# GEOLOGICAL REPORT AND SUMMARY OF FIELD EXAMINATION, GOLDEN HILLS PROPERTY, La Paz County, Arizona USA

January 30, 2021

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#### PREPARED FOR

# **NSJ GOLD CORP.**

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In Compliance with NI43-101 and Form 43-101F1

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#### **CERTIFICATE OF AUTHOR**

I, Robert A. Lunceford., CPG, am a self-employed geologist.

This certificate applies to the technical report titled "Geological Report and Summary of Field Examination, Golden Hills Property, La Paz County, Arizona USA" for NSJ Gold Corp. dated January 30, 2021 (the "Technical Report").

I am a registered Certified Professional Geologist #6456 with the American Institute of Professional Geologists of Littleton, Colorado. I graduated with a BS degree in Geology in 1971 from San Diego State University, and a M.Sc. degree in Geology in 1976 from Montana State University. I reside at 761 Aspen Trail, Reno, NV 89519, USA.

I have practiced my profession for 38 years. During this time, I have participated in the discovery, exploration, and evaluation of metals and mineral deposits in North, Central, and South America, including more than 15 years' experience in project management and evaluations of gold systems in the western USA.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I visited the Golden Hills Property on October 7-8, 2020.

I am solely responsible for all Sections of the Technical Report.

I am independent of NSJ Gold Corp. as independence is described by Section 1.5 of NI 43–101.

Since October 1, 2020, I have been involved with the Golden Hills Property as a geologist who conducted a site visit on October 7-8, 2020 and subsequently reviewed, in detail, exploration data and results.

I have read NI 43–101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the Technical Report, to the best of my knowledge, information and belief, all sections of the Technical Report contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: 30 January, 2021

"Robert A Lunceford (sealed)"

Robert A Lunceford, M.Sc. Certified Professional Geologist.

# CONVERSIONS

The following table sets forth certain standard conversions from the Standard Imperial units to the International System of Units (or metric units).

To Convert From	То	Multiply By
Feet	Meters	0.3048
Meters	Feet	3.281
Miles	Kilometers	1.609
Kilometers	Miles	0.621
Acres	Hectares	0.405
Hectares	Acres	2.471
Grams	Ounces (troy)	0.032
Ounce (troy)	Grams	31.103
Tonnes	Short Tons	1.102
Short tons	Tonnes	0.907
Grams per ton	Ounces (troy) per ton	0.029
Ounce (troy) per ton	Grams per ton	34.438

# 1.0 SUMMARY

#### 1.1 Introduction and Terms of Reference

NSJ Gold Corp., ("NSJ" or the "Company") retained the Author to prepare a Technical Report on the Golden Hills Property (the "Property") under the guidelines of NI 43-101 in connection with NSJ's proposed application for listing on the Canadian Securities Exchange. NSJ executed an option agreement with Great Basin Resources Inc. ("Great Basin") dated effective August 14, 2020 pursuant to which NSJ can earn 100% interest in the Property subject to a 3% Net Smelter Returns royalty. Great Basin, as Optionor will operate planned work programs on behalf of NSJ.

This Technical Report, prepared in compliance with NI 43-101, is based on a foundation of published and archival geologic and historic data from the United States Geological Survey, Arizona Geological Survey and academic investigations conducted by graduate-level students from the University of Arizona. Internal reports and extensive primary geologic, and drill hole databases pertaining to work programs completed on the Property between the early 1980s and 2014 were reviewed. The Author, a Qualified Person (pursuant to NI 43-101) completed a site visit of the Property on October 7-8, 2020 with Richard Kern, President of Great Basin during which eight audit samples were collected (see Data Verification, section 12).

#### **1.2** Reliance on Other Experts

Mr. Richard Kern of Great Basin, a Qualified Person (pursuant to NI 43-101 requirements) supervised drill programs on the Property during 2010, 2011, and 2014. It is unknown if work and drill programs conducted prior to 2010 were supervised by a Qualified Person but data was collected and compiled by competent professional geologists who were employed by public Canadian and American junior mining companies.

Richard Kern of Great Basin provided certain information concerning the title and tenure status of the mineral claims comprising the Property. The Author has reviewed the relevant Federal and La Paz County required filing documents and payments for the assessment year ending August 31, 2021 and has no reason to believe that ownership and status of the unpatented (Federal lease) and patented (fee simple, deeded ownership) lode mining claims are other than has been represented. However, determination of secure mineral title is solely the responsibility of NSJ Gold Corp.

#### **1.3** Property Description and Location

The Property is located in southwestern Arizona in the northern end of the Plomosa Mountains. approximately 138 miles northwest of Phoenix, Arizona within La Paz County, Arizona<sup>1</sup> (Figure 4.1). The Property centroid is approximately UTM (NAD83 11N) 455,500mE, 4,387,500mN or Longitude -114°4' 29.227" by Latitude 33°58'17.187". The 94 unpatented lode and 7 patented lode mining claims comprising the Golden Hills Property (Table 4-1, Table 4-2) accrue 1,920 Ac. or 777 Ha. The Property covers portions or all of section 36, T8N, R18W, sections 31, T8N, R17W, sections 5, 6, 7, 8, 17, 18 of T7N, R17W and sections 1, 2, 11, 12, 13 T7N, R18W of the Gila and Salt River Base and Meridian (Figure 4.2).

<sup>&</sup>lt;sup>1</sup> La Paz County was formed in 1983 after voters approved separating the northern portion of Yuma County. The county seat is Parker.

#### 1.4 Mineral Tenure

#### Walker – Great Basin option

The 7 patented claims comprising a portion of the Property, were acquired by MinQuest Inc. (a predecessor company to Great Basin) on February 25, 2010 from a private individual (Jack Walker or "Walker") under a Property Option Agreement (or "1st Option"). The 1st Option required that MinQuest make annual payments of US\$5,000 on signing, US\$10,000 on the 1st Anniversary, US\$20,000 on the 2nd Anniversary, US\$30,000 on the 3rd Anniversary, US\$40,000 on the 4th Anniversary, and a final payment of US\$175,000 on the 5th Anniversary to earn 100% interest in the 7 patented claims. The payment schedules to Walker by MinQuest required under the 1st Option were amended in 2016 and 2017 leading to a second Option Agreement (2nd Option) executed on March 28, 2019 between Great Basin and Walker. The 2nd Option required payments of \$US12,000 on signing, \$US24,000 on the 1st Anniversary, US\$24,000 on the 2nd Anniversary, US\$36,000 on the 3rd Anniversary, and US\$39,000 on the 4th Anniversary to earn 100% interest.

