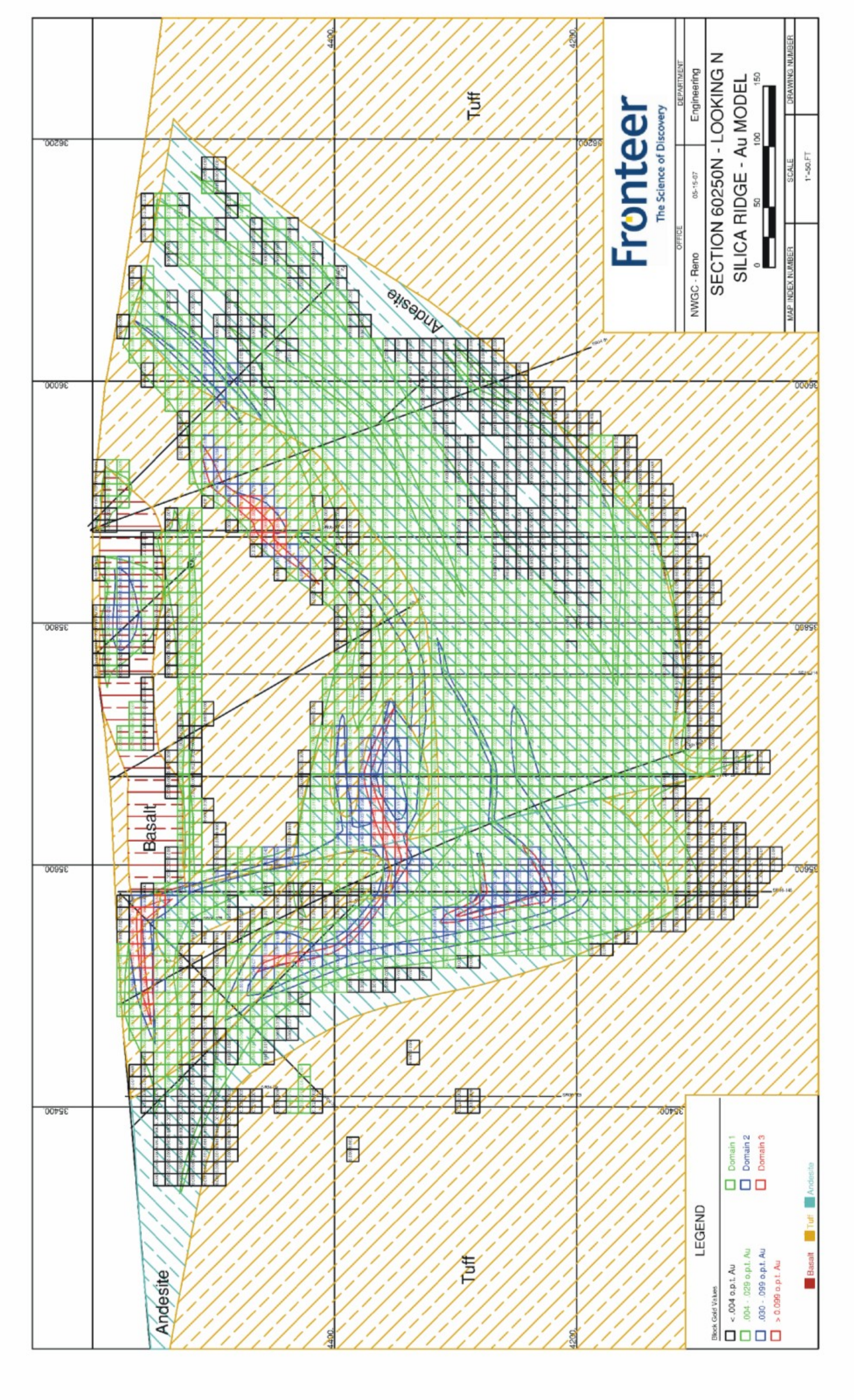
Two inverse-distance-cubed passes were used to estimate gold grades into each domain of the three-dimensional block model. The estimation passes (Table 17.9) were performed independently for mineral domains 1, 2, and 3, so only composites coded to a particular mineral domain were used to estimate grade into blocks that were coded to that domain. The estimated grades were coupled with the partial percentages of the mineral domains stored in the blocks to enable the calculation of weight-averaged block-diluted gold grades for each block.

A cross section through the block model is shown in Figure 17.2.

Table 17.9 Summary of Silica Ridge Gold Estimation Parameters

Southeast Pediment Grade Model		
	Domain	Parameter
Pass #1 Composites: Min / Max / Max per hole	1,2,3	1 / 12 / 3
Pass #2 Composites: Min / Max / Max per hole	1,2,3	2 / 12 / 3
Composite Length-weighting		Yes
Estimation method		Inverse Distance Weighted (Power of 3)
Pass #1 Search Distances (ft)	1	300 / 300 / 100
	2	300 / 300 / 100
	3	130 / 130 / 75
Pass #2 Search Distances (ft)		250 / 125 / 80
	2	250 / 125 / 80
	3	90 / 90 / 35
Search Restrictions: (oz Au/ton) / ft	1	None
	2	None
	3	>=0.3 / 40
Search Directions: Azimuth / Dip / Tilt	1	90º / 0º /-90º
	2	90º / 0º / 0º
	3	90º / 0º / 0º

Figure 17.2 Cross Section of Silica Ridge Block Model



17.8 North Hill Modeling

East-west vertical sections were plotted on 100-ft spaced intervals across the North Hill deposit and were used for geologic and mineral-domain interpretations. Grade ranges of approximately 0.004 to 0.015, 0.015 to 0.25, and greater than 0.25 oz Au/ton were modeled as mineral domains 1, 2, and 3, respectively, on the east-west sections. The east-west sectional mineral-domain envelopes were digitized, sliced, and transferred to north-south vertical sections spaced at 20-ft intervals. The final mineral domains were refined and digitized from these orthogonal sections.

The east-west sectional grade envelopes were used to code the drill-hole assays to the appropriate mineral domain. Three assays from high-grade domain 3 were capped at a value of 0.75 oz Au/ton.

Summary statistics of the coded assays are shown in Table 17.10, and assay caps and search-range restrictions are listed in Table 17.11.

Table 17.10 North Hill Descriptive Statistics of Drill-Hole Assays by Mineral Domain

North Hill Coded Assays (Domain 1)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	119							
From	1328					0.0	400.0	feet
To	1328					5.0	405.0	feet
Length	1328	5.0	5.0	0.1		3.0	8.0	feet
Au	1326	0.006	0.007	0.004	0.589	0.000	0.044	oz Au/ton
Au Cap	1326	0.006	0.007	0.004	0.589	0.000	0.044	oz Au/ton
Domain	1328					1	1	

North Hill Coded Assays (Domain 2)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	98							
From	585					0.0	285.0	feet
To	585					5.0	290.0	feet
Length	585	5.0	5.0	0.2		3.0	5.0	feet
Au	585	0.026	0.040	0.038	0.953	0.001	0.233	oz Au/ton
Au Cap	585	0.026	0.040	0.038	0.953	0.001	0.233	oz Au/ton
Domain	585					2	2	

North Hill Coded Assays (Domain 3)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	16							
From	33					5.0	225.0	feet
To	33					10.0	230.0	feet
Length	33	5.0	4.9	0.3		4.0	5.0	feet
Au	33	0.282	0.523	0.726	1.386	0.021	3.956	oz Au/ton
Au Cap	33	0.282	0.369	0.238	0.646	0.021	0.750	oz Au/ton
Domain	33					3	3	

Table 17.11 North Hill Assay Capping and Search Restriction Grades by Mineral Domain

Domain	Cap (oz Au/ton)	No. of Samples Capped	Search Restriction Grade (oz Au/ton)
1	-	-	-
2	-	-	-
3	0.75	3	-

A three-dimensional block model of the North Hill area was created with 20 ft x 20 ft x 20-ft blocks. The model is comprised of 150 rows, 125 columns, and 51 benches. The north-south sectional grade envelopes were projected horizontally to code the blocks to mineral domains 1, 2, and 3, and the appropriate partial percentages were stored.

The capped drill-hole assays were composited down-hole at 10-ft intervals and coded by mineral domain. Only assays from a particular mineral domain were used to create composites coded to that domain. Summary statistics of the composites are presented in Table 17.12.

Table 17.12 Descriptive Statistics of North Hill Gold Composites

North Hill Composites

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	119							
From	1160					0.0	400.0	feet
To	1160					5.0	405.0	feet
Length	1160	10.0	8.4	2.4	0.3	3.0	10.0	feet
Au	1160	0.009	0.023	0.058	2.505	0.000	0.750	oz Au/ton
Domain	1160					1	3	

Variography generated structures on global and directional relative variograms for domain 1 separately, domains 2 and 3 jointly, and domains 1, 2, and 3 combined.

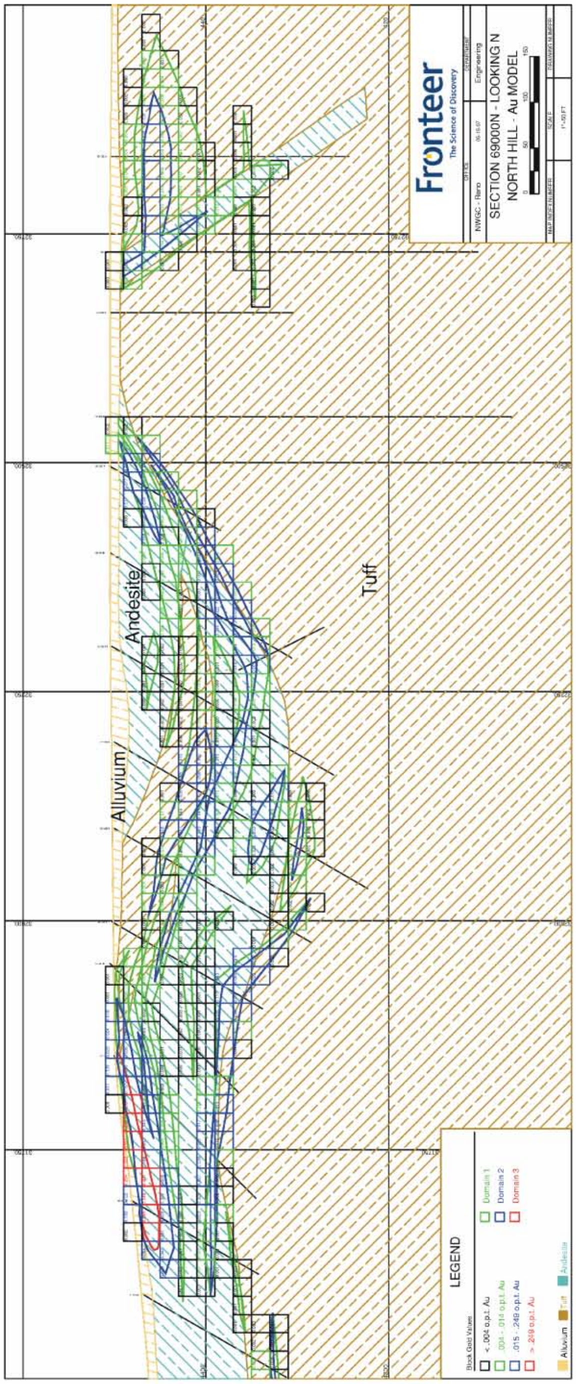
Two inverse-distance-cubed passes were used to estimate gold grades into each domain of the three-dimensional block model. The estimation passes (Table 17.13) were performed independently for mineral domains 1, 2, and 3, so only composites coded to a particular mineral domain were used to estimate grade into blocks that were coded to that domain. The estimated grades were coupled with the partial percentages of the mineral domains stored in the blocks to enable the calculation of weight-averaged block-diluted gold grades for each block.

A cross section through the block model is shown in Figure 17.3.

Table 17.13 Summary of North Hill Gold Estimation Parameters

Southeast Pediment Grade Model		
	Domain	Parameter
Pass #1 Composites: Min / Max / Max per hole	1,2,3	1 / 12 / 3
Pass #2 Composites: Min / Max / Max per hole	1,2,3	2 / 12 / 3
Composite Length-weighting		Yes
Estimation method		Inverse Distance Weighted (Power of 3)
Pass #1 Search Distances (ft)	1	250 / 250 / 125
	2	250 / 250 / 65
	3	250 / 250 / 65
Pass #2 Search Distances (ft)	1	175 / 150 / 35
	2	150 / 135 / 45
	3	150 / 135 / 45
Search Restrictions: (oz Au/ton) / ft	1	None
	2	None
	3	None
Search Directions: Azimuth / Dip / Tilt	1	150° / 0° / 0°
	2	150° / 0° / 0°
	3	150° / 0° / 0°

Figure 17.3 Cross Section of North Hill Block Model



17.9 Abel Knoll Modeling

North-south vertical sections were plotted on 100-ft intervals and were used for geologic and mineral-domain interpretations. Grade ranges of approximately 0.002 to 0.009, 0.009 to 0.04, 0.04 to 0.1, and greater than 0.1 oz Au/ton were modeled as mineral domains 1, 2, 3, and 4, respectively, on the north-south sections. The north-south sectional mineral-domain envelopes were digitized, sliced, and transferred to east-west vertical sections spaced at 20-ft intervals. The final mineral domains were refined and digitized from these orthogonal sections.

The north-south sectional grade envelopes were used to code the drill-hole assays to the appropriate mineral domain. One assay from low-grade domain 1 was capped at a value of 0.025 oz Au/ton, and one assay from mid-grade domain 2 was capped at a value of 0.07 oz Au/ton. Search distance was restricted to 40 ft for grades in excess of 0.35 oz Au/ton in mineral-domain 4.

Summary statistics of the coded assays are shown in Table 17.14, and assay caps and search-range restrictions are listed in Table 17.15.

Table 17.14 Abel Knoll Descriptive Statistics of Drill-Hole Assays by Mineral Domain

Abel Knoll Coded Assays (Domain 1)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	29							
From	514					0.0	735.0	feet
To	514					5.0	740.0	feet
Length	514	5.0	5.0	0.0		5.0	5.0	feet
Au	504	0.003	0.004	0.003	0.792	0.000	0.053	oz Au/ton
Au Cap	504	0.003	0.004	0.003	0.651	0.000	0.025	oz Au/ton
Domain	514					1	1	

Abel Knoll Coded Assays (Domain 2)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	21							
From	433					30.0	695.0	feet
To	433					35.0	700.0	feet
Length	433	5.0	5.0	0.0		5.0	5.0	feet
Au	401	0.017	0.020	0.011	0.549	0.003	0.092	oz Au/ton
Au Cap	401	0.017	0.020	0.011	0.536	0.003	0.070	oz Au/ton
Domain	433					2	2	

Abel Knoll Coded Assays (Domain 3)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	11							
From	153					60.0	640.0	feet
To	153					65.0	645.0	feet
Length	153	5.0	5.0	0.0		5.0	5.0	feet
Au	118	0.055	0.059	0.020	0.338	0.012	0.122	oz Au/ton
Au Cap	118	0.055	0.059	0.020	0.338	0.012	0.122	oz Au/ton
Domain	153					3	3	

Table 17.14 Descriptive Statistics of Drill-Hole Assays by Mineral Domain (cont.)

Abel Knoll Coded Assays (Domain 4)

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	8							
From	59					175.0	605.0	feet
To	59					180.0	610.0	feet
Length	59	5.0	5.0	0.0		5.0	5.0	feet
Au	40	0.150	0.299	0.391	1.309	0.068	1.800	oz Au/ton
Au Cap	40	0.150	0.299	0.391	1.309	0.068	1.800	oz Au/ton
Domain	59					4	4	

Table 17.15 Abel Knoll Assay Capping and Search Restriction Grades by Mineral Domain

Domain	Cap (oz Au/ton)	No. of Samples Capped	Search Restriction Grade (oz Au/ton)
1	0.025	4	-
2	0.07	-	-
3	-	-	-
4	-	-	0.35

A three-dimensional block model of the Abel Knoll deposit, containing 87 rows, 138 columns, and 42 benches, was created with 20 ft x 20 ft x 20-ft blocks. The east-west sectional mineral-domain envelopes were projected horizontally to code the blocks to mineral domains 1, 2, 3, and 4, and the appropriate partial percentages were stored.

The capped drill-hole assays were composited down-hole at 10-ft intervals and coded by mineral domain. Only assays from a particular mineral domain were used to create composites coded to that domain. Summary statistics of the composites are presented in Table 17.16.

Table 17.16 Descriptive Statistics of Abel Knoll Gold Composites

Abel Knoll Composites

	Valid N	Median	Mean	Std. Dev.	CV	Min.	Max.	Units
Hole ID	29							
From	588					0.0	730.0	feet
To	588					10.0	740.0	feet
Length	588	10.0	9.1	1.9	0.2	5.0	10.0	feet
Au	588	0.010	0.027	0.084	3.058	0.000	1.206	oz Au/ton
Domain	588					1	4	

Variography generated structures on global and directional relative variograms for domain 1 and 2 jointly, as well as domains 1, 2, 3, and 4 combined.

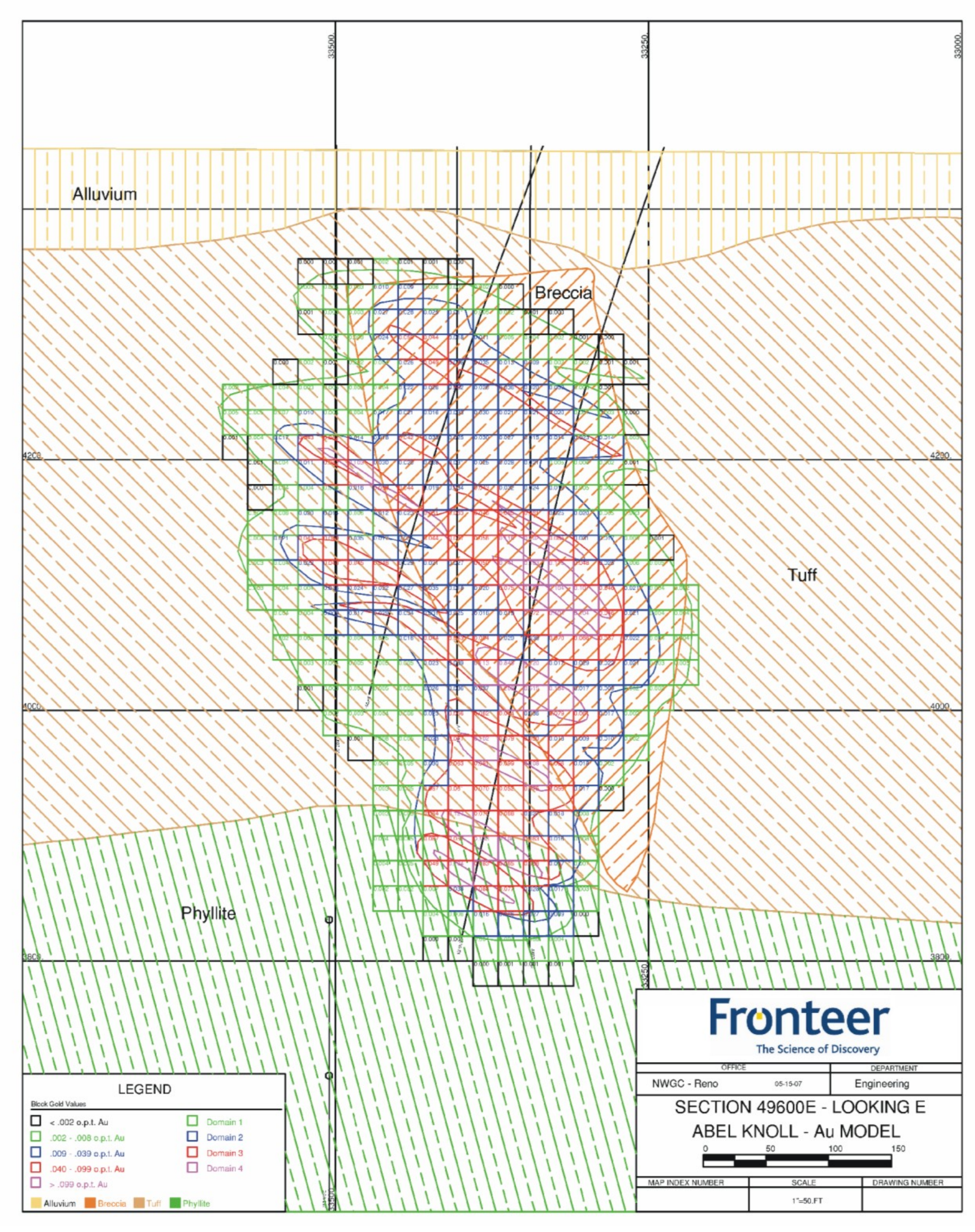
Two inverse distance-cubed passes were used to estimate gold grades into each domain of the three-dimensional block model. The estimation passes (Table 17.17) were performed independently for mineral domains 1, 2, 3, and 4, so that only composites coded to a particular mineral domain were used to estimate grade into blocks that were coded to that domain. The estimated grades were coupled with the partial percentages of the mineral domains stored in the blocks to enable the calculation of weighted-average block-diluted gold grades for each block.

A cross section through the block model is shown in Figure 17.4.

Table 17.17 Summary of Abel Knoll Gold Estimation Parameters

Southeast Pediment Grade Model		
	Domain	Parameters
Pass #1 Composites: Min / Max / Max per hole	1,2,3,4	1 / 12 / 3
Pass #2 Composites: Min / Max / Max per hole	1,2,3,4,	2 / 12 / 3
Composite Length-weighting		Yes
Estimation method		Inverse Distance Weighted (Power of 3)
Pass #1 Search Distances (ft)	1	400 / 350 / 125
	2	400 / 350 / 125
	3	145 / 115 / 75
	4	145 / 115 / 70
Pass #2 Search Distances (ft)	1	250 / 200 / 80
	2	250 / 200 / 80
	3	125 / 95 / 40
	4	125 / 95 / 40
Search Restrictions: (oz Au/ton) / ft	1	None
	2	None
	3	None
	4	>=0.35 / 40
Search Directions: Azimuth / Dip / Tilt	1	70° / 0° / -60°
	2	70° / 0° / -60°
	3	70° / 0° / -60°
	4	70° / 0° / -60°

Figure 17.4 Cross Section of Abel Knoll Block Model



17.10 Oxidation and Metallurgy Pertinent to the Resource Estimation

The Sandman gold mineralization is amenable to direct cyanidation to varying degrees based on ratios of cyanide-leach assays to fire assays (Table 17.18) and limited metallurgical testing (Section 16). Table 17.18 lists average values of logged oxidation codes (0 = unoxidized, 1= mixed, 2 = oxidized) and the ratio of cyanide leach assays to original fire assays, expressed as a percentage, for each of the deposits.

Table 17.18 Average Oxidation and Ratio Values

Deposit	Ave. Oxidation Code	Ave.(Cyanide/Fire Assay) Ratio %)
Southeast Pediment > 4,200 ft	1.5	72.4
Southeast Pediment < 4,200 ft	0.2	42.9
Silica Ridge	1.9	77.7
North Hill	1.9	73.1
Abel Knoll	1.6	76.8

The mineralization at Southeast Pediment above 4200-ft elevation, as well as essentially all of the modeled Silica Ridge, North Hill, and Abel Knoll mineralization, occurs in the predominantly oxidized zones of the deposits. The portion of the Southeast Pediment deposit that lies below the 4,200-ft elevation occurs, for the most part, in an unoxidized state. There is some evidence that lower cyanide-to-fire-assay ratios at Southeast Pediment may be at least partially explained by incomplete extraction of a coarse-gold fraction. It is unlikely, however, that this entirely accounts for the lower ratios in the deeper mineralization.

17.11 Sandman Resources

The resources stated in this report for the Sandman project conform to the definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), August 20, 2000, 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.*
>
> *A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, 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.*

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, 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.

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.

The Sandman gold resources were classified by MDA on the basis of the distance of the model blocks to the nearest composite and the minimum number of composites used to estimate the block grades (Table 17.19).

Table 17.19 Sandman Resource Classification Methodology

CLASS	DOMAIN	Min. No. Composites	Max Dist. (ft) To Nearest Composite	Additional Restrictions
SOUTHEAST PEDIMENT				
Measured	1,2,3,4	6	30	No Pre-WSMC composites
Indicated	1,2,3,4	3	80	
Inferred	1,2,3,4	1	Remaining Modeled Mineralization	All Alluvium
SILICA RIDGE				
Measured	1,2,3	6	30	No Pre-WSMC composites
Indicated	1,2,3	3	80	
Inferred	1,2,3	1	Remaining Modeled Mineralization	All Alluvium, North of 60650
NORTH HILL				
Measured	1,2,3	6	20	No Pre-WSMC composites
Indicated	1,2,3	3	80	
Inferred	1,2,3	1	Remaining Modeled Mineralization	All Alluvium
ABEL KNOLL				
Measured	1,2,3,4	6	20	
Indicated	1,2,3,4	3	80	
Inferred	1,2,3,4	1	Remaining Modeled Mineralization	All Alluvium All material <4000' elevation

Due to lack of sufficient quality-assurance data, as well as some indications of local down-hole smearing of RC gold grades, composites from all holes drilled prior to WSMC are not considered in the minimum number of samples criteria used in the Measured classification of the deposits (there are no such holes used in the Abel Knoll resource). All mineralized alluvium material is classified as Inferred. Material lying below an elevation of 4000 ft at Abel Knoll is classified as Inferred due to suspected down-hole contamination. All Silica Ridge mineralization north of 60,650N is classified as Inferred due to a lack of understanding of the geologic controls of the mineralization. Finally, the maximum distance to the nearest composite criterion for Measured at North Hill is more restrictive than the other deposits due to insufficient understanding of the controls of some of the medium- and higher-grade mineralization.

The gold resources are tabulated using two unique gold-grade cutoffs, which are applied to the block model on the basis of reasonably expected mining methods and metallurgical characteristics, as well as comparisons with similar mining operations in Nevada. A cutoff grade of 0.010 oz Au/ton (0.34 g Au/t) is applied to blocks that can reasonably be considered to be available for potential open-pit extraction and heap-leach processing. This criterion applied to all of the Sandman mineralization with the exception of the Southeast Pediment mineralization lying below an elevation of 4200 ft. This deeper Southeast Pediment mineralization is deemed to potentially require more costly mineral processing, or could potentially yield lower recoveries, than the oxidized mineralization elsewhere at Sandman. A cutoff grade of 0.020 oz Au/ton (0.69 g Au/t) was therefore applied to the deeper Southeast Pediment material.

Table 17.20 lists the block-diluted Sandman gold resources by class. Several cutoffs above 0.010 oz Au/ton are also provided in Table 17.21 to provide grade-distribution information.

Table 17.20 Sandman Gold Resources

Imperial Units

SANDMAN GOLD RESOURCES - MAY 2007

DEPOSIT	MEASURED			INDICATED			MEASURED & INDICATED		
	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces
Southeast Pediment Total	644,000	0.070	45,300	1,300,000	0.034	44,500	1,944,000	0.046	89,800
North Hill	387,000	0.037	14,400	2,684,000	0.029	78,400	3,071,000	0.030	92,800
Silica Ridge	511,000	0.032	16,200	1,382,000	0.028	39,000	1,893,000	0.029	55,200
Abel Knoll	168,000	0.037	6,200	957,000	0.029	27,900	1,125,000	0.030	34,100
TOTALS	***1,710,000***	***0.048***	***82,100***	***6,323,000***	***0.030***	***189,800***	***8,033,000***	***0.034***	***271,900***

DEPOSIT	INFERRED		
	Tons	Grade (oz Au/ton)	Au Ounces
Southeast Pediment Total	109,000	0.026	2,800
North Hill	294,000	0.021	6,200
Silica Ridge	518,000	0.014	7,400
Abel Knoll	497,000	0.043	21,600
TOTALS	***1,418,000***	***0.027***	***38,000***

Note: 0.010 oz Au/ton cutoff for Abel Knoll, North Hill, and Silica Ridge
0.010 oz Au/ton cutoff for SE Pediment above 4,200 ft elevation
0.020 oz Au/ton cutoff for SE Pediment below 4,200 ft elevation

Table 17.20 Sandman Gold Resources (cont.)

