



**MINE DEVELOPMENT ASSOCIATES**  
**MINE ENGINEERING SERVICES**

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**Updated Summary Report on the Spring Valley Property  
Pershing County, Nevada**



*Prepared for*

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**Vancouver, BC**

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November 2, 2004

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### MINE ENGINEERING SERVICES

#### 1.0 SUMMARY

The Spring Valley Property is host to a zone of gold mineralization in a quartz and quartz-tourmaline stockwork within and adjacent to a quartz-sericite-pyrite altered rhyolite that is adjacent to a district-scale fault. The mineralization is buried by 50 to over 200 ft of alluvial gravel and the area was initially prospected because of its location upstream of the gold placer deposits in Spring Valley Canyon. Midway Gold Corp. (Midway Gold) controls the property, located in the Humboldt Range, Pershing County, Nevada. To date, 52 holes have been drilled in the property, for a total of over 38,000 ft of drilling. The Spring Valley Project is a property of merit and warrants further work.

#### 1.1 General

Mine Development Associates (MDA), an independent mining consulting firm, was requested by Midway Gold Corp. (Midway Gold) to complete an updated review of the recent exploration at the Spring Valley project, Pershing County, Nevada, comment on the exploration program, and provide to Midway Gold a technical report that is compliant with Canadian National Instrument 43-101. In preparation of this report, the authors have relied on information obtained through a review of private documents and reports, including previous operators' project reports, Midway Gold's reports and MDA's previous technical report (Ristorcelli, 2003). Verification of the presence of mineralization was made by MDA as part of its examination on July 30, 2003 and August 7, 2003 prior to preparing the previous technical report (Ristorcelli, 2003). Claim title was initially verified by an independent land man for the previous technical report, and copies of the filings for 2004 to date have been reviewed by the principal author.

#### 1.2 Property

The Spring Valley Property is located in Pershing County, Nevada, approximately twenty miles northeast of the town of Lovelock and three miles north of Coeur d'Alene Mines Corporation's (Coeur d'Alene) Rochester open pit mine. The property consists of 123 unpatented, contiguous, lode mineral claims. The Spring Valley Property comprises three claim groups:

1. Schmidt: 44 claims, US\$75,000 upon initial signing, yearly payments and work commitments with a US\$3,000,000 buy-out provision effective any time within four years, subject to a net smelter returns royalty on all gold production in excess of 500,000 ounces from the Schmidt property. A sliding scale royalty, based on the price of gold, applies to production over 500,000 ounces. Located within this group is one additional claim purchased by Midway Gold in 2003.
2. Echo Bay Exploration Inc. (Echo Bay)/Kinross Gold U.S.A. (Kinross): 28 claims, US\$10,000 upon initial signing, yearly payments and a US\$500,000 buy out provision effective any time within six years, leaving a royalty.

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3. Midway: 50 claims staked by Midway Gold in 2003 and 2004.

Placer gold was discovered in Spring Valley Canyon in 1875, with total production from both Spring Valley Canyon and American Canyon to the south estimated to be on the order of 500,000 ounces. The source for the gold in the Spring Valley Canyon placer deposits had never been located but inspired interest in modern exploration when in 1996, working under the assumption that the source was buried by the alluvial deposits of Spring Valley, Kennecott Minerals Company (Kennecott) began exploration for the source of the placer gold train. Kennecott drilled four holes, one of which intersected 40 ft grading 0.026 oz Au/ton from quartz stockwork mineralization in rhyolite immediately below the gravel unconformity. In August 2000, Echo Bay optioned the property and conducted exploration predominantly consisting of drilling and geophysics through 2002. In 2003 Midway Gold optioned the property and drilled an additional 31 holes in 2003 and 2004. Table 1.1 lists the drill holes by type and campaign in the Spring Valley Property:

**Table 1.1 Spring Valley Drilling Summary**

Drilled By	Year	Core (ft)	RC (ft)	Total (ft)
Kennecott	1996	0	2,220	2,220
Echo Bay	2001	0	3,305	3,305
Echo Bay	2002	1,653	7,635	9,288
Midway	2003	0	15,540	15,540
Midway	2004	1,769	6,470	8,239
<b>Totals</b>		<b>3,422</b>	<b>35,170</b>	<b>38,592</b>

In total, the property has had the following work: drilling; geologic mapping; soil geochemical surveying; petrography; surface rock sampling; a gravity survey; an IP/Resistivity survey; a ground magnetic survey; a CSAMT survey; and cyanide-leach bottle roll testing.

### 1.3 Geology

The Spring Valley Property lies in the Humboldt Range, a north-trending uplift of rocks ranging in age from Permo-Triassic to Quaternary. The range has been cut by a series of north-trending, high-angle faults that result in the development of a series of horsts, grabens and fault blocks that traverse the range. The property is predominantly covered by alluvial gravel, although one significant outcrop is found in a road cut that displays mineralization similar in style to that found in the drilling.

The oldest rock unit in the Spring Valley area is the Permo-Triassic Limerick Greenstone. The Limerick Greenstone is typically dark-colored and consists of intermediate to mafic metavolcanic rocks. The Permo-Triassic Rochester Rhyolite overlies the Limerick Greenstone and is primarily a light to dark-colored, metamorphosed, siliceous rhyolitic ash flow tuff with beds and lenses of coarse-grained tuffaceous meta-sedimentary rocks. The Permian Weaver Rhyolite overlies the Rochester and is similar



to it, but is distinguished by a higher percentage of phenocrysts and a greater amount of tuffaceous meta-sedimentary rocks. The structural orientation of these three units is difficult to infer, although historic work implies that it is sub horizontal.

The unconsolidated alluvial deposits consist of pebbles and cobbles of greenstone and rhyolitic rocks, quartz vein material, and brown-colored clay-rich intervals. The alluvium/bedrock contact is irregular, and a bedrock topographic high, shaped like a knob or east-trending ridge, is spatially associated with mineralization. The gold mineralization is located on the eastern side of the claim block and over this bedrock high where the alluvium is approximately 50 ft thick, increasing to over 200 ft thick to the west, north, and south.

#### **1.4 Conclusions**

Data verification by MDA for this report included a review of all work done since the previous technical report (Ristorcelli, 2003) and a review of the legal agreements and permitting status. The previous technical report includes a database review, check assays on Echo Bay drill cuttings, review of diamond drill core, and a site visit reviewing drill hole locations, claim posts and outcrops. In addition to MDA data verification, previous operators had completed internal quality control sample analyses. Through this verification process, MDA concludes that the Spring Valley data is adequate in quantity and quality to demonstrate the presence of gold mineralization. The reliability of the data is sufficient to do the same although the presence of coarse gold and wet reverse circulation (RC) drilling instills a degree of uncertainty in determining overall tenor, apparent continuity and local distributions. The latter has yet to be determined and will need study, additional sampling and evaluations.

MDA, through these reviews and compilations, concludes that the Spring Valley Property is a project of merit. Historic work completed by previous operators shows that a hydrothermal, quartz-sericite, precious metal system exists below the alluvial cover in Spring Valley. Presently, the data is sufficient to indicate the presence of mineralization but is of insufficient quantity to determine the size potential.

Spring Valley has no recent or formal resource estimate completed on it and therefore has no economic studies. The Pond Area portion of the project presently is at the level of having exploration data indicating the presence of mineralization in a fashion that still requires some diligence and study to validate that data. In addition to the Pond Area where the bulk of the drilling has been done, there are other geochemical and geophysical targets that deserve to be tested by drilling.



## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

### **2.1 Introduction**

Mine Development Associates (MDA), an independent mining consulting firm, was requested by Midway Gold Corp (Midway Gold) to perform a review of the exploration results obtained from the Spring Valley Property, Pershing County, Nevada, and to provide to Midway Gold a technical report that is compliant with Canadian National Instrument 43-101. MDA also provided the previous technical report (Ristorcelli, 2003).

The Spring Valley Property has been the focus of active precious metals exploration since 1994, although mining activity in the area dates to at least 1875, when placer gold was discovered in Spring Valley Canyon. In August 2003, Midway Gold signed an option agreement to earn a 100% interest in the SV 1-44 claims on the Spring Valley Property Paul G. Schmidt. In September, 2003 Midway Gold also signed an agreement to option an additional 28 SV claims from Echo Bay Exploration (Echo Bay)/Kinross Gold U.S.A. (Kinross). (Note: The project was an Echo Bay project, but by the time the agreement was signed Echo Bay had merged into Kinross.) Midway Gold acquired an additional 34 claims in 2003 by staking and a further 16 claims during 2004. Recommendations contained in this report are for exploration to further define areas of gold mineralization with the goal of developing an economic gold deposit and to test additional areas of interest within the property boundary.

### **2.2 Terms of Reference**

Midway Gold commissioned MDA to review the Spring Valley Project and prepare a report following Canadian National Instrument 43-101 guidelines for submission as a Technical Report to the Toronto Venture Exchange (TSX). Midway Gold trades on the TSX under the symbol MDW.TSX. David J. Griffith, an associate of MDA, reviewed the available geologic data. He relied on the previous Technical Report by Steven Ristorcelli, Principal Geologist with MDA (Ristorcelli, 2003). Said Technical Report also followed the Canadian National Instrument 43-101 guidelines, and included a site visit and independent samples and check assays.

### **2.3 Purpose of Report**

The purpose of this report is to provide an independent evaluation of existing exploration data and describe its reliability, adequacy and implications to the project. This report will also describe a recommended exploration program to further examine the economic potential of the property. This report conforms to the guidelines of Canadian National Instrument 43-101.

### **2.4 Sources of Information**

This report is based almost entirely on outside sources of information, including exploration, geological and geophysical reports available in the public record and from corporate files. Pertinent information from geologic mapping, geophysical surveys, drilling and metallurgical testing are incorporated into the report. Where cited, references are referred to in the text by author and date. Web sites are briefly referenced in the text. Complete references are in Section 21.0.





## 2.5 Field Examination

The principal author of this report did not visit the property, but has confidence that there has been no change that required a site visit since the site visits of Steven Ristorcelli, P. Geo, Principal Geologist for MDA on July 30, 2003 and August 7, 2003 (Ristorcelli, 2003). The following objectives were accomplished in his site visit: examine the project site, check selected claim posts, review the geology and styles of mineralization and alteration, assess the exploration program, and examine the drill cuttings. He took independent samples of drill cuttings and surface outcrops to give an independent assessment of the project.

## 2.6 Definitions

Ag	Silver
AT	assay ton
Au	Gold
BLM	Bureau of Land Management
DDH	diamond drill hole (core)
FA	fire assay
fee land	private land
Fm	Formation
ft	feet
gpm	gallons per minute
in.	inch(es)
kg	kilo gram
lb	pound
mi	miles
MDA	Mine Development Associates
MS	metallic screen assay
oz Au/ton	ounces of gold per short ton
ppb	parts per billion
ppm	parts per million
RC	reverse circulation
TD	total depth (drill hole)

Currency cited in this report is in United States dollars (US\$) unless otherwise stated.



### **3.0 DISCLAIMER**

In preparation of this report, the authors have relied on information obtained through a review of private documents and reports, in particular, the current and previous operators' project reports and internal documents. MDA believes that the information relied upon for this report can be used for project evaluation and determination of value of the project. When there was doubt, MDA reported the information with accompanying clarification and explanation of the reliability of that information and data.

Verification was made on title to the claims by an independent land man as of July 16, 2003 (Gash, 2003), and on the presence of mineralization by MDA (Ristorcelli, 2003). No other independent verification was undertaken, although MDA gives opinions as to reliability and adequacy of data throughout this report.

Neither of the authors are considered experts or qualified persons with respect to land and title issues and have therefore relied upon copies of United States Department of the Interior Bureau of Land Management ("BLM") receipts acknowledging payment of the 2005 claim maintenance fees for the status of the claims at Midway for this updated report.



## **4.0 PROPERTY DESCRIPTION AND LOCATION**

### **4.1 Area and Location**

The Spring Valley Property is located in Pershing County, Nevada, approximately twenty miles northeast of the town of Lovelock and three miles north of Coeur d'Alene Mines Corporation's (Coeur d'Alene) Rochester open pit mine (Figure 4.1). The Spring Valley Property consists of 123, unpatented, contiguous, lode mining claims (Appendix A), covering approximately 1,700 acres in the south-central Humboldt Range. The project is centered at approximately 40° 20' north latitude and 118° 08' west longitude and is on the Rochester and Fitting 7 ½ degree quadrangles.

### **4.2 Claims and Title**

The U.S. Department of the Interior, Bureau of Land Management (BLM) administers the land at the Spring Valley Property under the Federal Land Policy and Management Act of 1976. The Spring Valley Property consists of 123 contiguous unpatented lode mining claims in the Spring Valley Mining District in Pershing County, Nevada and covers portions of Sections 26, 27, 28, 33, 34 and 35, T. 29 N., R. 34 E. and a portion of Section 2 and 4, T. 28 N., R. 34 E. MDM. Figure 4.2 shows the boundaries and locations of the claims, and a complete listing of all claims on file with the BLM and Pershing County is provided in Appendix A.

Roger Gash, C. P. L. and Nevada Commissioned Abstracter, undertook a title examination of the 72 claims that were optioned from Schmidt and Echo Bay (Gash, 2003). He reported that the claims have been properly recorded with Pershing County and with the BLM. There are two areas with conflicting claims. The first is in Section 2, T. 28 N., R. 34 E. and Section 35, T. 29 N., R. 34 E., where portions of SV 52, 54, 78, 79, and 81 conflict with the senior SHO lode claims of Coeur d'Alene and the PARADOX lode claims of Harold M. Stone. In addition, in Section 35, T. 29 N., R. 34 E., the junior located Goldstar 1 and Goldstar 2 placer claims of Brent, Marty, and Steve Heaton conflict with SV 41-44, 51-54, 76-78, 80, and 81; and SV 77 and 80 conflict with the Freedom 1 placer claim of Chabino.

In 2001, Paul Schmidt relocated 20 of the SV claims (SV 1 through SV 7, SV 9, SV 11, SV 13, SV 15, SV 17, SV 19, SV 21 through SV 26 and SV 28) that he had originally staked in 1996, but had allowed to lapse. The paperwork for this procedure is complete and correct; but field verification has not been done to confirm that the new location notices were posted.

Subsequent to the Gash title examination referred to above, Midway Gold located 50 additional unpatented lode claims. Midway Gold has also purchased the J and L claim and the owners of the Goldstar 1 and Goldstar 2 placer claims have reportedly allowed them to lapse.



