NI 43-101 TECHNICAL REPORT

On the

HUGHES – TONOPAH SILVER/GOLD PROPERTY NYE COUNTY NEVADA, USA



WGS 84 Zone 11 481100E / 4213700N (centre)

Prepared for

SUMMA, LLC 10645 N Oracle Rd, Ste 121-329 Oro Valley, Arizona 85737 USA

> Prepared by J. Chapman P. Geol. 2705 W 5th Ave. Vancouver, BC Canada V6K 1T5

> > April 30, 2019

Table of Contents

		Page
1.0	SUMMARY	4
1.1	Introduction	4
1.2	Location and Ownership	4
1.3	Geology and Mineralization Historical Information and Data	4
1.4	Conclusions and Recommendations	4 5
1.0		5
2.0	INTRODUCTION AND TERMS OF REFERENCE	5
2.1	Introduction	5
2.2	Terms of Reference	5
3.0	RELIANCE ON OTHER EXPERTS	6
4.0	PROPERTY LOCATION AND DESCRIPTION	7
4.1	Property Location	7
4.2	Property Description	7
5.0	ACCESSIBILITY, CLIMATE, LOCAL RESOURCES,	11
5 1	INFRASTRUCTURE AND PHYSIOGRAPHY	11
5.1 5.2	Climate	11
53	Local Resources	11
5.4	Infrastructure	12
5.5	Physiography	12
6.0	HISTORY	12
7.0	GEOLOGIC STETTING AND MINERALIZATION	21
7.1	Regional Geology	21
7.2	Local Geology	22
7.3	Mineralization	25
8.0	DEPOSIT TYPE	25
9.0	EXPLORATION	25
10.0	DRILLING	25
11.0	SAMPLE PREPARATION, ANALYSES AND SECURITY	26
12.0	DATA VERIFICATION	26
13.0	MINERAL PROCESSING AND METALLURGICAL TESTING	26
14.0	MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES	26
15.0	MINING METHODS	27

16.0	RECO	VERY METHODS	27
17.0	PROJI	27	
18.0	MARK	ET STUDIES AND CONTRACTS	27
19.0	ENVIE OR CC	RONMENTAL STUDIES, PERMITTING AND SOCIAL DMMUNITY IMPACT	27
20.0	CAPIT	AL AND OPERATING COSTS	27
21.0	ECON	OMIC ANALYSIS	27
22.0	ADJA	CENT PROPERTIES	27
23.0	OTHE	R RELEVANT DATA AND INFORMATION	29
24.0 24.1 24.2	INTER Interpre Conclu	EPRETATION AND CONCLUSIONS etation sions	29 29 29
25.0 25.1	RECO Cost Es	MMENDATIONS AND BUDGET stimate	29 30
26.0	REFEI	RENCES	31
27.0	STATI	EMENT OF QUALIFICATIONS	33
		LIST OF TABLES	
Table 4 Table 6	.1 .1	Claim Data Significant Intervals 1980 HIMCO Drilling	9 19
Photogi Photogi Photogi	raph 1 raph 2 raph 3	LIST OF PHOTOGRAPHS Possessories "Old Miners Cabins" From West Tonopah Looking East toward Downtown Historical View Summas' Belmont or Belmont Quartz Mine	8 11 14
Figure	4 1	LIST OF FIGURES	ofter page 7
Figure 4	+.1 4.2	Claim Map	after page 7
Figure :	5.1	Property Access Map	after page 11
Figure	6.1	Historic Land Holdings and Shafts	after page 13
Figure (Figure 6.2 Dumps and Tailings Location Plan		after page 17
Figure (b. <i>3</i> 6 4	1980 HIMCO Drill Locations	after page 18
Figure (0.4 7 1	Regional Geology	after page 20
Figure '	7.2	Local Geology	after page 22
Figure '	7.3	Major Structures of the Tonopah Camp	after page 25

1.0 SUMMARY AND CONCLUSIONS

1.1 Introduction

Summa, LLC has contracted the author to prepare a 43-101 compliant technical report on the Hughes precious metals prospect, located in west Nye County, Nevada. The Hughes - Tonopah property is an early stage exploration project located within the municipality of Tonopah, in the heart of the past producing Tonopah mining camp. The property was the scene of intense development and production activity during the early years of the 1900's but has been dormant except for sporadic "leaser" activity since the 1950's. In the 1930's an attempt was made to scavenge metals through in-situ cyanide leaching from the Belmont Mill tailings. While the property has had various work programs completed on it from the 1970's through the 90's, it should be considered to be at an early stage of exploration. Summa LLC has only recently acquired clear title to the property, and has performed cursory examinations to date.

1.2 Location and Ownership

Summa's Hughes - Tonopah property is located in Nye County, west central Nevada, predominately to the east of highway 95 that runs through the center of the town of Tonopah. The property is approximately 270 kilometers to the SE of Reno, and 280 kilometers to the northwest of Las Vegas Nevada, the largest population centre in the region. Summa LLC holds fifty seven Patented (fee title lands) mining claims for a total of approximately 314.088 hectares (777.306 acres).

1.3 Geology and Mineralization

The Tonopah area is located on the western margin of the Basin and Range province, within the "Walker Lane" which is a zone of Miocene structural deformation which trends northwest to southeast paralleling the trend of the Sierra Madre Mountains of Eastern California. Basin and Range faulting began during the Miocene roughly contemporaneously with the intermediate to felsic volcanism, and precious metals mineralization. Tonopah was a centre of considerable felsic volcanic activity during this era.

1.4 Historic Exploration and Data

Tonopah was the scene of extensive exploration and production of precious metals commencing at the beginning of the last century. The first claims were staked in 1901 and the period to 1907 was a time of claim acquisition and initial production. From 1907 to 1910 low silver prices related to a depression in the USA led to curtailment of production for the higher grade deposits and failure and consolidation for the lower grade operations. The Tonopah camp had its period of greatest production from 1910 to 1920 with the peak in 1918. Production declined to 1930 and thereafter was limited to small scale lease operations until it ceased around 1950. A considerable number of geological studies were carried out up to 1935 enabled by access to the underground workings of the various companies. After a long period of dormancy there was significant work carried out from the 1970's – 90's. The regulatory system in the USA does not require the filing of technical assessment reports, and as a result not all of the work carried out on the property was documented or is available to Summa. Total recorded production from the district is 8,800,000tons containing

174,153,000ounces silver and 1,861,000ounces gold. It is the author's opinion that the historical data is of sufficient quality and completeness to incorporate into this 43-101 report.

1.5 Conclusions and Recommendations

The property contains precious metals mineralization, primarily silver, hosted by mesozoic volcanic rocks. The mineralization is contained in veins and altered wallrocks which have been extensively mined in the past. There is also a significant tonnage of material on mine dumps and mill tailings that have not been adequately evaluated as to the amenability of economically producing the contained precious metals. The project warrants further geological and geochemical sampling programs in an effort to determine if economically significant mineralization can reasonably be expected to exist. The author is not aware of any environmental liabilities that have potentially accumulated as a result of the historical activities. There are no other known significant factors or risks that affect title or the right or ability to perform work on the property. The significant risk for the Hughes-Tonopah property is the same as all early stage exploration properties and that is there may be no mineral resource in economic quantities. As of the Effective Date of this report, the author is not aware of other significant risks that could affect the viability of the property. Based on positive results from the initial work, a Phase II program of core drilling would be warranted.

The estimated total cost for the proposed test work including compilation, modeling, geology, sampling, geophysics, metallurgical bench work, and a 12 hole shallow hand auger drilling program on the tailings, and subsequent core drilling program is \$710,000.

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 Introduction

This report was prepared for Summa, LLC, a private company to provide an up-to-date review of the precious metals potential of the Hughes-Tonopah property. Summa, LLC retained the author to review reports and other data relating to exploration on the Tonopah Project, and to prepare a report to comply with the disclosure and reporting requirements as set forth in National Instrument 43-101, Companion Policy 43-101CP and Form 43-101F1.

2.2 Terms of Reference

The work included reviewing technical reports and data obtained from the United States Geological Survey, and the Nevada State Geological Survey Branch, as well as the proprietary data Summa possesses. It also included a brief study of other analogous projects, such as Oceanus Resources Corp's El Tigre project in Mexico. The author, J. Chapman P. Geo, spent an unaccompanied day on the property on November 26th, 2018. The author is a Qualified Person, as defined by National Instrument 43-101, and is independent of Summa, LLC. The author has no interest in the Hughes - Tonopah project or in any claims in the vicinity of the property. While the content of the historic material appears to be accurate, the QP has not validated mineral concentrations data from original laboratory certificates or otherwise confirmed the authenticity, accuracy or completeness of the historic data. As a result the actual results from current and future programs may be more or less favourable.

The bulk of detailed information on the property is presented in US measurements. In the report, these have been up-dated to Metric as appropriate using the following abbreviations and conversion factors and symbols:

Abbreviations

ppb	part per billion	opt	(troy) ounce per short ton	
ppm	part per million	oz/t	(troy) ounce per short ton	
g	gram	Moz	million ounces	
g/t	gram per tonne	Mt	million tonnes	
t	metric tonne (1000 kilograms)	st	short ton (2000 pounds)	
Conv	versions			
1 grai	m = 0.0322 troy ounce	1 inch	= 2.54 centimeters	
1 troy	/ ounce = 31.104 grams	1 foot = 0.3048 metres		
1 ton	= 2000 pounds	1 meter = 39.37 inches = 3.281 feet		
1 ton	ne = 1000 kilograms	1 mile = 1.609 kilometres		
1 grai	m/tonne = 1ppm = 1000ppb	1 acre	e = 0.4047 hectares	
1 troy	/ ounces/ton = 34.29 gram/tonne	1 sq m	nile = 2.59 square kilometres	
1 grai	m/tonne = 0292 troy ounces/ton	1 hect	are = 10,000 square metres = 2.471 acres	
1 kilo	gram = 32.151 troy ounces = 2.205 pounds			
1 pou	ind = 0.454 kilograms			

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

The author has relied on private and publicly available information on the Hughes - Tonopah Project as listed under Section 27, References. The author has reviewed these reports and believes them to be accurate in their collection, disclosure and analysis of results. The author cannot guarantee the accuracy and comprehensiveness of these reports and reserves the right to, however shall not be obligated to, revise this report and its conclusions should new information become available after the date of this report.

