

# NI 43-101 Technical Report on Mineral Resources (Revised)

## Tonopah Project Nye County, Nevada

**Prepared for:**



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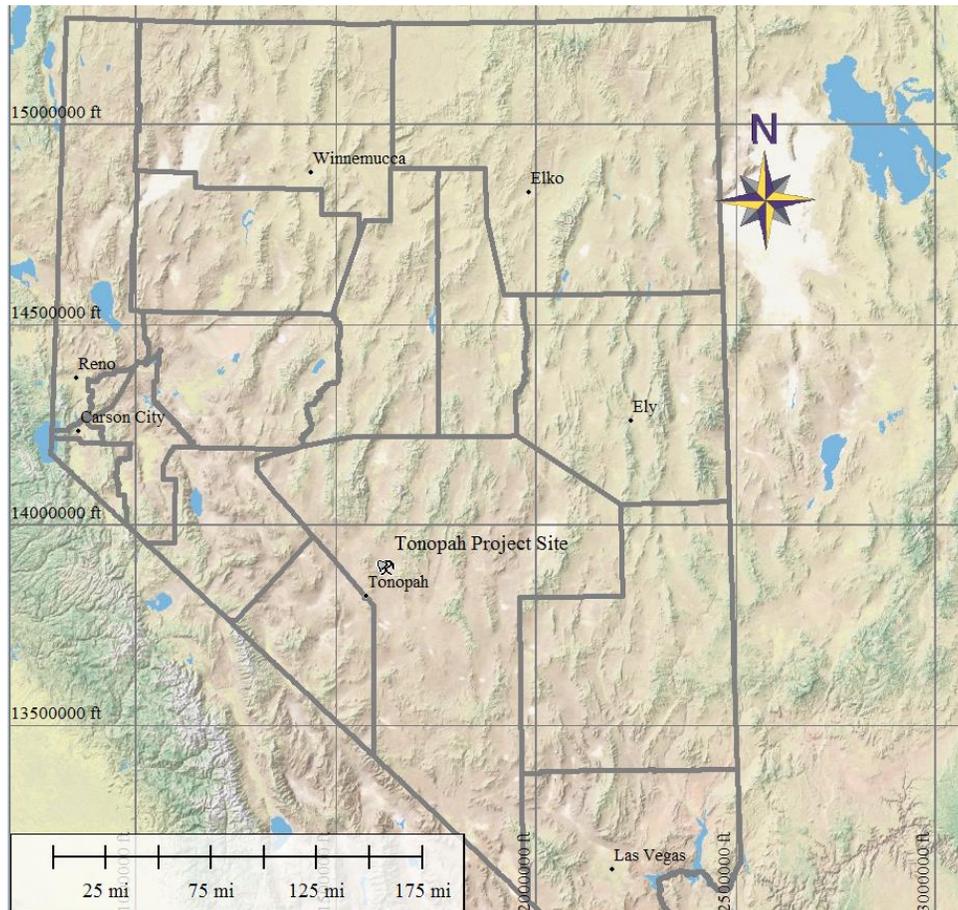
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# 1 Executive Summary (Item 1)

## 1.1 Property Description & Location

The Tonopah property encompasses 8,762 acres in the Ralston Valley, on the northeast side of the San Antonio Mountains in central Nevada, located approximately 20 miles northeast of the town of Tonopah in Nye County (Figure 4-1).



**Figure 1-1: Tonopah Location Map**

## 1.2 Ownership

The Project consists of 444 unpatented lode claims covering an area of 8,762 acres. All unpatented claims are 100% controlled by Viva Gold Corporation (Viva); copies of the individual claim notices and location maps are on file with the central BLM office in Reno, Nevada, and with the Nye County Recorder's office in Tonopah, Nevada. The list of claims is included as Appendix C – List of Claims.

A 2% Net Smelter Return Royalty exists on 185 of the unpatented lode mining claims. The surface rights of the unpatented claims located in all claim Sections other than Section 32 are managed by the BLM. Those surface rights located in Section 32 are on lands under private ownership through the Stock Raising Homestead Act (SRHA) of 1916.

### 1.3 Geology & Mineralization

Surface geology at the Tonopah Property is dominated by valley fill deposits including alluvium, colluvium, sand dunes and playa deposits. With the exception of a single outcrop, the gold-bearing altered and mineralized zones of the Tonopah deposit are masked by these Quaternary deposits. Drilling indicates that the surface sediments are underlain by several rhyolitic to mafic Tertiary volcanics units, which non-conformably overlie Ordovician argillites of the Palmetto formation.

The Tonopah property contains a low-sulfidation epithermal gold system associated with near vertical quartz-adularia-gold veins hosted by Ordovician black argillite of the Palmetto Formation (Opa) and Tertiary rhyolitic volcanics (Tv) and also in association with a discontinuity at the contact with the top of the Palmetto Formation and lower sequence of the Tertiary volcanics. Significant alteration and mineralization is localized within a low-angle zone which includes and often parallels the erosion surface of the Palmetto, as well as several facies in the tertiary volcanics, particularly where veins and mineralized structures intersect this contact zone. It is interpreted that ascending fluids entering the contact zone deposit precious metals in a favorable chemical and textural horizon in the base of the tertiary volcanics.

Structural geology significantly influences the distribution of mineralization and alteration at Tonopah. The Rye Patch fault system is a complex, oblique-slip fault system with numerous northwest trending splays, believed to be associated with north-south trending compressional stress common in the Walker Lane structural trend. Subordinate steeply dipping, north-south striking extension fractures developed between the two bounding strike slip faults. Gold bearing veins occur in a series of en-echelon clusters along a 1.5-mile northwest-trending band of mineralization. Contact related gold mineralization is also seen along this entire band.

Two overlapping mineralized trends have been identified in drilling. The primary trend runs parallel to the west-northwest Rye Patch Fault System, bearing 290-300 degrees over at least 10,000 feet, and 1,500 feet width, and open along strike. Mineralization within this trend is generally within the lower portion of the tertiary volcanics, and sometime in the uppermost argillites, parallel to the Opa/Tv contact and is generally low to moderate grade, from 0.1 ppm to 5 ppm Au.

Secondary extensional fractures range from 345 to 360 degrees strike, are near-vertical in dip, and host veins and hydrothermal breccia's with higher grade mineralization, ranging from 1.0 to over 30 ppm Au. These extensional fracture zones are best represented in drilling in the Discovery and Dauntless zones.

Alteration and mineralization at the Tonopah property are typical of low-sulfidation, volcanic-hosted epithermal gold deposits found elsewhere in Nevada and around the world. The deposit type is characterized by overall low original sulfide content, and quartz-adularia and clay-sericite alteration assemblages, among others. Vein textures are indicative of high level, near surface emplacement and include void fills, crustiform coatings, colloform banding, and comb structures. Similar deposits in Nevada have proven to be economic, including the Midas and Bullfrog deposits. The proximity and similarities of the Tonopah property to other gold deposits does not, on its own, indicate that the Tonopah property should be similarly mineralized.

Vein structures and orientation are best defined in the Discovery Zone, at the center of the project site.

## **1.4 Exploration Status**

Early exploration work was focused on establishing the limits of a large, low-grade gold mineralized system located in the upper portion of the Palmetto formation and in the altered lower units of the tertiary volcanics. Previously issued technical reports (Ristorcelli and Muerhoff, 2002; Ristorcelli, 2003; Gustin and Ristorcelli, 2005) are focused on this interpretation for the deposit.

Midway Gold Corp (MGC) reviewed and compiled subsurface data and targeted exploration on evaluation of higher grade gold mineralization localized around structural zones, quartz veins, and feeders. MGC used this data to evaluate a model focused on the potential for underground mining vein and feeder zones. The previously issued Gustavson 2011 technical report focused on this interpretation of the mineralized system and attempted to model only high grade veins and feeder zones which might be amenable to underground mining.

Viva is focused on understanding both the higher grade and moderate grade portions of the deposit, into a combined model. This consolidated interpretation is more viable because of Viva's reduced royalty structures, which allows for potentially reduced cut-off grades.

## **1.5 Drilling**

A total of 637 holes had been drilled at the Tonopah Project prior to the acquisition by Viva Gold, including those drilled prior to 2005, for a total footage of 284,469 feet. Existing drill holes include 12 reverse circulation and auger holes drilled by Midway Gold for hydrology studies, and 12 diamond core holes drilled for geotechnical studies. Approximately half of these drillholes are outside the current resource area, including 100+ holes drilled in the Thunder Mountain area, which is no longer part of the Tonopah Project, and approximately 200 holes drilled west of the current resource area.

Viva initiated a drilling program in 2018 designed first to confirm the historical database and secondarily to extend mineralization by targeting areas of inferred which could be upgraded to measured and indicated categories, as well as to provide fresh material for metallurgical test work. Viva drilled a total of 4 Core and 22 RC holes totaling 11,276 feet during the 2018-2019 drilling campaign.

## **1.6 Sample Preparation, Analysis & Security**

Viva Gold maintains industry standards for drilling, sampling, and assays in its current operations.

## **1.7 Data Verification**

Gustavson considers that the drill data are generally adequate for resource estimation. However, the lack of downhole survey control for many of the historical drill holes may introduce location uncertainty for early sampling at the project.

## **1.8 Mineral Processing & Metallurgical Testing**

Several scoping-level metallurgical studies were undertaken by mining companies from 1990's to 2009 for the Tonopah property. The test work included gravity separation, flotation and cyanidation leaching.

Viva has conducted additional test work to update and expand upon earlier results and can be found in Section 13 of this report.

## 1.9 Mineral Resource Estimate

Gustavson used Leapfrog software to aggregate Palmetto formation, Volcanics, and Gravels within the drill holes for the project, and used the contact points to generate surfaces which represent the contacts between each of the lithologic domains. The contact surface for the top of the Palmetto shows a steep incline to the north which runs generally parallel to the regional Walker Lane Trend, along with two conjugate offsets which correspond to the Discovery and Dauntless zones identified in drilling.

Block grade estimation was completed using Datamine RM software. Grade estimates use ordinary kriging, with an indicator model used to determine impact of the conjugate zone on each block area.

Estimation of block grades uses a two-pass indicator estimation in order to accommodate the two overlapping grade populations and orientations. An indicator model is estimated to determine the level of influence of the higher-grade conjugate zone mineralization, to restrict the influence of this higher-grade mineralization to the shorter variogram range displayed for the higher grade zone, and to honor the geometry of the conjugate zone by orienting search and kriging parameters for the conjugate estimate according to the variography of the zone.

Thomas C. Matthews, MMSA-QP, of Gustavson Associates is the Qualified Person with responsibility for the mineral resource estimation in Table 1-1. Resources do not have modifying factors or dilution applied. Gustavson is of the opinion that the resources presented reasonably represent the in-situ resources modeled for the deposit using all available data as of the May 15, 2019 effective date of this report. Resources are presented at a 0.250 g/t (ppm) cutoff grade, and inside a \$1250 pit shell using a 42-degree average pit slope, which constitutes ‘reasonable prospects for economic extraction’.

**Table 1-1: Mineral Resource Estimate, Tonopah Project, 2019**

<b>Classification</b>	<b>Tonnes (x1000)</b>	<b>Gold Grade gram/tonne</b>	<b>Contained Au Ounces (troy)</b>
Measured Resources	2,500	1.38	112,000
Indicated Resources	6,300	0.69	141,000
Measured plus Indicated	8,900	0.89	253,000
Inferred Resources	6,000	0.64	123,000

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## **1.10 Project Infrastructure**

The Tonopah Project is currently an exploration/evaluation stage project. The site has excellent logistics and access for exploration, being a short drive from the town of Tonopah, Nevada, with good road access, communications, and access to contractors and labor.

## **1.11 Environmental Studies**

Preliminary data related to environmental and cultural studies have been collected, as detailed in section 4.5. Permits for exploration activities are discussed in 4.5.1. The Tonopah project is currently an exploration/evaluation stage project, and no mining permits have yet been sought or secured.

## **1.12 Other Relevant Information**

The Midway Hills area of the Tonopah project was the subject of exploration work by a number of reputable Companies including Coeur Mining, Rio Algom and Kennecott who drilled approximately 55 reconnaissance drillholes in the area between 1988 and 2002. Gold mineralization in the Midway Hills, besides being directly on trend from the Tonopah project area, follows the same general structural and lithologic model as seen at the Tonopah project.

The 2019 block model for the Tonopah project was extended for the first time to incorporate the Midway Hills area. This work developed an exploration target of 1.6-2 million tonnes with a potential grade of 0.45 to 0.55 gpt or approximately 25-30 thousand gold ounces. Tons and grade for this exploration target are based on interpolation from a number of drill hole intersections in the area, but mineralization is not fully delineated by drilling or constrained geologically. The potential quantity and grade is conceptual in nature. There has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. Midway Hills is targeted for exploration work by Viva in 2019.

Risk factors to exploration and subsequent mine development center primarily around water use and non-degradation of waters, cultural resources mitigation, and public road relocation.

## **1.13 Interpretation & Conclusions**

### ***1.13.1 Interpretation & Conclusions***

Viva has acquired title to the Tonopah project, along with a significant database of technical information, drill data, geologic interpretation, and preliminary metallurgical data. The data are of industry standard quality and can be used for resource estimation for the project.

The 2018-2019 drill program provided confirmation of the historical database, generally intersecting grades and thicknesses of mineralization consistent with the 2018 block model, and providing additional data for geostatistical support of improved resource classification from inferred to measured and indicated.

Additional infill drilling within the main mineralized areas may convert additional inferred resource to measured and indicated, but is unlikely to significantly increase the overall resource quantity. Further drilling should be targeted at extending mineralization along strike on the Opa / Tv contact, particularly

where cross faulting or conjugate faulting may provide an environment favorable to higher grade mineralization, or in areas where the Opa/ Tv contact is inferred to be shallow in depth and thus more likely amenable to open pit mining.

Expansion of drilling into the Midway Hills area, almost one mile in total strike length, in the poorly drilled area west of the current resource but east of Midway Hills, and southeast along the argillite/tertiary volcanic contact are high-potential areas for resource expansion.

The renegotiation of the underlying royalty agreement for the property (from a 7% royalty rate at gold prices in excess of \$700 to a 2% gold NSR) should allow for consideration of a much broader set of mining and processing scenarios and is a significant positive impact to the project.

The Tonopah project contains a significant gold resource with good continuity at relatively low cutoff grades, and with significant contribution from higher-grade zones. The resource as reported is contained within a pit shell and may be amenable to open pit mining methods.

Metallurgical test work shows that the deposit is amenable to cyanide leaching. Column leach test work should be initiated to better define recovery assumptions and illuminate process costs for the Tonopah project. Incorporating this information with the resource model will allow for a PEA to be completed which reviews possible operating scenarios and shows the economic potential of the deposit.

### ***1.13.2 Risks and Uncertainties***

The Tonopah project is subject to risks and uncertainties typical of gold exploration / evaluation stage projects, particularly risk with regard to commodity prices and the precious metals equity markets. Lower metals prices or lack of precious metals equity market interest or activity could render the project uneconomic or reduce access to project financing.

Specific risks to the project exploration and subsequent mine development center primarily around water use and non-degradation of waters, cultural resources mitigation, and public road relocation, as discussed in Section 4 and Section 16. Each of these risks appears to be manageable but could potentially increase the operating or capital cost for the project or could delay or stop development activities. The existing exploration and metallurgical data appear to be of high quality, but errors or omissions in the database could potentially reduce the reliability of resource estimates prepared using this information, which could negatively impact the project.

## 1.14 Recommendations

### **1.14.1 General recommendations:**

Gustavson recommends that ongoing digital database additions/upgrades continue so that the complete database includes all assay data, including gold, silver, and trace element geochemistry, all available primary observational data on lithology and alteration, and appropriate and available metadata about drilling, sampling, and survey. This will improve the reliability and verifiability of the assay database, as well as making alteration and trace element geochemistry available for geological and geometallurgical modeling efforts.

Gustavson recommends that additional specific gravity determinations be made, both for mineral and waste lithologies, to aid in creation of a more robust bulk density model for the deposit.

Gustavson recommends that ongoing drilling campaigns conducted by Viva continue to be modelled on the best practices established by previous workers on the project, particularly with regard to sampling and laboratory assay protocols, to reduce potential assay variability caused by coarse gold in the system. Gustavson further recommends that a comprehensive QA/QC program be maintained, including insertion of blanks, standards, and lab duplicates in the sample stream to monitor laboratory performance.

Gustavson recommends that metallurgical testing and review, already in progress, be completed to support cost and recovery assumptions for the completion of a PEA, and to inform more detailed test work at Pre-feasibility level as the project moves forward.

Gustavson recommends that Viva continue advancing the Tonopah Project by completing a Preliminary Economic Assessment (PEA) to determine the economic potential of the project, and to consider possible trade-offs to processing and mining methods for the deposit.

Gustavson recommends that historical data with regard to cyanide shake assay be reviewed as part of the PEA to aid in understanding of possible recovery differences by lithology and alteration type.

There are gaps in the drill pattern where insufficient drill density either precludes estimation of block grades, or limits block classification to inferred category. Additional drilling should be targeted at these areas to fill in high-potential resources and to convert inferred resources to the indicated category.

Gustavson recommends a drilling program for the Midway Hills area to further test the Tv / Opa contact zone, with the objective of extending mineralization up-dip to the south to shallower elevations, and east along strike to the Midway Hills area of the project, to determine whether mineralization of significant grades connects to the mineralization in the main Tonopah resource area. Existing geophysical data should be re-evaluated utilizing modern mathematical techniques to provide additional support for this work effort.

### **1.14.2 Specific Work Plan:**

Complete a Preliminary Economic Assessment (PEA) to determine the economic potential of the project, and to consider possible trade-offs to processing and mining methods for the deposit.

Ongoing metallurgical test work should be completed with the objective of providing information for cost and recovery assumptions to be incorporated into the PEA.

Long-lead baseline work should be considered for environmental and water quality monitoring to support further exploration and development efforts.

Approximately 12,000 feet of drilling in 25 -30 holes are recommended to target the Midway Hills zone and extensions to the east. Samples from these holes could also provide additional fresh material for metallurgical samples.

The proposed work plan, including completion of the PEA, drilling, metallurgical review and initial environmental test work, is expected to cost \$920,000.

### 1.14.3 2019 Project Budget

**Table 1-2: Project Budget**

<b>Budget Item</b>	<b>Anticipated Cost</b>	<b>Dependencies</b>
43-101 Report – PEA Scoping Study	\$80,000	Existing Resource Estimate, Metallurgical Review, Cost studies
Infill and Metallurgical Drill Program	\$600,000	Drill Targeting
Metallurgical Test Work Program	\$120,000	Met Data Review & Sample Availability
Water Baseline Study	\$70,000	Well-points already installed
<b>2019 Project Budget</b>	<b>\$920,000</b>	

### 1.15 Revision

This technical report was revised December 17, 2019. The report was revised to clarify that the mineralization in the Midway Hills area discussed in sections 16.1 and 1.12 constitutes a target for further exploration, with updated cautionary language, and to provide clarification of the range of tons and grade attributed to the target.

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## 2 Introduction (Item 2)

### 2.1 Purpose of Report & Terms of Reference

Viva Gold Corp (“Viva”) retained Gustavson Associates, LLC. (“Gustavson”) to prepare an updated technical report on resources for the Tonopah Project (formerly the Midway Project) located 20 miles northeast of Tonopah, Nevada. Gustavson previously prepared a March 2018 “Technical Report on Resources” for the project for Viva Gold. Gustavson also prepared a July 2017 “Technical Report on Mineral Exploration Results for the Tonopah Project” for Aintree Resources Inc (“Aintree”). Aintree changed its name to Viva Gold Corp on January 8, 2018. For consistency, Viva Gold Corp and its predecessor company, Aintree Resources, will be referred to as Viva throughout this document.

The purpose of this report is to review geology and drilling data for the project and to determine a current resource estimate for the property which incorporates the results of the 2018-2019 drilling campaign.

### 2.2 Qualifications of Consultants (Gustavson)

The qualified person responsible for this report is:

- Thomas C. Matthews, Q.P (MMSA), Principal Resource Geologist, Gustavson Associates is a Qualified Person as defined by NI 43-101 and is responsible for all sections, and for the overall content of this report. Mr. Matthews is independent of Viva.

Additional Contributing Authors are:

- Donald E. Hulse, PE, SME Registered Member (SME-RM), Principal Mining Engineer, Gustavson Associates
- Christopher Emanuel, SME Registered Member (SME-RM), Senior Mining Engineer, Gustavson Associates
- Amanda Irons, Geologist, Gustavson Associates
- Deepak Malhotra, PhD., SME-RM, President, Resource Development Inc
- Todd W. Lewis, Technical Consultant, Lewis Environmental Consulting LLC.
- James Hesketh, CEO of Viva Gold Corp

Mr. Thomas Matthews acted as project manager during preparation of this NI 43-101 Technical Report and visited the site from April 10 to 11, 2017. Mr. Matthews visited the site offices and reviewed drill core and RC chip trays, as well as visiting the claims, where he observed surface geology, including limited outcrops, and observed locations of capped monitoring wells as well as site access and infrastructure. Mr. Matthews is responsible for the entire content of the technical report. Additional information as to observations from the site visit is detailed in Section 0.

Deepak Malhotra, PhD., SME-RM, President, Resource Development Inc., contributed text to the discussion of pre-Viva gold metallurgical studies in Section 13 of the March 2018 Technical Report on Resources, which has been retained in this report.

Mr. Lewis contributed text and guidance to Section 4.5: Environmental Permitting, Liabilities, and Previous Environmental Technical and Cultural Resources Studies and Permitting.

Mr. Hesketh contributed text and guidance to Sections 4.2 and 4.3, as well as edits as to form and accuracy and general commentary.

Mr. Hulse, Ms. Irons and Mr. Emanuel provided peer review and edits to form and clarity.

Ms. Irons and Mr. Emanuel also assisted with preparation of databases, resource reporting, pit shell construction, statistics, geostatistics, and various tables and graphics.

### **2.3 Effective Date**

The effective date of this report is May 15, 2019.

### **2.4 Units of Measurement**

Primary data for the project have historically been collected in US Commercial Imperial units, and maps and cross sections are generally reported in these units, with the exception of grades, which are reported in parts per million (equivalent to grams per metric tonne). For clarity and consistency for TSX reporting, this report uses metric units for grades and tonnages for resource reporting. Currencies are expressed in constant 2019 US dollars.

### **3 Reliance on Other Experts (Item 3)**

Viva staff provided documentation related to environmental status, land and legal maps, deeds, mineral claims and royalty agreements, which were relied upon to support section 4 of the report.

Mr. Todd W. Lewis of Lewis Environmental Consulting was instrumental in reviewing the current status of environmental and cultural resources in the Tonopah Project area, and drafted sections 4.5 and 4.6 of this report. Gustavson has reviewed the statements and conclusions therein and believes them to be complete and correct according to the records available.

Mr. James Hesketh of Viva Gold Corp was instrumental in reviewing Mineral Titles, Royalty Agreements, and surface rights agreements, and has provided guidance to the authorship of sections 4.2, 4.3 and 4.4, as well as supporting documentation in the form of legal filings for the statements therein. Gustavson has reviewed the statements and documentation and believes them to be complete and accurate according to the records available.

## 4 Property Description and Location (Item 4)

### 4.1 Property Description & Location

The Tonopah property encompasses 8,762 acres in the Ralston Valley, on the northeast side of the San Antonio Mountains in central Nevada, located approximately 20 miles northeast of the town of Tonopah in Nye County (Figure 4-1).

The Project site can be found on the U.S.G.S. Henry's Well and Thunder Mountain 1:24,000 scale, 7.5-minute series, topographic quadrangle maps. The geographic center of the property is located at 38°16'N latitude and 117°04'W longitude. Access to the site is provided by State Highway 376, which intersects Nye County Road 82 (Belmont Highway) near the center of the property.

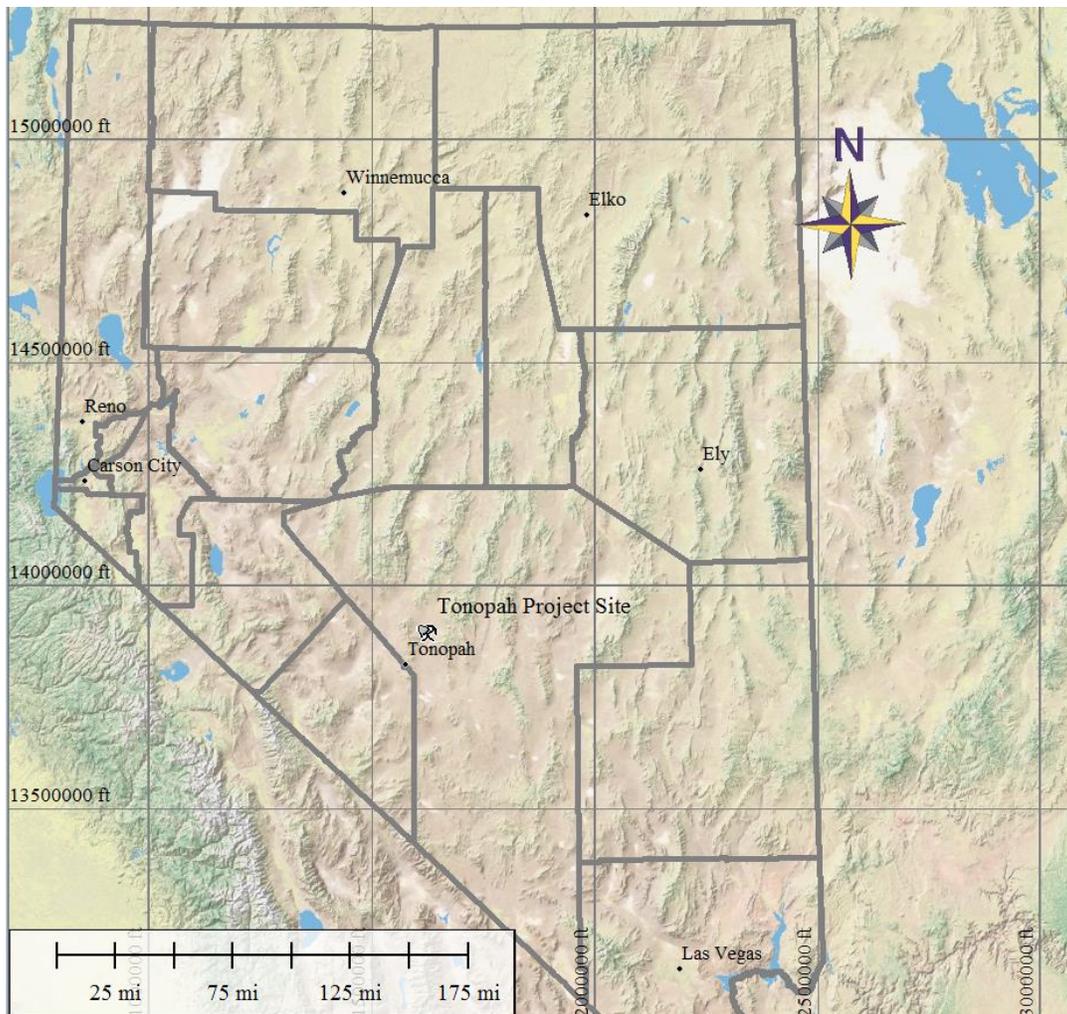


Figure 4-1: Property Location Map

### 4.2 Mineral Titles

The Tonopah Project mining claims are located in Sections 16 to 21 and 28 to 30 of Township 5 North, Range 44 East (T5NR44E), Mount Diablo Meridian (Figure 4-2). Some claims are also found in Township 5 North, Range 43 East Sections 24 and 25 (T5NR43E).

The Project consists of 444 unpatented lode claims (including 185 royalty claims) covering an area of 8,762 acres. All unpatented claims are 100% controlled by Viva; copies of the individual claim notices and location maps are on file with the central Bureau of Land Management (BLM) office in Reno, Nevada, and with the Nye County Recorder’s office in Tonopah, Nevada. The list of claims is included as Appendix E – List of Claims.

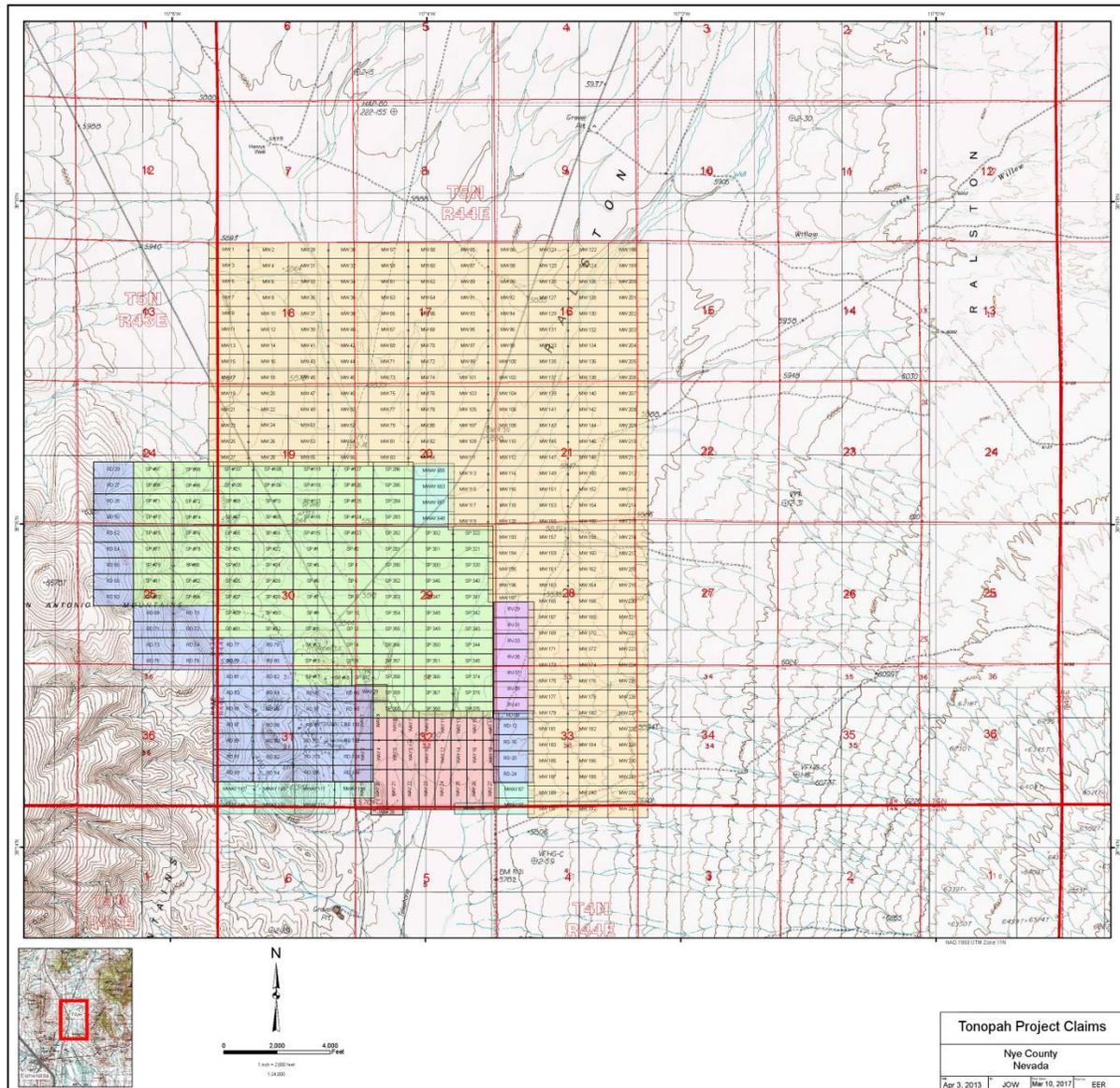


Figure 4-2: Mineral Claim Map

The United States federal law governing locatable minerals is the Mining Law of 1872. This law established a process by which a claimant may locate and extract mineral resources. Location notices for each claim are filed with the BLM and at the courthouse in the county in which the claims are located.

An annual maintenance fee on unpatented claims of US\$165 per claim must be paid to the BLM by September 1 at 12 noon each year. A County proof of labor fee of \$14.50 for the first claim and \$10.50 for each subsequent claim is also assessable on filing of the Federal annual maintenance fees. As of the effective date of this report, Viva is current on all assessment fees.

### **4.3 Royalties, Agreements, & Encumbrances**

The original Midway (now Tonopah) property consisted of 245 claims owned by Paul and Mary Ann Schmidt and Thomas and Linda Patton (Schmidts and Pattons) with each group having a 50% interest. InFaith Community Foundation, a Minnesota nonprofit corporation, now acts as trustee to the Paul and Mary Ann Schmidt 2012 Charitable Trust. InFaith Community Foundation and Thomas and Linda Patton are collectively referred to as the Optionors.

Rex Exploration Corp. (Rex) held an option on the 245 claims under an agreement with the Schmidts and Pattons dated July 2, 2001 and exercised August 5, 2005. Midway Gold Corp (Midway Gold), at the time known as Red Emerald Resource Corp (Red Emerald), held an option on the claims under an agreement with Rex dated August 8, 2001 and exercised October 15, 2002. The original option agreement granted Rex the right to acquire an undivided 100% interest in the Tonopah property by paying the sum of US\$3,000,000 to the owners on or before August 15, 2005. US\$425,000 was paid between August 2001 and August 2004.

In an amendment dated November 2, 2004, the Schmidts and Pattons granted Rex and Midway Gold the option to purchase the property on payment to the Optionors for an additional US\$200,000 (reducing the total purchase price from US\$3,000,000 to US\$625,000) on or before August 15, 2005. At that time, the property would be transferred to Rex free of all encumbrances except for annual advance royalty payments initiating on August 15, 2006. In addition to these payments, Rex fulfilled the requirement to expend not less than US\$1,000,000 on exploration by August 15, 2004. On December 31, 2004, Midway Gold acquired all of the issued and outstanding shares of Rex and assigned the original option agreement to its wholly owned subsidiary MGC on January 1, 2005.

MGC was required to pay to the Optionors an annual advance on royalties that would be payable from commercial production of US\$300,000 on or before August 15th of every year until the Project achieved commercial production. These advances were to be credited against future royalties should the Project start commercial production. Once commercial production started, the production royalty would have been based on a sliding Net Smelter Return (NSR) increasing from a 2%NSR at \$300 per ounce gold to a maximum 7% NSR at \$700 per ounce in increments of 1% for every \$100 of price increase.

In 2002, Newmont Mining Corporation entered into a joint venture (JV) agreement with Midway Gold. The JV was terminated in 2004 and Newmont transferred all claims within the agreement's area of interest to Midway Gold, which subsequently assigned them to MGC.

On June 22, 2015 MGC, together with Midway Gold and its affiliated debtors filed petitions under the US Bankruptcy Code (Chapter 11 of Title 11) in US Bankruptcy Court in the District of Colorado. Viva submitted a bid in Bankruptcy Auction to purchase the original property from the debtors. Viva entered into a Royalty Deed Modification and Waiver of Claims Agreement on March 24, 2017 with the Optionors.

The Optionors agreed to support Viva's bid to purchase the property free and clear of the Optionors original royalty and unpaid advanced royalty payment claims against the debtors by terminating the existing royalty agreement with Midway and replacing it with a new royalty agreement negotiated (termed the "Royalty Modification Agreement").

The details of the modified royalty deed and waiver of claims is as follows:

- Upon commercial production the Royalty Modification Agreement granted to the Optionors a 2% NSR over a total of 185 unpatented lode mining claims in the RD08 to RD106 claim group, the RV31 to 41 group, the SP#1 to SP#127 group, the SP4 to SP382 group, the MW26 to 119 group, and the MWAY 649 to 655 group. The claim groups are discontinuous in numerical order.
- Upon commercial production, the Optionors will receive a 2% royalty based on the Net Smelter Return
- Viva paid \$25,000 to each of the two royalty holders
- Viva issued 750,000 common shares to each of the two royalty holders
- Viva has the option to buy down 1% of the royalty at any time by paying the Optionors \$1.0 million in cash or immediately available funds.

#### **4.4 Surface Rights**

The surface rights of the unpatented claims located in Sections 29, 30 and 31 are managed by the BLM. Those surface rights located in Section 32 are on lands under private ownership through the Stock Raising Homestead Act (SRHA) of 1916. This land was transferred to private ownership under SRHA to allow ranchers to privatize lands deemed to be of no value except for livestock grazing and the growing of forage. The federal government retained the subsurface mineral rights, where the right to surface access is granted subject to various conditions under the 1872 Mining Law. Viva controls the mineral rights underlying Section 32 as unpatented mining claims. The BLM expects good faith negotiations with the landowners for activities conducted on their surface rights. The Town of Tonopah and two individuals are the owners of the surface rights in Section 32, who allowed the earlier staking of the unpatented claims by agreement.

## **4.5 Environmental Permitting, Liabilities, and Previous Environmental Technical and Cultural Resources Studies and Permitting**

### **4.5.1 Required Permits and Status**

Viva has assumed the permits and authorizations necessary to conduct mineral exploration activities on both public and private land. Authorizations assumed include:

- Decision Record (DR) and Findings of No Significant Impact (FONSI) issued by the United States Department of the Interior Bureau of Land Management (BLM) Casefile NVN-076629, and
- Reclamation Permit 0210 issued by the Nevada Division of Environmental Protection (NDEP) Bureau of Mining Regulation and Reclamation (BMRR).

The BLM DR and FONSI authorize surface disturbance for up to 75 acres for mineral exploration and support activities. Viva has deposited with the BLM Nevada State Office a reclamation bond of \$104,786. To-date only 8.4 acres of public land and 0 acres of private land of the total 75 acres of public and private land have been disturbed and remain under reclamation bond.

Temporary groundwater appropriations were issued by the Nevada Division of Water Resources (NDWR) to supply exploration drilling water from an existing well in the Project area. On November 28, 2018 the NDWR approve a waiver to utilize the Red Emerald water well for exploration purposes through November 19, 2019. The use is restricted to dust control and drilling purposes and must not exceed five acre-feet per annum.

Viva also assumed two exploration Notices of Intents (NOI's), N-95436 and N-95437, the East and North Basins. Bonds posted in regards to these NOI's amount to \$10,454 and \$8,235 respectively. The NOI's involve existing groundwater monitoring and injection wells constructed and used by Midway for groundwater re-infiltration and injection testing.

Viva's proposed exploration activities will be located in proximity to two National Register of Historic Places (NRHP) eligible cultural resources sites, CrNV-6-1106 (Ralston Quarry) and CrNV-61-7421 (Midway Archeological Site). As required by Section 106 of the Archaeological Resources Protection Act of 1979 these sites must be protected from disturbance. Viva's exploration activities are not anticipated to occur near the Ralston Quarry site. The Midway Archeological Site is located in a very large and extensive dune field complex in which the Project resource area is located. As required by the BLM, Viva will avoid identified cultural features while drilling by establishing 20-meter radius buffer zones at drill sites.

A third cultural resource site, CrNV-61-7482 (Manhattan-Tonopah stage coach route) traverses the Project area from north to south. This site has not been evaluated for NRHP eligibility.

### **4.5.2 Environmental Liabilities**

Viva is not aware of any current environmental liabilities not identified in this Report resulting from prior Operators' mineral exploration and testing operations. Field inspections by Agency staff and Viva support staff confirm the existence of water supply and groundwater monitoring and injection wells that require plug and abandon following completion of exploration or potential subsequent mining operations. BLM and Bureau of Mining Regulation and Reclamation (BMRR) regulations require sufficient reclamation bonding to ensure ultimate completion of all reclamation obligations. Review of Midway and Agency

records do not report the current presence of residual hydrocarbon (diesel, lubricants, etc.) products resulting from exploration drilling operations in the Project area. Field inspection of the site by the BMRR is conducted annually. No citations or warnings have been issued and no fines or penalties were levied for any environmental or regulatory issues pertaining to the Project under Viva's ownership.

Technical issues related to non-degradation of ground waters of the State, and cultural resources preservation requirements and practices, are not dissimilar to those encountered and managed at mineral exploration projects located elsewhere in the Great Basin of Nevada.

#### **4.5.3 Previous Environmental Technical and Cultural Resources Studies and Permitting**

##### *4.5.3.1 Previous Environmental Technical Studies*

The operator previous to Viva, Midway Gold, undertook several studies to support potential future surface and/or underground mining operations. The studies identified and evaluated baseline hydrogeologic conditions, groundwater quality, storm water controls, mine dewatering requirements, ore and waste rock geochemistry, surplus dewatering water management options including re-infiltration, underground injection and supplemental contribution to the Tonopah Public Utilities (TPU) town water system.

Of note, studies conducted in 2010 predicted an average of 1,000 to 2,000 gallons per minute dewatering rate requirement for a potential underground mining operation. Geochemical testing of waste rock that would be encountered in potential underground decline development reported a low potential for acid rock drainage despite a low net neutralizing potential.

Preliminary data related to environmental and cultural studies have been collected, as detailed and discussed in section 4.5. Permits for exploration activities are discussed in 4.5.1. The Tonopah project is currently an exploration/evaluation stage project, and no mining permits have yet been sought or secured.

Nothing has been discovered during these preliminary studies which is expected to have material adverse effects on the eventual permitting and operation of the Tonopah project, although some form of mitigation effort will be required to settle each of the issues discussed.

##### *4.5.3.2 Acid-Base Accounting*

Project records indicate that initial acid-base accounting samples were submitted for study to Geomega of Boulder CO. These results were focused on certain types of volcanic tuff and Palmetto Formation argillite, which were considered likely to be the primary waste rock types in an underground mining scenario. While all possible types of waste rock for all potential mining scenarios have not been tested, the results so far demonstrate minimal risk of potential ARD.

The July 1, 2007 Geomega memorandum states:

*“There are now results for 32 samples of potential waste rock material. On an aggregate basis both the Tertiary volcanic tuff and the Palmetto Formation argillite (with the exception of Outcrop 373) has both low sulfide and low carbonate content. However, while the average carbonate content of the 25 samples (i.e., excluding Outcrop 373) is low (2.3 ppt) the sulfide content is non-existent to minimal resulting in an average NP:AP of 8.2 which exceeds the EPA criteria of 3.”*

Gustavson recommends that additional waste rock characterization work be carried out for additional material types, particularly within alluvial and colluvial deposits, as well as unmineralized Tertiary volcanics overlying the main mineralized zones.

