

# Winnemucca Mountain, Nevada Project Summary

Prepared for

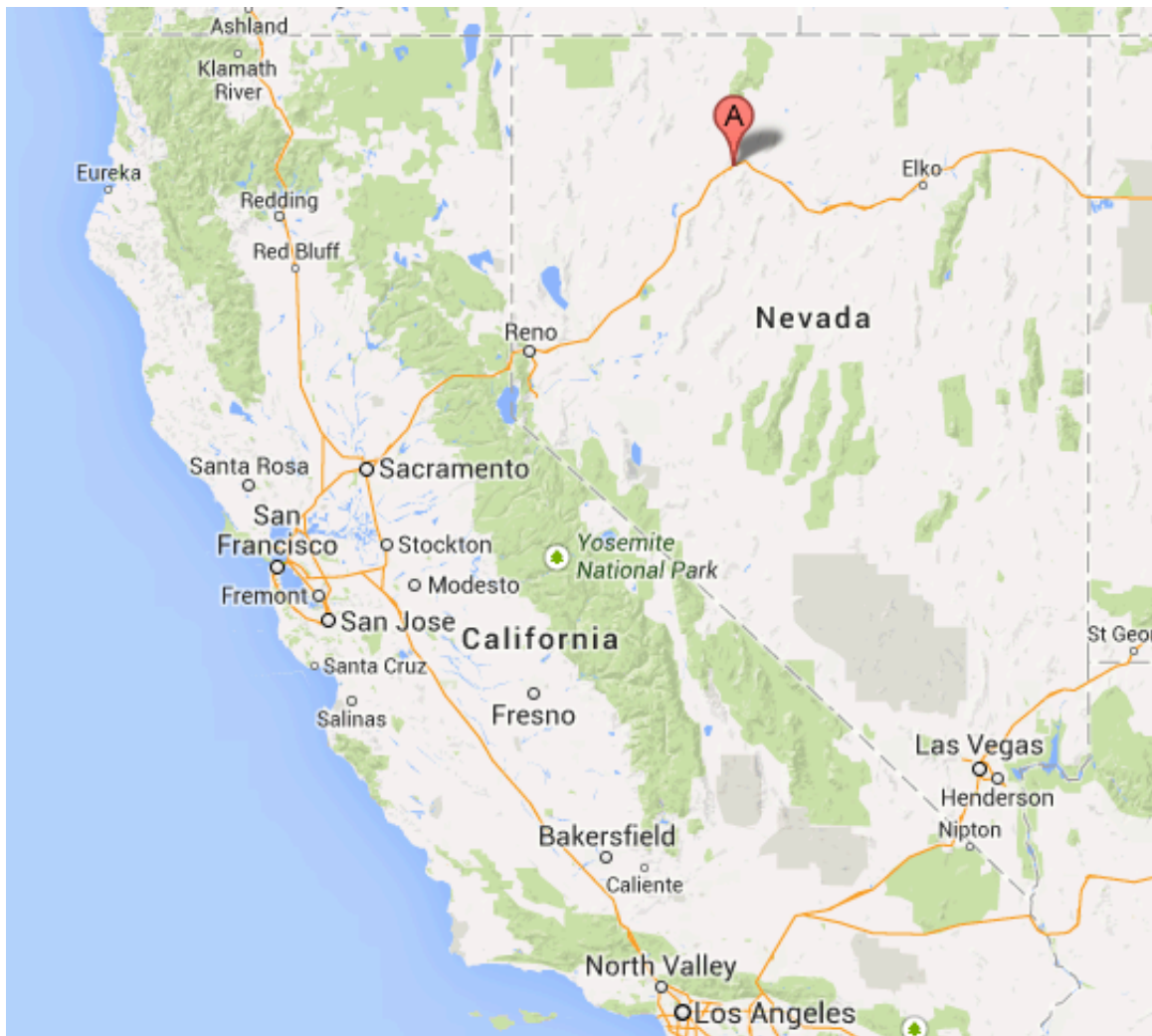
Gale Capital

By Andrew P. Randell PGeo  
*Strata GeoData Services*

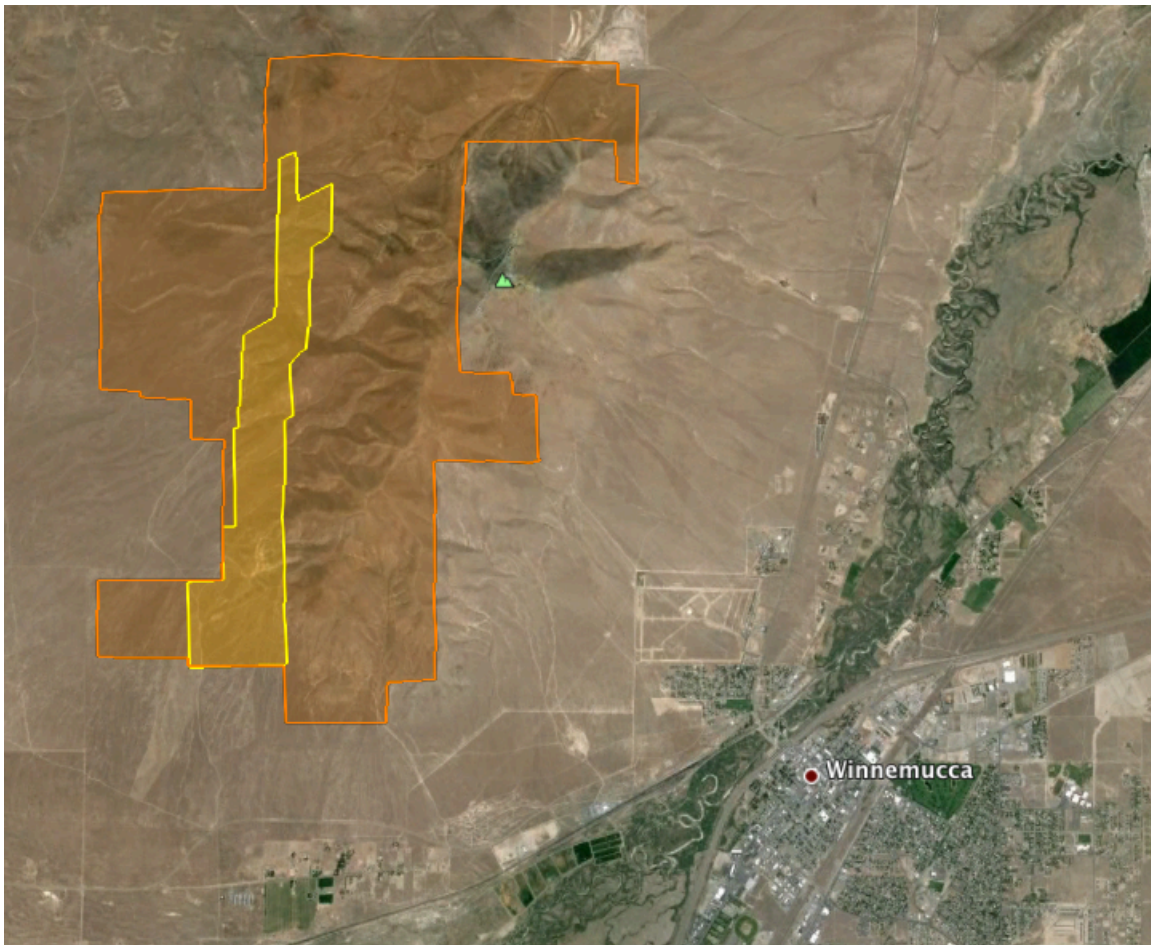


## Project Overview

Winnemucca Mountain lies adjacent to the northwest edge of Winnemucca in Nevada. The site has several historical and more recent mineral finds, including small-scale mining activities for gold, silver and mercury, especially on the eastern flank of the mountain.



*Winnemucca Mountain (A), 166 miles northeast of Reno, Nevada*



*Location of claims in relation to Winnemucca city. Yellow claims are current, orange are noted as 'on hold' but it is the understanding that these are now incorporated and available for exploration.*

The land position is secure, covering the bulk of the mountain and the western flank, but not penetrating the city of Winnemucca subdivisions. This has secured not only the 'recently' discovered vein system of interest, but also several of the historic mine sites, thus giving the opportunity to make multiple discoveries of a range of metals on the site, and giving enough space to gain potential volumes.

The site lies in a productive area of Nevada, with the Sleeper Gold Project to the north, which has a measured resource of 3.5MOz of gold and a further 1.97MOz inferred from a relatively low-grade ore body. Additional significant mineralization has been found to the west in the Sleeper Zone, currently operated in a Joint Venture with Newmont (51%). Drilling in 2011 on this

site was designed to create a resource model (by SRK Consulting), but it appears that this was not completed due to market conditions, and so the true resource of the property remains unknown.

Nevada in general is a very pro-mining State and as such there are well defined paths to take for permitting and regulation, plus a wide range of State-based services that could assist with advanced exploration / mining operations.