#### NSJ Gold - Great Basin option

NSJ Gold Corp. executed an Option Agreement ("NSJ Option") dated August 14, 2020 with Great Basin to earn an undivided 100% interest in the 94 unpatented, and 7 patented claims comprising the Property, subject to a 3% Net Smelter Royalty. Exercise of the option requires that \$200,000 in total payments be paid by NSJ to Great Basin, with annual payments including US\$40,000 on the 2nd Anniversary; US\$60,000 on the 3rd Anniversary; US\$50,000 on the 4th Anniversary; and US\$50,000 on the 5th Anniversary. Additionally, the NSJ Option obligates NSJ to undertake annual work programs on the Property totaling US\$4,635,000 on the Property including US\$85,000 before the 1st Anniversary; a further US\$150,000 before the 2nd Anniversary; a further US\$1,000,000 before the 4th Anniversary; and a further US\$3,000,000 before the 5th Anniversary.

#### 1.5 Environmental Studies and permitting

The 94 unpatented claims are located on Federal lands which are administered by the US Bureau of Land Management (BLM). When the expected surface disturbance (such as drill road access and pads) is expected to be 5.0 ac. (accrued) or less, a Notice of Intent ("Notice") must be filed with the BLM before work can proceed. Surface disturbances expected to exceed 5.0 ac requires that a Plan of Operations ("POO") be submitted. At present, NSJ has not submitted either a Notice or POO for planned future work programs. The Author is not aware of what requirements are necessary for proposed surface disturbance on the 7 patented claims land in La Paz County.

There are several open historic shafts, adits or prospect pits on the Property, which remain from active operations conducted beginning in late 1800s and early 1900s and subsequently.

# 1.5 History

Production from the Plomosa mining district beginning in the 1860's is reported at 25,000 ounces of gold, and 129,000 ounces of silver. The so-called Bouse sub-district where the Property is located, had reported production between 1928 and 1930 of 100 ounces of gold (Tosdal, et al., 1990). Duerr, 1996) reports slightly different totals for the Plomosa district of 5,000 ounces gold, 7,000 ounces of silver, 350,000 pounds of copper and "small amounts of lead and zinc". How much of this production, if any, occurred on the Golden Hills Property is unknown.

#### <u>1963 to 1984</u>

In the modern exploration era, the Property first attracted attention from major mining companies for its copper potential. From 1963 to 1984 several major mining companies conducted work on the Property including several drill campaigns. Only limited fragmentary summary data, and no primary analytical certificates, drill logs, and other information is available to the Author for these programs.

In 1980, Inspiration Development Company completed geologic mapping, geochemical sampling (256 samples), geophysical surveys, and 21 RC (Reverse Circulation) drill holes ranging from 100 to 116 feet. The best intercept was reported at 150 feet grading 0.12% Cu in drill hole B-16.

In testing for gold potential in 1983-1984, Tenneco Minerals Company completed 24 drill holes totaling 6,005 ft. Several encouraging intercepts (> 15 ft. of 0.015 opt Au down hole, not true thickness) were obtained with the best at 30 feet (225 to 255 feet) in hole LB-19 that returned 0.071 opt Au.

#### <u>1984 to 2014</u>

Several geochemical sampling, geophysical surveys preceded major drill campaigns by US Borax, Homestake Mining Co., Tuffnell, Ltd, and Tojo Minerals Ltd. Both gold and copper potential were tested in these programs. Between 1984 and 2014 an additional 128 drill holes totaling 48,101 feet were completed on the Property (Table 1-1).

Drill programs by year, company 1984 to 2014						
Year	ear Hole series # drill b		Company	Type drill	Footage drilled	
1984	B-1 to B-12	13	US Borax	RC	5,650	
1986	B-13 to B-18	6	US Borax	RC	3,140	
1988	BR-01 to BR-03	3	Homestake Mining Co.	RC	1,170	
1990	BR-004 to BR-033	30	Homestake Mining Co.	RC	13,260	
1991	BR-034 to BR-054	21	Homestake Mining Co.	RC	9,800	
2010	LB-1001 to LB-1019	20	Tuffnell, Ltd.	13 RC, 7 core	5,166	
2011	LB-1101 to LB-1115	17	Tuffnell, Ltd.	RC	5,395	
2014	LB-1401 to LB-1418	18	Tojo Minerals, Ltd.	RC	5,690	
		128			49,271	

Table 1-1 Drill holes by year and company on the Property.

In 1984 and 1986, US Borax completed 19 RC drill holes with the best intercept in hole B-16 which intercepted 150 feet (from 120-170 feet) grading 0.134% Cu.

Homestake completed 54 drill holes between 1988 and 1991 and intercepted several encouraging ( $\geq$  20 ft. Au  $\geq$  0.020 opt,  $\geq$  40 ft. Cu  $\geq$  0.10%) gold and copper mineralized intervals including 305 feet (0-305 ft.) grading 0.25% Cu in drill hole BR-5, and up to 70 ft (80-150 ft.) grading 0.127 opt Au in drill hole BR-19.

Following Homestake's termination of an option on the Property in 1991, no work programs were conducted on the Property until Tuffnell, Ltd. negotiated a lease in 2010. Following completion of a 13-line km Gradient Resistivity/IP survey, Tuffnell commenced a 20-hole (13 RC and 7 core) drill program totaling 5,166 feet. Drilling was focused in the northwest part of the claim block. The best (Au value is  $\geq$  to 0.01 oz/ton or Cu value is  $\geq$  to 2,000 ppm) intercept returned 95 feet (10-105 ft) grading 0.09 opt Au in drill hole LB-1010. The corresponding copper intercept over the same interval was 1.13% Cu. Tuffnell continued drilling in 2011 completing 17 additional RC drill holes

totaling 5,395 feet. In LB-1101, 100 feet (130-230 ft.) grading 0.068 opt Au, and 0.07% Cu was intercepted. LB-1107 intercepted 155 ft (50-205 ft) which returned 0.24% Cu but with no Au.