#### *4.5.3.3 Previous Water Studies*

A total of 23 separate water monitoring well points have been established in the Project area for water monitoring, which to-date have only been sporadically sampled. No consistent baseline water quality studies have been conducted for the Project. A systematic water sampling program will be required to establish baseline water quality in the project area. Initial injection well and rapid infiltration basin (RIB) testing has been completed to establish costs for processing water pumped during potential underground mine dewatering and returning it the basin.

#### *4.5.3.4 Previous Cultural Resources Studies*

Three cultural resources surveys were conducted in the Project area: 1993, 1994 and late 2002-early 2003. These surveys supported mineral exploration activities at that time in the Project area. The Ralston Quarry where Viva proposes no disturbance was originally noted by BLM archaeologist Roberta McGonagle in 1978 with a 1995 follow-up and NRHP eligibility determination in 1978. It is anticipated that updated cultural resource studies are likely required due to the age of past studies, before any major development programs are conducted at the Project.

The Midway Archaeological Site is determined to be potentially eligible to the NRHP with many cultural resource features such as fire-cracked rock, lithic scatters, etc. recorded in the 2002-2003 survey. BLM, Nevada State Historic Preservation Officer and Midway Gold were parties to a Programmatic Agreement (PA) governing development of Midway's exploration activities within the Area of Potential Effect, and administration of the PA to ensure that historic properties are treated to avoid or mitigate effects to the extent practicable and to satisfy BLM Section 106 responsibilities for all aspects of the Project. Midway submitted to the BLM individual work plans (33 to-date) identifying specific locations of proposed disturbance for review and authorization to proceed subject to PA stipulations. The PA facilitated timely authorizations and in-field exploration activities. Viva has assumed Midway Gold's position under the existing PA and filed work plan, #34 to support its recent drill program.

Native American consultations were conducted involving letters, phone calls and two site visits. Concerns expressed by Tribal representatives included potential impacts to the cultural site and impacts to the spiritual value of the Ralston Quarry and Midway Archaeological Site; however, there was no evidence at that time of any recent or current use of the Midway Archaeological Site by Native Americans even though they are aware of the existence of the Site.

Viva's exploration activities should adhere to all Federal and State cultural resources regulations and would inform employees and contractors of the repercussions of collecting cultural artifacts, if any, or damaging cultural resources sites.

#### *4.5.3.5 Previous Permitting Activities*

Initial exploration drilling operations involving surface disturbance of less than 5 acres on public land were authorized by the BLM under NOI's. An Exploration Plan of Operations (ExPoO) and Nevada Reclamation Permit application to disturb up to 75 acres for mineral exploration was filed with the BLM and NDEP BMRR in January 2003. The BLM determined it was necessary to prepare an Environmental Assessment

(EA) assessing the potential environmental consequences of the proposed exploration activities. The final EA (NV065-2003-037) was published, and a DR and FONSI, issued approving the ExPoO December 12, 2003. NDEP BMRR approved Reclamation Permit 0210 in January 2004. Subsequent ExPoO and Reclamation Permit modifications and amendments followed in 2004-2007, with a Major Modification/Amendment submitted in January 2008 to include construction and operation of an underground mine. Agency processing of the Modification/Amendment was suspended in 2009 as exploration operations at the Project were idled.

#### **4.6 Other Significant Factors & Risks**

Risk factors to exploration and subsequent mine development center primarily around water use and non-degradation of waters, cultural resources mitigation, and public road relocation(s).

Sub-surface aquifers in the Ralston valley are the primary water source for the Town of Tonopah. Tonopah is located on a heavily mineralized regional trend (Walker Lane Trend) that has been well exploited, and where ground waters are naturally impacted by arsenic content inherent in the geology. Elevated arsenic concentration in groundwater creates issues relative to United States Environmental Protection Agency (EPA) and NDEP Bureau of Safe Drinking Water (BSDW) public drinking water supply standards. TPU's wellfield water supply and distribution system had been located entirely downgradient from the project, below the confluence of the Walker Lane and Sweetwater subsurface aquifers. TPU had difficulty meeting both BSDW and EPA arsenic standards with this wellfield. To rectify this issue, TPU in August 2012, drilled two additional water collection wells upgradient and to the north and east of the Project, located entirely in the Sweetwater aquifer. This allowed TPU to cease primary reliance on its prior downgradient wellfield. Pipelines and power lines were extended to support this new water production field, which is meeting all Town water needs, while also meeting EPA and BSDW drinking water standards. TPU, by taking water out of the aquifer ahead of the project location, may help to reduce future dewatering rates for the Project.

With respect to cultural resources matters, Viva's exploration activities are required to meet all Federal and State cultural resources regulations and stipulations.

A third risk factor includes the potential for local relocation of either or both of Nevada State Route (SR) 376 and Nye County Road 82 (Belmont Road) depending on the scope of a future mining project. This will not be an issue during exploration. SR 376 runs proximal to the Project and may not require relocation. Belmont Road crosses the principal area of mineralization in the Project and may be impacted. This risk is viewed more as a cost and time factor than as a threat to the project as both roads are generally very lightly travelled by local traffic, especially Belmont Road. If any road relocation is necessary due to potential mining operations, Viva would work with the Nye County Road Department, and the Nevada Department of Transportation.

## **5 Accessibility, Climate, Local Resources, Infrastructure, & Physiography (Item 5)**

### **5.1 Topography, Elevation, Vegetation and Climate**

Local terrain at the Tonopah site is gentle to moderate with seasonal streams and broad washes separating the surrounding pediment slopes near the Ralston Valley bottom. In places, seasonal streams have cut deeply incised channels. Elevation at the property ranges from 5,800 to 6,800 feet above sea level. Vegetation is typical of high-altitude desert in central Nevada, dominated by desert scrub plant species including shadscale, spiny horsebrush, budsage, winterfat, and prickly pear cacti. Sandy hummocks within defined drainage areas are dominated by greasewood, rubber rabbitbrush, quailbush, and bush seepweed. No noxious weeds were observed during the vegetation survey, though a few weedy species (cheatgrass, halogeton, Russian thistle, poverty weed, and mustards) reportedly do exist within the project area (Gustin, et al., 2005; U.S. Bureau of Land Management, 2003).

The local climate is typical for the high desert of central Nevada and the Basin and Range province. Data from the Western Regional Climate Center (WRCC) shows an average of 4.95 inches of total precipitation per year 14.4 inches of average total snowfall. Average temperatures range from 40°F in the winter to 62°F in the summer at Tonopah, Nevada, and daytime temperatures commonly exceed 90°F during the months of July and August (WRCC, 2009). Work can be conducted year-round at the property.



**Figure 5-1: Aerial Photo of Tonopah Project Area during 2007 Drill Campaign, Looking SW**

## **5.2 Accessibility & Transportation to the Property**

Access to the Tonopah Project site is provided by State Highway 376, a paved road that intersects Nye County Road 82 (Belmont Highway) near the center of the project area. It is approximately 20 miles, via paved road, from Tonopah, Nevada to the Tonopah property. The property is accessible year-round.

## **5.3 Infrastructure and Local Resources**

The Tonopah Project is wholly located on Viva land holdings approximately 20 miles northeast of the Town of Tonopah, Nevada, in the Midway (also known as Rye Patch) Mining District.

The town nearest to the project site, Tonopah, Nevada, hosts a population of 2,478 according to 2010 US Census data. Nye County hosts an area population of 43,946 (US Census Bureau, 2010).

Electrical power is available from the Tonopah well field line, approximately 3 miles east of the project area. Previous exploration campaigns used water from a well located on site for exploration. Water rights for exploration, mine production and process efforts will need to be secured. Potential sources for water

include purchase of water from TPU's wellfield, and acquisition of excess water rights available near the towns of Manhattan and Round Mountain, up-drainage from the project area.

Logistical support is available in Tonopah, which currently supports the Round Mountain Mine just 30 miles north of the Tonopah Project. The surrounding region has a long history of mining activity, and mining personnel and resources for operations at Tonopah should be available from the local and regional communities.

#### **5.4 Sufficiency of Surface Rights**

Surface rights are described in section 4.4. At present the project is an exploration/evaluation stage property. It has not yet been determined what surface rights might be needed for eventual development of the project, nor have surface rights for eventual development been secured.

#### **5.5 Infrastructure**

The Tonopah Project is currently an exploration/evaluation stage project. The site has excellent logistics and access for exploration, being a short drive from the town of Tonopah, Nevada, with good road access, communications, and access to contractors and labor. Las Vegas, a city of 2 million people with significant construction and manufacturing infrastructure, is located 210 miles southeast of the project via US Highway 95. There are major Komatsu and Caterpillar dealers and supply depots located in Las Vegas, as well as Cat and Komatsu parts depots and mining-specific machine shops in Round Mountain, approximately 30 miles north of the project. Power and water are available, although water rights will need to be acquired.

There are two water wells already on site. Previous hydrological work has been done on the site due to its proximity to municipal water sources as discussed in Section 4.6 of this report. The report by Water Management Consultants Inc. titled "Hydrologic Assessment and projection of Dewatering Requirements" completed in 2008 confirms that pit or underground mine dewatering activities will be required for the Project and that sufficient sub-surface water supply exists in the drainage to meet the needs of both potential production operations and TPU water supply requirements.

A second dewatering study was completed in 2011 by Schlumberger Water Services which established a plan for dewatering prior to shaft or adit development. This report also includes a hydrogeologic model for the mine area.

Viva does not currently envision an underground mining operation for the project, but the data collected for they hydrological studies will be useful in assessing water management needs for open pit mining.

## 6 History (Item 6)

### 6.1 Ownership

The original property consisted of 245 privately held claims which were first optioned in the 1970's. Ownership and operation of the property has changed hands a number of times over the years, and a variety of exploration work has been conducted. Midway Gold gained an option on the claims through an agreement with Rex in 2001 and became the sole owner of the property as of December 31, 2004. MGC, a wholly-owned subsidiary of Midway Gold, conducted exploration drilling, sampling, mapping, and geophysics from assignment of the project on January 1, 2005 through suspension of exploration activities in 2015.

On June 22<sup>nd</sup>, 2015, Midway Gold filed a voluntary petition for relief under Chapter 11 of Title 11 of the United States Code in the United States Bankruptcy Court for the District of Colorado. On March 22<sup>nd</sup>, 2017 the Court issued an order authorizing the sale of the Tonopah Project by Midway Gold to Viva free and clear of liens, claims and interest pursuant to applicable sections of the Bankruptcy Code.

Viva assumed certain royalty and environmental obligations and provided other valuable considerations, including cash payment. Viva also entered into a Royalty Deed Modification and Waiver of Claims Agreement with underlying royalty holders on the Tonopah Project to waive certain claims by the royalty holders against Midway, eliminate advance royalty payments, and to restructure an onerous sliding scale Net Smelter Royalty (NSR) into a flat 2% NSR structure in exchange for cash consideration and shares of the company.

### 6.2 Exploration History

Mining and exploration have occurred in the vicinity of the Tonopah Project since the early 1900's. The Tonopah property is located in the Tonopah (or Rye Patch) Mining District. While there is no record of historic gold or silver production at the Tonopah Project site, past production has occurred in the Tonopah Mining District to the south and the Manhattan District immediately to the north of the project area.

At least one shaft and several prospect pits exist as remnants of early mining activity at the Tonopah property, but no data or descriptive information associated with that activity is available. The property was held and explored by Houston Oil and Minerals (Houston) from the 1970s through 1984. Three RC holes were drilled at the property prior to 1981, but it is unclear whether these holes were drilled by Houston or some other company.

In 1981, Felmont drilled 96 RC holes in the Thunder Mountain area, southeast of the Tonopah Project area. No further exploration activity was completed until 1986, when Messrs. Patton and Schmidt staked claims covering the Tonopah property and areas to the north and east. In 1988, Messrs. Patton and Schmidt optioned the property to the Coeur d'Alene Mines Corporation (CDA). CDA conducted preliminary geological, geochemical, and geophysical surveys and drilled three RC holes into targets identified from this exploration. The results of the exploration program were inconclusive and CDA dropped their option on the property.

Rio Algom Ltd., in conjunction with Cour d'Alene optioned the property in 1989 and completed a similar exploration program, including 42 RC holes. This program was completed in an area to the north-

northwest of the Tonopah Mine (now called the Midway Hills Area) and yielded a best intersection of 15 ft. of gold mineralization of 0.6 oz/ton.

Kennecott Exploration Company leased the property from Messrs. Patton and Schmidt in 1992. Kennecott drilled 10 holes in the Midway Hills area in 1992 with limited success. Between 1992 and 1996, Kennecott completed four geophysical programs including airborne magnetic, airborne electromagnetic (EM), gravity, and controlled source audio-frequency magnetotelluric (CSAMT) surveys. Based on the geophysics work, Kennecott switched focus to covered targets east of the Midway hills. Kennecott ultimately drilled 132 RC holes and four core holes, identifying the Discovery Zone.

In August 1996, Mr. Jay W. Hammitt developed a polygonal resource estimate associated with the Discovery Zone. Golconda Resources Ltd. drilled nine RC holes in the Thunder Mountain area, also in 1996. Tombstone Exploration and Kennecott formed a JV in 1997, and Tombstone drilled 14 RC holes in several different areas at the Tonopah property. Late in 1997, rights to the Tonopah property were returned to Messrs. Patton and Schmidt.

In 2001, Rex Exploration Corporation negotiated to acquire a 100% interest in Tonopah from Messrs. Patton and Schmidt. At that time, Rex also entered into an option agreement with Red Emerald Resources Corporation, the predecessor to Midway Gold. In 2002, Red Emerald became Midway Gold and Rex became a wholly owned subsidiary. Between May 2002 and September 2002, Midway Gold drilled 19 RC and 50 core holes at the Tonopah Project (Gustin et al., 2005; MGC Resources, 2008).

In September of 2002, Midway Gold entered into a JV agreement with Newmont Mining Corporation under which Newmont was the operator. Between 2002 and 2004, Newmont completed a regional exploration program that included additional geophysical surveys in the form of ground and airborne radiometric, magnetic and EM/Time-delay electromagnetic (TEM), gravity, CSAMT, Induced Polarization (IP)/resistivity and a small-scale self-potential test over the Discovery Zone. During this period, 75 RC and 46 core holes were drilled at the Tonopah Project and Thunder Mountain areas. Metallurgical testing was also conducted during 2002, and the Northwest and Thunder Mountain areas were mapped, and regional rock and stream sediment geochemical surveys were completed. The Midway – Newmont JV was dissolved in 2004.

Between 2004 and 2012, Midway Gold drilled 90 RC holes and 73 core holes at the Tonopah Project. Midway also collected geotechnical data from and conducted hydrological studies on many of these holes. During this period, Midway also dropped the Thunder Mountain claim area and shrank the claim position to the current holdings.

Historic drilling at the Tonopah Project is summarized in Table 6-1, including drilling conducted by Midway in 2002 and from 2005 through 2012.

Viva initiated a drilling program in January 2018 for confirmation drilling for the property, and potentially to gather fresh material for metallurgical studies. This program is discussed in Section 10, below.

**Table 6-1: Tonopah Project Historic Drilling (Pre-Viva Gold)**

Company	Year	RC		Core		Total Drill Holes	Total (ft)
		No.	ft	No.	ft		
Felmont	1980-1981	92	30,230			92	30,230
Coeur d'Alene	1988	3	1,075			3	1,075
Rio Algom	1990-1991	41	19,770			41	19,770
Kennecott	1992-1996	133	67,212	4	1,816	137	69,028
Bob Warren	1994	3	1,185			3	1,185
Golconda	1996 - 1997	9	1,690			9	1,690
Tombstone	1997	14	6,495			14	6,495
Midway Gold	2002	20	10,839	49	15,854	69	26,693
Newmont	2002 - 2004	84	41,641	38	26,319	122	67,960
Midway Gold	2005	22	8,987	1	140	23	9,127
	2006	44	22,635	19	4,228	63	26,863
	2007	11	4,710	8	3,171	19	7,881
	2008			16	3,448	16	3,448
	2011			26	13,024	26	13,024
<b>Total</b>		476	216,469	161	68,000	637	284,469

### 6.3 Historical Mineral Resource Estimates

A polygonal resource estimate was completed by Jay Hammitt in August 1996. This resource estimate was described as incomplete because it did not include structural, stratigraphic or geologic controls of gold distribution and did not classify the resources (Gustin et al., 2005). A “preliminary resource” of 270,000oz gold dated 1997 was reported in The Nevada Mineral Industry Special Publication MI-1997 and Special Publication 1998 (Tingley et al., 1997; Tingley et al., 1998). This estimate may be the result of Mr. Hammitt’s work. This pre-2000 resource was estimated prior to NI 43-101 reporting standards, was not intended for public reporting, and is not considered representative or current. The estimated tons and grade are not available.

In 2005 Gustin and Ristorcelli completed a Mineral Resource Estimate as part of the, “*Updated Summary Report Midway Gold Project, Nye County, Nevada (2005)*”. The estimate was based on 195 drill holes which supported a data base of 8,860 composites. The Inferred Mineral Resource totaled 5.526 million short tons at 0.039 opt Au at a 0.01 opt Au cutoff. This estimate was superseded by the Gustavson 2011 estimate based on an underground mining concept.

Gustavson (March 2011) estimated a mineral resource for the Midway (now Tonopah) project of 114,000 short tons at 0.10 opt Au cutoff in the inferred category, with an average grade of 0.3017 opt Au, containing 34,400 gold. This resource was disclosed in a 43-101 report on resources by Midway Gold Corp, the previous owner of the property. The 2011 study focused on estimating resources for a small underground mining target as reflected by the elevated cutoff grade. This estimate is superseded by the current resource estimate disclosed in this report.

Thomas Matthews, the author of this report, prepared a resource estimate for Viva Gold based on the historical drilling databases available as of March 2018. The results of this estimate were reported in the March 2018 “Technical Report on Mineral Resources for the Tonopah Project”. This estimate is superseded by the current resource estimate disclosed in this report.

Thomas Matthews, the qualified person for this report, has not done sufficient work to classify any of the historical estimates as current mineral resources or mineral reserves. Viva is not treating any of the historical estimates, nor the superseded estimates as current mineral resources or mineral reserves. The current mineral resource estimate for the Tonopah property is disclosed in section 14 of this report.

#### **6.4 Past Production & Mining**

There is no record of historic gold or silver production at the Tonopah Project site; however, past production has occurred in the Tonopah Mining District to the south and the Manhattan District immediately to the north of the project area.

Gustavson does not know of any reserves, compliant to US SEC or Canadian National Instrument standards, which have ever been estimated or reported for the property.

## **7 Geological Setting & Mineralization (Item 7)**

### **7.1 Regional Geology**

The Tonopah property is located on the northeast edge of the Walker Lane structural zone, a zone of sub-parallel, right lateral strike-slip faults that separate the Sierra Nevada batholith from the Basin and Range province (Bonham and Garside, 1979). The project area is situated in the Midway Hills and Rye Patch valley in the eastern San Antonio Mountains, and includes a portion of the Ralston Valley. The San Antonio Mountains are regionally capped by Miocene Red Mountain trachyandesite flows which can reach thicknesses of up to nearly 1,000 ft.

Argillite, chert, limestone, and other fine-grained clastic rocks of the Ordovician Palmetto Formation are exposed in outcrop at the eastern foot of the Tonopah Hills, near the western edge of the Tonopah property. Rocks of the Palmetto Formation strike northwest to east-west, and dip moderately to the north and northeast. Valley fill alluvial, colluvial, aeolian, and playa deposits extend east from the eastern foot of the Tonopah hills into Ralston Valley, masking bedrock geology over most of the Tonopah property. A regional geologic map of the area is presented as Figure 7-1.

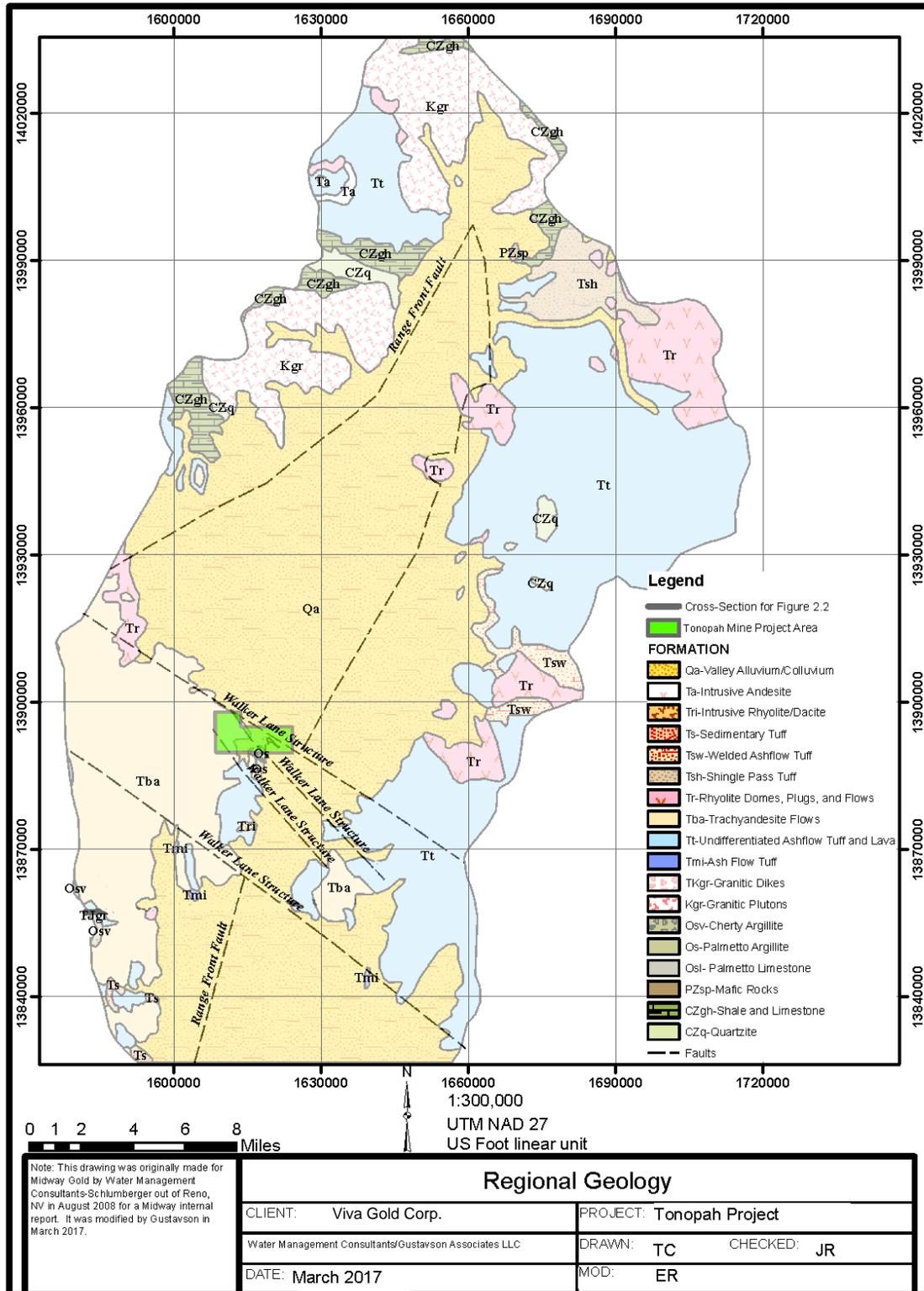


Figure 7-1: Regional Geology

## 7.2 Local Geology

Local geology in the vicinity of the Tonopah Property is dominated by valley fill deposits including alluvium, colluvium, sand dunes and playa deposits. With the exception of a single outcrop, the gold-bearing altered and mineralized zones of the Tonopah deposit are masked by these Quaternary deposits. Argillite, sandstone, and limestone of the Ordovician Palmetto Formation outcrop in the nearby foothills of the Midway Hills, to the west of the property. These rocks are unconformably overlain by felsic volcanic rocks of the Rye Patch member of the Tonopah Formation (MDA 2003, 2005) or Tombstone Formation (MDA 2002, Panterra 2003).

Intermediate to mafic volcanic flows, presumably of the Red Mountain trachyandesite unit, cap most of the hills to the west of the Tonopah property. These rock types are exposed in a series of north-trending ridges that represent stacked, easterly-directed thrust sheets and low amplitude, open to tight folds. Structure is dominated by the northwest trending Rye Patch fault system, a feature typical of the Walker Lane structural belt.

Rhyolite dikes ranging in width from 3 to 65 feet occur in northwest trending dike swarms in the Palmetto Formation. The dikes are typically clay altered with drusy to chalcedonic quartz veinlets and may host anomalous gold mineralization. Similar felsic dikes have been encountered during drilling.

The current understanding of bedrock geology and the distribution of mineralization and alteration in the Tonopah Project area is based on the results of drilling exploration. A map of the local bedrock geology is presented in Figure 7-2.

## 7.3 Property Geology

The Tonopah property contains a low-sulfidation epithermal gold system associated with near vertical quartz-adularia-gold veins hosted by Ordovician black argillite of the Palmetto Formation and Tertiary rhyolitic volcanics and also in association with a discontinuity at the contact with the top of the Palmetto Formation and lower sequence of the Tertiary volcanics. Gold bearing veins occur in a series of en-echelon clusters along a 1.5-mile northwest-trending band of mineralization. Contact related gold mineralization is also seen along this entire band. The main altered and mineralized zones are overlain by alluvial gravels, sand dunes, and playa deposits. An idealized stratigraphic column based on drill core logs is presented in Figure 7-3.

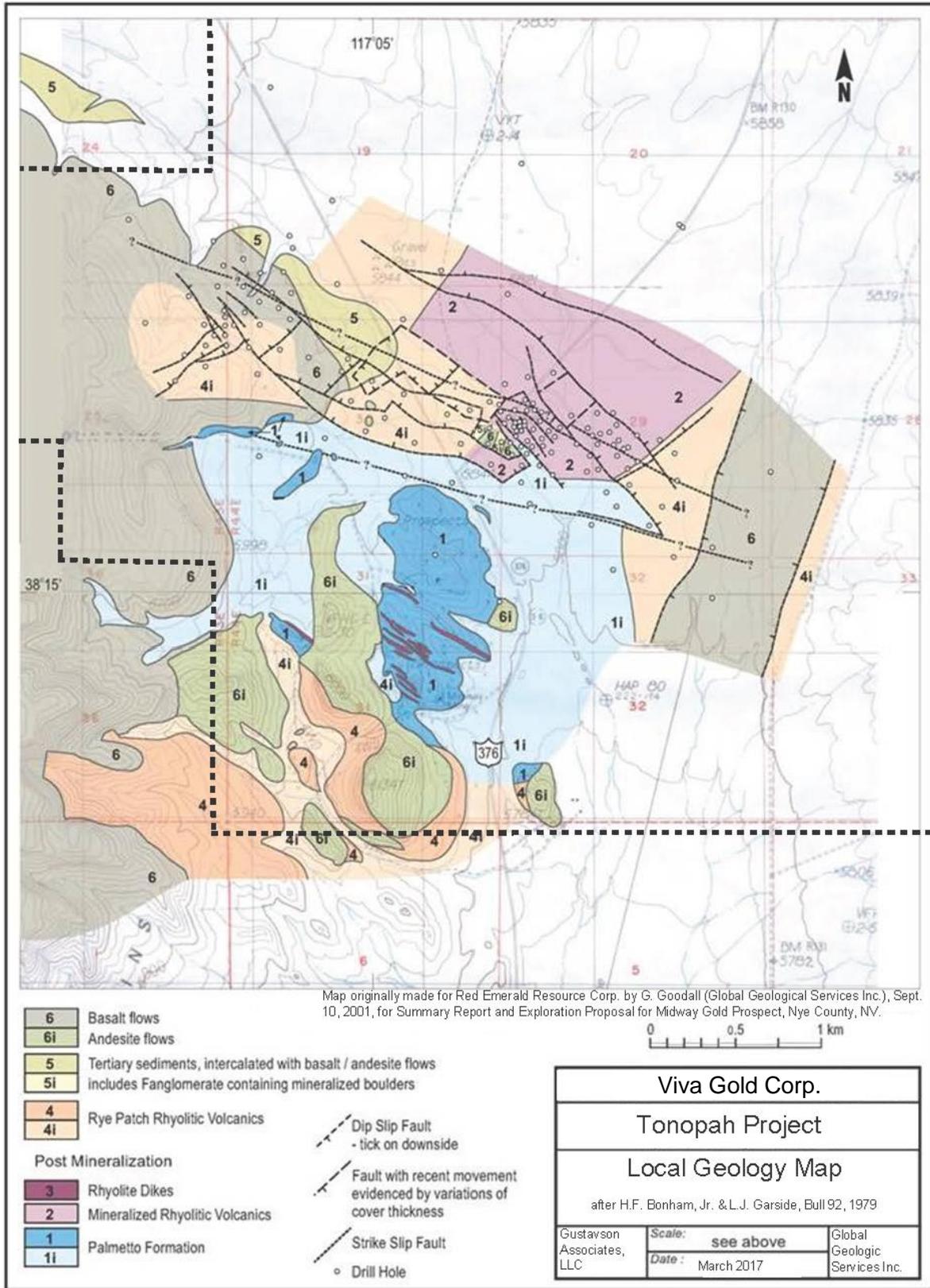


Figure 7-2: Local Bedrock Geology

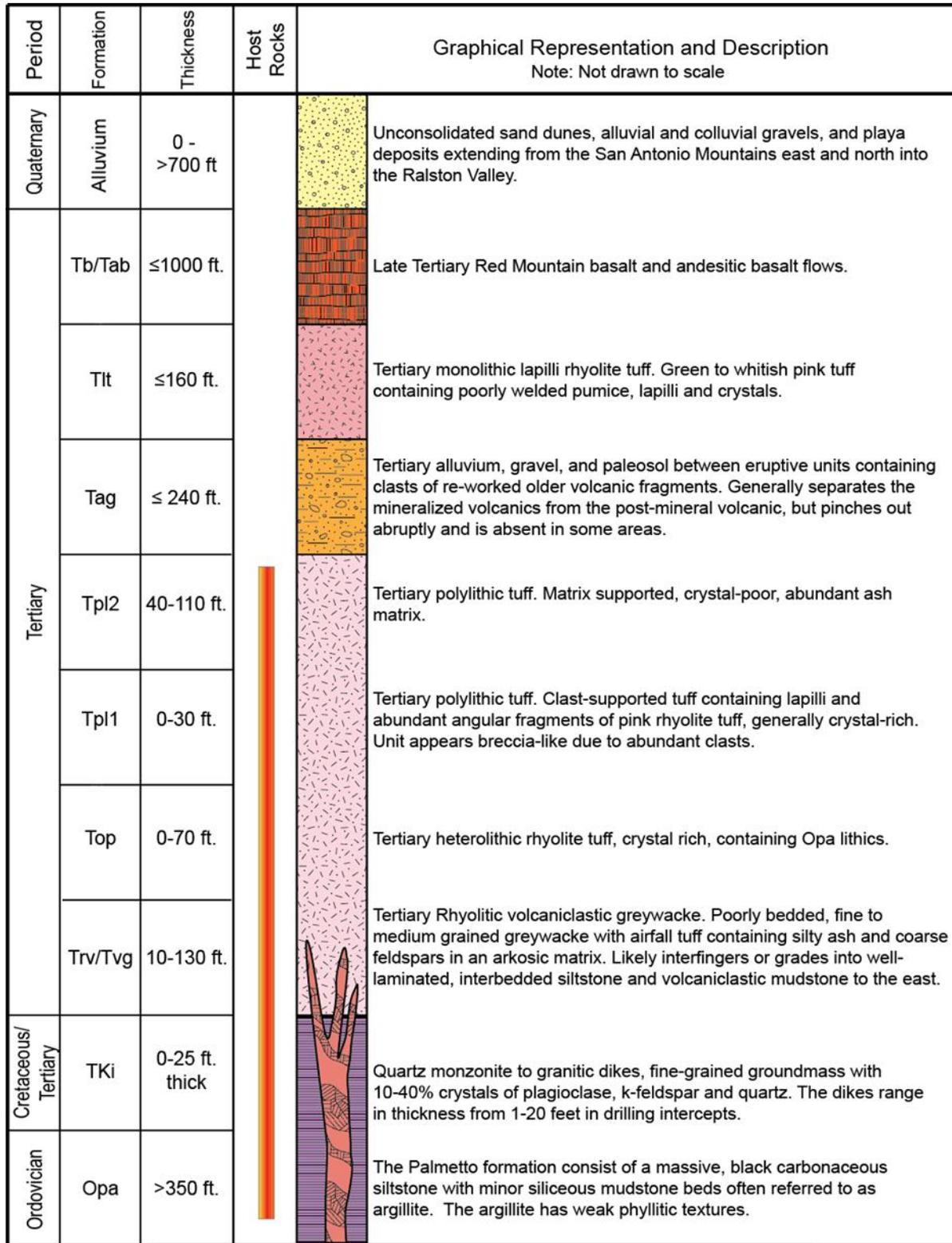


Figure 7-3: Stratigraphic Column at Tonopah Project (After Podratz & LeLacheur, 2014)

Individual lithologic units identified at the project site are described below, from oldest to youngest.

### **7.3.1 Ordovician Palmetto Formation**

The Ordovician Palmetto Formation is the oldest and deepest unit encountered in drill holes at Tonopah. The Palmetto Formation is comprised of siltstone, argillite and chert in the drilled area. Bedding dips moderately, ranging in direction from northeast to northwest in oriented drill core measurements (Rhys, 2003). Pre-Tertiary deformation produced tight to isoclinal folds and a crenulation cleavage in Palmetto rocks; overlying Tertiary volcanic rocks are unaffected

### **7.3.2 Tertiary Tombstone Formation**

Felsic tuffs and volcanoclastic sediments of the Tertiary Tombstone Formation nonconformably overlie the Palmetto Formation. Subsurface mapping and correlation of horizons in drill core or cuttings is difficult due to textural destruction by hydrothermal alteration and rapid lateral facies changes (Rhys, 2003).

### **7.3.3 Tertiary Intrusive Rocks**

Fine to medium grained, and aphanitic felsic dikes and sills intrude the Palmetto and Tombstone Formations, commonly filling faults. These intrusive rocks are altered and mineralized similar to those observed in surface outcrop in the Midway Hills and are likely coeval. Relative age and timing relationships indicate the intrusives are younger or partially coeval with the Tombstone Formation and are syn- to pre-mineral relative to the mineralization/alteration events within the Tombstone.

### **7.3.4 Tertiary Volcanics (Post-mineral)**

A variety of rhyolitic to mafic volcanics unconformably overlie the Tombstone Formation, resting on an interpreted post-mineral paleo-surface. These units have not been studied in any detail.

### **7.3.5 Quaternary Deposits**

Quaternary deposits consisting of a heterogeneous mix of locally derived silt, sand and gravel cover the majority of the Tonopah Property. Mixed dune-playa deposits occur in the central and eastern portion of the property in the lowest areas of the valley floor. Sand dunes are generally small, under 100 feet long and 10 to 15 feet high and are mostly stabilized by vegetation. The mineralized area is buried by 35 to 100 feet of Quaternary cover.

## **7.4 Structural Geology**

Structural geology significantly influences the distribution of mineralization and alteration at Tonopah. The Rye Patch fault system is a complex, oblique-slip fault system with numerous northwest trending splays, believed to be associated with north-south trending compressional stress common in the Walker Lane structural trend. Subordinate steeply dipping, north-south striking extension fractures developed between the two bounding strike slip faults.

Detailed structural studies of bedrock exposures and oriented core from 22 drill holes indicate that alteration and mineralization developed between two moderately northeast dipping faults with right-lateral strike slip movement. Veins and hydrothermal breccias developed along sub-parallel, north-south extension fractures that terminate at the northwest faults.

## 7.5 Significant Mineralized Zones

Two overlapping mineralized trends have been identified in drilling. The primary trend runs parallel to the west-northwest Rye Patch Fault System, bearing 290-300 degrees over at least 10,000 feet, and 1,500 feet width, and open along strike. Mineralization within this trend is generally within the lower portion of the tertiary volcanics, and sometime in the uppermost argillites, parallel to the Opa/ Tv contact and is generally low to moderate grade, from 0.1 ppm to 5 ppm Au.

Secondary extensional fractures range from 345 to 360 degrees strike, are near-vertical in dip, and host veins and hydrothermal breccias with higher grade mineralization, ranging from 1.0 to over 30 ppm Au. These extensional fracture zones are best represented in drilling in the Discovery and Dauntless zones.

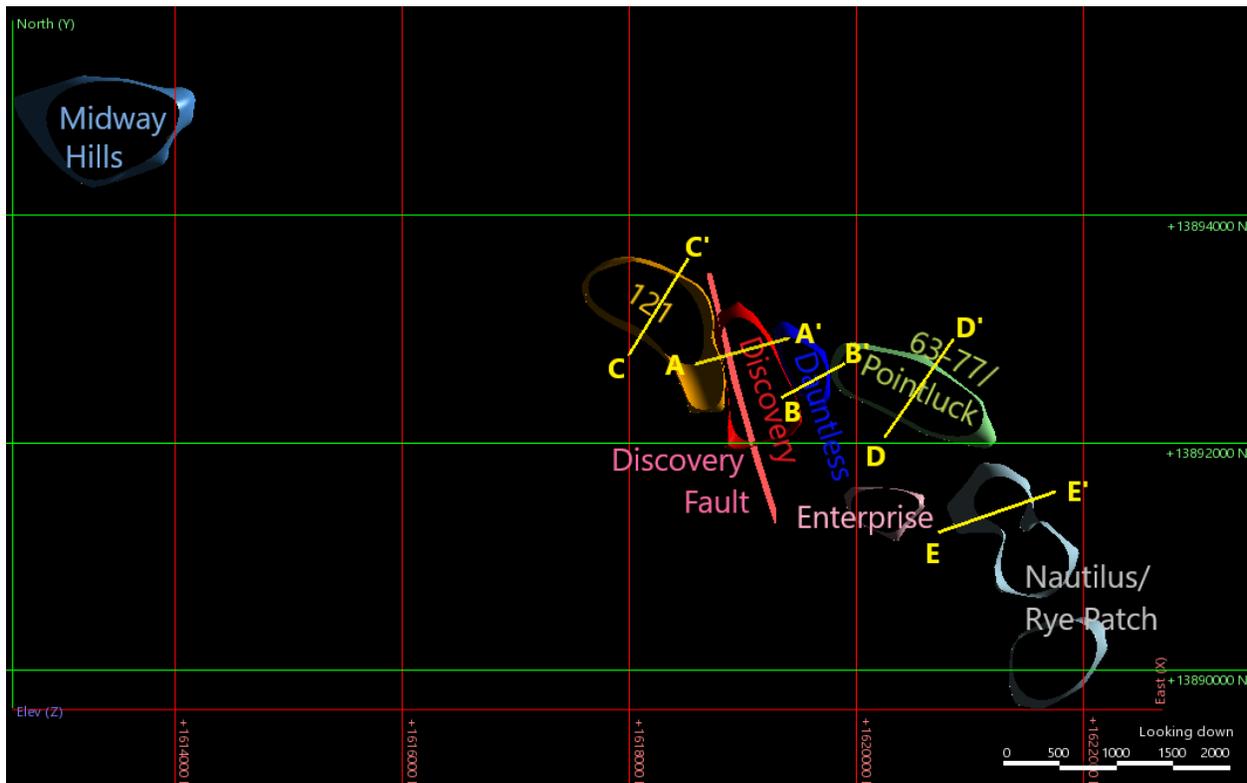
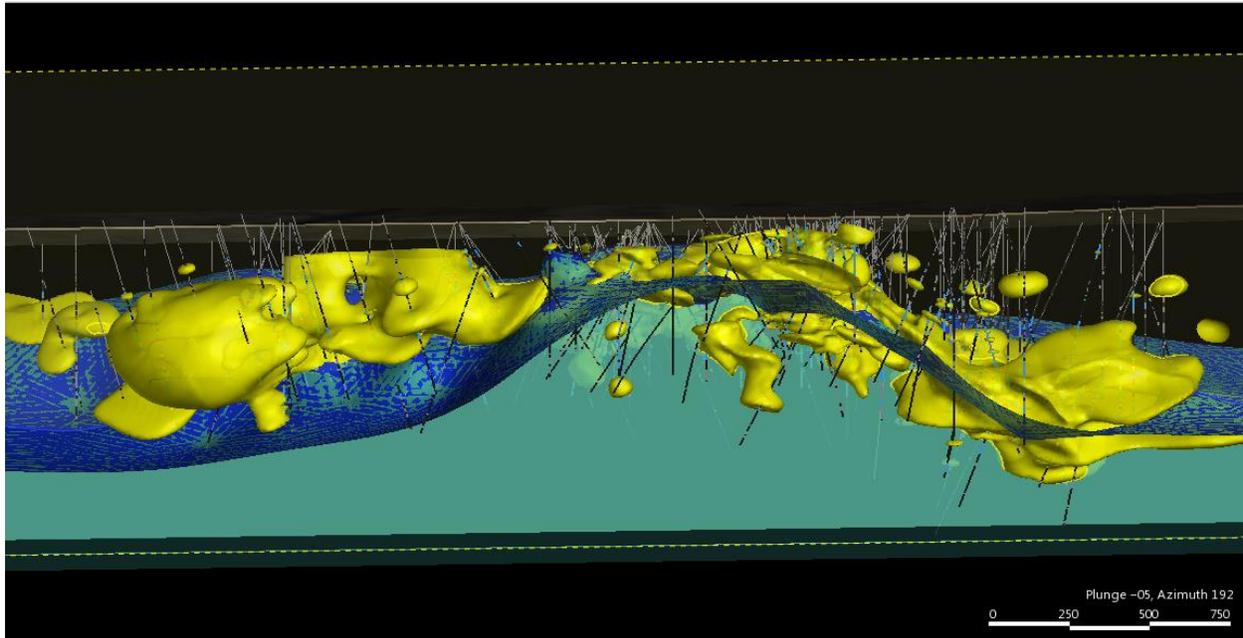


Figure 7-4: Mineralized Zones at the Tonopah project, and cross section traces for Section Lines. Section A-A' corresponds to Figure 10-4 Section B-B' corresponds to Figure 10-5, Section C-C' corresponds to Figure 10-6, Section D-D' corresponds to Figure 10-7, and Section E-E' corresponds to Figure 10-8.

## 7.6 Mineralization and Alteration

A discontinuity has been identified in drilling at the top of the Palmetto formation, where tertiary volcanics and ashfall tuffs disconformably overlay the argillite. Significant alteration and mineralization is localized within a low-angle zone which includes and often parallels the erosion surface of the Palmetto, as well as several facies in the tertiary volcanics, particularly where veins and mineralized structures intersect this contact zone.