Metric Units

SANDMAN GOLD RESOURCES - MAY 2007

DEPOSIT	MEASURED			INDICATED			MEASURED & INDICATED		
	Tonnes	Grade (g Au/t)	Au Ounces	Tonnes	Grade (g Au/t)	Au Ounces	Tonnes	Grade (g Au/t)	Au Ounces
Southeast Pediment Total	584,000	2.41	45,300	1,179,000	1.18	44,500	1,763,000	1.58	89,800
North Hill	351,000	1.28	14,400	2,435,000	1.00	78,400	2,786,000	1.04	92,800
Silica Ridge	463,000	1.08	16,200	1,254,000	0.97	39,000	1,717,000	1.00	55,200
Abel Knoll	152,000	1.27	6,200	868,000	1.00	27,900	1,020,000	1.04	34,100
TOTALS	***1,550,000***	***1.65***	***82,100***	***5,736,000***	***1.03***	***189,800***	***7,286,000***	***1.16***	***271,900***

DEPOSIT	INFERRED		
	Tonnes	Grade (g Au/t)	Au Ounces
Southeast Pediment Total	99,000	0.88	2,800
North Hill	267,000	0.72	6,200
Silica Ridge	470,000	0.49	7,400
Abel Knoll	451,000	1.49	21,600
TOTALS	***1,287,000***	***0.92***	***38,000***

Note: 0.34 g Au/t cutoff for Abel Knoll, North Hill, and Silica Ridge
0.34 g Au/t cutoff for SE Pediment above 1,280m elevation
0.69 g Au/t cutoff for SE Pediment below 1,280m elevation

Table 17.21 Sandman Gold Resources by Cutoff Grade

Imperial Units

(no specific economics applied aside from general depths and oxidation states)

MEASURED GOLD RESOURCES															
Southeast Pediment				Silica Ridge			North Hill			Abel Knoll			TOTAL		
Cutoff (oz Au/ton)	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces
0.010	***644,000***	***0.070***	***45,300***	***511,000***	***0.032***	***16,200***	***387,000***	***0.037***	***14,400***	***168,000***	***0.037***	***6,200***	***1,710,000***	***0.048***	***82,100***
0.020	338,000	0.122	41,200	226,000	0.055	12,400	202,000	0.059	11,900	98,000	0.054	5,300	864,000	0.082	70,700
0.030	223,000	0.173	38,500	150,000	0.070	10,600	125,000	0.081	10,100	60,000	0.073	4,400	558,000	0.114	63,500
0.040	171,000	0.215	36,700	108,000	0.084	9,100	92,000	0.098	9,000	37,000	0.096	3,600	408,000	0.143	58,400
0.050	141,000	0.252	35,400	77,000	0.100	7,800	64,000	0.121	7,800	24,000	0.125	3,000	306,000	0.176	53,900
0.060	120,000	0.286	34,300	58,000	0.116	6,700	50,000	0.140	7,000	18,000	0.148	2,700	245,000	0.206	50,600
0.070	101,000	0.328	33,000	45,000	0.130	5,900	44,000	0.151	6,600	16,000	0.157	2,600	206,000	0.233	48,000
0.080	86,000	0.372	31,900	37,000	0.143	5,300	33,000	0.174	5,800	13,000	0.178	2,300	169,000	0.268	45,300
0.090	79,000	0.398	31,300	28,000	0.161	4,500	29,000	0.188	5,500	10,000	0.211	2,000	145,000	0.298	43,300
0.100	72,000	0.428	30,700	23,000	0.175	4,100	24,000	0.209	4,900	9,000	0.218	2,000	128,000	0.326	41,700
0.140	46,000	0.602	27,600	10,000	0.251	2,600	15,000	0.260	3,900	3,000	0.393	1,300	75,000	0.474	35,500
0.180	34,000	0.765	25,600	6,000	0.310	2,000	9,000	0.338	3,000	3,000	0.443	1,300	51,000	0.618	31,800

INDICATED GOLD RESOURCES															
Southeast Pediment				Silica Ridge			North Hill			Abel Knoll			TOTAL		
Cutoff (oz Au/ton)	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces
0.010	***1,300,000***	***0.034***	***44,500***	***1,382,000***	***0.028***	***39,000***	***2,684,000***	***0.029***	***78,400***	***957,000***	***0.029***	***27,900***	***6,323,000***	***0.030***	***189,800***
0.020	706,000	0.053	37,300	505,000	0.055	27,700	1,295,000	0.046	59,300	487,000	0.044	21,400	2,992,000	0.049	145,700
0.030	457,000	0.069	31,500	311,000	0.074	23,000	700,000	0.065	45,200	257,000	0.062	16,000	1,724,000	0.067	115,700
0.040	315,000	0.084	26,500	201,000	0.096	19,300	436,000	0.083	36,200	167,000	0.078	13,000	1,120,000	0.085	95,000
0.050	225,000	0.100	22,600	139,000	0.119	16,500	287,000	0.103	29,600	113,000	0.094	10,600	764,000	0.104	79,300
0.060	171,000	0.115	19,600	97,000	0.147	14,300	209,000	0.122	25,400	80,000	0.110	8,800	556,000	0.122	68,100
0.070	139,000	0.126	17,600	75,000	0.172	12,800	157,000	0.141	22,100	64,000	0.122	7,800	435,000	0.139	60,300
0.080	115,000	0.138	15,800	58,000	0.199	11,600	123,000	0.159	19,600	51,000	0.133	6,800	348,000	0.155	53,800
0.090	96,000	0.148	14,200	50,000	0.219	10,900	101,000	0.176	17,700	40,000	0.148	5,900	286,000	0.170	48,700
0.100	81,000	0.158	12,800	42,000	0.243	10,100	85,000	0.191	16,200	35,000	0.155	5,400	242,000	0.184	44,500
0.140	40,000	0.199	8,000	24,000	0.336	8,100	46,000	0.255	11,800	8,000	0.296	2,300	119,000	0.255	30,200
0.180	18,000	0.253	4,500	17,000	0.409	7,000	31,000	0.307	9,400	3,000	0.494	1,700	69,000	0.328	22,400

INFERRED GOLD RESOURCES															
Southeast Pediment				Silica Ridge			North Hill			Abel Knoll			TOTAL		
Cutoff (oz Au/ton)	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces	Tons	Grade (oz Au/ton)	Au Ounces
0.010	***109,000***	***0.026***	***2,800***	***518,000***	***0.014***	***7,400***	***294,000***	***0.021***	***6,200***	***497,000***	***0.043***	***21,600***	***1,418,000***	***0.027***	***38,000***
0.020	86,000	0.029	2,500	68,000	0.028	1,900	92,000	0.037	3,400	320,000	0.060	19,100	567,000	0.048	27,000
0.030	33,000	0.040	1,300	18,000	0.042	800	35,000	0.060	2,100	226,000	0.074	16,800	312,000	0.067	21,000
0.040	12,000	0.051	600	4,000	0.072	300	16,000	0.091	1,500	171,000	0.087	14,900	204,000	0.085	17,300
0.050	4,000	0.070	200	3,000	0.091	200	11,000	0.112	1,300	138,000	0.097	13,400	156,000	0.098	15,200
0.060	2,000	0.084	200	2,000	0.101	200	9,000	0.122	1,200	109,000	0.109	11,900	122,000	0.110	13,400
0.070	1,000	0.106	100	2,000	0.116	200	8,000	0.138	1,000	81,000	0.124	10,100	91,000	0.125	11,400
0.080	1,000	0.111	100	1,000	0.143	100	7,000	0.142	1,000	55,000	0.147	8,200	64,000	0.146	9,400
0.090	1,000	0.117	100	1,000	0.155	100	7,000	0.146	1,000	40,000	0.171	6,900	48,000	0.166	8,000
0.100	0	0.126	100	1,000	0.170	100	6,000	0.151	900	36,000	0.179	6,500	43,000	0.174	7,600
0.140	-	-	-	-	-	-	2,000	0.203	500	13,000	0.297	3,900	16,000	0.280	4,400
0.180	-	-	-	-	-	-	1,000	0.231	300	8,000	0.388	3,100	10,000	0.362	3,400

Note: 0.010 oz Au/ton cutoff for Abel Knoll, North Hill, and Silica Ridge
0.010 oz Au/ton cutoff for SE Pediment above 4,200 ft elevation
0.020 oz Au/ton cutoff for SE Pediment below 4,200 ft elevation

Table 17.21 Sandman Gold Resources by Cutoff Grade (cont.)

Metric Units

(no specific economics were applied aside from general depths and oxidation states)

MEASURED GOLD RESOURCES															
Southeast Pediment				**Silica Ridge**			**North Hill**			**Abel Knoll**			**TOTAL**		
Cutoff (g Au/t)	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**
0.34	***584,000***	***2.41***	***45,300***	***463,000***	***1.08***	***16,200***	***351,000***	***1.28***	***14,400***	***152,000***	***1.27***	***6,200***	***1,550,000***	***1.65***	***82,100***
0.69	306,000	4.18	41,200	205,000	1.87	12,400	183,000	2.02	11,900	89,000	1.84	5,300	783,000	2.81	70,800
1.03	202,000	5.93	38,500	136,000	2.41	10,600	114,000	2.76	10,100	54,000	2.49	4,400	506,000	3.90	63,600
1.37	155,000	7.38	36,700	98,000	2.89	9,100	83,000	3.35	9,000	34,000	3.28	3,600	370,000	4.91	58,400
1.71	127,000	8.63	35,400	70,000	3.44	7,800	58,000	4.14	7,800	22,000	4.29	3,000	277,000	6.04	54,000
2.06	109,000	9.81	34,300	53,000	3.97	6,700	45,000	4.80	7,000	16,000	5.06	2,700	223,000	7.07	50,700
2.40	91,000	11.26	33,000	41,000	4.46	5,900	40,000	5.16	6,600	15,000	5.37	2,600	187,000	8.00	48,100
2.74	78,000	12.74	31,900	33,000	4.91	5,300	30,000	5.96	5,800	12,000	6.11	2,300	153,000	9.19	45,300
3.09	71,000	13.65	31,300	26,000	5.53	4,500	26,000	6.43	5,500	9,000	7.24	2,000	132,000	10.22	43,300
3.43	65,000	14.67	30,700	21,000	6.00	4,100	21,000	7.18	4,900	8,000	7.48	2,000	115,000	11.19	41,700
4.80	42,000	20.63	27,600	10,000	8.59	2,600	14,000	8.93	3,900	3,000	13.48	1,300	69,000	16.26	35,400
6.17	30,000	26.22	25,600	6,000	10.63	2,000	8,000	11.57	3,000	3,000	15.17	1,300	47,000	21.19	31,900

INDICATED GOLD RESOURCES															
Southeast Pediment				**Silica Ridge**			**North Hill**			**Abel Knoll**			**TOTAL**		
Cutoff (g Au/t)	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**
0.34	***1,179,000***	***1.18***	***44,500***	***1,254,000***	***0.97***	***39,000***	***2,435,000***	***1.00***	***78,400***	***868,000***	***1.00***	***27,900***	***5,736,000***	***1.03***	***189,800***
0.69	640,000	1.81	37,300	458,000	1.88	27,700	1,175,000	1.57	59,300	441,000	1.51	21,400	2,714,000	1.67	145,700
1.03	415,000	2.36	31,500	282,000	2.54	23,000	635,000	2.21	45,200	233,000	2.14	16,000	1,565,000	2.30	115,700
1.37	285,000	2.89	26,500	183,000	3.28	19,300	396,000	2.84	36,200	152,000	2.66	13,000	1,016,000	2.91	95,000
1.71	204,000	3.44	22,600	126,000	4.08	16,500	260,000	3.54	29,600	103,000	3.21	10,600	693,000	3.56	79,300
2.06	155,000	3.94	19,600	88,000	5.03	14,300	189,000	4.17	25,400	72,000	3.77	8,800	504,000	4.20	68,100
2.40	127,000	4.34	17,600	68,000	5.88	12,800	143,000	4.82	22,100	58,000	4.17	7,800	396,000	4.75	60,300
2.74	104,000	4.72	15,800	53,000	6.82	11,600	112,000	5.44	19,600	47,000	4.56	6,800	316,000	5.31	53,800
3.09	87,000	5.08	14,200	45,000	7.52	10,900	92,000	6.02	17,700	36,000	5.07	5,900	260,000	5.83	48,700
3.43	74,000	5.41	12,800	38,000	8.33	10,100	77,000	6.56	16,200	32,000	5.31	5,400	221,000	6.30	44,500
4.80	37,000	6.81	8,000	22,000	11.51	8,100	42,000	8.75	11,800	7,000	10.13	2,300	108,000	8.74	30,200
6.17	16,000	8.67	4,500	15,000	14.02	7,000	28,000	10.52	9,400	3,000	16.94	1,700	62,000	11.23	22,600

INFERRED GOLD RESOURCES															
Southeast Pediment				**Silica Ridge**			**North Hill**			**Abel Knoll**			**TOTAL**		
Cutoff (g Au/t)	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**	**Tonnes**	**Grade (g Au/t)**	**Au Ounces**
0.34	***99,000***	***0.88***	***2,800***	***470,000***	***0.49***	***7,400***	***267,000***	***0.72***	***6,200***	***451,000***	***1.49***	***21,600***	***1,287,000***	***0.92***	***38,000***
0.69	78,000	1.01	2,500	62,000	0.97	1,900	84,000	1.28	3,400	290,000	2.04	19,100	514,000	1.63	26,900
1.03	30,000	1.38	1,300	17,000	1.43	800	31,000	2.06	2,100	205,000	2.55	16,800	283,000	2.31	21,000
1.37	11,000	1.74	600	4,000	2.48	300	15,000	3.13	1,500	155,000	2.99	14,900	185,000	2.92	17,300
1.71	3,000	2.40	200	2,000	3.11	200	10,000	3.82	1,300	125,000	3.34	13,400	140,000	3.35	15,100
2.06	2,000	2.88	200	2,000	3.48	200	9,000	4.19	1,200	99,000	3.74	11,900	112,000	3.76	13,500
2.40	1,000	3.62	100	1,000	3.97	200	7,000	4.72	1,000	73,000	4.26	10,100	82,000	4.29	11,400
2.74	1,000	3.79	100	1,000	4.90	100	6,000	4.86	1,000	50,000	5.05	8,200	58,000	5.01	9,400
3.09	1,000	4.02	100	1,000	5.30	100	6,000	5.00	1,000	36,000	5.86	6,900	44,000	5.70	8,100
3.43	-	-	-	1,000	5.82	100	5,000	5.17	900	33,000	6.14	6,500	39,000	5.98	7,500
4.80	-	-	-	-	-	-	2,000	6.95	500	12,000	10.17	3,900	14,000	9.62	4,400
6.17	-	-	-	-	-	-	1,000	7.93	300	7,000	13.31	3,100	8,000	12.39	3,400

Note: 0.34 g Au/t cutoff for Abel Knoll, North Hill, and Silica Ridge
0.34 g Au/t cutoff for SE Pediment above 1,280 m elevation
0.69 g Au/t cutoff for SE Pediment below 1,280 m elevation

17.12 Model Checks

Nearest-neighbor and ordinary-krige estimates of the deposits were undertaken as a check on the inverse-distance models. These methods yield similar grades and tons at a 0.00 oz Au/ton cutoff grade for each of the models. Grade distribution plots of assays and composites versus nearest neighbor, krige, and inverse-distance block grades show acceptable forms and relationships. Volumes of mineralized domains implied by the primary cross sections and orthogonal cross sections compare well with each other, as well as with undiluted block-model volumes. Average density and gold grades for each domain were applied to the sectional domain volumes, and the results show good agreement with global block-model tons and ounces. Finally, estimated block grades were compared visually against the drill-hole assay and composite data to assure that reasonable results were obtained.

17.13 Recommended Improvements for Subsequent Modeling

Silver mineralization is present in the Sandman deposits at lower economic levels relative to the gold, but may be of economic interest and could be added to the modeling.

The mineralization controls at North Hill need to be better understood, which would allow for enhanced modeling of the deposit.

The relatively thin higher-grade mineralization along and adjacent to the SEP fault at Southeast Pediment cannot be properly modeled on the 20-ft orthogonal (north-south) sections. An updated model should expand the area covered by sections spaced at 10-ft intervals, or these zones should be modeled with three-dimensional solids.

Future modeling should consider the inclusion of a metallurgical model, assuming that further metallurgical data are obtained. A metallurgical model would be required prior to undertaking reserve estimations.

18.0 MINERAL RESERVE ESTIMATES

No mineral reserves have been estimated for the Sandman project.

19.0 OTHER RELEVANT DATA AND INFORMATION

MDA is not aware of additional information that is material to this technical report.

20.0 INTERPRETATIONS AND CONCLUSIONS

Geologic mapping, rock chip and soil sampling, geophysical surveying, trenching, auger drilling, RC drilling, and core drilling at the Sandman project has resulted in the discovery of four gold deposits and the identification of other target areas that remain to be fully explored. The Southeast Pediment, Silica Ridge, North Hill, and Abel Knoll gold deposits are characterized by low-sulfidation, quartz-adularia, epithermal gold-silver mineralization hosted by Tertiary tuff, basalt, andesite, and sedimentary rocks. Although similar in some respects to the nearby Sleeper gold mine, the mineralization in the Sandman deposits are associated with more abundant adularia and lesser amounts of silica. Most of the mineralization in the four deposits occurs within oxidized rock.

The main controls on the mineralization at Southeast Pediment include the north-striking SEP fault, the contacts of an andesitic porphyry body, and permeable tuffaceous units. The SEP fault dips 50 to 65º west and localized most of the high-grade gold mineralization. The upper and lower contacts of the andesite porphyry were important controls for the deeper mineralization, while lower-grade stratiform mineralization within the tuffaceous units is prevalent at shallow depths.

Alteration at Southeast Pediment is zoned with respect to the mineralization controls discussed above. Sparse silica-adularia ± gold veinlets and pervasive quartz-adularia wall-rock alteration are closely confined to the SEP fault; high-grade gold mineralization, commonly grading greater than 0.1 oz Au/ton, occurs in discontinuous pods or lens-shaped bodies within bifurcating shears in this core alteration zone. The tuffaceous units surrounding the core-alteration zone are characterized by a pervasive adularia-quartz-illite-pyrite assemblage that is largely devoid of silica veinlets. This alteration occurs on both sides of the core zone, has a maximum width of around 100 ft, narrows with depth, and hosts the bulk of the 0.01 oz Au/ton or greater mineralization in the deposit. The adularia-quartz zone is succeeded outwards by extensive argillic alteration that is characterized by an assemblage of montmorillonite-nontronite-calcite-illite-pyrite-hydrocarbon. The argillic zone hosts only anomalous levels of gold.

The Silica Ridge deposit is similar in many respects to Southeast Pediment. High-to moderate-gold grades at Silica Ridge are hosted by tuffaceous rocks, basalt, and andesite and are associated with quartz-adularia-pyrite alteration. Argillically altered rocks only host anomalous levels of gold. Mineralization is closely related to structural controls in the southern half of Silica Ridge. These controls include a north-striking east-dipping SR fault, the contacts of an east-trending steeply south dipping andesitic porphyry dike, and at least two inferred joint sets. The northern half of Silica Ridge is characterized by lower-grade mineralization that is poorly understood. Mineralization is open in this area and is a target for higher gold grades.

The mineralization at North Hill is controlled by the contacts of low- and high-angle andesite porphyry sills and dikes. The majority of the deposit is stratiform and hosted in the andesite sill complex. Alteration associated with mineralization is subtle and undefined. The limits of the mineralization remain open in some areas, mainly on the east and north sides of the deposit.

The Abel Knoll deposit, which is comprised of apparently distinct western and eastern areas, was discovered in 2006. Most of the drill-defined resources are in the western area, which is associated with a breccia pipe interpreted to be a diatreme. The mineralization occurs in a near-vertical, pipe-shaped volume of rock associated with quartz-adularia alteration that abruptly changes to distal argillic alteration.

The Sandman gold deposits have been defined by reverse circulation and core drilling completed by three major mining companies as well as WSMC and NewWest. Little is known about details of the drill-sample handling, security, and preparation for analysis for the pre-WSMC programs. Systematic quality controls on sample preparation and analysis were established for the 2006 program, and efforts were undertaken to confirm earlier drill data by check assaying and core verification drilling. Available data do not indicate the presence of serious problems with the analytical databases.

Twin-hole data from the four deposits provide evidence of the variability of the gold mineralization and suggest possible contamination of intervals down-hole from high-grade peaks in some of the pre-WSMC RC holes, primarily at Southeast Pediment. Core twins of WSMC and NewWest RC holes provide no evidence of contamination in the RC holes.

Bottle roll, column leach, and gravity concentration tests have been undertaken on trench and drill-hole samples from the Southeast Pediment, Silica Ridge, and North Hill deposits. The bottle roll and column data indicate that the gold mineralization tested is amenable to direct cyanidation. The data consistently show that cyanide extractions increase with decreasing particle size for the samples tested. The gold recovery from the Southeast Pediment bulk sample milled at the Twin Creeks mine is consistent with the bottle roll results generated from samples pulverized to -100 mesh. There is no clear relationship between the cyanide extractions and gold grades of the head samples, although there is some evidence that samples with higher head grades require a longer leach time to achieve comparable extractions. Cyanide consumptions and lime requirements are low to moderate. Limited testing suggests that while gravity concentration succeeds in recovering a portion of the gold, it is not viable as a stand-alone alternative for Sandman project beneficiation.

At total of 8.033 million tons (7.288 million tonnes) of Measured and Indicated resources grading 0.034 oz Au/ton (1.17 g Au/t) (271,900 ounces) and 1.418 million tons (1.286 million tones) of Inferred resources grading 0.027 oz Au/ton (0.93 g Au/t) (38,000 ounces) have been defined at Sandman. MDA considers the potential of discovering further gold mineralization of significance within the project to be excellent. The property is large and much of it is covered by alluvial gravels and wind-blown sand. Geophysical, geochemical, and geological data have led to the identification of a number of quality target areas that are either incompletely drilled or await initial drill testing. The proximity of the Sandman project to the Sleeper gold deposit, which was discovered beneath post-mineral alluvial units, enhances the Sandman targeting concepts.

21.0 RECOMMENDATIONS

The Sandman project has the potential for near-term production from one or more of the four known deposits. There is also excellent potential for the discovery of new precious metal mineralization on the property. The following discussion outlines recommendations for exploration at the known deposits and defined district targets, and includes funds for target generation beyond the limits of the known deposits. Costs for the recommended work, encompassed in Phase I and Phase II programs, are presented in Tables 21.1. MDA believes that Sandman is a project of merit that justifies the work programs summarized below.

21.1 Phase I Exploration Program

The objectives of the Phase I program (Table 21.1) are to increase the size of the known deposits, discover new deposits within the Sandman project area, and undertake a preliminary economic assessment of the project. Approximately_36,000 ft of core drilling is recommended to: (1) continue step-out drilling of the Silica Ridge, North Hill, and Abel Knoll resource areas; (2) infill drilling in each of the four resource areas; (3) test existing exploration target areas; and (4) test targets that may be developed by further geological, geochemical, and geophysical work. An exploration Plan of Operations and Reclamation Permit that covers the entire project area will be needed to complete this work and is included in the Phase I work. A preliminary economic assessment of the presently defined gold resources at Sandman should be completed during the Phase I program. Funds are also allocated to cover holding costs, as well as for possible project expansion.

Southeast Pediment
Additional infill drilling of the resource area with core holes is recommended.

Silica Ridge
Step-out and infill holes were drilled at Silica Ridge in 2006 that provided confidence to the complex interpretation of mineral controls in the higher-grade southern half of the deposit. The drilling also identified lower-grade mineralization in the northern portion of the deposit area that is not well understood, in part because of wide drill-hole spacing. Phase I recommendations include drilling in the northern half of the deposit to explore for higher grades and define structural controls.

North Hill
The 2006 drilling at North Hill concluded with open-ended mineralization in a number of drill holes. Further step-out and confirmatory core drilling is recommended in the Phase I program.

Abel Knoll
The Abel Knoll deposit was discovered and partially developed in 2006. The deposit remains open to the northwest and east. In addition, the down-plunge projection of both the mineralization and host diatreme represent a deeper exploration target. Infill, step-out, and deeper exploration drilling is recommended in Phase I.

Additional Targets and Grassroots Exploration Program

Sandman is a large property that is extensively covered by alluvial gravels and wind-blown sand. Four discrete gold deposits have been discovered on the property, which proves the existence of multiple hydrothermal centers and suggests that the potential for discovery of additional deposits is excellent.

Alteration and structural mapping, geophysical and geochemical surveys, and exploration drilling results have identified a number of targets that warrant follow-up drilling, including Windmill Hill, Sandbowl, Adularia Hill, West Southeast Pediment, and K15A. The Phase I drilling budget is sufficient for initial drill testing of the targets.

Further geochemical sampling is warranted in areas identified as having favorable geophysical signatures and/or structural settings. MDA believes that detailed ground geophysics could provide critical targeting data, especially considering the poorly exposed nature of large portions of the Sandman project.

Scoping Study

An initial study of potential project economics should be undertaken at Sandman to determine such parameters as minimum tonnage, grade, and ounces needed to justify project development. Results of this study can guide the exploration program to define sufficient mineral resources in the Measured and Indicated categories, which can then provide the basis for more formal economic studies.

Table 21.1 Recommended Sandman Work Program: Phases I and II

Phase I	
80 Core holes (36,000 ft @ $100/ft)	$ 3,600,000
Geophysics/Geochemistry	200,000
Preliminary Economic Assessment	75,000
Plan of Operations	250,000
Holding + acquisition costs	140,000
Total Phase I	*$ 4,265,000*
Phase II	
80 RC holes (36,000 ft @ $25/ft)	$900,000
40 core holes ,(18,000 ft @ $100/ft)	1,800,000
Metallurgical test work	150,000
Total Phase II	*$ 2,850,000*

Drilling costs include contractor costs, site preparation and reclamation, assaying, and geologic personnel.

21.2 Phase II Exploration Program

A Phase II program, which is contingent on positive results from the Phase I program, is also presented in Table 21.1. Phase II work consists of definition drilling at newly discovered deposits and initial metallurgical testing of existing and newly defined resource areas.

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23.0 DATE AND SIGNATURE PAGE

Effective Date of report:	November 1, 2007
Completion Date of report:	November 1, 2007

November 1, 2007
Date Signed

“Michael Gustin”
Michael Gustin, P. Geo.

November 1, 2007
Date Signed

“George Lanier”
George Lanier

November 1, 2007
Date Signed

“Jim Ashton”
Jim Ashton

24.0 CERTIFICATE OF AUTHOR

I, Michael M. Gustin, do hereby certify that:

1. I am currently employed as Senior Geologist by:

   Mine Development Associates, Inc.
   210 South Rock Blvd.
   Reno, Nevada 89502.

2. 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.
3. I am a Registered Geologist in the State of Washington, a Licensed Professional Geologist in the State of Utah, a member of the Society of Mining Engineers, and a member of the Geological Society of Nevada.
4. I have worked as a geologist for a total of more than 20 years.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for the preparation of the technical report titled *Updated Technical Report, Sandman Gold Project, Humboldt County, Nevada USA* and dated November 1, 2007 (the “Technical Report”) relating to the Sandman project. I visited the Sandman project site in 2004, 2006, and 2007.
7. I have not had prior involvement with the property that is the subject of this Technical Report.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
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 1st day of November 2007.

“Michael M. Gustin”

Signature of Qualified Person

Michael M. Gustin

Print Name of Qualified Person

CERTIFICATE OF AUTHOR

I, George Lanier, do hereby certify that:

1. I am currently employed as Chief Geologist by:

   NewWest Gold USA, Inc.
   250 South Rock Blvd. Suite 118
   Reno, Nevada 89502.

2. I graduated with a Bachelor of Science degree in Geology from the University of Utah in 1970 and a Masters of Arts degree in Anthropology from the University of Utah in 1987.
3. I am a member of the Geological Society of Nevada.
4. I have worked as a geologist for a total of 35 years.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for assisting in the preparation of the technical report titled *Updated Technical Report, Sandman Gold Project, Humboldt County, Nevada USA* and dated November 1, 2007 (the “Technical Report”) relating to the Sandman project. I have worked extensively at the Sandman project.
7. I have had prior involvement with the property that is the subject of this Technical Report.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am not independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
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 1st day of November 2007.

“George Lanier”
Signature of Qualified Person

George Lanier
Print Name of Qualified Person

CERTIFICATE OF AUTHOR

I, James W. Ashton, do hereby certify that:

1. I am currently employed as Senior Project Engineer by:

   NewWest Gold USA, Inc.
   250 South Rock Blvd. Suite 118
   Reno, Nevada 89502.

2. I graduated with a Bachelor of Science degree in Mining Engineering from the University of Nevada in 1984.
3. I am a Registered Professional Engineer in the State of Nevada and a member of the Society of Mining Engineers.
4. I have worked as a mining engineer for a total of 23 years.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for assisting in the preparation of the technical report titled *Updated Technical Report, Sandman Gold Project, Humboldt County, Nevada USA* and dated November 1, 2007 (the “Technical Report”) relating to the Sandman project. I have visited the Sandman project numerous times.
7. I have had prior involvement with the property that is the subject of this Technical Report.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am not independent of the issuer applying the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
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 1st day of November 2007.

“James W. Ashton”
Signature of Qualified Person

James W. Ashton
Print Name of Qualified Person

APPENDIX A

UNPATENTED LODE MINING CLAIMS

The following is a list of 624 unpatented lode mining claims owned or controlled by Western States Minerals Corporation, located in Humboldt County, Nevada, and recorded in the public records of Humboldt County, Nevada and the Nevada State Office of the Bureau of Land Management.