In 2014 Tojo Minerals Ltd. optioned the Property and conducted an 18-hole (RC) drill campaign totaling 5,690 ft. In drill hole LB-1409 a 150 ft interval returned 0.021 Au, and 0.24% Cu from 35 ft.

Following the termination of their option in 2016 little work was conducted on the Property until it was optioned by NSJ in August, 2020.

#### **1.6 Geology and Mineralization**

#### 1.6.1 Local and Regional geology

Tectono-stratigraphic geology comprising the northern Plomosa Range where the Golden Hills Property is complex. The oldest rocks include Precambrian crystalline units dominated by a quartzofeldspathic gneiss and subordinate quartz monzonite, and various pegmatites, diabase dikes, and aplites. Paleozoic strata in the surrounding near region of the Property include Cambrian Bolsa Quartzite and Abrigo Formation overlain by the Devonian-Mississippian Martin/Redwall Formation carbonates, which are in tum overlain by Pennsylvanian Supai Group sediments comprised of shale, arkose, and calcareous units. These are stratigraphically overlain by the Redwall Formation limestone. Paleozoic strata are complexly deformed and slivered. The youngest units within and surrounding the Property consist of Tertiary sandstone, conglomerate and fine clastics, limestone, volcanic tuff, and flow units that have been intruded by felsic hypabyssal rocks.

The Northern Plomosa Range where the Golden Hills Property is located have been divided into six structural blocks. Very dissimilar rocks have been tectonically juxtaposed during a series of low-angle, probably thrust faulting events and also during a later Cenozoic, gravity-induced detachment, or sliding event. The earlier events most likely occurred in the Cretaceous (Sevier and/or Laramide) orogeny and possibly again in the Eocene. These structural blocks were subsequently deformed during middle Miocene as detachment faulting juxtaposed terranes. As defined in the Northern Plomosa Range, the plate above the Miocene contains Cenozoic sedimentary and volcanic strata that were deposited on a tilted and erosionally beveled three plate mélanges of Precambrian, Paleozoic and Mesozoic rocks. The structural plate beneath the Miocene fault contains Precambrian, Paleozoic, and Mesozoic rocks tectonized into a five-plate mélange by earlier thrust faults.

#### **1.6.2** Alteration and mineralization

Distinct stages of alteration and replacement, and open-space filling have been recognized on the Property and surrounding area by Duncan (1990). These include:

#### Alteration and replacement stages

- 1. <u>Chlorite stage</u>: In calcareous sediments the earliest stage of mineralization is widespread chlorite alteration, most pronounced in silty red to orange calcareous sediments.
- 2. <u>Specular hematite replacement:</u> The second stage within calcareous rocks includes massive specular hematite developed within fractures and as replacements. Up to 85-90% hematite by volume was recognized in some limestone.

#### Open-space filling stages

1. <u>Early quartz-hematite stage:</u> Within volcanic rocks the early stages of chlorite and

hematite is much less significant.

- 2. <u>Late barite, fluorite, silica and oxidized copper:</u> Following chlorite and hematite stages in the calcareous sediments and second stage quartz-hematite in the Plomosa conglomerate barite-fluorite-silica-oxidized copper mineralization occurred.
- 3. <u>Supergene and unrelated(?) mineralization:</u> Minor manganese oxides are scattered through the district and are often associated with hematite.

Duncan (1990) observed that there is a strong association of certain types of alteration with specific host rocks (e.g. chlorite alteration with calcareous rocks, and massive specular hematite within thicker limestone units). Jemmett (1966) noted that the oxidized copper minerals are commonly also part of the breccia matrix and he observed gold to be late in the sequence. The highest values, both in copper and gold, are associated with the brecciated earthy hematite vein material containing abundant chrysocolla, malachite, and fine-grained silica. Measured strikes of mineralized veins within the Property and surrounding area have a strong predominant northwest strike (Duncan, 1990).

Surface trenching, detailed mapping, and sampling completed by Tuffnell 2011 revealed northwest striking veins which were interpreted to be tension gashes along a major north-south strike-slip fault system. Sampled veins from four trenches returned up to +55 g/t Au, and +2% Cu and composed of specularite, and copper oxide. The mineralized veins have a vertical extent of less than 200 feet with a few hundred feet of strike and are less than 20 feet thick but they occur within stockwork zones up to 100 feet in width. Significant copper mineralization in this area was also recognized within the stockwork s and as flat-lying zones at the paleo-water table within 150 feet of the surface. A petrographic study of one of the high-grade samples in 2011 noted rounded gold grains with in a copper-rich seam which indicated gold mobility in the surficial environment.

#### 1.7 Exploration

Since acquisition by NSJ in August 2020, Richard Kern as the Qualified Person has supervised all exploration activity conducted on the Property. Work consists of a modest program of data compilation of historic and recent literature on the Property and surrounding area, satellite imagery using Google Earth to identify alteration and structure, plotting and interpretation of all historic rock chip and drilling geochemistry, new cross-sections, investigation of the most effective geophysical survey methods, and additional geologic mapping and targeted rock sampling. Rock sampling was concentrated in the northwest part of the Property where drilling was concentrated. Gold values from the sampling reached 8.55 ppm Au.

In December, 2020 NSJ authorized Zonge International (Reno, Nevada) to conduct a small Gradient Array IP Survey in the northwest part of the Property where other IP/Resistivity surveys had been completed. Data was again interpreted by Frank P. Fritz of Fritz Geophysics (Fritz, 2020).

Utilizing the Fritz interpretation, Kern (2021) concluded that the NNW trending zone with the highest grades correlates with very high resistivity but typically on the edges of the high resistivity zone; however, the direct correlation with grade is not clear (Figure 9-2). Alternatively, IP appears to correlate a little better with grade than resistivity (Kern, 2021).

#### 1.8 Data Verification

The Author conducted a site visit of the Property on October 7-8, 2020 under the guidance of Richard Kern of Great Basin Resources Inc. To confirm the presence of gold, copper and other elements and metals, the Author collected eight rock samples from targets on the Property. The samples were securely retained by the Author until they were submitted to the ALS Chemex facility in Reno, Nevada for determination of gold and copper and multi-element analyses.