**Figure 7-5: Long section looking South (Az 192), showing gold mineralization (gold shell) adjacent to Palmetto argillite contact (blue)**

It is interpreted that ascending fluids entering the contact zone deposit precious metals in a favorable chemical and textural horizon in the base of the tertiary volcanics. Figure 7-5 shows the geometry of mineralization along this contact zone. Mineralization within this zone trends parallel to the Rye Patch right-lateral oblique-slip fault system, with a general azimuth of 330 degrees. Higher grade gold mineralization and associated alteration have been identified in a series of north-striking extensional structural zones within the overall mineralized trend, including the Dauntless and Discovery Zones (Figure 7-4). Gold mineralization in the Dauntless and Discovery occurs in zones of massive quartz-adularia alteration in volcanic and volcanoclastic rocks of the Tombstone Formation and in veins, breccias, and silicified faults in both the Tombstone Formation and the underlying Palmetto Formation. Quartz-adularia alteration in the Discovery Zone tends to extend laterally in the Tombstone Formation immediately above and parallel to nonconformable contact with the Palmetto Formation associated low grade disseminated gold mineralization. In the Dauntless Zone, the quartz-adularia forms a funnel-shaped zone that expands upward into the Tombstone Formation above the moderately dipping nonconformity.

Alteration outside of the quartz-adularia zones in the Tombstone Formation is characterized as strong argillic alteration, which persists to the limits of drilling to date. Oxidation is extensive, and only local relict patches of incompletely oxidized pyrite remain in the many of the altered areas.

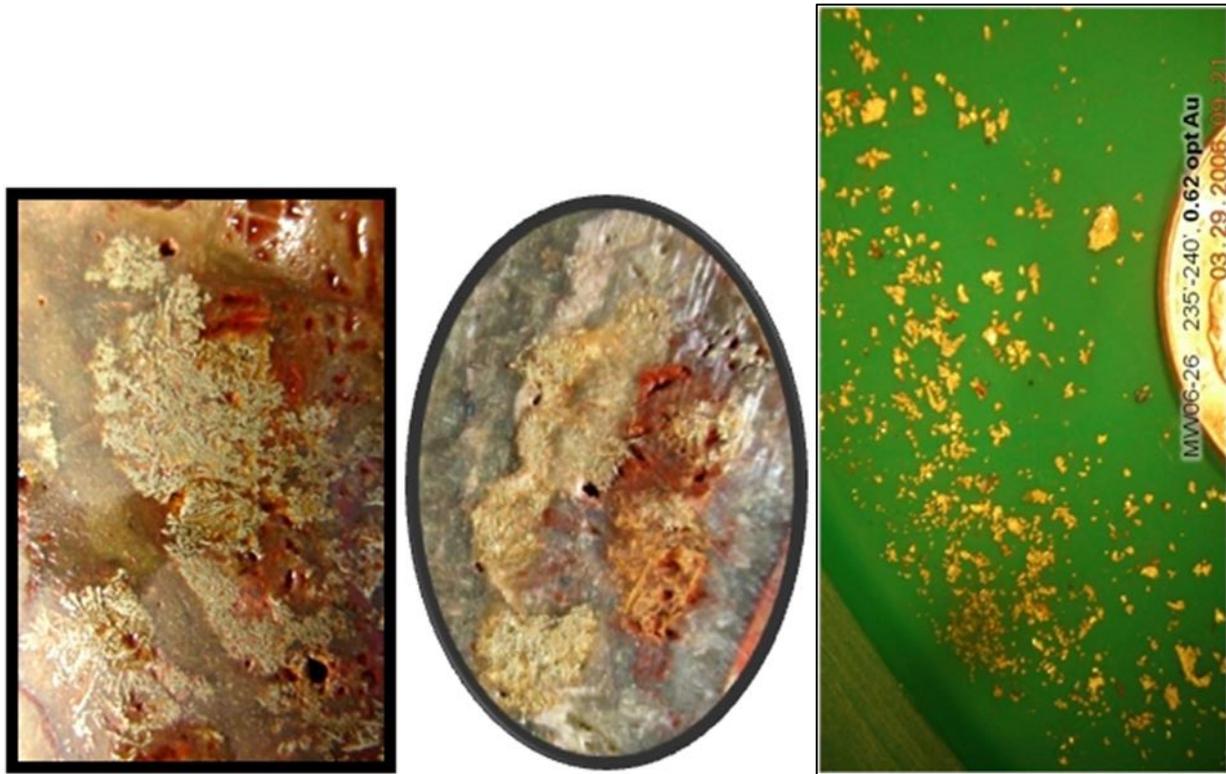
Significant gold mineralization occurs within the quartz-adularia altered zones, with higher gold grades associated with a variety of siliceous veins, and veinlets including chalcedonic, bladed or drusy quartz, and quartz +/- iron oxide cemented breccias. In the Discovery Zone, to the southwest of the mineralized zones in the Midway Hills and northwest of the Dauntless Zone, there is a strong predominance of steeply dipping north-south trends in mineralized veins and structures of the Tombstone Formation (Rhys, 2003). These structures are interpreted as extension fractures consistent with the structural interpretation described in Section 7.4, Structural Geology.



**Figure 7-6: Core Photos of Tonopah Vein Structures**

The Discovery Zone is the most densely drilled zone at the Tonopah property. Drill holes have intercepted a large number of veins, breccia-veins, and mineralized structures occurring in sub-parallel clusters 10 to 20 feet apart. According to MGC, vein and mineralized structure thicknesses vary from a few inches to over 20 feet, averaging 6 feet; Gustavson did not sufficiently review drill core and drill hole data to confirm that estimate. Continuity of veins, vein zones and structures is projected, but not certain, over approximate north-south strike lengths of 200 to 500 feet, and with vertical dimensions that may locally exceed 300 feet. Continuity of gold mineralization and gold grades coincides, approximately, with projections of the veins and structures, but becomes far less certain at progressively higher gold grade cut-offs. At lower cutoff grades, good continuity develops between zones, veins and structures, due largely to lower grade mineralization associated with the discontinuity contact between the Palmetto Formation and the overlying Tombstone volcanics. There is a tendency for well-defined veins in the Palmetto Formation to branch and splay upward into a broader network of veins, vein zones, veinlets in the overlying Tombstone Formation volcanics. Gold mineralization is associated with the veins, breccias and structures, and lower-grade mineralization also spreads laterally in a more disseminated fashion associated with quartz-adularia alteration in the Tombstone volcanics. The system remains open at depth in the Palmetto Formation for lack of sufficient deep drilling.

Visible gold is commonly observed in and along the edges of veins, is frequently associated with hematite, and occurs locally in coarse form. Dendritic gold has been observed in core. Examples of visible gold from the Tonopah property are shown in Figure 7-7.



**Figure 7-7: Visible Gold from Tonopah Project**

Rhys (2003) documents the vertical sequence of veining in the Tombstone Formation:

*“Within well mineralized portions of the Discovery Zone, a vertical sequence of veining is frequently apparent in the otherwise massive, intense K-feldspar-quartz alteration zone developed in the Tertiary sequence. High in the zones of K-feldspar-quartz alteration, veinlets are generally rare, but when present, are composed of opaline to chalcedonic quartz, locally with fine-grained drusy quartz lined cavities. Beneath this, significant Au values generally occur within and above a zone containing bladed quartz veins and veinlets that contain lattice-like replacement textures of quartz after calcite. These textures can be traced as a discrete, tabular, 5 to 20 foot thick, shallow northeast dipping textural zone from hole to hole that sits in the upper or central portions of the K-feldspar-quartz altered zone, and which probably records a boiling level in the hydrothermal system. Below this bladed quartz zone, chalcedonic quartz veinlets are common, and progressively increase in abundance downward toward the Palmetto conformity”*

Siliceous structures oriented similarly to those in the Tombstone Formation occur in the underlying Palmetto Formation. Veins hosted in the Palmetto Formation form well-defined discrete veins and hydrothermal breccias up to 6 feet wide according to MGC. Alteration in the Palmetto Formation is characterized by argillic alteration extending up to several hundred feet below the nonconformity with the Tombstone Formation. Intense argillic alteration is typically limited to a zone within ten to eighty feet of the nonconformity, with gradual weakening of bleaching and clay alteration to greater depth. Locally, the zone of intense quartz-adularia alteration in the overlying Tombstone Formation may extend into the Palmetto Formation for a few feet (Rhys, 2003).

## **8 Deposit Types (Item 8)**

Alteration and mineralization at the Tonopah property are typical of low-sulfidation, volcanic-hosted epithermal gold deposits found elsewhere in Nevada and around the world. The deposit type is characterized by overall low original sulfide content, and quartz-adularia and clay-sericite alteration assemblages, among others. Vein textures are indicative of high level, near surface emplacement and include void fills, crustiform coatings, colloform banding, and comb structures. Similar deposits in Nevada have proven to be economic, including the Midas and Bullfrog deposits.

The proximity and similarities of the Tonopah property to other gold deposits does not, on its own, indicate that the Tonopah property should be similarly mineralized.

## 9 Exploration (Item 9)

### 9.1 Previous Owner's Exploration Work

A total of 637 drill holes totaling 284,469 feet have been completed in the greater Tonopah Project area by a number of companies beginning in the 1970's. The majority of the work focused specifically on the concealed gold system at the Tonopah Project was conducted beginning in the late 1980's and continued through Midway's ownership.

Early exploration work was focused on establishing the limits of a large, low-grade gold mineralized system located in the upper portion of the Palmetto formation and in the altered lower units of the tertiary volcanics. Previously issued technical reports (Ristorcelli and Muerhoff, 2002; Ristorcelli, 2003; Gustin and Ristorcelli, 2005) are focused on this interpretation for the deposit.

MGC reviewed and compiled subsurface data and targeted exploration on evaluation of higher grade gold mineralization localized around structural zones, quartz veins, and feeders. MGC used this data to evaluate a model focused on the potential for underground mining vein and feeder zones. The previously issued Gustavson 2011 technical report focused on this interpretation of the mineralized system and attempted to model only high grade veins and feeder zones which might be amenable to underground mining.

Viva is focused on understanding both the higher grade and moderate grade portions of the deposit, into a combined model. This consolidated interpretation is more viable because of Viva's reduced royalty structures, which allows for potentially reduced cut-off grades.

The record of exploration conducted prior to 2005 was documented in technical reports previously released by Mine Development Associates (MDA) (Ristorcelli and Muerhoff, 2002; Ristorcelli, 2003; Gustin and Ristorcelli, 2005). Exploration results from 2005 through 2008 are documented in Gustavson 2011, and include annual exploration work conducted by MGC in 2005 through 2008. During the period, MGC completed a large volume of drilling, a reconnaissance soil gas survey, and a limited amount of rock chip sampling in areas peripheral to the mineral system. Physical exploration activity did not occur at the Tonopah property during 2009 and 2010. 26 drill holes were completed during 2011, principally targeting extensions of subvertical vein zone structures. Drill holes completed in 2011 were documented in Gustavson 2017 and Gustavson 2018 and have been included in the resources estimate shown in this report.

Viva's drilling is discussed in section 10 of this report and is included in the resource estimate in Section 14.

The exploration work carried out under previous operators of the Tonopah Project is described in detail in Section 6.2 (Exploration History) of this report.

### 9.2 Geologic Studies

A number of Geologic studies have been completed, as are referenced in Section 6.2, Exploration History. No geologic studies had been completed by Viva as of the effective date of this report.

### 9.3 Geologic Mapping

Available geologic mapping to date is summarized in Section 6.2, Exploration History. No geologic mapping had been completed by Viva as of the effective date of this report.

### 9.4 Geophysical Modelling

A significant amount of geophysical data was collected during historical exploration, as described in Section 6.2, Exploration History. The geophysical database is extensive with uniformly high quality data. It contains data for eight (8) geophysical techniques applied to gold exploration. All the data were generated by either Kennecott Corporation in the early 1990's and/or Newmont Mining Corporation in the early 2000's. Viva has contracted James Wright of Wright Geophysics to review the historical geophysical data in conjunction with the updated geological modelling and drilling information to generate additional insights and drilling targets.

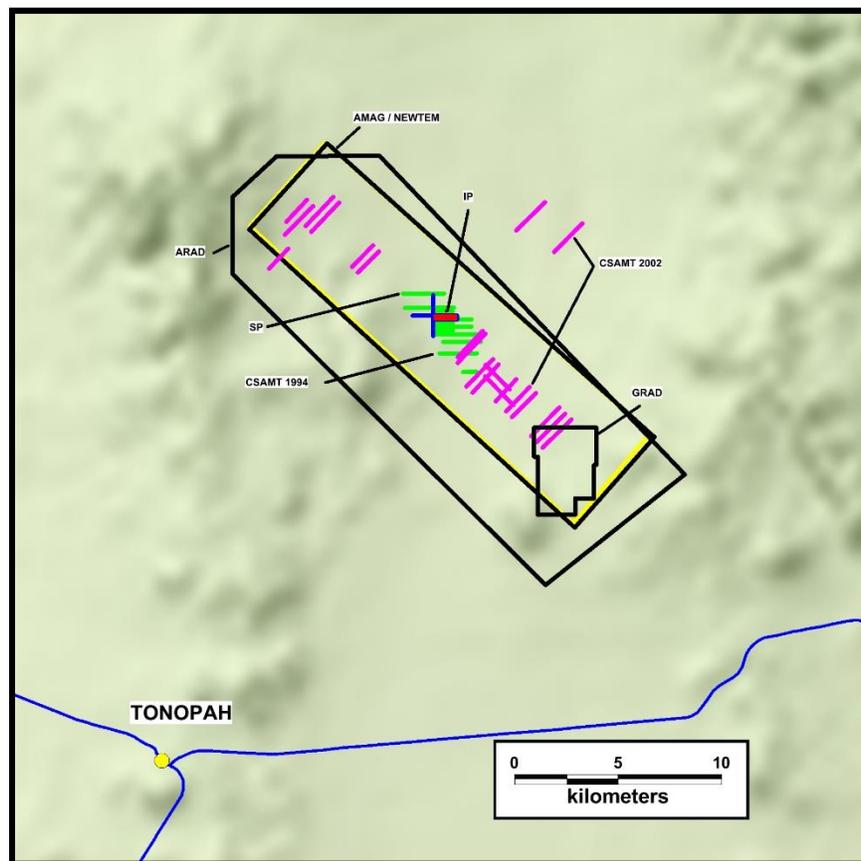


Figure 9-1: Historic Geophysical Survey Index Map (Wright, 2019)

### 9.5 Surface Sampling

Limited surface sampling has been carried out at the Tonopah property, principally because the main mineralized targets, with the exception of the Discovery outcrop, are covered by post-mineral alluvium, colluvium, and dune sands deposits. Evidence exists to indicate that surface sampling at the western portion of the claim block, where there is outcrop of the tertiary volcanics and Palmetto formation, was completed. Drilling for the last several campaigns has focused on covered areas east of where surface

sampling occurred, and the surface samples are not considered material to resource estimation for the Tonopah project.

## **9.6 Samples in Mine Workings**

There are no mine workings of significant extent in the main project area. There are some small prospect pits in the hills to the western portion of the claim block, which have been sampled at surface. Again, this is outside the main mineralized area and not considered material to resource estimation for the project.

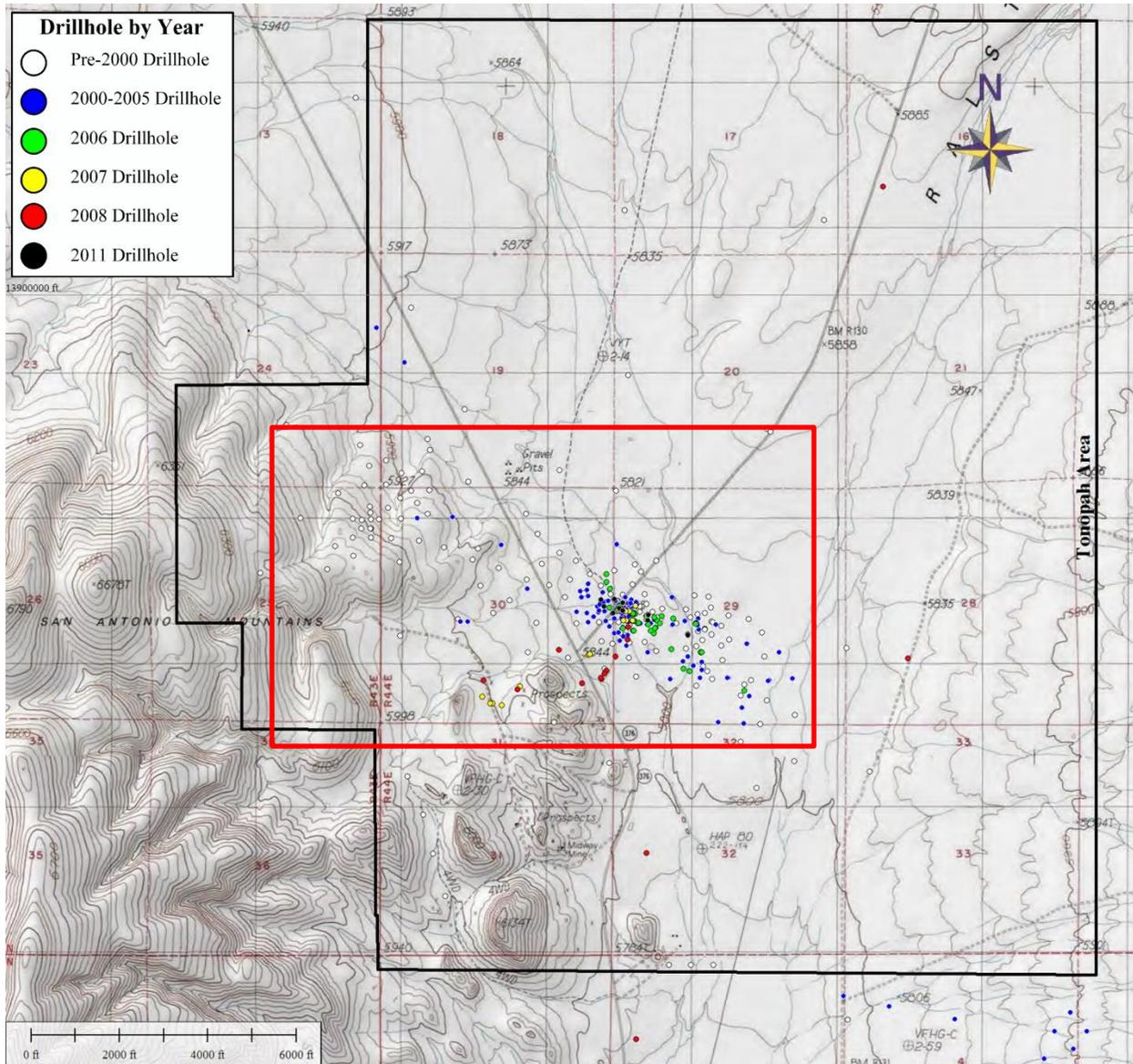
## 10 Drilling (Item 10)

A total of 637 holes had been drilled at the Tonopah Project prior to the acquisition by Viva Gold, including those drilled prior to 2005, for a total footage of 284,469 feet. Existing drill holes include 12 reverse circulation and auger holes drilled by Midway Gold for hydrology studies, and 12 diamond core holes drilled for geotechnical studies. Approximately half of these drillholes are outside the current resource area, including 100+ holes drilled in the Thunder Mountain area, which is no longer part of the Tonopah Project, and approximately 200 holes drilled west of the current resource area. Drill-hole data for the Project is summarized in Table 10-1, and drill hole locations are shown on Figure 10-1. A complete list of drill holes, including year drilled, coordinates, drilling campaign, azimuth and dip, is included as Appendix D.

Viva initiated a drilling program in 2018 designed first to confirm the historical database and secondarily to extend mineralization by targeting areas of inferred which could be upgraded to measured and indicated categories, as well as to provide fresh material for metallurgical test work. Viva drilled a total of 4 Core and 22 RC holes totaling 11,276 feet during the 2018-2019 drilling campaign.

**Table 10-1: Drill Hole Data Summary at Tonopah Project**

Company	Year	RC		Core		Total Drill Holes	Total (ft)
		No.	ft	No.	ft		
Felmont	1980-1981	92	30,230			92	30,230
Coeur d'Alene	1988	3	1,075			3	1,075
Rio Algom	1990-1991	41	19,770			41	19,770
Kennecott	1992-1996	133	67,212	4	1,816	137	69,028
Bob Warren	1994	3	1,185			3	1,185
Golconda	1996 - 1997	9	1,690			9	1,690
Tombstone	1997	14	6,495			14	6,495
Midway Gold	2002	20	10,839	49	15,854	69	26,693
Newmont	2002 - 2004	84	41,641	38	26,319	122	67,960
Midway Gold	2005	22	8,987	1	140	23	9,127
	2006	44	22,635	19	4,228	63	26,863
	2007	11	4,710	8	3,171	19	7,881
	2008			16	3,448	16	3,448
	2011			26	13,024	26	13,024
Viva Gold	2018	16	6,875	4	1,886	20	8,761
	2019	6	2,515			6	2,515
<b>Total</b>		498	225,859	165	69,886	663	295,745



**Figure 10-1: Historical (Pre-Viva) Exploration Drilling at the Tonopah Project. Red border shows area of inset in Figure 10-2.**

## 10.1 Drilling Procedures and Conditions

Core logging and drilling conditions prior to 2005 have been described by previous independent reviewers. Drilling procedures described by Gustin et al. (2005) indicate that industry standards were practiced from 1981 to at least 1997. Industry standards were also practiced with regard to drilling, logging and chain of custody from 2002 through 2004. Given the presence of coarse and visible gold at Tonopah, care must be taken with regard to sample collection during both core and RC drilling. Water used during RC drilling may contribute to sample bias, and core samples need to be large in order to provide a representative analytical sample.

Detailed information regarding drilling campaigns prior to 2005 is included in technical reports produced by MDA (Ristorcelli and Muerhoff, MDA, 2002; Ristorcelli, MDA, 2003; and Gustin and Ristorcelli, MDA, 2005). That information is summarized in earlier sections of this report and is not repeated here in detail.

MGC contracted Diversified Drilling of Missoula, Montana to perform reverse circulation drilling in 2005, and Layne Christensen, Las Vegas, Nevada, was contracted for all reverse circulation drilling during 2006-2008. Kirkness Diamond Drilling Co., Inc. and M2 Core Drilling and Cutting, Inc. provided core drilling services in 2007 and 2008, respectively.

Information for the 2011 drilling campaign were well summarized by Podratz and LeLacheur, 2014:

*The 2011 Core Drilling campaign was completed by KB drilling of Mound House, Nevada, using a track mounted Versa KMB 1.4 Drill Rig equipped with HQ3 tools for use of split tube. Oriented core was collected using a Reflex ActII down hole tool. A Midway geologist was on site for core drilling. Geotechnical and structural data were logged prior to core being boxed. Boxed core was transported to secure logging facility in Tonopah, NV, by Midway personnel. The drill core was logged for rock type, geologic unit, alteration, mineralization, structural details, and specific gravity.*

*Drill hole collars were initially located with handheld global positioning system (GPS) units and surveyed afterward by Trimble GPS using UTM NAD 83, Zone 11 projection. Down-hole surveys for each hole were completed by International Directional Services of Elko, Nevada, using a Surface Recording Gyroscope, model DG-69. Upon completion of drilling and down-hole surveying, the holes were abandoned according to Nevada State regulations, including a cement plug at the surface that secures an eye-bolt with a metal tag for identification. The eye-bolt enables post-reclamation location of the drill hole through the use of a metal detector.*

## 10.2 Drill Hole Logging

Available core and RC chips from drilling prior to 2002 were re-logged and entered into the Tonopah Project drill hole database by Newmont geologists. Between 2002 and 2004 all core was photographed, logged, and entered into an electronic drill hole database. Data captured during core logging included geology and RQD measurements. The drill hole database is stored electronically and in hardcopy at the Tonopah, Nevada project office. The drill hole database includes all existing drill logs, analyses, photographs, drill collar locations and down-hole survey information for the Tonopah Project. MGC adheres to procedures established by Newmont for all drilling, core logging and sampling activities (Mosch, 2009) (Podratz & LeLacheur, 2014).

### 10.3 Sample Procedure

Gustavson personnel were not on-site during any of the drilling programs conducted by MGC in 2005 through 2011, and are reliant on information provided by MGC regarding sample handling and security.

MGC reports that sampling of diamond drill core and reverse circulation cuttings was conducted in accordance with standard industry practices and routine procedures established by Newmont (MDA 2005). The sampling methods and approach employed since 2004 are consistent with those reported by MGC, as follows, in the 2005 technical report prepared by MDA:

*“Core sampling procedures for Midway Gold’s drill program were being done in accordance with standard industry practices. These practices reportedly remained the same through the transition from Midway Gold to Newmont as operators. Core was stored at the drill site until taken by Midway Gold’s geological contractors [since 2004, Midway employees, consultants or M2 Technical Services as contractor] to the logging and core storage warehouse in Tonopah. After photographing and logging, the HQ core was generally sampled in five-foot intervals, but sample intervals do not extend across distinct geologic breaks. Generally, the maximum length of a sample was five feet, but could be as small as one half of a foot if warranted. Core samples were split by mechanical or hydraulic splitters, or sawed into two halves, with half samples placed in cloth bags that have been pre-numbered with a unique sample identification number. The sample identification did not contain the drill hole name, drill hole number, sample depth or sample length. A sample tag was also placed in each bag. Core samples remained at the logging facility in Tonopah, or were taken to the project site, where they were picked up by Chemex [ALS Chemex] for analysis. One half of the core was retained in the Tonopah warehouse facilities and the other half submitted for analysis.*

*Sampling of the RC cuttings was done by the drilling contractor under the supervision of the geologist. RC samples were collected on 1.52 m (5 ft) increments over the entire hole. All of Midway Gold’s RC drilling used water as a drilling fluid, partly because water was injected down the hole in order to minimize dust (in accordance with BLM requests) but also because all holes drilled by Midway Gold intersected ground water at some point. The slurry of water and drill cuttings was forced up the drill pipe into a cyclone, where it was passed through a rotating wet-sample splitter. The sample was reduced to approximately 7 to 9 kg and collected in a five-gallon bucket. The majority of the liquid was poured off and the sampled cuttings were placed in cloth bags, which were pre-labeled with sample ID numbers. Labeling of RC samples was guided and managed by Midway Gold geological contractors [or employees or consultants], but not necessarily done by them. Samples were given a unique label, which did not relate to either drill hole or depth and only Midway Gold and their geological contractors knew the relationship between sample and location. A sample tag was put in each bag. Representative samples of drill cuttings were collected and stored at the drill site. Chip samples were collected for each five-foot interval.*

*The RC cuttings remained under the supervision of Midway Gold geological contractors each day until the end of shift, at which time the Midway Gold geological contractors took them to a secure sample storage area. The samples remained stored until picked up by Chemex [ALS Chemex (“Chemex”)]. The laboratory generally picked up the core and RC samples about two times per week.*

*For both RC and drill core, duplicate samples were collected approximately every 31 m (20 samples) [see the QA/QC comments in the Sample Preparation, Analyses and Security section for Gustavson comments on the practices of Midway Gold]. For RC drilling, this was conducted by placing a Y-splitter on the discharge of the cyclone. MDA feels that due to the presence of free gold, this was not an appropriate way to split wet samples. For core, a duplicate sample was initially collected by splitting the half core to produce a quarter split. Due to the coarse nature of gold encountered at Midway, this practice was changed to sampling the core in two halves.*

Drilling campaigns at the Tonopah Project range from early exploration with widely spaced drill sites to focused investigation with closely spaced, vertical holes. This exploration drilling approach provides data suitable to modeling a low grade, near surface, potential open pit gold prospect. MGC exploration targeted steeply dipping, high gold grade veins and structures with potential for development as an underground mine. This exploration approach used diamond drill holes oriented to crosscut veins and structures.

#### **10.4 Tabulation of 2011 Drilling Results**

The results of the 2011 program are presented in Appendix B. Grades intersected are reasonably representative of these zones, but may not be fully representative of average project grades. Because of the complex relationship between subvertical high-grade mineralization and low-angle, lower grade mineralization, it is difficult to estimate true thicknesses for the various drill hole intersections. In general, Gustavson expects that true thicknesses for these intersections are 70-80% of the lengths indicated

#### **10.5 2018-2019 Drilling Campaign**

Viva initiated a drilling campaign in January 2018 with four diamond core holes and followed up with 22 Reverse Circulation drillholes during 2018 and 2019. Drilling was targeted to verify the historical database, to upgrade inferred mineralization to measured and indicated by targeting inferred mineralization in the 2018 resource model, and to provide material for ongoing metallurgical test work. Figure 10-2 shows drill hole locations from the resource area, extending west to the midway hills area. Collars from the 2018-2019 drill campaign are labeled in yellow while past drill collars are shown in orange.

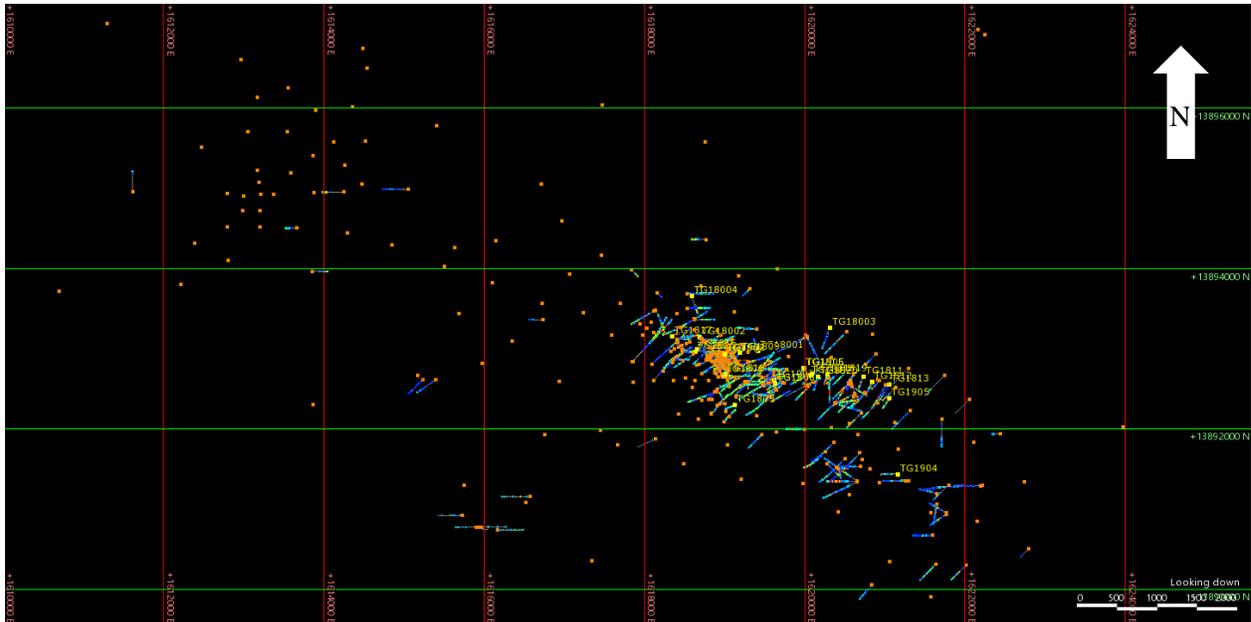


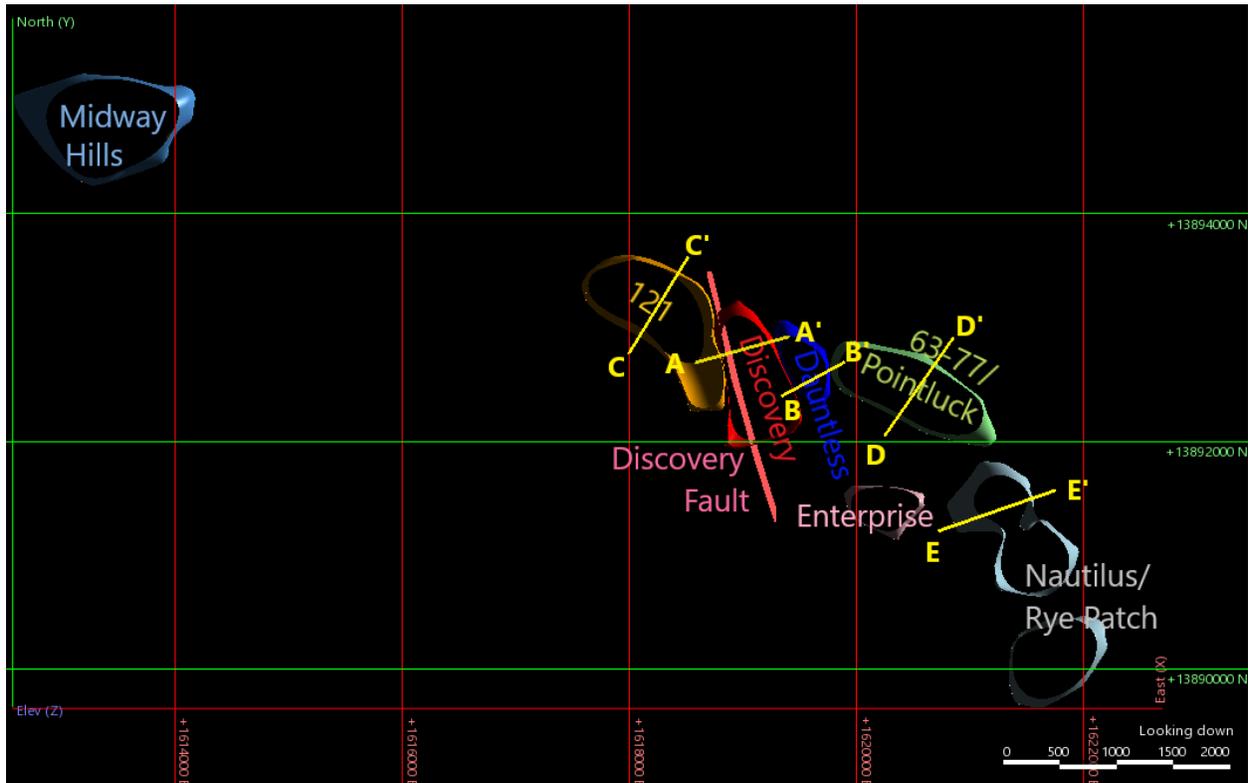
Figure 10-2: Plan view of drilling showing holes from Viva 2018-2019 drill campaign labeled in yellow

### 10.6 Tabulation of 2018-2019 Drilling Results

The results of the 2018-2019 drilling campaign are presented in Appendix C. Grades intersected are consistent with surrounding drillholes and with grade estimates from the 2018 resource model, which constitutes positive validation of the historical database. Because of the complex relationship between subvertical high-grade mineralization and low-angle, lower grade mineralization, it is difficult to estimate true thicknesses for the various drill hole intersections. In general, Gustavson expects that true thicknesses for these intersections are 70-80% of the lengths indicated

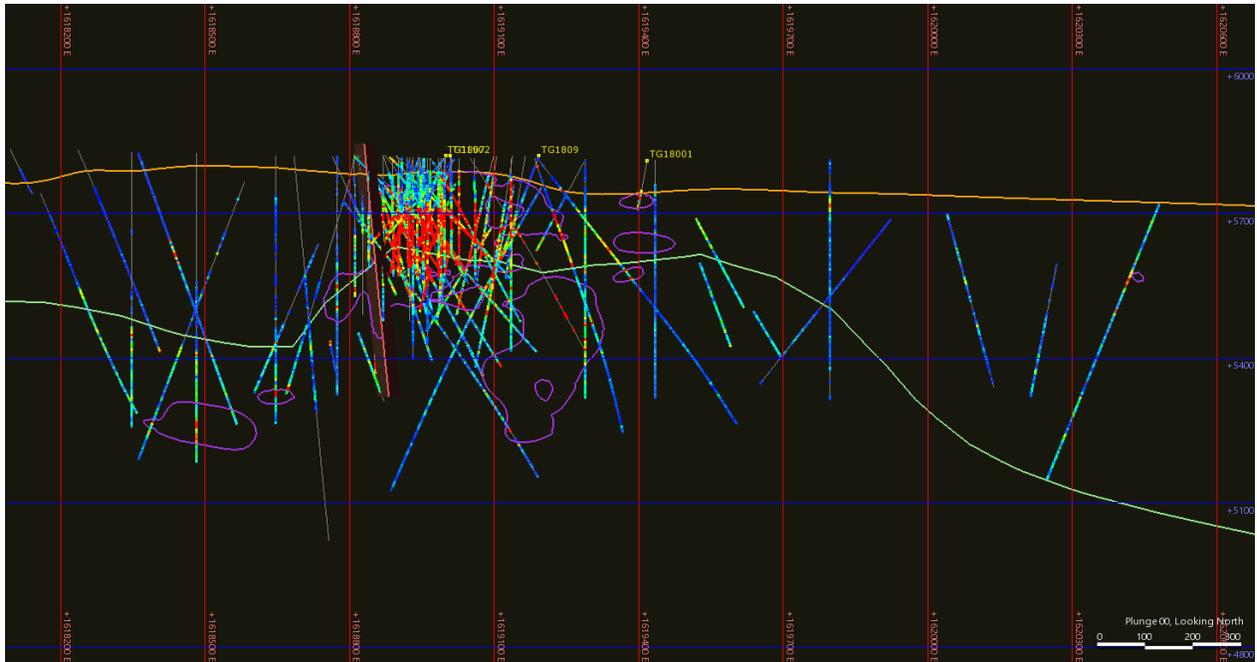
### 10.7 Cross Sections of Drilling Results

Because of the large number of historical drill holes completed at the Tonopah project, Gustavson believes that showing typical cross sections through the mineralized zones is more representative of drilling results than a tabulation of drilling results, particularly with regard to interpretation of true thickness and continuity of mineralization.

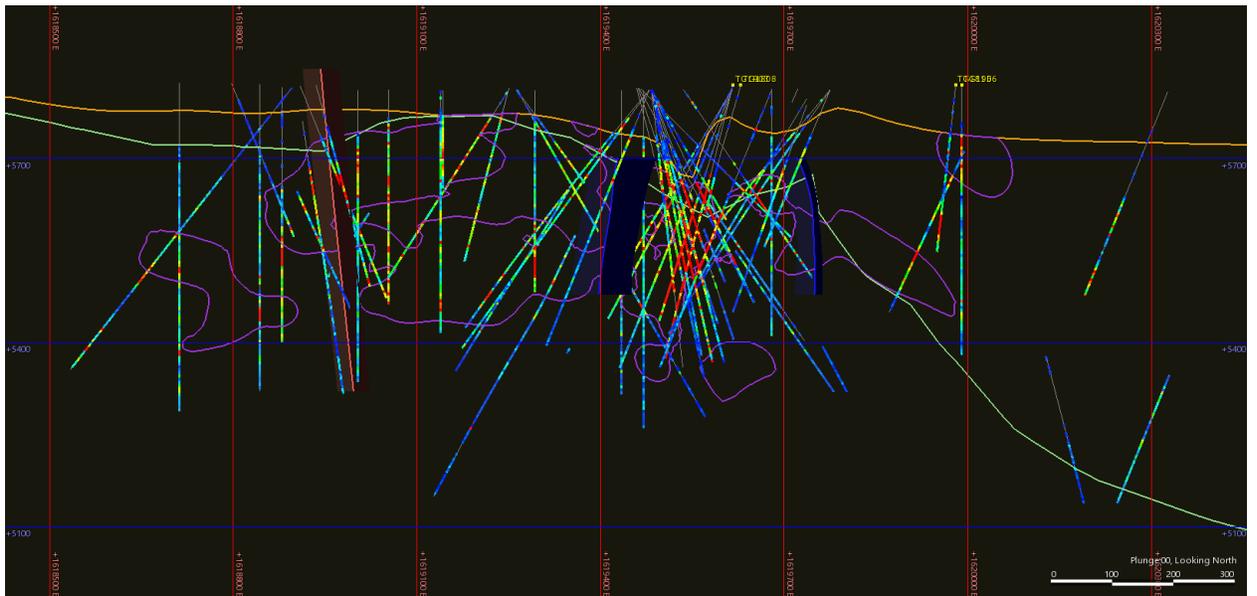


**Figure 10-3: Mineralized Zones at the Tonopah project, and cross section traces for Section Lines. Section A-A' corresponds to Error! Reference source not found., Section B-B' corresponds to 10-5, Section C-C' corresponds to Figure 10-6, Section D-D' corresponds to Figure 10-7, and Section E-E' corresponds to Figure 10-8.**

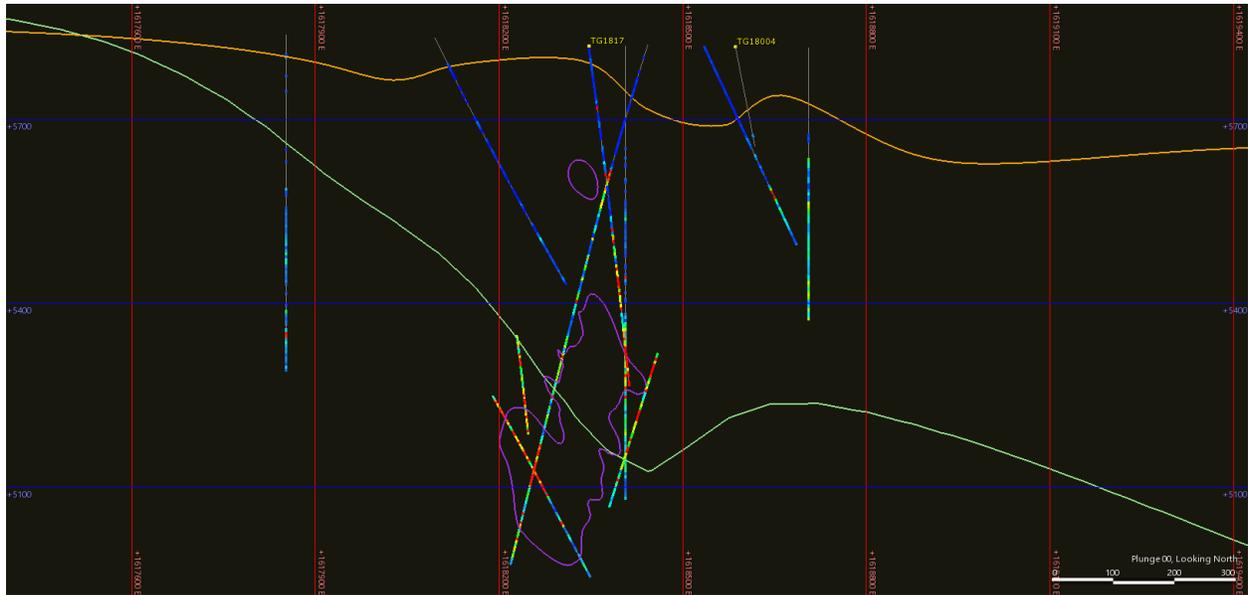
A plan view of drilling with section traces is shown in Figure 10-3: Mineralized Zones at the Tonopah project, and cross section traces for Section Lines. Section A-A' corresponds to **Error! Reference source not found.**, Section B-B' corresponds to 10-5, Section C-C' corresponds to Figure 10-6, Section D-D' corresponds to Figure 10-7, and Section E-E' corresponds to Figure 10-8.. Figure 10-4 through Figure 10-8 show 100-foot thick sections through the deposit. Lower-grade mineralization is typically associated with the contact zone between the Tertiary volcanics and the underlying Ordovician argillite. Higher-grade mineralization sometimes parallels these zones, but also may be associated with subvertical structural zones.