Figure 4.1 Location Map Spring Valley Project

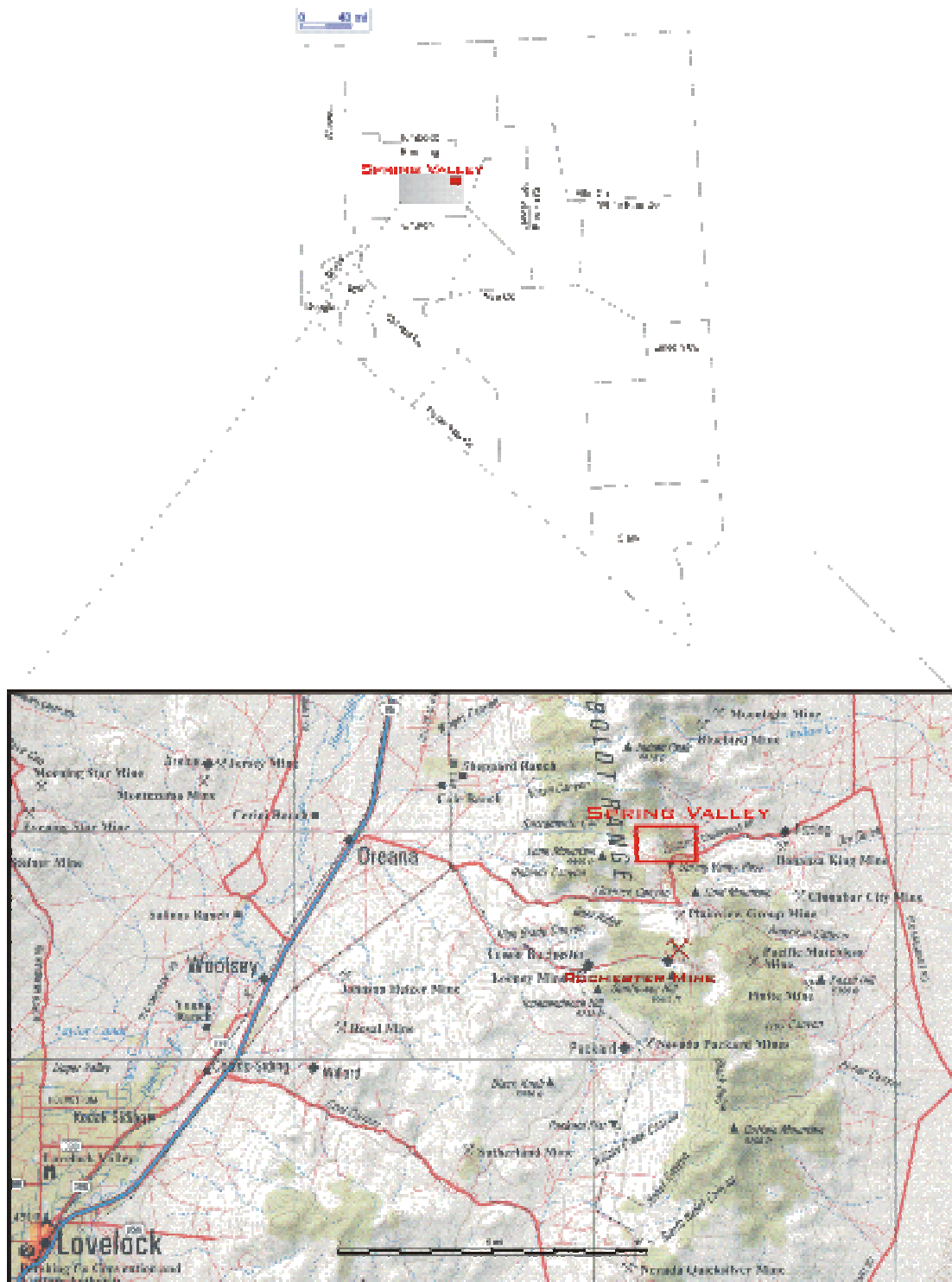
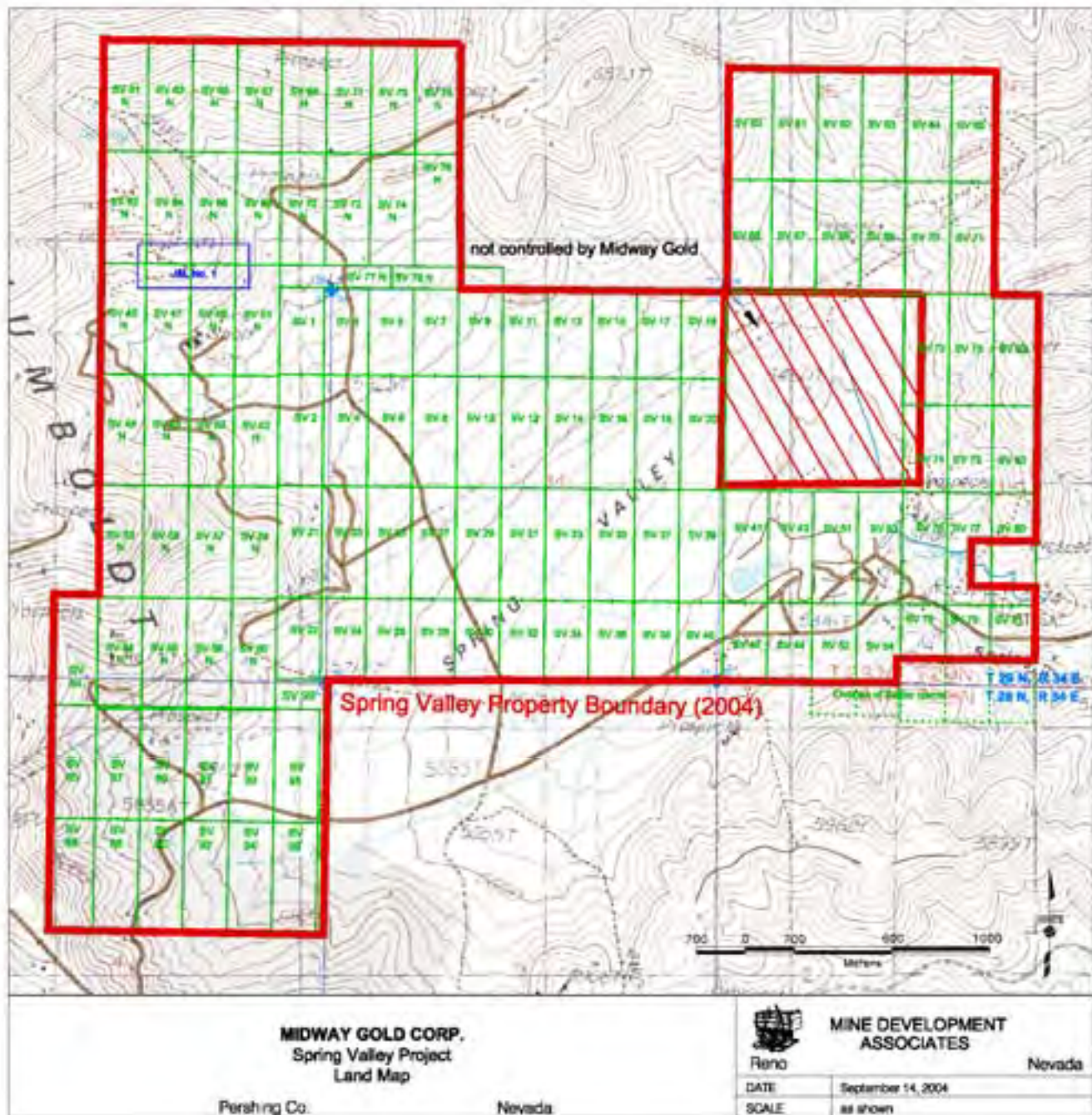




Figure 4.2 Land Map of the Spring Valley Property





There has been no legal survey of the property. The area surrounding the 123 claims includes both fee land (NW/4, Section 35, T. 29 N., R. 34 E.; part or all of Sections 23, 25, and 27, T. 29 N., R. 34 E. and a portion of Section 3, T. 28 N., R. 34 E.) and claims controlled by others (Figure 4.2).

Midway Gold signed an option agreement on Aug. 15, 2003 for 100% interest in the SV-1 to SV-44 claims from Paul Schmidt of Morrison, Colorado, the registered owner of these claims. Key details of the option agreement are presented below.

On or Before	Payment	Minimum Expenditures	Status
03-jul-2003	US\$25,000	US\$0	completed
15-aug-2003	US\$50,000	US\$0	completed
15-aug-2004	US\$100,000	US\$150,000	completed
15-aug-2005	US\$100,000	US\$150,000	completed
15-aug-2006	US\$200,000	US\$150,000	
15-aug-2007	US\$3,000,000	US\$150,000	

After the production of 500,000 ounces of gold, there is a sliding scale net smelter return royalty that varies from 2% to 7% of commercial production from the optioned claims, depending on the gold price. There is also a 1% net smelter return royalty on any commercial production by Midway Gold within one-half mile of the perimeter of the optioned claims.

On Sept. 1, 2003 an option agreement was signed by Midway Gold for a 100% interest in 28 claims from Echo Bay/Kinross. These are the claims SV-51 through SV-54 and SV-60 through SV-83 and are contiguous with the original claims. Pertinent parts of the agreement are presented below.

On or Before	Payment	Minimum Expenditures	Status
10-sep-2003	US\$10,000	US\$0	completed
01-mar-2004	US\$20,000	US\$0	completed
01-sep-2004	US\$50,000	US\$0	completed
01-sep-2005	US\$50,000	US\$0	
01-sep-2006	US\$70,000	US\$0	
01-sep-2007	US\$100,000	US\$0	
01-sep-2008	US\$100,000	US\$0	
01-sep-2009	US\$100,000	US\$0	

At any time prior to Sept. 1, 2009, Midway Gold may exercise its option to purchase the claims for US\$500,000 less the total amount of option payments made prior to exercising its option.

There is a 2% net smelter return royalty on production from the claims that are part of the agreement.

### 4.3 Mineralization Location

The main zone of mineralization, based on drilling to date, is centered in the central portion of the Spring Valley Property claim block (Figure 4.2), specifically the SE/4 Section 34 and the SW/4 Section 35, T. 29 N., R. 34 E. This is referred to as the Pond Area. It is a vein-stockwork gold zone hosted by the Permo-Triassic<sup>1</sup> Rochester Rhyolite buried beneath 50 to 200 ft of alluvial gravel. In the mid-

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<sup>1</sup> Geologic literature refers to the age of rocks in the Koipato Group (Limerick Greenstone, Rochester Rhyolite, Weaver Rhyolite) as Permian, Triassic and Permo-Triassic. This report uses Permo-Triassic.



1870's, placer gold was recovered from Spring Valley Canyon which is in the S/2 Section 35, T. 29 N., R. 34 E. within the claim block, and continues to the east of the claims. During the 1930s, active mining took place at the Wabash mine, also in the SW/4 Section 35, T. 29 N., R. 34 E. A thorough description of the mineralized zones is provided in Section 9.0 of this report. Modern exploration prior to Midway Gold's involvement at Spring Valley began in 1996 and continued intermittently through 2002.

#### **4.4 Environmental Liability**

Apart from some minor outstanding reclamation work related to drill sites, there is no significant environmental liability. The BLM has estimated the cost of the reclamation work to be \$8,478. Midway Gold has posted a \$25,000 time deposit security with the BLM for a state wide bond.

#### **4.5 Permits**

Midway Gold is exploring under a Notice of Intent to the BLM that was accepted by the BLM on July 20, 2003. Three amendments have been accepted by the BLM as the exploration program expanded. Conditions on the permit include reclaiming drill sites, sumps and access to the drill sites. In addition, there are some known unevaluated cultural sites on the project that cannot be disturbed; it is believed that these sites will not impact the next phase of exploration in any significant manner. These provisions and the prohibition against disturbing cultural sites without mitigation is normal in the United States and is not an onerous provision.





## **5.0 ACCESS, CLIMATE, INFRASTRUCTURE AND PHYSIOGRAPHY**

The Spring Valley Property is located in Pershing County, Nevada, approximately twenty miles northeast of the town of Lovelock. The property is accessed by a paved road, Nevada State Highway 50<sup>2</sup> (also called Limerick Canyon Road), from the town of Oreana, through Limerick Canyon and then on a Pershing County-maintained gravel road into Spring Valley. It is 9.6 miles from Oreana to the end of the paved road and an additional 3.5 miles to the central part of the property. Various dirt roads cover much of the remainder of the property and driving off-road also provides access. An electrical transmission line transverses the property from southwest to northeast.

The Spring Valley Property claims cover an intermontane basin in the central Humboldt Range. This southeast-sloping alluvial basin is at the head of Spring Valley Canyon, a narrow, ephemeral, east-flowing stream that empties into Buena Vista Valley. The property lies between 5120 and 6040 ft in elevation and the topographic relief is gentle to moderate.

The climate in the area of the Spring Valley Property is typical of the northern Basin and Range Province. The yearly rainfall is approximately 8 in., with generally regular distribution of precipitation from the months of October to June. Summers are hot and dry, with average daytime temperatures from 80°F to 90°F. During the winter, the temperature averages approximately 40°F during the day and drops below freezing at night (World Climate website, 2003). Occasional snow may prohibit winter work, or require the use of a bulldozer or plow.

Vegetation in Spring Valley is sparse. Most of the sagebrush that would typically dominate the area was burned in a range fire, reportedly in 2000, and the property is now covered predominantly with various types of grass, some sage and other desert shrubs and, in riparian areas, tamarisk, cattails and cottonwood trees.

The Humboldt Mountains have been the focus of exploration and mining activity since the late 1800s. At the present time, the Rochester open pit mine, three miles south of the Spring Valley Property, is being actively exploited. It is anticipated that Lovelock, the closest town, has sufficient infrastructure and manpower to support a mining operation at Spring Valley.

In the event that exploration is successful, the site provides sufficient area to mine, process ore and dispose of waste. Electrical power transmission lines cross the property. Abundant water was encountered in the drilling. No attempt has been made to secure the water rights needed to conduct a mining operation.

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<sup>2</sup> Note that this is not US Highway 50





## **6.0 HISTORY**

The Humboldt Range has historically been actively explored and exploited for its mineral resources. Spring Valley Mining District silver production prior to 1960 was second only to the Comstock (Echo Bay, 2001). At the present time there are two active metal mining operations in the Humboldt Range. The Rochester mine, located approximately three miles south of Spring Valley, is operated by Coeur d'Alene and the Florida Canyon mine, located approximately 17 miles north of Spring Valley, is operated by a subsidiary of Apollo Gold Corporation (Apollo Gold). Apollo Gold is also in the process of putting the Standard Mine into production, approximately 12 miles north of Spring Valley.

The first mention of mining in the Spring Valley District dates to 1868, when the Bonanza King gold mine began operation. Production is estimated to be on the order of \$50,000, with the majority of the value in gold, with lesser silver (Johnson, 1977).

Placer gold was discovered in Spring Valley Canyon in 1875, with total production from both Spring Valley Canyon and American Canyon to the south estimated to be on the order of \$10 million (Ransome, 1909) or the equivalent of 500,000 ounces (Nevada Bureau of Mines, 1964). The United States Geological Survey (1973) reports, "The placers in the Spring Valley district are said to be the most productive in Nevada. Placer production estimated to be as much as \$10 million, largely from American and Spring Valley Canyons, is attributed to early work by Chinese placer miners... It is generally supposed that the Chinese miners never revealed the amount of placer gold recovered from the area, and, indeed, shipped large amounts of their proceeds out of the country." Echo Bay (2001) quotes rough estimates of between 100,000 and 300,000 ounces of placer gold production from Spring Valley Canyon prior to 1920.

The source for the gold in the Spring Valley Canyon placer deposits had never been located. In 1996, working under the assumption that the source was buried by the alluvial deposits of Spring Valley, Kennecott Minerals Company (Kennecott) began exploration for the source of the placer gold train. Kennecott drilled four holes, one of which (KSV-2) intersected 40 ft grading 0.026 oz Au/ton from quartz stockwork mineralization in rhyolite immediately below the gravel unconformity (Echo Bay, 2002).

In August 2000, Echo Bay entered into an Option to Purchase Agreement for the Spring Valley Property. Since then, the following exploration work has been completed on the property (Echo Bay, 2003):

During the year 2000:

- Project land status was ascertained and a land map generated.
- Reconnaissance-scale mapping and sampling was initiated and progress maps (geology, sampling results) compiled. Forty surface rock chip samples were collected from the property and surrounding area. Most of the rock samples were taken from adjacent areas due to the alluvial cover in Spring Valley. In addition to location, most samples also have rock descriptions available (Echo Bay, 2001). One sample from the road cut outcrop returned 0.079 oz Au/t. Reconnaissance geologic mapping of the hills surrounding Spring Valley was completed at a scale of 1:6000.