In addition to the field visit, the Author reviewed in detail, the complete digital and hard copy data base. The earliest information prior to 1984 was fragmentary and only very limited summary data was available. Drill and other work programs completed after 1984 were supported by more comprehensive data including in many cases drill logs, drill hole parameters, cross-sections, analytical certificates, summary memorandums, and other information. To ensure accuracy, the Author checked several of the reported mineralized drill interval assay averages against the applicable analytical certificates and/or individual assay compilations.

It is the Author's opinion that the project data generated by Great Basin and other companies to the date of this Technical Report is of acceptable technical merit.

#### **1.9** Interpretation and conclusions

The tectonic setting and structural characteristics, alteration mineralogy, and the mineral assemblage Au-Cu (described above, section 7 Geological Setting and Mineralization) suggest that the Golden Hills Property fits within a deposit type referred to as "Detachment-Fault-Related Mineralization" although this does not necessarily explain the source of mineralizing fluids. The 2010, geophysical survey and interpretation completed on the northwest part of the Property suggested the presence of an altered intrusive body with associated mineralization, although none has been encountered in relatively shallow drill holes completed to date. The Property is underlain by rocks ranging in age from Precambrian crystalline units, Paleozoic and Mesozoic clastic and carbonate units, and Tertiary fine and coarse clastics and volcanic tuffs and flows. Structural dismemberment and deformation within this entire sequence has been intense and six structural domains are recognized. Alteration and mineralogic studies conducted by the Arizona Geological Survey and graduate level students from the University of Arizona have completed detailed studies to support this deposit model, and the complex tectono-stratigraphic setting. In addition to these studies a large heritage of exploration data including in excess of 128 drill holes dating to 1984 have confirmed that mineralization discovered to date is dominantly gold-copper. Mineralization occurs as near-vertical high-grade Au/Cu/Fe veins with lower grade Au/Cu in gently dipping permeable siltstones and sandstones adjacent to the veins. In the northwest part of the Property close-spaced drilling and surface trenching have discovered high grade gold-copper mineralization which assayed up to +55 g/t Au, and +2% Cu (Figure 7-7). Here veins are composed of specular hematite, copper oxide and in some cases coarse gold. These northwest trending veins are believed to be tension gashes resulting from north-south strike slip faulting in a zone up to 400 feet wide and at least 3,000 feet long.

Drill data on the Property compiled to date is reasonably well-documented. However, comprehensive QA/QC procedures and protocols have not been implemented for most drill programs. Most of the drilling on the Property to date has been RC (Reverse Circulation) but at least some in-fill, and close-spaced core drilling will be necessary to allow for estimation of a mineral resource.

#### 1.10 Recommendations

The Golden Hills Property is a project of merit and strongly deserving of additional work programs. The recommended work program herein includes a continuation drilling focused in the northwest part of the Property, where the 2020 geophysical (Gradient Array/IP survey) was completed, and 2010, 2011, and 2014 drilling was concentrated. Budgets proposed for RC (Reverse Circulation) are broken into two phases (Table 26-1 and Table 26-2). The Phase II program is contingent on results from the Phase I program and will only proceed if warranted.

The initial drill budget (Phase I) consists of 10 reverse circulation drill holes with a pre-determined depth 150 feet (Table 26-1) for a total of 1,500 feet. The intent of the shallow drilling is to test for near surface, high grade (Au+Cu) veins and structures. Precise hole locations have not yet been determined as of the date of this Technical Report. Following the conclusion of the program, all results should be carefully compiled and analyzed in conjunction with previous drilling in the area. Continuity and tenor of mineralized structures and veins is of primary importance.

Following compilation and analysis of the Phase I program, if results warrant, a second Phase II program is recommended (Table 26-2), both as in-fill, and step-out drill holes. Again, the objective of this drill program is to test for shallow mineralized veins and structures. The follow-up program includes 19 additional reverse circulation drill holes with an average depth of 150 feet (2,900 feet total). The Phase II program also includes an allowance for initial metallurgical testing to determine the most efficient processing methods to treat oxide, sulfide, and mixed mineralization types.

Phase I Budget - Golden Hills Property - US\$/C\$*				
Work Activity	Cost US\$	US\$	C\$	
Drill direct - Reverse Circulation	(\$75/foot X 1,500')	112,500	144,231	
Drill pad/road construction		1,500	1,923	
Assays primary	(\$39/sample X 300)	11,700	15,000	
QA/QC 15%/total	(\$39/sample X 50)	1,755	2,250	
Sr. Project supervision	(21 X \$650/day)	16,250	20,833	
Assistant geologist	(15 X \$350/day)	5,250	6,731	
Supplies, bags, tags, etc		1,250	1,603	
Field support: lodging, meals, transp.	(18 X \$300/day)	5,400	6,923	
Core/cutting sample storage	6 mos X \$75/mo	450	577	
	Total	156,055	200,071	
*1.00 C\$ = 0.78 US\$ / exch. rate Jan 30, 2021				

Table 1-2 Phase I drill budget.

Phase II Budget - Golden Hills Property - US\$/C\$*				
Work Activity	Cost US\$	US\$	C\$	
Drill direct (Reverse Circulation)	\$75/foot X 2,900'	217,500	278,846	
Drill pad/road construction		3,000	3,846	
Assays primary	(\$39/sample X 600)	23,400	30,000	
QA/QC 15%/total	(\$39/sample X 87)	3,393	4,350	
Sr. Project supervision	(40 X \$650/day)	26,000	33,333	
Assistant geologist	(40 X \$350/day)	14,000	17,949	
Supplies, bags, tags, etc		5,000	6,410	
Field support: lodging, meals, transp.	(25 X \$300/day)	7,500	9,615	
Core/Cutting sample storage	12 mos X \$75/mo	900	1,154	
Metallurgical testing		11,500	14,744	
	Total	312,193	400,247	
*1.00 C\$ = 0.78 US\$ / exch. rate Jan 30, 2021			ın 30, 2021	

Table 1-3 Phase II drill budget.