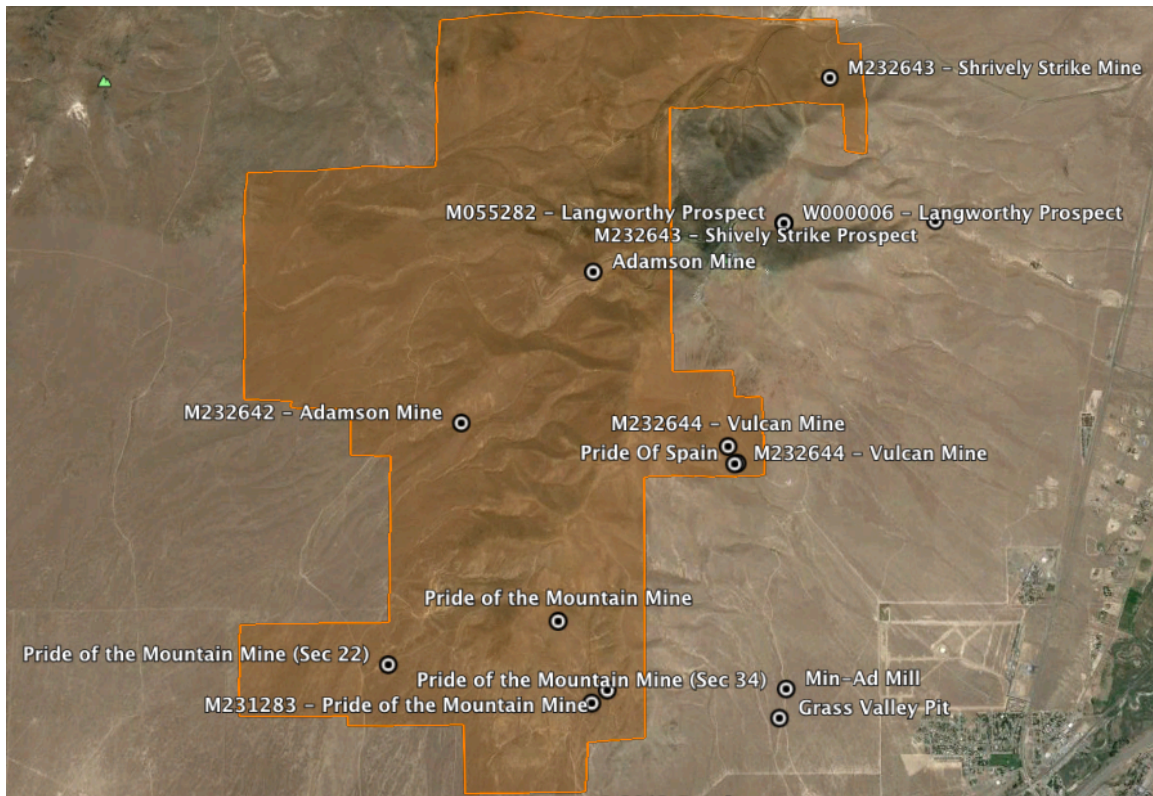
A resource estimate on the Winnemucca Mountain property was carried out for Punchline Resources in 2013 and calculated reserves ranging between 214,000 Ounces and 522,000 Ounces of gold at various cut off grades. It does however state that these figures were derived from historical information whose accuracy could not be fully relied upon and did not meet NI 43-101 standards. This is something that would be important to address should further work commence on site.

## **Site History**

The first discovery of gold and silver on the mountain is recorded in the 1860's, from "quartz veins containing small amounts of variably oxidized copper and lead". By 1911, the Adamson mine on the northwestern flank had produced 650 ounces of gold, while the nearby Pride of the Mountain mine produced gold and silver.

The Shrively Mine on the northern side of the mountain also exploited a steeply dipping quartz-calcite vein. In 1982 this was drilled beyond the depths of historical mine workings which produced intersections in the vein of 0.02 ounces per ton gold over 30ft (0.6g/t Au over 10m). These grades are low, especially under current market conditions, but do show potential.

The western flank was first drilled in 1987, which established the Swordfish and Ridge Zones (terms still in use today). Reverse Circulation drilling over 73 holes completed a total of 52,500ft of drilling, the data from which makes up the bulk of the historical sub surface data available.



*Location of historical mines and showings on and around the mountain*

This drilling was used to create a resource of 128,000 ounce gold reserve with a 0.1 ounce per ton cut off. This resource was largely confined to a steeply dipping quartz vein to a depth of 700ft, and a strike of around 2200ft. Although these grades were suitable in the 1980's, it is highly unlikely that if these grades persist, the site could ever be economic.

A final round of drilling was undertaken in 2006-2007 by Meridian, who completed a further 16 RC holes on site. These returned more sub-gram results, but did show some more promise at depth than prior exploration results.