- Aerial photos were obtained.
- Geodetic Associates Inc. completed a detailed gravity survey of the Spring Valley Property. A total of 249 gravity stations were acquired using a LaCoste & Romberg Model-G gravity meter. Topographic surveying was performed with a Trimble Real-Time Kinematic (RTK) GPS. Stations were acquired at 250-ft and 500-ft intervals along lines spaced 600 ft apart. A total of eight lines, covering most of Section 34, were included in the survey (Magee, 2000). Contouring of the raw bouguer values yielded two important features. A buried topographic ridge trends roughly east-west across the basin and Spring Valley is composed of two gravel-filled basins, each with about 200 ft of gravel fill (Magee, 2000; Echo Bay, 2001).
- Zonge Geosciences Inc completed three lines of dipole-dipole IP/Resistivity over the target area. The survey totaled 3.64 line-miles with a dipole length of 400 ft. Although several features were seen in the electrical responses, Echo Bay did not interpret any strong sulfide signatures. Most of the basin appeared to be underlain by rocks with very low resistivity and low chargeability; possibly caused by deep oxidation. Because of the dipole spacing and the depth of gravels, any response from zones narrower than about 200 ft may not have been observed. The Cretaceous granodiorite, with its high resistivity and high chargeability, was well mapped by the geophysics on the west side of the basin. The Black Ridge Fault marks a change from higher IP and resistivity responses in the footwall to lower responses in the hanging wall (Moezzi and McKinney, 2000; Echo Bay, 2001).

During the year 2001:

- Seven RC holes were drilled for a total of 3,305 ft.
- Metallic screen check assays were obtained on drill intervals with quartz veining.
- Four claims, encompassing 80 acres, were added to the property.
- Geodetic Associates Inc. applied a 3-D gravity modeling technique to the previously acquired gravity data. Depth-to-bedrock data from the drilling was also included. The “first-order” residual model yielded a realistic bedrock model, supporting the idea of an east-west-orientated bedrock high adjacent to the Black Ridge Fault. The gravity survey provides a general idea of the thickness of the alluvium (Magee, 2001; Ellis, 2001)
- In November 2001, Geodetic Associates Inc. completed a Total Field ground magnetic survey at Spring Valley. A total of 2.75 line miles, mostly on the east side of the valley, were acquired using Geometrics G-856 magnetometers. The same grid established for the gravity survey was used and the survey was roughly centered on drill hole ESV-2. Stations were acquired at 50 ft intervals on east-west lines 600 ft apart. Six lines were completed (Magee, 2001). The contoured results (total magnetic intensity – reduced-to-pole) indicate a strong magnetic low under ESV-2 and a strong magnetic high under the extreme east side of the valley. These signatures likely reflect bedrock variation from Rochester Rhyolite to granodiorite, and may mark the position of the Black Ridge Fault (Echo Bay, 2002).



During the year 2002:

- Twelve RC and two diamond drill core (core) holes were drilled totaling 9,288 ft. The results are included in the discussion on drilling in Section 11.0.
- Seven bottle roll cyanide recovery tests were completed on drill sample assay rejects. The results are included in the discussion on mineral processing and metallurgical testing in Section 16.0
- Land title work and maps were upgraded and 24 claims were staked.
- Thirty soil samples were collected as an initial test at the base of the hills flanking the east side of Spring Valley (Echo Bay, 2003). The samples were collected from the “B”-soil horizon, sieved to minus 80 mesh at the lab (according to Midway Gold documentation; no assay certificates are available, and then assayed by the one-assay-ton fire assay with atomic absorption finish (1 AT fire-AA) method. All samples returned background gold and trace metal values. These results were unexpected because several of the samples were reportedly collected from residual soils adjacent to gold-bearing quartz veins.

After Echo Bay had released their interest in the initial Spring Valley claims (SV 1-44), Midway Gold optioned them from the owner, Paul Schmidt. Subsequently, Midway Gold signed an option agreement with Echo Bay (subsequently Kinross Gold) for the additional SV claims (SV 51 through SV 54 and SV 60 through 83) that had been staked by Echo Bay in 2001 and 2002 (see Section 4.2). Midway also staked an additional 34 claims in 2003 and an additional 16 claims during 2004.



## **7.0 GEOLOGIC SETTING**

### **7.1 Regional Geology**

The Humboldt Range is a north-trending uplift of rocks ranging in age from Permo-Triassic to Quaternary. The range has been cut by a series of north-trending, high-angle faults that result in the development of a series of horsts, grabens and fault blocks that traverse the range. The oldest units exposed in the central Humboldt Range are metavolcanic rocks of the Permo-Triassic Koipato Group: the Limerick Greenstone, the Rochester and Weaver Rhyolites, and an associated leucogranite. This group of rocks is in fault contact with the Triassic Natchez Pass and Prida Limestones. Cretaceous granodiorite intrudes the Permo-Triassic units. Quaternary alluvial and colluvial deposits overlie all of the older units. Figure 7.1 is a map showing the regional geology.

### **7.2 Regional Mineralization**

The Humboldt Range is one of Nevada's most prolific mineral producers and contains significant gold-silver deposits generated during four distinct metallogenic epochs (Figure 7.2). A Permo-Triassic intrusive event (post-Rochester Rhyolite, pre-Weaver Rhyolite) produced gold-bearing quartz-tourmaline veins in a co-magmatic island-arc volcanic pile. The greenstones and overlying rhyolites of the Koipato Group and a thick sequence of overlying Triassic limestone and fine-grained clastics were subsequently intruded by widespread granitic plutons during Cretaceous time. This intrusive event produced numerous base and precious metal vein and vein-stockwork deposits, including: Coeur d'Alene's large Rochester deposit and their Nevada Packard system; the Spring Valley prospect, the subject of this report; the Unionville district, a few miles to the north; and the Dunn Glen district, twenty miles north of Spring Valley. A mid-Tertiary age has been ascribed to Triassic sedimentary-rock-hosted gold deposits at Relief Canyon, ten miles south of Spring Valley; at Willard, at the south end of the Humboldt Range; and for the Standard gold system, fifteen miles north-northwest of Spring Valley. The large Florida Canyon gold deposit at the north end of the Humboldt Range, and the mercury occurrences along the east range-front, are believed to be late Tertiary in age (Echo Bay, 2001).

There are several features that distinguish the Cretaceous mineralization from the Tertiary mineralization. The younger (Tertiary) systems tend to be located along range margins (extensional setting), in Triassic clastic/carbonate rock sequences. The older (Cretaceous) mineralization, in Permo-Triassic rhyolite, tends to be located in interior basins and hills (compressional setting related to intrusive activity). Gold placers are more commonly associated with Cretaceous mineralization (Echo Bay, 2001).



Figure 7.1 Regional Geology

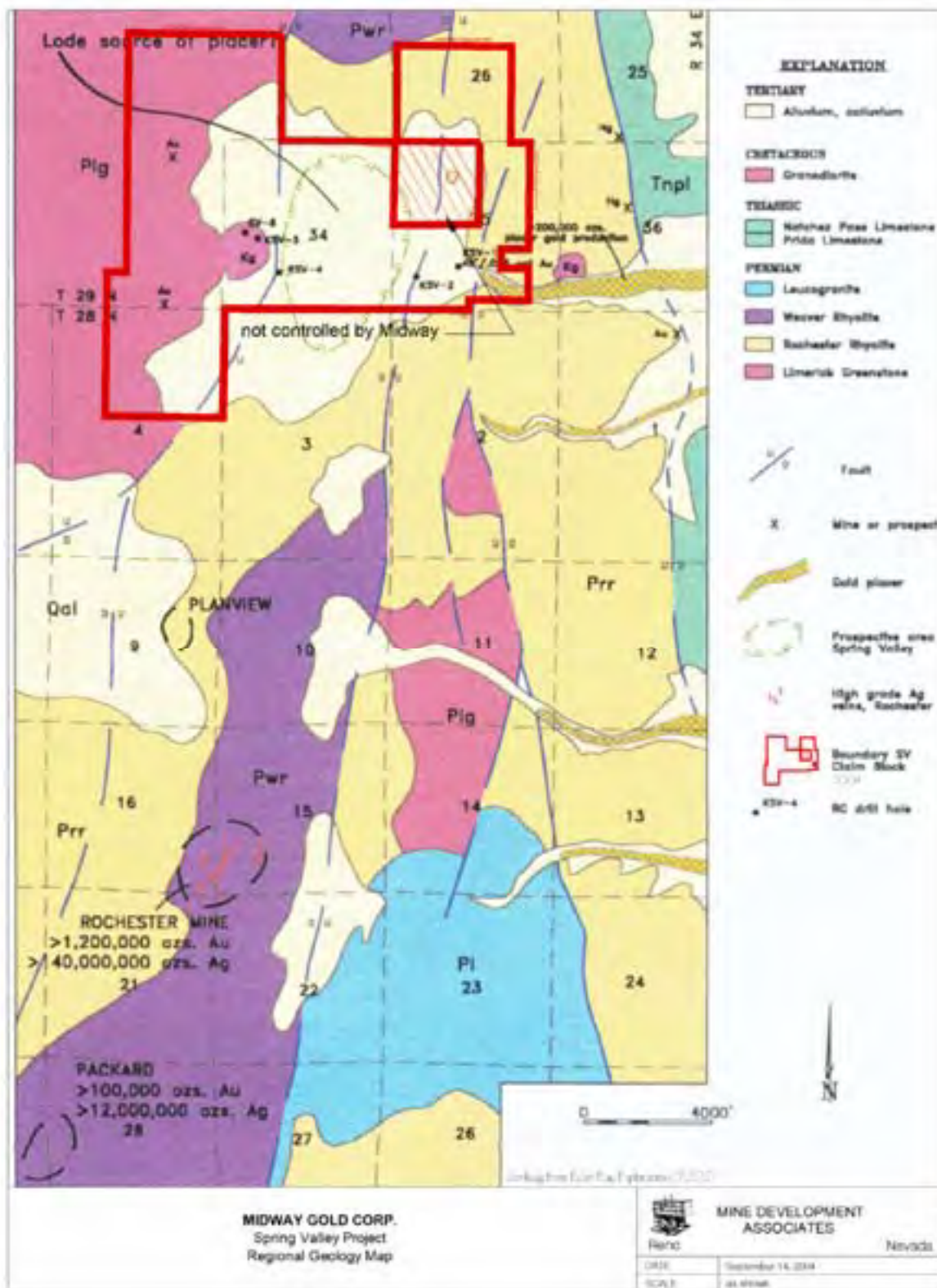
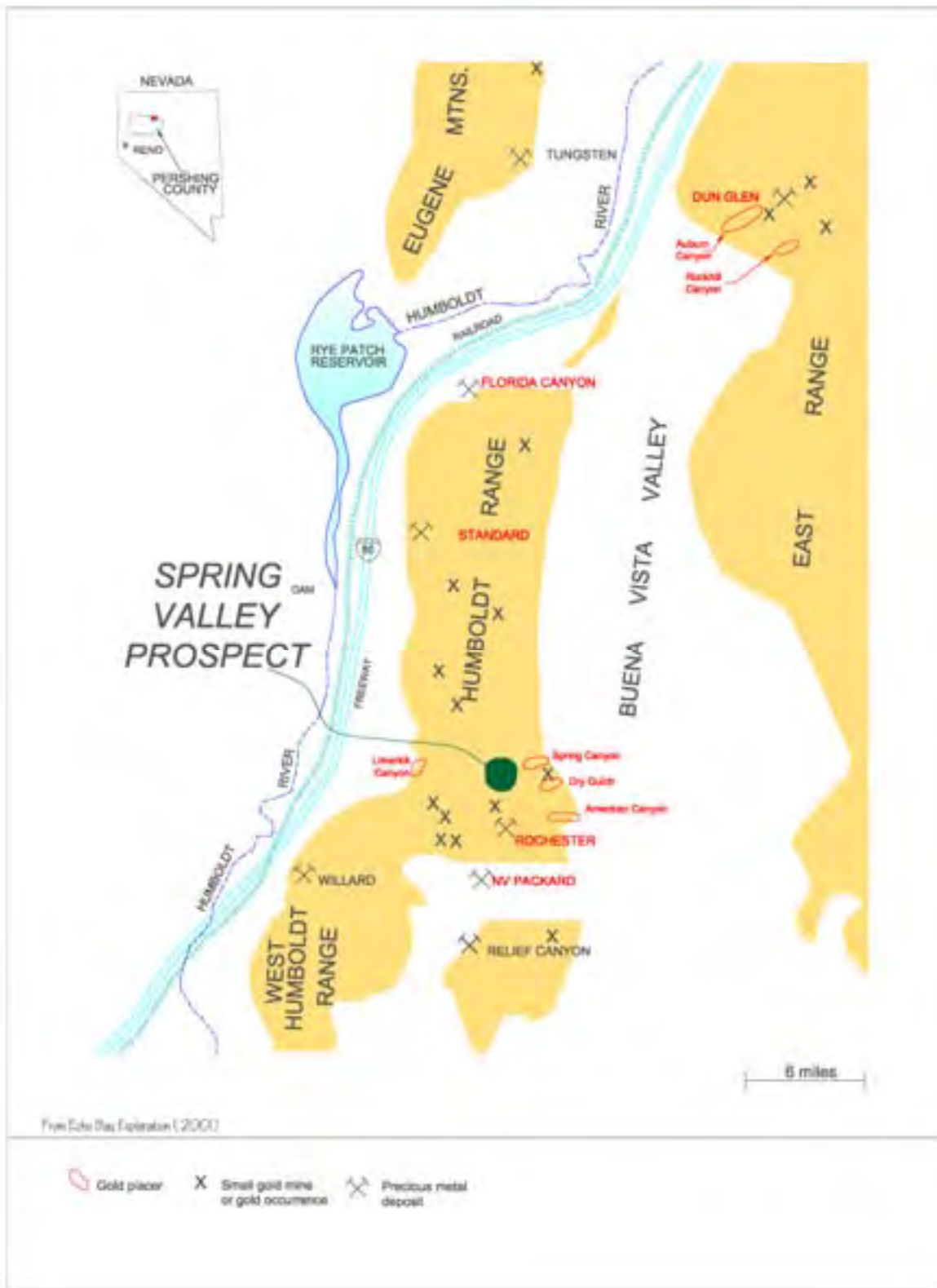




Figure 7.2 Precious Metals Deposits in the Humboldt Range





### 7.3 Local Geology

The following discussion is adapted from Neal (2004).

The main area of interest lies beneath valley fill gravels and mud flows of the Spring Valley intermontane basin. The hills on the east are composed of rhyolitic volcanics identified as Rochester Formation of the Permo-Triassic Koipato group. The hills to the west are composed of andesitic volcanic and volcanoclastic rocks of the Limerick Formation. These rock types are separated by the Spring Valley Fault, which lies mostly beneath the alluvial gravels. The 2004 drill cuttings are currently being relogged by Midway Gold and consequently the understanding of the geology is not yet complete.

Although additional relogging of the drill cuttings and additional core drilling will be required to confirm it, a diatreme that is bounded by the Spring Valley and Black Ridge Faults may underlie the Pond Area (Figure 7.3). Figures 7.4 and 7.5 present cross sections for reference.