### 2.0 INTRODUCTION AND TERMS OF REFERENCE

NSJ Gold Corp., ("NSJ" or the "Company") retained the Author to prepare a Technical Report on the Golden Hills Property (the "Property") under the guidelines of NI 43-101 in connection with NSJ's proposed application for listing on the Canadian Securities Exchange. NSJ executed an option agreement with Great Basin Resources Inc. ("Great Basin") dated effective August 14, 2020 pursuant to which NSJ can earn 100% interest in the Property subject to a 3% Net Smelter Returns royalty. Great Basin as Optionor will operate planned work programs on behalf of NSJ.

This Technical Report, prepared in compliance with NI 43-101, is based on a foundation of published and archival geologic and historic data from the United States Geological Survey, Arizona Geological Survey, and academic investigations conducted by graduate-level students from the University of Arizona. Internal reports and extensive primary geologic, and drill hole data bases pertaining to work programs completed on the Property between the early 1980s and 2014 were also reviewed. The Author, Robert Lunceford, a Certified Professional Geologist of the American Institute of Professional Geologists, and Qualified Person under NI 3-101 requirements has benefited from discussions with Mr. Richard Kern, M.Sc., P. Geo., and President Great Basin Resources Inc. All digital figures and maps used within this Technical Report have been aptly prepared by Rick Kern of Great Basin. The Author completed a site visit of the Property on October 7-8, 2020 with Rick, and Richard Kern during which eight audit samples were collected (see section 12, Data Verification).

# **3.0 RELIANCE ON OTHER EXPERTS**

This Technical Report is an accurate representation of the status and geologic potential of the Property based on the information available to the Author and the site visit completed on October 7-8, 2020. Richard Kern of Great Basin, a Qualified Person (pursuant to NI 43-101 requirements) supervised drill programs on the Property during 2010, 2011, and 2014. It is unknown if work and drill programs conducted prior to 2010 were supervised by a Qualified Person but data was collected and compiled by competent professional geologists who were employed by public Canadian and American junior and senior mining companies. References cited within this Technical Report which describe this work completed on the Property and the greater region are listed under the References Cited section (section 27) below. Other sources of information describing the local geology and results of work programs including drilling were derived from internal summary reports for Great Basin and other companies. Additional information pertaining to the local and regional geology were sourced from publications of the US Geological Survey and Arizona Geological Survey, and Dissertations and Theses from the University of Arizona.

It was not within the scope of this Technical Report to examine in detail or to independently verify the legal status or ownership of the Golden Hills Property. Mr. Richard Kern of Great Basin has provided certain information concerning the current ownership status to the Author of this Technical Report. The Author has reviewed the relevant Federal and La Paz County required filing documents and payments for the assessment year ending August 31, 2021 and has no reason to believe that ownership and status of the unpatented (i.e., Federal lease) lode mining claims are other than has been represented. Additionally, the annual tax payments due La Paz County, for the 7 patented (fee simple, deeded ownership) claims are believed to be current. However, determination of secure mineral title is solely the responsibility of NSJ Gold Corp.

# 4.0 PROPERTY DESCRIPTION AND LOCATION

#### 4.1 Property Location

The Property is located in southwestern Arizona in the northern end of the Plomosa Mountains. approximately 138 miles northwest of Phoenix, Arizona within La Paz County, Arizona<sup>2</sup> (Figure 4.1). The Property centroid is approximately UTM (NAD83 11N) 455,500mE, 4,387,500mN or Longitude -114°4′ 29.227" by Latitude 33°58′17.187". The claim block comprising the Property lies within the northern part of the Bouse 7.5′ US Geological Survey topographic map sheet.

#### 4.2 Description

The 94 unpatented lode and 7 patented lode mining claims comprising the Golden Hills Property (Table 4-1, Table 4-2) accrue 1,920 Ac. or 777 Ha. The Property covers portions or all of section 36, T8N, R18W, sections 31, T8N, R17W, sections 5, 6, 7, 8, 17, 18 of T7N, R17W and sections 1, 2, 11, 12, 13 T7N, R18W of the Gila and Salt River Base and Meridian (Figure 4.2).

The U.S. Bureau of Land Management ("BLM") administers the surface and mineral estate of the unpatented lode claims under the Federal Land Policy and Management Act ("FLPMA") of 1976. All unpatented lode mining claims comprising the Property have to be filed and registered with the La Paz County Recorder's Office in Parker, Arizona, and the BLM office in Phoenix. The Property also includes 7 patented lode mining claims. For unpatented mineral claims, the surface estate is retained by the US Government, while the mineral estate is effectively a lease from the Federal government, requiring annual filing with the county in which the claims are located and the Federal government, and payment of fees to each. A patented mining claim is one for which the Federal government has passed its title to the claimant, making it private land. A mineral patent gives the owner exclusive title to the locatable minerals and surface estate and other resources. Patented mining claims must be maintained by payment of annual property taxes to the county in which they are located, in this case La Paz County, Arizona.

During the October 7-8, 2020 site visit, some claim corners consisting of wooden stakes were observed and the Author believes that all unpatented claims were originally located according to accepted industry standards and as required by Federal and County statutes. The Author has reviewed documentation indicating the 94 unpatented lode mining claims comprising the Property appear to be valid and in good standing, with all required Federal fees (\$16,665) paid and La Paz County fees (\$30) paid on August 27, 2020 for the assessment year ending on August 31, 2021. The unpatented claims comprising the Property will remain in effect for as long as the claim holding fees are paid in a timely manner to both the BLM and La Paz County. On October 1, 2020 property taxes totaling US\$969.18, due annually, were paid to La Paz County to hold the 7 Patented mineral claims.

<sup>&</sup>lt;sup>2</sup> La Paz County was formed in 1983 after voters approved separating the northern portion of Yuma County. The county seat is Parker.



Figure 4-1. Location and access to the Golden Hills Property, La Paz County, Arizona.