The issue with the use of RC drilling across the vein has been a loss of the geometric data that diamond core records. As such, the subsurface size, shape and angle is not known with any great

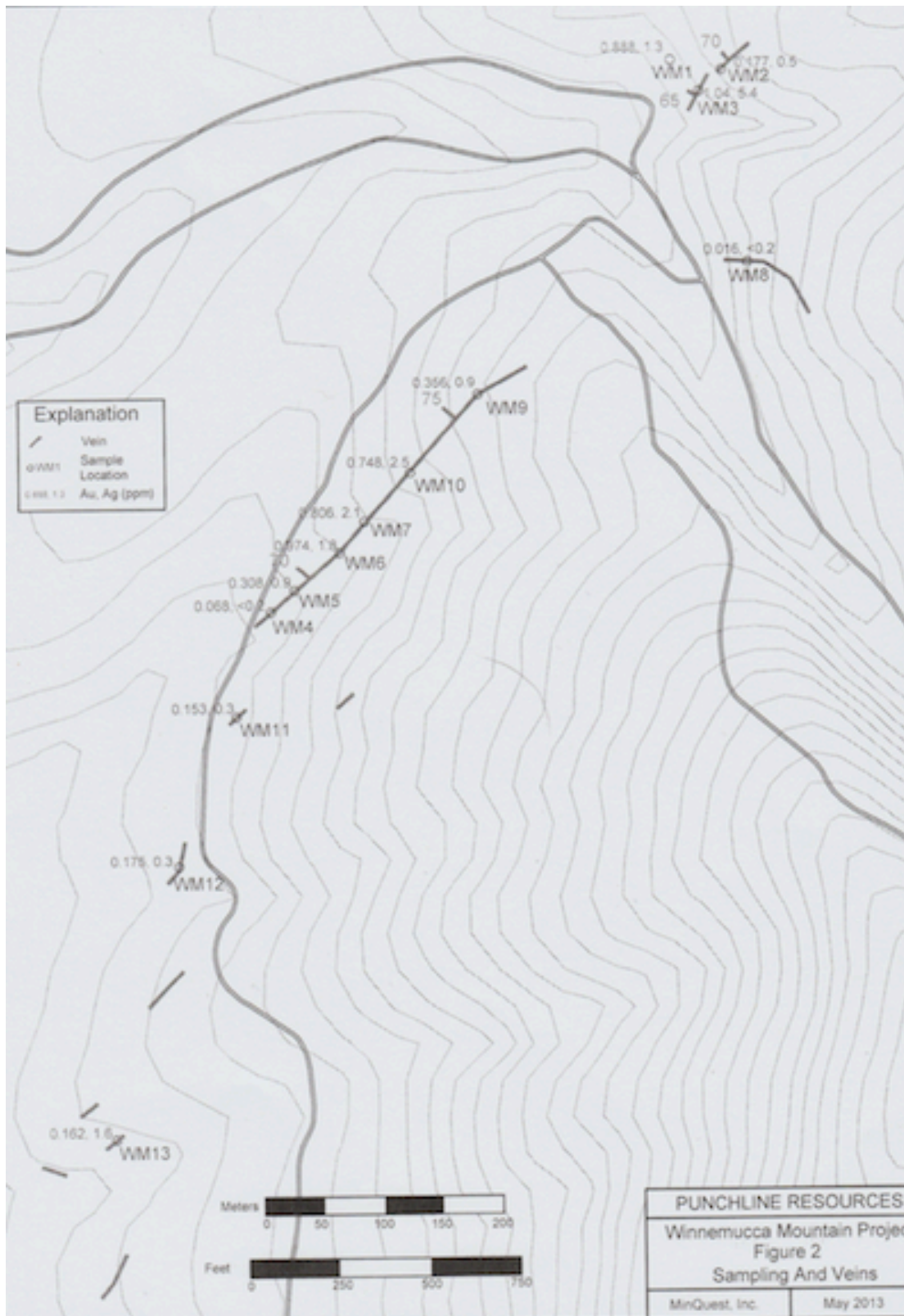


detail. Also, the author of the 2013 report noted that much of the historical data was incomplete or missing altogether and as such has been left out of any models / resources.

Surface sampling in 2013 collected a total of 13 channel and grab samples along the approximate 3000ft strike length of the large quartz vein. These samples appear to be much more interesting and have returned values as high as 0.974g/t gold and 1.8g/t silver. A summary of the samples seems to indicate a centrally enriched zone, where the grades gradually fall away along strike in either direction (WM9 to WM13).

A separate sample cluster (WM1 to WM3) seems to show even higher but more localized potential, with assays returning 1.04g/t gold and 5.4g/t silver, although the notes available do not accurately describe if this is a further extension of the same vein (but with a similar strike bearing it would be safe to assume that it is).

Interestingly a smaller vein was sampled (WM8) which returned low assays, but could represent a significant structure that cross cuts and subsequently offsets the main vein by 20-30m (although this would need to be confirmed in the field). Such a cross cutting structure can 'tear apart' the rocks creating flow paths for mineral rich fluids and as such return the higher grades we see in sample WM3.