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
387198	NAP 37	Nevada	Humboldt	222	301		37N	36E	32	MDB&M
387199	NAP 38	Nevada	Humboldt	222	302		37N	36E	32	MDB&M
387200	NAP 39	Nevada	Humboldt	222	303		37N	36E	32	MDB&M
387201	NAP 40	Nevada	Humboldt	222	304		37N	36E	32	MDB&M
387202	NAP 41	Nevada	Humboldt	222	305		37N	36E	32	MDB&M
387203	NAP 42	Nevada	Humboldt	222	306		37N	36E	32	MDB&M
387204	NAP 43	Nevada	Humboldt	222	307		37N	36E	32	MDB&M
387205	NAP 44	Nevada	Humboldt	222	308		37N	36E	32	MDB&M
387206	NAP 45	Nevada	Humboldt	222	309		37N	36E	32	MDB&M
387207	NAP 46	Nevada	Humboldt	222	310		37N	36E	32	MDB&M
387208	NAP 47	Nevada	Humboldt	222	311		37N	36E	32	MDB&M
387209	NAP 48	Nevada	Humboldt	222	312		37N	36E	32	MDB&M
387210	NAP 49	Nevada	Humboldt	222	313		37N	36E	32	MDB&M
387211	NAP 50	Nevada	Humboldt	222	314		37N	36E	32	MDB&M
387212	NAP 51	Nevada	Humboldt	222	315		37N	36E	32	MDB&M
387213	NAP 52	Nevada	Humboldt	222	316		37N	36E	32	MDB&M
387214	NAP 53	Nevada	Humboldt	222	317		37N	36E	32	MDB&M
387215	NAP 54	Nevada	Humboldt	222	318		37N	36E	32	MDB&M
387225	NAP 64	Nevada	Humboldt	222	328		37N	36E	32	MDB&M
387227	NAP 66	Nevada	Humboldt	222	330		37N	36E	32	MDB&M
387229	NAP 68	Nevada	Humboldt	222	332		37N	36E	32	MDB&M
387231	NAP 70	Nevada	Humboldt	222	334		37N	36E	32	MDB&M
387233	NAP 72	Nevada	Humboldt	222	336		37N	36E	32	MDB&M
387252	NAP 91	Nevada	Humboldt	222	355		37N	35E	24	MDB&M
387253	NAP 92	Nevada	Humboldt	222	356		37N	35E	24	MDB&M
387254	NAP 93	Nevada	Humboldt	222	357		37N	35E	24	MDB&M
387255	NAP 94	Nevada	Humboldt	222	358		37N	35E	24	MDB&M
387256	NAP 95	Nevada	Humboldt	222	359		37N	35E	24	MDB&M
387257	NAP 96	Nevada	Humboldt	222	360		37N	35E	24	MDB&M
387258	NAP 97	Nevada	Humboldt	222	361		37N	35E	24	MDB&M
387259	NAP 98	Nevada	Humboldt	222	362		37N	35E	24	MDB&M
387260	NAP 99	Nevada	Humboldt	222	363		37N	35E	24	MDB&M
387261	NAP 100	Nevada	Humboldt	222	364		37N	35E	24	MDB&M
387262	NAP 101	Nevada	Humboldt	222	365		37N	35E	24	MDB&M
387263	NAP 102	Nevada	Humboldt	222	366		37N	35E	24	MDB&M
387264	NAP 103	Nevada	Humboldt	222	367		37N	35E	24	MDB&M
387265	NAP 104	Nevada	Humboldt	222	368		37N	35E	24	MDB&M
387266	NAP 105	Nevada	Humboldt	222	369		37N	35E	24	MDB&M
387267	NAP 106	Nevada	Humboldt	222	370		37N	35E	24	MDB&M
387268	NAP 107	Nevada	Humboldt	222	371		37N	35E	24	MDB&M
387269	NAP 108	Nevada	Humboldt	222	372		37N	35E	24	MDB&M
411636	NAP 619	Nevada	Humboldt	232	770		36N	36E	6	MDB&M
411638	NAP 621	Nevada	Humboldt	232	772		36N	36E	6	MDB&M
411640	NAP 623	Nevada	Humboldt	232	774		36N	36E	6	MDB&M
411642	NAP 625	Nevada	Humboldt	232	776		36N	36E	6	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
411644	NAP 627	Nevada	Humboldt	232	778		36N	36E	6	MDB&M
411645	NAP 630	Nevada	Humboldt	232	779		36N	36E	6	MDB&M
411646	NAP 631	Nevada	Humboldt	232	780		36N	36E	6	MDB&M
411647	NAP 632	Nevada	Humboldt	232	781		36N	36E	6	MDB&M
411648	NAP 633	Nevada	Humboldt	232	782		36N	36E	6	MDB&M
411649	NAP 634	Nevada	Humboldt	232	783		36N	36E	6	MDB&M
411650	NAP 635	Nevada	Humboldt	232	784		36N	36E	6	MDB&M
411651	NAP 636	Nevada	Humboldt	232	785		36N	36E	6	MDB&M
411652	NAP 637	Nevada	Humboldt	232	786		36N	36E	6	MDB&M
411653	NAP 638	Nevada	Humboldt	232	787		36N	36E	6	MDB&M
411654	NAP 639	Nevada	Humboldt	232	788		36N	36E	6	MDB&M
411655	NAP 640	Nevada	Humboldt	232	789		36N	36E	6	MDB&M
411656	NAP 641	Nevada	Humboldt	232	790		36N	36E	6	MDB&M
411657	NAP 642	Nevada	Humboldt	232	791		36N	36E	6	MDB&M
411658	NAP 643	Nevada	Humboldt	232	792		36N	36E	6	MDB&M
411659	NAP 644	Nevada	Humboldt	232	793		36N	36E	6	MDB&M
411660	NAP 645	Nevada	Humboldt	232	794		36N	36E	6	MDB&M
411661	NAP 646	Nevada	Humboldt	232	795		36N	36E	6	MDB&M
411662	NAP 647	Nevada	Humboldt	232	796		36N	36E	6	MDB&M
411663	NAP 648	Nevada	Humboldt	232	797		36N	36E	6	MDB&M
411664	NAP 649	Nevada	Humboldt	232	798		36N	36E	6	MDB&M
422627	ABLE 51	Nevada	Humboldt	237	633		36N	36E	20	MDB&M
422628	ABLE 52	Nevada	Humboldt	237	634		36N	36E	20	MDB&M
422629	ABLE 53	Nevada	Humboldt	237	635		36N	36E	20	MDB&M
422630	ABLE 54	Nevada	Humboldt	237	636		36N	36E	20	MDB&M
422631	ABLE 55	Nevada	Humboldt	237	637		36N	36E	20	MDB&M
422632	ABLE 56	Nevada	Humboldt	237	638		36N	36E	20	MDB&M
422633	ABLE 57	Nevada	Humboldt	237	639		36N	36E	20	MDB&M
422634	ABLE 58	Nevada	Humboldt	237	640		36N	36E	20	MDB&M
422635	ABLE 59	Nevada	Humboldt	237	641		36N	36E	20	MDB&M
422636	ABLE 60	Nevada	Humboldt	237	642		36N	36E	20	MDB&M
422647	ABLE 71	Nevada	Humboldt	237	653		36N	36E	20	MDB&M
422648	ABLE 72	Nevada	Humboldt	237	654		36N	36E	20	MDB&M
422649	ABLE 73	Nevada	Humboldt	237	655		36N	36E	20	MDB&M
422650	ABLE 74	Nevada	Humboldt	237	656		36N	36E	20	MDB&M
422651	ABLE 75	Nevada	Humboldt	237	657		36N	36E	20	MDB&M
422652	ABLE 76	Nevada	Humboldt	237	658		36N	36E	20	MDB&M
422653	ABLE 77	Nevada	Humboldt	237	659		36N	36E	20	MDB&M
422654	ABLE 78	Nevada	Humboldt	237	660		36N	36E	20	MDB&M
422655	ABLE 79	Nevada	Humboldt	237	661		36N	36E	20	MDB&M
422656	ABLE 80	Nevada	Humboldt	237	662		36N	36E	20	MDB&M
422707	ABLE 131	Nevada	Humboldt	237	713		36N	36E	8	MDB&M
422708	ABLE 132	Nevada	Humboldt	237	714		36N	36E	8	MDB&M
422709	ABLE 133	Nevada	Humboldt	237	715		36N	36E	8	MDB&M
422710	ABLE 134	Nevada	Humboldt	237	716		36N	36E	8	MDB&M
422711	ABLE 135	Nevada	Humboldt	237	717		36N	36E	8	MDB&M
422712	ABLE 136	Nevada	Humboldt	237	718		36N	36E	8	MDB&M
422713	ABLE 137	Nevada	Humboldt	237	719		36N	36E	8	MDB&M
422714	ABLE 138	Nevada	Humboldt	237	720		36N	36E	8	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
422715	ABLE 139	Nevada	Humboldt	237	721		36N	36E	8	MDB&M
422716	ABLE 140	Nevada	Humboldt	237	722		36N	36E	8	MDB&M
470482	ABLE 151	Nevada	Humboldt	250	181		36N	36E	8	MDB&M
470483	ABLE 152	Nevada	Humboldt	250	182		36N	36E	8	MDB&M
470484	ABLE 153	Nevada	Humboldt	250	183		36N	36E	8	MDB&M
470485	ABLE 154	Nevada	Humboldt	250	184		36N	36E	8	MDB&M
470486	ABLE 155	Nevada	Humboldt	250	185		36N	36E	8	MDB&M
470487	ABLE 156	Nevada	Humboldt	250	186		36N	36E	8	MDB&M
470488	ABLE 157	Nevada	Humboldt	250	187		36N	36E	8	MDB&M
470489	ABLE 158	Nevada	Humboldt	250	188		36N	36E	8	MDB&M
470490	ABLE 159	Nevada	Humboldt	250	189		36N	36E	8	MDB&M
470491	ABLE 160	Nevada	Humboldt	250	190		36N	36E	8	MDB&M
481363	SAND 116	Nevada	Humboldt	255	425		36N	36E	4	MDB&M
481364	SAND 117	Nevada	Humboldt	255	426		36N	36E	4	MDB&M
481365	SAND 118	Nevada	Humboldt	255	427		36N	36E	4	MDB&M
481366	SAND 119	Nevada	Humboldt	255	428		36N	36E	4	MDB&M
481367	SAND 120	Nevada	Humboldt	255	429		36N	36E	4	MDB&M
481368	SAND 121	Nevada	Humboldt	255	430		36N	36E	4	MDB&M
481369	SAND 122	Nevada	Humboldt	255	431		36N	36E	4	MDB&M
481370	SAND 123	Nevada	Humboldt	255	432		36N	36E	4	MDB&M
743799	SAM 1	Nevada	Humboldt			1996-5243	37N	35E	14	MDB&M
743800	SAM 2	Nevada	Humboldt			1996-5244	37N	35E	14	MDB&M
743801	SAM 3	Nevada	Humboldt			1996-5245	37N	35E	14	MDB&M
743802	SAM 4	Nevada	Humboldt			1996-5246	37N	35E	14	MDB&M
743803	SAM 5	Nevada	Humboldt			1996-5247	37N	35E	14	MDB&M
743804	SAM 6	Nevada	Humboldt			1996-5248	37N	35E	14	MDB&M
743805	SAM 7	Nevada	Humboldt			1996-5249	37N	35E	14	MDB&M
743806	SAM 8	Nevada	Humboldt			1996-5250	37N	35E	14	MDB&M
743807	SAM 9	Nevada	Humboldt			1996-5251	37N	35E	14	MDB&M
743808	SAM 10	Nevada	Humboldt			1996-5252	37N	35E	14	MDB&M
743809	SAM 11	Nevada	Humboldt			1996-5253	37N	35E	14	MDB&M
743810	SAM 12	Nevada	Humboldt			1996-5254	37N	35E	14	MDB&M
743811	SAM 13	Nevada	Humboldt			1996-5255	37N	35E	14	MDB&M
743812	SAM 14	Nevada	Humboldt			1996-5256	37N	35E	14	MDB&M
743813	SAM 15	Nevada	Humboldt			1996-5257	37N	35E	22	MDB&M
743814	SAM 16	Nevada	Humboldt			1996-5258	37N	35E	22	MDB&M
743815	SAM 17	Nevada	Humboldt			1996-5259	37N	35E	22	MDB&M
743816	SAM 18	Nevada	Humboldt			1996-5260	37N	35E	22	MDB&M
743817	SAM 19	Nevada	Humboldt			1996-5261	37N	35E	22	MDB&M
743818	SAM 20	Nevada	Humboldt			1996-5262	37N	35E	22	MDB&M
743819	SAM 21	Nevada	Humboldt			1996-5263	37N	35E	22	MDB&M
743820	SAM 22	Nevada	Humboldt			1996-5264	37N	35E	22	MDB&M
743821	SAM 23	Nevada	Humboldt			1996-5265	37N	35E	22	MDB&M
743822	SAM 24	Nevada	Humboldt			1996-5266	37N	35E	22	MDB&M
743823	SAM 25	Nevada	Humboldt			1996-5267	37N	35E	22	MDB&M
743824	SAM 26	Nevada	Humboldt			1996-5268	37N	35E	22	MDB&M
743825	SAM 27	Nevada	Humboldt			1996-5269	37N	35E	22	MDB&M
743826	SAM 28	Nevada	Humboldt			1996-5270	37N	35E	22	MDB&M
743827	SAM 29	Nevada	Humboldt			1996-5271	37N	35E	22	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
743828	SAM 30	Nevada	Humboldt			1996-5272	37N	35E	22	MDB&M
743829	SAM 31	Nevada	Humboldt			1996-5273	37N	35E	22	MDB&M
743830	SAM 32	Nevada	Humboldt			1996-5274	37N	35E	22	MDB&M
743831	SAM 33	Nevada	Humboldt			1996-5275	37N	35E	22	MDB&M
743832	SAM 34	Nevada	Humboldt			1996-5276	37N	35E	22	MDB&M
743833	SAM 35	Nevada	Humboldt			1996-5277	37N	35E	22	MDB&M
743834	SAM 36	Nevada	Humboldt			1996-5278	37N	35E	22	MDB&M
743835	SAM 37	Nevada	Humboldt			1996-5279	37N	35E	22	MDB&M
743836	SAM 38	Nevada	Humboldt			1996-5280	37N	35E	22	MDB&M
743837	SAM 39	Nevada	Humboldt			1996-5281	37N	35E	22	MDB&M
743838	SAM 40	Nevada	Humboldt			1996-5282	37N	35E	22	MDB&M
743839	SAM 41	Nevada	Humboldt			1996-5283	37N	35E	22	MDB&M
743840	SAM 42	Nevada	Humboldt			1996-5284	37N	35E	14	MDB&M
743841	SAM 43	Nevada	Humboldt			1996-5285	37N	35E	14,15	MDB&M
743842	SAM 44	Nevada	Humboldt			1996-5286	37N	35E	14	MDB&M
743843	SAM 45	Nevada	Humboldt			1996-5287	37N	35E	14,15	MDB&M
743844	SAM 46	Nevada	Humboldt			1996-5288	37N	35E	14	MDB&M
743845	SAM 47	Nevada	Humboldt			1996-5289	37N	35E	14,15	MDB&M
743846	SAM 48	Nevada	Humboldt			1996-5290	37N	35E	14	MDB&M
743847	SAM 49	Nevada	Humboldt			1996-5291	37N	35E	14,15	MDB&M
743848	SAM 50	Nevada	Humboldt			1996-5292	37N	35E	14	MDB&M
743849	SAM 51	Nevada	Humboldt			1996-5293	37N	35E	14,15	MDB&M
743850	SAM 52	Nevada	Humboldt			1996-5294	37N	35E	14	MDB&M
743851	SAM 53	Nevada	Humboldt			1996-5295	37N	35E	14,15	MDB&M
743852	SAM 54	Nevada	Humboldt			1996-5296	37N	35E	14	MDB&M
743853	SAM 55	Nevada	Humboldt			1996-5297	37N	35E	14,15	MDB&M
743854	SAM 56	Nevada	Humboldt			1996-5298	37N	35E	14	MDB&M
743855	SAM 57	Nevada	Humboldt			1996-5299	37N	35E	14,15	MDB&M
743856	SAM 58	Nevada	Humboldt			1996-5300	37N	35E	14	MDB&M
743857	SAM 59	Nevada	Humboldt			1996-5301	37N	35E	14,15	MDB&M
743858	SAM 60	Nevada	Humboldt			1996-5302	37N	35E	26	MDB&M
743859	SAM 61	Nevada	Humboldt			1996-5303	37N	35E	26	MDB&M
743860	SAM 62	Nevada	Humboldt			1996-5304	37N	35E	26	MDB&M
743861	SAM 63	Nevada	Humboldt			1996-5305	37N	35E	26	MDB&M
743862	SAM 64	Nevada	Humboldt			1996-5306	37N	35E	26	MDB&M
743863	SAM 65	Nevada	Humboldt			1996-5307	37N	35E	26	MDB&M
743864	SAM 66	Nevada	Humboldt			1996-5308	37N	35E	26	MDB&M
743865	SAM 67	Nevada	Humboldt			1996-5309	37N	35E	26	MDB&M
743866	SAM 68	Nevada	Humboldt			1996-5310	37N	35E	26	MDB&M
743867	SAM 69	Nevada	Humboldt			1996-5311	37N	35E	26	MDB&M
743868	SAM 70	Nevada	Humboldt			1996-5312	37N	35E	26	MDB&M
743869	SAM 71	Nevada	Humboldt			1996-5313	37N	35E	26	MDB&M
743870	SAM 72	Nevada	Humboldt			1996-5314	37N	35E	26	MDB&M
743871	SAM 73	Nevada	Humboldt			1996-5315	37N	35E	26	MDB&M
743872	SAM 74	Nevada	Humboldt			1996-5316	37N	35E	26	MDB&M
743873	SAM 75	Nevada	Humboldt			1996-5317	37N	35E	26	MDB&M
743874	SAM 76	Nevada	Humboldt			1996-5318	37N	35E	26	MDB&M
743875	SAM 77	Nevada	Humboldt			1996-5319	37N	35E	26	MDB&M
743876	SAM 78	Nevada	Humboldt			1996-5320	37N	35E	26	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
743877	SAM 79	Nevada	Humboldt			1996-5321	37N	35E	26	MDB&M
743878	SAM 80	Nevada	Humboldt			1996-5322	37N	35E	26	MDB&M
743879	SAM 81	Nevada	Humboldt			1996-5323	37N	35E	26	MDB&M
743880	SAM 82	Nevada	Humboldt			1996-5324	37N	35E	26	MDB&M
743881	SAM 83	Nevada	Humboldt			1996-5325	37N	35E	26	MDB&M
743882	SAM 84	Nevada	Humboldt			1996-5326	37N	35E	26	MDB&M
743883	SAM 85	Nevada	Humboldt			1996-5327	37N	35E	26	MDB&M
743884	SAM 86	Nevada	Humboldt			1996-5328	37N	35E	26	MDB&M
743885	SAM 87	Nevada	Humboldt			1996-5329	37N	35E	26	MDB&M
743886	SAM 88	Nevada	Humboldt			1996-5330	37N	35E	26	MDB&M
743887	SAM 89	Nevada	Humboldt			1996-5331	37N	35E	26	MDB&M
743888	SAM 90	Nevada	Humboldt			1996-5332	37N	35E	26	MDB&M
743889	SAM 91	Nevada	Humboldt			1996-5333	37N	35E	26	MDB&M
743890	SAM 92	Nevada	Humboldt			1996-5334	37N	35E	26	MDB&M
743891	SAM 93	Nevada	Humboldt			1996-5335	37N	35E	26	MDB&M
743892	SAM 94	Nevada	Humboldt			1996-5336	37N	35E	26	MDB&M
743893	SAM 95	Nevada	Humboldt			1996-5337	37N	35E	26	MDB&M
743894	SAM 96	Nevada	Humboldt			1996-5338	37N	35E	14	MDB&M
743895	SAM 97	Nevada	Humboldt			1996-5339	37N	35E	14	MDB&M
743896	SAM 98	Nevada	Humboldt			1996-5340	37N	35E	14	MDB&M
743897	SAM 99	Nevada	Humboldt			1996-5341	37N	35E	14	MDB&M
743898	SAM 100	Nevada	Humboldt			1996-5342	36N	36E	30	MDB&M
743899	SAM 101	Nevada	Humboldt			1996-5343	36N	36E	30	MDB&M
743900	SAM 102	Nevada	Humboldt			1996-5344	36N	36E	30	MDB&M
743901	SAM 103	Nevada	Humboldt			1996-5345	36N	36E	30	MDB&M
743902	SAM 104	Nevada	Humboldt			1996-5346	36N	36E	30	MDB&M
743903	SAM 105	Nevada	Humboldt			1996-5347	36N	36E	30	MDB&M
743904	SAM 106	Nevada	Humboldt			1996-5348	36N	36E	30	MDB&M
743905	SAM 107	Nevada	Humboldt			1996-5349	36N	36E	30	MDB&M
743906	SAM 108	Nevada	Humboldt			1996-5350	36N	36E	30	MDB&M
743907	SAM 109	Nevada	Humboldt			1996-5351	36N	36E	30	MDB&M
743908	SAM 110	Nevada	Humboldt			1996-5352	36N	36E	30	MDB&M
743909	SAM 111	Nevada	Humboldt			1996-5353	36N	36E	30	MDB&M
743910	SAM 112	Nevada	Humboldt			1996-5354	36N	36E	30	MDB&M
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743912	SAM 114	Nevada	Humboldt			1996-5356	36N	36E	30	MDB&M
743913	SAM 115	Nevada	Humboldt			1996-5357	36N	36E	30	MDB&M
743914	SAM 116	Nevada	Humboldt			1996-5358	36N	36E	30	MDB&M
743915	SAM 117	Nevada	Humboldt			1996-5359	36N	36E	30	MDB&M
743916	SAM 118	Nevada	Humboldt			1996-5360	36N	36E	20	MDB&M
743917	SAM 119	Nevada	Humboldt			1996-5361	36N	36E	20	MDB&M
743918	SAM 120	Nevada	Humboldt			1996-5362	36N	36E	20	MDB&M
743919	SAM 121	Nevada	Humboldt			1996-5363	36N	36E	20	MDB&M
743920	SAM 122	Nevada	Humboldt			1996-5364	36N	36E	20	MDB&M
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743922	SAM 124	Nevada	Humboldt			1996-5366	36N	36E	20	MDB&M
743923	SAM 125	Nevada	Humboldt			1996-5367	36N	36E	20	MDB&M
743924	SAM 126	Nevada	Humboldt			1996-5368	36N	36E	20	MDB&M
743925	SAM 127	Nevada	Humboldt			1996-5369	36N	36E	20	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
743926	SAM 128	Nevada	Humboldt			1996-5370	36N	36E	20	MDB&M
743927	SAM 129	Nevada	Humboldt			1996-5371	36N	36E	20	MDB&M
743928	SAM 130	Nevada	Humboldt			1996-5372	36N	36E	20	MDB&M
743929	SAM 131	Nevada	Humboldt			1996-5373	36N	36E	20	MDB&M
743930	SAM 132	Nevada	Humboldt			1996-5374	36N	36E	20	MDB&M
743931	SAM 133	Nevada	Humboldt			1996-5375	36N	36E	20	MDB&M
743932	SAM 134	Nevada	Humboldt			1996-5376	36N	36E	20	MDB&M
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743971	SAM 173	Nevada	Humboldt			1996-5415	37N	36E	30	MDB&M
743972	SAM 174	Nevada	Humboldt			1996-5416	37N	36E	30	MDB&M
743973	SAM 175	Nevada	Humboldt			1996-5417	37N	36E	30	MDB&M
743974	SAM 176	Nevada	Humboldt			1996-5418	37N	36E	30	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
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743976	SAM 178	Nevada	Humboldt			1996-5420	37N	36E	30	MDB&M
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743978	SAM 180	Nevada	Humboldt			1996-5422	37N	36E	30	MDB&M
743979	SAM 181	Nevada	Humboldt			1996-5423	37N	36E	30	MDB&M
743980	SAM 182	Nevada	Humboldt			1996-5424	37N	36E	30	MDB&M
743981	SAM 183	Nevada	Humboldt			1996-5425	37N	36E	30	MDB&M
743982	SAM 184	Nevada	Humboldt			1996-5426	37N	36E	30	MDB&M
743983	SAM 185	Nevada	Humboldt			1996-5427	37N	36E	30	MDB&M
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743986	SAM 188	Nevada	Humboldt			1996-5430	37N	36E	30	MDB&M
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743998	SAM 200	Nevada	Humboldt			1996-5442	37N	36E	30	MDB&M
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744000	SAM 202	Nevada	Humboldt			1996-5444	37N	36E	30	MDB&M
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853648	SAN 2	Nevada	Humboldt			2003-6028	37N	35E	24	MDB&M
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853650	SAN 4	Nevada	Humboldt			2003-6030	37N	35E	24	MDB&M
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853660	SAN 14	Nevada	Humboldt			2003-6040	37N	35E	24	MDB&M
853661	SAN 15	Nevada	Humboldt			2003-6041	37N	35E	24	MDB&M
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853665	SAN 21	Nevada	Humboldt			2003-6045	37N	36E	20	MDB&M
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853667	SAN 23	Nevada	Humboldt			2003-6047	37N	36E	20	MDB&M
853668	SAN 24	Nevada	Humboldt			2003-6048	37N	36E	20	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
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853670	SAN 26	Nevada	Humboldt			2003-6050	37N	36E	20	MDB&M
853671	SAN 27	Nevada	Humboldt			2003-6051	37N	36E	20	MDB&M
853672	SAN 28	Nevada	Humboldt			2003-6052	37N	36E	20	MDB&M
853673	SAN 29	Nevada	Humboldt			2003-6053	37N	36E	20	MDB&M
853674	SAN 30	Nevada	Humboldt			2003-6054	37N	36E	20	MDB&M
853675	SAN 31	Nevada	Humboldt			2003-6055	37N	36E	20	MDB&M
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853677	SAN 33	Nevada	Humboldt			2003-6057	37N	36E	20	MDB&M
853678	SAN 34	Nevada	Humboldt			2003-6058	37N	36E	20	MDB&M
853679	SAN 35	Nevada	Humboldt			2003-6059	37N	36E	20	MDB&M
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853702	SAN 62	Nevada	Humboldt			2003-6013	36N	36E	6	MDB&M
853703	SAN 63	Nevada	Humboldt			2003-6014	36N	36E	6	MDB&M
853704	SAN 64	Nevada	Humboldt			2003-6015	36N	36E	6	MDB&M
853705	SAN 65	Nevada	Humboldt			2003-6016	36N	36E	6	MDB&M
853706	SAN 66	Nevada	Humboldt			2003-6017	36N	36E	6	MDB&M
853707	SAN 67	Nevada	Humboldt			2003-6018	36N	36E	6	MDB&M
853708	SAN 68	Nevada	Humboldt			2003-6019	36N	36E	6	MDB&M
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853712	SAN 74	Nevada	Humboldt			2003-6023	36N	36E	6	MDB&M
853713	SAN 76	Nevada	Humboldt			2003-6024	36N	36E	6	MDB&M
853714	SAN 78	Nevada	Humboldt			2003-6025	36N	36E	6	MDB&M
853715	SAN 80	Nevada	Humboldt			2003-6026	36N	36E	6	MDB&M
858381	SAN 81	Nevada	Humboldt			2003-7587	36N	35E	12	MDB&M
858382	SAN 82	Nevada	Humboldt			2003-7588	36N	35E	12	MDB&M

BLM #.-NMC	Claim Name	State	County	Book	Page	Document #	TWP	RGE	SEC	MER
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858384	SAN 84	Nevada	Humboldt			2003-7590	36N	35E	12	MDB&M
858385	SAN 85	Nevada	Humboldt			2003-7591	36N	35E	12	MDB&M
858386	SAN 86	Nevada	Humboldt			2003-7592	36N	35E	12	MDB&M
858387	SAN 87	Nevada	Humboldt			2003-7593	36N	35E	12	MDB&M
858388	SAN 88	Nevada	Humboldt			2003-7594	36N	35E	12	MDB&M
858389	SAN 89	Nevada	Humboldt			2003-7595	36N	35E	12	MDB&M
858390	SAN 90	Nevada	Humboldt			2003-7596	36N	35E	12	MDB&M
858391	SAN 91	Nevada	Humboldt			2003-7597	36N	35E	12	MDB&M
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858394	SAN 94	Nevada	Humboldt			2003-7600	36N	35E	12	MDB&M
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858396	SAN 96	Nevada	Humboldt			2003-7602	36N	35E	12	MDB&M
858397	SAN 97	Nevada	Humboldt			2003-7603	36N	35E	12	MDB&M
858398	SAN 98	Nevada	Humboldt			2003-7604	36N	35E	12	MDB&M
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944255	SAM 239	Nevada	Humboldt			2007-337	37N	35E	10	MDB&M

Total: 624

APPENDIX B

Quality Control Report by Gary Lustig (2007)

Review of
Quality Control Results,
Sandman Project,
Nevada

Prepared for

NewWest Gold Corporation

May 2007

Gary Lustig, M.Sc., P. Geo.

G. N. LUSTIG CONSULTING LTD.

Summary

NewWest Gold Corporation has instituted a field based quality control program for the 2006 drill program at the Sandman gold project in Nevada. The program consisted of the routine insertion of standard reference material, rig (field) duplicates and blanks into the sample stream. The results of this program have been reviewed, and corrective action has been initiated on a number of sample batches with quality control samples exceeding acceptable limits.

A slight high bias of the gold analyses relative to the accepted value of the certified reference material used has been noted. Analyses of the standards also indicated an unusually large number of samples exceeding the acceptable range.

External pulp duplicate check analyses at a separate laboratory indicated no significant relative bias in the gold analyses.

Assessment of precision based on routine analyses of rig duplicates indicated the precision of gold analyses is less than ideal likely due to a significant contribution of coarse gold.

Routine analyses of blank material indicated no systematic contamination during sample preparation.

The quality control program as implemented at Sandman meets the requirements of NI 43-101 and has been successful in identifying a number of issues, the rectifying of which will improve the quality assurance of the sampling programs.

1 Introduction and Terms of Reference

The author was contracted by NewWest Gold Corporation (NWG) to conduct an independent review of quality control data from the 2006 drill program at the Sandman Project in Nevada. Data received includes compiled assay data for historic and recent drilling and assay certificate files from the 2006 drill program. All assays were completed by American Assay Laboratories Inc. (AAL) in Reno, Nevada, with external checks assays at ALS Chemex (ALS), in Sparks, Nevada. External quality control consisted of blanks, standards and rig duplicates at an approximate rate of 1 of each in every 35 samples submitted.

For the purpose of this assessment the results from four areas within the project were combined to provide a larger sample size for statistical analyses and to provide a better overview of overall trends.

2 AAL Laboratory Procedures

2.1 Sample Preparation

Details of the sampling, chain of custody and analytical protocols employed by NWG can be seen in Appendix II

In general, split core samples were dried and weighed prior to being crushed to >65% passing 10 mesh. A 300-500 g split was pulverized to 75% passing 150 mesh.

2.2 Gold Assays

Gold was determined by fire assay using a 30 g (1 assay ton) aliquot with final gold determination by atomic absorption spectrometry and reported both in parts per billion (ppb) with a 3 ppb detection limit and in troy ounces per short ton (opt) with a detection limit of 0.001 opt. It is understood that there is a single assay performed, measured in ppb, with the opt equivalent calculated. In this case the actual detection limit is 0.00009 opt. The low detection limit would indicate that these are ‘geochemical’ analyses, with the digestion and instrument calibration set for trace level analyses rather than ore grade material. Samples with higher grades were re-assayed by fire assay with a gravimetric determination.

3 Accuracy

Four certified reference standards were employed during the sampling program and were routinely inserted into the sample stream at a rate of one standard for approximately every 35 samples submitted. The standards were manufactured by Rocklabs Limited and have the following recommended/consensus values:

- OxH29, 1.289 µg/g (g/t), Standard deviation 0.033 ppm (g/t) gold
- OxH52, 1.291 µg/g, Standard deviation 0.025 ppm gold
- OxK35, 3.489 µg/g, Standard deviation 0.111 ppm gold
- OxK48, 3.557 µg/g, Standard deviation 0.042 ppm gold

Preparation and certification of standards (adapted from Rocklabs standard certificates - http://www.rocklabs.com)

Once homogeneity had been established, two sub-samples were submitted to a number of well-recognized laboratories in order to assign a gold value by consensus testing. The sub-samples were drawn from 40 randomly selected jars and each laboratory received samples from two different jars. Indicative concentration ranges were given. All laboratories used fire assay for the gold analysis.

Results for gold were returned from 27-29 laboratories. Statistical analysis to identify outliers was carried out using the principles detailed in sections 7.3.2 – 7.3.4, ISO 5725-2: 1994. Assessment of each laboratory's performance was carried out on the basis of z-scores, partly based on the concept described in ISO/IEC Guide 43-1. As a result of these statistical analyses, a number of results may be excluded for the purpose of assigning a gold concentration value to this reference material. A recommended value was thus calculated from the average of the remaining sets of replicate results. The 95 % confidence interval was estimated using the formula:- $X \pm ts/\sqrt{n}$ (where X is the estimated average, s is the estimated standard deviation of the laboratory averages, and t is the 0.025 tail-value from Student's t-distribution with n-1 degrees of freedom). The recommended value is provided at the beginning of the certificate in µg/g (ppm) units.

3.1 Acceptance criteria for routine analyses

Control limits are established at recommended mean ±3σ (standard deviation) and warning limits at recommended mean ±2σ. Any single standard analyses beyond the upper (UCL) and lower (LCL) control limits is considered a 'failure'. In addition two successive standard analyses between the warning limits and control limits on the same side of the mean also constitute a failure.

3.2 Results of Routine Standard Analyses

Results of the routine analyses are shown graphically on Shewhart control charts where the analytical values are plotted on the y-axis against the laboratory sequence on the x-axis. Combined plots were also prepared that plot the z-score (sample value-recommended value/σ) against the analytical sequence, which allows the performance of a single analytical method to be viewed as a single trace.