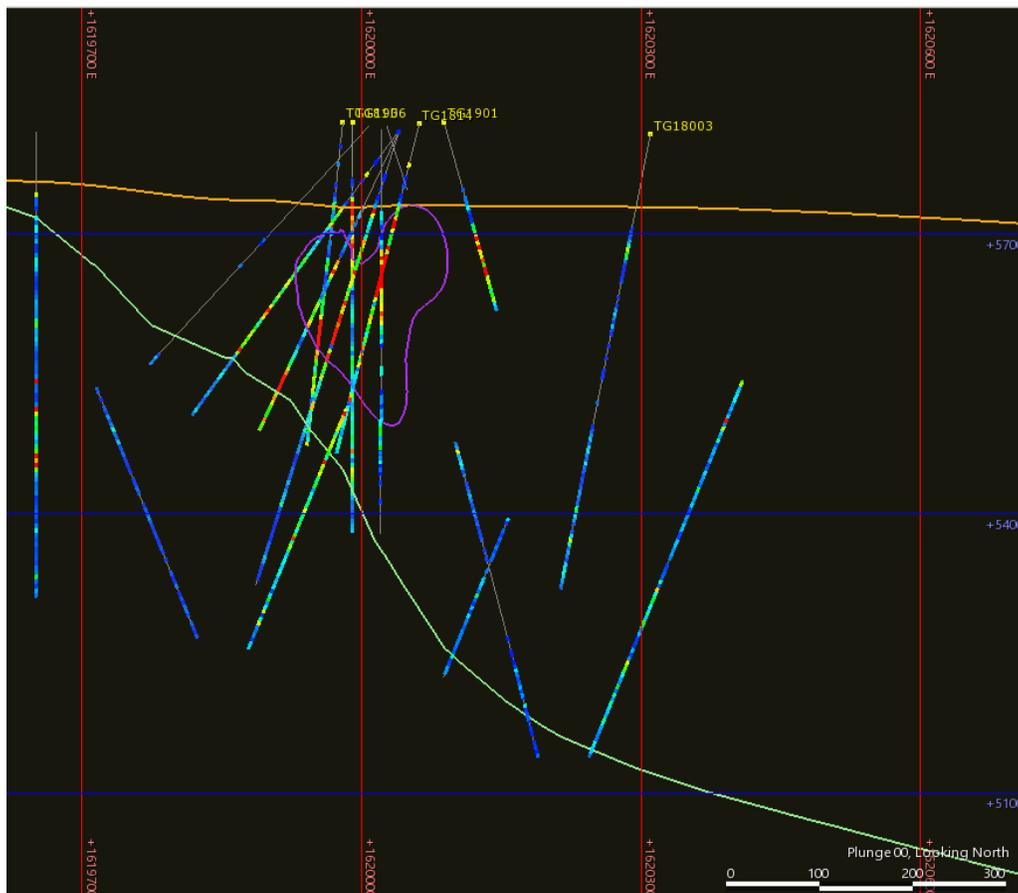
**Figure 10-4: Cross Section through Discovery Zone Mineralization  
(Section A-A' from Figure 10-3)**



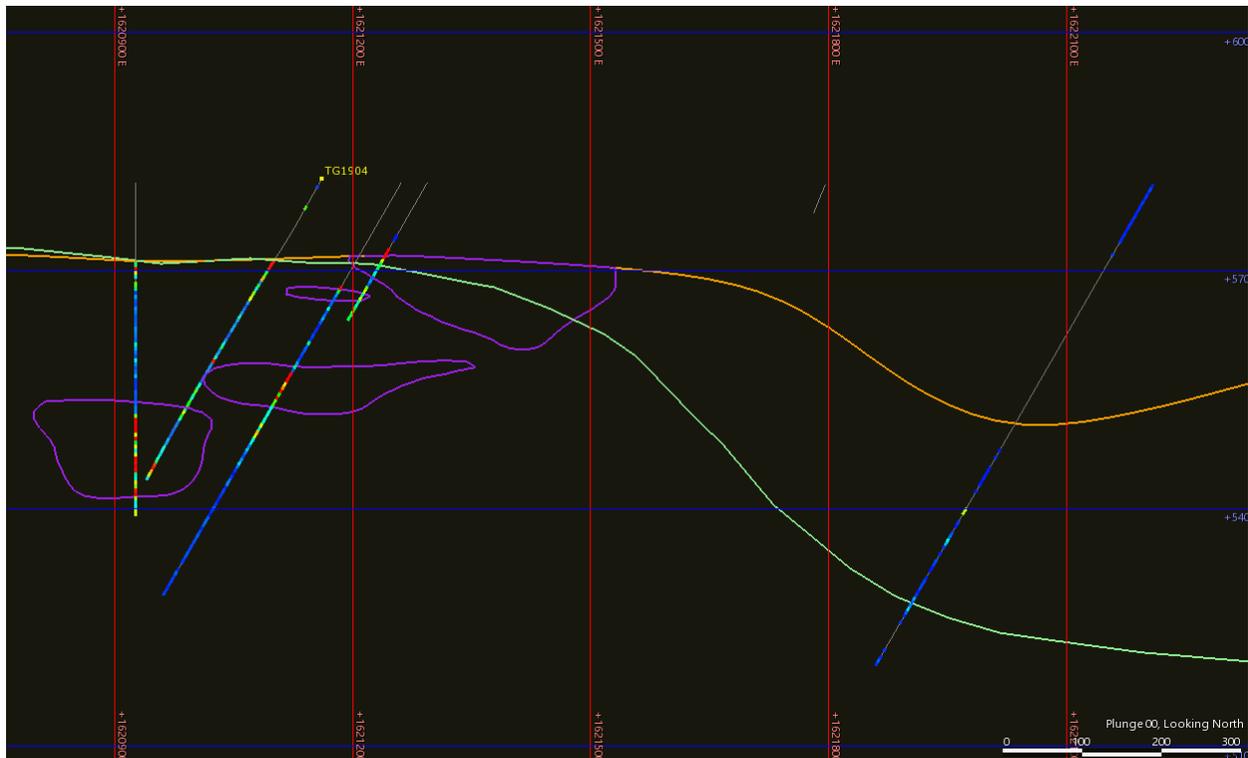
**Figure 10-5: Cross Section through Discovery (Left) and Dauntless Zone (Center) Mineralization with 2018-2019 drill holes identified in gold text  
(Section B-B' from Figure 7-4)**



**Figure 10-6: Cross Section showing 121 Zone Mineralization with 2018-2019 drill holes identified in gold text. (Section C-C' from Figure 10-3)**



**Figure 10-7: Cross Section showing 63-77/Pointluck Zone Mineralization with 2018-2019 drill hole collars identified in gold text. (Section D-D' from Figure 10-3)**



**Figure 10-8: Cross Section showing Nautilus/Rye Patch Zone Mineralization with 2018-2019 drilling (Section E-E' from Figure 10-3)**

## 10.8 Interpretation and Relevant Results

Viva inherited a database of historical drill hole data which is useful for geological modelling and resource estimation. Historical drilling processes and procedures have been well designed, well documented, and subject to periodic independent review and reporting. Viva initiated a new drilling program on the Tonopah project during January 2018. Viva has generally adopted the well-developed and documented drilling and sampling procedures which have previously been used at the project, with attention given to ensuring a consistent record of QA/QC to monitor laboratory performance.

The Viva drilling campaign has been effective in verifying grades and locations of mineralization as identified in the historical database, and has provided infill data in certain areas of the deposit.

## 11 Sample Preparation, Analysis, & Security (Item 11)

### 11.1 Historic Campaigns

A review of sample preparation, analyses, and security with regard to Tonopah exploration prior 2004 was discussed in previously released technical reports prepared by MDA on Midway Gold Drilling Campaigns. Section 6.2 (Exploration History) summarizes past exploration campaigns at Tonopah.

### 11.2 Sample Preparation and Assaying Methods

Diamond drill core samples were placed in core boxes at the drill site and were transported daily to the sample warehouse in Tonopah. The core was photographed and marked for splitting, and all pertinent geologic and geotechnical information recorded. The core was cut with a diamond rock saw or split using a manual or hydraulic splitter, if necessary. The half-core for each sample interval was placed in pre-labeled bags, sealed, and stored until the sample was transported to Chemex.

Reverse circulation samples were placed in sample bags at the drill site and were transported daily to the project warehouse in Tonopah. Chip trays were made from each sample. The samples and chip trays were logged and stored securely at the warehouse until they were transported to Chemex.

Overall assay results from the Tonopah Project do not vary substantially between drilling campaigns or operators. Gustavson has no reason to suspect that sample integrity was compromised in any of the historic campaigns or under MGC in recent years.

Sample preparation at Chemex was and is conducted according to the guidelines set out in ISO/IEC Guide 25 – “General requirements for the competence of calibration and testing laboratories” and was certified to the ISO 9002 standard.

At Chemex, Tonopah samples were generally prepared by crushing the entire sample and pulverizing the sample split to 75 microns. Samples were analyzed for gold by fire assay with an atomic absorption finish (AA). Other elements were analyzed by induced coupled plasma (ICP) techniques.

#### **11.2.1 2011 Assay Procedures; Coarse Gold Sampling Review**

Sampling for the 2011 Drilling program was designed to test nugget effect and sampling procedures for high-grade intervals. (Podratz & LeLacheur, 2014). Samples were collected in two stages: vein sampling and all other material sampling. For vein sampling, all quartz vein material, quartz vein selvage and breccia, and vein-related silica alteration material was sampled and sent to Florin Labs for Metallic Screen Assay.

Florin Labs Analytical procedure:

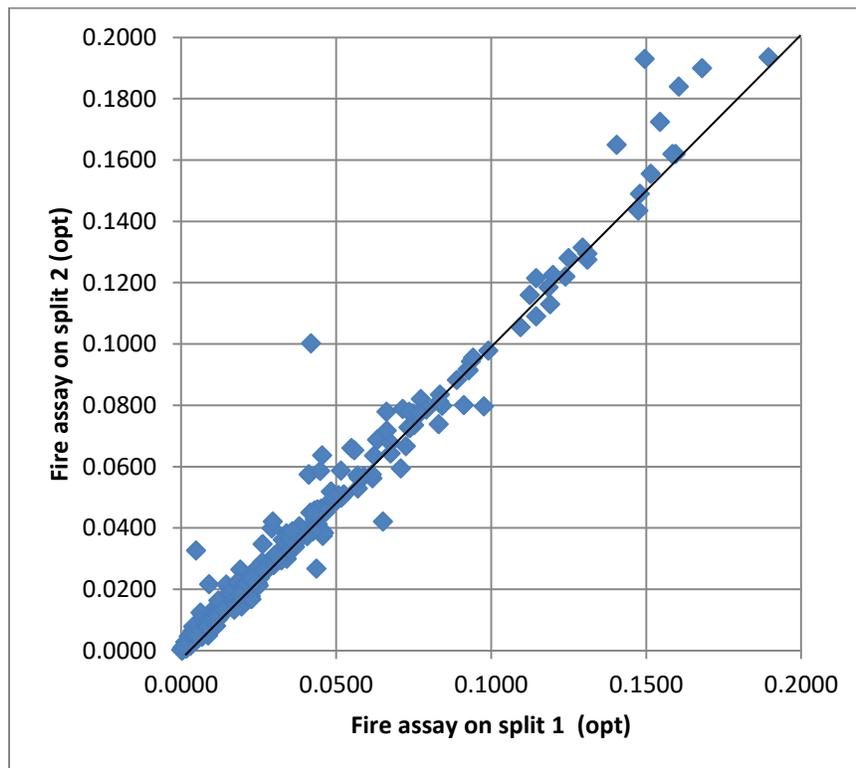
1. Crush to 95% passing 32 Mesh
2. Rotary split sample to 1000 g
3. Pulverize to 85% <75 micron
4. A complete fire screen assay process, (assay 100% of coarse metallic fraction + 100 mesh, two 30-gram fire assays on minus 100 mesh fraction) on entire 1000g pulp.

For all other material, samples were sent to ALS Chemex Labs.

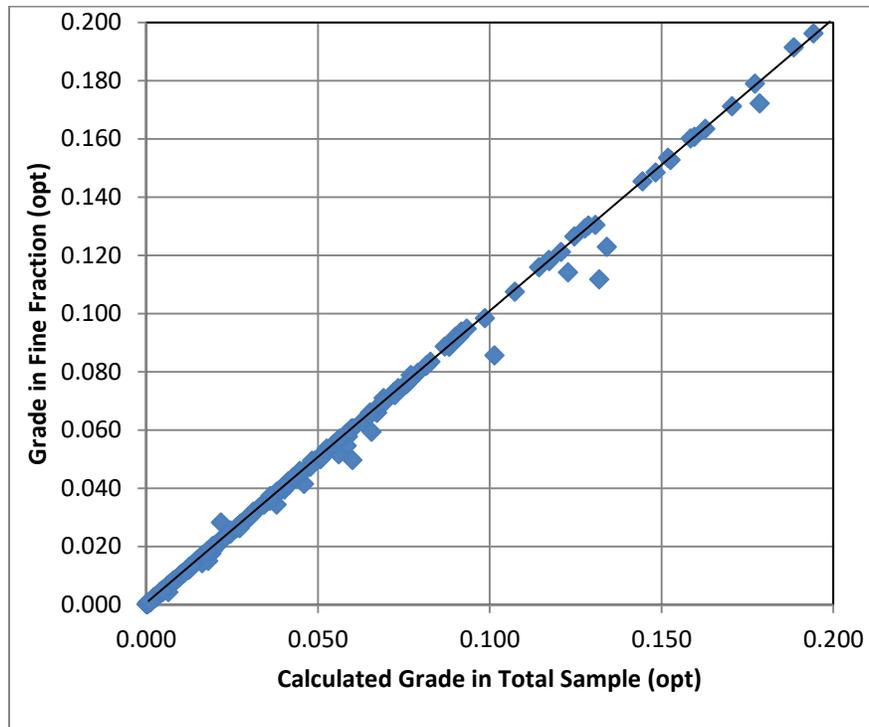
ALS Chemex Lab procedure:

1. Crush sample to 70% -20mm
2. Riffle sample split 30g
3. Pulverize split to 85% <75 micron
4. Fire assay, AA finish
5. Then for all intercepts > 0.002 opt
  - a. Re-split fine crush reject to 1000g
  - b. AU screen fire assay -100-micron, Ore grade FA AA finish

A total of 867 samples were sent to Florin for Metallic Screen Assay from the 2011 drilling campaign.



**Figure 11-1: Comparison of Fire Assay Split 1 to Split 2**



**Figure 11-2: Comparison of Gold in Fine Fraction to Gold in total Sample**

Comparison of two fire assay splits (Figure 11-1) and fine fraction gold grade to total sample gold grade (Figure 11-2) indicates high reproducibility of gold assays and that gold is reasonably evenly distributed through the samples. With careful sample preparation and splitting, standard 30g fire assays should provide a reasonable gold assay for the Tonopah project.

### 11.3 Quality Controls and Quality Assurance

QA/QC programs for historic drilling and sampling campaigns at the Tonopah project were addressed in several contemporaneous prior technical reports. Not all the QA/QC data for the programs have been captured in the project database. Gustavson recommends that this information be captured to allow for the full record of data verification to be preserved with the remainder of the data.

MGC submitted a combination of standard samples and duplicate samples at a rate of about 4%, or one of either type of sample with every 24 unknown samples.

While the rate of submission of combined standards and duplicates has remained fairly constant, the mix of standards and duplicate samples appears to vary from drill hole to drill hole and duplicate samples are not included in the sample mix from some drill holes. Gustavson believes the 4% rate for combined standards and duplicates is adequate, but recommends that a more rigorous split between standards and duplicates be maintained.

Midway did not submit blank samples during any of their drilling campaigns from 2004 through 2008. Gustavson recommends that for future drilling programs, Viva submit a blank sample with each drill hole or other sample batch at the rate of 2% (or 1 sample out of each 50) in order to increase the likelihood of contamination detection by MGC, independent of the internal QA/QC program of the lab.

A significant quantity of testing and reporting on gold sampling heterogeneity has been carried out for the Tonopah project. Staley (2003) outlines the results of testing and describes a recommended sampling protocol of crushing of 100% of half-split core to 95% passing 32 mesh, followed by pulverization of a 1 kg split to 100% passing 100 mesh. The recommendation for RC sampling is total collection of the RC sample for size reduction at by crushing 100% of the sample at the assay lab, with pulverization of a 1kg split to 100% passing 100 mesh.

MGC submitted splits of high grade samples for further analysis by metallic screen assays to determine the potential impact of coarse gold on the sampling process. Total gold according to the metallic screen assay was averaged with the original assay for the associated sample interval and entered into the project database. Gustavson recommended that MGC compare the metallic screen assay data to original assay data to determine if bias is generated during the sampling/sample preparation processes. The results of this work (11.2.1, above) indicate that standard fire assays should be usable for resource estimation.

#### **11.4 2018-2019 Drilling Campaign**

Viva Gold maintains industry standards for drilling, sampling, and assays in its current operations.

For core holes, HQ core was boxed on site by the drill crews and transferred by Viva's geological consultant to the exploration office in Tonopah Nevada for sampling. Core boxes were labeled with drillhole number, start and end depths, and core box number. Core was photographed, logged digitally to excel files, and marked for splitting by Viva's geology consultants. Samples were split by cutting by core saw. ½ sample was placed in numbered sample bags, bundled into rice sacks, and set aside for pickup at site by ALS Chemex Laboratories of Reno Nevada. ½ core was retained in the core storage facility at the Viva exploration office. 100% of HQ core was split and sampled for the Viva drillholes. There are no unsampled or unassayed intervals.

For dry RC Drilling, samples were collected at 5-foot intervals in pre-labeled 12x18" sample bags. Samples are not split. Wet samples are collected into 5-gallon buckets. Samples are allowed to settle for 10-15 minutes. Excess water is decanted, and the damp sample is poured into a pre-labeled sample bag. 100% of sample is bagged and shipped to ALS Chemex for sample preparation, to ensure a large sample. Coarse rejects are returned by ALS for sample inventory.

For all RC samples, a small quantity of material from the sample is captured to a labeled chip tray for logging.

Samples are aggregated into rice bags and were either collected at site by ALS Chemex laboratories of Reno, Nevada, or were transported by Viva's geology consultants to the Tonopah office for pickup.

Samples for the Viva drilling campaign are prepped at ALS Chemex in Reno Nevada by drying in ovens (DRY-21) and crushing according to 31-BY (Crush to 70% less than 2mm, rotary split off 1kg, pulverize split to better than 85% passing 75 microns). A 1kg split is taken by rotary splitter and the entire 1kg is prepared as pulp (minimum 85% passing 75 microns). Pulps are transferred to ALS Vancouver for final analysis. Assays are done by AA23: 30-gram fire assay, AA finish, with GRA21, FA/ Gravimetric finish for overlimit gold assays.

Viva also typically requests AA13, 30-gram cyanide leach assays for Au, Ag, Cu with AA finish, in mineralized intervals. For the core holes, AA61, four acid digestion, AAS for Ag, Co, Mo, Pb, Zs, Cu, Ni and Zn, was also used. Multi-element geochem and cyanide leach assay values are captured to the database but are not currently used in the resource estimation.

Pulps and Coarse rejects are currently being stored by Chemex

Viva submits standards and blanks with the sample stream to the laboratory and monitors laboratory performance for these materials.

ALS Chemex is an internationally recognized commercial assay laboratory, with significant experience and expertise with gold assays. Gustavson notes that Viva is not using metallic screen analysis, but based on the 2011 Florin / Chemex comparisons (11.2.1, above), this is not expected to have a material impact on sample performance.

## 12 Data Verification (Item 12)

Gustavson (Thomas C. Matthews) visited the Tonopah Project in April 2017 after Viva's acquisition of the project. Mr. Matthews visited the project site, as well as the mine office in Tonopah, and verified that the core boxes, RC chips, and project records from the MGC drilling programs project are stored at the mine office and warehouse. At the project site, drill sites were noted as having been reclaimed and remediated concurrent with drilling operations, and neither historic nor recent drill hole locations could be verified in the field, with the exception of several vertical holes which are available for groundwater monitoring. The surface geology was reviewed. The only outcrop within the area of immediate interest was visited (the so-called "Discovery Outcrop"), and rock type, alteration and silica veining were confirmed as reported.

During the office portion of the site visit, Mr. Matthews verified that diamond drill core and reverse circulation chip trays from MGC drilling programs are stored in the Tonopah warehouse. Mr. Matthews reviewed core from 20 random drill holes to confirm the consistency of the geologic database and to review the geology and alteration, particularly in mineralized intervals. The geology and alteration observed was found entirely consistent with the database record. Geologic logs of the drill holes were reviewed, and assay sample numbers were compared with assay certificates from Chemex for each drill hole. Assay values reported by Chemex were spot checked against the manual entry on the drill logs, and as entered in the project database. No significant errors were identified. Verification samples were not collected. Gustavson verified that sample rejects and pulps are well organized, numbered and are stored in shipping containers at the Tonopah warehouse site in numbered boxes from Chemex. Geologic logs for 2005 and 2006 drill holes are manual, hand-written logs; whereas logs completed by M2 Technical Services in 2007 and 2008 are electronic. Drill logs from 2011 are electronic.

There are a few drill logs and assay certificates missing from the hard copy files, but geologic information and assays have been captured in the database.

Table 10-1 is a summary of the available drilling including historic drilling. Not all of the historic drilling is on the current claims, particularly the 1980-1981 Felmont drilling, which is focused on a separate claim block to the Southeast which is not currently part of the Tonopah Project claims. However, for sake of completeness, all drill holes which were once associated with the project database are maintained as part of the record.

### 12.1 Collar Survey

The collar survey database is in UTM, NAD83 feet, with a reported precision of hundredths of feet. No metadata is included in the database to show surveyor or survey type used, but such information may be available in paper logs.

It is apparent that different generations of drilling use at least UTM NAD 83 and UTM NAD 27, and that surveys have been stored in both meters and feet during different drilling programs. Earlier data may have been collected in State Plane Feet and converted. Collar surveys for historic drillholes have been taken from the 2012 drillhole database, where the various generations of collar data had been aggregated and UTM, NAD83 collar locations calculated. There is some concern that the conversions used for various coordinate transformations within the historic drilling database may not include sufficient significant figures, which could impact the precision of the location data. Gustavson recommends that to the extent

possible, historical logs be referenced to recreate the collar survey database to eliminate concerns about possible data translation errors.

Collar surveys from 2018 to 2019 drilling have been collected in UTM NAD 83 meters by handheld GPS and converted to UTM NAD83 feet. Collar surveys from this drill program are assumed to be accurate to within 20 feet. Gustavson recommends that a high precision collar survey be conducted which covers the 2018 and 2019 drill collars so that precise locations can be collected for the database.

## **12.2 Downhole Survey**

Early drilling was designed to test the relatively low-angle contact between the Palmetto Argillite and the overlying volcanics, and as such typically consists of vertical holes. Since 2006, angled drilling was used to test the importance of higher grade mineralization along subvertical structures.

Downhole surveys have been conducted for most drill holes from the 2006 and 2007 campaigns, and for the entire 2011 campaign. Most of the earlier drill holes were vertical, were relatively short in length, and are not expected to deviate significantly. 18.8 percent of holes have downhole surveys, typically with one survey each 50 feet downhole. Because of the lack of downhole survey data for the majority of drill holes, it is expected that individual sample locations may be shifted from their actual location by up to several feet, particularly with increasing depth. This is not uncommon in historical drill hole databases, but it does decrease the reliability of location information for the drill hole database, which may affect resource classification for future reporting.

Downhole surveys were captured for 16 of the 26 holes of the Viva 2018-2019 drilling program by a downhole survey contractor. These downhole surveys are stored in the project database.

## **12.3 Lithology & Alteration**

Lithology is recorded in the database as alpha codes. The Lithology data as recorded is consistent with industry standards, and cross-checking the lithology data by review of available drill core yielded no anomalies. Lithology data as recorded corresponds with the overall geological interpretations of the deposit.

Lithology coding in the database allows for geological models to be constructed which segregate Palmetto Argillite, at least 2 generations of tertiary volcanics, and overlying gravels. More detailed distinctions between the volcanic units are preserved in the database, but are not always correlated between drillholes.

Primary alteration type is recorded in the database as alpha codes. Intensity of alteration is not recorded. Gustavson generally prefers to see alteration data recorded as numerical codes or quantitative values by alteration field, as recording information in this way allows for more complete alteration models which recognize both relative intensity as well as the possible influence of secondary or tertiary alteration types. For some of the drill holes, alteration data was recorded in this manner, but has not been captured to the digital database. Gustavson recommends that as the project advances, quantitative alteration data be captured to the main digital database so that it is available for geometallurgical models.

## **12.4 Assay**

Gold assays are recorded in the database, typically reported as selected values in parts per million, as well as in troy ounces per short ton. Final gold values are recorded. It is clear that the final value recorded is

selected based on earlier reported assay values, including a number of different laboratories, assay techniques, detection limits, and over-limit assay techniques. While checks of the database against assay certificates have not shown errors in the data, the database does not have total clarity as to the process of selecting assay results, nor would it support redefinition of the selection criteria as currently constructed.

Because there is coarse gold at the Tonopah Project, significant effort and study has been spent on the project to study and recommend optimal sampling methods at site as well as optimal methods for crushing and splitting samples at the laboratory. The overall recommendations are:

- For Core: ½ split of core sent to lab, nominally on 5-foot sampling intervals, except where changes in lithology or alteration dictate a shorter interval. At laboratory, 100% of sample dried, primary and secondary crush to -32 mesh. 1 kg split of crushed material taken and pulverized to pulp. Minimum 1 assay ton split from pulp for assay.
- For RC: 100% collection of RC cuttings from cyclone, wet or dry. 5-foot sampling intervals. 100% of sample sent to laboratory. At laboratory, 100% of sample dried, primary and secondary crush to -32 mesh. 1 kg split of crushed material taken and pulverized to pulp. Minimum 1 assay ton split from pulp for assay.

Gustavson added the data for the 2018-2019 drillhole program to the database according to its own data entry and review processes. A few inconsistencies in data entry were identified during this process, checked with Viva geologists, and resolved. Gustavson is of the opinion that the resulting assay database is appropriate for use in resource estimation.

## 12.5 Data Adequacy

The lack of downhole survey control for many of the historical drill holes will introduce location uncertainty for early sampling at the project. The current resource model utilizes 20x20x20 foot blocks. At this resolution, location uncertainty due to downhole survey control is not expected to have a material impact on resource estimation. However, it is noted that delineation and estimation of discrete high-grade zones could be impacted by location uncertainty.

It is expected that presence of coarse gold will increase the local variability of gold samples in the database, but no bias has been demonstrated in several reviews of the data.

It is noted that current BLM filings and surveys are conducted in UTM NAD 83 meters, while the project database is maintained in feet. There is an ongoing risk of conversion errors between the two data sets in this condition. Gustavson recommends that the project database be reconstructed in UTM NAD 83 meters, starting from original data where possible to resolve any outstanding survey control issues, to realign the project, survey systems, and permit filings in a single coordinate system.

Gustavson considers that the drill data are generally adequate for resource estimation.

## **13 Mineral Processing & Metallurgical Testing (Item 13)**

Several scoping-level metallurgical studies were undertaken by mining companies from 1990's to 2009 for the Tonopah property. The test work included gravity separation, flotation and cyanidation leaching.

Viva has conducted additional test work to update and expand upon earlier results.

### **13.1 Metallurgical Results from Pre-Viva Testing**

#### ***13.1.1 Kennecott Cyanide Shake Tests***

There is reference in the project records of 350 cyanide shake tests having been carried out for some 350 assays pulp. According to the MDA 2002 report, the data included all rock types, alteration types, and grades, and the mean extraction was 67% of gold on an average sample grade of 0.045 oz. Au/t. This data is considered to indicate that cyanide extraction is likely to be a suitable recovery methodology, but cannot be used to provide exact recoveries for plant operations. The reason is that cyanide shake tests are performed on finely ground pulps ( $P_{80} = 150$  mesh) and the plant operating conditions are going to be different.

#### ***13.1.2 McClelland 1995 Cyanidation Test Work***

McClelland Laboratories conducted two cyanidation leach tests in October 1995 on a composite of drill core material from MW-87, 128-176.4 feet. One was on 80% passing 200 mesh material that yielded 90.8% gold recovery and 35.5% silver recovery and one on 80% passing 10 mesh yielded 49.6% gold and 14.8% silver recovery. The results indicated that the gold is recoverable by cyanide, and that recovery is likely influenced by grind size. The tests consumed 0.60 lbs/t and 0.15 lbs/t cyanide and 8.9 lbs/t and 5.0 lbs/t lime respectively.

The bulk densities were determined for 15 samples. The average bulk density was reported to be 139.2 lb/ft<sup>3</sup>. The specific gravity of the samples was 2.23.

#### ***13.1.3 1995 Dawson Metallurgical Laboratories Test Work***

Dawson Metallurgical Laboratories, Inc. conducted additional cyanide leach tests to determine the optimal leach time versus reagent consumption. Dawson determined that 82% of the gold was recovered from the sample in the first 24 hours, with a maximum 88% gold extracted after 96 hours of leeching. These results confirmed that cyanide leach process will recover gold.

#### ***13.1.4 1996 Rocky Mountain Geochemical Cyanide Shake Test Work***

Test work was carried in February 1996 out for Kennecott by Rocky Mountain Geochemical Corp. on a single composite, designated MW-121, with a head grade of 0.105 oz. Au/t, and calculated head grade of 0.114 oz. Au/t. This composite was selected to determine why "sulfide mineralization intervals in this hole indicated low gold recoveries [while] bottle roll test work on the composite yielded 87.8% gold extraction in 96 hours." Cyanide shake tests were run on the composite sample for 1 and 24 hours. The test showed that 50% of the gold extracted after 1 hour and 100% after 24 hours. Hence, it was concluded that "the sulfide mineralization in MW-121 is not refractory [but] requires a longer leach period to extract all the cyanide soluble gold via the standard shake tests."

### 13.1.5 Newmont 2003 Test Work

Newmont's test work concentrated on proper sampling of core or RC drill samples. Significant differences were noted between fire assay and metallic assay values due to nugget effect. The study concluded that for the RC drill samples, the entire sample needs to be crushed in the laboratory and no splitting at site. Also, recommendations were made that metallic assay procedure should be used for gold values greater than 5 ppm Au.

### 13.1.6 2006 McClelland Laboratories Gravity Test Work

The test work, performed on composite samples assaying 0.6 g/t to 34 g/t Au, evaluated the response of gold recovery vs. feed grade using gravity concentration. This test work demonstrates a direct correlation between head grades and recovery from gravity concentration. Higher head grade achieved a higher gold recovery as shown in Table 13-1.

**Table 13-1: McClelland Laboratories Gravity Test Work Results**

Sample	Au Recovery % of Contained Values Nominal Grind Size			Au Recovery Total (%)	Calculated Head Grade, g Au/st	Direct Head g Au/st
	-420mm	150mm	75mm			
Comp. 12	72.5	7.6	8.1	88.2	36.17	34.40
Comp. 13	35.5	12.6	7.7	55.8	8.73	10.36
Comp. 14	23.8	8.2	7.7	39.7	3.44	3.44
Comp. 15	6.1	8.4	32.8	47.3	1.03	0.59

### 13.1.7 2006 SGS Lakefield Test Work

SGS undertook test work on a single composite involving pre-concentration by floatation and gravity concentration, and cyanidation of pulverized material as well as cyanidation of concentrates plus tails in 2006.

The composite sample assayed 6.45 ppm Au, 82.0% SiO<sub>2</sub>, and 0.05% S. Initial gravity concentration testing resulted in the recovery of 15.4% of the total contained Au. Cyanidation of the gravity tails resulted in combined gravity and cyanidation recoveries ranging between 89.5% and 94.1%.

A series of gravity concentration-floatation tests were performed using the composite sample. Combined gravity/floatation test gold recoveries given in Table 13-2 ranged from 43.6% to 52.5%.

**Table 13-2: 2006 SGS Gravity and Rougher Con Flotation Test Work Results**

Test #	Product	Product Wt. %	Assay Au (g/t)	Au Distribution (%)
F1	Ro Conc. 1-4	12.1	19.7	46.9
	Head (calc.)		5.07	
	Grav + Ro Conc.	12.2	27.7	55.2
F2	Ro Conc. 1-4	7.47	29.5	45.9
	Head (calc.)		4.8	
	Grav + Ro Conc.	7.38	42.5	54.2
F3	Ro Conc. 1-4	11.5	18.9	43.6
	Head (calc.)		4.99	
	Grav + Ro Conc.	11.5	27.3	52.2
F4	Ro Conc. 1-4	10.2	26.5	52.5
	Head (calc.)		5.17	
	Grav + Ro Conc.	8.9	37.3	59.8

Base line cyanidation tests were also performed on the gravity tailings. Depending on grind size, gold recoveries in cyanidation were higher than the gravity-flotation series, ranging from 87.5% to 93.1%. When the gravity concentration was included, overall recovery increased to 94.1%. These results are summarized in Table 13-3.

**Table 13-3: SGS Gravity + Cyanide and Cyanidation Test Work Results**

Leach Test #	Feed Size K <sub>80</sub> (µm)	Reagents (g/L, kg/t)			Leach Time (hrs.)	Au Recovery %			Au Tails Grade (g/t)	Au Head Grades (g/t)			
		NaCN Added	Consumption (kg/t)			CN	Grav	Grav+CN		Calculated		Direct	
			NaCN	CaO						CN	Grav	CN	Grav
CN1	169	0.5	0.03	0.38	48	93.1		94.1	0.38	5.49		5.32	
CN2	60	0.5	0.02	0.44	48	87.5	15.4	89.5	0.72	5.74	6.28	5.32	6.45
CN3	60	0.5	0.03	0.42	72	91.4		92.7	0.45	5.23		5.32	
CN4	169	1	0.01	0.39	48	92.5		93.6	0.43	5.64		5.32	

### 13.1.8 2007 Barrick Goldstrike Metallurgical Services Test Work

In June 2007, a single sample was submitted to Barrick Goldstrike Metallurgical Services for a Bond work index and to determine direct Carbon in Leach gold recovery. Sample head grades, recovery and consumptions are reported in Table 13-4.

The gold extraction of 91% was achieved in the CIL test. The sample had a Bond's ball mill work index of 19.06 thereby indicating the composite material was hard.

**Table 13-4: Barrick Goldstrike CIL Gold Recovery Results**

Standard ACIL Results	Head/Tail Assays			Head Reconciliation (%)	Au Recovery		Sulfide Sulfur			Carbonate		TCM	
	Head Assay (oz Au/t)	Calc. Head (oz Au/t)	Tail Assay (oz Au/t)		Calc. Recovery (%)	Head-Tail Recovery (%)	Head Sulfide Sulfur (%)	Tail Sulfide Sulfur (%)	Sulfide Oxidation Mass Bal (%)	Head CO <sup>3</sup> (%)	Tail CO <sup>3</sup> (%)	Head TCM (%)	Tail TCM (%)
Sample Name													
050807/1	0.242	0.200	0.018	17.3%	91.01	92.56	0.02	0.02	0.84	0.05	0.15	0.04	0.05
050807/2	0.242	0.210	0.019	13.2%	90.96	92.15	0.02	0.02	0.53	0.05	0.05	0.04	0.06
Average	0.242	0.205	0.019	15.2%	90.98	92.36	0.02	0.02	0.69	0.05	0.10	0.04	0.06

Standard ACIL Results	NaCN			Ore/Slurry				Carbon	
	Addition (lb NaCN/t ore)	Residual (lb NaCN/t sol'n)	Consumed (lb NaCN/t ore)	Mass of Head/Feed Sample (g)	Mass of Dry Tails (g)	Total Slurry Mass (g)	Mass of Solution (g)	Carbon Au Assay (oz Au/t)	Mass of Carbon (g)
Sample Name									
050807/1	5.00	2.70	-0.04	200.00	198.3	571.4	373.1	2.989	12.09
050807/2	5.00	2.61	0.14	200.00	198.9	571.4	372.5	3.145	12.09
Average	5.00	2.66	0.05						

### 13.1.9 Gekko Systems Test Work

In 2008 and 2009, Midway commissioned Gekko Systems to carry out work on gravity concentration and flotation test work on a single composite. The grade of the sample tested was 22.7 ppm Au and 16.3 ppm Ag. The response of the material to the gravity separation, on a shaking Wilfley table, improved at finer crush sizes. The test 100% passing 450µm showed that 35.5% Au recovery could be achieved into 1.2% of the feed mass. Finer grinding before gravity was shown to improve the gravity recovery at the expense of higher dilution in the concentrate. A gravity circuit inside the circulation load of a mill was recommended.

The flotation response was considered acceptable, however, 2.6 ppm Au was still present in the tails from the best flotation result. Diagnostic test of the flotation tail indicates that cyanide soluble leach recoveries of up to 88% are also achievable for final tail of 0.30 ppm at a grind of 40 µm.

## 13.2 Viva Gold 2018-2019 Metallurgical Test Work

### 13.2.1 2018 RDI Cyanide Leach Testing

In late 2018, Viva collected samples from previous drilling campaigns which had been retained by previous operators for bucket leach testing by RDi. The samples tested were assembled from a number of core intercepts from the Company's core inventory, averaging between 0.5 and 1.0 gram per tonne ("g/t") grade. Assayed head grade for the TV sample was 0.88 g/t gold and 0.72 g/t for the OPA sample. The samples were subject to static bucket leach tests for a nominal 1-inch crush material size and bottle roll tests for material ground to nominal 6-mesh and 200-mesh sizes. Results from this work are shown in Table 13-5.

**Table 13-5 RDi Cyanide Leach Test Summary**

Composite	Particle Size	Leach Time	Gold Extraction (%)	Silver Extraction (%)
TV	1"	20 days	18.4	9.0
	6 mesh	120 hours	29.7	24.9
	200 mesh	48 hours	<u>91.9</u>	41.6
OPA	1"	20 days	55.5	7.7
	6 mesh	120 hours	51.0	17.9
	200 mesh	48 hours	<u>93.5</u>	41.9

Review of the bucket leach testing shows that the Tv material in holes available as core, and thus selected to provide material for the composites were generally comprised of quartz rich tertiary volcanics from the Discovery zone. As such, it is possible that this material is not fully representative of the project metallurgy. Ongoing test work should properly identify and characterize the material selected for testing so that it can be more fully representative. These preliminary results indicate a potentially strong crush/grind size versus gold recovery relationship, at least in the limited number of samples tested.

### **13.2.2 2019 McClelland Laboratories Bottle Roll Testing**

Late in the 2018 drilling season, Viva submitted reverse circulation drill chip samples from the 2018 drilling program to McClelland Laboratories for cyanide bottle roll testing. Samples were combined into 19 separate composites, segregated by drill hole, rock type, and depth, and representing three different tertiary volcanic lithologies and the Palmetto Argillite. Composites were crushed to 80% passing 1.7mm size (10 mesh) and bottle roll leached for 96 hours.

Gold recovery for individual tests average between 42.6% to 85% recovery, with tests of argillite samples averaging 7% higher than the average of all samples from the tertiary volcanics. The lowest gold recoveries was typically experienced in samples displaying higher levels of silicification. A number of the individual tests were still gaining recovery as the tests were terminated indicating the possible presence of slow leaching free gold. Rock type will be a factor in determining average overall recovery for the project and should be considered in geometallurgical modelling.

Silver recovery averaged 13.3 % over all rock types on an average head grade of 3.9 g/t. Cyanide consumption (NaCN) averaged a low 0.11 kg/tonne of ore and lime consumption averaged 3.8 kg/tonne ore.

**Table 13-6 McClelland Bottle Roll Tests**

Composite	Rock Type	Au	gAu/mt ore			
		Recovery, %	Extracted	Tail	Calculated Head	Head Assay
TG1806	OPA	55.6	0.20	0.16	0.36	0.35
TG1807C	OPA	61.3	0.73	0.46	1.19	0.98
TG1808B	OPA	64.5	0.20	0.11	0.31	0.32
TG1808C	OPA	79.9	1.31	0.33	1.64	5.92
TG1808D	OPA	81.7	0.85	0.19	1.04	0.90
TG1809A	OPA	51.2	0.44	0.42	0.86	0.91
TG1809B	OPA	85.0	0.68	0.12	0.80	0.64
TG1810B	OPA	48.3	0.14	0.15	0.29	0.33
TG1807A	TRT	47.6	0.20	0.22	0.42	0.36
TG1812B	TRT	72.2	0.26	0.10	0.36	0.30
TG1814A	TRT	52.8	0.28	0.25	0.53	0.42
TG1810A	TRV	42.6	0.52	0.70	1.22	1.36
TG1811A	TRV	71.4	0.20	0.08	0.28	0.30
TG1811B	TRV	68.3	0.28	0.13	0.41	0.38
TG1812A	TRV	68.4	2.21	1.02	3.23	3.07
TG1815	TRV	45.5	0.65	0.78	1.43	1.38
TG1807B	TVS	56.9	1.11	0.84	1.95	1.73
TG1813	TVS	59.2	0.29	0.20	0.49	0.44
TG1814B	TVS	65.0	1.78	0.96	2.74	2.47

It should be noted that recoveries from this test work is bench scale testing and that recoveries appear to have been increasing at the 96-hour mark. Thus, these tests are probably not a quantitative indicator of overall heap leach recoveries.