#### 7.3.1 Lithology

**Quaternary Alluvium (Qal):** Alluvial valley fill gravels and clay vary from 0 to 350 ft thick. In the Pond Area drilling, this unit is from 45 to 350 ft thick. A “Heterolithic Tuff” unit identified on previous logs appears in core to be a clay rich type of valley fill sediments. It is included here as part of the Qal.

**Rochester Formation:** This is the youngest rock on the project and is dominantly made up of flow banded and spherulitic rhyolite, lithic tuff, welded and unwelded tuff, and minor interbeds of tuffaceous siltstone. Lithic tuff on the north side of the valley has very large, angular to sub-rounded clasts of rhyolite. Below this the lithic tuff also has large clasts of limestone and siltstone. On the north side of the valley, the beds strike NNW with a 50° dip to the east. Near the Spring Valley Fault the beds are vertical. The rhyolite on the south side of the valley is composed of massive rhyolite flows with few marker horizons. The dip of the rhyolite is uncertain in this area. Lithic tuffs as seen on the north side of the valley were not observed on the south side.

These rocks were identified as Rochester Fm. based on criterion used at the Rochester mine, where mineralization occurs at the contact of Rochester Fm. with the overlying Weaver Fm. At the Rochester mine, rhyolites of the Weaver Fm. have large rounded phenocrysts of quartz. Rhyolites with glassy matrix or disseminated pyrite or small quartz phenocrysts are classified as Rochester Fm. No Weaver Fm. was identified in Spring Valley.

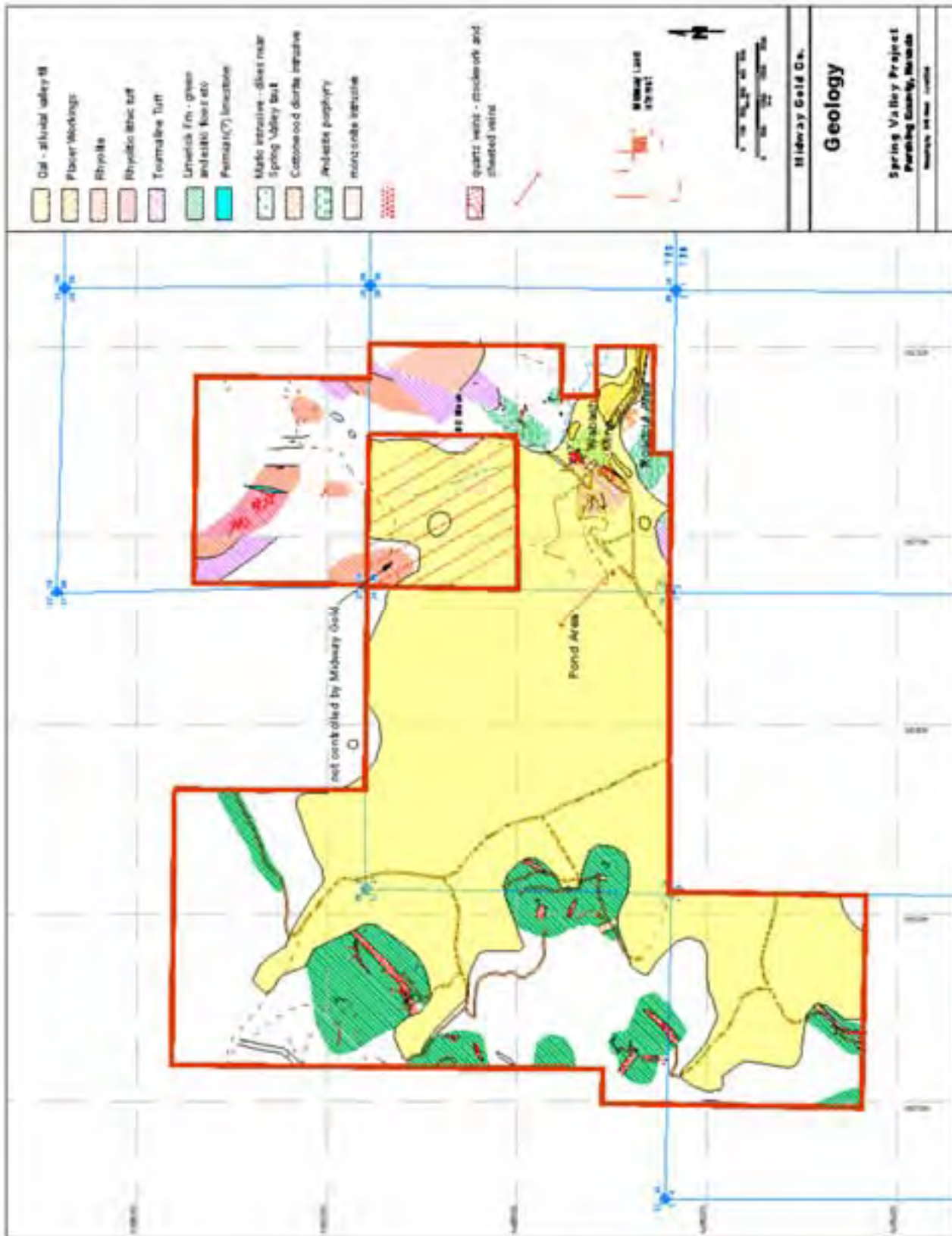
Within the Pond Area drilling, the Rochester Fm. is a spherulitic rhyolite. Thin, irregular lithic tuff and feldspar-rich crystal tuff are present, but were not broken out as separate map units.

**Tuffaceous Siltstone/Sandstone:** A distinct white, poorly cemented siltstone with local fine-grained sandstone layers underlies the spherulitic rhyolite. Pervasive fine-grained disseminated tourmaline needles are ubiquitous in this rock type. Locally lieegang banding follows cross bedding. Graded bedding was noted in the sandstone layers. This unit thins and pinches out to the north, south, and west. In the center of several sections, the siltstone sags downward over a structure that caused significant offset in underlying rock types. The siltstone is only displaced a small amount or may





Figure 7.3 Local Geology







have filled a topographic low above the structure. Tuffaceous siltstone was previously logged as greywacke. Due to its poor cohesion, much of the silt appears to have been washed away in the RC holes. Fine grained sandstone with tourmaline characterizes this unit in the RC chips. Similar rock is exposed on the north ridge, 1000 ft east of the Spring Valley Fault.

Regionally this unit is part of the Rochester Formation.

**Tourmaline Tuff:** Tourmaline-altered welded tuff underlies the siltstone and was previously logged as Flow Banded Rhyolite. The lower part of the unit has discontinuous banding caused by well developed fiamme. The blue-gray to black color is distinctive and appears to be caused by strong tourmaline alteration, although this has not been confirmed by petrography. This tuff is a unique marker horizon and appears to be the same unit exposed in the NE Block at the surface, where banding due to fiamme development is near vertical with a strike ranging from N10°E to N10°W. Exposure of this unit is restricted to the NE Block except for a thin wedge along the Spring Valley Fault on the north side of the basin. In the drill sections it varies from about 50 to 150 ft thick.

Regionally this unit is part of the Rochester Formation.

**Breccia/Conglomerate:** This heterolithic fragmental rock has poorly sorted, angular to sub-rounded clasts up to a foot across of various volcanic rock types, including tourmaline tuff and spherulitic rhyolite. Aphanitic, silicified fragments with little internal texture are common. Quartzite and red shale were also identified. The unit is clast-supported with no sedimentary bedding features or preferred orientation of clast axes. Overall, clast lithologies are thoroughly intermixed. Local intervals occur where clasts are dominated by one lithology. Quartz veins cut both clasts and matrix with offset of clast margins. This unit is well represented in the core, but can be difficult to recognize in RC chips. It underlies the Tourmaline Tuff in nearly every drill hole logged, but has not been found at the surface.

**Feldspar Porphyry Rhyolite:** Intrusive rhyolite with feldspar phenocrysts is present in the bottom of several holes. This rock type is often intensely quartz-sericite altered. A greenish aphanitic rhyolite, occasionally with fine grained quartz phenocrysts, also appears to be an intrusive rhyolite, although it is not clear if it is a phase of the same intrusion.

**Andesite Porphyry:** On the eastern edge of the mineralized area, andesite porphyry underlies all other rock types. It has a green matrix with dark green mafic phenocrysts. No foliation or banding was observed. Over 400 ft of andesite porphyry was drilled in KSV-1. This rock type is exposed east of the Wabash Fault at the surface. Scattered outcrops of diorite were observed within the andesite porphyry; the contact with andesite appears to be gradational but exposures are poor.

**Limerick Formation:** This is the main rock type in the western portion of the project area. It appears at the same stratigraphic level as the andesite porphyry, but the andesite porphyry does not exhibit foliation. The Limerick Fm. consists of chlorite and epidote altered andesite porphyry and subsidiary mafic volcanics and volcanoclastics with varying degrees of foliation. For mapping purposes, no attempt was made to delineate different lithologies within the Limerick Fm.; the rocks were grouped together as greenstones. Limerick greenstones are cut by rhyolite sills that are similar in appearance to Rochester Fm. These sills commonly have a greenish aphanitic groundmass and locally contain fine grained quartz phenocrysts. Many of the sills appear to be silicified with sericitic



alteration and fine grained disseminated limonite after pyrite cubes. The sills consistently host quartz and quartz-tourmaline veins in the map area. These sills are exposed in the JL prospect.

An intrusive body was intercepted in the KSV3 drill hole, where it is associated with a strong but aerially limited magnetic anomaly. A high voltage power line crosses the center of the anomaly, raising questions about the geophysical response. The KSV3 drill chips have not been re-logged, so the character of the KSV3 intrusive is unknown.

### **7.3.2 Structure**

The Spring Valley Fault displaces Limerick Fm. against Rochester Fm. Most of its course is beneath alluvial gravels and its trajectory is mapped from drill holes and indirectly through geophysical data. Exposures on the margins of the basin reveal a complex fault zone. On the south, a NE-striking branch of the fault is displaced northward by three N-S faults, one marked by a 50 ft wide zone of silicified breccia cutting rhyolite. On the north, the Spring Valley Fault strikes N-S with subparallel faults to the east and several NE-striking cross faults. Controlled Source Audio-Magnetotelluric (CSAMT) data indicate that the Spring Valley Fault has a NE strike beneath the gravel and is offset by a NW structure not identified in outcrop. The NE strike of the fault is confirmed by drill hole data. Drill hole KSV4 intercepted Limerick under shallow gravel cover. Drill holes ESV1 and ESV7 intercepted Limerick under 200 to 300 ft of gravel cover.

The regional Black Ridge Fault is associated with mineralization at the Florida Canyon mine, Nevada Packard mine, Rochester mine, and at Unionville, and is recognized at Spring Valley as a strong north-south linear. At the Rochester mine, the fault occurs as broad zones of indistinct structures (Kurt Cato, personal communication to B. Neal). Specific north-trending structures related to the Black Ridge Fault have not been identified at Spring Valley, perhaps due to lack of appropriate exposure.

Several NE-trending faults on the east side of the valley displaced tourmaline tuff against other rock types. One such structure, the Wabash Fault, dips 70° to the NW in the Wabash mine. Gouge exposed in a mineralized road cut to the south appears to be the same fault. These NE faults appear to bound surface exposures of tourmaline tuff and define the informally named "NE block". Additional subparallel faults to the west are evident in the drilling. A NNE-trending fault on the ridge north of the Wabash, which may be part of this same set, has a wedge of limestone caught up in the fault.

The Wabash breccia is exposed in a large pit at the Wabash mine in the hanging wall of the Wabash Fault. The breccia looks similar to alluvial sediments, with rounded boulders to sand size fragments and little visible matrix. Near the base of one pit wall, the breccia matrix is altered to quartz-sericite-pyrite. The historic Wabash mine sank a shaft in the andesite porphyry footwall and reportedly extracted high-grade silver ore from the breccia. Two samples in the Midway database returned assays from the breccia of 5.83 and 2.62 oz Ag/t with 0.002 and 0.001 oz Au/ton respectively.

Near-vertical faults with strikes ranging from N-S to N40°E identified in the Limerick Fm. consist of sericitized shear zones with quartz veins and limonite staining. Near the intrusive intersected by KSV3, mariposite(?) and barite were present in the veins. The faults offset rhyolite sills in three locations, including the JL prospect.



CSAMT data indicate three NW-trending faults beneath the alluvial gravel (Wright, 2004). These faults appear to cut off NE-trending faults, including the Spring Valley Fault, which is displaced to the NW. Drill data indicate that the southernmost NW fault terminates the mineralized zone and passes between SV42 and SV43. Drill hole geology indicates that the fault throw is down to the south. A second NW fault is projected through the northernmost mineralization. Pertinent drill holes have not yet been re-logged. The third NW fault lies along the northern edge of Spring Valley. It is not clear what effect these NW faults have on the prominent NE faults along the NE block.

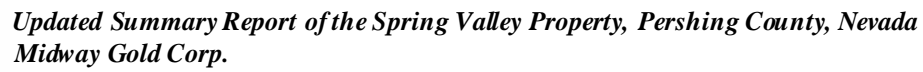
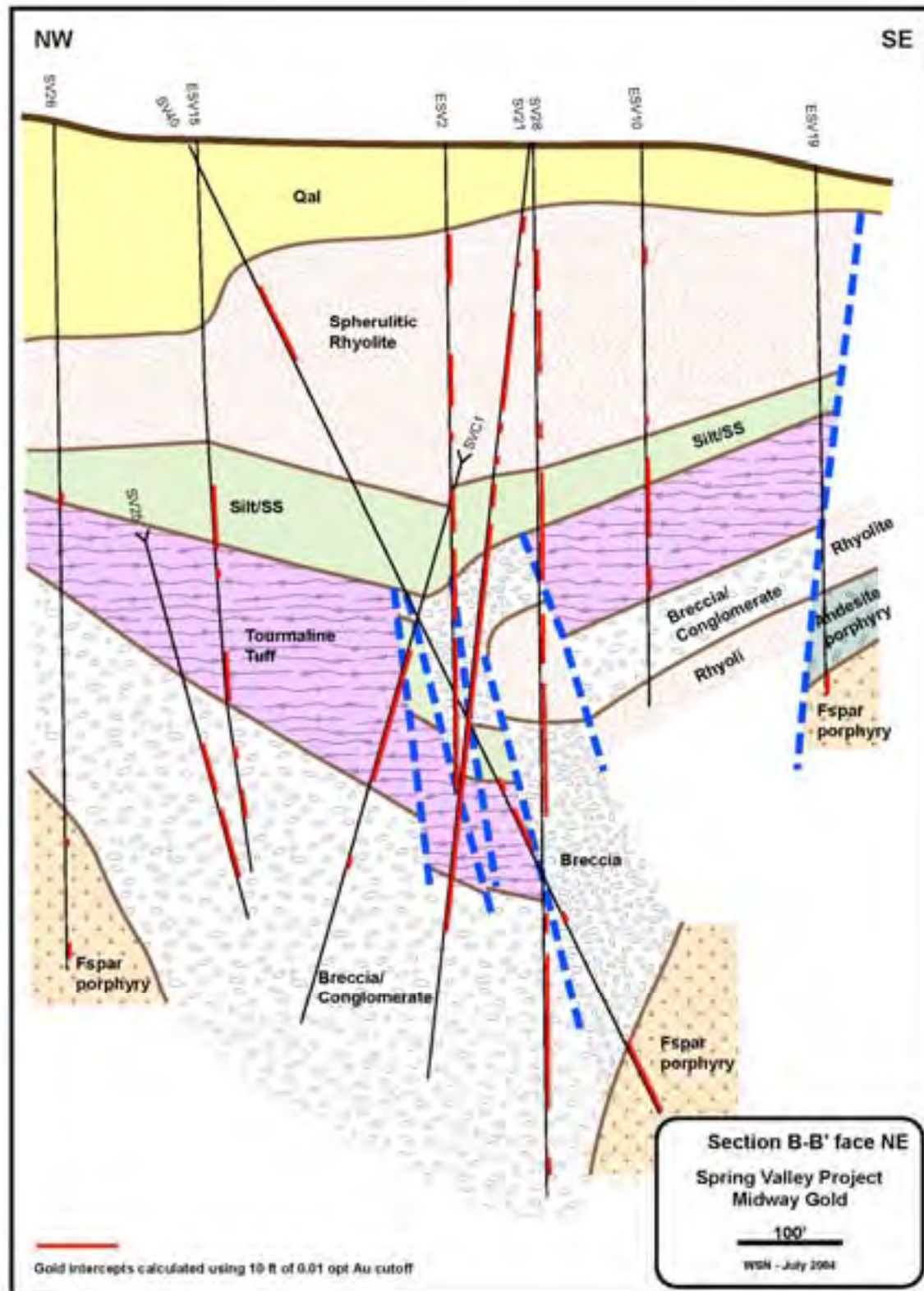




Figure 7.5 Drill Section B-B'





## **8.0 DEPOSIT TYPES**

The Spring Valley mineralization type is not completely understood at this time, however it is hydrothermal in origin. Gold mineralization is associated with quartz and quartz-tourmaline veins. Almost all gold mineralization is within quartz-sericite alteration, although not all quartz-sericite alteration contains gold.