3.0 RELIANCE ON OTHER EXPERTS

For the preparation of the report the author has relied on information believed to be accurate. The technical information presented in this report is derived from Federal, State reports and corporate reports, and various correspondence. While the content of the historic material appears to be accurate, the QP has not validated mineral concentrations data from original laboratory certificates or otherwise confirmed the authenticity, accuracy or completeness of the historic data. As a result the actual results from current and future programs may be more or less favourable. The author has not verified the mineral concentrations data from original laboratory certificates of the work carried out by Summa Corporation etal.

In the opinion of the QP, the available historic data is sufficiently detailed and appears credible to represent the project.

Property title is administered through Nye County and governed by all state and/or federal legislation relating to Fee title lands. The author has relied on the accuracy of these records to determine claim ownership. Additionally the author is not an expert with respect to Environmental, Licensing, Permitting, Social or Community Impact matters, however he is not aware of any unusual environmental, permitting, legal, taxation, socio-economic, marketing or political factors that may materially affect Summa's property.

All sources of information for this report are referenced in Section 26 (References). No independent verification of other geological, geochemical or geophysical data was undertaken.

J. Chapman, P.Geo. is an independent "Qualified Person" by definition of the Standards for Disclosure for Mineral Projects (NI 43-101).

4.0 **PROPERTY LOCATION AND DESCRIPTION**

The author is not an expert in land, legal, environmental, and permitting matters. This Section 4 is based on information provided to the author by Summa. The author presents this information to fulfill the reporting requirements of NI 43-101 and can express no opinion regarding the legal or environmental status of the Hughes - Tonopah project.

4.1 Property Location

The Hughes - Tonopah Property is located in Nye County in west central Nevada (Figure 4.1), on the east side of the town of Tonopah Nevada, an historic mining town, which is the county seat. It is more or less equidistant from both Las Vegas and Reno, Nevada being approximately 270 kilometres northeast of Vegas, and approximately 280 kilometers to the southeast of Reno. While Las Vegas is the largest population centre in the general vicinity of the prospect, Reno is more of a mining center, with more industry specific services, and equipment located there. The property lies within USGS "Tonopah" 1:24,000 topographical map.

4.2 Property Description

Summa, LLC. holds fifty-seven patented claims (fee title surface and minerals) for a total of approximately 314.088 hectares (777.306 acres). All claims are in Nye County, however minor portions of four claims in the western portion of the block cross the county line into Esmeralda County. These claims and the portions outside Nye County are administered by Nye County as if they were totally within said county. Due to the haphazard nature of early lode claim staking the boundaries of the property are very irregular, however it probably is best described as a slightly warped or concave elongate strip of claims extending in an east-west direction for approximately 3.5 kilometers with an irregular lobe or block extending to the north containing a donut hole on the north western margin of the strip. (Figure 4.2). There are also two claims that are not adjacent to the bulk of the claims to the southwest on top of Brougher Mountain. The numerous individual titles that comprise the property arise from lode claims that were staked early in the 20th century.

Patented claims are derived from historical lode claims that were staked as far back as the 1800s. Once a claim was staked as per the Mining Law of 1882, and as amended in 1884 the





Figure: 4.2

Quad Name: Tonopah

UTM Zone: NAD 27 11 T

Quad ID: Crescent Dunes



Coordinate values are in NAD27, Zone 11

claim holder had the option to conduct a legal survey of the property, and make application to the federal government to "patent" the land, a process whereby once completed the owner was then granted fee title to both the minerals and the surface of the claim. Due to abuses of the process in the 1960's the federal government began to require a feasibility study on any claims before granting patents, and finally in the 1990's the Clinton administration enacted a moratorium on patenting claims.



Photograph 1 "Possesories" Old Miner's Cabins Tonopah Townsite

Patented claims are considerably more advantageous than unpatented claims, as the permitting process for exploration and development is considerably less onerous and surface rights are included with the mineral rights.

Over the years the land package has seen a number of surface concessions granted, and also in numerous instances possessory rights have been established on Summa, LLC claims. These surface issues mainly arise in the immediate area of the townsite, and would not appreciably impact operations, as it is currently anticipated that all work whether underground or with respect to surficial tailings or dumps would be conducted further to the east – in the area of the Belmont Mill, and its' tailings piles. Summa, LLC is currently working to identify and rectify any issues of this nature, and reclaim areas of previous possessories in an effort to eliminate the possible exercise of further prescriptive rights.

Claim Name	PID	Meridian	Section	MS #	Acres	Hectares
		Township Kange.				
Shoe String	000-106-06	MDM&B 3N 42E	36	2033	18.21	7.369
Belmont Quartz	000-106-06	MDM&B 3N 42E	36	2081	15.63	6.325
Occidental	000-106-06	MDM&B 3N 42E	36	2120	20.45	8.276
Favorite	000-106-06	MDM&B 3N 42E	36	2125	19.64	7.498
DelMonte	000-106-06	MDM&B 3N 42E	36	2034	19.06	7.713
Silver State	000-106-06	MDM&B 3N 42E	36	2169	19.88	8.045
I.O.U	000-106-06	MDM&B 3N 42E	36	2712	7.57	3.036
Lillie Belle	000-106-06	MDM&B 3N 42E	36	2712	4.82	1.951
Ohio	000-106-06	MDM&B 3N 42E	36	2712	6.05	2.448
Tesuro	000-106-06	MDM&B 3N 42E	36	2712	7.48	3.027
Thanksgiving	000-106-06	MDM&B 3N 42E	36	2712	6.32	2.558
Ruby No. 5	000-106-06	MDM&B 3N 42E	36	4055	15.81	6.398
Blue Jay	000-106-06	MDM&B 3N 42E	36	4190	20.66	8.361
Chicken	000-106-06	MDM&B 3N 42E	36	4190	20.66	8.361
Crow	000-106-06	MDM&B 3N 42E	36	4190	20.66	8.361
Eagle	000-106-06	MDM&B 3N 42E	36	4190	20.66	8.361
Humming Bird	000-106-06	MDM&B 3N 43E	31	4190	20.66	8.361
Mountain Quail	000-106-06	MDM&B 3N 43E	31	4190	20.66	8.361
Owl	000-106-06	MDM&B 3N 42E	36	4190	20.66	8.361
Halifax #2	000-106-06	MDM&B 3N 42E	36	2054	20.62	8.345
Crocker	000-106-06	MDM&B 2N 42E	2	2386	12.90	5.220
Salsberry	000-106-06	MDM&B 3N 42E	35	2386	11.11	4.496
South Fraction	000-106-06	MDM&B 3N 42E	35	4495	2.05	0.830
Triangle*	000-106-06	MDM&B 3N 42E	35	2074	4.60	1.862
Cronje Fraction	000-106-06	MDM&B 3N 42E	35	2075	1.55	0.627
Idahoan No. 3	000-106-06	MDM&B 3N 42E	35	2075	6.24	2.525
Jack Rabbit	000-106-06	MDM&B 3N 42E	35	2075	19.02	7.697
Mining Chance	000-106-06	MDM&B 3N 42E	35	2075	20.50	8.296
Nevada Boy	000-106-06	MDM&B 3N 42E	35	2075	10.34	4.184
Tonopah Belle	000-106-06	MDM&B 3N 42E	26	2075	6.36	2.574
White Elephant	000-106-06	MDM&B 3N 42E	35	2075	16.49	6.673
Wild Bill	000-106-06	MDM&B 3N 42E	35	4559	13.63	5.516
Lucky Jim	000-106-06	MDM&B 3N 42E	35	2004	19.11	7.734
Cronje	000-106-06	MDM&B 3N 42E	26	2075	16.06	6.499
Davis Fraction	000-106-06	MDM&B 3N 42E	35	2075	2.204	0.892
Little Tonopah	000-106-06	MDM&B 3N 42E	26	2075	16.56	6.702

Table 4.1 Claim Information

Claim Name	PID	Meridian Townshin Range:	Section	MS #	Acres	Hectares
Little Tonopah No. 1	000-106-06	MDM&B 3N 42E	26	2075	13.68	5.536
Sampson	000-106-06	MDM&B 3N 42E	26	2075	2.78	1.125
Jim Crow No. 1	000-106-06	MDM&B 3N 42E	35	4093	17.043	6.897
Jim Crow No. 2	000-106-06	MDM&B 3N 42E	26	4093	15.426	6.243
Triangle*	000-106-06	MDM&B 3N 42E	26	4093	4.351	1.761
Montana Fraction	000-106-06	MDM&B 3N 42E	35	4188	15.492	6.269
Buckboard	000-106-06	MDM&B 3N 42E	35	2012	19.13	7.742
Burro	000-106-06	MDM&B 3N 42E	35	2012	11.24	4.549
Silver Top	000-106-06	MDM&B 3N 42E	35	2012	10.30	4.168
Valley View	000-106-06	MDM&B 3N 42E	35	2012	14.04	5.682
Mizpah	000-106-06	MDM&B 3N 42E	35	2154	16.21	6.560
Midway	000-106-06	MDM&B 3N 42E	35	2154	5.29	2.141
Red Plume	000-106-06	MDM&B 3N 42E	35	2012	20.14	8.150
Sand Grass	000-106-06	MDM&B 3N 42E	35	2012	20.30	8.215
Golden Anchor (Portion)	000-106-06	MDM&B 3N 42E	35	2177	19.33	7.823
Black Mascot (Portion)	000-106-06	MDM&B 3N 42E	35	2178	9.75	3.946
Triplet (Portion)	000-106-06	MDM&B 3N 42E	35	2179	8.51	3.444
Sage Brush (Portion)	000-106-06	MDM&B 3N 42E	35	2400	20.25	8.195
Crescent	000-106-06	MDM&B 3N 42E	35	2578	1.68	0.680
Bobtail (Portion) +	000-106-06	MDM&B 3N 42E	35	4151	20.66	8.361
Desert Queen #	000-106-07	MDM&B 3N 42E	35	2012	6.82	2.579
TOTALS					777.486	314.088