### **13.2.3 Cyanide Leach Assays**

Beginning in 2018, Viva gold added cyanide shake leach assay (whereby a split of the prepared sample pulp is agitated in cyanide solution and the resulting pregnant solution is assayed by AA methods) to the assay suite for exploration samples. The objective of this program is to provide data to determine variability of cyanide recovery through the deposit. In some operations, cyanide shake assays have been found to be useful in predicting cyanide leach recoveries, particularly where there is high variability of recovery for different ore types. These data are being maintained as part of the project database, but full evaluation has been delayed pending acquisition of a sufficient number of data points. Gustavson recommends that this data be compared with and registered against the historical Kennecott database of similar sampling technique and evaluated to determine whether it demonstrates measurable variability in recovery by lithology or alteration type.

## **13.3 Metallurgical Test Work Summary**

The historical metallurgical data indicate that gold and silver mineralization from the Tonopah project are amenable to recovery by cyanide leaching. Test work was completed on both fully oxidized and sulfide samples, with little difference noted in recoveries. It is noted in some of the test work that coarse gold present in samples maybe contributing to delayed recovery in cyanide solution.

Gravity pre-concentration was recommended in some of the early studies to segregate coarse gold from the material prior to cyanide leaching. Gravity testing indicates that gravity methods might be useful for pre-concentration, particularly in higher grade materials.

Flotation test work completed on high grade gold samples, indicates that a high percentage of gold can be recovered to concentrate by froth flotation. However, the test work appears to indicate that gravity/cyanidation showed better performance than flotation/cyanidation.

Gustavson believes that sufficient preliminary metallurgical data exists to support determination of cutoff grade for resource estimation, as well as recovery models for scoping-level studies. The cyanidation shake data (Kennecott, Section 13.1.1) appears to be taken from a variety of grades, lithologies and mineralization types. However, the remaining pre-Viva metallurgical data were focused on a limited number of samples of higher grade vein material, and may not be representative of the deposit as a whole.

The Viva Gold metallurgical test work data confirms that gold mineralization from the project is amenable to recovery by cyanide leaching. Argillite material appears to have a somewhat better response than volcanic material, and initial results indicate that there is likely a relationship between particle size and recovery (with smaller size particles showing higher amenability to cyanidation.) It is also noted that the bottle roll test work showed increasing recoveries at the 96-hour timeframe, which generally indicates that leaching was not yet complete. Future bottle roll tests might use a longer time window to allow for additional recovery.

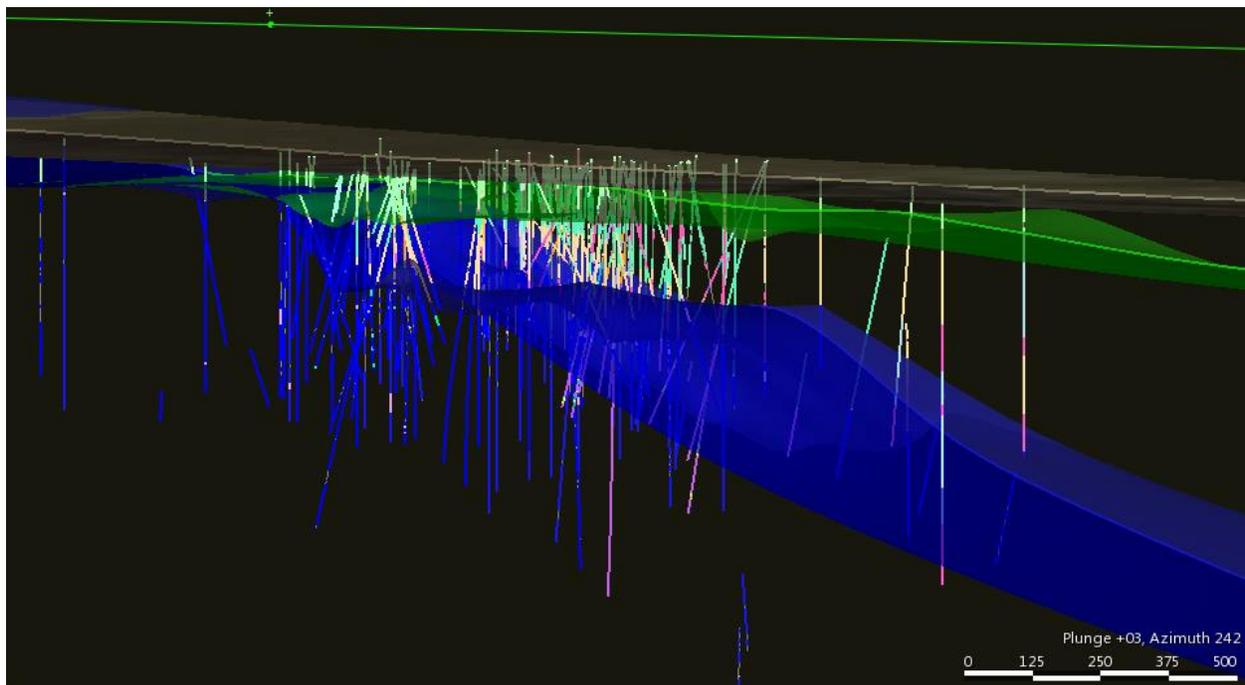
Gustavson recommends that further test work be focused on column leach testing for various identified material types, and preferably at different crush sizes, with the objective of predicting heap leach recoveries and testing relationships between comminution and recovery.

## 14 Mineral Resource Estimates (Item 14)

### 14.1 Geologic Model

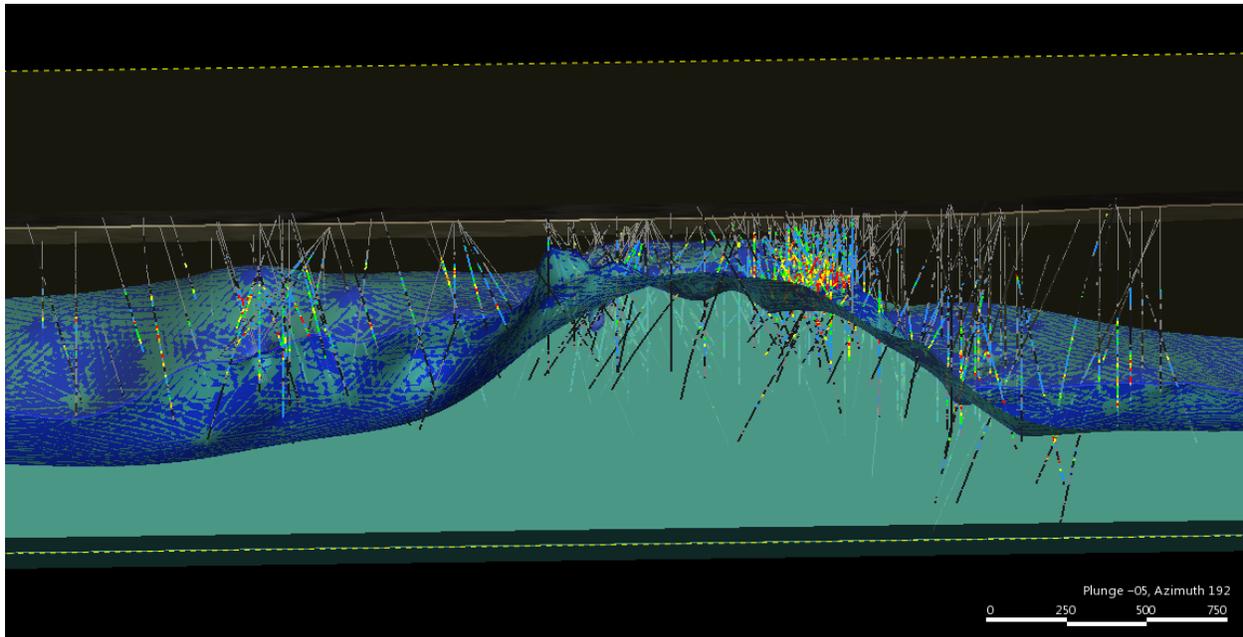
The primary lithologic model for the Tonopah Project consists of Ordovician Palmetto formation Argillites disconformably overlain by Tertiary volcanic rocks. Much of the resource area is further covered by Quaternary gravels. Gustavson used Leapfrog software to aggregate Palmetto formation, Volcanics, and Gravels within the drill holes for the project, and used the contact points to generate surfaces which represent the contacts between each of the lithologic domains. The contact surface for the top of the Palmetto shows a steep incline to the north which runs generally parallel to the regional Walker Lane Trend, along with two conjugate offsets which correspond to the Discovery and Dauntless zones identified in drilling.

Review of long sections and cross sections through the deposit show that mineralization generally follows the contact between the Palmetto and the overlying volcanics, with most of the mineralization occurring within the lower portion of the volcanics, except in areas of structural complexity, where feeder structures may exist within the argillite.

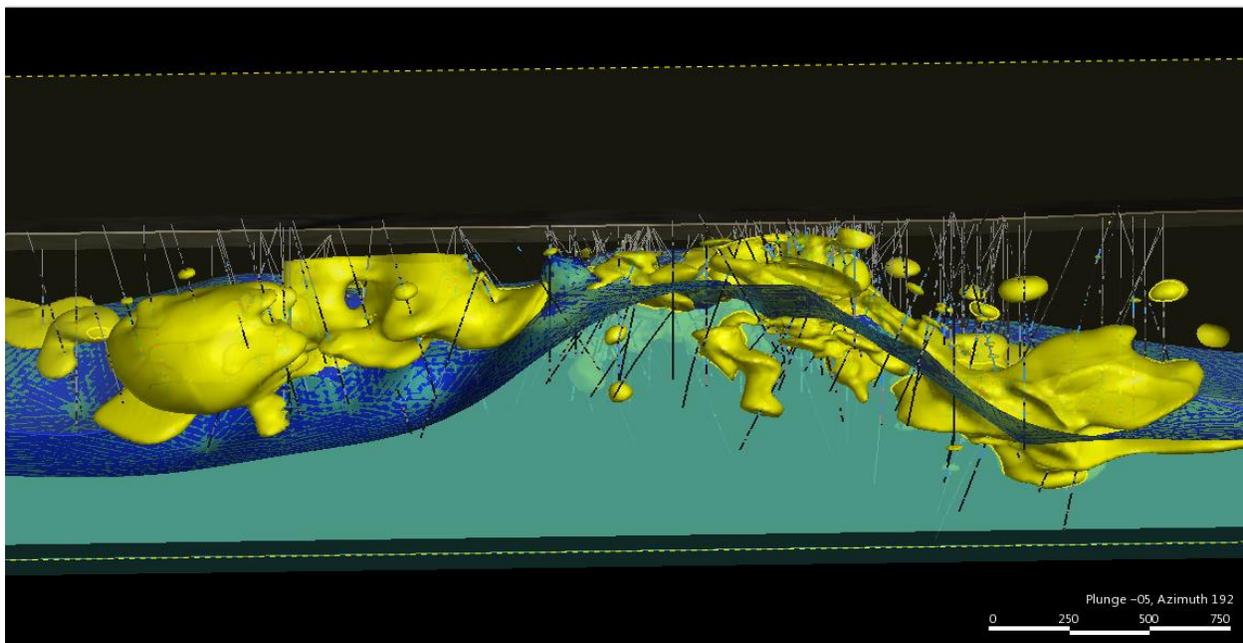


**Figure 14-1: Cross section slice showing Opa upper surface (blue) and Tv Upper Surface (green) (Az 242)  
Scale in feet.**

Mineralization is interpreted to primarily occupy zones of favorable structural preparation and lithochemical host rock within the lower Tertiary volcanics and underlying Palmetto formation, in an overall trend parallel to the Walker Trend.



**Figure 14-2: Long section view showing mineralization relative to Opa /Tv boundary surface. Az 192. Scale in feet.**



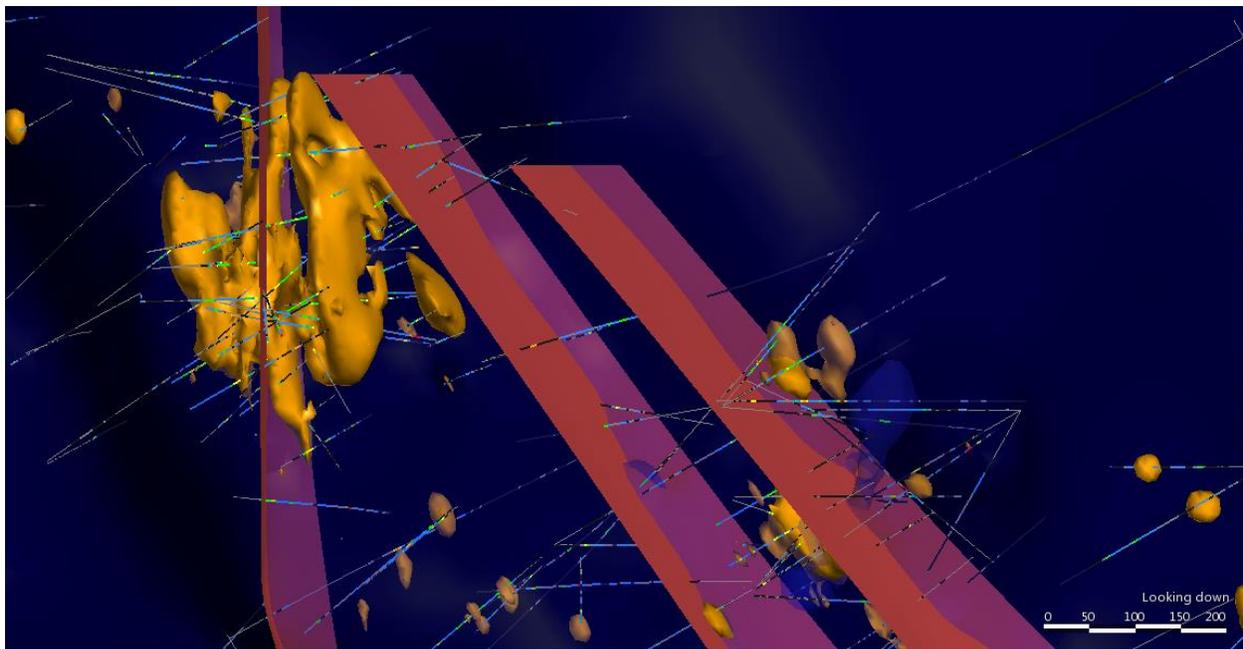
**Figure 14-3: Long Section view showing interpreted Primary Zone Domain (PZD, Yellow) log grade shell at 0.150 ppm Au. Azimuth 192, Scale in feet.**

## 14.2 Domains for Resource Estimation

Based on observation that the primary mineralization trend appears to follow the Opa /Tv contact, Gustavson created a series of grade shells in Leapfrog Mining software based on gold grade, using the Opa /Tv contact as a trend surface to guide the interpolation of the solids models. A high anisotropy

(8:8:1) was used to counterbalance the complex drilling pattern and orientation, and a log grade shell was estimated to limit projection of the grade shell into areas of sparse drill density. A number of grade shells were considered, at several cutoffs, and using a series of different parameters. The final shell selected is a log shell at 0.150 ppm, which has a good balance between continuity of mineralization without over-projecting grades. This shell is referred to as the primary zone domain (PZD).

A secondary shell was created to allow for separate treatment and understanding of higher-grade mineralization which trends parallel to conjugate extensional structures, particularly the Discovery and Dauntless structures. This shell is a log shell at a 0.8 ppm threshold, with interpreted surfaces for the Discovery and Dauntless structures as trend surfaces for control. The shell is clipped to an area of influence surrounding the Discovery and Dauntless structures. This shell is referred to as the conjugate zone domain (CZD).



**Figure 14-4: Plan view (North is top of page) showing CZD solids (orange) relative to drill data and interpreted conjugate structures. Scale in feet.**

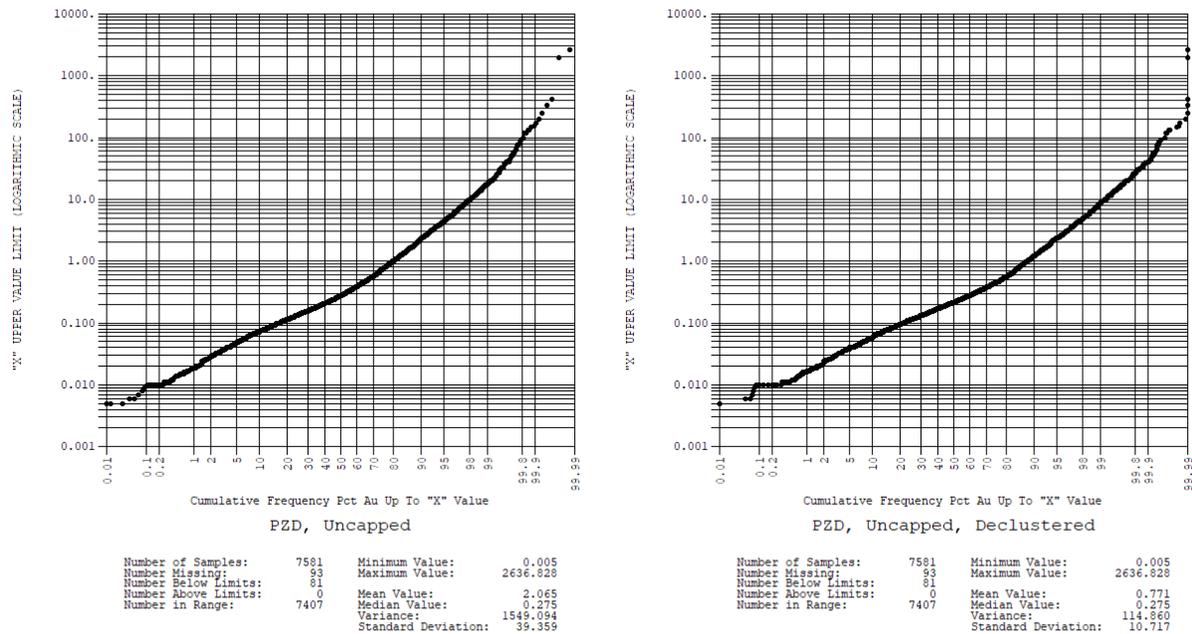
The CZD is a subset of the PZD. The subset of the PZD which excludes the CZD is referred to as PZX.

Both domains are clipped at the Tv / Gravel surface, as no mineralization is projected to occur in the overlying gravels.

### 14.3 Domain Statistics

Drill holes were composited at 5-foot intervals downhole for statistical analysis and for resource estimation.

Statistical analysis for deposit shows two distinct populations within the PZD, a higher-grade and lower-grade population. Figure 14-5 shows a clear multimodal distribution of Au composite data in the clustered data (left), which resolves into a bimodal distribution in the declustered data (right).



**Figure 14-5: Composite statistics, PZD (both domains)**

Separation of the deposit into PZX and CZD domains separates the populations, thus demonstrating that it may be reasonable to treat the two data distributions separately for estimation. Figure 14-6 shows composite data for the zones separately. The declustered data (top right) for PZX still shows a relic of the upper data population related to additional conjugate structures which are not captured in the Discover / Dauntless solids area. The CZD declustered data (lower right) shows a clear lognormal distribution of the data population isolated in the CZD. The non-declustered data set, particularly for CZD, is impacted by the large number of closely spaced drill holes in the higher-grade portions of the Discovery & Dauntless zones which comprise the CZD.

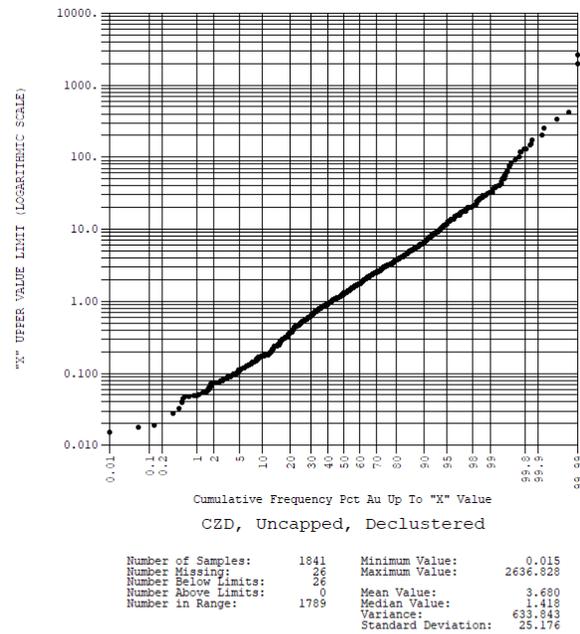
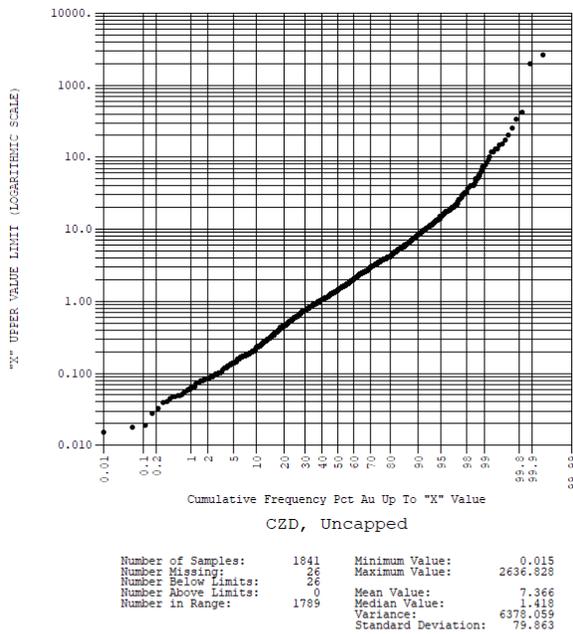
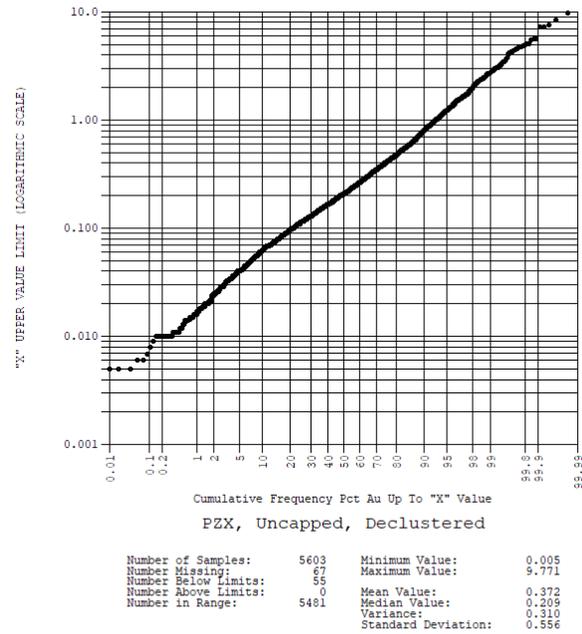
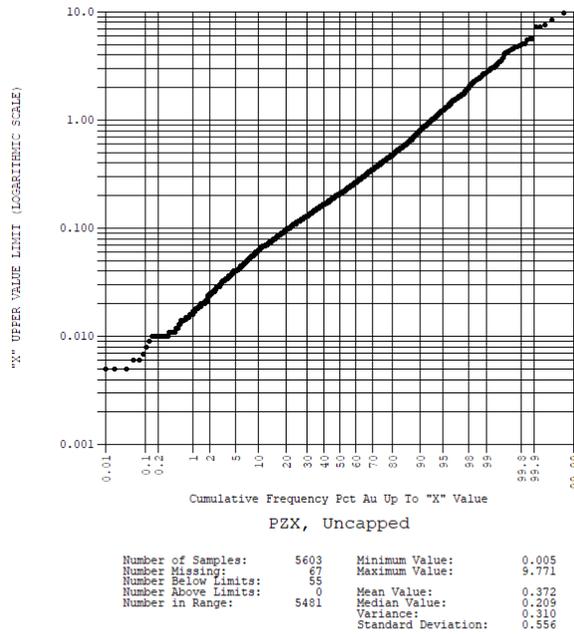
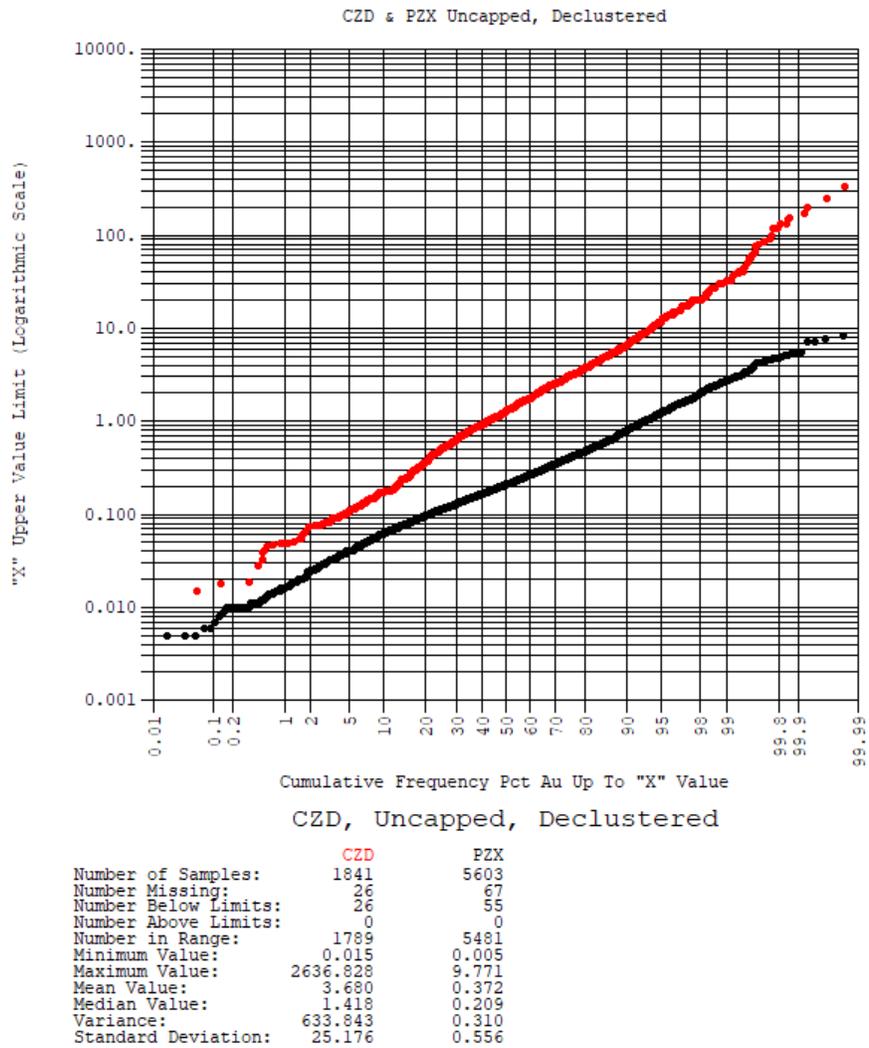


Figure 14-6: Domain Statistics and CFP's, PZX and CZD domains



**Figure 14-7: CZD and PZX domains Cumulative Frequency Plots**

Figure 14-7 shows the cumulative frequency distribution for composites within the CZD and PZX domains, clearly showing the two separate populations. Table 14-1 shows capped, uncapped, declustered, and non-declustered composite statistics by zone for CZD, PZX, and combined PZD domains for reference.

**Table 14-1: Composite statistics by zone**

Domain	Capping	Declustering	Number of Samples	Min Value	Max Value	Mean Value	Median Value	Standard Deviation	Coefficient of Variation
CZD	Capped	Declustered	1841	0.015	20	2.703	1.418	4.003	1.481
		Normal	1841	0.015	20	3.189	1.418	4.54	1.424
	Uncapped	Declustered	1841	0.015	2637	3.68	1.418	25.176	6.841
		Normal	1841	0.015	2637	7.366	1.418	79.863	10.842
PZX	Capped	Declustered	5603	0.005	5	0.33	0.209	0.474	1.436
		Normal	5603	0.005	5	0.368	0.209	0.521	1.416
	Uncapped	Declustered	5603	0.005	9.8	0.372	0.209	0.556	1.495
		Normal	5603	0.005	9.8	0.372	0.209	0.556	1.495
PZD	Capped	Declustered	7444	0.005	20	0.633	0.28	1.723	2.722
		Normal	7444	0.005	20	1.063	0.28	2.598	2.444
	Uncapped	Declustered	7581	0.005	2637	0.771	0.275	10.717	13.900
		Normal	7581	0.005	2637	2.065	0.275	39.359	19.060

## 14.4 Capping & Compositing

Capping is applied separately for CZD and PZX domains prior to estimation. Capping parameters for CZD are based on the CFP's shown in Figure 14-6 (lower left and lower right). There is a shift in the grade population at 20 ppm Au. Accordingly, CZD grades are capped at 20 ppm Au. The CFP for PZX domain indicates a cap of around 15 ppm Au may be optimal. However, because PZX domain appears still to include a separate data population, a more conservative capping parameter of 5ppm Au was chosen.

5% of composites within the CZD domain and 2% of composites within the PZX domain are capped. Gustavson acknowledges that this capping regime may be conservative but considers it prudent at this time because of the risks imposed by more closely clustered drilling in the higher-grade portions of the deposit.

## 14.5 Geostatistics

Preliminary variography in PZD (Figure 14-8) shows a general trend which parallels the long axis of the mineralization, parallel to the Walker Lane, bearing 120, 0 plunge. However, there is an anomaly in the variogram showing high variability at short range. This is interpreted as the influence of the conjugate 340-degree to 360-degree structural trend, which appears to host very high grade mineralization.

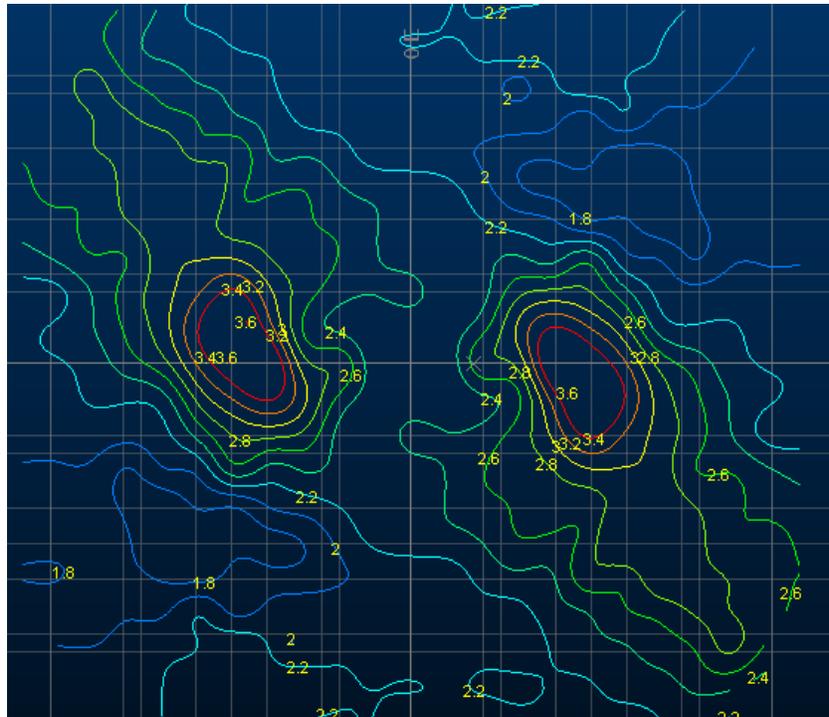


Figure 14-8: PZD Variogram Map, Plan View

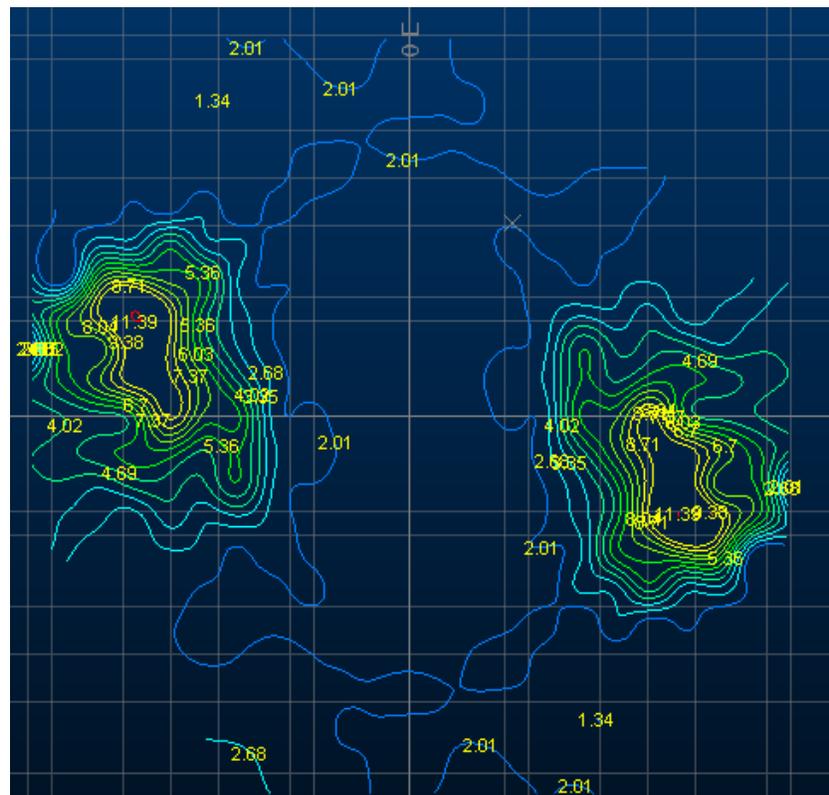


Figure 14-9: CZD variogram map, plan view

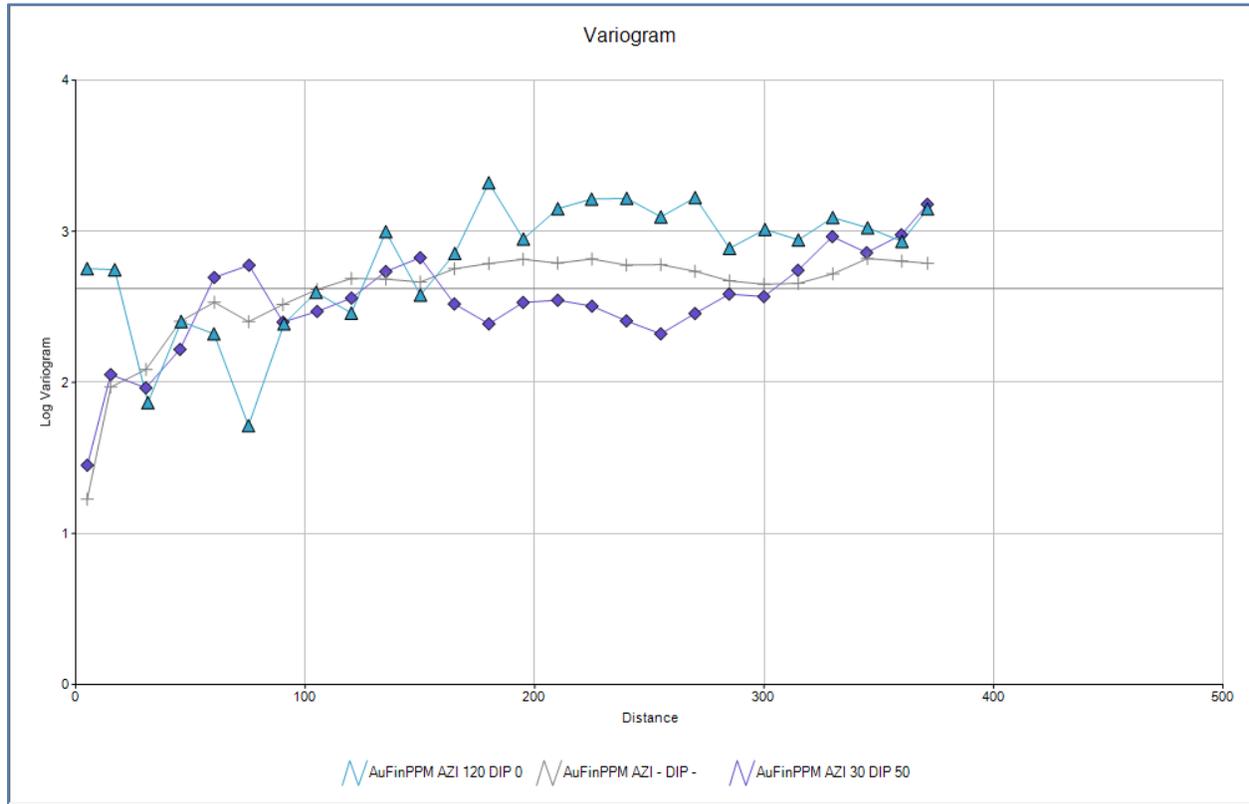


Figure 14-10: Experimental Variograms, PZX zone

Table 14-2: Experimental Variogram Ranges

Composites Set		Bearing	Plunge	Nugget	Type	Sill	Range
PZX	Omni	-	-	.5	SPH	.5	110
	Dip Direction	30	50	.5	SPH	.5	60
	Along Strike	120	0	.5	SPH	.5	120
	Across Strike	30	140	.5	SPH	.5	30
CZD	Omni	-	-	.6	SPH	.4	45
	Dip Direction	90	80	.6	SPH	.4	50
	Along Strike	0	10	.6	SPH	.4	40
	Across Strike	90	-10	.6	SPH	.4	20

### 14.6 Block Model Parameters

The block model used for resource estimation is a 20x20x20 foot, orthogonal, non-rotated block model, which is selected as consistent with the likely open pit mining method for the property. Blocks are flagged from the PZD solids, with only blocks inside the domain being estimated. CZD contribution to

the block grade estimate is estimated by conjugate zone indicator model, so the CZD subset model is a soft boundaries model.

### **14.7 Block Grade Estimation Methodology**

Block grade estimation was completed using Datamine RM software. Grade estimates use ordinary kriging, with an indicator model used to determine impact of the conjugate zone on each block area.

Estimation of block grades uses a two-pass indicator estimation in order to accommodate the two overlapping grade populations and orientations. An indicator model is estimated to determine the level of influence of the higher-grade conjugate zone mineralization, to restrict the influence of this higher-grade mineralization to the shorter variogram range displayed for the higher grade zone, and to honor the geometry of the conjugate zone by orienting search and kriging parameters for the conjugate estimate according to the variography of the zone.

Step 1: Estimate PZD grades using capped PZD composites, using variography from (PZD), and dynamic anisotropy derived from the Opa / Tv trend surface.

Step 2: Estimate conjugate zone indicator (CZ%) value using all PZD composites set to indicator values (>1.0 ppm =1, < 1.0 ppm = 0) to arrive at an indicator percentage for each block. This estimate uses PZD Indicator variography.

Step 3: Estimate all PZD blocks with CZD composites, using CZD variogram and search ranges.

Step 4: Flag all PZD blocks with SVOL code corresponding to classification methodology using all PZD composites and PZD variography.

Step 5: Aggregate block grades such that the CZD grade is applied to the CZ% of the block, with the remaining percentage having PZD grades applied. Where CZD grades are not estimated due to distance from CZD composites, CZ% is set to zero and the PZD grade is applied.

Parameters for block grade estimation are shown in Table 14-3.

**Table 14-3: Block Grade Estimation Parameters**

Estimate		Search Ranges (ft)			Kriging Inputs	
		Measured	Indicated	Inferred	Nugget %	Sill %
PZX	Dynamic					
	Dip Direction	-	105	-	50	50
	Along Strike	-	180	-	50	50
	Across Strike	-	75	-	50	50
CZD	Strike 170, Dip -90					
	Dip Direction		50		60	40
	Along Strike		50		60	40
	Across Strike		20		60	40
Indicator	Strike 170, Dip -90					
	Dip Direction	-	70	-	50	50
	Along Strike	-	70	-	50	50
	Across Strike	-	20	-	50	50
Classification	Dynamic					
	Dip Direction	35	70	140		
	Along Strike	60	120	240		
	Across Strike	25	50	100		

Each grade estimate uses a single pass, with a minimum of 6 and a maximum of 20 5-foot composites used to estimate grades (and IND%). A maximum of 4 composites are used per drillhole, thus requiring at least two drillholes to contribute to each block estimate. Classification is flagged in three passes, with the same data requirements for each pass, thus SVOL 1 (measured) classification requires a minimum of 6 composites from 2 drillholes within a 60 x 35 x 25 foot search ellipse. Estimates use dynamic anisotropy to orient the PZD and Classification search ellipses parallel to the Palmetto / Volcanic contact, Indicator and CZD searches are oriented with a strike of 170 and a dip of 90 degrees.

### 14.8 Resource Classification

Resource Classification is based distance from data as compared to the variogram ranges determined for the PZD. Blocks within 50% of the variogram range of two drill holes are classified as measured. Blocks within 100% of the variogram range of two drill holes are classified as indicated. Blocks within 200% of the variogram range of two drill holes are classified as inferred. There are additional blocks within the domains which have no grades estimated, but which constitute targets for additional drilling.

### 14.9 Cutoff Grade

Cutoff grade used to meet the test of ‘reasonable prospects for economic extraction.’ Accordingly, the cutoff grade is estimated based on price and recovery assumptions

$$\text{Cutoff Grade} = \text{Cost} / (\text{Metal Price} * \text{Recovery})$$

Using \$1250/ oz Au, 67% recovery assumption, and a process cost + G&A assumption at \$6.87/ short ton (\$7.57 / metric ton), this gives us a cutoff grade of 0.239 ppm. A 0.250 ppm cutoff grade thus constitutes reasonable prospects for economic extraction by this test.