Preliminary conclusions based on the ongoing remapping of the surface and relogging of the drill holes together with the geophysics are that the breccias shown in Figure 7.5 may be related to one or more diatremes that are not exposed at the surface. The quartz-tourmaline veins are suggestive of a possible connection to a porphyry system.



## 9.0 MINERALIZATION

The gold mineralization at Spring Valley is, for the most part, buried by 50 to over 200 ft of alluvial gravel. Some of the gravels contain minor amounts of gold, and farther downstream there are extensive historical placer workings. There is one outcrop of mineralization on the property that is similar in style to the mineralization encountered in the drilling of the Pond Area. This outcrop is on the east side of the Black Ridge Fault, while the drilling predominately encountered mineralization on the west side of the Black Ridge Fault. The descriptions of alteration and mineralization given below are adapted from Neal (2004).

### 9.1 Alteration

Tourmaline alteration and quartz-sericite-pyrite alteration are the dominant alteration suites in the Pond Area drilling. The strongest tourmaline alteration occurs in the tourmaline tuff. Disseminated tourmaline is common in the overlying siltstone but is nearly absent in the upper spherulitic rhyolite. Tourmaline is disseminated erratically and occurs in sparse veinlets in the underlying breccia/conglomerate and in the intrusive feldspar porphyry.

At the surface, tourmaline alteration occurs as disseminated needles, as fine-grained alteration along veinlets, and as massive to selective replacement of layers. Fine-grained tourmaline replacement has not been confirmed by petrographic studies. Tourmaline is primarily confined to the tourmaline tuff in the NE Block, but also occurs along veins in rhyolite well beyond known exposures of tourmaline tuff on the extensions of the NE block.

Silicification and bleaching associated with quartz-sericite alteration occurs in all rock types cut by the drilling in the Pond Area. Quartz-sericite alteration forms wide selvages around quartz and quartz-tourmaline-pyrite veins. In some areas of strong alteration, only minor veinlets were observed. Gold mineralization in spherulitic rhyolite, tourmaline tuff, breccia/conglomerate, and feldspar porphyry are always associated with quartz sericite alteration. Tourmaline tuff is strongly bleached by quartz-sericite alteration, suggesting that the tourmaline is earlier and is destroyed by the later alteration.

At the surface, quartz-sericite alteration with locally abundant pyrite occurs with quartz veins along NE-trending fault zones. The Wabash Fault northeast of the Wabash mine has strong quartz-sericite alteration of andesite porphyry wall rocks. Silicification was noted in rhyolite along the NE block. Sills cutting the Limerick Fm. commonly have varying degrees of quartz-sericite alteration.

Carbonate alteration of the Limerick Fm. was observed at the Duffy prospect and adjacent to the Spring Valley Fault, near the intrusion cut by drill hole KSV3 at the JL prospect. No direct correlation of carbonate alteration with gold mineralization was noted.

### 9.2 Gold Zones

The preferred hosts for mineralization are the tourmaline tuff and the breccia.

In the Pond Area drilling, the highest gold grades occur with abundant quartz-tourmaline veins in a stockwork zone(?) with strong sericite alteration, with or without disseminated limonite after pyrite. Coarse gold was identified in reports by Ristorcelli (2003) and Pitard (2004). It was suggested by Pitard that standard assaying techniques would under-report the gold content of the deposit. A brief review of



metallic screen assays by Echo Bay found significant variations in both a positive and negative direction compared to fire assay (Pitard, 2004).

Gold mineralization in siltstone in the Pond Area drilling is associated with silicification and quartz-tourmaline veins in core. Caution should be exercised with regard to gold grades in siltstone drilled by RC holes. A number of RC holes intercepted good gold grades in the siltstone, but there are no similar intercepts in core holes. This may be due to selective up-grading of the gold values by washing out friable siltstone during wet RC drilling. This could lead to selective concentrations of altered gold-bearing portions of the siltstone in the RC samples, yielding assays that would not represent the true grade of the interval. Similar problems were not observed in drilling of other units at Spring Valley outside of the siltstone unit (Neal, 2004).

Quartz-sericite alteration is commonly associated with the veins. Rock and soil sample assays identified two areas of gold mineralization at the surface in Spring Valley (Fig. 10.1). The largest area is associated with the tourmaline tuff in the NE Block. The smaller target is the JL prospect with veins in a rhyolite sill cutting Limerick Fm.

Gold mineralization has been detected in an area over 9,000 ft in length within the tourmaline tuff in the NE Block. Higher grades (up to 0.242 oz Au/t) occur in quartz-tourmaline veins cutting either quartz-sericite or tourmaline altered rhyolite. The NE Block includes the Wabash breccia and mineralization in the Road Cut area. Some quartz-tourmaline veins and stockwork found along this trend did not return significant gold assays. Extensive placer workings in Spring Gulch terminate where the NE block crosses the east end of Spring Valley.

Sheeted quartz-tourmaline veins in silicified rhyolite host gold in the Road Cut area. The veins occur adjacent to the NE-trending Wabash Fault and strike east-west with dips from 60° to 80° south. Veining in the rhyolite decreases with increasing distance from the fault; no veins were observed beyond 50 ft from the fault. Midway Gold sampling of the road cut returned an apparent width of 62 ft of 0.010 oz Au/ton, with a high of 0.044 oz Au/ton over an apparent width of 3 ft; Echo Bay sampling returned a 0.079 oz Au/ton assay from the area. East of the fault, no gold was detected in sericite altered andesite porphyry. Drill data from KSV1 and surface mapping indicate that the rhyolite is a sill with an andesite porphyry footwall and a tourmaline tuff hanging wall.

Principle quartz veins around Spring Valley most commonly strike N20°E to N20°W with moderate to high-angle dips. Smaller stockwork quartz veins of highly variable orientations are common between the principle veins. Within the NE Block, veins have either an east-west strike with a high-angle southerly dip or a NNE strike with a high-angle westerly dip. East-west striking veins are rarely observed outside of the NE Block.

Intercepts from 0.2 oz Au/ton to greater than 1 oz Au/ton were encountered in a few holes. These higher-grade zones are associated with the greatest concentration of quartz-tourmaline veins. Assay variability and metallic screen analyses indicate the presence of coarse gold. The gold at Spring Valley is not associated with silver, lead, zinc, and copper, although these metals do occur in gold-poor veins on the property. The highest silver value encountered in the drilling was 9.6 g Ag/t; virtually all other values were less than 3 g Ag/t. After the initial phase of drilling, samples were not assayed for silver.





Three-dimensional viewing of the drill hole intercepts in Minesight® software suggests that the mineralized zone plunges at 220°/-10°. High-grade intercepts within this mineralized zone are not sufficiently defined by drilling to determine their geometry, but they appear to be consistent with the overall plunge of the zone.



## **10.0 EXPLORATION**

The following sections describe past work done on the Spring Valley Property by Global Geologic Consultants Ltd. on behalf of Midway Gold.

### **10.1 Ground Acquisition**

An additional 50 claims were staked by Midway Gold in 2003 and 2004.

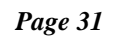
### **10.2 Petrography**

Ten samples from the two core holes were examined in thin section by Don Hudson, a Reno, Nevada-based petrographic consultant. Samples were selected from all the main rock units and represent a variety of alteration and mineralization types. Key findings from this work (Hudson, 2003) show that:

- The main alteration phase in the system is sericitic;
- Potassic feldspar alteration was not present; and
- Kaolinite was less common and likely represents a later alteration due to pyrite oxidation.

### **10.3 Prospecting**

Figure 10.1 shows the gold values from rock chip and soil sampling undertaken as part of surface exploration work completed on the project.

[illegible]



## **10.4 Geophysics**

Zonge Geosciences of Reno, Nevada completed a 14 line CSAMT survey over the central portion, or basin area, of the Spring Valley property. Line orientations are E-W and N20°W, with a line spacing of 150m. Eleven E-W lines were intended to map structures extending from the Rochester district into the property from the south. Three N20°W lines were intended to investigate a mapped structural trend with associated gold values. Lateral resolution along the lines, set by the electric dipole spacing, is approximately 50m.

The CSAMT survey identified a number of anomalous features thought to represent resistive bodies associated with silicification (Wright, 2004). Wright proposed drill testing these anomalies to define the features further. The CSAMT survey confirmed the bedrock high shown by the earlier Echo Bay gravity survey. Drilling within this area indicates that the geophysics is mapping a rock contrast between the alluvium and the underlying mineralized rhyolite volcanic sequence.

## **10.5 Mapping and Relogging Drill Cuttings and Core**

As part of their exploration program, Midway Gold remapped the property and relogged the core and RC drill cuttings. The core and drill cuttings are in the process of being relogged again. The results of this work are discussed in Sections 7 and 9.

## **10.6 Drilling**

Drilling done by Midway Gold is discussed in Section 11, below.



## 11.0 DRILLING

Information about Echo Bay's drilling was taken from their annual project reports. Midway Gold provided the information about their drilling programs. A list of all drill samples grading 0.03 oz Au/ton or greater and 0.10 oz Au/ton or greater are presented in Appendix C.

Kennecott, Echo Bay and Midway Gold completed drilling on the Spring Valley project. Almost all of the drilling has been done in the Pond Area, which is shown in Figure 7.3. Table 11.1 describes the drill hole database. A drill map is shown in Figure 11.1. A list of the drill hole collar information is given in Appendix B.

**Table 11.1 Drill Holes**

Drilled By	Year	Core (ft)	RC (ft)	Total (ft)
Kennecott	1996	0	2,220	2,220
Echo Bay	2001	0	3,305	3,305
Echo Bay	2002	1,653	7,635	9,288
Midway	2003	0	15,540	15,540
Midway	2004	1,769	6,470	8,239
<b>Totals</b>		<b>3,422</b>	<b>35,170</b>	<b>38,592</b>

The drill collars for SV-20 through SV-28 have been surveyed by differential GPS with an accuracy of  $\pm 0.1$  m. The remaining holes have only been surveyed using hand-held GPS with an accuracy of  $\pm 6$  m. Down-hole surveys were conducted on holes SV-36 through SV-39. Collar locations were marked in the field by wooden pickets with aluminum tags inscribed with the hole names.

### 11.1 1996 Kennecott Drilling

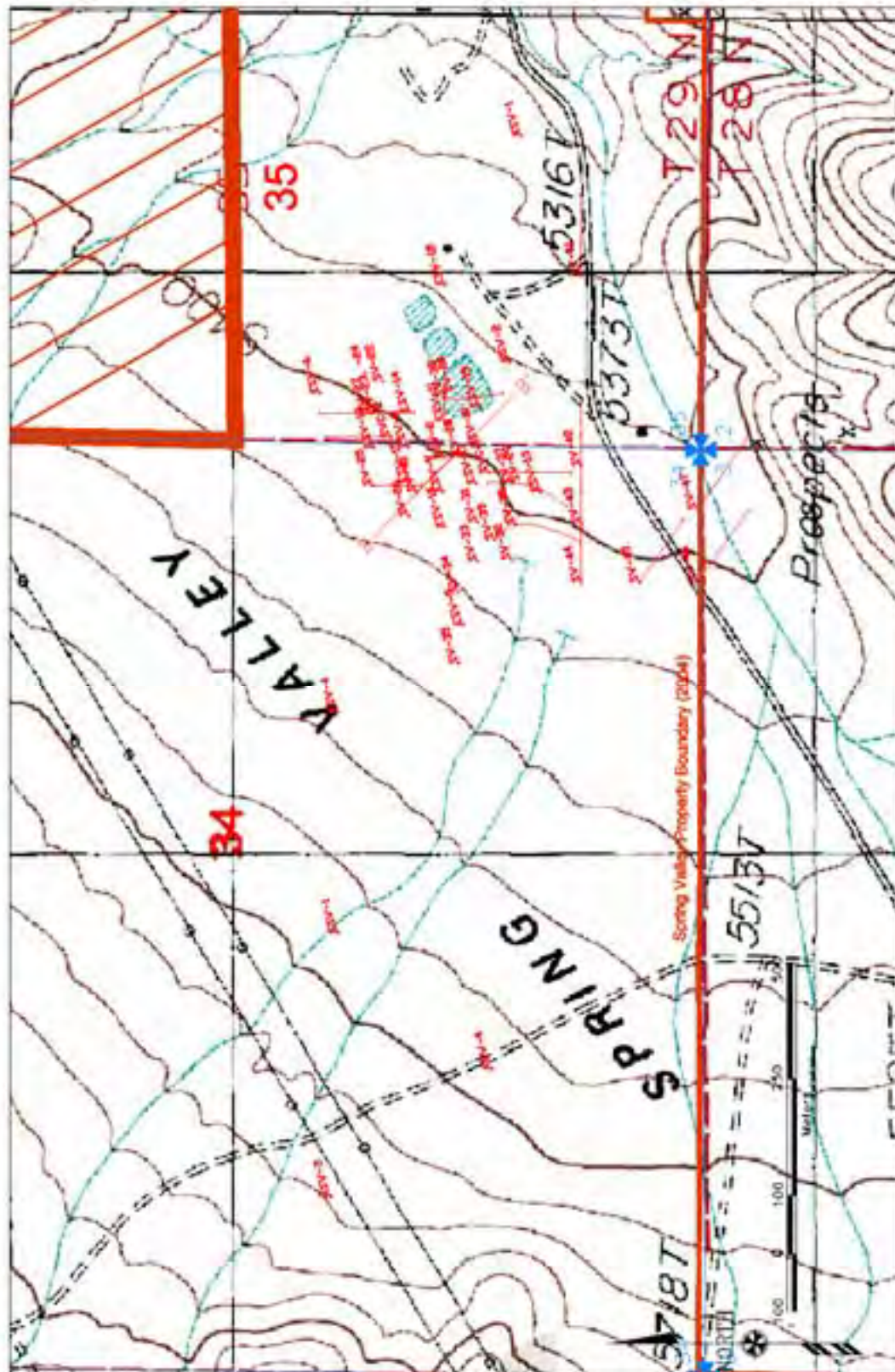
Kennecott drilled four RC holes totaling 2,200 ft. This work was done in March 1996 and assays, completed by Shasta Geochemistry Lab in Redding, California, included Au, Ag, Hg, Sb, and As. Details of this drilling are sparse, but it is assumed that industry standard sampling procedures were used and that groundwater was encountered during drilling.