Please note that the recommended values are set in metric units, and the results provided by NWG are in parts per billion (ppb) units rather than ounces per ton. For the assessment of the standard results metric units were used exclusively.

Figure 1 shows the overall performance of all standards for gold. The x-axis is sorted by increasing date of the assay certificate. The thin magenta line is a linear fit of all of the data and the thick red line is a moving average that gives an indication of trends. Two features are apparent in this plot; there are a relatively large number of analyses outside of the 3σ control limits and there is an increasing tendency to a high bias relative to the recommended values with time. The analyses of standards OxH52 and OxK48 used in analyses after ~December 8 are particularly erratic.

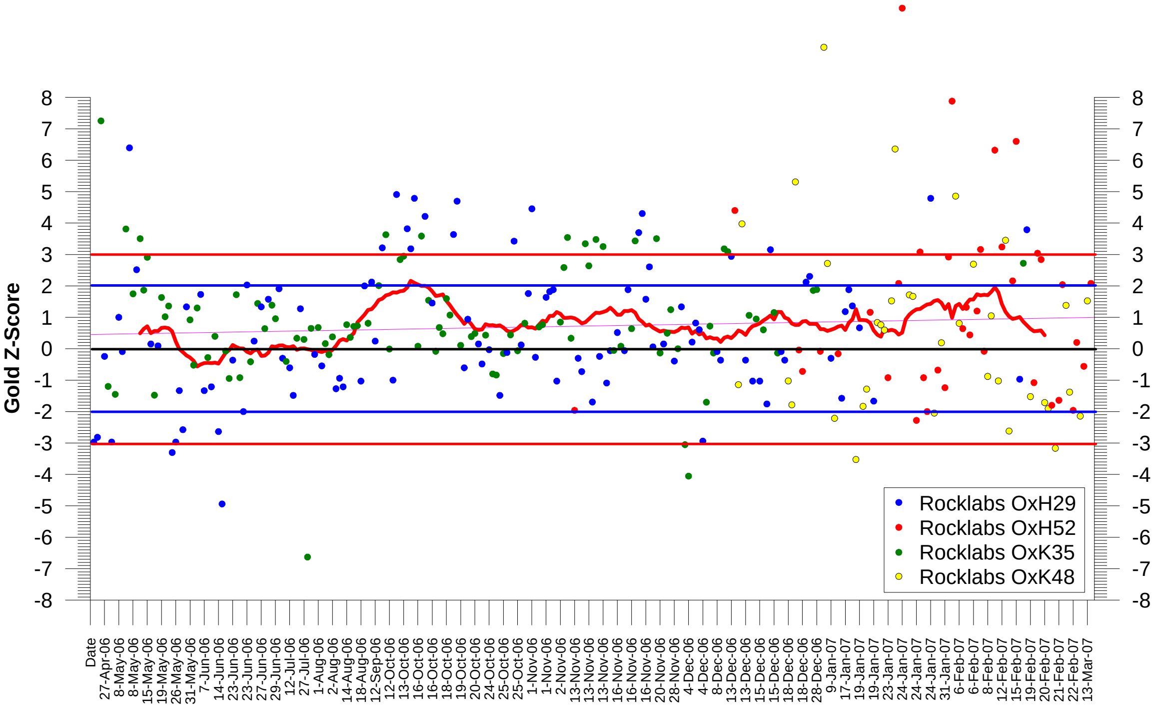

Figure 1 Z-Score plot of all standards

In my experience, the greatest single cause of failures of standards is misidentification of the sample in the field. This is usually resolved by looking at the values of the other standards to see if the returned value would indicate that the standard is likely to be one of the other standards in use. In this case, with the two higher grade and two lower grade standards being so close in mean value, it is not possible to make the distinction except when a sample identified as one of the lower grade standards is actually one of the higher grade standards or vice versa.

Figure 2 shows all Rocklabs standards plotted with the actual grade in ppb plotted on the y-axis. The horizontal lines represent the mean and upper and lower control limits (at ±3σ) for each standard. It should be noted that for the higher grade standards, the acceptable range is much broader for OxK35 than for OxK48. This is due to the lower standard deviation of the latter, based on the round robin analyses. This plot does not

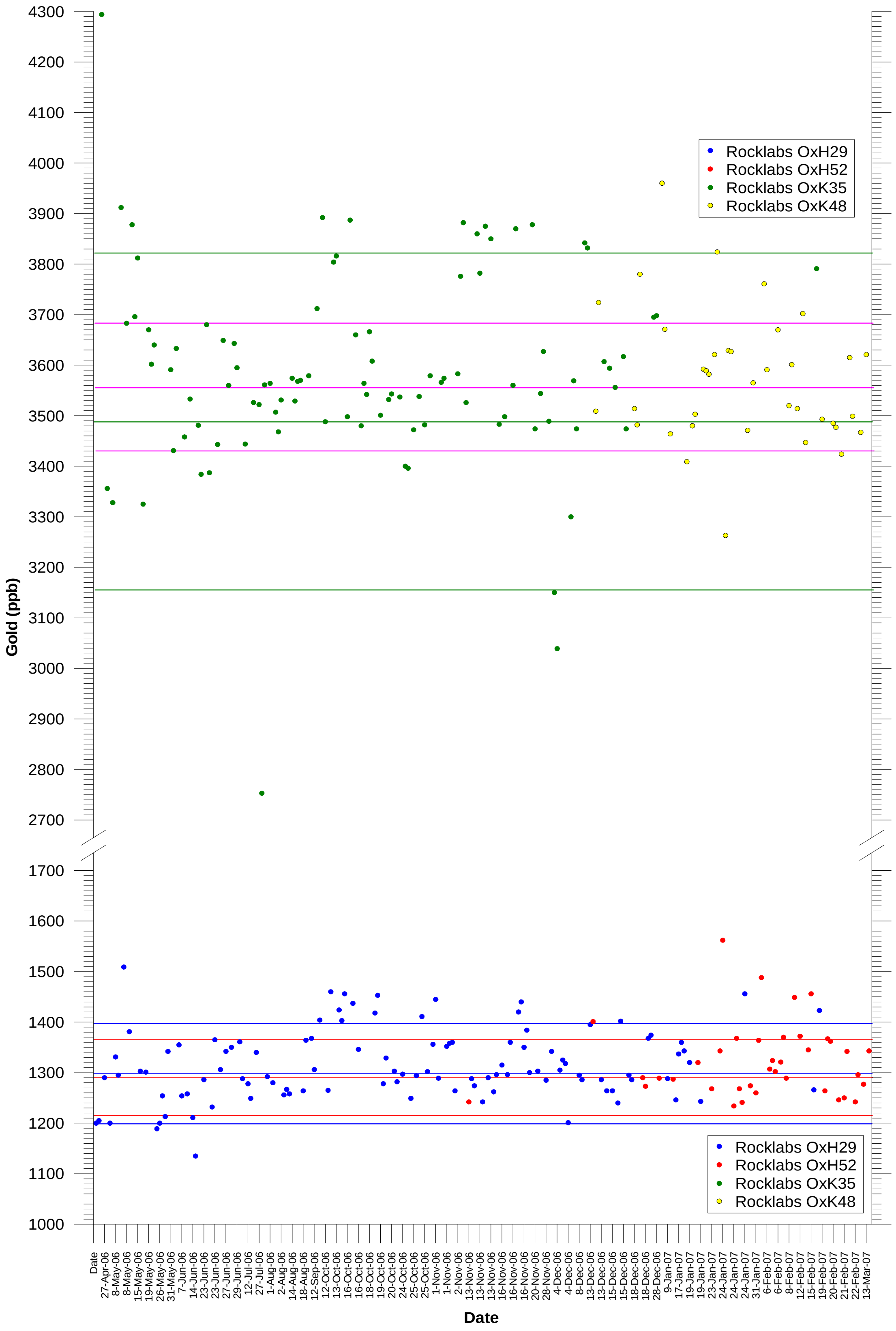

Figure 2 All Rocklabs standards plotted with grade

indicate any potential mix-ups between high and low grade standards. Even if the standards had been mixed up, there would still be a significant number of analyses outside the control limits.

3.2.1 Rocklabs Standard OxK48

High grade Rocklabs standard OxK48, with a recommended value of 3557 ppb (0.104 opt) gold, was used in assay batches analysed between mid-December 2006 and early March, 2007 (Fig.3). During this period, 38 samples were assayed, with 9 exceeding the upper control limit, 3 exceeding the lower control limit and 4 analyses between the warning and control limits. Performance did improve over time, but there were significant deviations from the accepted values in the latest results.

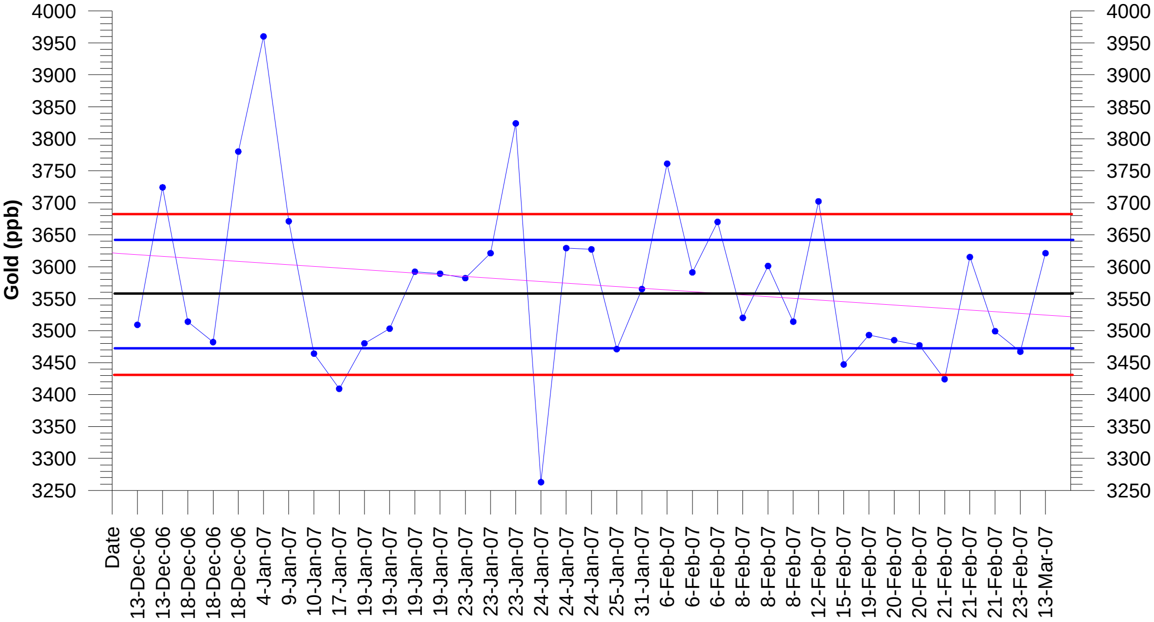

Figure 3 Shewhart chart - Standard OxK48

3.2.2 Rocklabs Standard OxK35

Another high grade standard, OxK35 with a recommended value of 3489 ppb (0.102 opt) gold was inserted 97 times between April 2006 and the end of December (Fig.4). Sizteen analyses exceeded the control limits, with all but three exceeding the upper limit resulting in an overall high bias. There appear to by an almost rhythmic pattern of high and low analyses, with generally good analyses during the summer months of June, July and August, with periodic erratic, mostly high results outside of this time period.

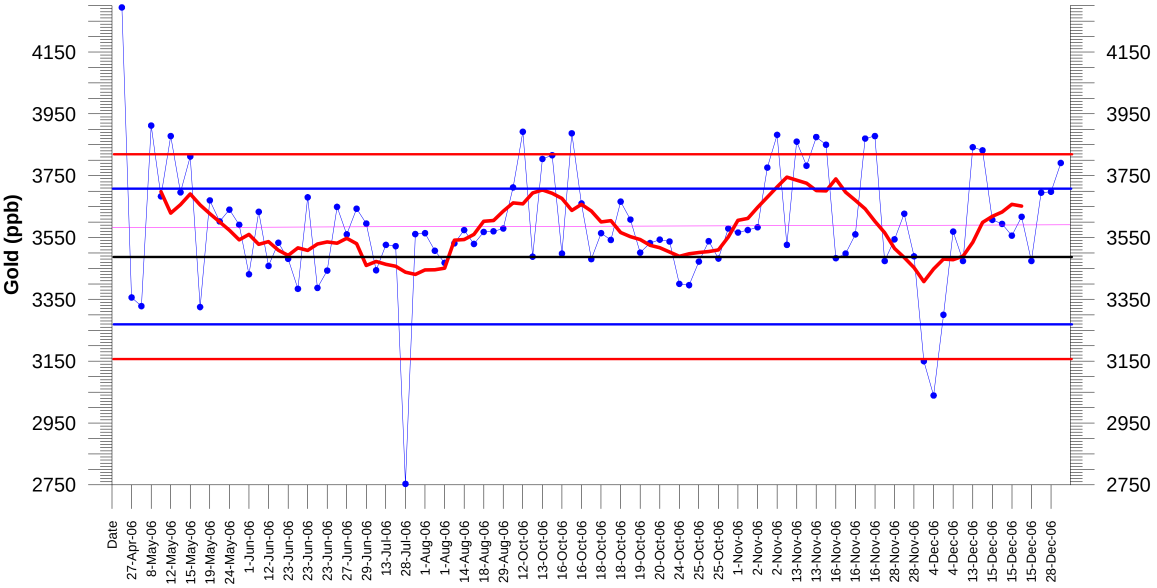

Figure 4 Shewhart chart - Standard OxK35

3.2.3 Rocklabs Standard OxH52

Low grade standard OxH52, with a recommended value of 1291 ppb (0.038 opt) gold was analysed 39 times between mid-November 2006 and mid-March 2007 (Fig. 5). There are 9 analyses exceeding the upper control limit and a further 6 analyses between the upper warning limit and upper control limit. There is only one analysis exceeding the lower warning limit and none exceeding the lower control limit, resulting in an overall high bias.

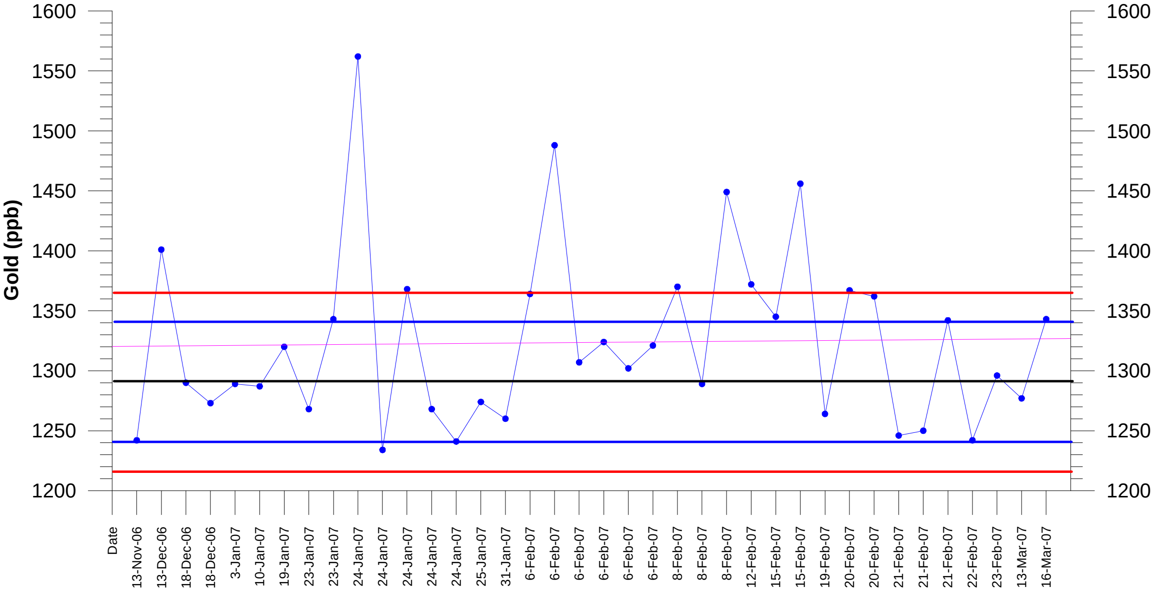

Figure 5 Shewhart chart - Standard OxH52

3.2.4 Rocklabs Standard OxH29

Standard OxH29, with a recommended value of 1298 ppb (0.038 opt) gold was analysed 110 times throughout the program (Fig. 6). There are 16 analyses exceeding the upper control limit and two exceeding the lower control limit. A further 7 analyses exceed the upper warning limit and seven exceed the lower warning limit. The overall pattern of analyses goes from a slightly low bias early in the program to a high bias at the end of the program, with several periods of more erratic higher values such as in mid-October, early November and mid-November.

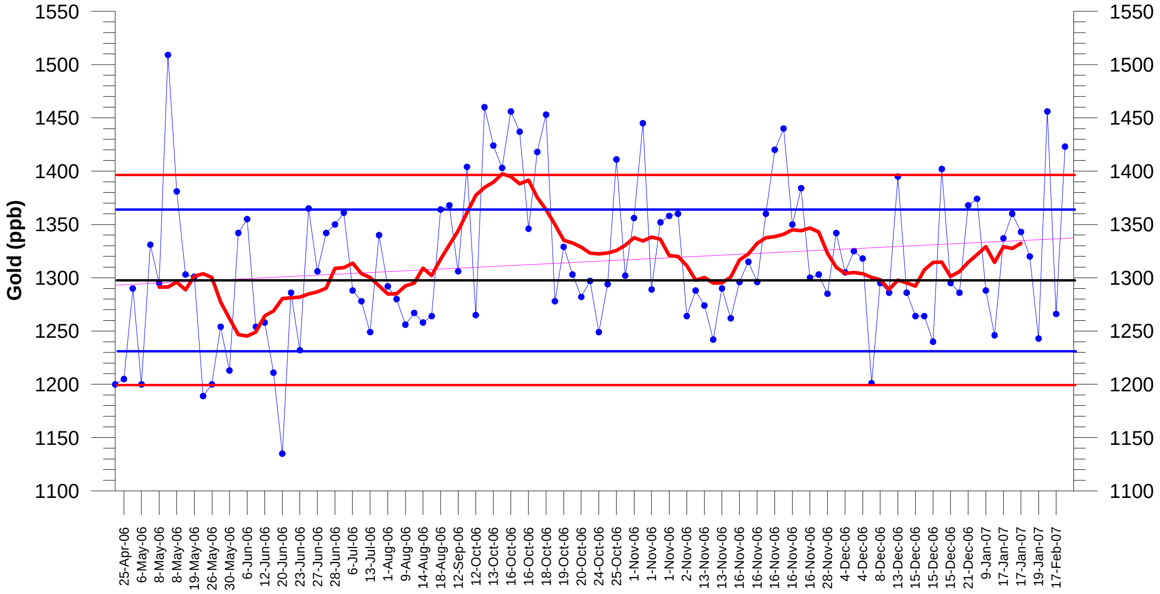

Figure 6 Shewhart Chart - Standards OxH29

3.3 Internal AAL Standards

Reviewing the assay results for internal standards employed by AAL, also from Rocklabs indicates that for all of Rocklabs standards for which we have statistical results from the round robin, there is no overall bias as shown in figure 7.

This plot does show that there have been some quality control issues at the lab with periods of significant high or low bias. As the lab would likely be using the standards in bulk, they may not have been sufficiently homogenized prior to use resulting in some segregation.

Another standard in use at AAL is OxA26, which has a value determined by a calculation of the amount of gold added, and does not have a round robin result (Fig 8.). This standard, with just a percent above and below the mean on the y-axes indicates an average high bias of 2-4%. This standard is a very low grade standard with an recommended value of 79.8 ppb.

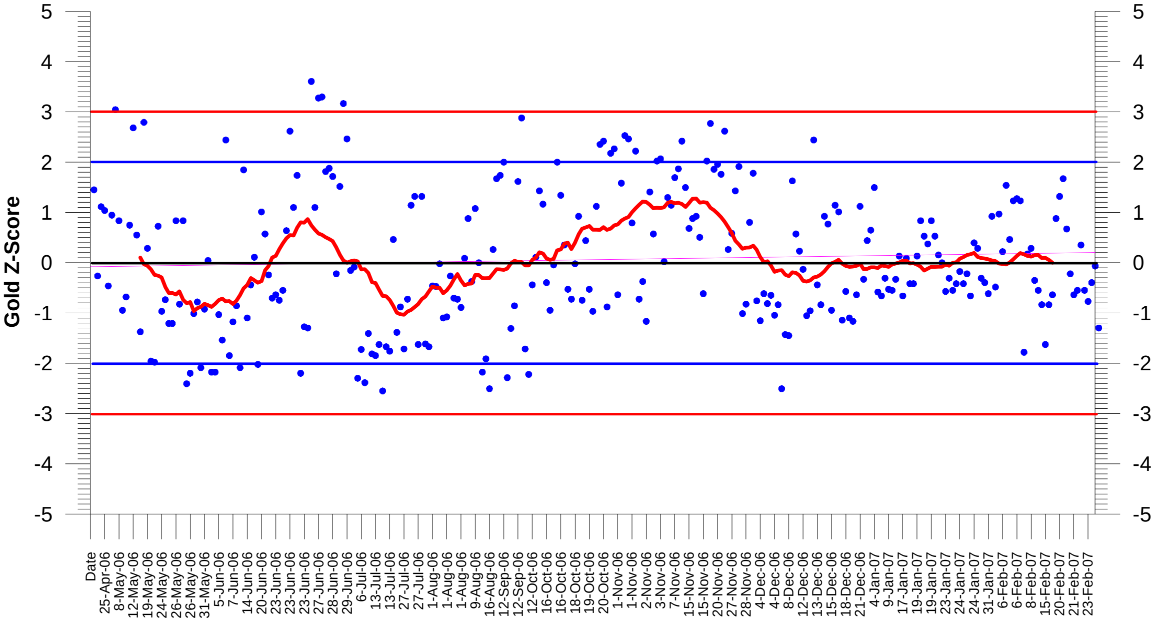

Figure 7 AAL internal Rocklabs standards Z-scores for standards with reported standard deviations

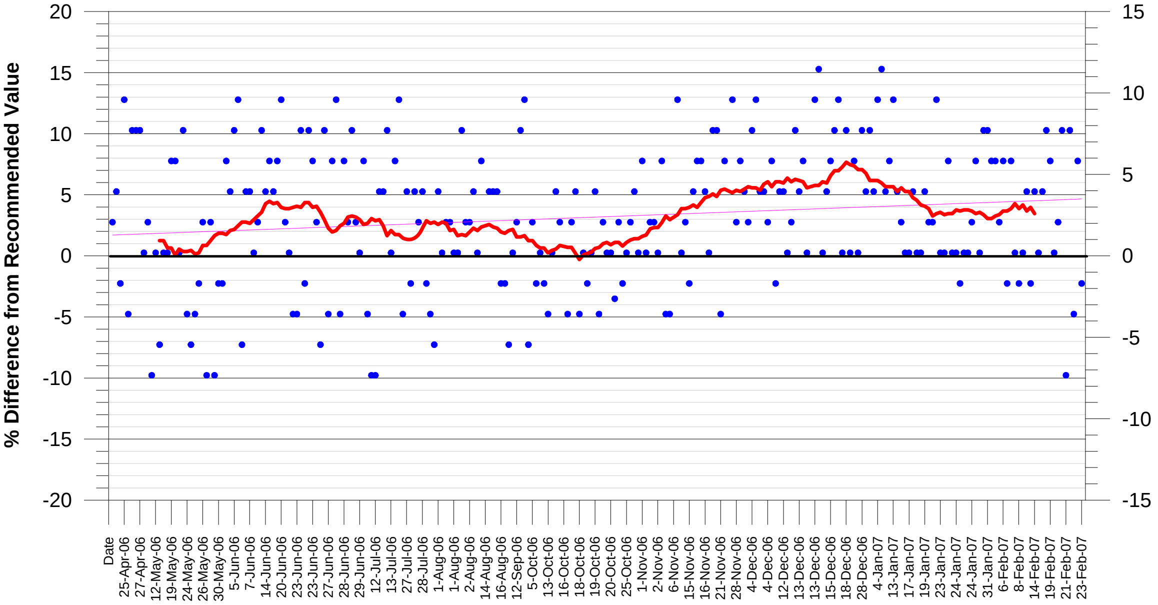

Figure 8 AAL internal Rocklabs standards Z-scores for standards with calculated recommended value

3.4 Comments on Standard Results

To provide acceptable analyses, it is generally required that batches that have a standard exceeding the control limits, or successive batches exceeding the ±2σ warning limits be re-analysed. This would require the re-analyses in excess of 1000 samples from the 2006 dataset to bring the database into the required level of accuracy. The number could be reduced by eliminating those samples batches that are in known background zones where the results will not impact resource estimation.

As often occurs when the standards are not of the same material as the routine project samples, the standard assays are not representative of the routine samples. The fire assayer often has to adjust the flux or other additives to get an acceptable fusion of the standard. Relatively poor results on the standards do not always mean that there are problems with the assays from the drill samples.

The results form these analyses are a bit puzzling, as Rocklabs standards are generally considered to be of high quality and are widely used both as external checks and by the labs as part of their internal QA/QC programs. It occasionally occurs that one lab will disagree with the consensus value as their analyses in a number of their labs worldwide consistently get a higher or lower vales, maintaining that they 'got it right' and most of the other labs did not. From an external QA/QC perspective, we can only go by the results of the recommended value and assume that that represents the value to be achieved.

A low bias in gold fire assays generally indicates a problem with the fusion process, where there is incomplete collection of the gold in the lead due to an incomplete fusion of the sample and flux mix. To get a high bias, you are actually indicating more gold than is supposed to be in the sample, so it could be due to errors during weighing the original sample into the crucible, errors in calibration of the dispensers during digestion and dilution or calibration problems with the AA unit during final determination.

Alternately there could be a problem with the standard itself, but a problem with all four of the Rocklabs standards would be highly unusual.

Rocklabs standards are generally well behaved material with simple matrix of feldspar with gold bearing minerals added to achieve the desired concentration. AAL use the same types of standards in their internal QA/QC so it is unclear why there are so many results exceeding the limits. The results are generally close enough to the acceptable range that we can likely rule out mixing of the sample identifier with the adjacent number, which would result in much larger differences.

4 Precision

4.1 Rig (Field) Duplicates

Duplicate samples were submitted as either a second split at the rig for RC samples or as half core for core samples. Following is from NWG's instructions to their geologists:

> *"Duplicate equivalent RC drill samples will be collected at the rig as follows: One split from each interval will be submitted to the primary lab for analysis. A duplicate split will also be submitted to the primary lab for analysis at a rate of one sample for every 30 samples (150 feet interval) starting at a drill depth of 100 feet. This will give approximately one rig-duplicate assay for each 50-sample lab batch. It is important that primary samples are always taken from the primary discharge tube, and that duplicate samples are taken from the secondary discharge tube."*
>
> *"For core samples, a duplicate assay will also be made at the same rate as above from the second half of core."*

The correlation between the original and duplicate samples is shown graphically as scatter plots for gold in Figure 9. Table1 summarizes the statistics of the duplicate pairs

Table 1 Descriptive statistics of rig duplicate samples

	All Data		Outliers Removed	
Statistic	**Original Au**	**Duplicate Au**	**Original Au**	**Duplicate Au**
No. of observations	376	376	374	374
No. of missing values	0	0	0	0
Minimum	0.000	0.000	0.000	0.000
Maximum	3.425	20.782	0.235	0.282
Freq. of minimum	2	3	2	3
Freq. of maximum	1	1	1	1
Range	3.425	20.782	0.235	0.282
1st Quartile	0.000	0.000	0.000	0.000
Median	0.001	0.001	0.001	0.001
3rd Quartile	0.006	0.006	0.006	0.006
Sum	7.286	24.418	3.383	3.487
Mean	0.019	0.065	0.009	0.009
Variance (n-1)	0.032	1.148	0.001	0.001
Standard deviation (n-1)	0.180	1.072	0.026	0.027
Variation coefficient	9.257	16.480	2.853	2.926
Skewness (Pearson)	18.261	19.293	5.439	5.844
Kurtosis (Pearson)	342.771	370.486	34.790	42.088
Standard error of the mean	0.009	0.055	0.001	0.001
Lower bound on mean (95%)	0.001	-0.044	0.006	0.007
Upper bound on mean (95%)	0.038	0.174	0.012	0.012

	All Data		Outliers Removed	
Statistic	**Original Au**	**Duplicate Au**	**Original Au**	**Duplicate Au**
Geometric mean	0.001	0.001	0.001	0.001
Geometric standard deviation	7.863	8.088	7.420	7.545
Pearson Correlation	AAL_Orig_FA	AAL_RigDup_FA	AAL_Orig_FA	AAL_RigDup_FA
AAL_Orig_FA	1	0.984	1	0.908
AAL_RigDup_FA	0.984	1	0.908	1
Spearman Correlation	AAL_Orig_FA	AAL_RigDup_FA	AAL_Orig_FA	AAL_RigDup_FA
AAL_Orig_FA	1	0.972	1	0.972
AAL_RigDup_FA	0.972	1	0.972	1

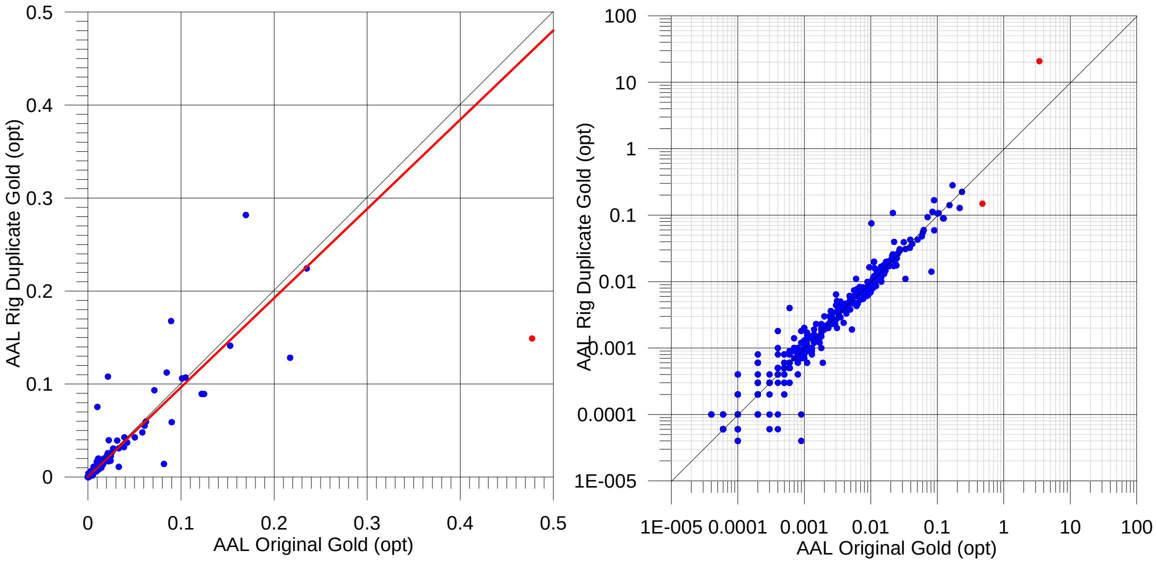

Figure 9 Scatter plot of rig duplicate gold analyses (outliers indicated in red)

Commonly used ‘Thompson-Howarth’ plots that display the precision at a particular concentration was not possible for this data set as the resulting regression produced an negative intercept. An alternate method is to plot the % absolute relative difference vs. the mean of the duplicate pairs (Fig 10). The absolute relative difference is calculated by dividing the absolute value of the difference between the duplicate pairs by the mean of the pairs and expressing the result as a percentage. The red moving average smoothed line gives an approximation of the precision at any concentration. The poor precision shown at lower concentration is normal as precision improves with concentration. At values above 0.002 opt; the precision is ~20% with an obvious effect of erratic values plotting above the main group of points. Above 0.02 opt where the number of samples in the concentration range decreases, the effect of the ‘nuggets’ increases and the precision is degraded.