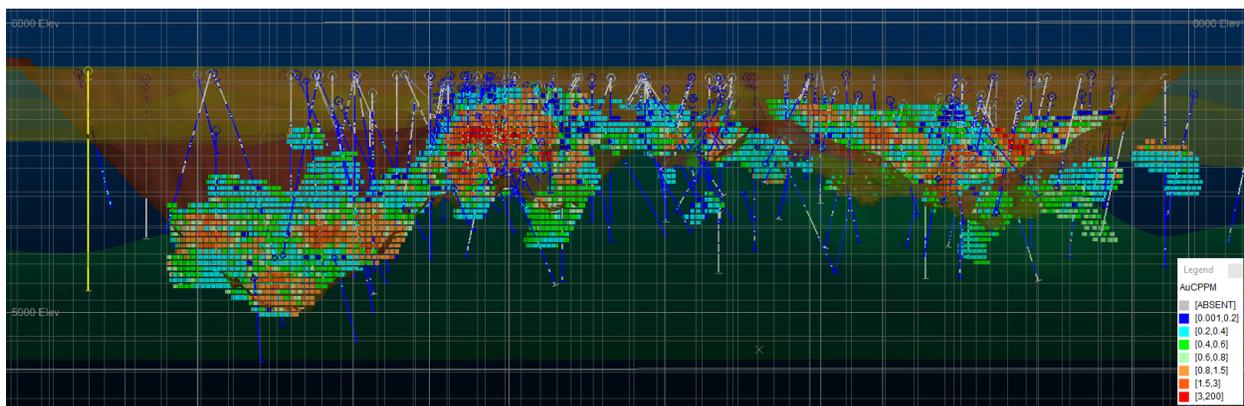
### 14.10 Pit Shell

As a second test for ‘reasonable prospects for economic extraction’, Gustavson constrained the resource estimate within a Lerchs-Grossman pit shell to exclude discontinuous and peripheral areas of mineralization which are less likely to form part of a future mine plan. The parameters for the pit shell are in

Table 14-4.

**Table 14-4: Resource Pit Parameters**

Parameter	Value
Gold Price (/oz troy)	\$1250
Gold Recovery %	67%
Mining Cost (per ton mined)	\$1.23
Process Cost (Includes \$0.44 Leach Pad Allowance)	\$5.50
General & Administrative	\$1.37
Overall Highwall Angle	42 degrees



**Figure 14-11: Long Section (Looking N20E) view showing drill holes, estimated blocks, and pit shell used to constrain resource estimate. Blocks outside the pit shell are not included in the resource.**

### 14.11 Specific Gravity / Density

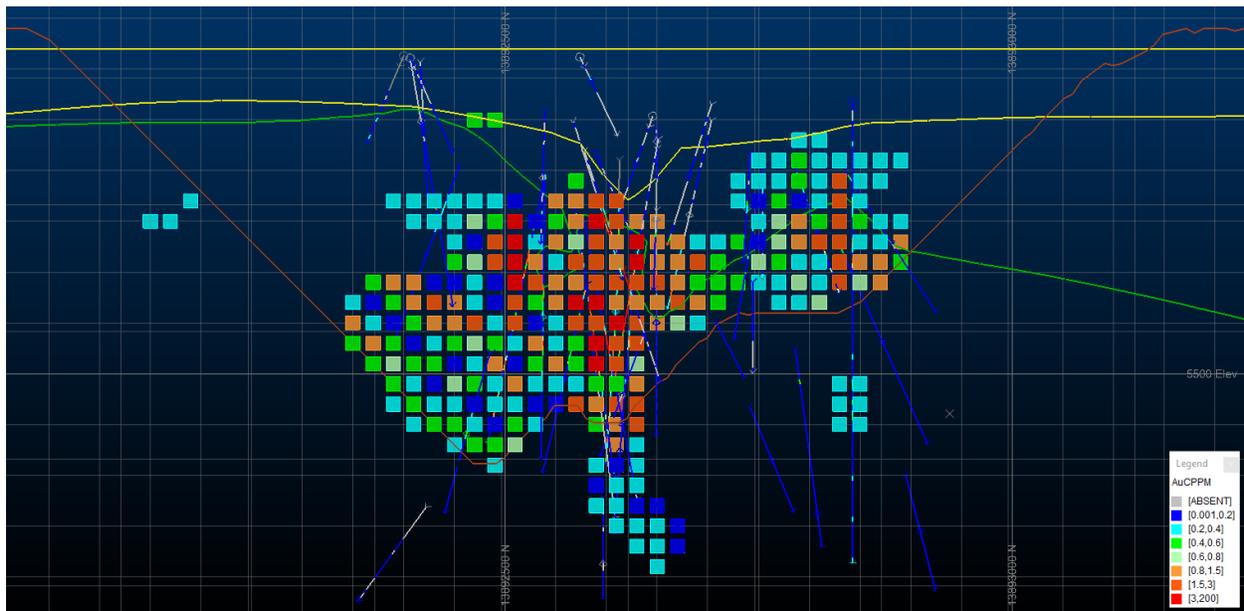
There is limited specific gravity test work available for the project. An average tonnage factor of 13 ft<sup>3</sup>/ton was used to approximate the density for the mineralized material, corresponding to a SG of 2.46 t/m<sup>3</sup>. Gustavson recommends that specific gravity test work be completed to determine average densities for the different mineral and waste lithologies for the project.

### 14.12 Validation of Resource Estimate

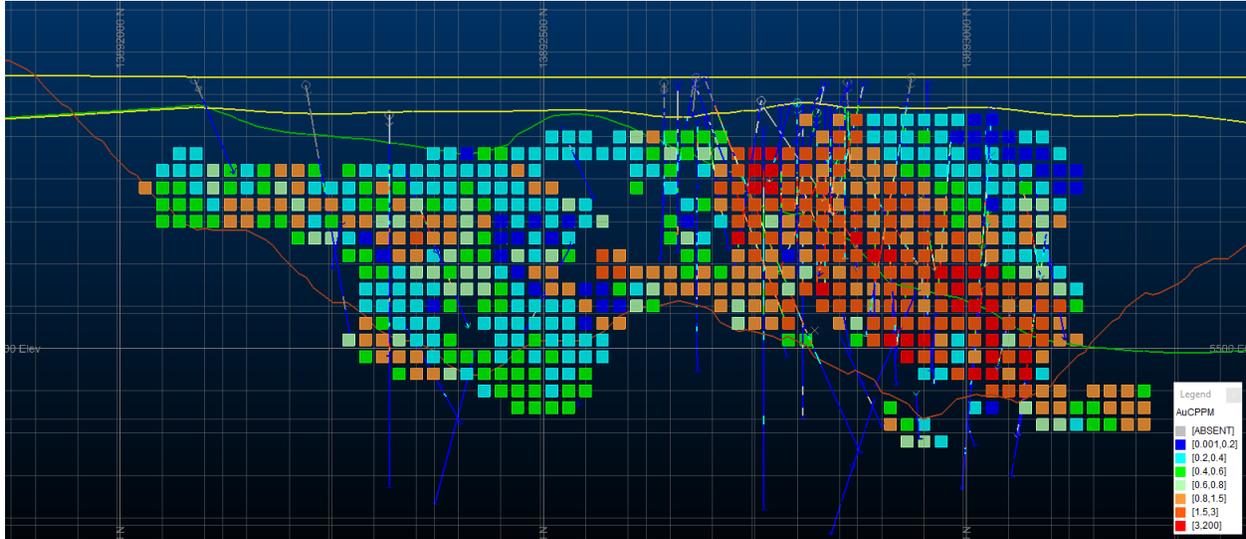
The resource estimate has been validated by visual review of the block model, by global statistical review, and by swath plots.

#### 14.12.1 Visual Review of Block Model

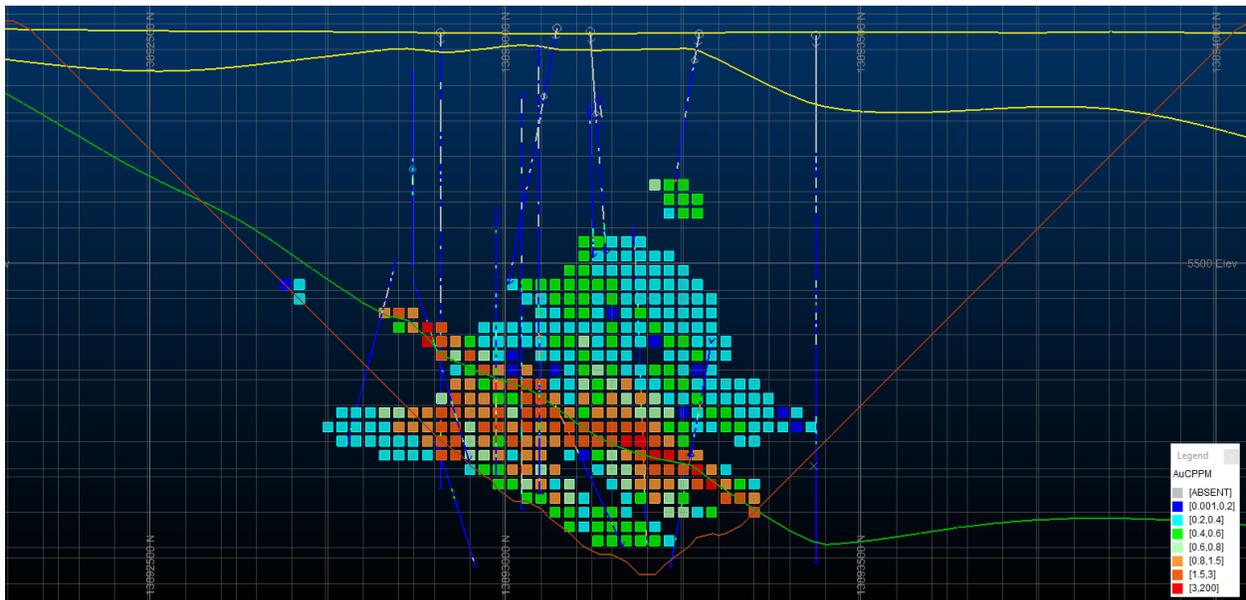
Visual review of the block model shows good agreement between block and composite grades. Mineralization appears to be well constrained to areas of drilling. Grades generally propagate parallel to the Opa / TV surface. Cross sections are shown with Gravels outlined in yellow, Opa surface as a green trace, and pit shell as an orange trace. Blocks below the pit shell are not reported as resource.



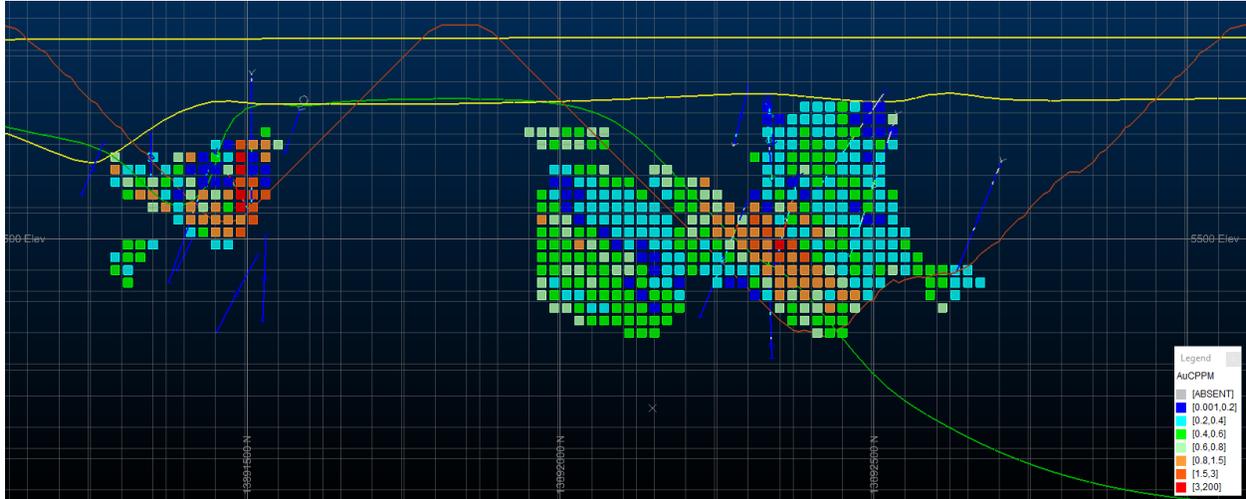
**Figure 14-12: Example Cross Section (Looking W) through Tonopah block model (Dauntless Zone). Showing MII blocks and pit trace for reference (Blocks are 20 feet on center)**



**Figure 14-13: Example Cross Section (Looking W) through Tonopah block model (Discovery Zone). Showing MII blocks and pit trace for reference. (Blocks are 20 feet on center)**



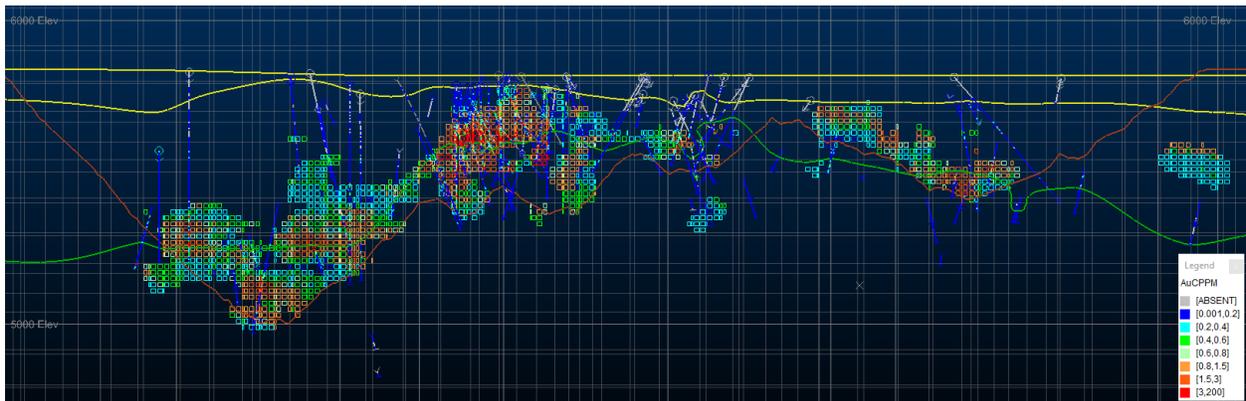
**Figure 14-14: Example Cross Section (Looking W) through Tonopah block model (121 Zone). Showing MII blocks and pit trace for reference**



**Figure 14-15: Example Cross Section (Looking W) through Enterprise (Left) and 121/Pointluck Zones (right) Showing MII blocks and Pit trace for reference.**

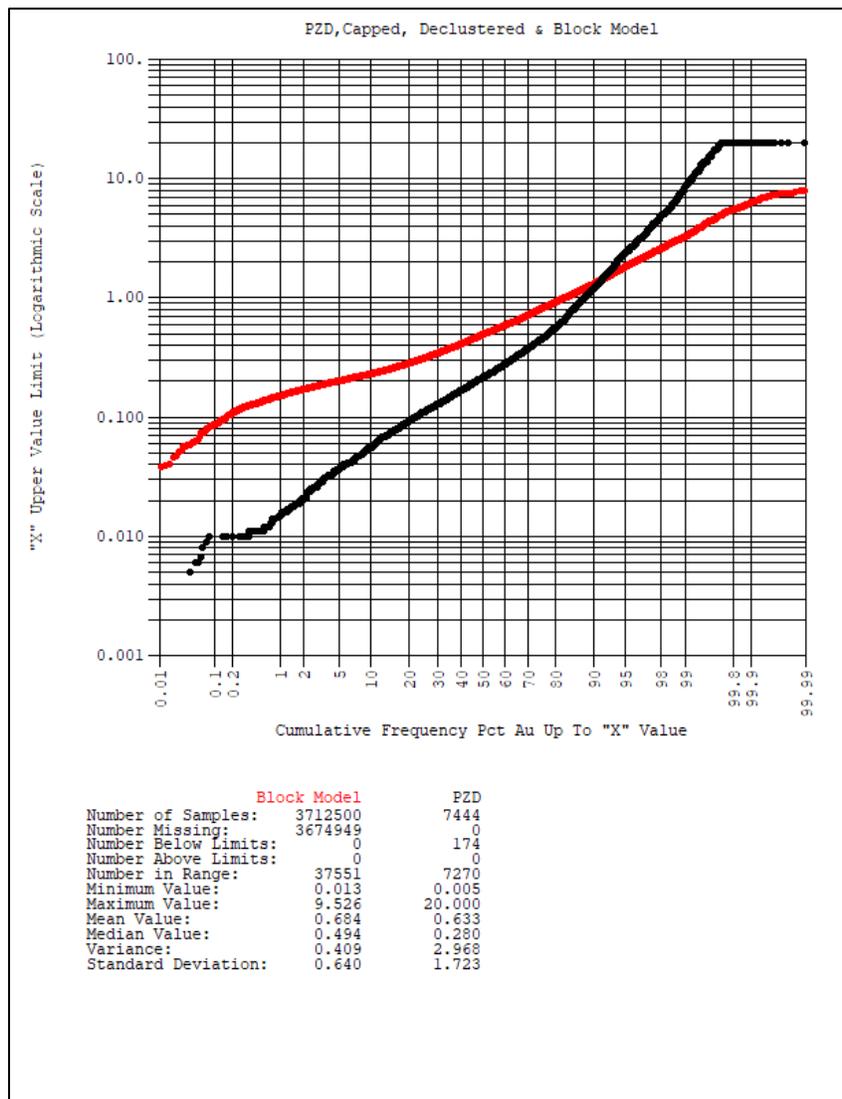


**Figure 14-16: Long Section (Looking N20E) through Tonopah Block Model. Showing SVOL (classification) and pit trace for reference.**



**Figure 14-17 Long Section (Looking N20E) showing block grade estimates and pit trace for reference.**

**14.12.2 Global Statistical Review**



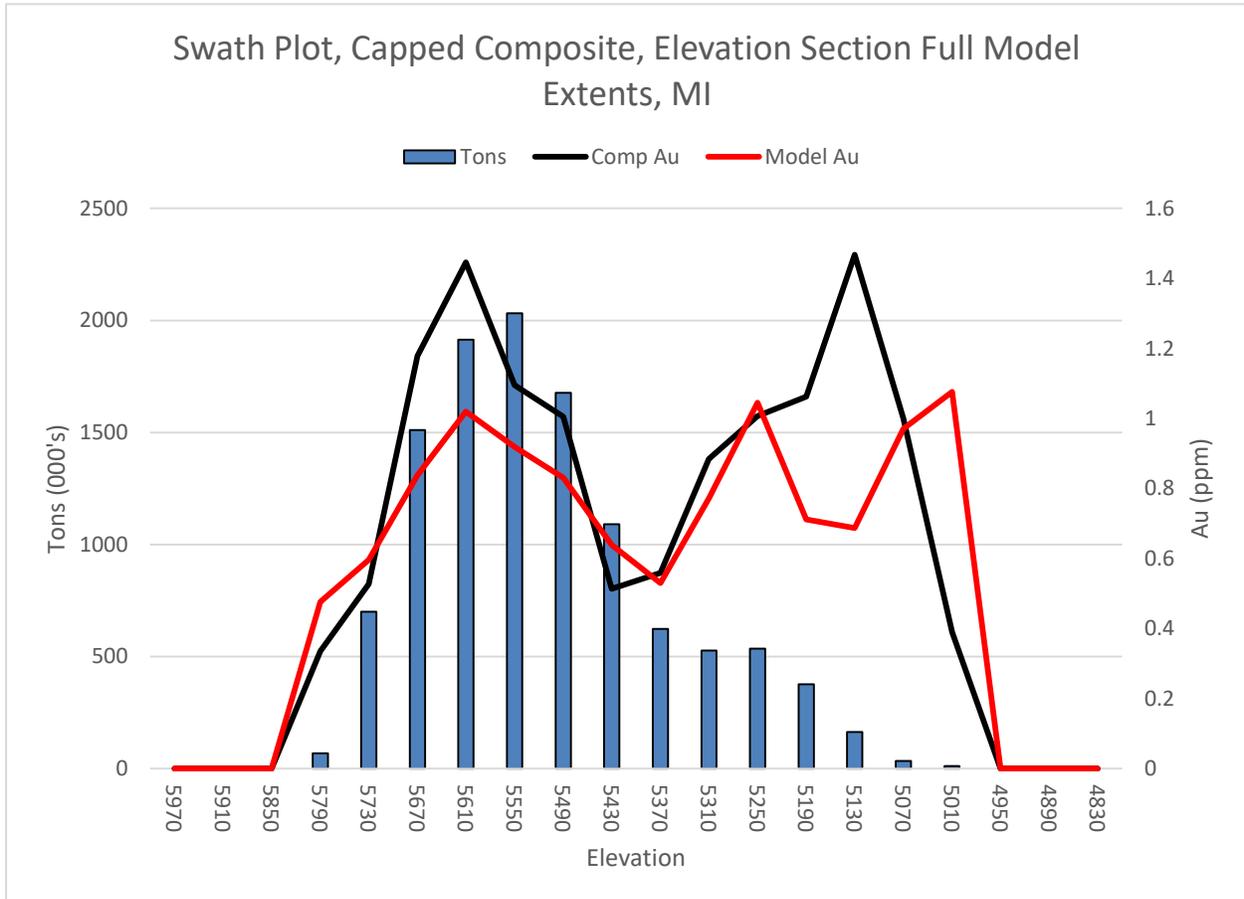
**Figure 14-18: PZD composites and MII Resource Block grades, CFP Comparison.**

A cumulative frequency plot of PZD composite grades compared to MII block grades shows the degree of smoothing of grades within the model. There is significant variance reduction in the block model as compared to composites, partially because of the very high drill density within high grade portions of the deposit. Approximately 90% of the blocks within the block model are above cutoff grade of 0.250 ppm Au. This model may be unreliable for estimation of block grades below this cutoff threshold. Note that the constant grade portion of the composite CFP are the result of capping.

**14.12.3 Swath Plots Review**

Swath plots were generated comparing capped composite grades, block model grades, and block model tonnages for M & I material by elevation, easting, and northing within the resource area. The swath plots are reasonably well behaved in areas of good drill density and significant resource tonnage, other than some local data effects caused by highly variable drill hole data distributions. (Observed around 5600

elevation in Figure 14-11). The southernmost resource areas in Figure 14-13 have limited drilling and low resource tonnages and behave poorly in the swath plots. This area needs additional drilling to improve confidence in the resource estimate.



**Figure 14-19: Swath Plot by Elevation**

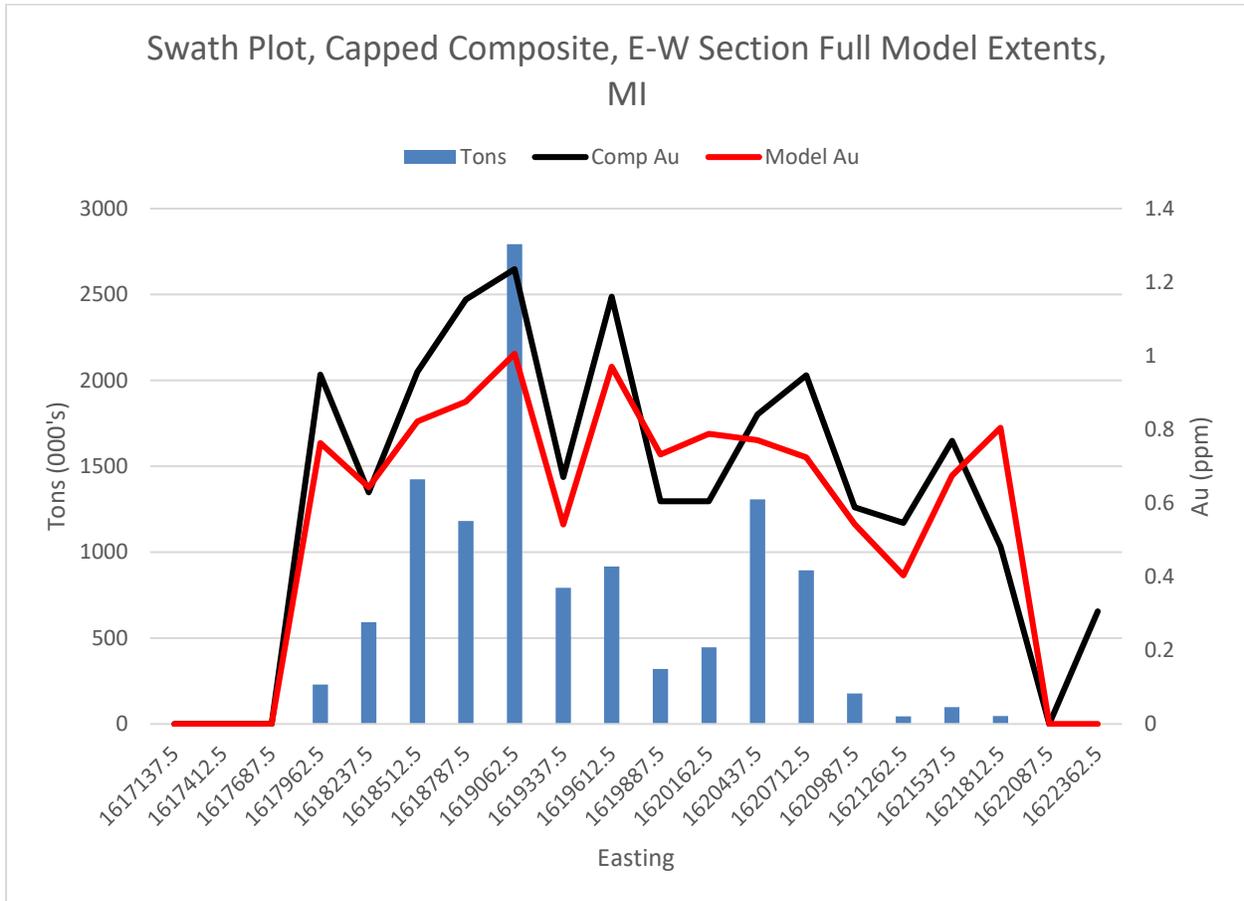


Figure 14-20: Swath Plot by Easting

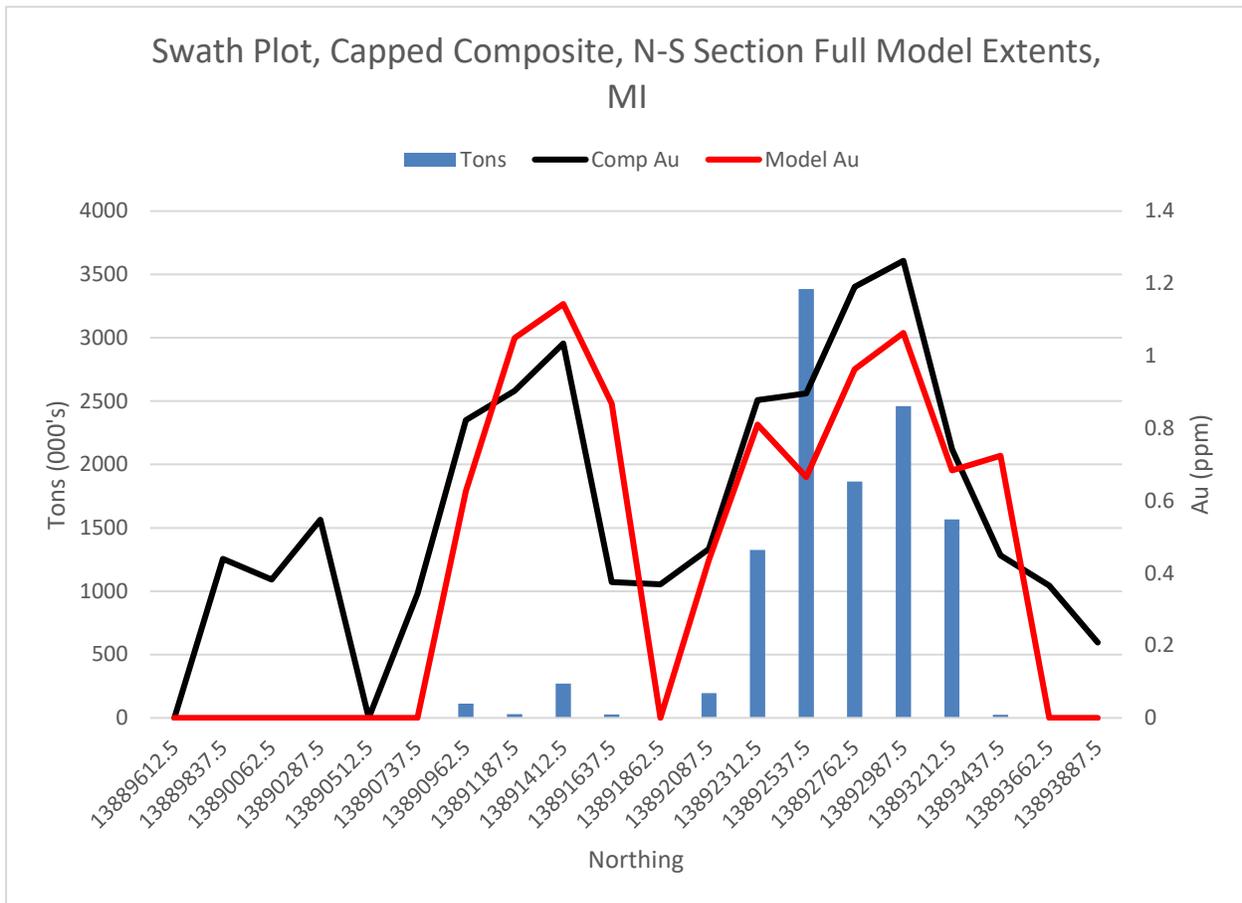


Figure 14-21: Swath Plot by Northing

### 14.13 Mineral Resource Tabulation

Thomas C. Matthews, MMSA-QP, of Gustavson Associates is the Qualified Person with responsibility for the mineral resource estimation in Table 14-5. Resources do not have modifying factors or dilution applied. Gustavson is of the opinion that the resources presented reasonably represent the in-situ resources modeled for the deposit using all available data as of the March 30, 2019 effective date of this report. Resources are presented at a 0.250 g/t (ppm) cutoff grade, and inside a \$1250 pit shell using a 42-degree average pit slope, which constitutes ‘reasonable prospects for economic extraction’.

**Table 14-5: Mineral Resource Estimate, Tonopah Project, 2019**

<b>Classification</b>	<b>Tonnes (x1000)</b>	<b>Gold Grade gram/tonne</b>	<b>Contained Au Ounces (troy)</b>
Measured Resources	2,500	1.38	112,000
Indicated Resources	6,300	0.69	141,000
Measured plus Indicated	8,900	0.89	253,000
Inferred Resources	6,000	0.64	123,000

Mineral Resources are not Mineral Reserves and have not been demonstrated to have economic viability. There is no certainty that the Mineral Resource will be converted to Mineral Reserves. The quantity and grade or quality is an estimate and is rounded to reflect the fact that it is an approximation. Quantities may not sum due to rounding.

A separate block model tabulation is presented as Table 14-6 to show the sensitivity of the block grade estimation at different cutoff grades.

**Table 14-6: Block Model Tabulation for grade sensitivities**

<b>Category*</b>	<b>Cutoff Grade</b>	<b>Tonnes (x1000)</b>	<b>Au Grade grams/tonne</b>	<b>Contained Au Ounces</b>
Measured (SVOL 1)	0.15	2,700	1.30	114,000
	0.25	2,500	1.38	112,000
	1.0	1,400	2.13	92,000
Indicated (SVOL 2)	0.15	7,000	0.65	145,000
	0.25	6,300	0.69	141,000
	1.0	1,000	1.62	51,000
Inferred (SVOL 3)	0.15	6,500	0.61	127,000
	0.25	6,000	0.64	123,000
	1.0	700	1.34	30,000

## 15 Adjacent Properties (Item 23)

There are no discovered deposits immediately adjacent to the Tonopah property, although there are a number along the Walker Lane trend.

The Round Mountain Mine is located 30 miles north of the Tonopah property. Round Mountain has been in production, from both historic underground and current open pit operations, since 1906. The Round Mountain deposit is of the low sulfidation, volcanic hosted epithermal gold deposit type. The Round Mountain mine has produced over 10 million ounces since 1977 (Kinross Gold Corporation website, 2017).

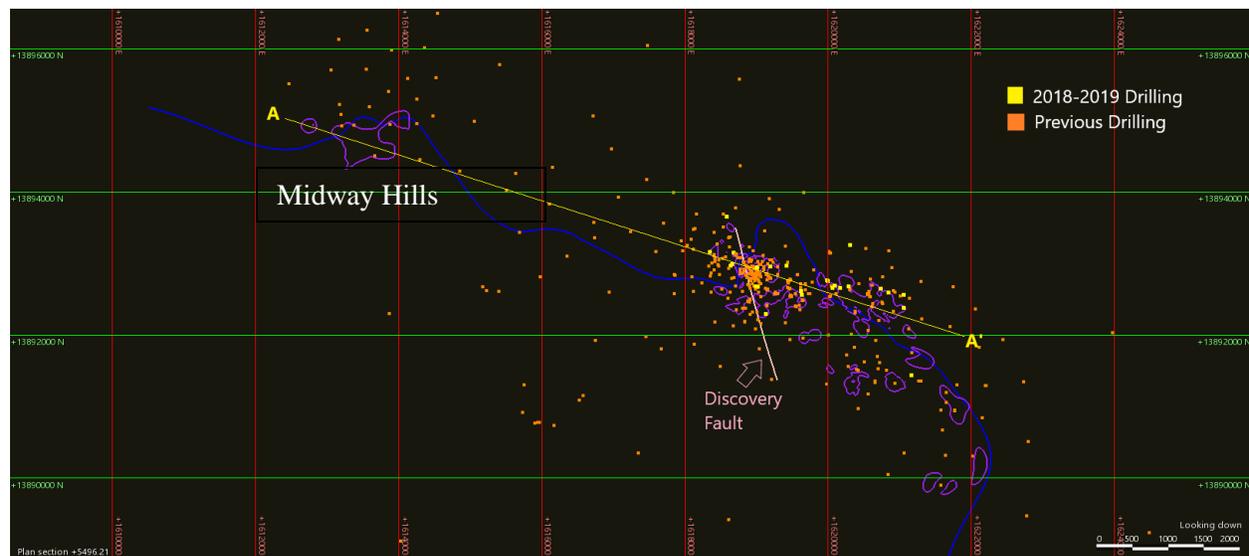
The historic mining district of Tonopah lies 20 miles southwest of the Tonopah property. The Manhattan gold deposit, which hosts gold mineralization within a sedimentary sequence of rocks similar to those at the Tonopah property, is located 20 miles to the north. Underground mining was conducted at Manhattan from 1905 to 1947. Large scale, open pit mining operations were active at Manhattan from 1979 to 1988. Manhattan reportedly has proven and probable reserves of 1.7 million tons grading 0.13 oz. Au/ton (4.457 g Au/t) (Goodall, 2001).

The proximity and similarities of the property to these well-documented gold deposits does not, on its own, indicate that the Tonopah property should be similarly mineralized.

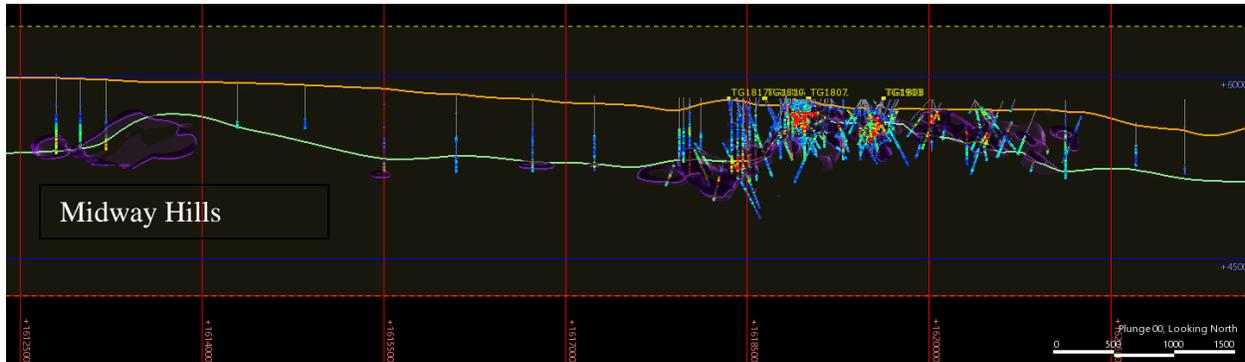
## 16 Other Relevant Data & Information (Item 24)

### 16.1 Midway Hills Target Area

The Midway Hills area of the Tonopah project was the subject of exploration work by a number of reputable Companies including Coeur Mining, Rio Algom and Kennecott who drilled approximately 55 reconnaissance drillholes in the area between 1988 and 2002. Gold mineralization in the Midway Hills, besides being directly on trend from the Tonopah project area, follows the same general structural and lithologic model as seen at the Tonopah project. Lower-grade intercepts are seen associated with the argillite/tertiary volcanic discontinuity. In addition, some high angle structures appear to offset the Palmetto argillite in the MH area resulting in high-grade intercepts as seen in drillholes MW-W-17: 4.8 meters at 10.1 g/t and MW-M-23: 6.4 meters at 2.1 g/t. Virtually all of the drill holes completed in the Midway Hills area were vertical reverse circulation holes, so only limited verification of high angle structure exists.



**Figure 16-1: Plan view of drilling showing mineralized zones referenced with OPA layer (Section A-A' corresponds to Figure 16-2)**



**Figure 16-2: Cross section A-A', Looking North showing potential trend of mineralization between Midway Hills (Far left) and the Current resource area (right)**

The 2019 block model for the Tonopah project was extended for the first time to incorporate the Midway Hills area. This work developed an exploration target of 1.6-2 million tonnes with a potential grade of 0.45 to 0.55 gpt or approximately 25-30 thousand gold ounces. Quantity and grade for this exploration target are based on interpolation from a number of drill hole intersections in the area, but mineralization is not fully delineated by drilling or constrained geologically. The potential quantity and grade is conceptual in nature. There has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource. Midway Hills is targeted for exploration work by Viva in 2019.

## 16.2 Risk Factors

Risk factors to exploration and subsequent mine development center primarily around water use and non-degradation of waters, cultural resources mitigation, and public road relocation(s).

Sub-surface aquifers in the Ralston valley are the primary water source for the Town of Tonopah. Tonopah is located on a heavily mineralized regional trend that has been well exploited through mining, and where ground waters are naturally impacted by arsenic content inherent in the geology. Elevated arsenic concentration in groundwater creates issues relative to United States EPA and NDEP BSDW public drinking water supply standards. TPU's wellfield water supply and distribution system was previously located entirely downgradient from the project. Water quality in that wellfield was impacted by regional mineralization and, by extension, mineralization associated with the Project. To rectify this issue and to meet EPA and BSDW standards, TPU in August 2012, drilled two additional water collection wells up gradient and to the north and east of the Project, while at the same time placing its prior downgradient wellfield on standby. Pipelines and power lines were extended to support this new water production field. TPU, by taking water out of the aquifer ahead of the project location, may help to mitigate dewatering rates for the Project.

With respect to cultural resources matters, Viva's exploration activities should adhere to all Federal and State cultural resources regulations and stipulations.

A third risk factor includes the potential for local relocation of either or both of Nevada State Route (SR) 376 and Nye County Road 82 (Belmont Road) depending on the scope of a future mining project. This will not be an issue during exploration. SR 376 runs proximal to the Project and may not require

relocation. Belmont Road crosses the principal area of mineralization in the Project and may be impacted. This risk is viewed more as a cost and time factor than as a threat to the project as both roads are generally very lightly travelled by local traffic, especially Belmont Road. If any road relocation is necessary due to potential mining operations, Viva should work with the Nye County Road Department, and the Nevada Department of Transportation.

## 17 Interpretation & Conclusions (Item 25)

### 17.1 Interpretation & Conclusions

Viva has acquired title to the Tonopah project, along with a significant database of technical information, drill data, geologic interpretation, and preliminary metallurgical data. The data are of industry standard quality and can be used for resource estimation for the project.

The 2018-2019 drill program provided confirmation of the historical database, generally intersecting grades and thicknesses of mineralization consistent with the 2018 block model, and providing additional data for geostatistical support of improved resource classification from inferred to measured and indicated.

Additional infill drilling within the main mineralized areas may convert additional inferred resource to measured and indicated, but is unlikely to significantly increase the overall resource quantity. Further drilling should be targeted at extending mineralization along strike on the Opa / Tv contact, particularly where cross faulting or conjugate faulting may provide an environment favorable to higher grade mineralization, or in areas where the Opa/ Tv contact is inferred to be shallow in depth and thus more likely amenable to open pit mining.

Expansion of drilling into the Midway Hills area, almost one mile in total strike length, in the poorly drilled area west of the current resource but east of Midway Hills, and southeast along the argillite/tertiary volcanic contact are high-potential areas for resource expansion.

The renegotiation of the underlying royalty agreement for the property (from a 7% royalty rate at gold prices in excess of \$700 to a 2% gold NSR) should allow for consideration of a much broader set of mining and processing scenarios and is a significant positive impact to the project.

The Tonopah project contains a significant gold resource with good continuity at relatively low cutoff grades, and with significant contribution from higher-grade zones. The resource as reported is contained within a pit shell and may be amenable to open pit mining methods.

Metallurgical test work shows that the deposit is amenable to cyanide leaching. Column leach test work should be initiated to better define recovery assumptions and illuminate process costs for the Tonopah project. Incorporating this information with the resource model will allow for a PEA to be completed which reviews possible operating scenarios and shows the economic potential of the deposit.

### 17.2 Risks and Uncertainties

The Tonopah project is subject to risks and uncertainties typical of gold exploration / evaluation stage projects, particularly risk with regard to commodity prices and the precious metals equity markets. Lower metals prices or lack of precious metals equity market interest or activity could render the project uneconomic or reduce access to project financing.

Specific risks to the project exploration and subsequent mine development center primarily around water use and non-degradation of waters, cultural resources mitigation, and public road relocation, as discussed in Section 4 and Section 16. Each of these risks appears to be manageable, but could potentially increase the operating or capital cost for the project, or could delay or stop development activities. The existing

exploration and metallurgical data appear to be of high quality, but errors or omissions in the database could potentially reduce the reliability of resource estimates prepared using this information, which could negatively impact the project.

## 18 Recommendations (Item 26)

### 18.1 General recommendations:

Gustavson recommends that ongoing digital database additions/upgrades continue so that the complete database includes all assay data, including gold, silver, and trace element geochemistry, all available primary observational data on lithology and alteration, and appropriate and available metadata about drilling, sampling, and survey. This will improve the reliability and verifiability of the assay database, as well as making alteration and trace element geochemistry available for geological and geometallurgical modeling efforts.

Gustavson recommends that additional specific gravity determinations be made, both for mineral and waste lithologies, to aid in creation of a more robust bulk density model for the deposit.