Only six of the total 260 samples returned grades over 0.01 oz Au/ton. The highest-grade interval, 0.032 oz Au/ton, was in Rochester Rhyolite in drill hole KSV2 within the existing claim group (Figure 11.1).





Figure 11.1 Drill Hole Plan





## **11.2 2001 Echo Bay Drilling**

Echo Bay completed seven RC drill holes (ESV-1 through ESV-7, for a total of 3,305 ft) in 2001. Eklund Drilling Ltd. (Eklund Drilling), of Elko, Nevada provided an Explorer 1500 rig, utilizing 4 in. diameter drill rods with 4.5 to 5 in. bits, to complete the holes. Groundwater was encountered in all holes at depths ranging from 30 to 120 ft, with volume estimates of up to 60 gallons per minute (gpm). Most of the footage (including all mineralized intervals) was drilled with a skirted tricone bit to reduce sidewall contamination. The drill rig became underpowered beyond 500 ft and the tricone was significantly slower than the hammer. Penetration rates averaged 350 ft per day (Echo Bay, 2002). None of the holes had down-hole surveys. The collars were surveyed with a Brunton and tape.

## **11.3 2002 Echo Bay Drilling**

In April 2002, Echo Bay drilled six RC holes (ESV-8 to ESV-13, for a total of 3,280 ft) by contractor Eklund Drilling using an Explorer MPD-1000. ESV-10 and ESV-12 were terminated short of the planned 600 ft due to groundwater flows flooding out the hammer. None of the holes had down-hole surveys. The collars were surveyed with a Brunton and tape.

In August 2002, Eklund Drilling drilled another six RC holes (ESV-14 to ESV-19 for a total of 4,355 ft), using a TH-75 truck-mounted rig that had the capability to reach greater depth than the previous rigs. Groundwater inflows continued to hamper penetration rates and an advanced-technology tricone bit was used to complete the holes. All holes were surveyed down-hole by Wellbore Navigation, Inc of Elko, Nevada. The direction of the holes deviated once the tricone was employed. The greatest deviation was in ESV-14 and ESV-15, where the bottom of the holes showed an approximate 50 ft drift from the expected end-of-hole locations.

Also in August 2002, Layne Christensen drilled two HQ-sized core holes: SVC-1 drilled to 922 ft and SVC-2 drilled to 713 ft. The two core holes were intended to confirm the nature of mineralization as seen in the RC cuttings and that down-hole contamination was not occurring to any significant degree. Core recovery for drill hole SVC-1 was 81% overall, with 68% in the upper portion of the hole and 97% in the lower, mineralized portion. This hole encountered mineralization below about 550 ft. Hole SVC-2 had an average recovery of 91%.

Notes found in the database state that drill hole collar elevations are approximate and locations are +/- 10 ft relative to each other.

## **11.4 2003 and 2004 Midway Gold Drilling**

The Phase I drill program was started September 17, 2003 and continued through to December 18, 2003. Eklund Drilling utilized a truck-mounted TH-75 RC rig. Holes were cased to bedrock to prevent possible alluvial gold contamination. A total of 15,540 ft in 38 holes were completed. BSi Inspectorate conducted the gold analyses at their lab facilities in Reno, Nevada.

The Phase II drill program commenced January 25, 2004. Dynatec Drilling of Salt Lake City, UT provided an LF-140 truck-mounted core drill capable of depths to 3,000 ft with HQ rods. A five-hole, 6,000 ft program was planned to test structures and collect necessary geotechnical information. The core drilling was terminated due to drilling difficulties and subsequent untenable costs on February 21, 2004 after 1,769 ft had been completed in two holes.



A total of 6,430 ft of drilling was completed in 10 RC holes between February 18 and March 24, 2004 to conduct testing of several geophysical targets widespread throughout the valley. Lang Exploratory Drilling provided a track-mounted RC rig for this program.

During the Phase I and Phase II drill campaigns, a total of 23,739 ft of drilling was completed in 51 holes.

Two of the RC holes surveyed, SV-37 and SV-38, flattened significantly ( $-70^{\circ}$  to  $-50^{\circ}$  dip) and deviated by as much as  $34^{\circ}$ . This could indicate that the deviation was strongly influenced by structural controls. The geology of all drill holes was recorded on drill log forms and transferred electronically into the database. Rock Quality Designation (RQD) measurements were collected during the core logging procedure. A photographic log of each core hole was recorded as well.





## **12.0 SAMPLING METHOD AND APPROACH**

The descriptions in this section were taken from Echo Bay's annual project reports and Midway Gold's summary report.

### **12.1 1996 Kennecott Drilling**

Details of this drilling are sparse, but it is assumed that industry standard sampling procedures were used and that groundwater was encountered during drilling.

### **12.2 2001 Echo Bay Drilling**

A sampler provided by the drill contractor collected drill cuttings. An Echo Bay geologist was present during drilling. Drill cuttings were sampled from a rotary wet splitter at 1/8 splits. Sample intervals were five feet, however only every other sample was submitted for assay from the alluvial gravel overburden. Groundwater typically overflowed the sample container placed below the wet splitter, but the overflow was reported to be clear (Echo Bay, 2002).

Samples were transported to Bondar Clegg Analytical (Bondar Clegg) in Reno, Nevada, either by the geologist or by the lab pick-up service. A standard preparation procedure was employed to crush the sample to pass a 2-mm screen. Then 250 g were split, pulverized, and assayed for gold with a 1 assay-ton (30 g) charge and fire assay with an AA finish; silver was analyzed with aqua regia digestion and an AA finish. Inspection of the fire assay gold results revealed poor repeatability of values exceeding 0.029 oz Au/t. Consequently, for holes ESV-2, ESV-5 and ESV-6, a 250 g metallic screen assay method was used. For ESV-2, a total of 106 drill samples, from bedrock at 90 ft to the bottom of the hole at 620 ft, have both 1 assay-ton fire assay-AA finish and metallic screen gold values. In general, the screen assays were higher, but dramatic changes occurred in both positive and negative directions (Echo Bay, 2002). This will be discussed in more detail in Section 14.

### **12.3 2002 Echo Bay Drilling**

For the April drilling the holes were sampled every five feet. Roughly 15 pounds were retained from 1/4 to 1/16 splits collected through a wet rotary splitter at the rig. A sampler was assigned from the drilling crew and an Echo Bay staff geologist was present during drilling. Samples were taken to the lab by the geologist, or the lab picked them up at the rig. Analytical work was carried out by ALS Chemex. Intervals identified as potentially mineralized from field logging were analyzed for gold by metallic screen assay, and the remainder by one-assay-ton fire assay with an AA finish. Subsequently, the entire footage of holes ESV-8 through ESV-11 was re-assayed using the metallic screen method.

For the August drilling the sampling procedure was the same as the April drilling, but BSi Inspectorate Laboratories (BSi Inspectorate) of Sparks, Nevada did the assaying.

For the core holes no assaying was done of the alluvial overburden, except for SVC-1, where the 20 ft directly over the bedrock surface was sampled at five foot intervals and fire assayed. The core was photographed (although not all photos are now available) and logged by the geologist before being split with a hydraulic splitter. The core was sampled in five foot intervals, without regard to the geology, and metallic screen assays were performed by BSi Inspectorate.



## **12.4 2003 and 2004 Midway Gold Drilling**

For RC drilling, samples were collected at five foot intervals over the entire hole. A large volume sample of approximately 15 to 25 pounds was collected to allow for detailed sample prep procedures at the lab. Representative samples of drill cuttings were collected and stored at the drill site. Chip samples were collected for each five foot interval and stored in marked 20 compartment trays. These chip trays, as well as those from the Echo Bay and Kennecott drill programs, are stored in the Lovelock office.

Drill core was sampled based on lithology, alteration and structure. Generally, the maximum length of a sample was five feet, but could be as small as 0.5 ft if warranted. Drill core was sampled by splitting the core along its length using a mechanical splitter or rock saw. One-half of the core is retained in the Lovelock warehouse facilities and the other half was submitted for analysis. Drill core from all holes was photographed over the entire length prior to sampling.

For both RC and drill core, duplicate samples were collected approximately every 100 ft (20 samples). For RC drilling, this was done by placing a separate sample bucket under both the sample and reject sides of the cyclone. For core, a duplicate sample was initially collected by splitting the half-core to produce a quarter split. An analytical standard prepared by Dave Harvey from Rochester low-grade ore was inserted into the sample stream at 30 to 50 sample intervals as a check on assay lab quantitative accuracy. The Eze Mark core orientation tool was utilized in the study of drill core at Spring Valley. However, due to the highly fractured and broken nature of the core recovered, the tool was not found to be very effective and very few measurements were taken.

Samples were stored on site inside a locked storage container until picked up by the lab. A sample submission/requisition form was filled out and signed by the driver accepting the samples. This list was then compared to samples received by the lab and posted on the assay reports.



### **13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY**

For the 25 drill holes completed by Kennecott and Echo Bay, sample preparation and analyses and security, where known, were described in Section 12.0 and will not be repeated here. Special sample security procedures used during exploration by Echo Bay and Kennecott are not known and because of the stage of this project, it is assumed that no particular efforts beyond reasonable precautions were taken and standard procedures were used. MDA believes that the reputation of previous operators, the early nature of this exploration, and the known mineralization in the district and region adds credence to this project and its data. The work was done, as described in Section 12.0, to a level and quantity appropriate for this stage of exploration.

Sample preparation for Midway Gold was done at BSI Inspectorate in Reno, Nevada. The samples were initially dried and weighed. The entire samples were crushed using a jaw crusher to 100% -1/4 inch and further crushed using a roll crusher to 90% -10 mesh. The entire sample was then passed through a Jones riffle splitter and a 250 to 350 g sub-sample was taken. The sub-sample was pulverized in a ring and puck pulverizer to 90% -150 mesh to make a pulp. A two-assay-ton sub-sample of the pulp was split out for assaying.

The procedure was similar for metallic screen assays except that the initial sub-sample was approximately 1,000 g. The total of the +150 mesh fraction was assayed and a one-assay-ton sub-sample of the -150 mesh fraction was split out for assaying.

Analysis for gold for Midway Gold was done using fire extraction and atomic absorption determination. Higher values were rechecked using fire extraction and gravimetric determination. A number of samples were also analyzed using metallic screen assays. The analytical techniques for the +150 and -150 mesh fractions were the same as above, and the results mathematically combined to determine the gold content.

For sample security, the samples were kept at the job site in a locked container until a representative of the lab took custody of them and transported them to the lab.



## 14.0 DATA VERIFICATION

### 14.1 Check Assays

Echo Bay had a substantial number of check analyses done using metallic screen assaying procedures. MDA compiled these and came to the same conclusions as Echo Bay, namely that the metallic assays are on average slightly higher grade and that there is a significant variance on a sample-by-sample basis. Table 14.1 shows that the mean grade of the one-assay-ton samples by fire assay is 16% lower than the metallic assays for all samples with detectable gold, and 15% lower for all samples whose average grade of both samples is  $\geq 0.01$  oz Au/t.

The QA/QC program included inserting sample “standards” into the sample stream approximately every 40 samples and one blank per hole.

The high variances, scattered between paired samples, and the differences in mean grades suggest that coarse gold is present, which indicates that special care be taken during sampling, sub-sampling<sup>3</sup>, and assaying.

Midway Gold’s work included assay lab internal checks as well as metallic screen assays on some samples that had already had two-assay-ton assays done. Duplicate and standard samples were inserted into the sample stream approximately every 20 samples. Detailed statistics were not done, but a quick scan of the results showed comparable variability to that demonstrated above for Echo Bay’s work. Figure 14.1 below is a scatter plot showing the Au assays for the duplicates plotted against the Au assays for the original split. The high degree of scatter around the original = duplicate line shown in red is typical when coarse gold is present in the samples.

It should be noted that although the results are positive, no quantitative conclusion should be made because the samples were made up of RC cuttings obtained during wet drilling.

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<sup>3</sup> sub-sampling is the process of reducing sample size through crushing, grinding and splitting

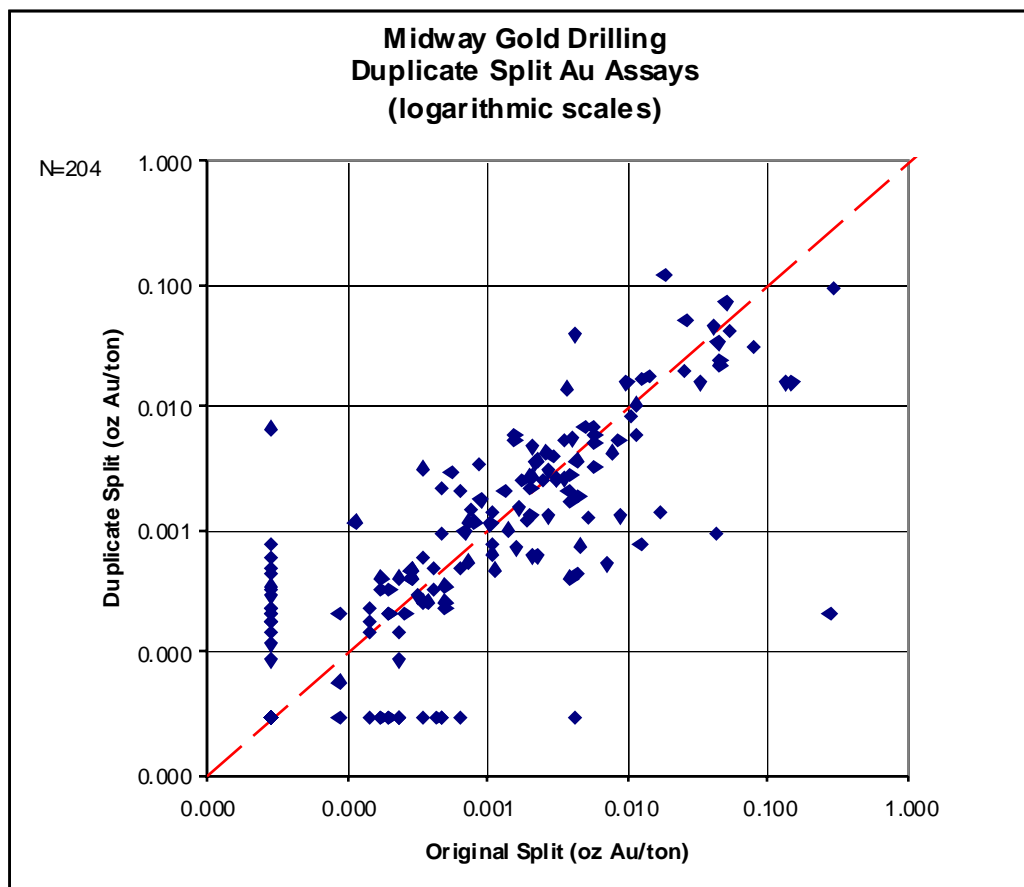


**Table 14.1 Descriptive Statistics of 1 AT Fire Assay and Metallic Screen Results**

<b>All Samples (with detectable gold in both)</b>							
	AuAvg*	FA Au (oz Au/t)	Diff. (%)	MS Au (oz Au/t)	FA/MS %	FA/MS Var	FA/MS Abs Var
Count	421	421		421	290	290	290
Mean	0.024	0.022	-16%	0.026	128%	-355%	760%
Std. Dev	0.080	0.100	-7%	0.107	1469%	2139%	2031%
Minimum	0.000	0.000	NA	0.000	-99%	-13699%	101%
Maximum	0.834	1.443	-12%	1.631	24390%	24490%	24490%
<b>For samples grading <math>\geq 0.01</math> oz Au/t</b>							
Count	149	149		149	146	146	146
Mean	0.062	0.057	-15%	0.068	277%	-261%	975%
Std. Dev	0.127	0.162	-7%	0.173	2060%	2769%	2603%
Minimum	0.010	0.000	NA	0.000	-99%	-13699%	101%
Maximum	0.834	1.443	-12%	1.631	24390%	24490%	24490%

\* average of both FA (1 assay ton) and MS (metallic screen) values

**Figure 14.1 Midway Gold Drilling Duplicate Split Scatter Plot**





## **14.2 Quality Assurance/Quality Control**

There was no recorded QA/QC for Kennecott data except internal checks done by Bondar Clegg.