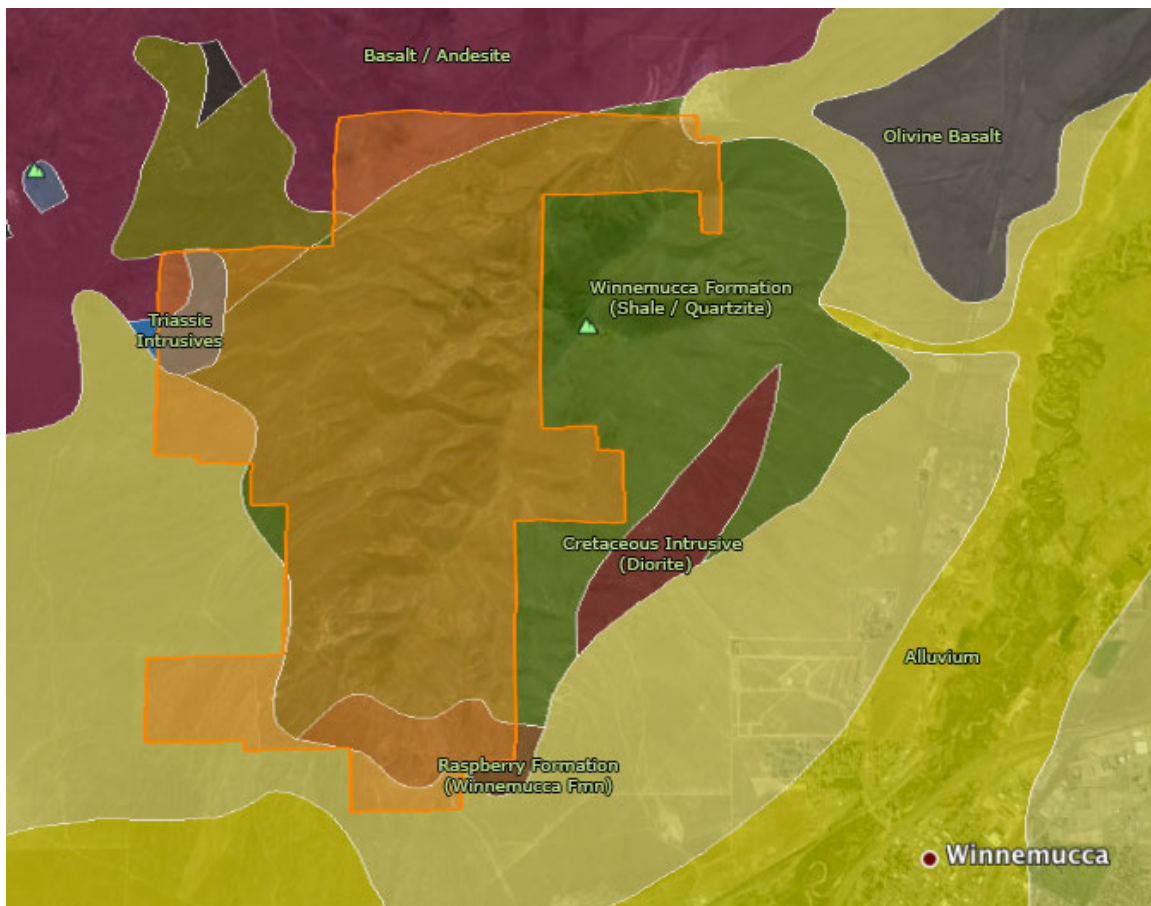
Surface Sample Locations and Grades – Punchline Resources

## Geology and Mineralisation

### *Known Geology*

Nevada as a whole is well covered as far as geological mapping goes, and this Winnemucca Mountain area is no exception. However, the mapping is on a statewide scale and therefore the actual contacts between units and subtle shifts within lithology are not recorded on the site.

Although information from previous reports is fairly thorough regarding the types of rocks encountered on the site, there does not seem to be a unified geological map available from all the work, and has instead been taken from public maps.



*Sketch of the geology of Winnemucca Mountain*



The oldest unit is from the Upper Triassic (Winnemucca Formation) that is found on the peaks and is composed of a calcareous shale / slate with some quartzite.

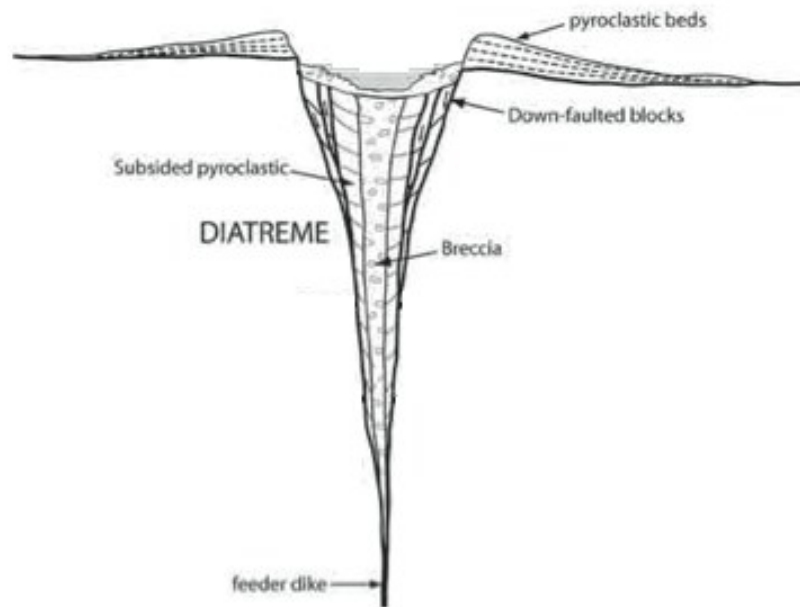
Faulted against this is a younger (unnamed) formation, comprised mainly of buff coloured quartzite. It has been emplaced against the Winnemucca Formation along a normal fault, although the displacement is not known.