+ there two assessor listings for Bobtail & Bobtail Portion – Bobtail Portion appears to be a surface lot

*the are two unique and separate Triangle claims in the property

currently title still in name of Jablonski Enterprises Ltd - needs to be transferred to Summa

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY



Photograph 2 From West Tonopah Looking East toward Downtown and Mining Park (Montana Headframe above & right of center)

5.1 Accessibility

The property is almost entirely within the boundaries of the municipality of Tonopah Nevada. The property is readily accessible via Highway 95 from Las Vegas to the South or Hwy's 95/6 from the North/West from Northern Nevada/Reno or Bishop California, and from Highway 6 from the east which intersects highway 95 in the heart of Tonopah Figure 5.1). Various locations on the property can be accessed by municipal streets, and also dirt tracks/trails that exist within the project area offering good four wheel drive, and ATV access throughout the property. The Belmont mill, dumps and tailings are all easily accessed via Highway 6/Ketten Rd./Mountain Loop Road on the east side of town.

5.2 Climate

The general Tonopah area can be characterized as being in a cool arid desert climatic zone. Summers are warm with average (1928 - 2000) daily temperatures in the 30's, with average daily temperatures in the winter dipping into the mid single digit Celsius range. Temperature fluctuations can be more marked with daily highs in July and August into the 40's and with daily lows in January into the sub double digits. Precipitation is well below the national average with average annual rainfall being only 12cm (4.95 in), and average annual snowfall being 36cm (14.4 in). It is unusual for snow to remain on the ground for more than a few days after a snowfall. It is possible to work year round, although it is probably prudent to stay off the clay tracks for a day or two after strong precipitation events.



5.3 Local Resources

The property is almost entirely within the limits of the town of Tonopah, which is the county seat of Nye County. A wide range of services and goods including accommodation, food and fuel are available. Additionally equipment and skilled labour are to be found here. Also both the cities of Las Vegas and Reno are approximately a three and a half hour drive from the property and would be able to supply the project with other more specialized goods or services.

5.4 Infrastructure

Infrastructure is excellent in the area of Summa's Tonopah project. Power is available at various points throughout the prospect, with a high tension line running east-west along the northern margin of the Belmont tailings. Most supplies are available in Tonopah, while the nearest railhead is in Mina Nevada, approximately 85 kilometers to the northwest along highway 95. Also sufficient manpower is available in the region, and personnel exist locally with training specific to the mining industry due to the proximity of the property to Kinross's Round Mountain, and Scorpio Gold's Mineral Peak operations. The property does have cell phone service. Las Vegas is located approximately 280 kilometres to the southeast of the property, while Reno (which is an important mining supply centre) is 270 kilometres to the northwest. The claim block area should be large enough to accommodate a production facility, and there are several potential processing plant sites in the area.

5.5 Physiography

The property area slopes gently down to the west with the upper portion lying at an elevation of approximately 1800 meters above sea level, and the lower portions in the vicinity of the Poleline road being approximately 1475 meters ALS. The topography can best be characterized as gentle pediment incised by anastamosing drainages that are in the order of several meters in depth. Vegetation is typical desert vegetation with sagebrush and greasewood with occasional grasses in the spring months of wetter years.

6.0 HISTORY

The Tonopah district has a long history of exploration and development. The discovery of the Camp is credited to James L. (Jim) Butler who on May 17, 1900 while chasing after his pack animals discovered outcropping precious metals mineralization on what is now known as the Mizpah vein. In August of that same year Butler and his partners staked several claims, and mined 2 tons of mineralized rock that was shipped to Salt Lake City. This first shipment was worth \$500 dollars with silver prices at approximately \$0.60/oz. Staking, development and production commenced rapidly after word of the discovery got out.

The discovery and development of the Tonopah camp can be separated into four periods. From 1900 to 1903 the various participants acquired their ground and commenced development work by sinking shafts to access the ore. Between 1903 and 1907 development continued and better and more efficient equipment was deployed to increase production. The recession of 1907 to 1910 caused production to drop off as only the higher grade ore could be profitably mined with silver prices dropping to as low as \$0.25/oz. During this period many

of the weaker companies went out of business and consolidation of claims occurred. The high point of the Tonopah camp occurred between 1910 and 1930 with production peaking around 1918 at 622,364tons/year, with a recorded value of \$9,311,560, and declining steadily through the 1920's. Figure 6.1 shows the company holdings and the main working shafts during the 1920's. Production came to a halt with the exception of leasehold mining in the 30's due to the depression and low precious metals prices. There was virtually no activity during the war in the 40's but there was somewhat of a resurgence of activity in the 50's. In total the Tonopah camp produced in the order of 174 million ounces of silver, and 1.86 million ounces of gold from approximately 8.8 million tons of ore. A number of the claims included in the current Summa, LLC land package have contributed to this production history. Sporadic exploration has continued in the general area with new prospects being discovered including the Hall Molybdenum Mine, the Midway, Three Hills, and Hasbrouck gold prospects.

By January of 1901 there were between 40 and 50 lessees working leases granted by Butler et al, which consisted of 100feet of vein and 50feet to either side. It is problematic to determine exactly what production came from which claim or lease as typically several were amalgamated by a single company, and quite often the underground workings connected from one claim to the next. Often a shaft on one claim was used pretty much exclusively while a nearby shaft on the same groups of claims sat idle. It is likely impossible to ascertain or differentiate what production came from a single source, or ascribe in many cases the full significance of some of these veins especially as quite often the production from one mine was brought to surface at another shaft, and not reported in a segregated manner. A brief history of the development and production from Summa, LLC's lands follows:

Tonopah Mining Co. - 8 claims originally staked by Jim Butler 160.3 acres & eventually a merger of the Tonopah Extension claims (30.2 acres) due to Apex litigation. 50 miles of tunnels, 5 shafts; Mizpah 1500ft, Silver Top 700ft, Sand Grass 1140ft, Red Plume 800ft and the Desert Queen 1100ft. The Desert Queen was leased almost throughout its history by the Belmont Company, who apparently were related at the corporate level to the Tonopah Mining Co. All five shafts were interconnected on one or more levels, although the level numbers would vary from property to property due to the differing elevations of the shaft collars. The company acquired the property from Jim Butler and associates in June 1901 for \$336,000 and began shipments in 1902 as the lessees were allowed to continue working till the end of 1901. Production for 1902 was reported as \$1,543,000. Ore shipments were initially sent out on the wagon trains which delivered all supplies to Tonopah, until the completion of the company financed Tonopah and Goldfield Railroad in 1904. Shipment size again increased in 1906 when a 60 stamp mill was completed at Millers, several miles north of Tonopah. Maximum production from these mines was achieved in 1909 when 4,700,000 oz Ag and 52,000 ounces Au was produced. Production gradually declined through 1919 at which point the Millers mill was shut down, and ore was then shipped to the nearby Belmont Mill. After 1919 production was erratic, ranging from 400,000 to 860,000 oz Ag/year, until total closure in February 1930. Due to the depression the mines were reopened to leasers in October 1930, however production from this point forward is not reported. In all it appears that this group of claims produced approximately 580,424 oz Au and 52,567,615 oz Ag from 2,353,125 tons of ore between 1900 – 1929.



Belmont Company - 11 claims, 47 miles of workings, and 10 miles of "prospect holes" (exploratory crosscuts etc.). The company first started driving the G&H tunnel on Mt Oddie to intersect the anticipated eastern extension of the Mizpah vein but this was soon abandoned in favour of deepening the leased Desert Queen shaft. Ore was mined from the 814foot level, 500feet east of the shaft and shipments commenced in 1903. The Silver Queen ore was almost depleted by 1909 but the shaft gained new relevance with the discovery of the nearby Belmont vein, and the eventual connection of this shaft and workings with those of the Belmont. The Belmont shaft was initially started in 1903, but abandoned soon thereafter, however with the discovery of the rich Belmont vein around 1909 the shaft was deepened eventually reaching a final depth of 1718ft (flooded to the 1300ft level presently), and a mill was built - being completed in 1912. A disastrous underground fire that originated in a pile of timbers on Feb 23, 1911 killed 17 men. Production declined after 1913 through 1920, and the mine suffered several debilitating strikes in 1921. The mill was closed in 1923, with all ore then shipped to Millers, which had closed in 1919, but reopened as a custom miller in 1920. A deep development campaign was undertaken in 1924 – 1925 but no significant new ore was found in the vicinity. Production ceased in 1929. In all the recorded production from the Belmont is 428,596 oz Au and 36,717,164 oz Ag from 2,073,653 tons of ore.



Photograph 3 Historical View Summa's Belmont or Belmont Quartz Mine looking east - Halifax #2 headframe in the distance

The Montana-Tonopah Mining Company was incorporated in 1902 to develop a group of claims on the northern boundary of the Mizpah claim. A shaft was sunk 250feet from the Mizpah claim line which intersected the Montana Vein at the 392 foot level and a crosscut on the 462foot level encountered the MacDonald Vein 200feet north of the Montana. From 1903 to 1906 a total of 18,000tons were produced returning \$1,000,000. In 1907 a 40 stamp mill commenced operation and tonnages processed are given as 41,692tons in 1909 and 50,245tons in 1910. In addition 17,848tons from the MacNamara mine were put through the mill. The mill was closed in 1914 due to the lack of new ore being discovered in the mines

and the drop in silver prices to \$0.50 as a result of war in Europe. The mine was closed on April 10, 1915 after 13 years of operation. Some work continued under the leasing system that had taken place in the early days of the camp with the Company retaining a 20% royalty. State of Nevada records show that approximately 13,000 tons were produced by the leaseess in 1915 and 1916. From 1917 to 1920 silver prices averaged close to \$1.00/oz and 53,965tons are reported to have been mined. Over the 5 years to 1925 production dropped to 24,833tons, with only 905tons reported in 1925, the final year of production.