Gustavson recommends that ongoing drilling campaigns conducted by Viva continue to be modelled on the best practices established by previous workers on the project, particularly with regard to sampling and laboratory assay protocols, to reduce potential assay variability caused by coarse gold in the system. Gustavson further recommends that a comprehensive QA/QC program be maintained, including insertion of blanks, standards, and lab duplicates in the sample stream to monitor laboratory performance.

Gustavson recommends that metallurgical testing and review, already in progress, be completed to support cost and recovery assumptions for the completion of a PEA, and to inform more detailed test work at Pre-feasibility level as the project moves forward.

Gustavson recommends that Viva continue advancing the Tonopah Project by completing a Preliminary Economic Assessment (PEA) to determine the economic potential of the project, and to consider possible trade-offs to processing and mining methods for the deposit.

Gustavson recommends that historical data with regard to cyanide shake assay be reviewed as part of the PEA to aid in understanding of possible recovery differences by lithology and alteration type.

There are gaps in the drill pattern where insufficient drill density either precludes estimation of block grades, or limits block classification to inferred category. Additional drilling should be targeted at these areas to fill in high-potential resources and to convert inferred resources to the indicated category.

Gustavson recommends a drilling program for the Midway Hills area to further test the Tv / Opa contact zone, with the objective of extending mineralization up-dip to the south to shallower elevations, and east along strike to the Midway Hills area of the project, to determine whether mineralization of significant grades connects to the mineralization in the main Tonopah resource area. Existing geophysical data should be re-evaluated utilizing modern mathematical techniques to provide additional support for this work effort.

### 18.2 Specific Work Plan:

Complete a Preliminary Economic Assessment (PEA) to determine the economic potential of the project, and to consider possible trade-offs to processing and mining methods for the deposit.

Ongoing metallurgical test work should be completed with the objective of providing information for cost and recovery assumptions to be incorporated into the PEA.

Long-lead baseline work should be considered for environmental and water quality monitoring to support further exploration and development efforts.

Approximately 12,000 feet of drilling in 25 -30 holes are recommended to target the Midway Hills zone and extensions to the east. Samples from these holes could also provide additional fresh material for metallurgical samples.

The proposed work plan, including completion of the PEA, drilling, metallurgical review and initial environmental test work, is expected to cost \$920,000.

### **18.2.1 2019 Project Budget**

**Table 18-1: Project Budget**

<b>Budget Item</b>	<b>Anticipated Cost</b>	<b>Dependencies</b>
43-101 Report – PEA Scoping Study	\$80,000	Existing Resource Estimate, Metallurgical Review, Cost studies
Infill and Metallurgical Drill Program	\$600,000	Drill Targeting
Metallurgical Test Work Program	\$120,000	Met Data Review & Sample Availability
Water Baseline Study	\$70,000	Well-points already installed
<b>2019 Project Budget</b>	<b>\$920,000</b>	

## 19 References (Item 27)

Bonham, Jr., Harold R., and Garside, Larry J., 1979, Geology of the Tonopah, Lone Mountain, Klondike, and Northern Mud Lake Quadrangles, Nevada: Nevada Bureau of Mines and Geology; Bulletin 92.

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## 20 Glossary

### 20.1 Mineral Resources

The mineral resources and mineral reserves have been classified according to the “CIM Definition Standards for Mineral Resources and Mineral Reserves” (May 10, 2014). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, any Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

A **Mineral Resource** is a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

### 20.2 Mineral Reserves

Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

A **Mineral Reserve** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or

extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve. The Qualified Person(s) may elect, to convert Measured Mineral Resources to Probable Mineral Reserves if the confidence in the Modifying Factors is lower than that applied to a Proven Mineral Reserve.

Probable Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors. Application of the Proven Mineral Reserve category implies that the Qualified Person has the highest degree of confidence in the estimate with the consequent expectation in the minds of the readers of the report. The term should be restricted to that part of the deposit where production planning is taking place and for which any variation in the estimate would not significantly affect the potential economic viability of the deposit.

Proven Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study. Within the CIM Definition standards the term Proved Mineral Reserve is an equivalent term to a Proven Mineral Reserve.

## 20.3 Glossary

The following general mining terms may be used in this report.

**Table 20-1 Glossary**

<b>Term</b>	<b>Definition</b>
Assay:	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure:	All other expenditures not classified as operating costs.
Crushing:	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG):	The grade of mineralized rock, which determines whether it is economic to recover its mineral content by further concentration.
Dilution:	Waste, which is unavoidably mined with ore.
Dip:	Angle of inclination of a geological feature/rock from the horizontal.
Fault:	The surface of a fracture along which movement has occurred.
Footwall:	The underlying side of an orebody or stope.
Gangue:	Non-valuable components of the ore.
Grade:	The measure of concentration of gold within mineralized rock.
Hangingwall:	The overlying side of an orebody or slope.
Haulage:	A horizontal underground excavation which is used to transport mined ore.
Igneous:	Primary crystalline rock formed by the solidification of magma.
Level:	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
Lithological:	Geological description pertaining to different rock types.
LoM Plans:	Life-of-Mine plans.
LRP:	Long Range Plan.
Material Properties:	Mine properties.
Milling:	A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
Mineral/Mining Lease:	A lease area for which mineral rights are held.
Mining Assets:	The Material Properties and Significant Exploration Properties.
Ongoing Capital:	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve:	See Mineral Reserve.
Pillar:	Rock left behind to help support the excavations in an underground mine.
RoM:	Run-of-Mine.
Sedimentary:	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft:	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill:	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Stope:	Underground void created by mining.
Stratigraphy:	The study of stratified rocks in terms of time and space.

<b>Term</b>	<b>Definition</b>
Strike:	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide:	A sulfur bearing mineral.
Tailings:	Finely ground waste rock from which valuable minerals or metals have been extracted.
Total Expenditure:	All expenditures including those of an operating and capital nature.

## 20.4 Definition of Terms

The following abbreviations may be used in this report.

**Table 20-2 Abbreviations**

Abbreviation	Unit or Term
A	ampere
AA	atomic absorption
A/m <sup>2</sup>	amperes per square meter
Ag	silver
Au	gold
°C	degrees Centigrade
CCD	counter-current decantation
CIL	carbon-in-leach
CoG	cut-off grade
cm	centimeter
cm <sup>2</sup>	square centimeter
cm <sup>3</sup>	cubic centimeter
cfm	cubic feet per minute
ConfC	confidence code
CRec	core recovery
CSS	closed-side setting
CTW	calculated true width
Cu	copper
°	degree (degrees)
dia.	Diameter
EDX	energy dispersive x-ray
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
FA	fire assay
ft	foot (feet)
ft <sup>2</sup>	square foot (feet)
ft <sup>3</sup>	cubic foot (feet)
g	gram
gal	gallon
g/L	gram per liter
g-mol	gram-mole
gpm	gallons per minute
g/t	grams per tonne
ha	hectares
Hp	Horsepower
HQ	drill core diameter of ~63.5 mm
HTW	horizontal true width
ICP-MS	inductively coupled plasma mass spectrometry
ID2	inverse-distance squared
ID3	inverse-distance cubed
kA	kiloamperes
kg	kilograms

Abbreviation	Unit or Term
km	kilometer
km <sup>2</sup>	square kilometer
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	liter
L/sec	liters per second
L/sec/m	liters per second per meter
lb	pound
LHD	Long-Haul Dump truck
LOI	Loss On Ignition
LoM	Life-of-Mine
m	meter
m <sup>2</sup>	square meter
m <sup>3</sup>	cubic meter
masl	meters above sea level
Ma	millions of years before present
mg/L	milligrams/liter
MLA	mineral liberation analysis
mm	millimeter
mm <sup>2</sup>	square millimeter
mm <sup>3</sup>	cubic millimeter
MME	Mine & Mill Engineering
Moz	million troy ounces
Mt	million tonnes
MTW	measured true width
MW	million watts
m.y.	million years
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
NQ	drill core diameter of ~47.5 mm
opt	troy ounce per ton
OSC	Ontario Securities Commission
oz	troy ounce
%	Percent
Pb	lead
PGM	Pilot Gold Mill
PLC	Programmable Logic Controller
PLS	Pregnant Leach Solution
PMF	probable maximum flood
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control

Abbreviation	Unit or Term
RC	rotary circulation drilling
RoM	Run-of-Mine
RQD	Rock Quality Description
Sb	antimony
sec	second
SEM	Scanning Electron Microscope
SG	specific gravity
SPT	standard penetration testing
st	short ton (2,000 pounds)
t	tonne (metric ton) (2,204.6 pounds)
t/h	tonnes per hour
t/d	tonnes per day
t/y	tonnes per year
TSF	tailings storage facility
TSP	total suspended particulates
µm	micron or microns
V	volts
VFD	variable frequency drive
W	Tungsten or watts
XRD	x-ray diffraction
XRF	x-ray fluorescence
Y	Year
Zn	zinc

## Appendix A- Certificate of Author Forms

**THOMAS C. MATTHEWS**  
**Principal Resource Geologist**

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### CERTIFICATE of AUTHOR

I, Thomas C. Matthews do hereby certify that:

1. I am currently employed as Principal Resource Geologist by:

Gustavson Associates, LLC  
274 Union Boulevard, Suite 450  
Lakewood, CO, USA, 80228

2. I graduated with a Bachelor's of Science degree in Geology from University of Rochester in 1994.
3. I am a Qualified Professional (QP) Member of the Mining and Metallurgical Society of America (01455QP) with special expertise in Geology and Ore Reserves.
4. I have worked as a geologist for a total of 24 years since my graduation from university, as an employee of an exploration company, a mining company, and as a consultant. My relevant experience includes exploration, geologic modeling, and resource estimation, reserves definition in feasibility studies, ore control systems, and mine-model reconciliation, particularly for epithermal gold systems.
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 all sections of the technical report entitled "NI 43-101 Technical Report on Resources, Tonopah Project, Nye County NV," dated July 15, 2019, (the "Technical Report"), and am also responsible for the overall organization and content of the document. I visited the project site on April 11, 2017 for two days.
7. I previously worked on the property that is the subject of the Technical Report, as the author of a technical report entitled "NI 43-101 Technical Report on Exploration Results, Tonopah

Project, Nye County NV,” with an effective date of May 1, 2017, and as the author of a technical report entitled “NI 43-101 Technical Report on Resources, Tonopah Project, Nye County NV,” dated March 27, 2018.

8. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
9. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 15th day of July 2019

/s/ Thomas C. Matthews

Signature of Qualified Person

Thomas C. Matthews

Printed Name of Qualified Person

## Appendix B- Significant Drill Intersections from 2011 Drilling Program

Hole	Area	Type	From (ft)	To (ft)	Length (ft)	Grade (opt Au)	Grade (ppm Au)	
MW11-01C	Discovery	Core	278	293	15	0.011	0.377	
			340	356	16	0.015	0.514	
			428	439	11	0.011	0.377	
MW11-02C	Discovery	Core	316	360	44	0.030	1.029	
MW11-03C	Discovery	Core	249	274	25	0.013	0.446	
MW11-04C	Discovery	Core	112.2	284	171.8	0.058	1.989	
			includes:	205	250	45	0.110	3.771
			includes:	267	280	13	0.216	7.406
			includes:	355	390	35	0.127	4.354
			includes:	365	385	20	0.215	7.371
			513	526	13	0.023	0.789	
MW11-05C	Discovery	Core	146.3	303.5	157.2	0.059	2.023	
			includes:	293.5	295	1.5	2.569	88.081
MW11-06C	Discovery	Core	193.8	213	19.2	0.051	1.749	
			228	374	146	0.033	1.131	
			423	433	10	0.025	0.857	
MW11-07C	Discovery	Core	204	274.8	70.8	0.141	4.834	
			includes:	250	274	24	0.254	8.709
MW11-08C	Discovery	Core	173.5	326.5	153	0.078	2.674	
			includes:	197.2	248	50.8	0.185	6.343
MW11-09C	Discovery	Core	153	304	151	0.224	7.680	
			includes:	210	255	45	0.668	22.903
			includes:	220	225	5	2.287	78.412
			includes:	225	226.3	1.3	9.768	334.906
MW11-10C	Discovery	Core	133	187	54	0.020	0.686	
			207	263	56	0.103	3.531	
			includes:	210	258	48	0.117	4.011
			308	338	30	0.05	1.714	
MW11-11C	Discovery	Core	129	229	100	0.061	2.091	
			includes:	164	174	10	0.212	7.269
			includes:	204	216	12	0.147	5.040
			249	264	15	0.063	2.160	
MW11-12C	121 zone	Core	299	309	10	0.014	0.480	
			542.5	624	81.5	0.045	1.543	
MW11-13C	121 zone	Core	441	520	79	0.013	0.446	
MW11-14C	121 zone	Core	293	312	19	0.021	0.720	
			563	595	32	0.044	1.509	
			625	645	20	0.113	3.874	
			includes:	632	633.5	1.5	1.185	40.629
MW11-15C	121 zone	Core	477	511	34	0.023	0.789	
MW11-16C	Dauntless	Core	No significant intercepts					

Hole	Area	Type	From (ft)	To (ft)	Length (ft)	Grade (opt Au)	Grade (ppm Au)	
MW11-17C	Dauntless	Core	No significant intercepts					
MW11-18C	Dauntless	Core	181.3	244.5	63.2	0.026	0.891	
MW11-19C	Dauntless	Core	161	205	44	0.023	0.789	
			280	300	20	0.027	0.926	
MW11-20C	Dauntless	Core	No significant intercepts					
MW11-21C	Dauntless	Core	No significant intercepts					
MW11-22C	63-77 zone	Core	417	502	85	0.031	1.063	
MW11-23C	63-77 zone	Core	250	265	15	0.011	0.377	
			410	425	15	0.045	1.543	
MW11-24C	63-77 zone	Core	349	364	15	0.063	2.160	
			395	410	15	0.017	0.583	
MW11-25C	63-77 zone	Core	No significant intercepts					

## Appendix C- List of significant results from 2018-2019 Drilling Program

### Tonopah Project Drill Results for 2018-2019 Winter RC Drill Program

Hole	Azimuth	Dip	From	To	Length	Gold Grade
			<i>Meter</i>	<i>Meter</i>	<i>Meter</i>	<i>Gram/Tonne</i>
<b>TG1906</b>	<b>200</b>	<b>-90</b>	<b>0</b>	<b>134.0</b>		
			25.91	44.20	18.3	0.4
<b>TG1905</b>	<b>210</b>	<b>-69</b>	<b>0</b>	<b>146.3</b>		
			32.0	53.3	21.3	0.6
<b>TG1904</b>	<b>270</b>	<b>-60</b>	<b>0</b>	<b>134.0</b>		
			36.6	41.1	4.6	0.7
			126.5	131.1	4.6	2.4
	<i>including</i>		128.0	129.5	1.5	6.7
<b>TG1903</b>	<b>275</b>	<b>-75</b>	<b>0</b>	<b>140.2</b>		
			45.7	48.8	3.0	8.0
	<i>including</i>		47.2	48.8	1.5	15.4
			70.1	74.7	4.6	26.9
	<i>including</i>		70.1	71.6	1.5	50.3
			82.3	115.8	33.5	2.6
	<i>including</i>		82.3	83.8	1.5	14.1
	<i>including</i>		94.5	96.0	1.5	22.7
			118.9	128.0	9.1	0.6
			132.6	140.2	7.6	0.8
<b>TG1902</b>	<b>0</b>	<b>-70</b>	<b>0</b>	<b>146.3</b>		
			10.7	111.3	100.6	1.3
Hole	Azimuth	Dip	From	To	Length	Gold Grade

			<i>including</i>	41.15	47.24	6.10	3.3
			<i>including</i>	60.96	64.01	3.05	4.8
			<i>including</i>	83.82	91.44	7.62	4.1
<b>TG1901</b>	<b>50</b>	<b>-70</b>	<b>0</b>	<b>65.5</b>			
				38.1	53.3	15.2	0.4
<b>TG1820</b>	<b>200</b>	<b>-60</b>	<b>0</b>	<b>119</b>			
				35.1	41.1	6.1	0.3
<b>TG 1819</b>	<b>200</b>	<b>-69</b>	<b>0</b>	<b>201</b>			
				53.3	57.9	4.6	0.4
				62.5	65.5	3.0	1.9
				89.9	100.6	10.7	0.6
<b>TG1818</b>	<b>100</b>	<b>-65</b>	<b>0</b>	<b>110</b>			
				21.3	33.5	12.2	0.9
				71.63	74.68	3.0	46.1
			<i>including</i>	73.15	74.68	1.5	84.9
<b>TG1817</b>	<b>58</b>	<b>-80</b>	<b>0</b>	<b>122</b>			
				112.8	118.9	6.1	1.0
				143.3	189.0	45.7	2.2
			<i>Including</i>	163.1	176.8	13.7	5.1
			<i>Including</i>	172.21	173.74	1.5	13.4
<b>TG1816</b>	<b>105</b>	<b>-60</b>	<b>0</b>	<b>164</b>			
				88.4	96.0	7.6	0.3
				108.2	112.8	4.6	6.1
			<i>Including</i>	108.2	109.7	1.5	16.4

0.25 gram/tonne used throughout

**Tonopah Project**  
**Drill Results for 2018 RC Drill Program**

Hole	Depth		Length	Uncapped	Capped*
	From	To		Gold Grade	Gold Grade
	<i>Meter</i>	<i>Meter</i>	<i>Meter</i>	<i>Gram/Tonne</i>	<i>Gram/Tonne</i>
<b>TG 1814</b>	32	61	29	1.32	1.32
	including	47.2	48.8	1.5	4.76
	Including	53.3	57.9	4.6	4.05
<b>TG 1813</b>	129.5	140.2	10.7	0.45	0.45
<b>TG 1811</b>	77.7	83.8	6.1	0.49	0.49
and	103.6	118.9	15.2	0.41	0.41
<b>TG 1809</b>	51.8	56.4	4.6	0.28	0.28
and	68.6	76.2	7.6	0.87	0.87
and	86.9	97.5	10.7	2.57	2.57
	Including	89.9	91.4	1.5	12.90
<b>TG1815</b>	68.6	82.3	13.7	1.64	1.64
	<i>including</i>	77.7	79.2	1.52	8.79
<b>TG1812</b>	89.9	100.6	10.7	3.07	3.07
	<i>including</i>	89.9	91.4	1.5	19.2
and	112.8	120.4	7.6	0.37	0.37
<b>TG 1810</b>	91.4	106.7	15.3	1.21	1.21
	<i>including</i>	96	97.5	1.5	5.68
and	121.9	125	3.1	0.35	0.35
and	129.5	132.6	3.1	0.57	0.57
<b>TG 1808</b>	54.9	57.9	3.0	0.5	0.5
and	64.0	73.2	9.1	25.4	5.8
	<i>including</i>	65.5	67.1	1.5	138.0

Hole		Depth		Length	Uncapped	Capped*
		From	To		Gold Grade	Gold Grade
	<i>including</i>	70.1	71.6	1.5	8.9	8.9
and		83.8	89.9	6.1	0.4	0.4
and		97.5	102.1	4.6	5.5	5.5
	<i>Including</i>	99.1	100.6	1.5	14.9	14.9
and		108.2	120.4	12.2	1.2	1.2
and						
and	TD	123.4	125.0	1.5	0.6	0.6
All zones		54.9	125.0	70.1	3.9	1.4
<b>TG 1807</b>		10.7	19.8	9.1	0.3	0.3
and		35.1	74.7	39.6	2.0	2.0
	<i>Including</i>	59.4	68.6	9.1	4.5	4.5
and		80.8	83.8	3.0	0.4	0.4
and	TD	93.0	94.5	1.5	0.4	0.4
All zones		10.7	94.5	83.8	1.0	1.0
<b>TG 1806</b>		21.3	29.0	7.6	0.3	0.3
and	TD	71.6	74.7	3.0	0.7	0.7
<b>TG 1805</b>		38.1	39.6	1.5	0.5	0.5

\* Capped at 20 grams/tonne  
0.25 gram/tonne used throughout

## Appendix D- List of Drill holes

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
TH-01	1643454	13854385	6299	300	0	-90	RC	1980	Felmont
TH-10	1645492	13860381	6299	340	0	-90	RC	1980	Felmont
TH-11	1643175	13861104	6299	300	0	-90	RC	1980	Felmont
TH-12	1640817	13861866	6299	300	0	-90	RC	1980	Felmont
TH-13	1640447	13859492	6299	300	0	-90	RC	1980	Felmont
TH-14	1639610	13863550	6299	360	0	-90	RC	1980	Felmont
TH-15	1643543	13862927	6299	300	0	-90	RC	1980	Felmont
TH-16	1644111	13864186	6299	280	0	-90	RC	1980	Felmont
TH-17	1641683	13864708	6299	300	0	-90	RC	1980	Felmont
TH-18	1642917	13865158	6299	300	0	-90	RC	1980	Felmont
TH-19	1640814	13866289	6299	300	0	-90	RC	1980	Felmont
TH-20	1640397	13868891	6299	300	0	-90	RC	1980	Felmont
TH-21	1641879	13863415	6299	240	0	-90	RC	1980	Felmont
TH-22	1640472	13865282	6299	300	0	-90	RC	1980	Felmont
TH-23	1638968	13871188	6299	300	0	-90	RC	1980	Felmont
TH-24	1636127	13873072	6299	300	0	-90	RC	1980	Felmont
TH-25	1635850	13871815	6299	300	0	-90	RC	1980	Felmont
TH-26	1637529	13870501	6299	300	0	-90	RC	1980	Felmont
TH-27	1639013	13869278	6299	300	0	-90	RC	1980	Felmont
TH-03	1644883	13853124	6299	300	0	-90	RC	1981	Felmont
TH-04	1643509	13853691	6299	300	0	-90	RC	1981	Felmont
TH-05	1642570	13854324	6299	300	0	-90	RC	1981	Felmont
TH-06	1645141	13855307	6299	280	0	-90	RC	1981	Felmont
TH-07	1645128	13856520	6299	320	0	-90	RC	1981	Felmont
TH-08	1644370	13858012	6299	300	0	-90	RC	1981	Felmont
TH-09	1647016	13858429	6299	300	0	-90	RC	1981	Felmont
TH-29	1637986	13866145	6299	300	0	-90	RC	1981	Felmont
TH-30	1638970	13869373	6299	325	0	-90	RC	1981	Felmont
TH-31	1639045	13869134	6299	305	0	-90	RC	1981	Felmont
TH-32	1638634	13872007	6299	325	0	-90	RC	1981	Felmont
TH-33	1639124	13869331	6299	305	0	-90	RC	1981	Felmont
TH-34	1638461	13876509	6299	365	0	-90	RC	1981	Felmont
TH-35	1638597	13871481	6299	305	0	-90	RC	1981	Felmont
TH-36	1638950	13869095	6299	365	0	-90	RC	1981	Felmont
TH-37	1638937	13869452	6299	305	0	-90	RC	1981	Felmont
TH-38	1639075	13869403	6299	305	0	-90	RC	1981	Felmont
TH-39	1639131	13869200	6299	305	0	-90	RC	1981	Felmont
TH-40	1639196	13869357	6299	325	0	-90	RC	1981	Felmont
TH-41	1639177	13869121	6299	305	0	-90	RC	1981	Felmont

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
TH-42	1641017	13867717	6299	200	0	-90	RC	1981	Felmont
TH-43	1640965	13866795	6299	360	0	-90	RC	1981	Felmont
TH-44	1641535	13866181	6299	300	0	-90	RC	1981	Felmont
TH-45	1641139	13867946	6299	320	0	-90	RC	1981	Felmont
TH-46	1640915	13867736	6299	360	0	-90	RC	1981	Felmont
TH-47	1640830	13867530	6299	360	0	-90	RC	1981	Felmont
TH-48	1640633	13867467	6299	360	0	-90	RC	1981	Felmont
TH-49	1640495	13867346	6299	360	0	-90	RC	1981	Felmont
TH-50	1639554	13868238	6299	360	0	-90	RC	1981	Felmont
TH-51	1639990	13868442	6299	360	0	-90	RC	1981	Felmont
TH-52	1639318	13868773	6299	360	0	-90	RC	1981	Felmont
TH-53	1639639	13868921	6299	360	0	-90	RC	1981	Felmont
TH-54	1639373	13869455	6299	325	0	-90	RC	1981	Felmont
TH-55	1639560	13869557	6299	365	0	-90	RC	1981	Felmont
TH-56	1638845	13869639	6299	305	0	-90	RC	1981	Felmont
TH-57	1642231	13864459	6299	300	0	-90	RC	1981	Felmont
TH-58	1643427	13863715	6299	260	0	-90	RC	1981	Felmont
TH-59	1644570	13863402	6299	360	0	-90	RC	1981	Felmont
TH-60	1644751	13863616	6299	245	0	-90	RC	1981	Felmont
TH-61	1642190	13863968	6299	210	0	-90	RC	1981	Felmont
TH-62	1640390	13863894	6299	380	0	-90	RC	1981	Felmont
TH-64	1643986	13854891	6299	545	0	-90	RC	1981	Felmont
TH-65	1643858	13854484	6299	400	0	-90	RC	1981	Felmont
TH-66	1643462	13854584	6299	400	0	-90	RC	1981	Felmont
TH-67	1643279	13854636	6299	400	0	-90	RC	1981	Felmont
TH-68	1643056	13854683	6299	400	0	-90	RC	1981	Felmont
TH-69	1643024	13854486	6299	360	0	-90	RC	1981	Felmont
TH-70	1642971	13854281	6299	300	0	-90	RC	1981	Felmont
TH-71	1643248	13853913	6299	300	0	-90	RC	1981	Felmont
TH-72	1643169	13853666	6299	300	0	-90	RC	1981	Felmont
TH-73	1642899	13853749	6299	300	0	-90	RC	1981	Felmont
TH-74	1641726	13860735	6299	345	0	-90	RC	1981	Felmont
TH-75	1647286	13852449	6299	285	0	-90	RC	1981	Felmont
TH-76	1642860	13855150	6299	495	0	-90	RC	1981	Felmont
TH-77	1643213	13855065	6299	560	0	-90	RC	1981	Felmont
TH-78	1643600	13854964	6299	500	0	-90	RC	1981	Felmont
TH-79	1642703	13854773	6299	500	0	-90	RC	1981	Felmont
TH-80	1642621	13854520	6299	300	0	-90	RC	1981	Felmont
TH-82	1641773	13854556	6299	320	0	-90	RC	1981	Felmont
TH-83	1643755	13854106	6299	440	0	-90	RC	1981	Felmont

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
TH-84	1642083	13855336	6299	420	0	-90	RC	1981	Felmont
TH-85	1647071	13852637	6299	290	0	-90	RC	1981	Felmont
TH-86	1646748	13852501	6299	300	0	-90	RC	1981	Felmont
TH-87	1647128	13852127	6299	300	0	-90	RC	1981	Felmont
TH-88	1642668	13864998	6299	300	0	-90	RC	1981	Felmont
TH-89	1641015	13861943	6299	300	0	-90	RC	1981	Felmont
TH-90	1640639	13861760	6299	300	0	-90	RC	1981	Felmont
TH-91	1642513	13864985	6299	300	0	-90	RC	1981	Felmont
TH-92	1641073	13863935	6299	300	0	-90	RC	1981	Felmont
TH-93	1643632	13863557	6299	300	0	-90	RC	1981	Felmont
TH-94	1643619	13863986	6299	300	0	-90	RC	1981	Felmont
TH-95	1642549	13864874	6299	300	0	-90	RC	1981	Felmont
TH-96	1643517	13864426	6299	300	0	-90	RC	1981	Felmont
SP-88-01	1612961	13896606	5855	360	360	-90	RC	1988	Coeur d'Alene
SP-88-02	1614355	13896019	5880	315	360	-90	RC	1988	Coeur d'Alene
SP-88-03	1614486	13896744	5870	400	360	-90	RC	1988	Coeur d'Alene
MW-M-01	1614289	13894447	5960	385	360	-90	RC	1990	Rio Algom
MW-M-02	1614854	13894293	5920	350	360	-90	RC	1990	Rio Algom
MW-M-03	1613853	13893965	6020	400	90	-60	RC	1990	Rio Algom
MW-M-04	1613659	13894506	5980	300	270	-60	RC	1990	Rio Algom
MW-M-05	1613584	13895192	5920	375	360	-90	RC	1990	Rio Algom
MW-M-06	1614480	13895061	5940	350	360	-90	RC	1990	Rio Algom
MW-M-07	1615172	13892672	5900	200	360	-90	RC	1990	Rio Algom
MW-M-08	1613866	13892302	5940	400	360	-90	RC	1990	Rio Algom
MW-M-09	1613545	13895710	5910	440	360	-90	RC	1990	Rio Algom
MW-M-10	1613049	13895707	5940	535	360	-90	RC	1990	Rio Algom
MW-M-11	1613554	13896258	5900	475	360	-90	RC	1990	Rio Algom
MW-M-12	1613859	13895409	5910	405	360	-90	RC	1990	Rio Algom
MW-M-13	1613896	13895979	5890	600	360	-90	RC	1990	Rio Algom
MW-M-14	1613164	13896137	5910	555	360	-90	RC	1990	Rio Algom
MW-M-15	1614119	13895582	5900	460	360	-90	RC	1990	Rio Algom
MW-M-16	1613174	13895225	5960	545	360	-90	RC	1990	Rio Algom
MW-M-17	1613200	13894726	6000	500	360	-90	RC	1990	Rio Algom
MW-M-18	1613879	13894946	5940	495	360	-90	RC	1990	Rio Algom
MW-M-19	1614256	13895297	5900	500	360	-90	RC	1990	Rio Algom
MW-M-20	1614519	13895592	5900	500	360	-90	RC	1990	Rio Algom
MW-M-21	1613203	13894519	6010	600	360	-90	RC	1990	Rio Algom
MW-M-22	1612983	13894726	6000	600	360	-90	RC	1990	Rio Algom
MW-M-23	1613197	13894723	6000	700	360	-90	RC	1990	Rio Algom
MW-M-24	1613207	13894926	5980	585	360	-90	RC	1990	Rio Algom

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-M-25	1613377	13894930	5960	600	360	-90	RC	1990	Rio Algom
MW-M-26	1612796	13894939	6020	655	360	-90	RC	1990	Rio Algom
MW-M-27	1612796	13894519	6040	600	360	-90	RC	1990	Rio Algom
MW-M-28	1612800	13894106	6070	500	360	-90	RC	1990	Rio Algom
MW-M-29	1612390	13894323	6070	600	360	-90	RC	1990	Rio Algom
MW-M-30	1613193	13895080	5960	535	360	-90	RC	1990	Rio Algom
MW-M-31	1612997	13894910	6000	595	360	-90	RC	1990	Rio Algom
MW-M-32	1615628	13894263	5900	400	360	-90	RC	1990	Rio Algom
MW-M-33	1612468	13895517	5980	500	360	-90	RC	1991	Rio Algom
MW-M-34	1612212	13893804	6090	500	360	-90	RC	1991	Rio Algom
MW-M-35	1610700	13893719	6210	500	360	-90	RC	1991	Rio Algom
MW-M-36	1615408	13895783	5850	405	360	-90	RC	1991	Rio Algom
MW-M-37	1616714	13895057	5850	345	360	-90	RC	1991	Rio Algom
MW-M-38	1608843	13901859	6010	500	360	-90	RC	1991	Rio Algom
MW-M-39	1602944	13906259	6105	500	360	-90	RC	1991	Rio Algom
MW-M-40	1601044	13906859	6140	300	360	-90	RC	1991	Rio Algom
MW-M-41	1605346	13907157	6065	480	360	-90	RC	1991	Rio Algom
MW-001	1610441	13899198	5955	560	360	-90	RC	1992	Kennecott
MW-002	1611291	13897059	5980	500	360	-90	RC	1992	Kennecott
MW-003	1611612	13894962	6080	760	360	-70	RC	1992	Kennecott
MW-004	1606143	13900756	6060	550	360	-90	RC	1992	Kennecott
MW-005	1606943	13903358	6040	500	360	-90	RC	1992	Kennecott
MW-006	1617341	13890353	5960	350	360	-90	RC	1992	Kennecott
MW-007	1618604	13889424	5850	290	360	-90	RC	1992	Kennecott
MW-008	1618942	13901915	5840	410	360	-90	RC	1992	Kennecott
MW-009	1617472	13896045	5835	560	360	-90	RC	1992	Kennecott
MW-010	1605093	13904759	6102	500	360	-90	RC	1992	Kennecott
MW-011	1618620	13893237	5820	400	360	-90	RC	1993	Kennecott
MW-012	1618971	13892761	5810	500	360	-90	RC	1993	Kennecott
MW-013	1619056	13892157	5810	420	360	-90	RC	1993	Kennecott
MW-014	1618364	13892600	5826	500	360	-90	RC	1993	Kennecott
MW-015	1619657	13893991	5804	700	360	-90	RC	1993	Kennecott
MW-016	1619135	13892849	5813	400	360	-90	RC	1993	Kennecott
MW-017	1620031	13893151	5810	600	360	-90	RC	1993	Kennecott
MW-018	1619568	13892843	5814	500	360	-90	RC	1993	Kennecott
MW-019	1618925	13892849	5816	340	360	-90	RC	1993	Kennecott
MW-020	1619010	13892659	5814	200	360	-90	RC	1993	Kennecott
MW-021	1618892	13892685	5814	150	360	-90	RC	1993	Kennecott
MW-022	1619060	13892984	5814	320	360	-90	RC	1993	Kennecott
MW-023D	1618961	13892807	5815	397.1	360	-90	DDH	1993	Kennecott

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-024	1618932	13893050	5815	495	360	-90	RC	1993	Kennecott
MW-025	1618902	13893230	5817	415	360	-90	RC	1993	Kennecott
MW-026	1619053	13892531	5812	350	360	-90	RC	1993	Kennecott
MW-027	1618853	13892948	5818	450	360	-90	RC	1993	Kennecott
MW-028	1618784	13893082	5817	635	360	-90	RC	1993	Kennecott
MW-029	1619289	13892843	5811	495	360	-90	RC	1993	Kennecott
MW-030	1619401	13892167	5811	395	360	-90	RC	1993	Kennecott
MW-031	1619434	13892666	5811	495	360	-90	RC	1993	Kennecott
MW-032	1619434	13893020	5811	495	360	-90	RC	1993	Kennecott
MW-033	1619289	13892958	5812	475	292	-60	RC	1993	Kennecott
MW-034	1619138	13892633	5813	495	360	-90	RC	1993	Kennecott
MW-035	1619138	13892406	5811	395	360	-90	RC	1993	Kennecott
MW-036	1618774	13892889	5819	495	360	-90	RC	1993	Kennecott
MW-037	1618705	13893781	5817	445	360	-90	RC	1993	Kennecott
MW-038	1619398	13893243	5811	495	275	-60	RC	1993	Kennecott
MW-039	1619591	13892416	5811	495	275	-60	RC	1993	Kennecott
MW-040	1619017	13892833	5814	250	240	-45	RC	1994	Kennecott
MW-041	1619017	13892833	5814	200	240	-64	RC	1994	Kennecott
MW-042	1618997	13892863	5814	250	240	-45	RC	1994	Kennecott
MW-043	1618919	13892758	5817	200	35	-65	RC	1994	Kennecott
MW-044	1619030	13892679	5813	350	325	-65	RC	1994	Kennecott
MW-045	1618945	13892951	5815	250	242	-65	RC	1994	Kennecott
MW-046	1618955	13892954	5815	280	360	-90	RC	1994	Kennecott
MW-047	1619017	13892879	5814	250	240	-65	RC	1994	Kennecott
MW-048	1618945	13892876	5816	250	158	-65	RC	1994	Kennecott
MW-049	1618945	13892872	5816	180	175	-65	RC	1994	Kennecott
MW-050	1618909	13892790	5817	160	360	-90	RC	1994	Kennecott
MW-051	1619115	13893456	5815	350	260	-90	RC	1994	Kennecott
MW-052	1619680	13892721	5811	400	360	-90	RC	1994	Kennecott
MW-053	1619798	13892908	5812	500	360	-90	RC	1994	Kennecott
MW-054	1619175	13893906	5815	500	360	-90	RC	1994	Kennecott
MW-055	1618755	13895579	5820	570	360	-90	RC	1994	Kennecott
MW-056	1618407	13893437	5820	740	360	-90	RC	1994	Kennecott
MW-057	1619207	13891376	5813	445	360	-90	RC	1994	Kennecott
MW-058	1619470	13892548	5811	550	360	-90	RC	1994	Kennecott
MW-059	1619650	13891960	5810	500	360	-90	RC	1994	Kennecott
MW-060	1614539	13896498	5868	800	360	-90	RC	1994	Kennecott
MW-061	1620326	13892013	5811	450	360	-90	RC	1994	Kennecott
MW-062	1620927	13891330	5810	420	360	-90	RC	1994	Kennecott
MW-063	1620572	13892577	5811	625	360	-90	RC	1994	Kennecott

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-064	1615319	13897420	5869	1000	360	-90	RC	1994	Kennecott
MW-065	1620845	13893181	5815	630	360	-90	RC	1994	Kennecott
MW-066	1623968	13892029	5818	800	360	-90	RC	1994	Kennecott
MW-067	1624483	13889237	5807	595	360	-90	RC	1994	Kennecott
MW-068	1620559	13892069	5809	400	360	-90	RC	1994	Kennecott
MW-069	1622160	13896983	5845	180	360	-90	RC	1994	Kennecott
MW-070	1623459	13901695	5866	755	360	-90	RC	1994	Kennecott
MW-071	1612856	13904470	5973	680	360	-90	RC	1994	Kennecott
MW-072	1622242	13896914	5845	740	360	-90	RC	1994	Kennecott
MW-073	1623988	13883620	5780	340	360	-90	RC	1994	Kennecott
MW-074	1619030	13898191	5829	800	360	-90	RC	1994	Kennecott
MW-075	1614112	13899713	5898	740	360	-90	RC	1994	Kennecott
MW-076	1607143	13902656	6060	720	360	-90	RC	1994	Kennecott
MW-077	1620753	13892456	5812	550	225	-60	RC	1994	Kennecott
MW-078	1620428	13892718	5807	450	225	-60	RC	1994	Kennecott
MW-079	1621310	13892226	5813	650	225	-60	RC	1994	Kennecott
MW-080	1622052	13892367	5816	530	225	-60	RC	1994	Kennecott
MW-081	1621796	13891304	5808	550	225	-60	RC	1994	Kennecott
MW-082	1620835	13890057	5803	490	220	-60	RC	1994	Kennecott
MW-083	1622016	13890307	5807	545	225	-60	RC	1994	Kennecott
MW-084	1622797	13890510	5806	320	225	-60	RC	1994	Kennecott
MW-085	1622774	13889473	5801	600	225	-60	RC	1994	Kennecott
MW-086	1620520	13893214	5814	780	225	-60	RC	1994	Kennecott
MWRC-1	1620444	13884857	5770	385	360	-90	RC	1994	Bob Warren
MWRC-2	1619946	13884857	5770	320	360	-90	RC	1994	Bob Warren
MWRC-3	1620943	13884857	5770	480	360	-90	RC	1994	Bob Warren
MW-087D	1618932	13892843	5810	412.7	360	-90	DDH	1995	Kennecott
MW-088	1618778	13893086	5818	180	360	-90	RC	1995	Kennecott
MW-089	1620549	13892564	5811	457.3	360	-90	RC	1995	Kennecott
MW-089D	1620549	13892564	5811	457.3	360	-90	DDH	1995	Kennecott
MW-090D	1620756	13892443	5812	548.7	225	-60	DDH	1995	Kennecott
MW-091	1620913	13892328	5810	570	225	-60	RC	1995	Kennecott
MW-092	1620707	13892203	5809	525	225	-60	RC	1995	Kennecott
MW-093	1620612	13892400	5809	550	225	-60	RC	1995	Kennecott
MW-094	1620907	13892616	5812	305	225	-60	RC	1995	Kennecott
MW-095	1620585	13892781	5811	675	225	-60	RC	1995	Kennecott
MW-096	1620326	13892892	5808	675	225	-60	RC	1995	Kennecott
MW-097	1620756	13892813	5811	675	225	-60	RC	1995	Kennecott
MW-098	1621133	13892518	5812	465	225	-60	RC	1995	Kennecott
MW-099	1620933	13892600	5810	285	225	-60	RC	1995	Kennecott

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-100	1621747	13892672	5816	665	225	-60	RC	1995	Kennecott
MW-101	1621297	13892754	5816	645	225	-60	RC	1995	Kennecott
MW-102	1620890	13892941	5813	465	225	-60	RC	1995	Kennecott
MW-103	1620106	13892584	5813	645	225	-60	RC	1995	Kennecott
MW-104	1620375	13892328	5810	615	225	-60	RC	1995	Kennecott
MW-105	1615503	13894027	5921	700	360	-90	RC	1995	Kennecott
MW-106	1615684	13893437	5890	660	360	-90	RC	1995	Kennecott
MW-107	1616100	13893827	5868	660	360	-90	RC	1995	Kennecott
MW-108	1616724	13893571	5855	640	360	-90	RC	1995	Kennecott
MW-109	1616346	13893099	5865	500	360	-90	RC	1995	Kennecott
MW-110	1615976	13892817	5874	400	360	-90	RC	1995	Kennecott
MW-111	1616940	13892597	5858	500	360	-90	RC	1995	Kennecott
MW-112	1616750	13891931	5869	380	360	-90	RC	1995	Kennecott
MW-113	1617669	13891806	5847	400	360	-90	RC	1995	Kennecott
MW-114	1618797	13892607	5818	650	360	-90	RC	1995	Kennecott
MW-115	1618627	13892600	5822	600	360	-90	RC	1995	Kennecott
MW-116	1618843	13892374	5820	500	360	-90	RC	1995	Kennecott
MW-117	1619037	13891806	5811	400	360	-90	RC	1995	Kennecott
MW-118	1618420	13892183	5829	450	360	-90	RC	1995	Kennecott
MW-119	1617852	13892584	5839	550	360	-90	RC	1995	Kennecott
MW-120	1618404	13892908	5824	640	360	-90	RC	1995	Kennecott
MW-121	1618026	13893256	5830	630	360	-90	RC	1995	Kennecott
MW-122	1617590	13893168	5838	630	360	-90	RC	1995	Kennecott
MW-123	1621570	13890956	5806	320	360	-90	RC	1995	Kennecott
MW-124	1621127	13892082	5809	650	360	-90	RC	1995	Kennecott
MW-125	1621163	13891750	5808	500	360	-90	RC	1995	Kennecott
MW-126	1620713	13891616	5809	350	360	-90	RC	1995	Kennecott
MW-127	1620415	13890969	5810	350	360	-90	RC	1995	Kennecott
MW-128	1622108	13891832	5812	620	360	-90	RC	1996	Kennecott
MW-129	1617698	13893568	5835	760	360	-90	RC	1996	Kennecott
MW-130	1617239	13893447	5845	620	360	-90	RC	1996	Kennecott
MW-131	1617065	13893929	5845	660	360	-90	RC	1996	Kennecott
MW-132	1616970	13894598	5835	800	360	-90	RC	1996	Kennecott
MW-133	1617465	13894168	5835	780	360	-90	RC	1996	Kennecott
MW-134	1621570	13889906	5805	560	360	-90	RC	1996	Kennecott
MW-135	1621930	13888866	5800	550	360	-90	RC	1996	Kennecott
MW-136	1622154	13890848	5805	560	360	-90	RC	1996	Kennecott
TMW-001	1614024	13889122	5990	400	110	-75	RC	1997	Tombstone
TMW-002	1614394	13888253	5955	500	110	-60	RC	1997	Tombstone
TMW-003	1614614	13887377	5930	600	110	-60	RC	1997	Tombstone