<u>Claim name</u>		<u>Claimant</u>	<u>AMC Number</u>
BEN	1	MinQuest Inc	425946
BEN	2	MinQuest Inc	425947
BEN	3	MinQuest Inc	425948
BEN	4	MinQuest Inc	425949
BEN	5	MinQuest Inc	425950
BEN	6	MinQuest Inc	425951
BEN	7	MinQuest Inc	425952
BEN	8	MinQuest Inc	425953
BEN	9	MinQuest Inc	425954
BEN	10	MinQuest Inc	425955
BEN	11	MinQuest Inc	425956
BEN	12	MinQuest Inc	425957
BEN	12	MinQuest Inc	425958
BEN	13	MinQuest Inc	425959

BEN	14	MinQuest Inc	425960
BEN	15	MinQuest Inc	425961
BEN	16	MinQuest Inc	425962
BEN	17	MinQuest Inc	425963
BEN	18	MinQuest Inc	425964
BEN	25	MinQuest Inc	425971
BEN	26	MinQuest Inc	425972
BEN	27	MinQuest Inc	425973
BEN	28	MinQuest Inc	425974
BEN	29	MinQuest Inc	425975
BEN	30	MinQuest Inc	425976
BEN	31	MinQuest Inc	425977
BEN	32	MinQuest Inc	425978
BEN	33	MinQuest Inc	425979
BEN	35	MinQuest Inc	425981
BEN	36	MinQuest Inc	425982
BEN	37	MinQuest Inc	425983
BEN	38	MinQuest Inc	425984
BEN	39	MinQuest Inc	425985
BEN	40	MinQuest Inc	425986
BEN	41	MinQuest Inc	425987
BEN	42	MinQuest Inc	425988
BEN	43	MinQuest Inc	425989
BEN	44	MinQuest Inc	425990
BEN	45	MinQuest Inc	425991
BEN	46	MinQuest Inc	425992
BEN	47	MinQuest Inc	425993
BEN	48	MinQuest Inc	425994
BEN	49	MinQuest Inc	425995
BEN	50	MinQuest Inc	425996
BEN	51	MinQuest Inc	425997
BEN	52	MinQuest Inc	425998
BEN	53	MinQuest Inc	425999
BEN	54	MinQuest Inc	426000
BEN	55	MinQuest Inc	426001
BEN	56	MinQuest Inc	426002
BEN	57	MinQuest Inc	426003
BEN	58	MinQuest Inc	426004
BEN	59	MinQuest Inc	426005
BEN	60	MinQuest Inc	426006
BEN	61	MinQuest Inc	426007
BEN	62	MinQuest Inc	426008
BEN	63	MinQuest Inc	426009
BEN	64	MinQuest Inc	426010
BEN	65	MinQuest Inc	426011

	BEN	82	MinQuest Inc	426028
	BEN	83	MinQuest Inc	426029
	BEN	84	MinQuest Inc	426030
	BEN	85	MinQuest Inc	426031
	BEN	86	MinQuest Inc	426032
	BEN	87	MinQuest Inc	426033
	BEN	88	MinQuest Inc	426034
	BEN	89	MinQuest Inc	426035
	BEN	90	MinQuest Inc	426036
	BEN	92	MinQuest Inc	426038
	BEN	93	MinQuest Inc	426039
	BEN	94	MinQuest Inc	426040
BEN		96	MinQuest Inc	426042
BEN		97	MinQuest Inc	426043
BEN		98	MinQuest Inc	426044
LITTLE I	BUTTE	2	MinQuest Inc	426045
LITTLE BUTT	'E EXT.	2	MinQuest Inc	426046
LITTLE BUTT	E EXT.	3	MinQuest Inc	426047
LITTLE BUTTE EXT.		4	MinQuest Inc	426048
LOCHE	R ENT.	1	MinQuest Inc	426049
LOCHE	R ENT.	2	MinQuest Inc	426050
LOCHE	R ENT.	3	MinQuest Inc	426051
LOCHE	R ENT.	4	MinQuest Inc	426052
LOMA		2	MinQuest Inc	426053
LOMA		4	MinQuest Inc	426054
LOMA		5	MinQuest Inc	426055
LOMA		7	MinQuest Inc	426056
LOMA		9	MinQuest Inc	426057
LOMA		10	MinQuest Inc	426058
LOMA		11	MinQuest Inc	426059
LOMA		12	MinQuest Inc	426060
SMOKE	HOLE	3	MinQuest Inc	426061
SMOKE	HOLE	4	MinQuest Inc	426062
SMOKE	HOLE	5	MinQuest Inc	426063
SMOKE HOLE		8	MinQuest Inc	426064

Table 4-1 Unpatented lode mining claims, Golden Hills Property.

The Golden Hills Property also includes the following 7 patented mineral claims (Table 4-2) located in sections 6 and 7, T7N, R17W and sections 1 and 12, T7N, R18W of the Gila and Salt River Base and Meridian in La Paz County, Arizona.

<u>Claim Name</u>	Mineral Survey #
Dollie W	3157-3167
Jaguar	3157-3167
Paradise #2	3157-3167
Paradise	3157
Paradise #1	3157
Paradise Extension	3157
Llano Mine	3157

Table 4-2 Patented lode mining claims, Golden Hills Property.



Figure 4-2 The Golden Hills Property, La Paz County, Arizona.

#### 4.2 Mineral Tenure

According to Richard Kern, MinQuest Inc. (or "MinQuest") a private Nevada corporation acquired the unpatented mineral claims comprising the Golden Hills Property in the mid-1990s and continued to

hold the Property until July 25, 2017 when the claims were transferred to Great Basin Resources, Inc., another private Nevada corporation. The patented mineral claims were acquired in 2010.

#### Walker – Great Basin option

The 7 patented claims were acquired by MinQuest Inc. on February 25, 2010 from a private individual (Jack Walker or "Walker") under a Property Option Agreement (or "1<sup>st</sup> Option"). The 1<sup>st</sup> Option required that MinQuest make annual payments of US\$5,000 on signing, US\$10,000 on the 1<sup>st</sup> Anniversary, US\$20,000 on the 2<sup>nd</sup> Anniversary, US\$30,000 on the 3<sup>rd</sup> Anniversary, US\$40,000 on the 4<sup>th</sup> Anniversary, and a final payment of US\$175,000 on the 5<sup>th</sup> Anniversary to earn 100% interest in the 7 patented claims. The payment schedules to Walker by MinQuest required under the 1<sup>st</sup> Option were amended in 2016 and 2017 leading to a second Option Agreement (2<sup>nd</sup> Option) executed on March 28, 2019 between Great Basin and Walker. The 2<sup>nd</sup> Option required payments of \$US12,000 on signing, \$US24,000 on the 1<sup>st</sup> Anniversary, US\$24,000 on the 2<sup>nd</sup> Anniversary, US\$36,000 on the 3<sup>rd</sup> Anniversary, and US\$39,000 on the 4<sup>th</sup> Anniversary to earn 100% interest.