The Tonopah Midway Mining Company also incorporated in 1902 to develop five claims to the north of Tonopah Mining and the east of the Montana-Tonopah ground. The shaft encountered the ore horizon at 425feet. In 1905 and 1906 the company shipped almost 5,000tons with a reported grade of 162oz/t Ag and 1.6oz/t Au. From 1907 through 1909 production declined to a total of 10,045tons with a gross value of \$34.50/ton. The decline in production continued into 1910 when only 2,571tons were shipped. In 1912 the company started sinking the No.2 shaft on the Silver Top claim which by 1925 had been interconnected with the No.1 shaft, however low grade ore and excessive water inflows rendered the operation uneconomic and it closed.

In 1903 the Jim Butler Tonopah Mining Company was incorporated to develop a group of 16 claims to the south of the eastern end of the Tonopah Mining Company property. Four shafts were sunk with the Wandering Boy shaft encountering the Fraction Vein. The ore from this vein was high grade however the vein was narrow and extensively fractured and faulted resulting in little production. Reported production for 1903 and 1904 was 7,500tons with a value of \$670,000. This mine operated on a small scale from 1907 to 1910 under the supervision of the Tonopah – Belmont staff at a production rate of less than 10tons/day. After 1910 exploration work consisted of driving out from the Desert Queen shaft and deepening the Wandering Boy shaft. This work resulted in the location of additional ore bodies and from 1912 to 1918 the company shipped 215,000tons with a gross value of \$22/ton with silver values between \$0.50 and \$0.60/oz. This ore was milled at the Belmont Mill at Millers. From 1914 to 1918 the mine averaged 40,000tons/year with most of the ore ascribed to the Desert Queen and Wandering Boy shafts and derived from the Fraction Vein. In 1919 production dropped off to 12,619tons. In 1913 the Jim Butler and West End companies started legal proceedings regarding Apex Rights on a new vein that the West End company was mining. This fight culminated in a supreme court decision in favour of the West End Company in 1918, at which point the Jim Butler Company ceased operations.

The West End Consolidated Mining Company operated on the West End claim which was located in 1901. The shaft was located at the extreme east end of the claim about 200feet from the Tonopah Mining claims. At 400feet a vein was encountered with low values, however within 20 feet of this intersection high grade ore was located. Initial production was recorded in 1906 of 241tons at a grade of \$62/ton. A new two compartment shaft was started near the middle of the property which became the main working shaft. In September of 1907 the No 2 shaft was connected with the No 1 shaft at the 275foot level and a 112foot wide quartz vein was intersected. Development work continued through the depression period on both shafts funded by the direct shipping ore that had been encountered in late 1906. Litigation associated with Apex rights between the West End and the MacNamara mines was

settled in 1908 with both parties relinquishing any claim on ore past their common side line boundaries. From 1907 through 1910 inclusive the production was 21,145tons for a return of \$593,059. In 1911 16,164tons were shipped with a gross value of \$338,061. Exploration at the mine in 1912 resulted in the delineation of five new ore bodies with a potential 70,000tons of ore grading \$20/ton. Production figures for 1914 show 51,471tons with a value of \$935,046. In 1915 production declined to 43,687tons with a gross value of \$16/ton. Company reports for 1916 show production declining again to 32,009tons with a gross value of \$16.43/ton. In 1917 45,910tons were shipped to the mill, the Ohio vein was discovered on the California claim, and the West End shaft was deepened to 1,212feet. Company reports for 1918 detail 50,195tons mined and delivered to the mill. The tonnage mined continued to increase with 53,000tons in 1920 and 74,674tons in 1921 at approximately \$20/ton value with silver selling for \$1.00/oz. Peak production for the West End Consolidated was achieved in 1922 at 98,181tons with 60,000tons ascribed to the Ohio Vein. In 1923 the tonnage milled dropped to 70,458tons, and again in 1924 dropped further to 43,745tons. By 1925 production had dropped to 28,440tons of lower grade ore. Production continued to decline through 1926 and 1927 with 18,338tons and 7,114tons respectively. All operations were suspended in 1930 and the mine closed. Total recorded production was listed as 775,011tons.

The MacNamara Mining Company was formed on the single claim located between the West End Claim to the south and the Tonopah Extension ground to the north. The shaft was located within 400feet of the Tonopah Extension shaft and encountered the ore horizon at 200foot depth. In 1906 the company reported production of 718tons for a value of \$89,281. No production was recorded for 1907, however over the subsequent 3 years a total of 31,780tons worth \$737,574 was shipped.

Tonopah Extension Mining Company, the third largest producer in the camp's history, was organized in 1901 to develop three claims located southwest of the Tonopah Mining Company's easterly claims— the Sand Grass, the Red Plume, and the Buckboard. The original shaft reportedly hit ore at 183ft depth in the Number 1 shaft, and over the years the claim block was expanded to 1,148 acres through acquisition, and also a 30 stamp mill was erected. Ultimately several shafts were sunk on the property, the Number 1 1,050ft McCain 1640ft, the Victor +2,000ft, the Cashboy 2,375ft, and Number 2 950ft started in 1912. Initially the Number 1 shaft was the main working shaft but eventually it fell into disuse and the Victor became the primary working shaft. Water was problematic below 1,170ft with very hot water encountered deeper in the Victor and Cashboy shafts.

Production in 1905 and 1906 consisted of 10,000tons and 22,154tons respectively. From 1907 through 1910 production dropped off with records stating that shipping ore was 5,722tons in 1907, 3,274tons in 1908, 0tons in 1909 and 44,524tons in 1910. From 1907 through 1910 the company milled an average of 156,000tons/year. A 1909 report from the mill stated that the ore averaged 0.313oz/t Au and 28.05oz/t Ag for a gross value of \$21/ton. By 1926 the company was pumping about 3 million gallons of water a day. In 1928 the

company went bankrupt, and was bought out of receivership and revitalized, but finally shut down in January 1931. The company produced 261,406.47 oz Au and 25,288,018 oz Ag from 1,641,751 tons of ore between 1904 and 1927.

Between 1924 and 1926 a deep development/exploration program was carried out on the Belmont Quartz and immediate vicinity. Pickard reports in Aug 1926 that little development work is being done, and three drifting machines are employed at the Belmont, drilling +200ft holes in the search for new ore bodies, and when mineralization is found a cross cut, or raise is then driven to intersect the ore.

At some point in the 1930's the top surface of the Belmont tailings was dammed and a cyanide solution was flooded onto this surface. Once the fluid had evaporated the silver sulfosalts that precipitated were then scraped off and processed for their precious metals content. It is not known how long this was done but it does appear that this did result in some leaching of metals down to depths of at least one meter.

In 1973 The US Department of the Interior drilled seven core holes under the "Heavy Metals Program" at presently unknown locations. It appears from the information on hand that four holes (vertical, 45 degrees north & 45 degrees south and unknown declination to the north) were drilled from pad 2, while 3 holes (vertical, 45 degrees north & 45 degrees south) were drilled from pad 3. Summa acquired the analytical data for this drilling that appears to indicate there could be potential for bulk mineable stockwork precious metals type mineralization. A maximum value of 25,090ppm silver and 20.7ppm gold was received for a 1foot sample. These holes were drilled to depths from 25 to 100', and were sampled at 1' intervals. In all 432ft were drilled and 782 (including splits) samples were collected.

In 1968-'69 the Hughes Corporation owned by Howard Hughes buys over 2000 claims in Nevada and California – including a number of claims in Tonopah. In 1969 the company under the direction of AJ Anderson (Saunders - Summa Correspondence) drilled 59 Auger holes on the Belmont tailings determining the average grade to be 1.48 oz/ton Ag and 0.010 oz/ton Au, with the average depth of the tailings being 12.7feet. In 1972 all of Hughes's mining assets were put into the newly formed Summa Corporation. A dump and tailings sampling program was carried out by Churchill and Fahey during 1974 which would be a useful comparative dataset for future sampling programs. Figure 6.2 shows the location of the main dumps and tailings areas within the Tonopah camp.

In 1976 due to lack of a map of surface locations for the '69 tailings drilling a "Vacuum rig" drilling program was undertaken on the Belmont Tailings consisting of 43 holes along 12 North – South fences – outlining (Saunders - Summa Correspondence) 1,292,534 tons at 1.2911 oz/ton Ag for 1,668,661 oz Ag, and 0.006 ounces of gold per ton or 7,755 oz Au. This information is included for historical completeness only, and does not meet 43-101 guidelines for resource calculations. Also in 1976 a report on the Belmont tailings was prepared by Ed Kebbe for Summa Corp. The report states that the Belmont Tailings are amenable to an agitated leach carbon-in-pulp process which was believed would recover 57% of the contained silver in the tailings. Records indicate about 1,600,000 tons of ore was treated and 94.8% recovery attained on the original 25 ounce/ton silver ore. A 400 pound composite sample was prepared using the cuttings from the 43 auger holes referred to above. The grade of the composite was 1.3 ounces of silver per ton and 0.006 ounces of gold per ton.