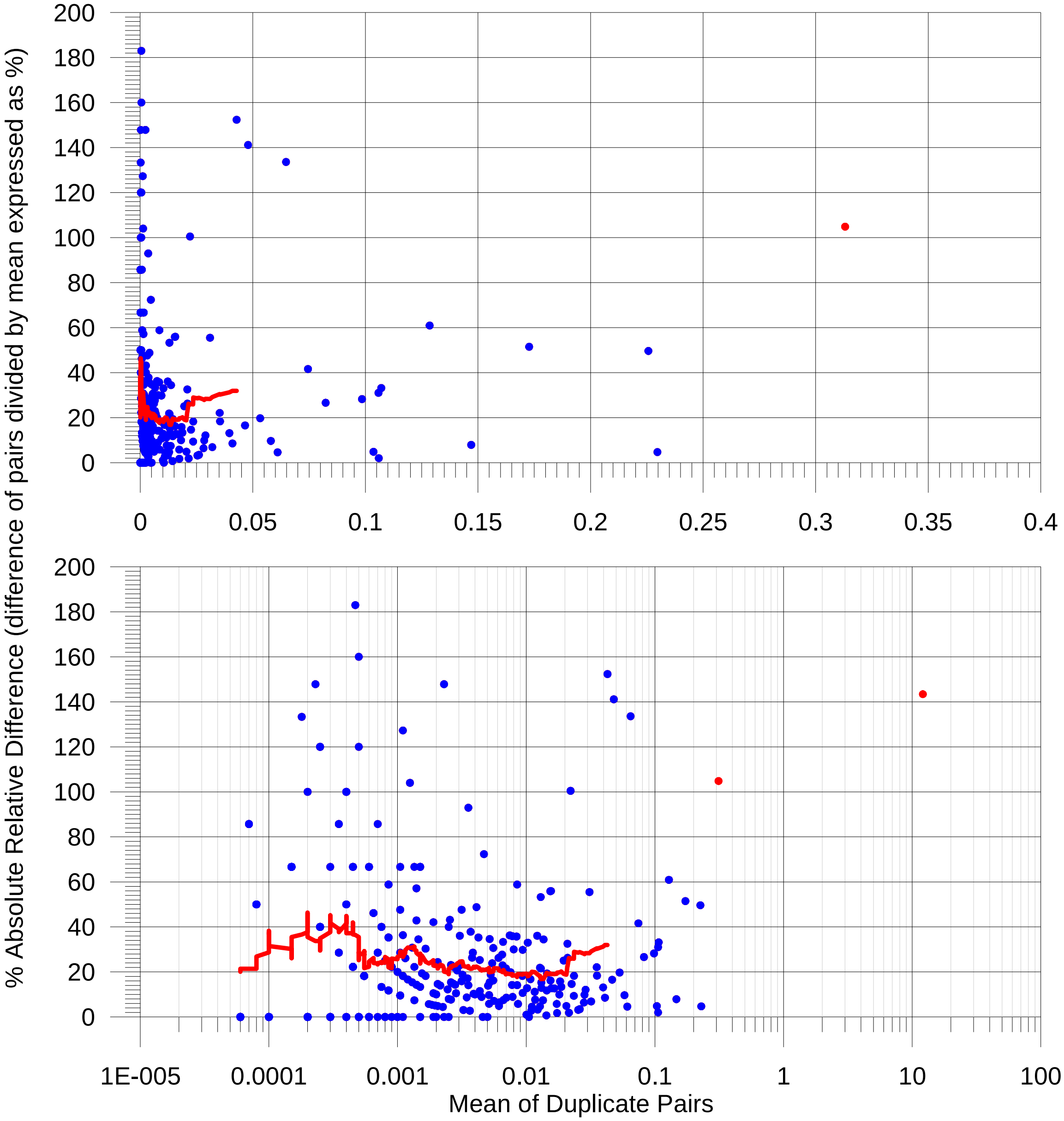

Figure 10 Rig duplicates: Percent absolute relative difference plot

4.2 Pulp Duplicates

Duplicates taken from the same pulp were analysed by AAL as part of their internal quality control. In the data as compiled from NWG spreadsheets there were 738 duplicate pairs (Fig. 11). A Thompson-Howarth plot was possible from this data and is presented in figure 12. The T-H approach is based on the observation that for material that has a wide range of values, the precision varies with the concentration. The process allows you to calculate a precision at any concentration as well as a 'practical' detection limit. The practical detection limit differs from the analytical detection limit in that it includes the

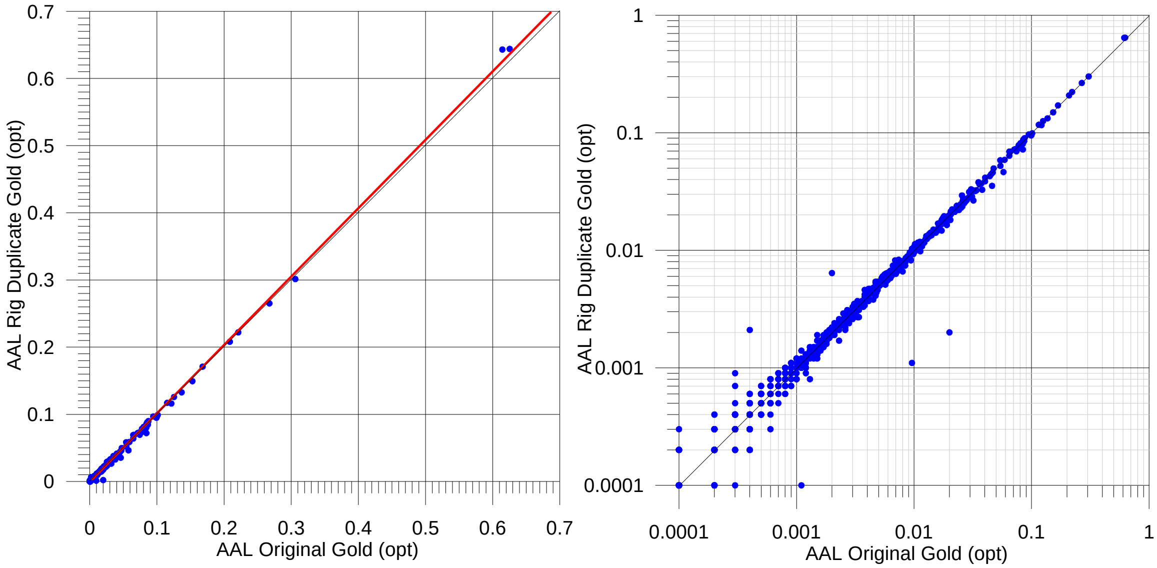

Figure 11 Scatter plot of pulp duplicate gold analyses

sampling error up to the point at which the sample duplicates are taken. The earlier in the sample reduction scheme that the samples are taken (field duplicate – preparation duplicate – pulp duplicate) a greater amount of geological variability is included in the value and it better represents the actual precision of the sampling. The calculation is based on the assumption that:

1. The data is not rounded off too severely. At least one significant figure containing uncertainty must be retained.
2. Sub-zero measurements when obtained must be recorded and used as such and not set to zero of other arbitrary value. The same applies to values falling below a presumed detection limit.

A Thompson-Howarth plot of the gold values from the routine pulp duplicates indicates a practical detection limit (vertical red line on plot where precision is 1 or 100%) of 0.000366 opt or 125 ppb, compared to a reported analytical detection limit of 3 ppb. The ‘asymptotic precision’ or the precision at values well above the detection limit is around 0.015 or 1.5% above ~0.3 opt.

Figure 13, an absolute relative difference vs. mean plot provides a direct comparison with the rig duplicate results.

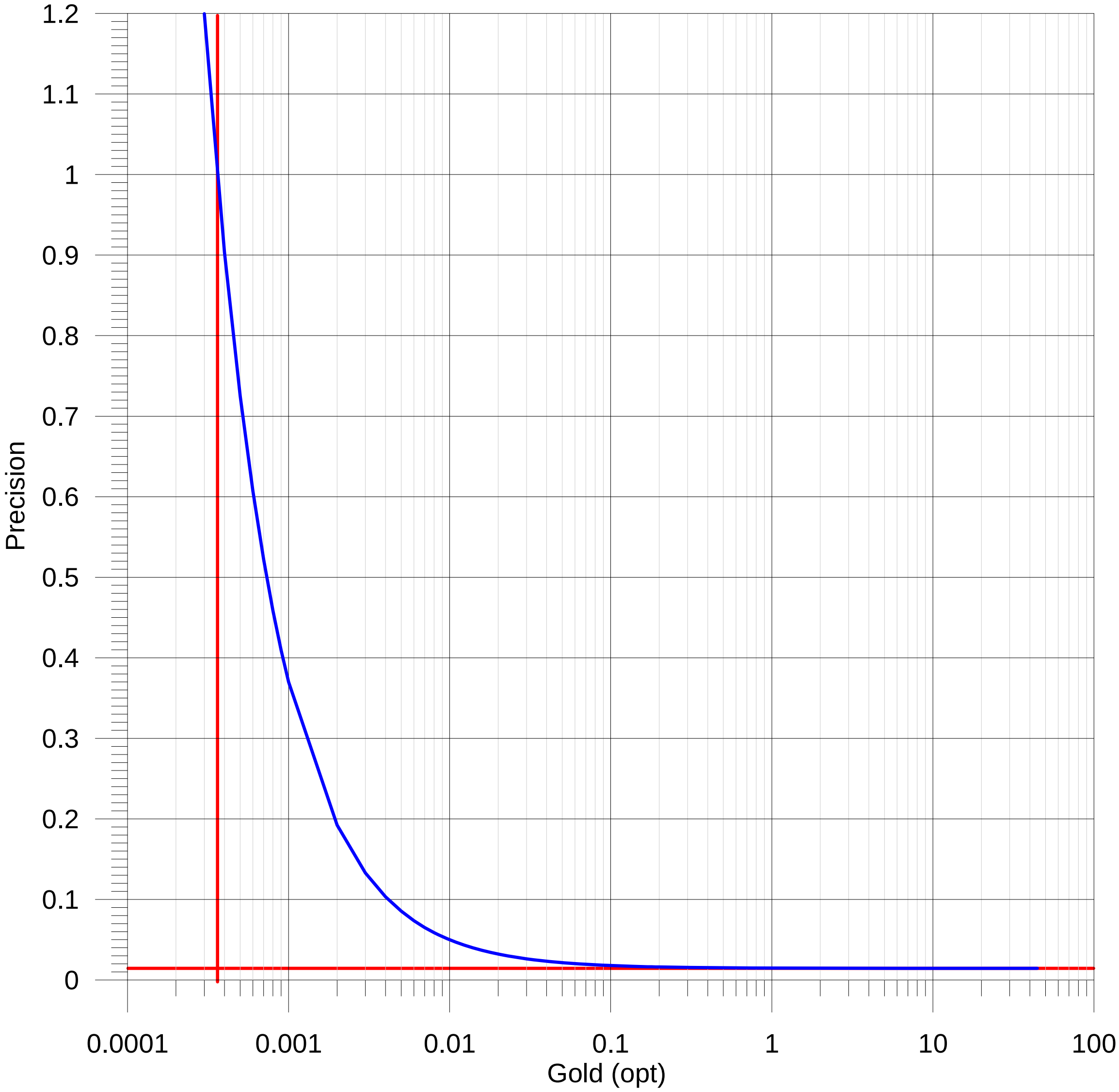

Figure 12 Lab pulp duplicates - Thompson-Howarth precision plot

4.3 Combined Precision

A method that allows for easy comparison of different sets of duplicates involves plotting the absolute relative difference vs. rank (Fig. 17) or percentile. A modification is the half absolute relative difference or 'HARD' vs. rank plot which is becoming more common with engineering firms. The two are essentially the same with the HARD plot having precision numbers half of the absolute relative difference so they can be read as a plus or minus. A general industry guideline is that 90% of the duplicates should have a precision of 30% or better for field duplicates, 20% for coarse reject (preparation) duplicates and 10% for pulp duplicates. If using the HARD specification, the numbers would be half - 15%, 10% and 5%.

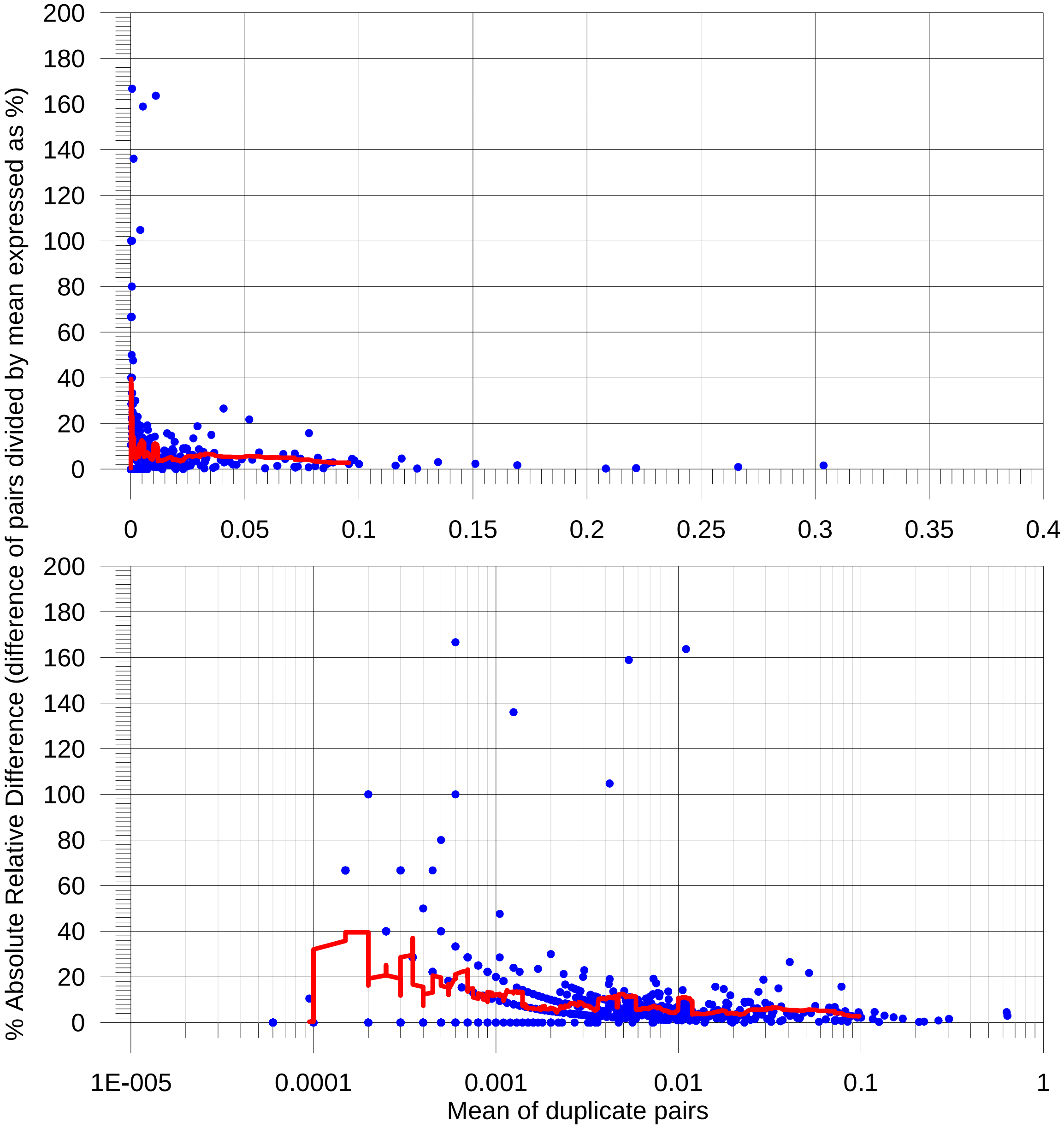

Figure 13 Rig duplicates: Percent absolute relative difference plot

The absolute relative difference plot indicates that 90% of the rig duplicates (blue) have a precision of better than ~67% and 70% of the duplicates have a precision of better than 30%. The pulp duplicates (red) have 90% better than ~29% and 68% better than 10% precision.

Precision is clearly affected by a significant nugget effect as indicated by the scatter of values and the presence of a number of clearly outlying higher values. Two additional lines in figure 14 show the rig duplicates separated by drilling method; core or reverse circulation. The core samples display a generally poorer overall precision, but it is influenced by a relatively small sample population of only 28 samples.

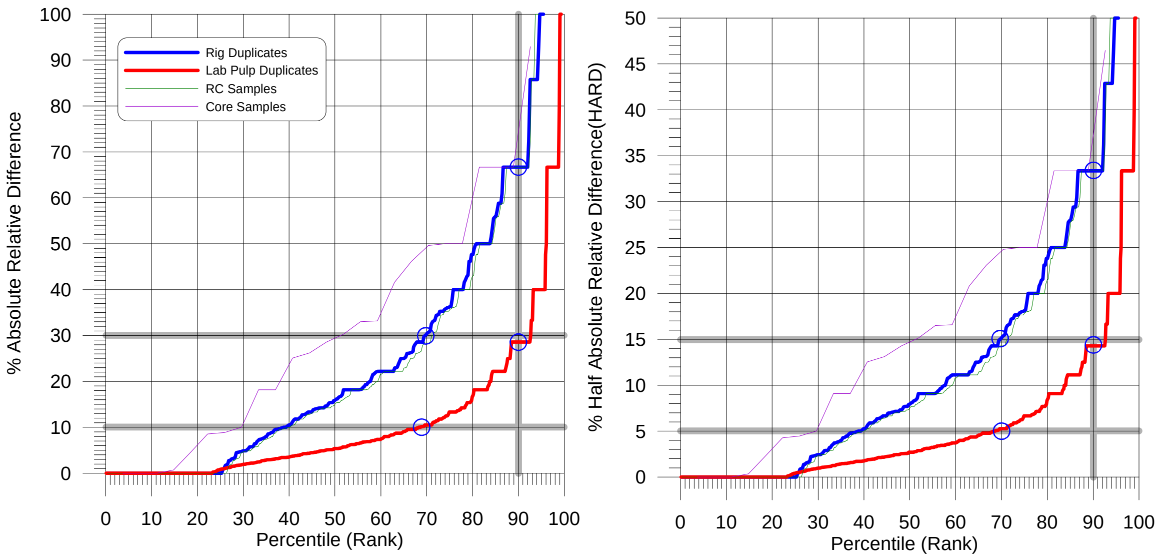

Figure 14 Combined precision – rig and pulp duplicates

5 Contamination

As a measure of contamination during the sample preparation stage, barren blank material was inserted routinely into the sample stream. The results of routine analyses are shown in figure 15 for gold. A limit is set at 5 times the analytical detection limit (5 X 3 ppb) or 15 ppb, with analyses higher than this level being considered failures. Only one gold analysis exceeded this level, but with a value of 22 ppb, this is not considered significant contamination.

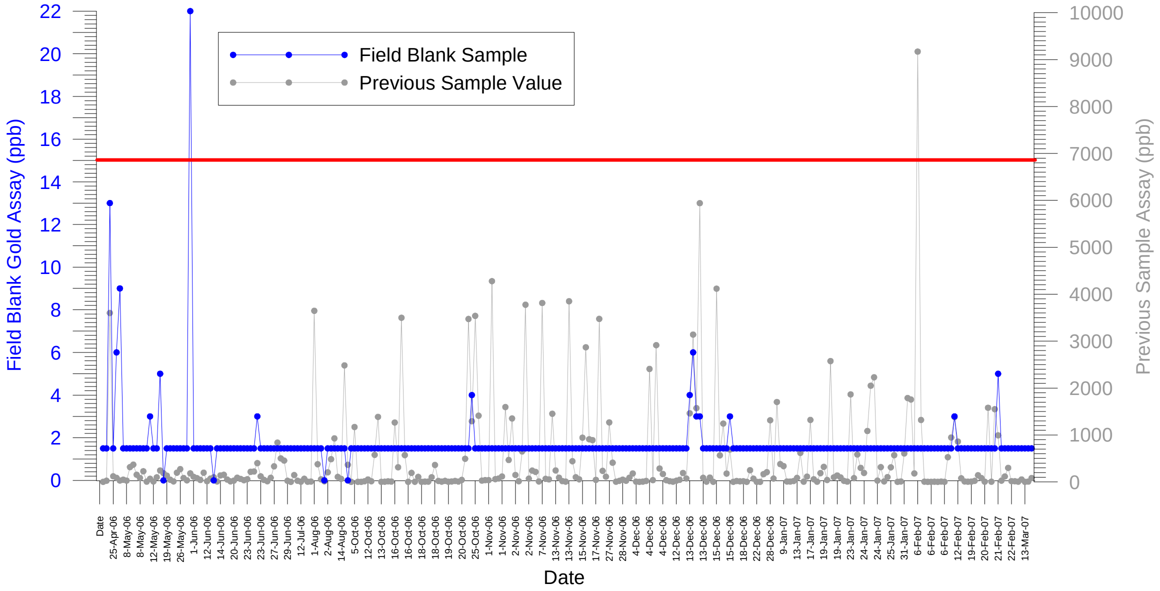

Figure 15 Field blank analyses

6 Corrective Action

A ‘failure table’ documenting all quality control samples exceeding limits can be found in Appendix I. Following the preliminary results of this assessment, discussions have been held between NWG and AAL, and batches exceeding the 3σ limits are being re-analysed.

7 External Check Assays

As an independent check of analytical bias, both pulps and rig duplicates were sent to ALS Chemex in Sparks, Nevada for check assays.

7.1 Pulp Duplicates

Pulp duplicates can provide a reliable check on relative analytical bias, as a well prepared pulp will eliminate much of the sampling error allowing a more direct comparison of the fusion and analytical processes. Data compiled from Excel files provided by NWG included 373 pulps

7.1.1 Analytical Methods

Both laboratories are using a comparable method with a 30 g fire assay followed by atomic absorption determination. The analytical methods are targeted at trace level gold mineralization, with fire assay followed by gravimetric determination of higher grade samples.

7.1.2 Comparison of Check Assays and Original Assays

A statistical comparison of the original ALS Chemex assays and the external check is shown in Table 2.

Table 2 Descriptive statistics – All ALS original and external gold check assays

	All Data			**Outliers Removed**		
Statistic	AAL_Orig_FA	2ALS_AALPulp Dup	% Difference	AAL_Orig_FA	2ALS_AALPulp Dup	% Difference
No. of observations	373	373		358	358	
No. of missing values	0	0		0	0	
Minimum	0.000	0.000		0.001	0.001	
Maximum	1.559	1.850		0.852	0.825	
Freq. of minimum	3	3		1	1	
Freq. of maximum	1	1		1	1	
Range	1.559	1.850		0.851	0.824	
1st Quartile	0.011	0.012	-10.000	0.012	0.012	-3.376
Median	0.024	0.026	-9.014	0.024	0.026	-6.211

	All Data			Outliers Removed		
Statistic	AAL_Orig_FA	2ALS_AALPulpDup	% Difference	AAL_Orig_FA	2ALS_AALPulpDup	% Difference
3rd Quartile	0.062	0.063	-0.453	0.060	0.062	-3.416
Sum	27.000	25.975		20.399	20.696	
Mean	0.072	0.070	3.799	0.057	0.058	-1.453
Variance (n-1)	0.029	0.027		0.009	0.009	
Standard deviation (n-1)	0.171	0.164		0.097	0.097	
Variation coefficient	2.361	2.355		1.703	1.679	
Skewness (Pearson)	5.659	6.879		4.226	4.115	
Kurtosis (Pearson)	37.194	58.959		23.031	20.917	
Standard error of the mean	0.009	0.009		0.005	0.005	
Lower bound on mean (95%)	0.055	0.053		0.047	0.048	
Upper bound on mean (95%)	0.090	0.086		0.067	0.068	
Geometric mean	0.026	0.027	-6.466	0.027	0.028	-3.235
Geometric standard deviation	4.193	3.815		3.283	3.265	
Pearson correlation coefficient	AAL_Orig_FA	2ALS_AALPulpDup		AAL_Orig_FA	2ALS_AALPulpDup	
AAL_Orig_FA	1	0.918		1	0.976	
2ALS_AALPulpDup	0.918	1		0.976	1	
Spearman correlation coefficient	AAL_Orig_FA	2ALS_AALPulpDup		AAL_Orig_FA	2ALS_AALPulpDup	
AAL_Orig_FA	1	0.946		1	0.968	
2ALS_AALPulpDup	0.946	1		0.968	1	

7.1.3 Outlier Removal

Both the original and duplicates sets were examined using Grubb's test to identify outliers. Both set had numerous outliers, but when run on logs of the data, which is more applicable to assay data, very few outliers existed. The combination of the two appears to result in significant outliers which can have a great effect on statistical analyses. Outlying pairs were identified on both the normally scaled and log-scaled scatter plots and removed from the data for the subsequent analyses and plotting.

It can be seen from table 2 that the median values are fairly close with and without the outliers removed, although the standard deviation and mean has been lowered in the version without the outliers. The difference in the % difference of the median values is due to rounding of the initial values in the table presentation.

7.1.4 All Data

The comparisons are shown graphically in figure 16. In the top scatter plots the linearly scaled plot provides detail at higher concentrations, and the log scaled plot emphasizes lower concentrations. The outliers that were removed are shown in red. The red line in the first plot is a linear regression fit based on all the data, and the blue line is with the outliers removed. It can be seen that with the outliers removed there is a very good fit between the datasets. The Q-Q plots which are comparing the quantiles of the two

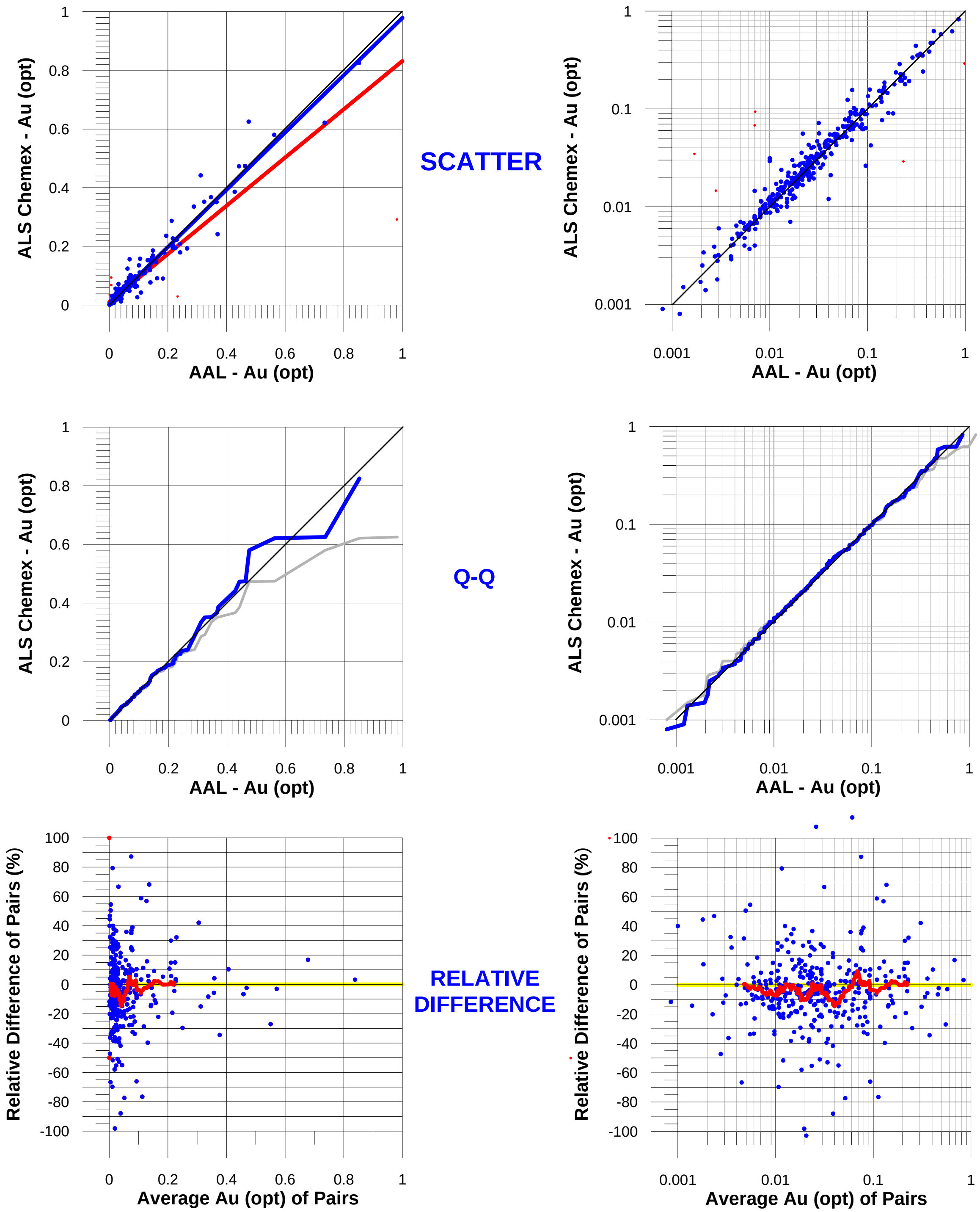

Figure 16 Comparison plots - All AAL and ALS external check pulp duplicates

analyses indicates a deviation from the 45° ideal line at higher concentration resulting from a few higher grade values above 0.4 opt. For the bulk of the data there appears not to be any significant bias. The grey line is the Q-Q plot with outliers included.