#### NSJ Gold - Great Basin option

NSJ Gold Corp. executed an Option Agreement ("NSJ Option") with Great Basin dated August 14, 2020 to earn an undivided 100% interest in the 94 unpatented and 7 patented claims comprising the Property, subject to a 3% Net Smelter Royalty. Exercise of the NSJ Option requires that \$200,000 in total payments be paid by NSJ to Great Basin under the following schedule:

- US\$40,000 on the 2<sup>nd</sup> Anniversary;
- US\$60,000 on the 3<sup>rd</sup> Anniversary;
- US\$50,000 on the 4<sup>th</sup> Anniversary; and
- US\$50,000 on the 5<sup>th</sup> Anniversary.

Additionally, the NSJ Option obligates NSJ to undertake work programs on the Property totaling US\$4,635,000 on the Property as follows:

- US\$85,000 before the 1<sup>st</sup> Anniversary;
- a further US\$150,000 before the 2<sup>nd</sup> Anniversary;
- a further US\$400,000 before the 3<sup>rd</sup> Anniversary;
- a further US\$1,000,000 before the 4<sup>th</sup> Anniversary; and
- a further US\$3,000,000 before the 5<sup>th</sup> Anniversary.

NSJ is also obligated to make all future payments under the 2<sup>nd</sup> Option Agreement between Walker and Great Basin, as well as pay all Federal and Las Paz County fees to keep all unpatented and patented claims in good standing.

The Option Agreement is subject to a Net Smelter Royalty ("NSR") of 3.0% to be paid by NSJ to Great Basin upon commercial production. The NSR has no "cap" or does not include a buyout provision on behalf of NSJ.

#### 4.3 Environmental Studies and Permitting

Permitting activities for drill programs and other surface disturbances on the unpatented mining claims of the Property are administered by the U.S. Bureau of Land Management's (BLM) under the Federal Land Policy and Management Act ("FLPMA") of 1976. Surface disturbances on BLM lands are determined under Federal statute 43 CFR 3809, as amended. When the expected surface disturbance (such as drill road access and pads) is expected to be 5.0 ac. (accrued) or less, a Notice of Intent ("Notice") must be filed with the BLM before work can proceed. Surface disturbance expected to exceed 5.0 ac. requires that a Plan of Operations ("POO") be submitted. At present, NSJ has not submitted

either a Notice or POO for planned future work programs. The Author is not aware of what requirements are necessary for proposed surface disturbance on private land in La Paz County.

There are several open historic shafts, adits or prospect pits on the Property, which remain from active operations conducted beginning in late 1800s and early 1900s and subsequently. Bancroft (1911) reported that the inclined shaft at the Little Butte mine (located in NW1/4 of section 8, T8N, R17W), the most significant historic mine on the Property, extended to a depth of 385 feet although the present accessible dimensions are not known. At present, these open workings are fenced to limit entry.

The Author is not aware of any significant factors and risks that may affect access, title, or the right or ability to conduct work on the Property. Surface access to the Property is underlain by public lands administered by the BLM but access to the patented private ground is controlled by NSJ under the NSJ Option.

# 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY

The Golden Hills Property is situated in La Paz County in southwestern Arizona (Figure 4-1). The Property can be accessed from the north through Las Vegas, Nevada or from Phoenix in central Arizona. The driving distance from Las Vegas is approximately 200 miles, while Phoenix to the Property boundary is around 130 miles. Driving from either the north (Las Vegas) or southeast (Phoenix), Arizona State Highway 72 is traveled to just northwest of Bouse, Arizona to La Posa Road which transects the north part of the claim block. Secondary roads at (WGS84 UTM Zone 11N at 771936mE X 3763229mN, or 770760mE X 3763791mN) lead southwest to a network of roads traversing most of the Property, accessible to 4 X 4 or even two-wheel drive vehicles.

Relief on the Property is minimal with elevations ranging from around 850 to just over 1,000 feet. Vegetation, typical of the Sonora Desert, is sparse with occasional cactus including saguaro, cholla, and prickly pear, ocotillo in areas of outcrop, and paloverde and greasewood on flat areas characterized by desert pavement.

The climate allows for year-round work activities. The annual average high temperature is 86° (range 66°-108°), low temperature is 55° (range 36°-77°) and rainfall is 5.75 inches. Typically, the hottest and wettest months are June, July, August while the cooler drier months are mid to late winter. Some of the secondary access roads may become impassible, especially after heavy rainfall.

Only very limited goods and services are located in Bouse with no lodging other than transient to long-term trailer parks. Extensive businesses including lodgings, restaurants and other services are available in Parker, approximately 20 miles north of the Property.

The flat terrain over the Property and surrounding area would allow for easy development. Power requirements can be met by extending existing lines that parallel State Highway 72 on the northeast side of the claim block although whether a high voltage line sufficient for development is available is unknown. Immediate water sources are unknown but residential and limited, light commercial power is available in Bouse located about three miles southeast of the southeast corner of the Property claim block. Water rights of uncertain volume are attendant to the patented mineral claims as well.

# 6.0 HISTORY

#### 6.1 Pre-1963

Production from the Plomosa mining district beginning in the 1860's is reported at 25,000 ounces of gold, 129,000 ounces of silver. The so-called Bouse sub-district had reported production between 1928 and 1930 of 100 ounces of gold (Tosdal, et al., 1990. Duerr (1996) reports slightly different totals for the Plomosa district of 5,000 ounces gold, 7,000 ounces of silver, 350,000 pounds of copper and "small amounts of lead and zinc". How much of this production, if any, occurred on the Golden Hills Property is not known to the Author.