Small intrusive bodies, the largest of which is seen in on the southern flank intruding into Winnemucca Formation rocks, regularly cut these sedimentary rocks. This intrusion is sizeable (2 x 2.75km) and seems to be dioritic in composition.

There are also small amounts of lavas and other volcanic rocks on the mountain, including Tertiary dacites on the western flank, and basalts / andesites overlying the older units in the north.

In the area of the Swordfish Zone, a large ellipsoid breccia body (0.4 x 1.5km) is found in Tertiary sedimentary rocks (in the vicinity of WM5 & 6 samples). The breccia contains angular clasts of older siltstone and granodiorite, and is assumed to be a Tertiary aged diatrema. *(A diatrema is a pipe of broken material formed by a volcanic explosion, usually fluid related as opposed to rising magma).* This diatrema could be the northwest trending shear zone in which the large quartz vein is found.

Known mineralization on Winnemucca Mountain is typical of low sulphidation epithermal, sediment and volcanic hosted gold deposits – similar to that seen at the Sleeper deposit.



*Classic diatreme cross section (shown as an example only)*

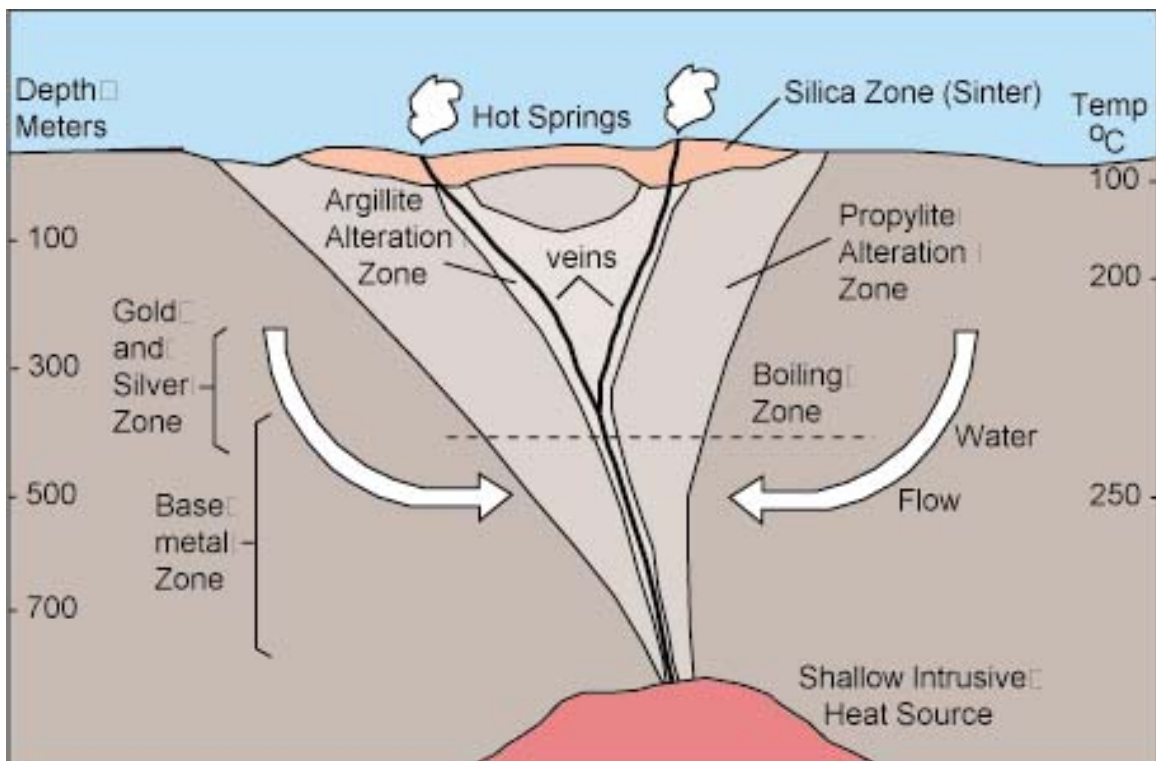
The epithermal style of mineralization typically consists of quartz / quartz-carbonate veins, stockworks and breccia carrying gold and silver (& electrum), argentite (silver sulfosalts) and pyrite, with lesser chalcopyrite, sphalerite and galena. These form within 'open spaces', typical of this style, whereby fluids and gasses have flowed into the fractures and condensed into the veins we see today. So far, everything that has been identified has been formed near-surface (low temperature and pressures).