The relative difference plots at the bottom are comparing the % relative difference between the difference of the duplicate pairs and the mean of the pairs. Ideally the ploted points would be along the zero difference line. As the concentration increases, the precision improves (% absolute relative difference decreases). The resulting smoothed moving average is commonly erratic at lower concentrations, and becoming more uniform at higher concentrations. It can be seen however, that there is still considerable variation. There is an overall tendency for the AAL originals be biased lower at concentrations less than 0.1 opt, (negative %ARD), which is also reflected in the statistical summary.

A Student's t-test indicates that the "difference between the means is not significantly different from 0" for both the complete data set and the set with outliers removed.

It can generally be concluded that the comparison of the complete data set indicates that there is no significant relative bias between the AAL primary assays and the ALS external pulp duplicates

7.1.5 2006 Data

Table 3 presents a subset of the data with just the external pulp duplicate samples sent to ALS from the 2006 drilling. As this data constitutes the bulk of the ALS pulp duplicates (294 of 373), there is very little difference between this set and complete set. The mean and median values are slightly higher overall with the AAL mean slightly higher at 0.079 opt than the ALS mean of 0.076. After removing the outliers, ALS is slightly higher. A Student's t-test of the all of the 2006 data indicates that the difference between the means is not significantly different from zero, but the version with outliers removed is significantly different from zero.

Table 3 Descriptive statistics - 2006 ALS original and external gold check assays

	All 2006 Data			Outliers Removed		
Statistic	AAL_Orig_FA	2ALS_AALPulpDup	% Difference	AAL_Orig_FA	2ALS_AALPulpDup	% Difference
No. of observations	294	294		284	284	
No. of missing values	0	0		0	0	
Minimum	0.000	0.001		0.002	0.002	
Maximum	1.559	1.850		0.852	0.825	
Freq. of minimum	1	1		1	1	
Freq. of maximum	1	1		1	1	
Range	1.559	1.849		0.850	0.823	
1st Quartile	0.012	0.013	-7.397	0.013	0.013	-1.887
Median	0.025	0.028	-11.289	0.025	0.027	-8.200
3rd Quartile	0.067	0.067	-0.092	0.065	0.065	-0.886

	All 2006 Data			Outliers Removed		
Statistic	AAL_Orig_FA	2ALS_AALPulpDup	% Difference	AAL_Orig_FA	2ALS_AALPulpDup	% Difference
Sum	23.100	22.480		16.503	17.225	
Mean	0.079	0.076	2.683	0.058	0.061	-4.377
Variance (n-1)	0.034	0.032		0.009	0.010	
Standard deviation (n-1)	0.185	0.179		0.095	0.099	
Variation coefficient	2.351	2.337		1.637	1.634	
Skewness (Pearson)	5.413	6.523		4.132	4.034	
Kurtosis (Pearson)	33.048	51.447		22.607	20.296	
Standard error of the mean	0.011	0.010		0.006	0.006	
Lower bound on mean (95%)	0.057	0.056		0.047	0.049	
Upper bound on mean (95%)	0.100	0.097		0.069	0.072	
Geometric mean	0.029	0.031	-6.536	0.028	0.030	-4.635
Geometric standard deviation	3.673	3.402		3.138	3.146	
Pearson correlation coefficien	AAL_Orig_FA	2ALS_AALPulpDup			AAL_Orig_FA	2ALS_AALPulpDup
AAL_Orig_FA	1	0.913		1	0.981	
2ALS_AALPulpDup	0.913	1		0.981	1	
Spearman correlation coefficient	AAL_Orig_FA	2ALS_AALPulpDup		AAL_Orig_FA	2ALS_AALPulpDup	
AAL_Orig_FA	1	0.939		1	0.966	
2ALS_AALPulpDup	0.939	1		0.966	1	

The comparison plots of the 2006 data are displayed in figure 17. The scatter plot again shows the good correlation. The regression line of the total 2006 set is affected by the outliers, although the t-test indicates that the comparison is better with this set than with the outliers removed. The Q-Q plots also the good correlation up to ~0.5 opt, above which the results become more erratic. The grey line is the Q-Q plot with outliers included.

The % relative difference plots at the bottom show a slight low bias on the part of the AAL assays, consistent with the descriptive statistics.

7.1.6 Pre-2006 Data

The data set from pre-2006 drilling is relatively small with only 79 samples and may not be too representative (Table 4). Mean gold value of the original AAL assays for both the full set and the outliers removed set are higher than the ALS duplicates by about 10%. Median gold value is around 10% lower in the full set and 3.3% higher without outliers.

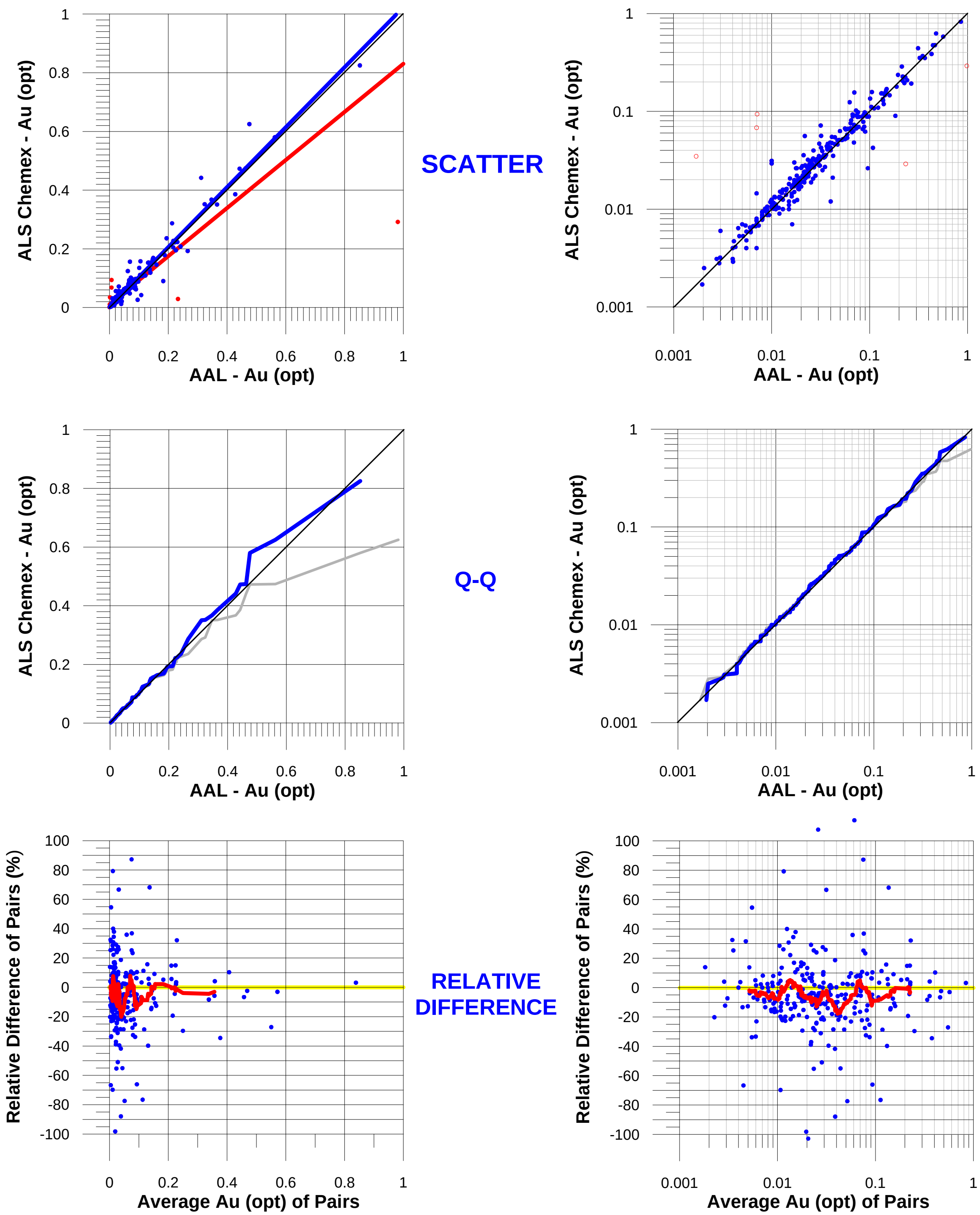

Figure 17 Comparison plots - 2006 AAL and ALS external check pulp duplicates

Table 4 Descriptive statistics – Pre-2006 ALS original and external gold check assays

	All Pre-2006 Duplicates			Outliers removed		
Statistic	AAL_Orig_FA	2ALS_AALPulp Dup	% Difference	AAL_Orig_FA	2ALS_AALPulp Dup	% Difference
No. of observations	79	79		74	74	
No. of missing values	0	0		0	0	
Minimum	0.000	0.000		0.001	0.001	
Maximum	0.735	0.621		0.735	0.621	
Freq. of minimum	2	3		1	1	
Freq. of maximum	1	1		1	1	
Range	0.735	0.621		0.734	0.621	
1st Quartile	0.009	0.011	-28.655	0.011	0.012	-6.729
Median	0.017	0.019	-10.345	0.021	0.020	3.398
3rd Quartile	0.040	0.042	-4.642	0.045	0.043	5.507
Sum	3.900	3.494		3.897	3.471	
Mean	0.049	0.044	10.408	0.053	0.047	10.930
Variance (n-1)	0.010	0.007		0.011	0.008	
Standard deviation (n-1)	0.102	0.086		0.105	0.089	
Variation coefficient	2.053	1.939		1.973	1.875	
Skewness (Pearson)	4.631	4.646		4.501	4.512	
Kurtosis (Pearson)	25.469	25.305		23.940	23.753	
Standard error of the mean	0.011	0.010		0.012	0.010	
Lower bound on mean (95%)	0.027	0.025		0.028	0.026	
Upper bound on mean (95%)	0.072	0.064		0.077	0.067	
Geometric mean	0.016	0.017	-6.206	0.021	0.021	1.969
Geometric standard deviation	5.852	5.005		3.775	3.605	
Harmonic mean	0.001	0.002		0.009	0.009	
Pearson correlation coefficient	AAL_Orig_FA	2ALS_AALPulpDup		AAL_Orig_FA	2ALS_AALPulpDup	
AAL_Orig_FA	1.000	0.979		1.000	0.978	
2ALS_AALPulpDup	0.979	1.000		0.978	1.000	
Spearman correlation coefficient	AAL_Orig_FA	2ALS_AALPulpDup		AAL_Orig_FA	2ALS_AALPulpDup	
AAL_Orig_FA	1.000	0.970		1.000	0.974	
2ALS_AALPulpDup	0.970	1.000		0.974	1.000	

Comparison plots are shown in figure 18. Results in all plots indicate a considerable scatter, likely due in part to the small sample population. To make a more definitive assessment a greater number of samples would be required.

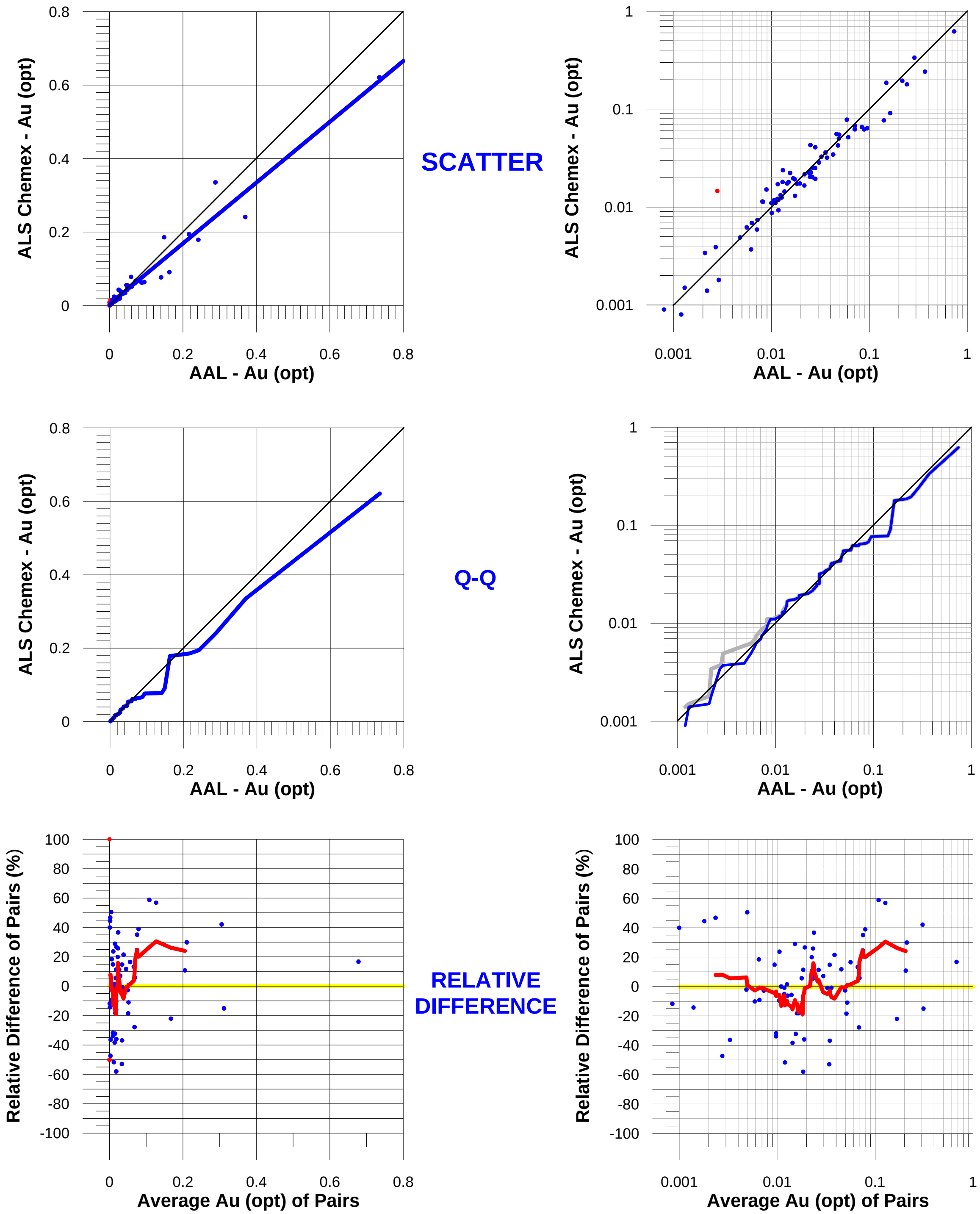

Figure 18 Comparison plots – Pre-2006 AAL and ALS external check pulp duplicates

7.2 Quality Control

Four Rocklabs standards were submitted along with the pulp duplicates submitted to ALS. Analytical results are listed in table 5.

Table 5 NWG standards assayed by ALS as part of the external pulp duplicate program.

Sample	Standard	Value (opt)	Value (ppb)	Rec. Value	SD	Z-Score
SM-1	OxH52	0.040	1358	1291	25	2.67
SM-2	OxHK48	0.104	3566	3557	42	0.21
SM-3	OxH52	0.038	1306	1291	25	0.61
SM-4	OxHK48	0.106	3617	3557	42	1.43

All values are within the ‘control limits’ with one sample between the upper warning and control limits. What is significant is that all of the samples are biased high relative to the recommended values.

7.3 Rig Duplicates

A series of rig duplicates split at the drill were also submitted to ALS Chemex for external check assays. They provide an independent confirmation of the overall grade. As they include the maximum amount of geological variability and sampling error, they are not as good an indicator of sampling bias as pulp duplicates. Descriptive statistics of the external rig duplicates are summarized in table 6.

Table 6 Descriptive statistics - external rig duplicate check assays

Statistic	AAL_Orig_FA	2ALS_RigDup_FA	% Difference
No. of observations	137	137	
No. of missing values	0	0	
Minimum	0.001	0.000	
Maximum	0.910	1.007	
Freq. of minimum	19	2	
Freq. of maximum	1	1	
Range	0.910	1.007	
1st Quartile	0.003	0.003	0.000
Median	0.010	0.010	0.000
3rd Quartile	0.034	0.030	12.499
Sum	6.209	5.355	
Mean	0.045	0.039	13.744
Variance (n-1)	0.014	0.011	
Standard deviation (n-1)	0.117	0.105	
Variation coefficient	2.568	2.677	
Skewness (Pearson)	5.289	6.493	
Skewness (Bowley)	0.548	0.477	

Kurtosis (Pearson)	31.189	52.460	
Lower bound on mean (95%)	0.026	0.021	
Upper bound on mean (95%)	0.065	0.057	
Geometric mean	0.010	0.008	13.291
Geometric standard deviation	6.325	6.336	
Pearson correlation coefficient	AAL_Orig_FA	2ALS_RigDup_FA	
AAL_Orig_FA	1	0.930	
2ALS_RigDup_FA	0.930	1	
Spearman correlation coefficient	AAL_Orig_FA	2ALS_RigDup_FA	
AAL_Orig_FA	1	0.933	
2ALS_RigDup_FA	0.933	1	

What is apparent is that the mean and 3rd quartile original AAL gold values are higher than the ALS duplicates. Interestingly a Student's t-test on both the normal and log transformed version indicate that the 'difference between the means is not significantly different from 0'. The apparent bias, at least at higher grades is apparent in the comparison plots in figure 19.

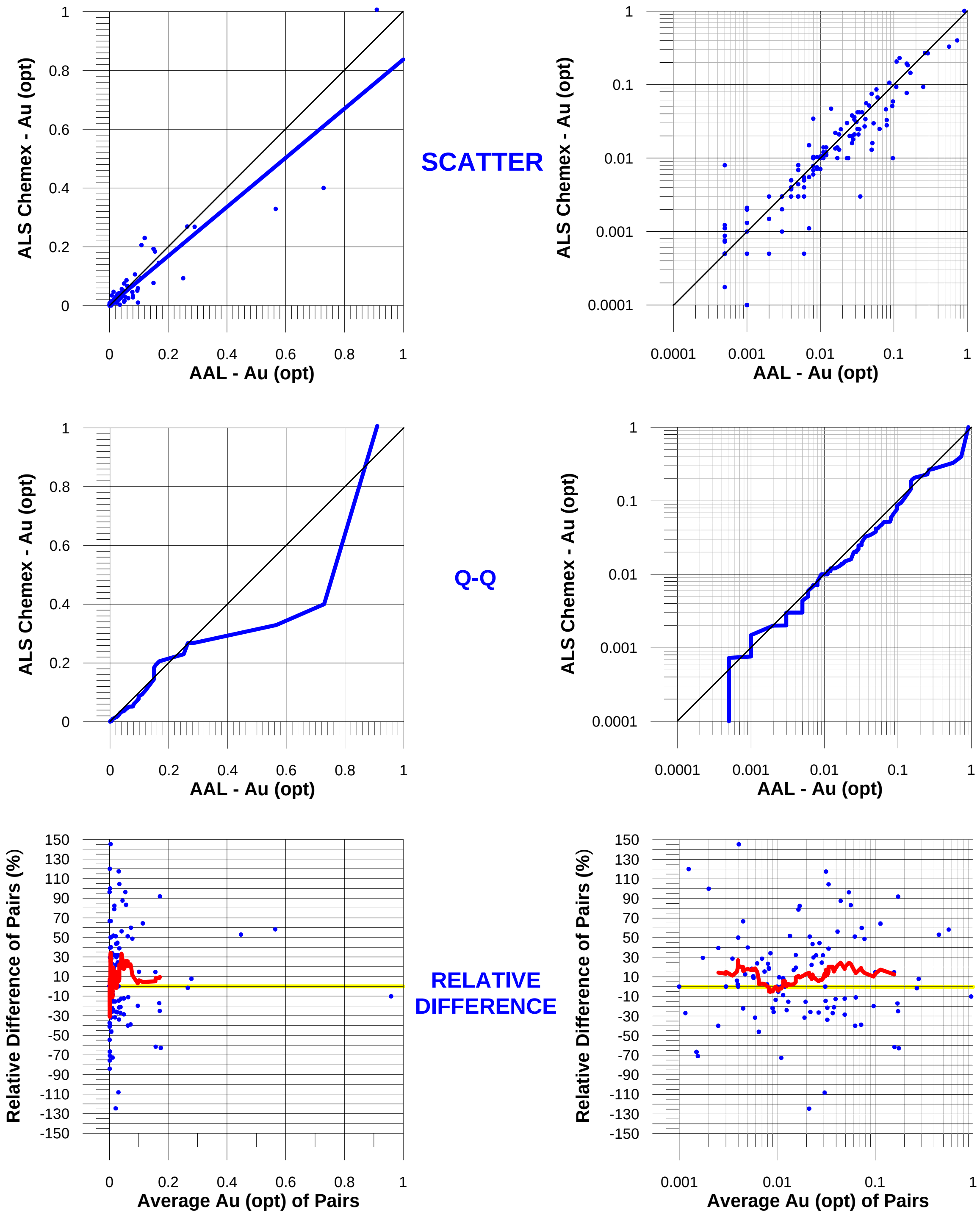

Figure 19 Comparison plots – All AAL and ALS external check rig duplicates

8 Conclusions

8.1 Accuracy

- Routine insertion of certified reference material (standards) indicates there are significant issues with the results of the gold assays compiled by NWG. As a further check, the standards were recompiled from the original assay certificates to assure that there was not an error in the original compilation. There are 18% of the analyses of the standards outside the 3σ control limits for the relevant standard and 13% of the analyses are outside of the control limits of any of the standards. Even if the standards have been somehow mixed up, there would be at least 13% failures. If you use a 2σ limit, you would expect 5% failures as a normal distribution would have this many failures. Using 3σ we would only expect 0.3% failures as 99.7% of a normal population should be outside ±3σ. A bias can account for part of this , but a recalculation of Z-score using the original standard deviation and using the AAL average for each standard only reduced the number of analyses exceeding ±3σ to 15% from 18%.

- The cause of the relative large number of failures is currently being investigated by NWG and AAL.

8.2 Precision

- Precision overall is not great due to the obvious nugget effect with numerous extreme values. Comparing precision results with ‘industry standards’ is not always realistic as extreme nugget effects are very difficult or impossible to eliminate. It is apparent from the results examined to date that the RC samples have better precision than core, and the pulp precision is reasonably good given coarse gold issues. The lab generally uses a coarser pulverization than many labs. They crush to 65% passing 10 mesh and pulverize 300-500 g to 75% passing 150 mesh. The ALS Chemex standard procedure is to crush to 70% passing -2 mm (10 mesh) and 85% passing -75µm (200 mesh). AAL personnel indicate that their coarser crushing is designed to minimize the amount of time a sample spends in the crusher or pulverizer and consequently reducing the amount of ‘smearing’ of coarse gold.

- Precision could be increased by increasing the size of the original sample from the rig – a larger sample will provide better precision, although there may be higher sample preparation costs.

- Increasing the size of the pulp to 1 or 1.5 kg will increase the precision of the final analytical split.

- An increased use of screen fire assays (metallics) will provide a better indication of the effect of coarse gold. Generally the complete mineralized zones should be analysed by this technique and not just those above a certain initial assay value.

8.3 Contamination

- An assessment of field blanks inserted into the sample stream indicated that the samples were generally free from significant contamination.

8.4 External Checks Assays

- External pulp duplicate check assays preformed at ALS Chemex generally compared favorably with the original AAL assays. ALS analyses of Rocklabs standards inserted by NWG were all biased high.

- Rig duplicates assayed by ALS had a lower mean than AAL, but essentially identical medians. The higher 3rd quartile value from AAL indicates that the higher grade 'nuggety' samples are affecting the overall comparison.

- Overall there is no significant relative bias between the AAL primary analyses and independent check assays by ALS Chemex.

9 Recommendations

1. The number of standards should be increased to cover a wider range. At least three standards are recommended; a low grade (near cutoff), a medium grade and a high grade. It is usually best to have standards prepared with material from the project, so there is good matrix matching, but the nuggety nature of the material may make achieving the required homogeneity difficult. An alternate would be some of the certified gold standards from **CDN** Resource Laboratory Ltd. that are prepared from an epithermal deposit that may have a matrix closer to Sandman material than the 'artificial' Rocklabs standards. A variety of types of standards should be used such as a mix of Rocklabs, **Geostats** and CDN standards. If at all possible, the grade of the standard inserted should match the expected grade of the surrounding rocks. If the standards is of a sufficiently high grade that a gravimetric determination is required and it is in a batch of lower grade samples, the final grade will not be representative of the rest of the batch as it will be analysed in a separate batch made up of just samples being done by gravimetric fire assay.

2. Routine charting of standards should be done as each batch is received. It is much easier to solve analytical issues immediately after they occur rather than taking remedial action after the fact.

3. The whole sampling scheme should be reviewed to develop an optimal procedure. A lab's 'standard' procedure is usually not adequate – a customized procedure will be required as each 'coarse gold' problem is unique. Consideration should be given to homogeneity testing and consulting a sampling expert such as Francis Pitard (**www.fpscsampling.com**).

4. The number of QA/QC samples should be increased to achieve a rate of at least one standard, one duplicate and one blank in each group of 20 samples submitted. Standards should be at least 100 g to allow for duplicate and check assays.

5. As well as the routine rig duplicates and the pulp duplicates done by the lab, 'preparation duplicates' taken after the crushing phase should be done routinely. There should be duplicates representing each stage of sample size reduction, so the complete sampling system can be monitored.

6. A larger percentage of pulp duplicates should be sent to the external check lab to increase the overall confidence level of the analyses. Consideration should be given to sending some spits to a third lab. At least 1 in 20 of the samples submitted for external checks should be standards.

7. The current sample identification system of using drill hole identifier and the 'from – to' interval or just the 'to' interval should be replaced with a system using unique sample numbers, usually generated from a book of unique sample tags. The current system compromises quality control procedures, data security and database integrity.

Certificate of Qualified Person

I, Gary Norman Lustig hereby certify that:

1. I reside at 1637 Springhaven Place, Kamloops, BC, Canada V2E 1C7;

2. I am a geologist employed by G. N. Lustig Consulting Ltd. with offices at 1637 Springhaven Place, Kamloops, BC, Canada V2E 1C7;

3. I have a Bachelor of Science (Advanced) Degree in Geology from the University of Saskatchewan, Saskatoon, Saskatchewan, Canada and a Master of Science Degree from the University of Manitoba, Winnipeg, Manitoba, Canada;

4. I have practiced my profession continuously since 1973, with the exception of 2 years in which I was in full-time graduate studies. I have worked on a variety of mining and exploration projects in Canada, United States, Mexico, Spain, Australia, Papua New Guinea, Indonesia, South Africa and Chile.

5. I am registered with the following statutory professional organizations:
    - Professional Geoscientist with The Association of Professional Engineers and Geoscientists of the Province of British Columbia as Member - Reg. No. 20462
    - Professional Geologist with The Association of Professional Engineers, Geologists and Geoscientists of the Northwest Territories as Licensee - Reg. No. L908
    - Professional Engineer with The Association of Professional Engineers and Geoscientists of Saskatchewan as Member - Cert. No. 4392

6. I am a member of the following professional societies:
    - Geological Association of Canada
    - Canadian Institute of Mining and Metallurgy
    - Society of Economic Geologists

7. 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. This report concerns only the quality control requirements of NI 43-101 and does not follow the guidelines for a complete property technical report.

8. I have not visited the Sandman Property

9. I am independent of NewWest Gold Corporation. applying all of the tests of Section 1.5 of National Instrument 43-101.

Dated on May 2, 2007

____

Gary Lustig, M.Sc., P.Geo.