Bondar Clegg did the assaying for ESV-1 to ESV-7. There were no assay standards or blank samples submitted for these holes, but typically seven or eight samples per hole were duplicates (Phase I Drill Program, Logs and Assays, 2001)

Echo Bay's QA/QC for the assaying done by Chemex Labs (ESV-8 to ESV-13) consisted of the submission of an independent assay standard. Five standards were submitted to Chemex and all were within +/-10% of the expected assay, with one deviating more than the others (Phase IIA Drill Program, Logs and Assays, May 2002).

Echo Bay used both assay standards and blank samples for QA/QC with BSi Inspectorate. Between one and four (average two) assay standards were submitted with each of holes ESV-14 to ESV-19, and SVC-1 and SVC-2, for a total of 26 individual standard sample submissions. Three different standards were used and the correlation between the assayed gold value and the umpire gold value varied with each standard. One showed variation both slightly higher and slightly lower than the expected value; one assayed consistently higher than the expected value and one assayed consistently lower. All assays were within +/- 10% of the umpire value.

Echo Bay used sixteen blank samples, which consisted of samples of Caetano Tuff from the Cove mine site that had been crushed to ¼ in. Two-pound blank samples were inserted in the drill sample sequence twice for most holes. The blanks had an expected assay value of less than 10 ppb gold, and of the sixteen, ten assayed less than 10 ppb, 4 assayed between 11 ppb and 13 ppb and two assayed higher: 28 ppb and 44 ppb. This is considered adequate validation of the sample data set since it shows only potential low-level gold introduced into the sample.

Midway Gold inserted standards prepared from the nearby Rochester Mine ore into the sample stream approximately every 20 samples. Duplicate samples were taken approximately every 100 ft and inserted into the sample stream.

Two important aspects of this deposit are the overlying gravel and the presence of substantial water. Under these conditions, there is the potential to contaminate samples with the either gold-bearing or barren alluvium. Midway Gold successfully dealt with the possibility of contamination from the overlying unconsolidated alluvium and gravel by casing the RC holes to bedrock prior to proceeding with drilling and sampling of the bedrock. RC holes drilled by previous operators apparently did not take this precaution.

MDA took five samples from Echo Bay RC cuttings and two samples from the road cut outcrop (Ristorcelli, 2003). Table 14.2 lists these samples, along with an explanation of what sort of sample they were. Two conclusions can be made. First, that gold is present in the samples. Second, that there is extraordinary variance between check samples, most likely caused by the presence of coarse gold. Special care during sampling, sub-sampling, and analysis is therefore recommended. The sample variance should be addressed prior to any resource estimations.



**Table 14.2 List of MDA Independent Samples**

Original Sample* (ppb Au)		MDA Sample** (ppb Au)		Comments
ESV18 490	1,691	SV-MDA-1	26	Coarse reject
ESV18 435	1,399	SV-MDA-3	136	Coarse reject
ESV14 510	1,910	SV-MDA-4	483	Coarse reject, metallic screen
ESV17 180	281	SV-MDA-5	1,590	Second sample split from rig
ESV15 390	822	SV-MDA-6	405	Second sample split from rig
		SV-MDA-7	1,495	Random chip from outcrop
		SV-MDA-8	376	Select quartz vein from outcrop

\* Metallic screen assay; \*\* 1 AT-fire assay

MDA's surface samples from the outcrop demonstrate that gold occurs in bedrock. These samples (Table 14.2) yielded grades up to 1.495 g Au/t.

### 14.3 MDA Field Verification

The principal author of this report did not visit the property, but has confidence that there has been no change that required a site visit since the site visit of Steven Ristorcelli, P.Geo, Principal Geologist for MDA, who conducted field visits to the Spring Valley Property on July 30, 2003 and August 7, 2003 (Ristorcelli, 2003).



## **15.0 ADJACENT PROPERTIES**

Adjacent properties include the Rochester mine, which is located three miles from the Spring Valley Property, the Standard mine approximately 15 miles to the NNW, and the Florida Canyon mine, which is located approximately 18 miles to the north.

Coeur d'Alene operates the Rochester mine, the largest primary silver producer in the United States. As of 2001, the Rochester mine had produced over one million ounces of gold and in excess of 88 million ounces of silver. At that time, the reserves contained 349,000 ounces of gold and 43,902,000 ounces of silver. Coeur d'Alene also controls the Nevada Packard property in the Humboldt Range (Figure 7.2), with an undeveloped reserve of 9.5 million equivalent ounces of silver (Coeur d'Alene website, 2003). The Rochester mine is three miles south of the Spring Valley project.

The Florida Canyon mine, at the north end of the Humboldt Range, is operated by the Florida Canyon Mining Company, a wholly owned subsidiary of Apollo Gold. Between 1986 and 2001, the Florida Canyon mine produced 1.69 million ounces of gold. As of year-end 2002, the proven and probable reserves were 330,000 ounces of gold in ore grading 0.017 oz Au/t. Apollo Gold also controls the Standard Mine area, which is about four miles south of the Florida Canyon mine and approximately fifteen miles north-north-west of Spring Valley. The proven and probable reserves at the Standard Mine area are 404,100 ounces of gold from ore grading 0.018 oz Au/t (Apollo Gold website, 2004).





## **16.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

Echo Bay completed the following preliminary metallurgical investigations.

McClelland Lab in Sparks, Nevada completed initial bottle-roll test work on Spring Valley drill cuttings. Seven composites from four drill holes were tested for cyanide extractions of gold and silver, six represented composites of 20 ft drill intervals, while the seventh was a composite of a 25 ft interval. The composites were prepared by Chemex from coarse rejects (nominal -10 mesh) from holes drilled in April 2002. Grades ranged from 0.015 to 0.074 oz Au/ton representing various depths. All of the composites are from zones logged as oxidized. The samples arrived at the McClelland facility weighing approximately 2.5 kg (for the 20 ft composites) to approximately 3.0 kg (for the 25 ft composite). One kilogram of each composite was sent to Chemex for a metallic screen assay to determine the head grade, and the remainder of the sample was used in the bottle-roll recovery test.

The bottle roll gold extractions ranged from 75 to 95%. Overall the gold recovered fairly slowly and was substantially complete in 96 hours. Slow gold extraction rates support the suggestion in Section 14.0 that free milling particulate gold occurs at Spring Valley. Silver levels were too low to yield any useful leach information. Cyanide consumptions were low and lime requirements were moderate.

Gold values for the composites showed a fair degree of scatter when comparing the original five foot drill sample metallic screen assays, the Chemex one kilogram metallic screen assay on the composites, and the calculated head grade from the bottle-rolls. One composite assayed 0.042 oz Au/t from the composite metallic screen assay, but yielded 0.092 oz Au/t from the leach test. A few of the other composites yielded lower head grades than that determined from the metallic screens, further supporting the suggestion of the presence of free and coarse gold.

The preliminary metallurgical results summarized above were positive, although quantitative conclusions will require additional testing from core samples.



## **17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

There are no current or formal mineral resource or reserve estimates completed for this property



## **18.0 OTHER RELEVANT DATA AND INFORMATION**

MDA is not aware of any other relevant information that would change the conclusions or recommendations of this report.



## **19.0 INTERPRETATION AND CONCLUSIONS**

MDA, through the reviews and compilations completed for this report, concludes that the Spring Valley Property is a project of merit. Work completed both by Midway Gold and by previous operators in the Pond Area shows that a hydrothermal, quartz-tourmaline and quartz-sericite, precious metal system exists below the alluvial cover in Spring Valley. Presently, the data are of sufficient quantity to indicate the presence of mineralization, but are of insufficient quantity to determine with any certainty the size, grade and distribution.

Coarse gold occurs at Spring Valley and special care must be used in sampling, sub-sampling, and assaying, as improper sampling can lead to understated global gold content. In systems like Spring Valley, with a significant component of coarse gold, if sampling is done correctly and sample of sufficient sizes can be collected, defined grades can actually be higher than those otherwise returned.

A second cautionary note is that the RC drilling encountered extensive amounts of water, reportedly up to 60 gpm. Under any RC drilling conditions, this poses extreme problems in obtaining representative samples. For this reason, RC drilling should be used for step-out and exploration drilling only, while diamond core drilling should be used for infill purposes.

The Spring Valley data in the Pond Area are adequate in quantity to demonstrate the presence of gold. The reliability of the data is sufficient to do the same, although the presence of coarse gold and wet RC drilling instills a certain degree of risk that has yet to be determined and will need additional study and evaluation.

High-grade gold mineralization at Spring Valley is thought to be associated with quartz-tourmaline alteration, breccias, veins and volcanic contacts, but additional drilling is required to adequately delineate its extents and geometries. Diamond core drilling would likely prove most effective in this regard.

In addition to the Pond Area, Midway has identified additional geologic, geochemical and geophysical targets that should be tested by drilling. These include the Road Cut, J&L and NE Block areas.

MDA concludes that Spring Valley is a property of merit and does warrant an exploration program dominated by drilling.



## **20.0 RECOMMENDATIONS**

MDA makes the following recommendations for the Spring Valley project.

- In the Pond Area, where the bulk of the work has been done to date, the highest priority is to determine the extents and geometry of the high-grade mineralization. Despite previous problems, further core drilling should continue to be considered in areas where in-fill drilling is contemplated. Within the anticipated mineralized zones, oriented core could be used to help determine the geometry of the high-grade mineralization. Four angled in-fill core holes, totaling approximately 4,000 ft, are recommended.
- The mineralization found to date in the Pond Area is still open and untested in three areas:
  - To the southwest, west and below hole SV-44 and south of SV-32;
  - To the northeast and north of hole SV-22 and east of hole SV-22; and
  - To the north and west of hole SVC-2.

A total of six RC holes, for a total of 6,000 ft, in the three areas to check for extensions are recommended. These should be angle holes oriented perpendicular to the 220°/10° plunge of the zone.

- To reduce the impact of the coarse gold and erratic gold distributions, the recommendations of Pitard (2004) for sampling and analyses of all mineralized intervals in the Pond Area should be followed. Criteria should be developed to determine which intervals are likely to be mineralized, and the Pitard-recommended sampling protocol should be followed on these intervals. However, if the entire sample is sent in for analysis, extreme care and independence must be exercised in order to compensate for the consequent lack of archived original samples.
- The practice started by Midway Gold of installing casing in RC holes from the surface to bedrock prior to drilling and sampling the bedrock is worthwhile and should be continued wherever there is a possibility of a significant thickness of alluvium.
- Future infill drill holes should have down-hole surveys completed. Only four of the holes drilled by Midway Gold have had down-hole surveys completed, but the results show significant hole deviation, particularly with the RC holes. Down-hole surveys will be particularly important in future efforts to establish the extent and geometry of the high-grade zones.



## **21.0 REFERENCES**

- BLM, 2004a, Acknowledgment of Receipt of Amendment to Mining Notice dated 23-mar-2004 by Terry A. Reid.
- BLM, 2004b, Decision dated 13-aug-2004 by Stephen D. Saltzman .
- BLM, 2004c, Claim Maintenance Fees Receipt for 2005, 19-aug-2004.
- Echo Bay Exploration Inc., 2002, Spring Valley Project, Pershing County, Nevada, Year 2001 Annual Report, unpublished.
- Echo Bay Exploration Inc., 2001, Spring Valley Project, Pershing County, Nevada, Year 2000, Annual Report, unpublished.
- Echo Bay Exploration Inc., 2003, Spring Valley Project, Pershing County, Nevada, Year 2002 Annual Report, unpublished.
- Echo Bay Exploration and Kinross Gold U.S.A., Spring Valley Project, Pershing County, Nevada Proposal for Midway Claims Option to Purchase, letter dated August 6, 2003.
- Ellis, Bob, 2001, Geophysics Summary, Spring Valley Project, Pershing Co., Nevada, letter dated January 17, 2001, Ellis Geophysical Consulting Inc., Reno, Nevada.
- Gash, R, July 16, 2003, SV Claim Title Examination, letter report done for Global Geological Consultants.
- Global Geologic Consultants, 2004, Summary Report of Activities on the Spring Valley Property July, 2003 through April, 2004 Pershing County, Nevada; unpublished report for Midway Gold Corp., May 31, 2004
- Hudson, Don, 2003, Petrography of Samples from Drill Holes SVC1 and SVC2, Pershing County, Nevada, prepared for Echo bay Exploration Inc., unpublished.
- Johnson, Maureen, 1977, Geology and Mineral Deposits of Pershing County, Nevada: Nevada Bureau of Mines and Mineral Resources Bulletin 89.
- Johnson, Maureen, 1973, Placer Deposits of Nevada, United States Geological Survey Bulletin 1356.;
- Magee, C., 2000, Spring Valley Gravity Survey, Pershing Co., Nevada, Echo Bay Exploration Inc. October 2000, Geodetic Associates Inc., unpublished.
- Magee, C., 2001, Spring Valley Ground Magnetic Survey, Pershing County, Nevada, Echo Bay Exploration Inc. November 2001, Geodetic Associates, Inc., unpublished.
- Magee, C, 2001, Spring Valley Gravity Survey, Pershing County, Nevada, Echo Bay Exploration Inc. October 2001, 3D Gravity Modeling, Geodetic Associates Inc., unpublished.
- Moezzi, K. and McKinney, J., 2000, IP/Resistivity Survey on the Spring Valley Project, Pershing Co., NV for Echo Bay Exploration Inc., Data Acquisition, Dec. 19, 2000, Zonge Job #2000-77, unpublished.



Nevada Bureau of Mines, 1964, Mineral and Water Resources of Nevada: Bulletin 65.

Neal, W.S., 2004, Geology and mineralization of the Spring Valley project; August 13, 2004, Midway Gold files.

Pitard, F.F., 2004, Review of Sampling Systems and Sampling Practices at the Spring Valley Exploration Project; March 15, 2004, Midway Gold files.

Ristorcelli, S., 2003, Summary Report on the Spring Valley Property, Pershing County, Nevada: prepared for Midway Gold, unpublished.

Ransome, R. L., 1909, Notes on some mining districts in Humboldt County, Nevada: U. S. Geological Survey Bulletin 414.

Vikre, Peter, 1981, Silver Mineralization in the Rochester District, Pershing County, Nevada: Economic Geology, vol. 76, pp 580-609.

Wright, J.L., 2004; Midway Gold Corp, Spring Valley Property, CSMAT Survey, Mapinfo Database; February 10, 2004, Midway Gold files.