### ***Hypothesized Geology***

The presence of a diatreme with near-surface epithermal mineralization is a good indicator of possible higher-grade mineralization at depth. In general, these systems are zoned both laterally and vertically, with gold and silver existing at depth through the diatreme, with increasing levels of base metals such as copper the deeper (and closer to the heat source) you go.

This is why it is important to map not only the rocks but also the geochemical alteration of the area as that will help understand the heat regimen that the rocks have been subjected to, and then identify the level within the diatreme the current ground surface is at.

In the following diagram, it is the vein zone that should be targeted through drilling, as these will contain the highest values. Although one large 'feeder' vein will be present, numerous smaller veins in a stock work pattern around it that will often concentrate more metals as the gases condense.



*Example of an epithermal system in cross section, showing fluid circulation, fracturing, alteration and mineralisation.*

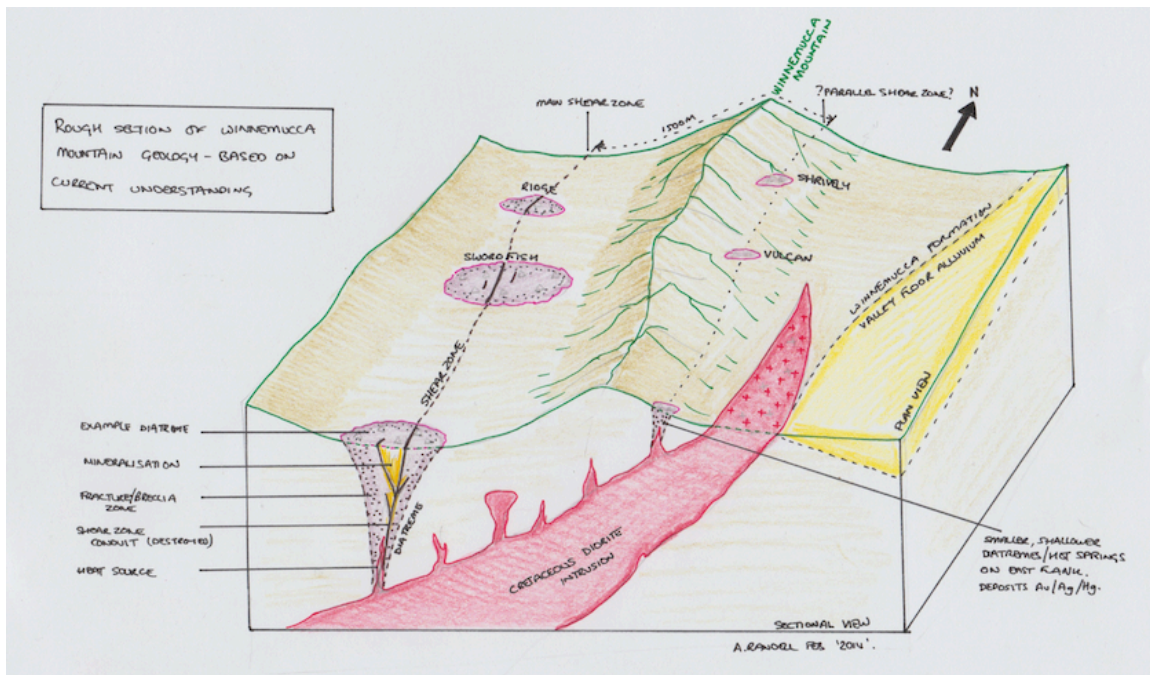
The current understanding of the geology seems to indicate the following scenario:

1. The country rock of Triassic sedimentary units is intruded with a dioritic body at the end of the Cretaceous.

2. A large (regional?) shear zone faulted through the property sometime towards the end of the Cretaceous / Early Tertiary, possibly due to crustal extension from magma emplacement or continued stresses from mountain building / continental accretion.
3. The heat from the magma body causes the water in the ground to circulate and become enriched with minerals.
4. The shear zone forms a weak area that acts as a conduit for pressure from the magma, and a steam explosion occurs, fracturing the rock and forming the diatreme.
5. The heat is persistent for possibly millions of years, and so mineral rich gases and fluids continue to move through the shear zone and breccia of the diatreme, altering the country rocks and depositing minerals.
6. This process was likely repeated several times during the life of the magma body and could have created more diatremes along the strike of the shear zone. It also seems likely that the depressurization events occurred in parallel shear zones and faults. The presence of gold / silver and mercury bearing systems on the eastern side of Winnemucca Mountain are typical of shallow epithermal systems and could indicate parallel mineral strikes that require follow up in the field.