A 1976 report by D. Hamilton of the Denver Equipment Division Ore Testing Laboratory describes the work done on a sample of the Belmont tailings for the purposes of designing a cyanidation plant to treat the tailings. The purpose of the test work was to determine the cyanidation thickening and filtration characteristics of the Tonopah Belmont tailings. A carbon in pulp cyanidation process was contemplated to process 2000 tons of tailings per 24 hour day, and a 40 - 50% minimum recovery is needed for economic treatment of the tailings. The submitted sample assayed 1.10 ounces silver and 0.01 ounce gold per ton. Results of this work showed that gravity table concentration of tailing sample recovered 15.1 percent of the silver in the heavy mineral concentrate Flotation recovered 69.8 percent of the silver in a product assaying 3.30 ounces silver per ton, cyanidation tests showed silver extractions from 33.3 to 65.2 percent depending on the strength of cyanide solution and time of agitation. A final test using activated carbon to adsorb the silver from solution was very effective producing desorbed cyanide solution assaying 0.007 ounces silver per ton.

Pruett produced a positive tailings and dumps feasibility report also in 1976 which contains more detail on the processing of the tailings. This report envisaged a 2,000 ton/day plant which would recover 988,000ozs silver and 2,500ozs gold annually. This information is included for historical completeness only, and does not meet 43-101 guidelines for resource calculations.

In 1977 the Summa properties were acquired by HIMCO (Houston Oil and Minerals – later Houston International Minerals). Through 1978 & '79 – HIMCO conducted drill programs focused mainly on the King Tonopah, which is no longer a part of the claim package.

In 1979 a 1,385ft diamond drill hole HT-18, was completed to test for the extension of the West End Extension Vein. The vein was intercepted at 1,100ft but carried no significant values over its 15foot width.

In 1980 M. Washington prepared a positive feasibility report on reprocessing the tailings and dumps for Houston based on a 1,000 tpd cyanide mill operating for 7.5 years. For this report the resource used was 1,138,429tons from the dumps and 1,458,235tons from the tailings. The average grade of the dumps was given as 1.96oz/ton silver and 0.02oz/ton gold and for the tailings as 1.42oz/ton silver and 0.01oz/ton gold. An additional 100,000 tons of 3.0oz/ton silver and 0/03oz/ton gold is referred to as available in an open pit at the Mizpah Glory Hole, but no details are given as to the source of this data.

Dawson Laboratories carried out metallurgical testwork in 1980 on both the dump material and the tailings. The results of this testing indicated that good recoveries could be expected either by cyanide leaching or flotation on ball mill ground ore. Heap leaching did not appear feasable as recoveries were low and the amount of slimes present in the ore caused percolation problems. Recoveries for silver ranged from 72% to 76% and for gold from 55% to75%. No details of the samples submitted for testing are available and these results are included for historical completeness only, and do not meet current 43-101 guidelines.

In 1980 a total of 27 holes were drilled in the area of Mizpah Hill to test the idea that broad areas of disseminated lower grade mineralization may exist (Figure 6.3). Most of the first ten



holes were relatively successful, with mineralized intercepts of up to 60feet. Table 6.1 shows the significant intercepts from this drilling program.

	0			0	
Hole #	From (ft)	To (ft)	Width (ft)	Au (oz/t)	Ag (oz/t)
TR-6	145	200	55	0.007	0.69
TR-8	0	60	60	0.015	0.90
TR-10	40	70	30	0.045	4.09

Table 6.1 Significant Intervals 1980 HIMCO Drilling

Generally the breccias encountered in the altered Mizpah Andesites were typically too narrow and too low grade to be of economic interest. The majority of the following 20 holes were abandoned after hitting old workings, however a number of them did encounter at least some anomalous mineralization. Hole TR-10 intercepted a 5ft wide zone of 0.220 oz/ton Au, 18.58 oz/ton Ag within a 20ft wide zone that graded 0.045 oz/ton Au and 4.24 oz/ton Ag.

In 1980 a brief socio-economic evaluation of the Tonopah lands was carried out by D. Berents for uses other than mining or mineral related. His conclusion after a trip to Tonopah was that there was a need for a small shopping center including large grocery store and a large variety store, additional recreation facilities such as a bowling alley, cinema and casino. He also concluded that the town had insufficient residential home sites.

In 1980 Woodward-Clyde Consultants were contracted to comment on the suitability of the dump and tailings sampling carried out by HIMCO. The principal purpose was to evaluate the procedures used for sampling, assaying and volume determinations of a number of mine dumps and tailings areas in the Tonopah district. Their conclusions were "that the dump trenching completed by Houston International Minerals appears to have been done diligently and thoroughly in most cases. In all cases the trench samples represent only the top or feet of dump material and do not represent the lower 10 to 45 feet of the various dumps. The trenches are usually well located and sampled with respect to layering of dump material in that they crosscut the layers. Samples were then cut every five feet normal to the layers". The Tonopah Belmont tailings area was sampled by small diameter drill holes on 300foot centers which was considered inadequate for grade determination and subsequent financial analyses. Large diameter drill holes of 24 to 28 inches on no more than 100foot centers was recommended.

In April of 1981 a contract was signed between HIMCO and Phoenix Geophysics to carry out a 4 line resistivity survey over a portion of the Tonopah ground. No data are available to indicate where the survey was carried out or what the results showed.

Lakefield Minerals was contracted in 1982 to carry out silver and gold extraction tests of 2 samples for HIMCO. No information is included as to the source of the material or the size of the samples. The head assays are given as 0.27g/t Au and 41.07g/t Ag for sample BT1-16 and 0.69g/t Au and 59.6g/t Ag in sample TEXT-Composite. A maximum extraction of 88.8% for Au and 81.2% for silver were achieved.

In 1984 Tenneco Minerals Company acquired all of the HIMCO properties in the Tonopah area. In 1984 Dravo engineers were contracted by Tenneco to conduct a Capital and Operating Cost Study of a flotation mill facility. The study envisaged a 10year plant life capable of treating 5,000,000tons of ore from the dumps at a rate of 750tpd. The recovery rate for the plant was given as 83% for silver and 65% for gold based on mill feed averaging 2.0oz/ton silver and 0.2oz/t gold. A 1984 memo from Steve Dixon of Tenneco Minerals Company compares the dump and sampling programs of Summa Corp (1978-79) and Behre-Dolbear (1981) and concludes that the Summa sampling was more reliable due to larger sample size.

In 1986 all of the Summa property was acquired by Echo Bay Mines, who after an initial evaluation decided to divest the non-core asset portions of the package. The 1987 divestiture recommendations by Geologist James Cooper of Reno Nevada stated that "Sampling of the Tonopah Belmont Mine indicates that as much as 500,000 tons of developed ore at 20 opt Silver and 0.20 opt Gold may remain as gob (or lump ore) in old stopes".

In 1989 Echo Bay carried out the East Tonopah Drill Program. This consisted of fourteen reverse circulation holes in the area of the Belmont tailings pile, drilling under a surface exposure of mineralized rock that assayed 3.2 ppm Au & >100 ppm Ag (Figure 6.4). The first five holes were drilled to the south at 70 degrees inclination, while the remaining nine holes were drilled vertically. Hole ET-5 collared in the tailings and the first 25ft through the tailings assayed 1.1960z/ton silver and 0.0120z/t gold. The bulk of the drilling was in Mizpah formation andesite, however Oddie rhyolite was encountered locally with occasional intervals of Fraction tuff. Several weak zones of mineralization were encountered, however ET-7-89 encountered anomalous mineralization from 1675ft - 1785ft, with 1720ft - 1725ft reporting 0.153 opt Au and 13.52 opt Ag. Echo Bay decided to extend hole ET-7-89 to 1994ft, wedging off at ~ 1491ft and core drilling to TD. This program did determine that the mineralization seen in the earlier hole was the result of a 3" vein at 1680ft-1683ft depth that contained 0.239 opt Au and 25.95 opt Ag, enveloped in altered and mineralized Mizpah Andesite.

Santa Fe Pacific Mining acquired an option on the Tonopah properties in 1991 -1992. A deep hole MTE/CTE 001 was drilled in late 1992 and as a result of the data generated by this work the option was terminated. John Muntean re-logged and re-assayed much of the chips and core from the 1989 drill program paying closer attention to alteration. The work led to the drilling of CTE-01 a 2977.6' deep inclined (-60 @ 180 deg Az) core hole which was drilled under ET-7-89 which encountered several anomalous zones, and did intersect the vein seen in ET-7, however it was less robustly mineralized. In conversations with Santa Fe's exploration manager at the time (Wade Hodges – personal communication) he indicated that he felt that there was an overall lack of attention to alteration/geology when it came to Santa Fe dropping their option.

In 2002 Mark Eden buys a number of Summa mineral properties from Echo Bay, by some accounts (T. Menning personal communication) claiming that he is the illegitimate son of Howard Hughes, and that he wanted something to remember his father by. Mark Eden dies in 2005 and the property title is vested to his estate, which is administered by his wife, Sarah or Beryl Pess. In 2009 Ms Pess dies and an almost nine year legal battle ensues after First



American Silver (Summa, LLC's predecessor) unveils a fraud by third parties in the public disposal of the estates assets. In 2018 Summa, LLC is awarded quiet title to the property and began compiling available data. Using the data generated in the 1970's and '80's it is estimated (Tom Lewis personal communication) that Summa LLC's current land package hosts approximately 1,458,235 tons of tailings which contain approximately 15,137 oz Au, 2,067,461 oz Ag. The property also hosts approximately 876,685 tons of mine waste which may contain approximately 16,637 oz Au, 1,714,069 oz Ag for a combined total of approximately 31,774 oz Au, and 3,781,530 oz Ag. The reader should be cautioned that this has not been quantified, and is a reiteration of what has been historically reported to exist on the property and is not 43-101 compliant.