Appendix I

Failure Table

Failure Table

NewWest Gold Corporation

Sandman Project **April 27, 2007**

Area	Lab	Date	Sample	Gold (ppb)	Standard	Failure Type	Z-Score
Silica Ridge	AAL	24-May-06	SR06-112 210S	1189	OxH29	Exceeding LCL	-3.30
Silica Ridge	AAL	20-Jun-06	SR06-92 90S	1135	OxH29	Exceeding LCL	-4.94
Silica Ridge	AAL	2-Nov-06	SR06-133 55S	3882	OxK35	Exceeding UCL	3.54
Silica Ridge	AAL	16-Nov-06	SR06-138 55S	3870	OxK35	Exceeding UCL	3.43
Silica Ridge	AAL	16-Nov-06	SR06-139 55S	1420	OxH29	Exceeding UCL	3.70
Silica Ridge	AAL	16-Nov-06	SR06-140 55S	1440	OxH29	Exceeding UCL	4.30
Silica Ridge	AAL	16-Nov-06	SR06-145 55S	3878	OxK35	Exceeding UCL	3.50
Silica Ridge	AAL	4-Jan-07	SR05-149 100S	3960	OxK48	Exceeding UCL	9.60
SE Pediment	AAL	25-Apr-06	SEP06-93 490S	4294	OxK35	Exceeding UCL	7.25
SE Pediment	AAL	5-Oct-06	SEP06-96C 505S	1404	OxH29	Exceeding UCL	3.21
SE Pediment	AAL	18-Oct-06	SEP06-98C 400S	1418	OxH29	Exceeding UCL	3.64
SE Pediment	AAL	18-Oct-06	SEP06-98C 550S	1453	OxH29	Exceeding UCL	4.70
SE Pediment	AAL	25-Oct-06	SEP06-99C 550S	1411	OxH29	Exceeding UCL	3.42
SE Pediment	AAL	1-Nov-06	SEP06-101C 89S	1445	OxH29	Exceeding UCL	4.45
SE Pediment	AAL	13-Nov-06	SEP06-107 405S	3860	OxK35	Exceeding UCL	3.34
SE Pediment	AAL	13-Nov-06	SEP06-109 255S	3875	OxK35	Exceeding UCL	3.48
SE Pediment	AAL	13-Nov-06	SEP06-109 555S	3850	OxK35	Exceeding UCL	3.25
SE Pediment	AAL	13-Dec-06	SEP06-112 105S	3842	OxK35	Exceeding UCL	3.18
SE Pediment	AAL	13-Dec-06	SEP06-112 255S	3832	OxK35	Exceeding UCL	3.09
SE Pediment	AAL	13-Dec-06	SEP06-114 100S	1401	OxH52	Exceeding UCL	4.40
SE Pediment	AAL	13-Dec-06	SEP06-114 400S	3724	OxK48	Exceeding UCL	3.98
SE Pediment	AAL	15-Dec-06	SEP06-111 405S	1402	OxH29	Exceeding UCL	3.15
SE Pediment	AAL	18-Dec-06	SEP06-115 400S	3780	OxK48	Exceeding UCL	5.31
North Hill	AAL	8-May-06	NH06-54 265S	3912	OxK35	Exceeding UCL	3.81
North Hill	AAL	8-May-06	NH06-55 65S	1509	OxH29	Exceeding UCL	6.39
North Hill	AAL	12-May-06	NH06-61 280S	3878	OxK35	Exceeding UCL	3.50
North Hill	AAL	28-Jul-06	NH06-75 290S	2753	OxK35	Exceeding LCL	-6.63
North Hill	AAL	17-Jan-07	NH06-93 250S	3409	OxK48	Exceeding LCL	-3.52
North Hill	AAL	23-Jan-07	NH06-102 100S	3824	OxK48	Exceeding UCL	6.36
North Hill	AAL	24-Jan-07	NH06-103 100S	1368	OxH52	Exceeding UCL	3.08
North Hill	AAL	24-Jan-07	NH06-92 250S	1456	OxH29	Exceeding UCL	4.79
North Hill	AAL	17-Feb-07	NH06-87 400S	1423	OxH29	Exceeding UCL	3.79
Abel Knoll	AAL	12-Oct-06	AK06-3 105S	3892	OxK35	Exceeding UCL	3.63
Abel Knoll	AAL	13-Oct-06	AK06-7 105S	1460	OxH29	Exceeding UCL	4.91
Abel Knoll	AAL	13-Oct-06	AK06-7 555S	1424	OxH29	Exceeding UCL	3.82
Abel Knoll	AAL	16-Oct-06	AK06-4 105S	1403	OxH29	Exceeding UCL	3.18
Abel Knoll	AAL	16-Oct-06	AK06-4 255S	1456	OxH29	Exceeding UCL	4.79
Abel Knoll	AAL	16-Oct-06	AK06-5 105S	3887	OxK35	Exceeding UCL	3.59
Abel Knoll	AAL	16-Oct-06	AK06-5 255S	1437	OxH29	Exceeding UCL	4.21
Abel Knoll	AAL	4-Dec-06	AK06-11 105S	3150	OxK35	Exceeding LCL	-3.05
Abel Knoll	AAL	4-Dec-06	AK06-11 255S	3039	OxK35	Exceeding LCL	-4.05
Abel Knoll	AAL	24-Jan-07	AK06-14 100S	1562	OxH52	Exceeding UCL	10.84
Abel Knoll	AAL	24-Jan-07	AK06-14 250S	3263	OxK48	Exceeding LCL	-7.00
Abel Knoll	AAL	6-Feb-07	AK06-15 250S	1488	OxH52	Exceeding UCL	7.88
Abel Knoll	AAL	6-Feb-07	AK06-15 400S	3761	OxK48	Exceeding UCL	4.86
Abel Knoll	AAL	8-Feb-07	AK06-18 100S	1370	OxH52	Exceeding UCL	3.16
Abel Knoll	AAL	8-Feb-07	AK06-19 250S	1449	OxH52	Exceeding UCL	6.32
Abel Knoll	AAL	12-Feb-07	AK06-20 100S	1372	OxH52	Exceeding UCL	3.24
Abel Knoll	AAL	12-Feb-07	AK06-20 250S	3702	OxK48	Exceeding UCL	3.45
Abel Knoll	AAL	15-Feb-07	AK06-21 400S	1456	OxH52	Exceeding UCL	6.60
Abel Knoll	AAL	20-Feb-07	AK06-23 100S	1367	OxH52	Exceeding UCL	3.04
Abel Knoll	AAL	21-Feb-07	AK06-26 250S	3424	OxK48	Exceeding LCL	-3.17

Appendix II

NewWest Gold Sampling
and
Analytical Protocol

NewWest Gold USA INC.

September 22, 2006

To: John Taylor, Contract Geologist (RC Program) and Jeff Wilson, NWG USA Inc. (Core Program)
CC: Steve Alfers (NWG USA INC.), Mike Gustin (MDA), and File
From: G. Lanier
Subject: 2006 Phase 2 Sandman Drill Programs -- Sample Analysis and Quality Control

This letter is intended to provide guidelines to the geologist at the rig, and document drilling, sampling, and quality control and assurance procedures for the Sandman Project Phase 2, 2006 RC and core drilling programs. The core program is scheduled to begin around August 21st , the RC program is scheduled to begin around September 19th, 2006.

RC Drill Contractor: DeLong Construction and Drilling, P.O. Box 907, Winnemucca NV 89446. Telephone: 775-623-2985. Rig is a reverse-circulation M.P.D. 1500 track drill operated by a driller and driller's helper. Samples will be collected wet, rotary split, and bagged by a DeLong sampler.

Core Drill Contractor: Kettle Drilling, Inc. 2775 Howard Street, Suite #2, Coeur d'Alene, ID 83815. Telephone: 208-665-7211. Rig is an Atlas Copco U-6 operated by a two-man crew who will box and label core samples.

Assay Interval & Sample ID: For RC samples, the assay interval will be 5 feet. At a minimum, the sample will be identified by marking (waterproof marker) the hole number and footage interval on each bag. The geologist at the rig is responsible for labeling bags or being sure bags are labeled correctly.

For core samples, the assay interval will not exceed 10 feet in unmineralized rock (clay-rich rock). For mineralized rock (quartz-adularia altered), the assay interval will be based on geologic features and will not exceed approximately five feet. One half of the split core will be assayed (including some duplicate assaying as described below).

Primary Laboratory: American Assay Laboratories, Inc., 1500 Glendale Ave., Reno, NV 89510 Telephone: 775-356-0606. AAL' s assay batch includes 50 samples, seven of which are their own internal check samples. Use PO# 705

Secondary Laboratory: ALS Chemex, 994 Glendale Ave. Sparks, NV 89431-5730 Telephone: 775-355-0179.

Analysis: All RC samples will be weighed dry (entire submitted sample) and analyzed for fire-assay gold. Core samples will be assayed for fire-assay gold, and along with RC samples, will be analyzed for four-acid-digestion silver and CN-Sol gold and silver on assay intervals that occur within zones with an average gold value around 0.008 opt and greater. The sample submittal will document requested analytical methods, and analytical results along with dry weight will be reported on assay certificates.

Chain of Custody: RC samples will be collected by the drill sampler and stacked in an orderly manner at the drill site. Upon lab notification, samples will be periodically picked up by the primary lab and loaded for trucking. At this time, the lab (truck driver) and NewWest (geologist) representatives will both sign the sample submittal sheet signifying a transfer of custody to the lab.

Core samples will be transported by drillers and stored at the Kettle field office in Winnemucca. The primary lab or NewWest employees will then transport the samples to the logging room in Reno. Once logged and photographed, core will be taken to the primary lab for cutting and assaying. After being cut, the qualified person will collect random duplicate samples for fire assay.

Rig Duplicate and Core Duplicate: The duplicate sample assay will give an indication of sample homogeneity and the quality of split.

Duplicate equivalent RC drill samples will be collected at the rig as follows: One split from each interval will be submitted to the primary lab for analysis. A duplicate split will also be submitted to the primary lab for analysis at a rate of one sample for every 30 samples (150 feet interval) starting at a drill depth of 100 feet. This will give approximately one rig-duplicate assay for each 50-sample lab batch. It is important that primary samples are always taken from the primary discharge tube, and that duplicate samples are taken from the secondary discharge tube.

Careful bagging and splitting at the RC rig is important, especially where free gold is present, as at Sandman. The bag should be filled without overflow. This is very difficult in environments where suspended clay and ground water can be both abundant and absent in a hole. The drill sampler will monitor the size of split to ensure that bags are full or near-full, and that there is no overflow or other careless loss of sample from bags. The geologist is responsible for supervising the sampler in this regard and recording the percent of split per bag in the drill log, e.g., 14% or 1/7th. (Percent split and sample dry weight will be used to establish recovery). (The geologist at the rig will be provided with a standard drill log for recording the split, ground water information, lithology, alteration, oxidation, metallic minerals and so on).

The geologist at the RC rig is also responsible for ensuring that there is no splitting bias related to gravity, the wet or dry splitter setup, and other possible issues that may bias samples with free gold. In this regard, it is important to level the splitter before the commencement of drilling. Also, Y-type splitting at the base of wet rotary splitters is unacceptable. The goal is an equal split for all particles regardless of density and size.

For core samples, a duplicate assay will also be made at the same rate as above from the second half of core.

Certified Standard: Primary lab accuracy will be checked using standards for both the RC and core samples. At least one 60-gram certified commercial pulp standard for gold will be submitted to the lab so that an assay batch will include at least one standard. This will be accomplished by placing the packaged standard into a sample bag and labeling the bag with a selected sequence sample number followed by an "S". The standards should be numbered so as to be within the sample stream, not just at the end. Also, the lab will be told that all analyses will be done sequentially according to the sample numbering system. The "S" will distinguish the standard from the actual sample with the same sequence number when reported on the assay certificate. The geologist is responsible for selecting the interval, submitting the standard along with other samples, and recording its sequence footage in the drill log.

Notes: 60-gram standards will be submitted to the lab. This is enough for two 1-asay ton assays, which will make it possible for a second assay incase one is lost during firing. Gold standards will consist of two values, approximately 0.04 and 0.10 opt, one or the other will be submitted at random to the lab. The lab will realize the sample is a standard, but not know its value.

Blank: Coarse blanks can help identify contamination introduced during sample preparation or other analytical procedures. A coarse blank in an unlabeled bag will be prepared by NewWest Gold for both RC and core samples, and will be submitted to the primary lab with other drill samples so that an assay batch will include at least one blank. Where possible, blanks will be sequenced within a batch within and immediately following mineralized zones. The bag will be labeled with the selected sequence number followed by a "B". (At Sandman, most significant mineralization is associated with quartz-adularia-altered rock). The geologist is responsible for selecting the interval, submitting the blank, and recording its sequence footage in the drill log.

Repeat Analysis: Independent analytical reproducibility will be established by the secondary lab, and if necessary, a third umpire lab. Five percent of the pulps prepared by the primary lab will be submitted to the secondary lab for repeat gold assays. Pulps will be selected after assays are reported by the primary lab to check the entire range of reported values, however, emphasis will be placed on checking the higher-grade range (>0.01 opt Au). Discrepancies between the primary and secondary labs will be resolved using the umpire lab.

Groundwater: The presence of significant groundwater can introduce bias in some samples collected by reverse-circulation drilling. To monitor the possibility, the geologist will record in the drill log the depth when the driller goes wet, as well as when the hole encounters groundwater (hole makes water). Also, the amount of groundwater produced in gpm will be recorded as the rate of flow changes with respect to drill depth. Obtaining meaningful groundwater information, especially when drilling wet, will rely on direct input from the driller who will be notified of the information requirements prior to drilling. The geologist at the rig will communicate these needs to the driller and will be extremely vigilant in looking for possible contamination when drilling wet.

Collar Survey: Design drill sites and drill-hole collars will be surveyed in-house using a WILD T16 theodolite with a Sokkisha model RED2A EDM.

Down-hole Survey: To assure three-dimensional spatial integrity of drill-hole information, all RC angle holes will be surveyed down-hole that reach or exceed a depth of 350 feet. International Directional Services will be used out of Elko and Battle Mountain, NV. The contact is Burt Thomas who can be reached at 775-778-6625 (office) or 775-742-6146 (cell). Burt needs to be given as much advanced notification as possible. Because of tool replacement liability, do not survey open holes.

All core holes, vertical and angle, will be surveyed down hole by Kettle Drilling, Inc.

APPENDIX C

2007 DRILL RESULTS (May through October 2007)

The following is a summary of assay results from holes not available at the time of the resource estimation summarized in Section 17. Length-weighted averages are based on a 0.010 oz Au/ton (0.34g Au/t) cutoff.

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-28C	Abel Knoll	202	207	5	0.029	61.57	63.09	1.52	0.98
AK07-28C	Abel Knoll	207	212	5	0.011	63.09	64.62	1.52	0.38
AK07-28C	Abel Knoll	212	217	5	0.008	64.62	66.14	1.52	0.26
AK07-28C	Abel Knoll	217	222	5	0.012	66.14	67.67	1.52	0.41
AK07-28C	Abel Knoll	222	226	4	0.021	67.67	68.88	1.22	0.73
AK07-28C	Abel Knoll	226	231	5	0.031	68.88	70.41	1.52	1.06
AK07-28C	Abel Knoll	231	234	3	0.019	70.41	71.32	0.91	0.65
AK07-28C	Abel Knoll	234	239	5	0.014	71.32	72.85	1.52	0.48
AK07-28C	Abel Knoll	239	244	5	0.017	72.85	74.37	1.52	0.58
AK07-28C	Abel Knoll	244	247	3	0.112	74.37	75.29	0.91	3.83
AK07-28C	Abel Knoll	247	253	6	0.045	75.29	77.11	1.83	1.55
AK07-28C	Abel Knoll	253	258	5	0.039	77.11	78.64	1.52	1.33
AK07-28C	Abel Knoll	258	263	5	0.031	78.64	80.16	1.52	1.07
AK07-28C	Abel Knoll	263	266	3	0.016	80.16	81.08	0.91	0.55
AK07-28C	Abel Knoll	266	271	5	0.016	81.08	82.60	1.52	0.54
AK07-28C	Abel Knoll	271	276	5	0.028	82.60	84.12	1.52	0.95
AK07-28C	Abel Knoll	276	280	4	0.017	84.12	85.34	1.22	0.58
AK07-28C	Abel Knoll	280	284	4	0.015	85.34	86.56	1.22	0.51
AK07-28C	Abel Knoll	284	289	5	0.022	86.56	88.09	1.52	0.76
AK07-28C	Abel Knoll	289	294	5	0.024	88.09	89.61	1.52	0.83
AK07-28C	Abel Knoll	294	298	4	0.027	89.61	90.83	1.22	0.93
AK07-28C	Abel Knoll	298	301	3	0.021	90.83	91.74	0.91	0.74
AK07-28C	Abel Knoll	301	304	3	0.042	91.74	92.66	0.91	1.44
AK07-28C	Abel Knoll	304	309	5	0.039	92.66	94.18	1.52	1.34
AK07-28C	Abel Knoll	309	314	5	0.141	94.18	95.71	1.52	4.85
AK07-28C	Abel Knoll	314	319	5	0.061	95.71	97.23	1.52	2.10
AK07-28C	Abel Knoll	319	324	5	0.087	97.23	98.76	1.52	2.99
AK07-28C	Abel Knoll	324	329	5	0.028	98.76	100.28	1.52	0.98
AK07-28C	Abel Knoll	329	334	5	0.028	100.28	101.80	1.52	0.94
AK07-28C	Abel Knoll	334	339	5	0.039	101.80	103.33	1.52	1.33
AK07-28C	Abel Knoll	339	344	5	0.097	103.33	104.85	1.52	3.34
AK07-28C	Abel Knoll	344	349	5	0.370	104.85	106.38	1.52	12.70
AK07-28C	Abel Knoll	349	354	5	0.030	106.38	107.90	1.52	1.02
AK07-28C	Abel Knoll	354	359	5	0.032	107.90	109.42	1.52	1.10
AK07-28C	Abel Knoll	359	364	5	0.019	109.42	110.95	1.52	0.64
AK07-28C	Abel Knoll	364	369	5	0.035	110.95	112.47	1.52	1.20
AK07-28C	Abel Knoll	369	374	5	0.045	112.47	114.00	1.52	1.56
AK07-28C	Abel Knoll	374	379	5	0.063	114.00	115.52	1.52	2.14
AK07-28C	Abel Knoll	379	384	5	0.273	115.52	117.04	1.52	9.35
AK07-28C	Abel Knoll	384	389	5	0.291	117.04	118.57	1.52	9.96
AK07-28C	Abel Knoll	389	393	4	0.752	118.57	119.79	1.22	25.78
AK07-28C	Abel Knoll	393	398	5	0.032	119.79	121.31	1.52	1.10
AK07-28C	Abel Knoll	398	403	5	0.023	121.31	122.83	1.52	0.80
AK07-28C	Abel Knoll	403	408	5	0.036	122.83	124.36	1.52	1.23

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-28C	Abel Knoll	408	413	5	0.098	124.36	125.88	1.52	3.37
AK07-28C	Abel Knoll	413	418	5	0.208	125.88	127.41	1.52	7.13
AK07-28C	Abel Knoll	418	423	5	0.259	127.41	128.93	1.52	8.87
AK07-28C	Abel Knoll	423	428	5	0.125	128.93	130.45	1.52	4.29
AK07-28C	Abel Knoll	428	433	5	0.065	130.45	131.98	1.52	2.23
AK07-28C	Abel Knoll	433	438	5	0.069	131.98	133.50	1.52	2.36
AK07-28C	Abel Knoll	438	443	5	0.055	133.50	135.03	1.52	1.88
AK07-28C	Abel Knoll	443	448	5	0.097	135.03	136.55	1.52	3.32
AK07-28C	Abel Knoll	448	452	4	0.076	136.55	137.77	1.22	2.59
AK07-28C	Abel Knoll	452	457	5	0.050	137.77	139.29	1.52	1.70
AK07-28C	Abel Knoll	457	462	5	0.059	139.29	140.82	1.52	2.04
AK07-28C	Abel Knoll	462	467	5	0.041	140.82	142.34	1.52	1.41
AK07-28C	Abel Knoll	467	471	4	0.032	142.34	143.56	1.22	1.11
AK07-28C	Abel Knoll	471	474	3	0.095	143.56	144.48	0.91	3.26
AK07-28C	Abel Knoll	474	479	5	0.048	144.48	146.00	1.52	1.64
AK07-28C	Abel Knoll	479	484	5	0.032	146.00	147.52	1.52	1.09
AK07-28C	Abel Knoll	484	489	5	0.028	147.52	149.05	1.52	0.96
AK07-28C	Abel Knoll	489	494	5	0.024	149.05	150.57	1.52	0.82
AK07-28C	Abel Knoll	494	498	4	0.075	150.57	151.79	1.22	2.56
AK07-28C	Abel Knoll	498	503	5	0.048	151.79	153.31	1.52	1.65
AK07-28C	Abel Knoll	503	508	5	0.059	153.31	154.84	1.52	2.02
AK07-28C	Abel Knoll	508	513	5	0.025	154.84	156.36	1.52	0.87
AK07-28C	Abel Knoll	513	518	5	0.021	156.36	157.89	1.52	0.72
AK07-28C	Abel Knoll	518	523	5	0.017	157.89	159.41	1.52	0.57
AK07-28C	Abel Knoll	523	528	5	0.021	159.41	160.93	1.52	0.72
AK07-28C	Abel Knoll	528	533	5	0.032	160.93	162.46	1.52	1.11
AK07-28C	Abel Knoll	533	536.5	3.5	0.011	162.46	163.53	1.07	0.38
AK07-28C	Abel Knoll	628	632	4	0.026	191.41	192.63	1.22	0.91
AK07-29	Abel Knoll	75	80	5	0.010	22.86	24.38	1.52	0.33
AK07-29	Abel Knoll	195	200	5	0.011	59.44	60.96	1.52	0.38
AK07-29	Abel Knoll	350	355	5	0.114	106.68	108.20	1.52	3.92
AK07-29	Abel Knoll	510	515	5	0.010	155.45	156.97	1.52	0.36
AK07-29	Abel Knoll	535	540	5	0.019	163.07	164.59	1.52	0.65
AK07-30	Abel Knoll	95	100	5	0.010	28.96	30.48	1.52	0.36
AK07-30	Abel Knoll	100	105	5	0.007	30.48	32.00	1.52	0.25
AK07-30	Abel Knoll	105	110	5	0.015	32.00	33.53	1.52	0.53
AK07-30	Abel Knoll	110	115	5	0.015	33.53	35.05	1.52	0.52
AK07-30	Abel Knoll	115	120	5	0.014	35.05	36.58	1.52	0.50
AK07-30	Abel Knoll	155	160	5	0.019	47.24	48.77	1.52	0.64
AK07-30	Abel Knoll	175	180	5	0.014	53.34	54.86	1.52	0.48
AK07-30	Abel Knoll	180	185	5	0.012	54.86	56.39	1.52	0.42
AK07-30	Abel Knoll	185	190	5	0.016	56.39	57.91	1.52	0.55
AK07-30	Abel Knoll	190	195	5	0.005	57.91	59.44	1.52	0.16
AK07-30	Abel Knoll	195	200	5	0.020	59.44	60.96	1.52	0.70
AK07-30	Abel Knoll	200	205	5	0.031	60.96	62.48	1.52	1.08
AK07-30	Abel Knoll	205	210	5	0.032	62.48	64.01	1.52	1.10
AK07-30	Abel Knoll	210	215	5	0.011	64.01	65.53	1.52	0.39
AK07-30	Abel Knoll	215	220	5	0.014	65.53	67.06	1.52	0.49

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-30	Abel Knoll	220	225	5	0.018	67.06	68.58	1.52	0.61
AK07-30	Abel Knoll	225	230	5	0.021	68.58	70.10	1.52	0.72
AK07-30	Abel Knoll	230	235	5	0.011	70.10	71.63	1.52	0.39
AK07-30	Abel Knoll	440	445	5	0.010	134.11	135.64	1.52	0.34
AK07-30	Abel Knoll	445	450	5	0.015	135.64	137.16	1.52	0.50
AK07-30	Abel Knoll	500	505	5	0.011	152.40	153.92	1.52	0.39
AK07-30	Abel Knoll	505	510	5	0.012	153.92	155.45	1.52	0.42
AK07-30	Abel Knoll	525	530	5	0.021	160.02	161.54	1.52	0.73
AK07-30	Abel Knoll	530	535	5	0.053	161.54	163.07	1.52	1.82
AK07-31	Abel Knoll	235	240	5	0.030	71.63	73.15	1.52	1.02
AK07-31	Abel Knoll	260	265	5	0.014	79.25	80.77	1.52	0.47
AK07-31	Abel Knoll	265	270	5	0.030	80.77	82.30	1.52	1.03
AK07-31	Abel Knoll	270	275	5	0.020	82.30	83.82	1.52	0.69
AK07-31	Abel Knoll	285	290	5	0.016	86.87	88.39	1.52	0.54
AK07-31	Abel Knoll	290	295	5	0.020	88.39	89.92	1.52	0.68
AK07-31	Abel Knoll	295	300	5	0.033	89.92	91.44	1.52	1.12
AK07-31	Abel Knoll	310	315	5	0.033	94.49	96.01	1.52	1.13
AK07-31	Abel Knoll	315	320	5	0.026	96.01	97.54	1.52	0.89
AK07-31	Abel Knoll	320	325	5	0.223	97.54	99.06	1.52	7.64
AK07-31	Abel Knoll	325	330	5	0.119	99.06	100.58	1.52	4.09
AK07-31	Abel Knoll	330	335	5	0.027	100.58	102.11	1.52	0.94
AK07-31	Abel Knoll	345	350	5	0.014	105.16	106.68	1.52	0.49
AK07-31	Abel Knoll	350	355	5	0.011	106.68	108.20	1.52	0.36
AK07-31	Abel Knoll	385	390	5	0.010	117.35	118.87	1.52	0.34
AK07-31	Abel Knoll	400	405	5	0.076	121.92	123.44	1.52	2.60
AK07-31	Abel Knoll	430	435	5	0.011	131.06	132.59	1.52	0.36
AK07-31	Abel Knoll	445	450	5	0.012	135.64	137.16	1.52	0.42
AK07-31	Abel Knoll	485	490	5	0.010	147.83	149.35	1.52	0.34
AK07-31	Abel Knoll	490	495	5	0.012	149.35	150.88	1.52	0.42
AK07-31	Abel Knoll	495	500	5	0.016	150.88	152.40	1.52	0.53
AK07-31	Abel Knoll	500	505	5	0.003	152.40	153.92	1.52	0.09
AK07-31	Abel Knoll	505	510	5	0.045	153.92	155.45	1.52	1.55
AK07-31	Abel Knoll	510	515	5	0.007	155.45	156.97	1.52	0.23
AK07-31	Abel Knoll	515	520	5	0.021	156.97	158.50	1.52	0.71
AK07-31	Abel Knoll	520	525	5	0.014	158.50	160.02	1.52	0.48
AK07-31	Abel Knoll	525	530	5	0.013	160.02	161.54	1.52	0.44
AK07-31	Abel Knoll	530	535	5	0.017	161.54	163.07	1.52	0.57
AK07-31	Abel Knoll	535	540	5	0.005	163.07	164.59	1.52	0.16
AK07-31	Abel Knoll	540	545	5	0.017	164.59	166.12	1.52	0.58
AK07-31	Abel Knoll	560	565	5	0.015	170.69	172.21	1.52	0.53
AK07-32	Abel Knoll	250	255	5	0.033	76.20	77.72	1.52	1.14
AK07-32	Abel Knoll	255	260	5	0.474	77.72	79.25	1.52	16.24
AK07-32	Abel Knoll	260	265	5	0.044	79.25	80.77	1.52	1.51
AK07-32	Abel Knoll	265	270	5	0.024	80.77	82.30	1.52	0.83
AK07-32	Abel Knoll	270	275	5	0.010	82.30	83.82	1.52	0.34
AK07-32	Abel Knoll	280	285	5	0.011	85.34	86.87	1.52	0.37
AK07-32	Abel Knoll	285	290	5	0.016	86.87	88.39	1.52	0.56

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-32	Abel Knoll	290	295	5	0.008	88.39	89.92	1.52	0.28
AK07-32	Abel Knoll	295	300	5	0.010	89.92	91.44	1.52	0.33
AK07-32	Abel Knoll	300	305	5	0.014	91.44	92.96	1.52	0.47
AK07-32	Abel Knoll	360	365	5	0.018	109.73	111.25	1.52	0.63
AK07-32	Abel Knoll	365	370	5	0.014	111.25	112.78	1.52	0.47
AK07-32	Abel Knoll	370	375	5	0.016	112.78	114.30	1.52	0.53
AK07-32	Abel Knoll	375	380	5	0.011	114.30	115.82	1.52	0.36
AK07-32	Abel Knoll	380	385	5	0.008	115.82	117.35	1.52	0.29
AK07-32	Abel Knoll	385	390	5	0.011	117.35	118.87	1.52	0.38
AK07-32	Abel Knoll	390	395	5	0.016	118.87	120.40	1.52	0.56
AK07-32	Abel Knoll	395	400	5	0.005	120.40	121.92	1.52	0.18
AK07-32	Abel Knoll	400	405	5	0.045	121.92	123.44	1.52	1.54
AK07-32	Abel Knoll	405	410	5	0.018	123.44	124.97	1.52	0.63
AK07-32	Abel Knoll	420	425	5	0.025	128.02	129.54	1.52	0.87
AK07-32	Abel Knoll	425	430	5	0.004	129.54	131.06	1.52	0.15
AK07-32	Abel Knoll	430	435	5	0.012	131.06	132.59	1.52	0.40
AK07-32	Abel Knoll	435	440	5	0.105	132.59	134.11	1.52	3.58
AK07-32	Abel Knoll	440	445	5	0.022	134.11	135.64	1.52	0.76
AK07-32	Abel Knoll	445	450	5	0.011	135.64	137.16	1.52	0.39
AK07-32	Abel Knoll	450	455	5	0.022	137.16	138.68	1.52	0.77
AK07-32	Abel Knoll	455	460	5	0.013	138.68	140.21	1.52	0.45
AK07-32	Abel Knoll	490	495	5	0.012	149.35	150.88	1.52	0.41
AK07-32	Abel Knoll	495	500	5	0.021	150.88	152.40	1.52	0.71
AK07-32	Abel Knoll	500	505	5	0.020	152.40	153.92	1.52	0.69
AK07-32	Abel Knoll	515	520	5	0.017	156.97	158.50	1.52	0.58
AK07-33	Abel Knoll	485	490	5	0.010	147.83	149.35	1.52	0.34
AK07-33	Abel Knoll	505	510	5	0.018	153.92	155.45	1.52	0.60
AK07-33	Abel Knoll	510	515	5	0.019	155.45	156.97	1.52	0.65
AK07-33	Abel Knoll	515	520	5	0.066	156.97	158.50	1.52	2.25
AK07-33	Abel Knoll	520	525	5	0.010	158.50	160.02	1.52	0.34
AK07-33	Abel Knoll	525	530	5	0.011	160.02	161.54	1.52	0.38
AK07-33	Abel Knoll	560	565	5	0.010	170.69	172.21	1.52	0.33
AK07-33	Abel Knoll	565	570	5	0.021	172.21	173.74	1.52	0.74
AK07-33	Abel Knoll	570	575	5	0.011	173.74	175.26	1.52	0.38
AK07-33	Abel Knoll	575	580	5	0.025	175.26	176.78	1.52	0.85
AK07-33	Abel Knoll	580	585	5	0.015	176.78	178.31	1.52	0.53
AK07-33	Abel Knoll	590	595	5	0.010	179.83	181.36	1.52	0.35
AK07-34	Abel Knoll	225	230	5	0.010	68.58	70.10	1.52	0.36
AK07-34	Abel Knoll	245	250	5	0.017	74.68	76.20	1.52	0.57
AK07-34	Abel Knoll	250	255	5	0.012	76.20	77.72	1.52	0.41
AK07-34	Abel Knoll	255	260	5	0.023	77.72	79.25	1.52	0.80
AK07-34	Abel Knoll	260	265	5	0.057	79.25	80.77	1.52	1.95
AK07-34	Abel Knoll	265	270	5	0.140	80.77	82.30	1.52	4.81
AK07-34	Abel Knoll	270	275	5	0.102	82.30	83.82	1.52	3.49
AK07-34	Abel Knoll	275	280	5	0.050	83.82	85.34	1.52	1.73
AK07-34	Abel Knoll	280	285	5	0.056	85.34	86.87	1.52	1.91
AK07-34	Abel Knoll	285	290	5	0.171	86.87	88.39	1.52	5.88
AK07-34	Abel Knoll	290	295	5	0.076	88.39	89.92	1.52	2.59