Obviously this field model would require testing, but it could be an explanation as to why grades are higher in the center of the diatreme and then pinch out north and south. The even higher grades to the north could be a second, as yet undiscovered, diatreme that is similarly mineralized, if not equal in size.





*Proposed model for Winnemucca Mountain geology / mineralisation (rough)*

Regional geology maps show sets of northwest – southeast trending faults that run parallel to each other and are between 900 and 1500m apart. If the Swordfish Zone vein runs along such a fault, then it is feasible that similar veins could also be spaced to the west and east of this zone. Indeed, if the historical showings on the eastern flank are indeed another shear zone system, they would be about the right distance from the Swordfish vein (1500m).

## Proposed Next Steps

It would appear that although the site has had several rounds of exploration, it has suffered from the following:

- A lack of consistent exploration and record keeping.
- A jump from prospecting to drilling without consideration of necessary steps in between; no methodical exploration
- Data collected in multiple formats (i.e. ounces / grams / ppm and feet / meters).

- Drilling undertaken pre Bre-X and therefore no grade controls of documented quality assurance program.
- No geological hypotheses put forward to explain the mineralization that take into account the whole mountain area as opposed to individual sites.

It seems that the site has significant potential, but that a methodical exploration program needs to be developed in order to firstly prove the historical numbers and secondly understand the 'big picture' geologically. It is suggested that the following work be planned and undertaken on the site.

### **1. Mapping**

- a. Surface geological mapping of the entire claim block, with the focus on the Swordfish Zone quartz vein. The aim is to understand the geometry, size and any structures that affect the vein system.
- b. A survey of all the historical sites across the mountain, including accessing spoil piles, to understand the distribution of minerals on a larger scale. This will be significant in understanding the general geological model.

### **2. Geochemical Sampling**

- a. It is proposed that a geochemical grid be samples across the Swordfish Zone at the very least. The samples should be tested for multiple elements.
- b. A greater number of grab / channel samples should be taken across the site, including the historical spoil piles, again to deepen the understanding of the mineral distributions.
- c. Sampling should also be targeted at understanding chemical alteration around the vein. This is very significant when defining the possible extent of mineralization and grade controls for any future drill program.

### **3. Drilling**

- a. This would be a later option once the geology, vein geometry and zone of alteration is understood. Drilling would target specific zones within the vein and then into the ground beyond in an attempt to increase recoverable tonnage.
- b. Diamond drilling would be preferable so as to understand and record the geology and geometry at depth.
- c. Drilling would be a requirement to produce assay results that could be confidently incorporated into a resource model. With the uncertainties of the historical work, it could be that this phase would require a large number of holes to firm up the data (also dependent on the size of the zone defined by the alteration).

### **4. Modeling**

- a. Following the collection of all the relevant data, a comprehensive review of all information should be compiled and used to create a model of the vein and ore zone surrounding it. This should be accompanied by a NI43-101 Technical Report for submission.
- b. As part of the modeling exercise, drill core samples of significant intervals should be submitted for cyanide leaching tests (bottle rolls) to see how amenable the gold is to being extracted through this method. The information from this will be important in designing a mine model.

There seems to be no call for a geophysical program as the mineralization is low in sulphides and so would not produce a strong chargeability signature. Similarly, gravity surveys are not likely to detect much as the density of the rocks in the area all appear to be similar.

It is proposed that the site be visited as soon as weather and conditions permit. Initially it would be good to be accompanied by Jimmy Lenec for introductions to local miners / land owners and to be toured around historic sites.

Following that, a period of a week or so on site mapping (with a field assistant) and collecting initial grab samples would be ideal. This short visit would lay the groundwork for the extended work plan described above. This initial recce would cost the following (approximately);

Item	Cost	Notes
<b>Flights (YVR – RNO)</b>	\$1,000	<i>2 adults, return</i>
<b>Accommodation &amp; Food</b>	\$2,000	<i>2 adults; hotel in Winnemucca</i>
<b>Truck Rental, Gas &amp; Insurance</b>	\$900	<i>Pickup Truck</i>
<b>Wages</b>	\$6,440	<i>Principal Geo / Geotech</i>
<b>Sample Supplies</b>	\$250	<i>Ore bags, trays and standards</i>
<b>Equipment Rental</b>	\$200	<i>Rock Saw (if required)</i>
<b>Geochemical Assays</b>	\$5,000	<i>Assumes 100 samples / \$50 each</i>
<b>TOTAL&gt;&gt;</b>	<b>\$15,790</b>	

In the meantime, the data provided can be sorted and added to a new site database, with the completion of base maps being the goal.