7.0 GEOLOGICAL SETTING

7.1 Regional Geology

Tonopah is located slightly inboard of the western margin of the Basin and Range province, and on the eastern margin of the "Walker Lane", a zone of Miocene structural deformation trending northwest to southeast parallel to the trend of the Sierra Madre Mountains in Eastern California (Figure 7.1). The Walker Lane can best be characterized as a broad zone of abundant strike-slip right-stepping faulting. The trend of the pre-Tertiary geologic units over much of the Walker Lane exhibit an arcuate pattern as a result of the influence of two major structural regimes. A series of these arcs have been identified by past workers with the Tonopah area having been identified as being within the Silver Peak-Palmetto-Montezuma Oroflex (Albers & Stewart 1972). The oroflex is described as southward convex with bedding, fold axes and faults trending to the northwest in the Silver Peak Range, trending east-west in the Palmetto mountains and swinging around to the Northeast in the Montezuma Peak region. The Tonopah area lies on the eastern limb of the oroflex. The Walker Lane is also noted as being particularly well endowed with mineral deposits, and in all likelihood the coincidence of these two structural regimes has created favourable plumbing, which is responsible for the high frequency of deposits in the region.

To the west of Tonopah the White Mountains represent the westernmost range of the central Basin and Range province. They are situated to the east of the unextended Sierra Nevada Range and represent a crustal block that is bounded along its western flank by the high-angle White Mountains fault zone, with up to 8 km of total dip-slip displacement. Miocene volcanic rocks preserved along the eastern side of the range unconformably overlie Mesozoic granitic basement and dip up to 25° to the east, tilting occurred in the middle Miocene.

The early geology of the general Tonopah region is relatively simple with the earliest Cambrian and Precambrian rocks comprised primarily of distal maritime facies - limestones, and dolomites with some hornfelsed shales. These are in fault contact with Ordivician limestones, argillites and shales. From this point in time forward things become increasingly complex due to extensive volcanism in possibly alternating terrestrial, and lacustrine settings. None of the Cambrian or PreCambrian rocks outcrop in the immediate Tonopah area but fragments of these lithologies are present in volcanic breccias locally, so it is believed they form the basement of the volcanic complex.



GEOLOGIC MAP OF THE TONOPAH. ĥđ Mine dumps and tailings des Dunes and eolian sand LONE MOUNTAIN, KLONDIKE, AND NORTHERN 0n Playa deposits Or Talus MUD LAKE QUADRANGLES, NEVADA Qs Ephemeral stream deposits Odp Mixed dune-playa deposits Ofr Fan and pediment deposits Qoa Older alluvial deposits Dog Old gravel deposits Its Travertine spring deposits SCALE 1:48 000 Rhyolite of Klondyke **3 KILOMETERS** Rhyolite, northeastern Lone Mountain **Rhyolite of Millers** CONTOUR INTERVAL 40 FEET DOTTED LINES REPRESENT 20-FOOT CONTOURS DATUM IS MEAN SEA LEVEL intrusive rocks flows APPROXIMATE MEAN DECLINATION, 1961 Refer to plate 2 for interpretative cross sections Trachyandesite of Mud Lake Las Vega Ttm flows Ttmi intrusive rocks Trachyandesite of Red Mountain intrusive rocks MAP SYMBOLS Ttra agglomerate Ttrf flows -?--- Contact. Showing dip, dashed where approximately located, querried where doubtful, Ttrs tuffaceous sedimentary rocks High-angle fault. Showing dip, dashed where approximately located, dotted where con-Tg Gravel cealed, ball on downthrown side, querried where doubtful Trachvandesite of Thunder Mountain Thrust fault. Saw-teeth on side of upper plate, dashed where approximately located, dotted where concealed, querried where doubtful. Tu intrusive rocks Tta agglomerate _____ ↑ 10 Anticline. Showing bearing and plunge of axis. flows Tot Olivine trachvandesite intrusive * 10 Syncline. Showing bearing and plunge of axis. Volcanics of Donovan Peak Tvd dacite Tvrd rhyodacite to rhyolite intrusive rocks and flows Tva Strike and dip of compaction foliation. $__^{15}$ Inclined \rightarrow Vertical \rightarrow Horizontal anniomerate related to Tyrd Tvr flow-banded rhyolite Strike and dip of primary or flow foliation. 15 Inclined + Vertical + Horizontal Td Divide Andesite Strike and dip of joints. 15 Inclined - Vertical + Horizontal **Brougher Rhyolite** Tb flows Thd Topographic base from U. S. Geological Survey Klondike 7%' quadrangle, 1970; Lone Mountain 15' quadrangle, 1961; Mud Lake 15' quadrangle, 1952; and Tonopah 15' quadrangle, 1961. domes Oddie Rhyolite Rhyolite domes and associated pyroclastic breccias Printed by Williams and Heintz Map Corp., Washington, D.C. Cartography by Susan L. Nichols Composed by Georgianna Trexler Rhyolite dikes and intrusive breccias Siebert Formation

Nevada Bureau of Mines and Geology University of Nevada, Reno, NV 89557

Legend to accompany Figures 7.1 & 7.2



trachyandesite flows

Volcanics of Lime Mountain

intrusive rocks

annonerate

Rhvolite of the Cleft

unner cooling unit

lower cooling unit

unit

unit

undivided

hreccia unit

flows

Heller Tuff

basal sedimentary breccia

tuffaceous sedimentary rocks

spherulitic rhyolite domes

Tsb

Timi

Tima

Tims

Tim

Tht

Tfk

Tikal

Tfkl

Tfielb

Tfk

Tfbx

From the earliest Mesozoic through to mid Pliocene the area has undergone considerable volcanic activity. The Cretaceous was notable for the wide range of porphyritic extrusive rocks ranging from Gabbros to Rhyolites in composition, with plutonic intrusives developing locally. The start of the Tertiary was marked by a compositional change of the volcanic rocks with predominately felsic to intermediate volcanism dominating.

The generalized geological section as adapted from Albers & Steward (1972) is as follows:

Valley alluvium, landslide deposits Basalts	Pliocene to Holocene Mid Pleistocene
Sedimentary Rocks	Mid to late Plicage
Persic ash nows with local basalts	Nild to fate Photene
Rhyonte Flows, Alffan Tull etc.	
Various Andesites & Rhyolites	Tertiary - Miocene
Unconformity	
Various Cretaceous volcanic & intrusive	Mesozoic - Cretaceous
Unnamed Limestone at Rays	Paleozoic – lower Mississipian
Valmy(?)	-
Palmetto Formation	Paleozoic – Ordovician
Thrust Fault	
Emigrant Formation	Middle to Upper Cambrian
Mule Spring Limestone	
Harkless Formation	Middle Cambrian
Thrust Fault	
Deep Springs Formation Reed Dolomite	Precambrian

7.2 Local Geology

Wyman Formation

The local geology is extremely well documented with geological investigations going back as early as 1905 when Spurr first published his voluminous observations of the camp. Spurr continued his work in the camp well into the 1920's, followed by Bastin and Laney (1918), and later Nolan in 1930 published a study of the mines in the western part of the camp, and later expanded on this work, publishing a study that encompassed the entire camp in 1935. Later work was done in the area by Bonham (1972) and Bonham & Garside (1974 & 1979) during the time that work was carried out by Summa, Tenneco, and Houston Oil and Minerals. The earlier workers in the area had the distinct advantage of having the bulk of the mine workings available



at one time or another for inspection, while the later workers had the ability to draw from all the earlier well-documented work (Figure 7.2).

Given the nature of this primarily felsic volcanic center, and the considerable alteration that has taken place prior, during and possibly somewhat after the mineralizing events, the geology of the camp is quite complex, and deciphering the history of the geology and mineralization of the area is only possible due to the thorough the attention paid to detail and the recording of these findings by earlier workers. The stratigraphic section of Summa's claims as adapted from Spurr (1905), Nolan (1930 & 1935), and Bonham & Garside (1979) is:

Pleistocene and Rece	ent			
Unconsolidated sediments		Pediment Desert Wash and Alluvium Basalt Flows – few locations locally		
	Unconformity			
Pliocene				
Volcanics		Andesites – mainly Mud Lake & Red Mountain & welded rhyolitic ash and tuff Possibly Spurr's "Latest Rhyolite or Dacite"		
	Possible Unconformity			
Miocene				
Divide Formation Brougher Formation		Andesite – Immediate south of the camp Welded rhyolitic ash and tuff, and intrusive necks (Mt Brougher) or domes		
	End – Minor Mineralization	n Event		
Oddie Formation		Rhyolite		
Siebert Formation		Tuffaceous shales		
		Diatomaceous shales		
		Freshwater algal limestone		
	Minor Unconformity			
Tertiary – Oligocene				
Heller Dacite		Dacitic intrusive – Glassy vesicular dacite with Andesite and Granite inclusions – up to boulder size		
	End - Major Mineralization	n Event		
Fraction Tuff		Massive ashfall tuff and breccia – darker basal portion contains numerous andesitic fragments. Often unconformably overlies older formations due to faulting.		

West End Rhyolite		Intrusive – extensive but locally absent – in the west a sill like mass marks the contact of the Tonopah Formation with the later Mizpah Andesite
Extension Breccia		Intrusive – various earlier rock types in a reddish groundmass with quartz eyes
"Later" Andesite		locally "Midway Andesite" – propylitically altered trachyte or keratophyre – probable altered phase of the earlier Andesite
"Early" Andesite		"Mizpah Formation" or "Sandgrass Andesite" – host to most economic veins – light greenish small feldspars – variably altered – silicified
	Start - Major Mineralizatio	n Event
Tonopah Formation		"Lower Rhyolite or Tonpah Rhyolite - Dacite" - variably coloured almost ubiquitous rhyolitic-dacitic intrusive rock in the north, extrusive in the south of the camp
	Unconformity	
Cretaceous? Granite		Granite – Not seen within camp - but inclusions noted in several locales here
	Unconformity	
Cambrian/Silurian Limestones and Shale	S	Not seen locally – but inclusions noted in dacitic breccias

Dykes – various dykes, aphosyses etc. emanate from the intrusive rocks listed above.