**Website references:**

Coeur d'Alene Mines Corporation website, retrieved July 16, 2003, from <http://www.coeur.com>

World Climate website, retrieved July 15, 2003, from <http://www.worldclimate.com>





## **22.0 AUTHOR'S CERTIFICATE AND SIGNATURE PAGE**

I, David J. Griffith, do hereby certify that:

- 1) I am currently a geologist with Y3K Exploration Company, LLC, with offices at 305 Carson View, Markleeville, CA, 96120, USA and an associate of Mine Development Associates with offices at 210 South Rock Blvd, Reno, NV, 89502, USA.
- 2) I graduated with a Bachelor of Arts degree in English (B.A.), from Queen's University at Kingston in 1970 and a Bachelor of Science (B.Sc., Hon.) degree in Geology from the University of British Columbia in 1973.
- 3) I am a Registered Professional Geoscientist (P.Geo) with the Association of Professional Engineers and Geoscientists of British Columbia in good standing, and my registration number is 18487. I am a Registered Geologist with the State of California in good standing and my license number is 5778.
- 4) I am a member in good standing of the Society of Economic Geologists, the Society of Exploration Geochemists, the Society of Mining Engineers, the Geological Society of Nevada, the Asociación de Ingenieros, Mineros, Metalurgistas y Geólogos de México and the Prospectors and Developers Association of Canada.
- 5) I have worked as a geologist in mining exploration and development for over 30 years.
- 6) 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.
- 7) I am responsible for the preparation of the technical report titled *Updated Summary Report on the Spring Valley Project, Pershing County, Nevada* and dated November 2, 2004 (the "Technical Report") relating to the Spring Valley project. I have not visited the project site.
- 8) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
- 9) I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.
- 10) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.



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

Dated this 2<sup>nd</sup> day of November, 2004.

*"David J. Griffith"*

Signature of Qualified Person

David J. Griffith

Print Name of Qualified Person



I, Steven Ristorcelli, P. Geo., do hereby certify that:

1. I am currently employed as Principle Geologist by:

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

2. I graduated with a Bachelor of Science degree in Geology from Colorado State University in 1977 and a Master of Science degree in Geology from the University of New Mexico in 1980.
3. I am a Registered Professional Geologist in the states of California (#3964) and Wyoming (#153) and a Certified Professional Geologist (#10257) with the American Institute of Professional Geologists, and a member of the Geologic Society of Nevada, Society for Mining, Metallurgy, and Exploration, Inc., and Prospectors and Developers Association of Canada.
4. I have worked as a geologist for a total of 27 years since my graduation from undergraduate university.
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 authored the original report and have reviewed much of this updated report titled *Updated Summary Report on the Spring Valley Project, Pershing County, Nevada* and dated November 2, 2004 (the “Technical Report”) relating to the Spring Valley property. I visited the property on July 30, 2003 and on August 7, 2003.
7. I have had prior involvement with the property that is the subject of this Technical Report. The nature of my prior involvement is the completion of a prior technical report of the Spring Valley property, titled *Summary Report on the Spring Valley Project, Pershing County, Nevada* and dated August 22, 2003, for Midway Gold Corp. (the “Technical Report”).
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 42-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.



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

Dated this 2<sup>nd</sup> day of November, 2004

Signature of Qualified Person

*“Steven Ristorcelli”*

Steven Ristorcelli

Print Name of Qualified Person

## **Appendix A**

### **List of Claims**

<b>Claims Held Under the Schmidt Agreement</b>		
<b>BLM Serial Number</b>	<b>Claim Name</b>	<b>Recorded Book – Page</b>
748203	SV 8	304 – 446
748205	SV 10	304 – 448
748207	SV 12	304 – 450
748209	SV 14	304 – 452
748211	SV 16	304 – 454
748213	SV 18	304 – 456
748215	SV 20	304 – 458
748222	SV 27	304 – 465
748224	SV 29	304 – 467
748225	SV 30	304 – 468
748226	SV 31	304 – 469
748227	SV 32	304 – 470
748228	SV 33	304 – 471
748229	SV 34	304 – 472
748230	SV 35	304 – 473
748231	SV 36	304 – 474
748232	SV 37	304 – 475
748233	SV 38	304 – 476
748234	SV 39	304 – 477
748235	SV 40	304 – 478
748236	SV 41	304 – 479
748237	SV 42	304 – 480
748238	SV 43	304 – 481
748239	SV 44	304 – 482

Claims Held Under the Schmidt Agreement		
BLM Serial Number	Claim Name	Recorded Book – Page
817628	SV 1	352 – 678
817629	SV 2	352 – 679
817630	SV 3	352 – 680
817631	SV 4	352 – 681
817632	SV 5	352 – 682
817633	SV 6	352 – 683
817634	SV 7	352 – 684
817635	SV 9	352 – 685
817636	SV 11	352 – 686
817637	SV 13	352 – 687
817638	SV 15	352 – 688
817639	SV 16	352 – 689
817640	SV 17	352 – 690
817641	SV 21	352 – 691
817642	SV 22	352 – 692
817643	SV 23	352 – 693
817644	SV 24	352 – 694
817645	SV 25	352 – 695
817646	SV 26	352 – 699
817647	SV 28	352 – 697



Claims Held Under the Echo Bay Agreement		
BLM Serial Number	Claim Name	Recorded Book – Page
825454	SV 51	362 – 325
825455	SV 52	362 – 326
825456	SV 53	362 – 327
825457	SV 54	362 – 328
832254	SV 60	369 – 571
832255	SV 61	369 – 572
832256	SV 62	369 – 573
832257	SV 63	369 – 574
832258	SV 64	369 – 575
832259	SV 65	369 – 576
832260	SV 66	369 – 577
832261	SV 67	369 – 578
832262	SV 68	369 – 579
832263	SV 69	369 – 580
832264	SV 70	369 – 581
832265	SV 71	369 – 582
832266	SV 72	369 – 583
832267	SV 73	369 – 584
832268	SV 74	369 – 585
832269	SV 75	369 – 586
832270	SV 76	369 – 587
832271	SV 77	369 – 588
832272	SV 78	369 – 589

<b>Claims Held Under the Echo Bay Agreement</b>		
<b>BLM Serial Number</b>	<b>Claim Name</b>	<b>Recorded Book – Page</b>
832273	SV 79	369 – 590
832274	SV 80	369 – 591
832275	SV 81	369 – 592
832276	SV 82	369 – 593
832277	SV 83	369 – 593

<b>Claims Held Directly by Midway Gold Resources</b>		
<b>BLM Serial Number</b>	<b>Claim Name</b>	<b>Recorded Book – Page</b>
834056	J & L No. 1	380 – 295
860702	SV 45	380 – 569
860703	SV 46	380 – 570
860704	SV 47	380 – 571
860705	SV 48	380 – 572
860706	SV 49	380 – 573
860707	SV 50	380 – 574
860708	SV 51	380 – 575
860709	SV 52	380 – 576
860710	SV 53	380 – 577
860711	SV 54	380 – 578
860712	SV 55	380 – 579
860713	SV 56	380 – 580
860714	SV 57	380 – 581
860715	SV 58	380 – 582

<b>Claims Held Directly by Midway Gold Resources</b>		
<b>BLM Serial Number</b>	<b>Claim Name</b>	<b>Recorded Book – Page</b>
860716	SV 59	380 – 583
860717	SV 60	380 – 584
860718	SV 61	380 – 585
860719	SV 62	380 – 586
860720	SV 63	380 – 587
860721	SV 64	380 – 588
860722	SV 65	380 – 589
860723	SV 66	380 – 590
860724	SV 67	380 – 591
860725	SV 68	380 – 592
860726	SV 69	380 – 593
860727	SV 70	380 – 594
860728	SV 71	380 – 595
860729	SV 72	380 – 596
860730	SV 73	380 – 597
860731	SV 74	380 – 598
860732	SV 75	380 – 599
860733	SV 76	380 – 600
860734	SV 77	380 – 601
860735	SV 78	380 – 602
872357	SV 84	384 – 488
872358	SV 85	384 – 489
872359	SV 86	384 – 490
872360	SV 87	384 – 491
872361	SV 88	384 – 492

**Claims Held Directly by Midway Gold  
Resources**

<b>BLM Serial Number</b>	<b>Claim Name</b>	<b>Recorded Book – Page</b>
872362	SV 89	384 – 493
872363	SV 90	384 – 494
872364	SV 91	384 – 495
872365	SV 92	384 – 496
872366	SV 93	384 – 497
872367	SV 94	384 – 498
872368	SV 95	384 – 499
872369	SV 96	384 – 500
872370	SV 97	384 – 501
872371	SV 98	384 – 502
872372	SV 99	384 – 503

## **Appendix B**

### **List of Drill Hole Collar Information**

Hole_Id	East(m)	North(m)	East(ft)	North(ft)	Elev (ft)	Elev (m)	Az	Dip	TD (ft)	Type	Camp-aign	Company
KSV1	404241	4465502.9	1326250	14650600	5310	1618.5	0	-90	580	RC	1996	Kennecott
KSV2	403853.9	4465522.7	1324980	14650665	5361.4	1634.2	0	-90	460	RC	1996	Kennecott
KSV3	402418.4	4465829.5	1320270	14651672	5684.2	1732.5	0	-90	500	RC	1996	Kennecott
KSV4	402637.6	4465553.5	1320990	14650766	5588.3	1703.3	0	-90	680	RC	1996	Kennecott
ESV1	402870.2	4465817.2	1321753	14651631	5580.8	1701	0	-90	380	RC	2001	Echo Bay
ESV2	403689	4465636.7	1324439	14651039	5403.1	1646.9	0	-90	620	RC	2001	Echo Bay
ESV3	403433.3	4466173.4	1323600	14652800	5480	1670.3	0	-90	400	RC	2001	Echo Bay
ESV4	403249.2	4465817	1322996	14651631	5501.5	1676.9	0	-90	440	RC	2001	Echo Bay
ESV5	403401.2	4465603.5	1323495	14650930	5448.1	1660.6	0	-90	460	RC	2001	Echo Bay
ESV6	403800.4	4465849.2	1324804	14651736	5403	1646.8	0	-90	500	RC	2001	Echo Bay
ESV7	402871.1	4466340.1	1321756	14653347	5680.6	1731.5	0	-90	505	RC	2001	Echo Bay
ESV8	403707.3	4465697.4	1324499	14651238	5403.9	1647.1	0	-90	600	RC	2002a	Echo Bay
ESV9	403630.8	4465637.9	1324248	14651043	5411.5	1649.4	0	-90	590	RC	2002a	Echo Bay
ESV10	403707	4465574.9	1324498	14650836	5394.3	1644.2	0	-90	530	RC	2002a	Echo Bay
ESV11	403752.6	4465634.6	1324648	14651032	5383.9	1641	0	-90	600	RC	2002a	Echo Bay
ESV12	403983.9	4465634	1325407	14651030	5353.8	1631.8	0	-90	460	RC	2002a	Echo Bay
ESV13	403630.9	4465470	1324248	14650492	5397.2	1645.1	0	-90	500	RC	2002a	Echo Bay
ESV14	403768.1	4465695	1324698	14651230	5395.1	1644.4	0	-90	800	RC	2002b	Echo Bay
ESV15	403646.7	4465696.2	1324300	14651234	5411.3	1649.4	0	-90	700	RC	2002b	Echo Bay
ESV16	403569.8	4465633.4	1324048	14651028	5423.7	1653.1	0	-90	595	RC	2002b	Echo Bay
ESV17	403644.5	4465581	1324293	14650856	5407.3	1648.1	0	-90	800	RC	2002b	Echo Bay
ESV18	403706.3	4465756.9	1324496	14651433	5410.2	1649	0	-90	800	RC	2002b	Echo Bay
ESV19	403776.1	4465574	1324725	14650833	5370	1636.8	0	-90	660	RC	2002b	Echo Bay
SVC2	403723.8	4465726.9	1324553	14651335	5406.6	1647.9	180	-60	731	Core	2002b	Echo Bay
SVC1	403662.6	4465558.6	1324352	14650783	5401	1646.2	0	-60	922	Core	2002b	Echo Bay
SV20	403800.3	4465634.6	1324804	14651032	5370.7	1637	270	-80	700	RC	2003	Midway
SV21	403693.5	4465606.5	1324454	14650940	5399.7	1645.8	360	-80	900	RC	2003	Midway
SV22	403820.8	4465741.1	1324872	14651382	5392.2	1643.5	0	-90	800	RC	2003	Midway
SV23	403766	4465756.7	1324692	14651433	5404.1	1647.2	180	-75	900	RC	2003	Midway
SV24	403766.6	4465758.1	1324693	14651437	5402.6	1646.7	0	-90	920	RC	2003	Midway
SV25	403641.3	4465758.2	1324282	14651438	5421.1	1652.4	180	-70	800	RC	2003	Midway
SV26	403588	4465696.2	1324108	14651234	5423.3	1653	0	-90	800	RC	2003	Midway
SV27	403764.9	4465764.2	1324688	14651457	5402.8	1646.8	360	-70	840	RC	2003	Midway
SV28	403693.5	4465606.5	1324454	14650940	5399.7	1645.8	0	-90	1000	RC	2003	Midway
SV29	403645.5	4465518.2	1324296	14650650	5398.4	1645.4	360	-80	800	RC	2003	Midway
SV30	403574.6	4465513.4	1324064	14650634	5415.3	1650.6	0	-90	800	RC	2003	Midway
SV31	403577.3	4465577.7	1324073	14650845	5418	1651.4	0	-90	760	RC	2003	Midway
SV32	403512.7	4465520.1	1323861	14650656	5422.8	1652.9	0	-90	800	RC	2003	Midway
SV33	403511	4465577.8	1323855	14650846	5428.1	1654.5	0	-90	800	RC	2003	Midway

Hole_Id	East(m)	North(m)	East(ft)	North(ft)	Elev (ft)	Elev (m)	Az	Dip	TD (ft)	Type	Camp- aign	Company
SV34	403458.2	4465610.5	1323682	14650953	5441	1658.4	0	-90	760	RC	2003	Midway
SV35	403335	4465610	1323278	14650951	5441	1658.4	0	-90	650	RC	2003	Midway
SV36	403574	4465513	1324062	14650633	5415.3	1650	180	-70	850	RC	2003	Midway
SV37	403645	4465518	1324295	14650650	5398.4	1645	180	-80	860	RC	2003	Midway
SV38	403791	4465636	1324774	14651037	5380.6	1640	180	-70	800	RC	2003	Midway
SV39	403547.9	4465548.6	1323976	14650750	5422.8	1652.9	135	-70	750	Core	2004	Midway
SV40	403629.9	4465682.7	1324245	14651190	5399.7	1645.8	135	-75	1009	Core	2004	Midway
SV41	404000	4465400	1325459	14650262	5399.7	1645.8	90	-45	650	RC	2004	Midway
SV42	403675	4465400	1324393	14650262	5399.7	1645.8	90	-45	500	RC	2004	Midway
SV43	403575	4465400	1324065	14650262	5399.7	1645.8	90	-60	1000	RC	2004	Midway
SV44	403475	4465400	1323737	14650262	5399.7	1645.8	90	-60	1020	RC	2004	Midway
SV45	403475	4465300	1323737	14649934	5399.7	1645.8	125	-60	860	RC	2004	Midway
SV46	403475	4465200	1323737	14649606	5399.7	1645.8	125	-60	1000	RC	2004	Midway
SV47	403600	4465200	1324147	14649606	5399.7	1645.8	125	-60	1000	RC	2004	Midway
SV48	401643	4466561	1317726	14654072	5399.7	1645.8	287	-45	280	RC	2004	Midway
SV49	401591	4466588	1317556	14654160	5399.7	1645.8	0	-90	100	RC	2004	Midway
SV50	401558	4466583	1317448	14654144	5399.7	1645.8	0	-90	60	RC	2004	Midway