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-34	Abel Knoll	295	300	5	0.018	89.92	91.44	1.52	0.63
AK07-34	Abel Knoll	300	305	5	0.016	91.44	92.96	1.52	0.55
AK07-34	Abel Knoll	305	310	5	0.019	92.96	94.49	1.52	0.66
AK07-34	Abel Knoll	310	315	5	0.017	94.49	96.01	1.52	0.59
AK07-34	Abel Knoll	315	320	5	0.012	96.01	97.54	1.52	0.41
AK07-35	Abel Knoll	175	180	5	0.011	53.34	54.86	1.52	0.37
AK07-35	Abel Knoll	180	185	5	0.017	54.86	56.39	1.52	0.58
AK07-35	Abel Knoll	185	190	5	0.011	56.39	57.91	1.52	0.39
AK07-35	Abel Knoll	190	195	5	0.015	57.91	59.44	1.52	0.52
AK07-35	Abel Knoll	195	200	5	0.018	59.44	60.96	1.52	0.61
AK07-35	Abel Knoll	200	205	5	0.029	60.96	62.48	1.52	1.00
AK07-35	Abel Knoll	205	210	5	0.045	62.48	64.01	1.52	1.54
AK07-35	Abel Knoll	210	215	5	0.087	64.01	65.53	1.52	2.98
AK07-35	Abel Knoll	220	225	5	0.010	67.06	68.58	1.52	0.35
AK07-35	Abel Knoll	275	280	5	0.011	83.82	85.34	1.52	0.37
AK07-35	Abel Knoll	280	285	5	0.033	85.34	86.87	1.52	1.14
AK07-35	Abel Knoll	335	340	5	0.011	102.11	103.63	1.52	0.36
AK07-35	Abel Knoll	340	345	5	0.014	103.63	105.16	1.52	0.47
AK07-35	Abel Knoll	345	350	5	0.003	105.16	106.68	1.52	0.12
AK07-35	Abel Knoll	350	355	5	0.084	106.68	108.20	1.52	2.89
AK07-35	Abel Knoll	355	360	5	0.011	108.20	109.73	1.52	0.38
AK07-35	Abel Knoll	360	365	5	0.027	109.73	111.25	1.52	0.92
AK07-35	Abel Knoll	365	370	5	0.012	111.25	112.78	1.52	0.40
AK07-35	Abel Knoll	370	375	5	0.044	112.78	114.30	1.52	1.51
AK07-35	Abel Knoll	375	380	5	0.019	114.30	115.82	1.52	0.65
AK07-35	Abel Knoll	380	385	5	0.013	115.82	117.35	1.52	0.43
AK07-35	Abel Knoll	385	390	5	0.007	117.35	118.87	1.52	0.24
AK07-35	Abel Knoll	390	395	5	0.011	118.87	120.40	1.52	0.37
AK07-35	Abel Knoll	395	400	5	0.033	120.40	121.92	1.52	1.13
AK07-35	Abel Knoll	400	405	5	0.009	121.92	123.44	1.52	0.30
AK07-35	Abel Knoll	405	410	5	0.028	123.44	124.97	1.52	0.97
AK07-35	Abel Knoll	410	415	5	0.023	124.97	126.49	1.52	0.79
AK07-35	Abel Knoll	425	430	5	0.023	129.54	131.06	1.52	0.79
AK07-35	Abel Knoll	430	435	5	0.018	131.06	132.59	1.52	0.63
AK07-35	Abel Knoll	435	440	5	0.029	132.59	134.11	1.52	1.00
AK07-35	Abel Knoll	440	445	5	0.025	134.11	135.64	1.52	0.87
AK07-35	Abel Knoll	445	450	5	0.019	135.64	137.16	1.52	0.65
AK07-35	Abel Knoll	450	455	5	0.037	137.16	138.68	1.52	1.28
AK07-35	Abel Knoll	465	470	5	0.010	141.73	143.26	1.52	0.34
AK07-35	Abel Knoll	485	490	5	0.013	147.83	149.35	1.52	0.46
AK07-35	Abel Knoll	490	495	5	0.025	149.35	150.88	1.52	0.84
AK07-35	Abel Knoll	550	555	5	0.012	167.64	169.16	1.52	0.40
AK07-36	Abel Knoll	240	245	5	0.010	73.15	74.68	1.52	0.35
AK07-36	Abel Knoll	255	260	5	0.044	77.72	79.25	1.52	1.51
AK07-36	Abel Knoll	260	265	5	0.016	79.25	80.77	1.52	0.56
AK07-36	Abel Knoll	265	270	5	0.010	80.77	82.30	1.52	0.35
AK07-36	Abel Knoll	270	275	5	0.010	82.30	83.82	1.52	0.33

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-36	Abel Knoll	275	280	5	0.007	83.82	85.34	1.52	0.24
AK07-36	Abel Knoll	280	285	5	0.011	85.34	86.87	1.52	0.37
AK07-36	Abel Knoll	285	290	5	0.017	86.87	88.39	1.52	0.59
AK07-36	Abel Knoll	290	295	5	0.018	88.39	89.92	1.52	0.62
AK07-36	Abel Knoll	295	300	5	0.017	89.92	91.44	1.52	0.59
AK07-36	Abel Knoll	300	305	5	0.013	91.44	92.96	1.52	0.44
AK07-36	Abel Knoll	305	310	5	0.024	92.96	94.49	1.52	0.84
AK07-36	Abel Knoll	310	315	5	0.009	94.49	96.01	1.52	0.31
AK07-36	Abel Knoll	315	320	5	0.017	96.01	97.54	1.52	0.59
AK07-36	Abel Knoll	320	325	5	0.112	97.54	99.06	1.52	3.84
AK07-36	Abel Knoll	325	330	5	0.047	99.06	100.58	1.52	1.62
AK07-36	Abel Knoll	330	335	5	0.088	100.58	102.11	1.52	3.00
AK07-36	Abel Knoll	335	340	5	0.017	102.11	103.63	1.52	0.57
AK07-36	Abel Knoll	340	345	5	0.012	103.63	105.16	1.52	0.42
AK07-36	Abel Knoll	345	350	5	0.029	105.16	106.68	1.52	1.00
AK07-36	Abel Knoll	360	365	5	0.011	109.73	111.25	1.52	0.37
AK07-36	Abel Knoll	380	385	5	0.022	115.82	117.35	1.52	0.74
AK07-36	Abel Knoll	395	400	5	0.019	120.40	121.92	1.52	0.65
AK07-36	Abel Knoll	400	405	5	0.022	121.92	123.44	1.52	0.76
AK07-36	Abel Knoll	415	420	5	0.118	126.49	128.02	1.52	4.05
AK07-36	Abel Knoll	420	425	5	0.012	128.02	129.54	1.52	0.40
AK07-36	Abel Knoll	425	430	5	0.009	129.54	131.06	1.52	0.31
AK07-36	Abel Knoll	500	505	5	0.011	152.40	153.92	1.52	0.37
AK07-36	Abel Knoll	580	585	5	0.253	176.78	178.31	1.52	8.66
AK07-37	Abel Knoll	215	220	5	0.012	65.53	67.06	1.52	0.41
AK07-37	Abel Knoll	220	225	5	0.016	67.06	68.58	1.52	0.53
AK07-37	Abel Knoll	225	230	5	0.015	68.58	70.10	1.52	0.52
AK07-37	Abel Knoll	230	235	5	0.010	70.10	71.63	1.52	0.35
AK07-37	Abel Knoll	235	240	5	0.016	71.63	73.15	1.52	0.56
AK07-37	Abel Knoll	240	245	5	0.077	73.15	74.68	1.52	2.64
AK07-37	Abel Knoll	245	250	5	0.107	74.68	76.20	1.52	3.69
AK07-37	Abel Knoll	250	255	5	0.019	76.20	77.72	1.52	0.64
AK07-37	Abel Knoll	255	260	5	0.038	77.72	79.25	1.52	1.31
AK07-37	Abel Knoll	260	265	5	0.026	79.25	80.77	1.52	0.89
AK07-37	Abel Knoll	265	270	5	0.021	80.77	82.30	1.52	0.71
AK07-37	Abel Knoll	270	275	5	0.022	82.30	83.82	1.52	0.75
AK07-37	Abel Knoll	275	280	5	0.045	83.82	85.34	1.52	1.56
AK07-37	Abel Knoll	280	285	5	0.027	85.34	86.87	1.52	0.93
AK07-37	Abel Knoll	285	290	5	0.043	86.87	88.39	1.52	1.47
AK07-37	Abel Knoll	290	295	5	0.054	88.39	89.92	1.52	1.84
AK07-37	Abel Knoll	295	300	5	0.011	89.92	91.44	1.52	0.37
AK07-37	Abel Knoll	300	305	5	0.011	91.44	92.96	1.52	0.39
AK07-37	Abel Knoll	305	310	5	0.016	92.96	94.49	1.52	0.55
AK07-37	Abel Knoll	310	315	5	0.020	94.49	96.01	1.52	0.70
AK07-37	Abel Knoll	315	320	5	0.065	96.01	97.54	1.52	2.22
AK07-37	Abel Knoll	320	325	5	0.051	97.54	99.06	1.52	1.75
AK07-37	Abel Knoll	325	330	5	0.032	99.06	100.58	1.52	1.11
AK07-37	Abel Knoll	330	335	5	0.051	100.58	102.11	1.52	1.74

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-37	Abel Knoll	335	340	5	0.021	102.11	103.63	1.52	0.72
AK07-37	Abel Knoll	340	345	5	0.039	103.63	105.16	1.52	1.34
AK07-37	Abel Knoll	345	350	5	0.194	105.16	106.68	1.52	6.67
AK07-37	Abel Knoll	350	355	5	0.139	106.68	108.20	1.52	4.76
AK07-37	Abel Knoll	355	360	5	0.050	108.20	109.73	1.52	1.70
AK07-37	Abel Knoll	360	365	5	0.031	109.73	111.25	1.52	1.05
AK07-37	Abel Knoll	365	370	5	0.044	111.25	112.78	1.52	1.51
AK07-37	Abel Knoll	370	375	5	0.047	112.78	114.30	1.52	1.60
AK07-37	Abel Knoll	375	380	5	0.050	114.30	115.82	1.52	1.71
AK07-37	Abel Knoll	380	385	5	0.024	115.82	117.35	1.52	0.83
AK07-37	Abel Knoll	385	390	5	0.047	117.35	118.87	1.52	1.61
AK07-37	Abel Knoll	390	395	5	0.026	118.87	120.40	1.52	0.89
AK07-37	Abel Knoll	395	400	5	0.047	120.40	121.92	1.52	1.61
AK07-37	Abel Knoll	400	405	5	0.072	121.92	123.44	1.52	2.48
AK07-37	Abel Knoll	405	410	5	0.039	123.44	124.97	1.52	1.34
AK07-37	Abel Knoll	410	415	5	0.032	124.97	126.49	1.52	1.11
AK07-37	Abel Knoll	415	420	5	0.027	126.49	128.02	1.52	0.92
AK07-37	Abel Knoll	420	425	5	0.034	128.02	129.54	1.52	1.16
AK07-37	Abel Knoll	425	430	5	0.055	129.54	131.06	1.52	1.87
AK07-37	Abel Knoll	430	435	5	0.052	131.06	132.59	1.52	1.79
AK07-37	Abel Knoll	435	440	5	0.033	132.59	134.11	1.52	1.15
AK07-37	Abel Knoll	440	445	5	0.017	134.11	135.64	1.52	0.58
AK07-37	Abel Knoll	445	450	5	0.019	135.64	137.16	1.52	0.64
AK07-37	Abel Knoll	450	455	5	0.022	137.16	138.68	1.52	0.75
AK07-37	Abel Knoll	455	460	5	0.026	138.68	140.21	1.52	0.91
AK07-37	Abel Knoll	460	465	5	0.041	140.21	141.73	1.52	1.42
AK07-37	Abel Knoll	465	470	5	0.015	141.73	143.26	1.52	0.52
AK07-37	Abel Knoll	470	475	5	0.033	143.26	144.78	1.52	1.13
AK07-37	Abel Knoll	475	480	5	0.094	144.78	146.30	1.52	3.24
AK07-37	Abel Knoll	480	485	5	0.068	146.30	147.83	1.52	2.34
AK07-37	Abel Knoll	485	490	5	0.033	147.83	149.35	1.52	1.12
AK07-37	Abel Knoll	490	495	5	0.049	149.35	150.88	1.52	1.69
AK07-37	Abel Knoll	495	500	5	0.019	150.88	152.40	1.52	0.67
AK07-37	Abel Knoll	500	505	5	0.024	152.40	153.92	1.52	0.82
AK07-37	Abel Knoll	505	510	5	0.027	153.92	155.45	1.52	0.93
AK07-37	Abel Knoll	510	515	5	0.042	155.45	156.97	1.52	1.45
AK07-37	Abel Knoll	515	520	5	0.089	156.97	158.50	1.52	3.04
AK07-37	Abel Knoll	520	525	5	0.082	158.50	160.02	1.52	2.81
AK07-37	Abel Knoll	525	530	5	0.126	160.02	161.54	1.52	4.32
AK07-37	Abel Knoll	530	535	5	0.152	161.54	163.07	1.52	5.22
AK07-37	Abel Knoll	535	540	5	0.230	163.07	164.59	1.52	7.88
AK07-37	Abel Knoll	540	545	5	0.259	164.59	166.12	1.52	8.89
AK07-37	Abel Knoll	545	550	5	0.053	166.12	167.64	1.52	1.82
AK07-37	Abel Knoll	550	555	5	0.058	167.64	169.16	1.52	1.98
AK07-37	Abel Knoll	555	560	5	0.010	169.16	170.69	1.52	0.35
AK07-37	Abel Knoll	560	565	5	0.021	170.69	172.21	1.52	0.73
AK07-37	Abel Knoll	565	570	5	0.031	172.21	173.74	1.52	1.08
AK07-37	Abel Knoll	570	575	5	0.028	173.74	175.26	1.52	0.95

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-37	Abel Knoll	575	580	5	0.020	175.26	176.78	1.52	0.68
AK07-37	Abel Knoll	580	585	5	0.063	176.78	178.31	1.52	2.17
AK07-37	Abel Knoll	585	590	5	0.029	178.31	179.83	1.52	0.99
AK07-37	Abel Knoll	590	595	5	0.026	179.83	181.36	1.52	0.90
AK07-37	Abel Knoll	595	600	5	0.043	181.36	182.88	1.52	1.47
AK07-37	Abel Knoll	600	605	5	0.075	182.88	184.40	1.52	2.57
AK07-37	Abel Knoll	605	610	5	0.026	184.40	185.93	1.52	0.88
AK07-37	Abel Knoll	610	615	5	0.011	185.93	187.45	1.52	0.38
AK07-37	Abel Knoll	615	620	5	0.006	187.45	188.98	1.52	0.21
AK07-37	Abel Knoll	620	625	5	0.020	188.98	190.50	1.52	0.68
AK07-37	Abel Knoll	625	630	5	0.005	190.50	192.02	1.52	0.18
AK07-37	Abel Knoll	630	635	5	0.020	192.02	193.55	1.52	0.68
AK07-37	Abel Knoll	635	640	5	0.010	193.55	195.07	1.52	0.34
AK07-37	Abel Knoll	640	645	5	0.013	195.07	196.60	1.52	0.44
AK07-37	Abel Knoll	645	650	5	0.019	196.60	198.12	1.52	0.65
AK07-37	Abel Knoll	660	665	5	0.020	201.17	202.69	1.52	0.69
AK07-37	Abel Knoll	680	685	5	0.022	207.26	208.79	1.52	0.76
AK07-37	Abel Knoll	685	690	5	0.011	208.79	210.31	1.52	0.38
AK07-37	Abel Knoll	700	705	5	0.018	213.36	214.88	1.52	0.62
AK07-38	Abel Knoll	20	25	5	0.014	6.10	7.62	1.52	0.47
AK07-38	Abel Knoll	125	130	5	0.012	38.10	39.62	1.52	0.40
AK07-38	Abel Knoll	130	135	5	0.010	39.62	41.15	1.52	0.35
AK07-38	Abel Knoll	305	310	5	0.014	92.96	94.49	1.52	0.48
AK07-38	Abel Knoll	465	470	5	0.016	141.73	143.26	1.52	0.55
AK07-38	Abel Knoll	470	475	5	0.019	143.26	144.78	1.52	0.67
AK07-38	Abel Knoll	520	525	5	0.016	158.50	160.02	1.52	0.55
AK07-38	Abel Knoll	550	555	5	0.015	167.64	169.16	1.52	0.51
AK07-38	Abel Knoll	575	580	5	0.010	175.26	176.78	1.52	0.35
AK07-39	Abel Knoll	75	80	5	0.011	22.86	24.38	1.52	0.37
AK07-39	Abel Knoll	90	95	5	0.013	27.43	28.96	1.52	0.45
AK07-39	Abel Knoll	95	100	5	0.011	28.96	30.48	1.52	0.39
AK07-39	Abel Knoll	150	155	5	0.011	45.72	47.24	1.52	0.39
AK07-39	Abel Knoll	155	160	5	0.026	47.24	48.77	1.52	0.88
AK07-39	Abel Knoll	160	165	5	0.024	48.77	50.29	1.52	0.82
AK07-39	Abel Knoll	165	170	5	0.013	50.29	51.82	1.52	0.44
AK07-39	Abel Knoll	190	195	5	0.011	57.91	59.44	1.52	0.39
AK07-39	Abel Knoll	195	200	5	0.012	59.44	60.96	1.52	0.43
AK07-39	Abel Knoll	200	205	5	0.010	60.96	62.48	1.52	0.36
AK07-39	Abel Knoll	225	230	5	0.012	68.58	70.10	1.52	0.42
AK07-39	Abel Knoll	230	235	5	0.012	70.10	71.63	1.52	0.42
AK07-39	Abel Knoll	365	370	5	0.037	111.25	112.78	1.52	1.26
AK07-39	Abel Knoll	370	375	5	0.016	112.78	114.30	1.52	0.56
AK07-39	Abel Knoll	535	540	5	0.022	163.07	164.59	1.52	0.77
AK07-40	Abel Knoll	35	40	5	0.011	10.67	12.19	1.52	0.38
AK07-40	Abel Knoll	45	50	5	0.014	13.72	15.24	1.52	0.47
AK07-40	Abel Knoll	50	55	5	0.028	15.24	16.76	1.52	0.97
AK07-40	Abel Knoll	55	60	5	0.011	16.76	18.29	1.52	0.39
AK07-40	Abel Knoll	60	65	5	0.016	18.29	19.81	1.52	0.54

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-40	Abel Knoll	65	70	5	0.015	19.81	21.34	1.52	0.51
AK07-40	Abel Knoll	305	310	5	0.012	92.96	94.49	1.52	0.42
AK07-40	Abel Knoll	310	315	5	0.014	94.49	96.01	1.52	0.50
AK07-40	Abel Knoll	330	335	5	0.063	100.58	102.11	1.52	2.17
AK07-40	Abel Knoll	405	410	5	0.018	123.44	124.97	1.52	0.62
AK07-40	Abel Knoll	410	415	5	0.141	124.97	126.49	1.52	4.82
AK07-40	Abel Knoll	430	435	5	0.024	131.06	132.59	1.52	0.84
AK07-40	Abel Knoll	435	440	5	0.014	132.59	134.11	1.52	0.47
AK07-40	Abel Knoll	520	525	5	0.025	158.50	160.02	1.52	0.85
AK07-41	Abel Knoll	30	35	5	0.019	9.14	10.67	1.52	0.65
AK07-41	Abel Knoll	35	40	5	0.039	10.67	12.19	1.52	1.32
AK07-41	Abel Knoll	40	45	5	0.041	12.19	13.72	1.52	1.42
AK07-41	Abel Knoll	45	50	5	0.018	13.72	15.24	1.52	0.63
AK07-41	Abel Knoll	50	55	5	0.011	15.24	16.76	1.52	0.38
AK07-41	Abel Knoll	55	60	5	0.012	16.76	18.29	1.52	0.43
AK07-41	Abel Knoll	60	65	5	0.012	18.29	19.81	1.52	0.42
AK07-41	Abel Knoll	95	100	5	0.011	28.96	30.48	1.52	0.37
AK07-41	Abel Knoll	115	120	5	0.381	35.05	36.58	1.52	13.07
AK07-41	Abel Knoll	120	125	5	0.085	36.58	38.10	1.52	2.93
AK07-41	Abel Knoll	125	130	5	0.046	38.10	39.62	1.52	1.57
AK07-41	Abel Knoll	130	135	5	0.052	39.62	41.15	1.52	1.78
AK07-41	Abel Knoll	135	140	5	0.032	41.15	42.67	1.52	1.10
AK07-41	Abel Knoll	140	145	5	0.066	42.67	44.20	1.52	2.26
AK07-41	Abel Knoll	145	150	5	0.087	44.20	45.72	1.52	2.97
AK07-41	Abel Knoll	150	155	5	0.119	45.72	47.24	1.52	4.10
AK07-41	Abel Knoll	155	160	5	0.065	47.24	48.77	1.52	2.24
AK07-41	Abel Knoll	160	165	5	0.049	48.77	50.29	1.52	1.67
AK07-41	Abel Knoll	210	215	5	0.092	64.01	65.53	1.52	3.15
AK07-41	Abel Knoll	215	220	5	0.061	65.53	67.06	1.52	2.08
AK07-41	Abel Knoll	220	225	5	0.030	67.06	68.58	1.52	1.02
AK07-41	Abel Knoll	225	230	5	0.029	68.58	70.10	1.52	0.98
AK07-41	Abel Knoll	230	235	5	0.009	70.10	71.63	1.52	0.33
AK07-41	Abel Knoll	235	240	5	0.027	71.63	73.15	1.52	0.91
AK07-41	Abel Knoll	240	245	5	0.027	73.15	74.68	1.52	0.92
AK07-41	Abel Knoll	245	250	5	0.015	74.68	76.20	1.52	0.53
AK07-41	Abel Knoll	250	255	5	0.024	76.20	77.72	1.52	0.83
AK07-41	Abel Knoll	255	260	5	0.015	77.72	79.25	1.52	0.52
AK07-41	Abel Knoll	260	265	5	0.013	79.25	80.77	1.52	0.43
AK07-41	Abel Knoll	265	270	5	0.013	80.77	82.30	1.52	0.46
AK07-41	Abel Knoll	270	275	5	0.014	82.30	83.82	1.52	0.48
AK07-41	Abel Knoll	365	370	5	0.012	111.25	112.78	1.52	0.40
AK07-41	Abel Knoll	385	390	5	0.055	117.35	118.87	1.52	1.88
AK07-41	Abel Knoll	390	395	5	0.014	118.87	120.40	1.52	0.48
AK07-41	Abel Knoll	395	400	5	0.030	120.40	121.92	1.52	1.03
AK07-41	Abel Knoll	400	405	5	0.010	121.92	123.44	1.52	0.35
AK07-41	Abel Knoll	405	410	5	0.009	123.44	124.97	1.52	0.31
AK07-41	Abel Knoll	410	415	5	0.013	124.97	126.49	1.52	0.43
AK07-41	Abel Knoll	415	420	5	0.014	126.49	128.02	1.52	0.46

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-41	Abel Knoll	430	435	5	0.052	131.06	132.59	1.52	1.78
AK07-41	Abel Knoll	435	440	5	0.013	132.59	134.11	1.52	0.46
AK07-41	Abel Knoll	455	460	5	0.015	138.68	140.21	1.52	0.52
AK07-41	Abel Knoll	460	465	5	0.004	140.21	141.73	1.52	0.15
AK07-41	Abel Knoll	465	470	5	0.012	141.73	143.26	1.52	0.41
AK07-41	Abel Knoll	470	475	5	0.020	143.26	144.78	1.52	0.67
AK07-41	Abel Knoll	475	480	5	0.073	144.78	146.30	1.52	2.52
AK07-41	Abel Knoll	550	555	5	0.010	167.64	169.16	1.52	0.35
AK07-41	Abel Knoll	555	560	5	0.011	169.16	170.69	1.52	0.38
AK07-41	Abel Knoll	570	575	5	0.012	173.74	175.26	1.52	0.42
AK07-41	Abel Knoll	615	620	5	0.016	187.45	188.98	1.52	0.55
AK07-41	Abel Knoll	620	625	5	0.061	188.98	190.50	1.52	2.08
AK07-42	Abel Knoll	375	380	5	0.019	114.30	115.82	1.52	0.66
AK07-42	Abel Knoll	390	395	5	0.014	118.87	120.40	1.52	0.49
AK07-42	Abel Knoll	470	475	5	0.270	143.26	144.78	1.52	9.25
AK07-42	Abel Knoll	475	480	5	0.053	144.78	146.30	1.52	1.83
AK07-42	Abel Knoll	515	520	5	0.014	156.97	158.50	1.52	0.47
AK07-42	Abel Knoll	545	550	5	0.014	166.12	167.64	1.52	0.49
AK07-42	Abel Knoll	550	555	5	0.015	167.64	169.16	1.52	0.51
AK07-43	Abel Knoll	265	270	5	0.020	80.77	82.30	1.52	0.70
AK07-43	Abel Knoll	270	275	5	0.040	82.30	83.82	1.52	1.38
AK07-43	Abel Knoll	275	280	5	0.015	83.82	85.34	1.52	0.52
AK07-43	Abel Knoll	305	310	5	0.200	92.96	94.49	1.52	6.87
AK07-43	Abel Knoll	310	315	5	0.017	94.49	96.01	1.52	0.58
AK07-43	Abel Knoll	315	320	5	0.009	96.01	97.54	1.52	0.30
AK07-43	Abel Knoll	320	325	5	0.012	97.54	99.06	1.52	0.42
AK07-43	Abel Knoll	395	400	5	0.014	120.40	121.92	1.52	0.49
AK07-43	Abel Knoll	400	405	5	0.022	121.92	123.44	1.52	0.77
AK07-43	Abel Knoll	405	410	5	0.011	123.44	124.97	1.52	0.37
AK07-43	Abel Knoll	425	430	5	0.020	129.54	131.06	1.52	0.69
AK07-43	Abel Knoll	430	435	5	0.043	131.06	132.59	1.52	1.48
AK07-43	Abel Knoll	435	440	5	0.011	132.59	134.11	1.52	0.37
AK07-43	Abel Knoll	455	460	5	0.013	138.68	140.21	1.52	0.43
AK07-43	Abel Knoll	470	475	5	0.012	143.26	144.78	1.52	0.40
AK07-43	Abel Knoll	570	575	5	0.041	173.74	175.26	1.52	1.40
AK07-43	Abel Knoll	600	605	5	0.011	182.88	184.40	1.52	0.39
AK07-44	Abel Knoll	140	145	5	0.013	42.67	44.20	1.52	0.45
AK07-44	Abel Knoll	145	150	5	0.013	44.20	45.72	1.52	0.44
AK07-44	Abel Knoll	150	155	5	0.012	45.72	47.24	1.52	0.40
AK07-44	Abel Knoll	155	160	5	0.017	47.24	48.77	1.52	0.58
AK07-44	Abel Knoll	160	165	5	0.014	48.77	50.29	1.52	0.47
AK07-44	Abel Knoll	430	435	5	0.016	131.06	132.59	1.52	0.55
AK07-44	Abel Knoll	485	490	5	0.013	147.83	149.35	1.52	0.44
AK07-44	Abel Knoll	490	495	5	0.018	149.35	150.88	1.52	0.62
AK07-44	Abel Knoll	495	500	5	0.037	150.88	152.40	1.52	1.26
AK07-44	Abel Knoll	505	510	5	0.015	153.92	155.45	1.52	0.52
AK07-44	Abel Knoll	515	520	5	0.017	156.97	158.50	1.52	0.59
AK07-44	Abel Knoll	655	660	5	0.019	199.64	201.17	1.52	0.66

HOLE ID	TARGET	Imperial				Metric			
		From (ft)	To (ft)	Length	oz Au/ton	From (m)	To (m)	Length (m)	g Au/t
AK07-45	Abel Knoll	280	285	5	0.011	85.34	86.87	1.52	0.39
AK07-45	Abel Knoll	285	290	5	0.019	86.87	88.39	1.52	0.66
AK07-45	Abel Knoll	290	295	5	0.010	88.39	89.92	1.52	0.33
AK07-45	Abel Knoll	305	310	5	0.020	92.96	94.49	1.52	0.69
AK07-45	Abel Knoll	310	315	5	0.012	94.49	96.01	1.52	0.41
AK07-45	Abel Knoll	315	320	5	0.012	96.01	97.54	1.52	0.40
AK07-45	Abel Knoll	320	325	5	0.011	97.54	99.06	1.52	0.38
AK07-45	Abel Knoll	350	355	5	0.010	106.68	108.20	1.52	0.34
AK07-45	Abel Knoll	380	385	5	0.010	115.82	117.35	1.52	0.33
AK07-45	Abel Knoll	385	390	5	0.009	117.35	118.87	1.52	0.30
AK07-45	Abel Knoll	390	395	5	0.022	118.87	120.40	1.52	0.77
AK07-45	Abel Knoll	395	400	5	0.014	120.40	121.92	1.52	0.48
AK07-45	Abel Knoll	415	420	5	0.416	126.49	128.02	1.52	14.27
AK07-45	Abel Knoll	420	425	5	0.010	128.02	129.54	1.52	0.33
AK07-45	Abel Knoll	485	490	5	0.018	147.83	149.35	1.52	0.61
AK07-45	Abel Knoll	520	525	5	0.013	158.50	160.02	1.52	0.45
AK07-45	Abel Knoll	525	530	5	0.018	160.02	161.54	1.52	0.63
AK07-45	Abel Knoll	530	535	5	0.010	161.54	163.07	1.52	0.34
AK07-46	Abel Knoll	195	200	5	0.011	59.44	60.96	1.52	0.36
AK07-46	Abel Knoll	200	205	5	0.013	60.96	62.48	1.52	0.44
AK07-46	Abel Knoll	205	210	5	0.014	62.48	64.01	1.52	0.49
AK07-46	Abel Knoll	305	310	5	0.012	92.96	94.49	1.52	0.40
AK07-46	Abel Knoll	310	315	5	0.048	94.49	96.01	1.52	1.64
AK07-46	Abel Knoll	315	320	5	0.023	96.01	97.54	1.52	0.77
AK07-46	Abel Knoll	350	355	5	0.012	106.68	108.20	1.52	0.43
AK07-46	Abel Knoll	355	360	5	0.023	108.20	109.73	1.52	0.79
AK07-46	Abel Knoll	485	490	5	0.021	147.83	149.35	1.52	0.73
AK07-46	Abel Knoll	585	590	5	0.053	178.31	179.83	1.52	1.82
AHO7-4	Adularia Hill	*No Significant Values (TD = 500 ft)*							
AHO7-5	Adularia Hill	95	100	5	0.015	28.96	30.48	1.52	0.51
AHO7-6	Adularia Hill	*No Significant Values (TD = 460 ft)*							
SW07-2	S. Windmill	10	15	5	0.014	3.05	4.57	1.52	0.48
SW07-2	S. Windmill	15	20	5	0.011	4.57	6.10	1.52	0.39
SW07-3	S. Windmill	205	210	5	0.029	62.48	64.01	1.52	1.00
SW07-3	S. Windmill	210	215	5	0.018	64.01	65.53	1.52	0.62
SW07-3	S. Windmill	235	240	5	0.011	71.63	73.15	1.52	0.36
SW07-4	S. Windmill	15	20	5	0.010	4.57	6.10	1.52	0.34
SW07-5	S. Windmill	100	105	5	0.010	30.48	32.00	1.52	0.33
SW07-6	S. Windmill	*No Significant Values (TD = 400 ft)*							
SB07-1	Sandbowl	205	210	5		62.48	64.01	1.52	0.53
SB07-2	Sandbowl	*No Significant Values (TD = 380 ft)*							