As previously mentioned the Tonopah area has been influenced by at least two distinct structural events. The first of these being the Silver Peak-Palmetto-Montezuma oroflex, a southward concave bending of the pre-Tertiary sedimentary and igneous rocks, which probably resulted in the formation of a number of northeast trending normal faults in the Tonopah area due to its location on the Northeast limb of this structure. The second event, which gave rise to the Walker Lane occurred in or throughout the Mesozoic resulting in a multitude of northwesterly trending faults, some of which are quite prominent strike slip faults. In Tonopah a number of high angle normal faults occur, which generally strike northerly, however these faults typically vary within 20° of north, with the northwesterly trending faults or segments quite probably due to Walker Lane Mesozoic deformation, while the northeasterly faulting possibly a manifestation of reactivation in a seismically active area of the older northeasterly trending faults of the Oroflex. The bulk of the faults tend to be less than a kilometer in length, although the Halifax fault is in

the order of 6 kilometers, and the range bounding fault that originates to the west of Tonopah, and runs up the west side of the range through the Crescent Dunes area is considerably longer. Both of these faults are thought to be older faults that have been reactivated during the Tertiary. The north to locally northwesterly trending Halifax fault dips somewhat shallowly $(20 - 30^\circ)$ to the east, while not apparently a controlling feature, it marks the eastern limit of the orebodies exploited in the Tonopah camp (Figure 7.3). Mineralization has been shown to exist in the hanging wall of drill holes to the east of the Halifax fault.

There is a doming of the volcanic rocks in the center of the Tonopah camp which is thought to be a physical manifestation resulting from a hypabyssal intrusive.

7.3 Mineralization

The "Early" andesite of the Mizpah formation is almost exclusively the host rock for mineralization, however Bonanza style lode mineralization of the epoch does extend into the later andesite and in certain mines above the Mizpah into the Extension Breccia, the West End Rhyolitic intrusive and into the Fraction Tuff. From relative positioning and age dating it has been established that the earliest mineralizing event occurred between 20.5m.y. to 17m.y. before present.

The later mineralization event occurred around the end of the emplacement of the Fraction Tuff. At Three Hills the gold bearing discontinuous, irregular, narrow, brecciated chalcedony quartz veinlets, and stockworks occur in a zone of pervasive silicification of the Siebert Formation immediately above the contact with the Fraction Tuff. At Hasbrouck some gold-silver mineralization is seen within the Fraction Tuff, near its contact with the overlying Siebert formation, which hosts the bulk of the gold-silver mineralized veinlet and stockwork deposits. These occur as erratic bodies of hydrothermal breccia accompanied by strong pervasive silicification with associated adularia and pyrite. Adularia associated with mineralization at the Divide deposit was dated at between 16.3m.y. and 16.4 m.y. before present.

8.0 **DEPOSIT TYPE**

The main mineralization identified in the camp can be classified as Bonanza grade lowsulphidation vein type epithermal precious metal veins with Ag:Au ratios of roughly 100:1. The later mineralization event was also epithermal in nature but it is typically lower grade and classified as low-sulfidation, epithermal gold (Three Hills) or low-sulfidation epithermal goldsilver (Hasbrouck) deposits.

9.0 EXPLORATION

Summa, LLC has not conducted any exploration on the property. Exploration performed by previous operators is detailed in Section 6.0 - History

10.0 DRILLING

Summa, LLC has not conducted any drilling on the property. Drilling performed by previous operators is detailed in Section 6.0 - History



11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Very little information is available on the specifics of sample preparation or analytical procedures for the historic sampling. There is however good consistency and continuity of the tenor of assay values over the generations of results, and between many different companies. This would suggest that the work was performed to the standards of the day in a professional manner. Reports available from independent consulting groups contracted to evaluate previously conducted sampling programs are consistently positive with respect to the caliber of the work, whether the methodology was considered adequate or not. Additionally, the work was in general carried out with a view to making a production decision as opposed to furthering an exploration play. While a number of mineralized rocks were examined by the author, mainly from the dumps of the various historic mines in the area, no samples were taken as the history of the mines and the camp in general is well documented, and it was felt that a few samples would not significantly add to the database already in Summa LLC's library, and the information currently available in the public domain. In the author's opinion, the adequacy of sample preparation, security, and analytical procedures were suitable for the purpose of the work conducted.

12.0 DATA VERIFICATION

The Hughes - Tonopah property has numerous zones of known mineralization that were explored in the early 1900's. Not all of this historical work is documented, and most of the old workings are inaccessible. The available data from these past exploration programs have been reviewed by the author. Most of this historical work appears to have been conducted in accordance to standard industry practices of the time, although none conforms to current Exploration Best Practices Guidelines. It is not known if the previous sampling programs employed any internal quality control or quality assurance program.

The data reviewed and used in the preparation of this report are in the authors opinion adequate to the purpose of this report.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Summa, LLC has not undertaken any mineral processing or metallurgical testing on the Tonopah-Hughes property. Previous operators have conducted such tests and this work is reported in Section 6.0 - History.

14.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

Summa, LLC has not prepared any mineral resource or mineral reserve estimates on the Tonopah-Hughes property. Summa Corporation did tabulate resource estimates for the tailings and dump piles that were within their property. These estimates are described in Section 6.0 - History, and are included for completeness of the historical record only as they are not 43-101 compliant.

15.0 MINING METHODS

Considerable mining has previously been done here, and mention of the methods utilized is available in public archives, no studies of mining methods have been carried out by Summa, LLC.

16.0 RECOVERY METHODS

No studies of recovery methods have been carried out by Summa, LLC. Those conducted previously by other operators or property owners are discussed in Section 6.0 – History.

17.0 PROJECT INFRASTRUCTURE

No studies of infrastructure requirements have been carried out by Summa, LLC. Those done by previous operators are discussed in Section 6.0 - History.

18.0 MARKET STUDIES AND CONTRACTS

No marketing studies or contract negotiations have been carried out.

19.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

No environmental, permitting, social or community impact studies have been carried out by Summa, LLC. Those done previously are discussed in Section 6.0 – History.

20.0 CAPITAL AND OPERATING COSTS

No capital or operating cost studies have been carried out by Summa, LLC. Those done by previous operators are discussed in Section 6.0 - History.

21.0 ECONOMIC ANALYSIS

No economic analysis has been undertaken by Summa, LLC. Those done previously are discussed in Section 6.0 - History.

22.0 ADJACENT PROPERTIES

There are numerous other mineral claims held by various parties immediately adjacent to or close to Summa's Hughes Tonopah project. They are largely inactive, although Tonogold Resources Inc., had tried to consolidate a number of both patented and unpatented claims around the King Tonopah (a past producer that was originally a part of the Summa Corp properties, which must have been divested by either Echo Bay Mines or Kinross) from 2005 until at least 2011, and their VP of Exploration Donald Strachan wrote a draft NI 43-101 report in May of 2011.

Not too distant to the west of Summa's westernmost claims Ely Gold optioned their Tonopah-Hughes (formerly a part of Summa Corp's holdings) property to Coeur Mines. The optioned property consists of a contiguous package of 18 patented, and 17 unpatented claims. Also optioned in the agreement was Ely Gold's West prospect, consisting of five patented claims the location of which is unknown. While neither Ely Gold or Coeur have issued a press release, it does appear that drilling was occurring on the property on October 28 - 29, 2018 (Tom Lewis Summa, LLC – personal communication), but little is known about the program as no press releases have been issued by either party, and as the work is on private land no BLM permit was applied for or issued.

Further to the west is West Kirkland Mining's Three Hills deposit, which also incorporates a number of patented claims that originate from the package that Summa Corp amassed in the 1960's. West Kirkland acquired a 75% interest in the property from Allied Nevada in 2014 along with the Hasbrouck deposit which is several miles to the south of Summa, LLC's Hughes -Tonopah property for \$20,000,000. Allied Nevada entered into Chapter 11 Bankruptcy proceedings in 2015, and later that year the court approved a sale of their exploration assets (including their interest in Three Hills, and Hasbrouck) to a subsidiary of Waterton Precious Metals Fund II. Since West Kirkland consummated the agreement they have actively explored and drilled both deposits as well as conducting surficial exploration elsewhere on the claims. Additionally they have been active with feasibility studies, and the permitting required to commence mining at Three Hills. To date the Three Hills deposit has Probable Reserves of 9,653,000tons at a grade of 0.018oz/t Au, for 175,000 ounces Au. The Hasbrouck deposit consists of a Proven and Probable resource of 35,617,000 tons at a grade of .017opt Au and 0.297 opt Ag. The author has been unable to verify the historical production and the information is not necessarily indicative of the mineralization on the Hughes – Tonopah property that is the subject of this technical report.

There are two producing precious metals mines in the area. Round Mountain is a 50/50 joint venture between Kinross Gold and Barrick Gold, approximately 71 kilometers to the north of Tonopah. It has been an underground and now an open pit producer for a large portion of its 113 year life. It has Proven and Probable reserves in 2017 standing at 27,300,000 tonnes at a grade of 0.79g/T Au and a further 23,568,000 tonnes of Measured and Indicated ore at a grade of 0.58g/t Au. Mineral Peak is an historic mining area that is approximately 51 kilometers to the southwest of Tonopah which produced almost 600,000 ounces Au. It was reactivated by Scorpio Gold Corp. in 2011 and in 2017 reported Measured and Indicated resource of 7,117,000tons at a grade of 0.017opt Au and 0.017opt Ag on the leach pad. Resources in "other" areas are reported as 3,183,000tons at a grade of 0.072opt Au of Measured and Indicated ore. The author includes this information in a regional context and is not necessarily indicative of mineralization on the Hughes-Tonopah property that is the subject of this technical report.