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
TMW-004	1614883	13886416	5905	600	110	-60	RC	1997	Tombstone
TMW-005	1618161	13893693	5820	280	135	-75	RC	1997	Tombstone
TMW-006	1618413	13893073	5830	600	135	-75	RC	1997	Tombstone
TMW-007	1619316	13893752	5815	500	225	-75	RC	1997	Tombstone
TMW-008	1618935	13892318	5820	340	90	-75	RC	1997	Tombstone
TMW-009	1618669	13892128	5820	500	360	-90	RC	1997	Tombstone
TMW-010	1618486	13891567	5820	500	360	-90	RC	1997	Tombstone
TMW-011	1620815	13891508	5810	440	360	-90	RC	1997	Tombstone
TMW-012	1620559	13891176	5805	300	360	-90	RC	1997	Tombstone
TMW-013	1617836	13893988	5825	475	135	-75	RC	1997	Tombstone
TMW-014	1621645	13891196	5808	460	285	-60	RC	1997	Tombstone
TMT-01	1638698	13869357	6260	200	360	-90	RC	1998	Golconda
TMT-02	1638737	13869298	6260	220	360	-90	RC	1998	Golconda
TMT-03	1638635	13869321	6260	260	100	-60	RC	1998	Golconda
TMT-04	1638721	13869232	6255	160	10	-60	RC	1998	Golconda
TMT-05	1639327	13868829	6260	200	325	-60	RC	1998	Golconda
TMT-06	1639308	13867904	6310	150	285	-60	RC	1998	Golconda
TMT-07	1641034	13867651	6360	150	32	-60	RC	1998	Golconda
TMT-08	1637549	13871201	6240	200	215	-60	RC	1998	Golconda
TMT-09	1637464	13871011	6220	150	65	-60	RC	1998	Golconda
MW-201D	1618984	13892823	5815	252	360	-90	RC	2002	Midway
MW-202	1618082	13893335	5828	685	360	-90	RC	2002	Midway
MW-203D	1618997	13892800	5815	227	360	-90	DDH	2002	Midway
MW-204D	1618994	13892800	5815	247	230	-65	DDH	2002	Midway
MW-205	1617970	13893174	5832	540	360	-90	RC	2002	Midway
MW-206D	1619010	13892781	5814	197	360	-90	DDH	2002	Midway
MW-207	1617941	13893312	5831	625	360	-90	RC	2002	Midway
MW-208D	1619024	13892761	5814	225	235	-75	DDH	2002	Midway
MW-209D	1618942	13892794	5816	252	360	-90	DDH	2002	Midway
MW-210D	1618968	13892840	5815	154	360	-90	DDH	2002	Midway
MW-211D	1618951	13892859	5815	247	360	-90	DDH	2002	Midway
MW-212	1618112	13893200	5828	580	360	-90	RC	2002	Midway
MW-213D	1618919	13892899	5816	247	360	-90	DDH	2002	Midway
MW-214	1618463	13892987	5822	620	360	-90	RC	2002	Midway
MW-215D	1618932	13892879	5816	247	230	-75	DDH	2002	Midway
MW-216	1618348	13892830	5826	570	360	-90	RC	2002	Midway
MW-217	1618325	13892968	5824	630	360	-90	RC	2002	Midway
MW-218D	1618902	13892918	5816	247	360	-90	DDH	2002	Midway
MW-219	1618482	13892849	5824	640	360	-90	RC	2002	Midway
MW-220D	1618889	13892938	5816	247	360	-90	DDH	2002	Midway

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-221	1618961	13892833	5815	250	360	-90	RC	2002	Midway
MW-222D	1618873	13892958	5817	319	360	-90	DDH	2002	Midway
MW-224D	1618856	13892977	5817	346	360	-90	DDH	2002	Midway
MW-225D	1618925	13892968	5816	266	360	-90	DDH	2002	Midway
MW-226D	1618961	13892928	5815	277	360	-90	DDH	2002	Midway
MW-227	1618774	13892918	5818	420	360	-90	RC	2002	Midway
MW-228D	1618991	13892892	5814	275	360	-90	DDH	2002	Midway
MW-229	1619004	13892318	5811	475	360	-90	RC	2002	Midway
MW-230	1618830	13892193	5820	435	360	-90	RC	2002	Midway
MW-231D	1619027	13892856	5814	207.5	360	-90	DDH	2002	Midway
MW-232	1618712	13892357	5823	535	360	-90	RC	2002	Midway
MW-233	1618879	13892469	5815	415	360	-90	RC	2002	Midway
MW-234D	1619060	13892817	5814	259	360	-90	DDH	2002	Midway
MW-235	1618597	13892518	5824	627	360	-90	RC	2002	Midway
MW-236D	1619060	13892721	5819	237	360	-90	DDH	2002	Midway
MW-237	1618646	13892797	5819	555	360	-90	RC	2002	Midway
MW-238	1618509	13892639	5825	615	360	-90	RC	2002	Midway
MW-239D	1619030	13892603	5819	207	360	-90	DDH	2002	Midway
MW-240D	1618965	13892682	5820	347	360	-90	DDH	2002	Midway
MW-241	1618522	13893069	5828	695	360	-90	RC	2002	Midway
MW-242D	1618965	13892682	5820	337	60	-70	DDH	2002	Midway
MW-243	1618420	13893023	5830	675	360	-90	RC	2002	Midway
MW-244D	1618938	13892718	5822	347	360	-90	DDH	2002	Midway
MW-245D	1618876	13892708	5820	114	360	-90	DDH	2002	Midway
MW-246D	1618869	13892800	5822	347	360	-90	DDH	2002	Midway
MW-247D	1618876	13892708	5820	349	50	-70	DDH	2002	Midway
MW-248D	1618869	13892803	5822	348	60	-70	DDH	2002	Midway
MW-249D	1618879	13892705	5821	321	360	-90	DDH	2002	Midway
MW-250D	1618873	13892803	5822	321	50	-45	DDH	2002	Midway
MW-251D	1618820	13893013	5823	349	360	-90	DDH	2002	Midway
MW-252D	1618840	13892840	5823	238	360	-90	DDH	2002	Midway
MW-253D	1618840	13892840	5823	348	60	-70	DDH	2002	Midway
MW-254D	1618817	13893013	5823	579	230	-60	DDH	2002	Midway
MW-255D	1618810	13892872	5824	298	360	-90	DDH	2002	Midway
MW-256D	1618814	13893023	5823	202	330	-80	DDH	2002	Midway
MW-257D	1618810	13892872	5824	527	240	-80	DDH	2002	Midway
MW-258D	1618807	13893023	5823	346	320	-80	DDH	2002	Midway
MW-259D	1618466	13893046	5829	652	360	-90	DDH	2002	Midway
MW-260D	1619099	13892951	5820	342	250	-75	DDH	2002	Midway
MW-261D	1618371	13893004	5829	633	360	-90	DDH	2002	Midway

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-262D	1618568	13893089	5826	680	360	-90	DDH	2002	Midway
MW-263D	1618735	13893082	5824	471	240	-80	DDH	2002	Midway
MW-264D	1619106	13892908	5820	272	250	-80	DDH	2002	Midway
MW-265D	1619138	13892856	5820	281	240	-80	DDH	2002	Midway
MW-266D	1619165	13892830	5820	259	250	-80	DDH	2002	Midway
MW-267D	1619194	13892794	5819	316	250	-80	DDH	2002	Midway
MW-268D	1619155	13893000	5819	453	240	-75	DDH	2002	Midway
MW-269D	1619040	13892987	5821	353	245	-80	DDH	2002	Midway
MW-270D	1619020	13893033	5820	493	245	-80	DDH	2002	Midway
MW-271D	1620021	13892538	5812	434	360	-90	DDH	2002	Newmont
MW-272D	1620008	13892538	5816	369	245	-45	DDH	2002	Newmont
MW-273D	1620028	13892548	5815	609	60	-70	DDH	2002	Newmont
MW-274D	1620582	13892531	5815	379	150	-60	DDH	2002	Newmont
MW-275D	1620618	13892439	5812	456	360	-90	DDH	2002	Newmont
MW-276D	1620618	13892439	5812	553	240	-60	DDH	2002	Newmont
MW-277D	1620618	13892439	5812	530	360	-90	DDH	2002	Newmont
MW-278D	1620608	13892692	5813	729	200	-70	DDH	2002	Newmont
MW-279D	1620585	13892534	5814	744	123	-70	DDH	2002	Newmont
MW-280D	1619234	13893020	5814	808	240	-55	DDH	2002	Newmont
MW-281D	1619089	13893118	5815	657	250	-70	DDH	2002	Newmont
MW-282D	1618951	13893174	5817	443.5	240	-75	DDH	2002	Newmont
MW-283D	1618709	13892689	5822	953	55	-45	DDH	2002	Newmont
MW-284D	1618709	13892685	5822	593.5	60	-80	DDH	2002	Newmont
MW-285D	1618909	13892495	5815	683	60	-45	DDH	2002	Newmont
MW-286D	1618906	13892498	5815	519	150	-75	DDH	2002	Newmont
MW-287D	1620018	13893151	5813	623	240	-50	DDH	2003	Newmont
MW-288D	1620008	13893171	5813	783	150	-60	DDH	2003	Newmont
MW-289D	1620303	13892633	5814	628	180	-60	DDH	2003	Newmont
MW-290	1619975	13891321	5808	320	360	-90	RC	2003	Newmont
MW-291	1619467	13891934	5813	500	225	-60	RC	2003	Newmont
MW-292	1620651	13891347	5809	545	270	-45	RC	2003	Newmont
MW-293	1621294	13891357	5810	200	270	-60	RC	2003	Newmont
MW-294	1621261	13891353	5810	600	270	-60	RC	2003	Newmont
MW-295	1621707	13892121	5815	700	180	-60	RC	2003	Newmont
MW-296	1621061	13890349	5809	420	360	-90	RC	2003	Newmont
MW-297	1621638	13890317	5805	580	225	-60	RC	2003	Newmont
MW-298	1621596	13890674	5806	515	270	-60	RC	2003	Newmont
MW-299D	1619480	13892557	5812	492	270	-50	DDH	2003	Newmont
MW-300	1621766	13890953	5807	500	300	-60	RC	2003	Newmont
MW-301	1621763	13890940	5807	500	235	-60	RC	2003	Newmont

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-302	1622734	13891343	5811	600	360	-90	RC	2003	Newmont
MW-303D	1621009	13892548	5812	692	360	-90	DDH	2003	Newmont
MW-304	1622209	13891294	5808	700	270	-60	RC	2003	Newmont
MW-305	1622442	13891937	5811	680	270	-80	RC	2003	Newmont
MW-306	1619293	13892584	5810	340	180	-75	RC	2003	Newmont
MW-307D	1618443	13893273	5822	884	240	-70	DDH	2003	Newmont
MW-308	1618617	13893368	5819	800	240	-70	RC	2003	Newmont
MW-309	1618617	13893371	5819	700	360	-90	RC	2003	Newmont
MW-310	1618627	13893374	5819	700	60	-75	RC	2003	Newmont
MW-311D	1618134	13893486	5825	709.5	150	-60	DDH	2003	Newmont
MW-312	1618118	13893473	5825	800	240	-65	RC	2003	Newmont
MW-313	1618764	13894365	5818	560	270	-70	RC	2003	Newmont
MW-314	1616734	13893365	5857	540	270	-70	RC	2003	Newmont
MW-315	1616146	13894349	5868	720	360	-90	RC	2003	Newmont
MW-316D	1619040	13892741	5813	256	330	-52	DDH	2003	Newmont
MW-317	1613968	13898483	5901	500	360	-90	RC	2003	Newmont
MW-318	1613328	13899270	5915	520	360	-90	RC	2003	Newmont
MW-319	1598833	13905196	6222	500	360	-90	RC	2003	Newmont
MW-320	1599607	13906144	6159	600	360	-90	RC	2003	Newmont
MW-321	1597734	13905862	6273	500	360	-90	RC	2003	Newmont
MW-322	1597731	13905858	6271	500	190	-60	RC	2003	Newmont
MW-323	1597816	13897951	6236	500	360	-90	RC	2003	Newmont
MW-324	1595532	13901229	6321	500	360	-90	RC	2003	Newmont
MW-325	1595562	13902948	6338	500	360	-90	RC	2003	Newmont
MW-326	1632889	13908637	5903	500	360	-90	RC	2003	Newmont
MW-327	1635028	13910976	5924	560	360	-90	RC	2003	Newmont
MW-328	1623896	13884158	5792	500	360	-90	RC	2003	Newmont
MW-329	1626419	13883633	5833	345	360	-90	RC	2003	Newmont
MW-330	1627357	13881927	5855	600	360	-90	RC	2003	Newmont
MW-331	1628433	13882744	5880	500	340	-60	RC	2003	Newmont
MW-332	1628663	13883361	5888	300	270	-70	RC	2003	Newmont
MW-333	1629027	13883788	5901	345	270	-70	RC	2003	Newmont
MW-334	1629391	13883364	5910	300	270	-70	RC	2003	Newmont
MW-335	1629089	13882961	5902	300	270	-70	RC	2003	Newmont
MW-336	1624933	13883922	5802	300	360	-90	RC	2003	Newmont
MW-337	1624903	13877951	5800	500	270	-70	RC	2003	Newmont
MW-338	1627052	13877436	5859	500	270	-60	RC	2003	Newmont
MW-339	1629339	13875520	5940	300	90	-60	RC	2003	Newmont
MW-340	1631242	13874309	5991	300	270	-60	RC	2003	Newmont
MW-341	1632042	13875726	6027	245	360	-90	RC	2003	Newmont

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-342	1630730	13877629	5969	300	270	-70	RC	2003	Newmont
MW-343	1633860	13880776	6060	500	270	-70	RC	2003	Newmont
MW-344	1628013	13869562	5917	500	270	-45	RC	2003	Newmont
MW-345	1627357	13869552	5906	400	270	-45	RC	2003	Newmont
MW-346	1628666	13869555	5941	500	270	-45	RC	2003	Newmont
MW-347	1629312	13869555	5959	200	270	-45	RC	2003	Newmont
MW-348	1629979	13869558	5976	200	270	-45	RC	2003	Newmont
MW-349	1631288	13869056	6013	400	90	-60	RC	2003	Newmont
MW-350	1632826	13869056	6056	600	45	-45	RC	2003	Newmont
MW-351	1636343	13873404	6194	565	60	-45	RC	2003	Newmont
MW-352	1636091	13873735	6212	500	60	-60	RC	2003	Newmont
MW-353	1635792	13874818	6167	500	225	-50	RC	2003	Newmont
MW-354	1634733	13875543	6127	645	220	-60	RC	2003	Newmont
MW-355	1635310	13874345	6172	400	45	-45	RC	2003	Newmont
MW-356	1640651	13870707	6388	500	270	-60	RC	2003	Newmont
MW-357	1638814	13868604	6330	500	90	-45	RC	2003	Newmont
MW-358	1638286	13868600	6290	500	270	-60	RC	2003	Newmont
MW-359	1640976	13867354	6412	665	360	-50	RC	2003	Newmont
MW-360	1639664	13864368	6416	500	90	-60	RC	2003	Newmont
MW-361	1638985	13863938	6386	600	90	-60	RC	2003	Newmont
MW-362	1637288	13864171	6267	500	90	-60	RC	2003	Newmont
MW-363	1636445	13865985	6182	500	90	-60	RC	2003	Newmont
MW-364	1635933	13868151	6152	500	230	-60	RC	2003	Newmont
MW-365	1635044	13867655	6123	500	45	-60	RC	2003	Newmont
MW-366	1630950	13867839	6035	400	270	-60	RC	2003	Newmont
MW-367	1626409	13883633	5835	600	270	-45	RC	2003	Newmont
MW-368	1620651	13891337	5808	680	245	-45	RC	2003	Newmont
MW-369	1620648	13891353	5806	700	305	-45	RC	2003	Newmont
MW-370D	1619444	13892754	5813	591	221.55	-52.47	DDH	2004	Newmont
MW-371D	1619637	13892495	5813	555	230	-60	DDH	2004	Newmont
MW-372D	1619460	13892774	5813	824	220.17	-59.27	DDH	2004	Newmont
MW-373D	1620694	13891530	5812	635	270	-60	DDH	2004	Newmont
MW-374D	1620395	13891521	5807	638	225.43	-60.58	DDH	2004	Newmont
MW-375D	1619722	13892584	5814	733	230	-60	DDH	2004	Newmont
MW-376D	1620500	13891626	5811	563	225	-60	DDH	2004	Newmont
MW-377D	1620684	13891704	5811	806	219.12	-55.76	DDH	2004	Newmont
MW-378	1619250	13892574	5814	300	225	-70	RC	2004	Newmont
MW-378A	1619263	13892590	5813	75	225	-65	RC	2004	Newmont
MW-379	1619549	13892400	5813	600	224.46	-59.18	RC	2004	Newmont
MW-380D	1618236	13892725	5832	1033	44.43	-58.27	DDH	2004	Newmont

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW-381D	1618118	13892610	5834	1198	41.15	-55.97	DDH	2004	Newmont
MW-382D	1618095	13892813	5834	1142	46.81	-56.18	DDH	2004	Newmont
MW-383D	1617846	13892843	5839	1148	44.74	-50.96	DDH	2004	Newmont
MW-384D	1617856	13892840	5839	1231	39.44	-55.84	DDH	2004	Newmont
MW-385	1618909	13892292	5819	400	45	-60	RC	2004	Newmont
MW-386D	1618797	13892374	5822	452	45	-60	DDH	2004	Newmont
MW-387D	1618830	13892187	5821	498	45	-60	DDH	2004	Newmont
MW-388	1618988	13892088	5817	400	41.66	-60.37	RC	2004	Newmont
MW-389	1620366	13891832	5811	600	225.29	-55.01	RC	2004	Newmont
MW-390	1620261	13891721	5810	600	226.49	-56.5	RC	2004	Newmont
MW-391	1622190	13891291	5810	1020	268.81	-45.01	RC	2004	Newmont
MW-392	1614250	13894956	5950	555	270	-60	RC	2005	Midway
MW-393	1615050	13894992	5904	660	270	-60	RC	2005	Midway
MW-394	1618361	13892869	5826	600	90	-70	RC	2005	Midway
MW-395	1618902	13893033	5818	80	270	-75	RC	2005	Midway
MW-396	1619079	13893033	5815	30	270	-70	RC	2005	Midway
MW-397	1618827	13893010	5818	180	45	-75	RC	2005	Midway
MW-398	1619079	13893033	5815	450	265	-60	RC	2005	Midway
MW-399	1619614	13892666	5811	400	240	-70	RC	2005	Midway
MW-400	1619614	13892666	5811	400	240	-55	RC	2005	Midway
MW-401	1619775	13892744	5811	500	240	-50	RC	2005	Midway
MW-402	1619184	13893046	5814	500	260	-57	RC	2005	Midway
MW-403	1619184	13893046	5814	450	236.7	-53.9	RC	2005	Midway
MW-404	1619204	13893053	5814	420	85	-70	RC	2005	Midway
MW-405	1620569	13892610	5807	80	225	-50	RC	2005	Midway
MW-406	1615231	13892616	5900	400	225	-50	RC	2005	Midway
MW-407	1615392	13892613	5896	562	235	-60	RC	2005	Midway
MW-408	1618899	13893056	5818	600	65	-65	RC	2005	Midway
MW-409	1619483	13892548	5812	460	57	-75	RC	2005	Midway
MW-410	1619483	13892548	5812	400	57	-60	RC	2005	Midway
MW-411	1619535	13892574	5812	400	55	-50	RC	2005	Midway
MW-412	1619483	13892541	5812	460	93	-75	RC	2005	Midway
MW-413	1619483	13892541	5812	400	93	-60	RC	2005	Midway
REW	1618604	13892508	5821	140	360	-90	HD	2005	Midway
MW06-01	1619680	13892633	5813	500	240	-65	RC	2006	Midway
MW06-02	1619614	13892718	5812	500	240	-65	RC	2006	Midway
MW06-03	1619614	13892718	5812	440	240	-58	RC	2006	Midway
MW06-04	1620546	13892574	5811	680	225	-65	RC	2006	Midway
MW06-05	1620546	13892571	5811	540	215	-50	RC	2006	Midway
MW06-06	1619250	13892584	5812	400	230	-50	RC	2006	Midway

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW06-07	1618896	13892462	5815	600	250	-50	RC	2006	Midway
MW06-08	1618604	13892931	5823	700	235	-65	RC	2006	Midway
MW06-09	1619447	13892748	5813	500	95	-55	RC	2006	Midway
MW06-10	1619604	13892354	5810	600	60	-65	RC	2006	Midway
MW06-11	1619447	13892748	5813	500	60	-75	RC	2006	Midway
MW06-12	1619447	13892748	5813	500	60	-55	RC	2006	Midway
MW06-13	1619480	13892548	5812	460	240	-65	RC	2006	Midway
MW06-14	1619480	13892548	5812	550	240	-50	RC	2006	Midway
MW06-15	1619539	13892406	5811	535	50	-75	RC	2006	Midway
MW06-16	1619539	13892406	5811	600	50	-55	RC	2006	Midway
MW06-17	1620041	13892682	5812	520	240	-70	RC	2006	Midway
MW06-18	1620041	13892682	5812	400	240	-50	RC	2006	Midway
MW06-19	1619263	13892597	5812	615	90	-60	RC	2006	Midway
MW06-20	1619263	13892597	5812	700	60	-50	RC	2006	Midway
MW06-21	1619437	13892754	5811	600	90	-55	RC	2006	Midway
MW06-22	1619184	13892797	5814	600	71.5	-70.8	RC	2006	Midway
MW06-23	1619191	13892800	5813	700	73.9	-51.5	RC	2006	Midway
MW06-24	1619745	13892577	5812	400	310	-65	RC	2006	Midway
MW06-25	1619745	13892577	5812	400	310	-52	RC	2006	Midway
MW06-26	1619158	13892639	5813	400	230	-70	RC	2006	Midway
MW06-27	1619152	13892636	5813	400	230	-50	RC	2006	Midway
MW06-28D	1619483	13892548	5812	460	40	-80	DDH	2006	Midway
MW06-29D	1619483	13892548	5812	450	45	-65	DDH	2006	Midway
MW06-30D	1619483	13892548	5812	210	40	-60	DDH	2006	Midway
MW06-31	1621645	13891058	5808	450	190	-70	RC	2006	Midway
MW06-32	1621645	13891058	5808	400	190	-50	RC	2006	Midway
MW06-33	1620418	13891508	5807	380	90	-70	RC	2006	Midway
MW06-34	1620418	13891508	5807	400	165	-70	RC	2006	Midway
MW06-35	1619775	13892744	5812	700	210	-50	RC	2006	Midway
MW06-36	1619775	13892744	5812	415	270	-50	RC	2006	Midway
MW06-37	1620280	13891567	5810	500	135	-70	RC	2006	Midway
MW06-38	1620280	13891567	5810	440	135	-55	RC	2006	Midway
MW06-39D	1619483	13892548	5812	450	45	-75	DDH	2006	Midway
MW06-40	1620041	13892682	5812	400	270	-65	RC	2006	Midway
MW06-41	1619447	13892748	5813	450	40	-60	RC	2006	Midway
MW06-42	1619453	13892764	5811	400	40	-50	RC	2006	Midway
MW06-43D	1618764	13892859	5818	499	53	-60	DDH	2006	Midway
MW06-45HD	1618827	13892918	5818	330	360	-90	HD	2006	Midway
MW06-45HM	1618837	13892951	5818	155	360	-90	HD	2006	Midway

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW06-45HS	1618820	13892958	5818	34	360	-90	HD	2006	Midway
MW06-46HD	1619138	13892774	5814	300	360	-90	HD	2006	Midway
MW06-46HM	1619152	13892794	5814	178	360	-90	HD	2006	Midway
MW06-46HS	1619138	13892803	5814	44	360	-90	HD	2006	Midway
MW06-47HD	1619647	13892485	5812	220	360	-90	HD	2006	Midway
MW06-47HM	1619647	13892485	5812	148	360	-90	HD	2006	Midway
MW06-47HS	1619631	13892469	5811	63	360	-90	HD	2006	Midway
MW06-48HD	1620664	13891927	5810	240	360	-90	HD	2006	Midway
MW06-48HM	1620664	13891927	5810	190	360	-90	HD	2006	Midway
MW06-48HS	1620687	13891931	5809	63	360	-90	HD	2006	Midway
MW06-49HD	1619142	13892416	5811	160	360	-90	HD	2006	Midway
MW06-49HS	1619145	13892406	5812	34	360	-90	HD	2006	Midway
MW06-50	1618614	13893365	5819	625	90	-65	RC	2006	Midway
MW06-51	1619437	13892748	5811	380	260	-55	RC	2006	Midway
MW06-52	1619440	13892728	5813	360	280	-60	RC	2006	Midway
MW06-53	1618535	13893689	5820	795	90	-65	RC	2006	Midway
MW06-54	1620001	13892000	5820	500	270	-60	RC	2006	Midway
MW06-55	1618535	13893509	5820	700	90	-65	RC	2006	Midway
MW07-57HD	1619194	13892981	5814	460	360	-90	HD	2007	Midway
MW07-58	1615943	13890776	5901	440	270	-45	RC	2007	Midway
MW07-59	1615726	13890924	5909	440	270	-45	RC	2007	Midway
MW07-60	1615963	13890779	5901	455	90	-45	RC	2007	Midway
MW07-61	1619050	13892859	5815	460	92.1	-56.7	RC	2007	Midway
MW07-62	1618988	13892643	5814	430	89.9	-60.97	RC	2007	Midway
MW07-63	1618912	13892649	5813	365	95.1	-59.28	RC	2007	Midway
MW07-64	1619125	13892653	5813	400	87.6	-59.78	RC	2007	Midway
MW07-65	1618919	13893023	5816	440	90	-58.99	RC	2007	Midway
MW07-66	1615897	13890769	5902	300	100	-60	RC	2007	Midway
MW07-67	1616163	13890740	5895	480	90	-45	RC	2007	Midway
MW07-68	1616570	13891156	5885	500	270	-45	RC	2007	Midway
MW07-69D	1618810	13892863	5818	460	88.8	-44.01	DDH	2007	Midway
MW07-70D	1618883	13892856	5817	356	102.4	-43.12	DDH	2007	Midway
MW07-71D	1618968	13892859	5815	388	88.4	-59.44	DDH	2007	Midway
MW07-72D	1618705	13893118	5818	574	104.3	-44.27	DDH	2007	Midway

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW07-73D	1618131	13891872	5833	350	245.69	-44.28	DDH	2007	Midway
MW07-74D	1618134	13891872	5833	283	189.8	-55.51	DDH	2007	Midway
MW07-75D	1618154	13891891	5833	300	90	-55	DDH	2007	Midway
MW08-76A	1625356	13891796	5830	60	360	-90	HD	2008	Midway
MW08-77A	1624785	13902453	5880	100	360	-90	HD	2008	Midway
MW08-78A	1619437	13887393	5790	50	360	-90	HD	2008	Midway
MW08-79A	1619204	13883181	5770	85	360	-90	HD	2008	Midway
MW08-80H	1616520	13891088	5883	203	360	-90	HD	2008	Midway
MW08-81H	1615753	13891301	5896	400	360	-90	HD	2008	Midway
MW08-82H	1617449	13891983	5849	203	360	-90	HD	2008	Midway
MW08-83D	1619030	13892495	5812	95	180	-70	DDH	2008	Midway
MW08-84D	1619014	13892219	5811	302	360	-80	DDH	2008	Midway
MW08-85D	1617977	13891229	5851	350	60	-45	DDH	2008	Midway
MW08-86D	1617980	13891225	5850	155	20	-50	DDH	2008	Midway
MW08-87D	1618417	13891330	5821	350	230	-45	DDH	2008	Midway
MW08-88D	1618535	13891521	5826	245	215	-45	DDH	2008	Midway
MW08-89D	1618486	13891445	5825	210	230	-45	DDH	2008	Midway
MW08-90D	1618400	13891353	5821	350	270	-45	DDH	2008	Midway
MW08-91D	1618728	13891832	5821	290	215	-45	DDH	2008	Midway
MW11-01C	1618708	13893133	5821	592	103.9	-65.48	DDH	2011	Midway
MW11-02C	1618713	13893132	5821	570	104.5	-55.22	DDH	2011	Midway
MW11-03C	1618897	13893042	5819	425	70.1	-58.92	DDH	2011	Midway
MW11-04C	1618826	13892899	5820	526	87.3	-55.41	DDH	2011	Midway
MW11-05C	1618823	13892899	5821	525	85.4	-59.71	DDH	2011	Midway
MW11-06C	1618823	13892918	5821	553	77.8	-45.92	DDH	2011	Midway
MW11-07C	1618820	13892917	5821	479	77.2	-59.21	DDH	2011	Midway
MW11-08C	1618819	13892917	5821	454	80.8	-69.4	DDH	2011	Midway
MW11-09C	1618817	13892917	5821	338	77.9	-79.8	DDH	2011	Midway
MW11-10C	1618899	13892862	5819	353	100.6	-45.81	DDH	2011	Midway
MW11-11C	1618897	13892862	5819	309	105.5	-59.62	DDH	2011	Midway
MW11-12C	1618401	13893119	5826	854	75.8	-74.81	DDH	2011	Midway
MW11-13C	1618404	13893120	5826	625	76.5	-59.5	DDH	2011	Midway
MW11-14C	1618402	13893117	5826	785	89.4	-75.92	DDH	2011	Midway
MW11-15C	1618467	13892963	5825	695	91.4	-69.06	DDH	2011	Midway
MW11-16C	1619466	13892649	5814	344	89.8	-44.67	DDH	2011	Midway
MW11-17C	1619463	13892649	5814	395	87.9	-61.13	DDH	2011	Midway
MW11-18C	1619461	13892649	5814	405	89.7	-70.94	DDH	2011	Midway
MW11-19C	1619459	13892646	5814	485	108.4	-74.9	DDH	2011	Midway
MW11-20C	1619464	13892781	5814	165	0	-90	DDH	2011	Midway
MW11-21C	1619475	13892777	5814	345	114.4	-64.83	DDH	2011	Midway

Drill hole Name	Easting	Northing	Elevation	Total Depth	Azimuth	Dip	Drill hole Type	Year	Campaign
MW11-22C	1620374	13892321	5813	502	82.5	-49.37	DDH	2011	Midway
MW11-23C	1620372	13892320	5813	440	82.5	-56.71	DDH	2011	Midway
MW11-24C	1620370	13892320	5813	515	82.3	-77.67	DDH	2011	Midway
MW11-25C	1620372	13892316	5814	540	104.4	-48.99	DDH	2011	Midway
MW11-26C	1618685	13892807	5821	805	65.2	-84.5	DDH	2011	Midway
TG18001	1619418	13892972	5810	345	340	-60	Core	2018	Viva
TG18002	1618683	13893149	5820	516			Core	2018	Viva
TG18003	1620310	13893261	5807	563.6	200	-60	Core	2018	Viva
TG18004	1618586	13893654	5819	461	160	-60	Core	2018	Viva
TG1805	1619124	13892295	5820	265	250	-60	RC	2018	Viva
TG1806	1618989	13892679	5820	250	240	-70	RC	2018	Viva
TG1807	1618999	13892935	5820	310	200.5	-80.23	RC	2018	Viva
TG1808	1619629	13892567	5820	410	233.5	-70.68	RC	2018	Viva
TG1809	1619193	13892954	5820	330	220	-60	RC	2018	Viva
TG1810	1618638	13892968	5820	560	90	-65	RC	2018	Viva
TG1811	1620732	13892653	5820	490	206.71	-70.13	RC	2018	Viva
TG1812	1620837	13892594	5820	610	199.3	-76.27	RC	2018	Viva
TG1813	1621050	13892561	5820	540	208.4	-60.88	RC	2018	Viva
TG1814	1620062	13892662	5818.1	380	219.61	-68.45	RC	2018	Viva
TG1815	1619980	13892761	5820	370	198.4	-70.91	RC	2018	Viva
TG1816	1618652	13892995	5820	560	105.5	-59.17	RC	2018	Viva
TG1817	1618346	13893159	5820	660	54	-80.71	RC	2018	Viva
TG1818	1619006	13892680	5820	360	99.8	-64.61	RC	2018	Viva
TG1819	1620282	13892680	5820	390	200.1	-70.57	RC	2018	Viva
TG1820	1620167	13892657	5820	390	200.7	-61.04	RC	2018	Viva
TG1901	1620089	13892690	5820	215			RC	2019	Viva
TG1902	1619009	13892690	5820	480	0	-69.85	RC	2019	Viva
TG1903	1619616	13892612	5820	460	275.8	-76.25	RC	2019	Viva
TG1904	1618881	13891437	5820	440	274	-60.96	RC	2019	Viva
TG1905	1621056	13892382	5820	480	211.2	-70.92	RC	2019	Viva
TG1906	1619990	13892759	5820	440			RC	2019	Viva

## Appendix E – List of Claims

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NMC835257	MWAY 149	546988	N
NMC835258	MWAY 150	546989	N
NMC835504	MWAY 396	547235	N
NMC845408	MWAY 649	559669	N
NMC845410	MWAY 651	559671	N
NMC845412	MWAY 653	559673	N
NMC845414	MWAY 655	559675	N

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NMC835175	MWAY 67	546906	N
NMC835176	MWAY 68	546907	N
NMC830749	RD 08	539678	Y
NMC830757	RD 16	539686	Y
NMC830761	RD 20	539690	Y
NMC830764	RD 24	539693	Y
NMC831839	RD25	543105	Y
NMC831841	RD 27	543107	Y
NMC831843	RD 29	543109	Y
NMC831864	RD 50	543130	Y
NMC831866	RD 52	543132	Y
NMC831868	RD 54	543134	Y
NMC831870	RD 56	543136	Y
NMC831872	RD 58	543138	Y
NMC831874	RD 60	543140	Y
NMC831883	RD 69	543149	Y
NMC831884	RD 70	543150	Y
NMC831885	RD 71	543151	Y
NMC831886	RD 72	543152	Y
NMC831887	RD 73	543153	Y
NMC831888	RD 74	543154	Y
NMC831889	RD 75	543155	Y
NMC831890	RD 76	543156	Y
NMC831891	RD 77	543157	Y
NMC831892	RD 78	543158	Y
NMC831893	RD 79	543159	Y
NMC831894	RD 80	543160	Y
NMC831895	RD 81	543161	Y
NMC831896	RD 82	543162	Y
NMC831897	RD 83	543163	Y
NMC831898	RD 84	543164	Y
NMC830753	RD 12	639682	Y
NMC984614	RD 86	706179	Y
NMC984615	RD 87	706180	Y
NMC984616	RD 88	706181	Y
NMC984617	RD 89	706182	Y
NMC984618	RD 90	706183	Y
NMC984619	RD 91	706184	Y
NMC984620	RD 92	706185	Y
NMC984621	RD 93	706186	Y
NMC984622	RD 94	706187	Y

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NMC984623	RD 95	706188	Y
NMC984624	RD 96	706189	Y
NMC984625	RD 97	706190	Y
NMC984626	RD 98	706191	Y
NMC984627	RD 99	706192	Y
NMC984628	RD 100	706193	Y
NMC984631	RD 101	706194	Y
NMC984632	RD 102	706195	Y
NMC984629	RD 103	706196	Y
NMC984630	RD 104	706197	Y
NMC984633	RD 105	706198	Y
NMC984634	RD 106	706199	Y
NMC984613	RD 85	706200	Y
NMC688327	RV 29	343968	Y
NMC688329	RV 31	343970	Y
NMC688331	RV 33	343972	Y
NMC688333	RV 35	343974	Y
NMC688335	RV 37	343976	Y
NMC688337	RV 39	343978	Y
NMC688339	RV 41	343980	Y
NMC387816	SP #1	172347	Y
NMC390503	SP #66	143145	Y
NMC387817	SP #2	172348	Y
NMC387818	SP #3	172349	Y
NMC387820	SP #5	172351	Y
NMC387822	SP #7	172353	Y
NMC387824	SP #9	172355	Y
NMC387826	SP #11	172357	Y
NMC387828	SP #13	172359	Y
NMC387830	SP #15	172361	Y
NMC387832	SP #17	172363	Y
NMC387833	SP #18	172364	Y
NMC387836	SP #21	172367	Y
NMC387837	SP #22	172368	Y
NMC387838	SP #23	172369	Y
NMC387839	SP #24	172370	Y
NMC387840	SP #25	172371	Y
NMC387841	SP #26	172372	Y
NMC387842	SP #27	172373	Y
NMC387843	SP #28	172374	Y
NMC387844	SP #29	172375	Y

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NMC387845	SP #30	172376	Y
NMC387846	SP #31	172377	Y
NMC387847	SP #32	172378	Y
NMC390502	SP #65	173144	Y
NMC390504	SP #67	173146	Y
NMC390505	SP #68	173147	Y
NMC390506	SP #69	173148	Y
NMC390507	SP #70	173149	Y
NMC470114	SP #71	206406	Y
NMC470115	SP #72	206407	Y
NMC470116	SP #73	206408	Y
NMC470117	SP #74	206409	Y
NMC470118	SP #75	206410	Y
NMC470119	SP #76	206411	Y
NMC470120	SP #77	206412	Y
NMC470121	SP #78	206413	Y
NMC470122	SP #79	206414	Y
NMC470123	SP #80	206415	Y
NMC470124	SP #81	206416	Y
NMC470125	SP #82	206417	Y
NMC470126	SP #83	206418	Y
NMC470127	SP #84	206419	Y
NMC470138	SP #95	206430	Y
NMC470139	SP #96	206431	Y
NMC470140	SP #97	206432	Y
NMC470141	SP #98	206433	Y
NMC470148	SP #105	206440	Y
NMC470149	SP #106	206441	Y
NMC470150	SP #107	206442	Y
NMC470151	SP #108	206443	Y
NMC470158	SP #115	206450	Y
NMC470159	SP #116	206451	Y
NMC470160	SP #117	206452	Y
NMC470161	SP #118	206453	Y
NMC470162	SP #119	206454	Y
NMC470166	SP #123	206458	Y
NMC470167	SP #124	206459	Y
NMC470168	SP #125	206460	Y
NMC470169	SP #126	206461	Y
NMC470170	SP #127	206462	Y
NMC502125	SP 281	212803	Y

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NMC502126	SP 282	212804	Y
NMC502127	SP 283	212805	Y
NMC502128	SP 284	212806	Y
NMC502129	SP 285	212807	Y
NMC502130	SP 286	212808	Y
NMC502144	SP 300	212822	Y
NMC502145	SP 301	212823	Y
NMC502146	SP 302	212824	Y
NMC502164	SP 320	212842	Y
NMC502165	SP 321	212843	Y
NMC502166	SP 322	212844	Y
NMC513285	SP 340	217054	Y
NMC513286	SP 341	217055	Y
NMC513287	SP 342	217056	Y
NMC513288	SP 343	217057	Y
NMC513289	SP 344	217058	Y
NMC513290	SP 345	217059	Y
NMC513291	SP 346	217060	Y
NMC513292	SP 347	217061	Y
NMC513293	SP 348	217062	Y
NMC513294	SP 349	217063	Y
NMC513295	SP 350	217064	Y
NMC513296	SP 351	217065	Y
NMC513303	SP 358	217072	Y
NMC513304	SP 359	217073	Y
NMC513305	SP 360	217074	Y
NMC513309	SP 366	217078	Y
NMC513310	SP 367	217079	Y
NMC513311	SP 368	217080	Y
NMC513317	SP 374	217086	Y
NMC513318	SP 375	217087	Y
NMC513319	SP 376	217088	Y
NMC513325	SP 382	217094	Y
NMC679116	SP 4	333643	Y
NMC679117	SP 6	333644	Y
NMC679118	SP 8	333645	Y
NMC679119	SP 10	333646	Y
NMC679120	SP 12	333647	Y
NMC679121	SP 14	333648	Y
NMC679122	SP 16	333649	Y
NMC679123	SP 280	333650	Y

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NMC679124	SP 352	333651	Y
NMC679125	SP 353	333652	Y
NMC679126	SP 354	333653	Y
NMC679127	SP 355	333654	Y
NMC679128	SP 356	333655	Y
NMC679129	SP 357	333656	Y
NMC838228	WAY 1	549276	N
NMC838229	WAY 2	249277	N
NMC838242	WAY 15	259290	N
NMC838230	WAY 3	549278	N
NMC838231	WAY 4	549279	N
NMC838232	WAY 5	549280	N
NMC838233	WAY 6	549281	N
NMC838234	WAY 7	549282	N
NMC838235	WAY 8	549283	N
NMC838236	WAY 9	549284	N
NMC838237	WAY 10	549285	N
NMC838238	WAY 11	549286	N
NMC838239	WAY 12	549287	N
NMC838240	WAY 13	549288	N
NMC838241	WAY 14	549289	N
NMC838243	WAY 16	549291	N
NMC838244	WAY 17	549292	N
NMC838245	WAY 18	549293	N
NMC838246	WAY 19	549294	N
NMC838247	WAY 20	549295	N
NMC838248	WAY 21	549296	N
NMC838249	WAY 22	549297	N
NMC838250	WAY 23	549298	N
NMC838251	WAY 24	549299	N
NMC838252	WAY 25	549300	N
NMC838253	WAY 26	549301	N
NMC838254	WAY 27	549302	N
NMC838255	WAY 28	549303	N
NMC838256	WAY 29	549304	N