Additionally there are identified but un-mined resources within the region: The past producing Hall Moly/Equitorial/Tonopah Copper deposit is located about 28 kilometers north of Tonopah. This quartz stockwork pipe in a quartz monzonite host was estimated to contain a global resource of 455,000,000 tons at 0.072% Mo, and 0.06% Cu in 1983. The Midway gold deposit approximately 25 kilometers to the northeast of Tonopah, reported an inferred resource of 114,000,000 tons at a grade of 0.3017opt Au in 2011. These resources are historical in nature

and should not be relied upon. It is unlikely they conform to current NI 43-101 criteria or to CIM definition standards and they have not been verified to determine their reliability. They are included in this section for illustrative purposes only and should not be disclosed out of context.

23.0 OTHER RELEVANT DATA AND INFORMATION

The author is not aware of any other relevant data or information other than that presented in this report and recorded in Section 26 (References), although given the long and rich history of mining and exploration, and the limited scope of this report; it is unlikely that all material pertinent to the property currently even within the public domain has been uncovered.

24. INTERPRETATION AND CONCLUSIONS

24.1 Interpretation

The historic information available indicates that the mine dumps and tailings on the property potentially contain economic concentrations of precious metals which may be amenable to reprocessing in today's economic and technical environment. The abandoned workings potentially contain unmined zones, new and extensions to existing veins, and disseminated bulk mineable mineralization.

24.2 Conclusions

The Hughes - Tonopah property was once a prolific producer of silver and gold. Available information indicates that there remains economically interesting Ag/Au mineralization contained within the mine dumps and tailings piles present on the property. The Belmont Mill tailings contain the largest potential resource. The Cooper (1987) report appears to indicate that there could be economically interesting mineralization in the down faulted areas at the western end of the district. This and other reports indicate that historic sampling of the Tonopah-Belmont mine may contain up to 500,000tons of developed ore grading 20oz/ton silver and 0.2oz/ton gold as gob in old stopes. The 1973 government drilling intersected lower grade precious metal intercepts which may indicate the possibility of bulk minable mineralization.

In summary, the property has merit as an exploration prospect and also as a possible producer of silver and gold from existing mine dumps and mill tailings, and warrants further study/exploration.

The property is at an early stage of exploration. The significant risk for the Hughes -Tonopah property is the same as all early stage exploration properties and that is there may be no mineral resource in economic quantities. As of the effective date of this report, the author is not aware of other significant risks that could affect the viability of the property.

25.0 RECOMMENDATIONS AND BUDGET

It is recommended that the company approach the property on several fronts. The initial work should focus on a program of data acquisition to augment the information contained in this report. A digital database should be established incorporating all existing information

(topography, geology, underground workings, sampling etc.) to produce a 3 dimensional model. A program of systematic sampling of the dumps and tailings should be carried out to define the tonnage and grade of the available material. Bench scale leach tests will be required to confirm grade and recovery data contained in the reports from the 1970's and 80's. Results of this work may lead to innovative solutions with respect to processing methodology. Access to some of the underground workings can be achieved from the shafts at the Mining Park, and re- sampling of accessible areas should be undertaken. This work would form the basis for a decision on whether the dumps and tailings would benefit from a further scoping study. The lower grade, bulk mineralization targets indicated by previous drill programs warrant additional follow-up diamond drill programs.

25.1 Cost Estimate

The budget for the proposed work is:

Phase 1	
Data Compilation and Assimilation - Model	\$60,000
Modeling	\$35,000
Geological mapping and sampling	\$40,000
Bench Tests – Leachability of Li	\$10,000
Hand auger Program – Tailings - 120 meters	\$10,000
Analyses – 200 samples	\$5,000
SUBTOTAL	\$160,000
Phase 2,	
Drilling (2,000 m Core Drilling)	\$400,000
Analyses 1600 samples	\$50,000
Support and contingencies	\$100,000
SUBTOTAL	\$550,000
TOTAL	\$710,000

Signed by J. Chapman, P Geo. In Vancouver, BC, this 30th day of April 2019.

____"James Chapman"___

26.0 REFERENCES

Albers J.P. and Stewart J.H., 1965: Preliminary Geological Map of Esmeralda County, Nevada, U.S. Geological Survey, Miscellaneous Field Studies Map, MR-298

Albers J.P. and Stewart J.H., 1972: Geology and Mineral Deposits of Esmeralda County, Nevada. Nevada Bureau of Mines and Geology, Bulletin 78.

Ball S.H., 1906: Notes on ore deposits of southwestern Nevada and eastern California: U.S. Geological Survey Bulletin 285, p. 53 – 73.

Ball S.H., 1907: A geologic reconnaissance in southwestern Nevada and eastern California: U.S. Geological Survey Bulletin 308.

Bastin E.S., and Laney F.B., 1918: The Genesis of the Ores at Tonopah, Nevada. United States Geological Survey Professional Paper 104.

Berents D, 1980: Report on Trip to Tonopah Nevada. Unpublished socio-economic report.

Bonham H.F. and Garside L.J., 1979: Geology of the Tonopah, Lone Mountain, Klondike, and Northern Mud Lake Quadrangles, Nevada. Mackay School of Mines University of Nevada – Reno, Bulletin 92.

Broderick A.T., 1949: Geology of the Southern Part of the San Antonio Mountains, Phd thesis – Yale University.

Campbell I, 1931: Petrography of the Tonopah Mining District, Nevada: Phd thesis – Harvard University.

Carpenter, J.A.; Elliot, R.R.; Sawyer, B.F.W. 1953: The History of Fifty Years of Mining at Tonopah 1900-1950; Nevada Bureau of Mines and Geology, UNV Bulletin Vol. XLVII, No.1

Dravo Engineers, 1984: Capital and Operating Cost Study Belmont Tailings Heap Leach Facility – Teneco Minerals, Inc. Tonpah, Nevada, Unpublished Report

Erwin J.W., 1968: Gravity Map of the Tonopah, Baxter Spring, Lone Mountain and San Antonio Quadrangle, Nevada. Nevada Bureau of Mines Map No. 36.

Hardyman R.F. and Oldow, J.S., 1990; Tertiary Tectonic framework and Cenozoic History of the Central Walker Lane, Nevada; Geological Society of Nevada Symposium Proceedings, Vol.1, pp 279 301.

Kebbe E., 1976: Summa Corporation, Belmont Tailings. Unpublished Report

Kleinhampl F.J. and Ziony J.I., 1984: Mineral Resources of Northern Nye County, Nevada. University of Nevada Reno.

Kozakowski J.M., 1978: Tonopah Project Report and Exploration Proposal. Federal Resources Unpublished Report.

McKracken, R. D., 1990: Tonopah, The Greatest, The Richest, and The Best Mining Camp in The World, Nye County Press

Nolan T.B., 1930: The Underground Geology of the Western Part of The Tonopah Mining District, Nevada. Nevada Bureau of Mines and Mackay School of Mines Bulletin No. 4

Nolan T.B., 1935: The Underground Geology of the Tonopah Mining District, Nevada. Nevada Bureau of Mines and Mackay School of Mines Bulletin No. 23.

Pickard B.O., 1926: Report on Underground Ventilation, Tonopah – Belmont Development Co., Tonopah, Nevada. Unpublished Report

Saunders F.T., 1984: Summary Report of the Exploration Potential of Tenneco Minerals Holdings in the Tonopah Mining District, Nye – Esmeralda Counties, Nevada. Unpublished Report.

Saunders F.T., 1976 – 1984: Various Summa Corp, and Houston Oil and Minerals, unpublished letters, reports and general correspondence.

Spurr J.E., 1905: Geology of the Tonopah Mining District, Nevada. United States Geological Survey Paper No. 42.

Tietz C.P.G., Dyer T.L., Osborne H., Baker P.E., Defilippi C., 2015: Technical Report and Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project Esmeralda County, Nevada. West Kirkland Mining - Sedar Published Report.

Washington M, 1980: Preliminary Economic Analysis for Tonopah Recycle Project, Tonopah, Nevada. Unpublished Report.

Woodward – Clyde Consultants, 1980: Evaluation of Methodologies Utilized for Grade and Tonnage Estimates of Mine Dumps and Mill Tailings – Tonopah, Nevada. Unpublished Report.

27.0 STATEMENT OF QUALIFICATIONS

I, Jim Chapman, P.Geo, of 2705 West 5th Avenue, Vancouver, V6K 1T5, in the Province of British Columbia, am a Professional Geoscientist.

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Licence #19871. I am a graduate from the University of British Columbia with a Bachelor of Science degree in geology in 1976, and I have practiced my profession continuously since graduation.

As a result of my experience and qualifications I am a Qualified Person as defined in National Policy 43-101.

This experience has included all aspects of the industry from project generation through implementation and report preparation for owners, clients and regulatory authorities. Since 1982 I have operated as an independent consulting geologist, I have been responsible for international and domestic project development, examination, evaluation and reporting on a variety of mineral deposit types and commodities, supervision and management of exploration projects as well as client representation and government liaison. I have consulted on vein hosted precious metal projects in Nevada, British Columbia, Ontario, Chile and Argentina.

I am the author of, and responsible for the preparation of the technical report titled "43-101 Technical Report on the Hughes - Tonopah Property, Nye County, Nevada USA for Summa, LLC dated April 30, 2019. The sources of all information are quoted in the report. The information provided by the various parties is to the best of my knowledge and experience correct.

I am an independent author as described by Section 1.5 of NI43-101. I have no direct or indirect interest in Summa, LLC or of the subject property described in this report.

As stated in the "Report" I conducted a site visit of the subject property on November 26th, 2018. Prior to the 2018 visit the author had no involvement with the subject property.

I am not aware of any material fact or material change with respect to the subject matter of this technical report, which is not reflected in this report, the omission to disclose which would make this report misleading. At the effective date of this report, to the best of my knowledge, information, and belief, the technical report, contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

I have read National Instrument 43-101, Form 43-101FI and this report has been prepared in compliance with NI 43-101 and Form 43-101FI.

Dated at Vancouver, British Columbia, this 30nd day of April 2019.

" James Chapman" Qualified Person