Prospecting and initial development of the district in which the Property is located was first summarized by Bancroft (1911) who reported that two mines were operating, the Little Butte, and Blue Slate in 1909. The Little Butte mine (located in W1/2 sect. 7, T7N, R17W) was reported to have shipped 22 cars of ore from the 200-foot level to the surface, which averaged 7.6% Cu, and 28.9% Fe, with 2.4 opt Ag, and \$6.65 in Au (about 0.33 opt at the prevailing price of gold \$20/ounce). In 1960 the Loma Grande Mining Company conducted surface sampling within the exposed pyritized metamorphics near the Little Butte mine. Gold values to \$75/ton (2.4 opt Au at the then current \$35/ounce price) were reportedly obtained but a review of the sample information by Jemmett (1966) indicated very few high-grade samples. A small cyanide plant was set up recover gold but the operation failed. In the early 1960's an attempt was made to dewater the workings of the Little Butte mine but without success. Two drill holes (BA-1, BA-2) were collared by the Ruby Company to test the copper potential of this area but the holes returned disappointing copper values of only 0.02% Cu. Several other small mines and prospects located on the Property were investigated by Jemmett (1966) during the early 1960's. Most exploited gold contained in copper stained specularite in northwest striking fissures or faults hosted in brecciated granite or metamorphic rock. The most significant of these, the Plomosa (E1/2 sect. 13, T7N, R18W) was developed on a shaft driven to 210 feet on a northwest striking, northeast dipping fault. None of these mines had significant production.

#### 6.2 1963 to 1984

In the modern exploration era, the Property first attracted attention from major mining companies for its copper potential. From 1963 to 1984 several major mining companies conducted work on the Property including significant drill campaigns. Only limited fragmentary summary data, and no primary analytical certificates, drill logs, and other information is available to the Author for these programs. However, to the extent that data appears to be compiled by professional geologists, and the well-known American mining companies that conducted the work programs, data is believed to be reliable and credible.

#### J. R. Simplot Mining Company (1963 to 1964) - two drill holes.

*Inspiration Development Company* (1980) – Geologic mapping, geochemical sampling (256 samples), geophysical surveys, and completed 21 RC (Reverse Circulation) drill holes ranging from 100 to 116 feet. No drill logs and collar coordinates are available. The most encouraging hole results are summarized below (Table 6-1). The holes were collared to test for copper potential and no gold analyses are available.

Inspiration Development Company							
Drill hole	Depth	Interval (ft)	> .05% Cu				
B-1	0-130	130	0.06				
	300-390	90	0.07				
B-2	450-500	50	0.08				
B-3	160-270	110	0.13				
B-11	110-260	150	0.08				
B-16	120-270	150	0.12				
B-17	270-305	35	0.05				
B-18	180-430	250	0.09				

Table 6-1 Inspiration Development Company drill hole results.

*Fischer-Watt Mining Company* (1981) - collected 58 geochemical samples that averaged 0.016 opt Au, and completed one 405 ft drill hole (best interval 270-290 averaging 0.023 opt Au.)

*Tenneco Minerals Company* (1983 to 1984) – completed 24 drill holes (LB-1 to LB-24) totaling 6,005 ft. The most encouraging drill intercepts ( $\geq$  15 ft. of 0.015 opt Au down hole, not true thickness) are indicated below (Table 6-2).

Tenneco Minerals Co. 1983-1984								
Drill hole	Interval	Thickness ft.	Au opt					
LB-15	215-230	15	0.032					
LB-16	0-20	20	0.015					
LB-19	90-115	25	0.022					
	225-255	30	0.071					
LB-20	280-300	20	0.032					
LB-21	150-165	15	0.023					
LB-23	275-290	15	0.025					

Table 6-2 Tenneco Minerals drill hole results.

#### 6.3 1984 to 2014

Geochemical sampling, and geophysical drill programs were conducted on the Property by several US and Canadian major and junior mining companies during this period, including US Borax Company, Homestake Mining Company, Tuffnell, Ltd. and Tojo Minerals Ltd. Drill programs conducted by these companies are summarized below on Table 6-3, and shown on Figure 6-1.

	Drill programs by year, company 1984 to 2014								
Year	Year Hole series		Company	Type drill	Footage drilled				
1984	B-1 to B-12	13	US Borax	RC	5,650				
1986	B-13 to B-18	6	US Borax	RC	3,140				
1988	BR-01 to BR-03	3	Homestake Mining Co.	RC	1,170				
1990	BR-004 to BR-033	30	Homestake Mining Co.	RC	13,260				
1991	BR-034 to BR-054	21	Homestake Mining Co.	RC	9,800				
2010	LB-1001 to LB-1019	20	Tuffnell, Ltd.	13 RC, 7 core	5,166				
2011	LB-1101 to LB-1115	17	Tuffnell, Ltd.	RC	5,395				
2014	LB-1401 to LB-1418	18	Tojo Minerals, Ltd.	RC	5,690				
		128			49,271				

Table 6-3 Drill holes by year/company 1984-2014.

Reasonable documentation, including compilations of individual assay intervals, drill logs, drill parameter (collar coordinate, depth, azimuth, etc.) data, and summary reports describing the results of the programs are available to the Author. Analytical certificates are not completely available but drill samples were submitted to reputable analytical labs including Chemex Labs Inc., Legend, Inc., Nevada GSI Inc., and American Assay Laboratories, and others. These laboratories were widely used by many American and Canadian mining companies during the 1980s and 1990s providing credible and reliable analytical results for precious and base metals. Details and results from these programs are summarized below.

*US Borax Corporation* (1984) - US Borax completed 18 drill holes for a total of 8,790 feet. The most encouraging ( $\geq$  30 ft. Au  $\geq$  0.015 opt Au,  $\geq$  0.10% Cu) gold and copper results are summarized below (Table 6-4).

US Borax - 1984, 1986							
Drill hole	Interval ft.	Thickness ft.	>.015Au opt	> .10% Cu			
B-11	380-410	30	0.017				
B-16	120-270	150		0.134			
B-18	180-220	40		0.151			
	355-430	75		0.140			

Table 6-4 US Borax drill hole results.

*Homestake Mining Company* (1988, 1990, 1991) - In 1988 Homestake conducted geologic mapping and geochemical sampling leading to completion of three drill holes. Two IP (Induced Polarization) lines were completed in 1989 which indicated a "sizeable" IP anomaly. An additional 30 drill holes were completed in 1990 and 21 holes in 1991. The most encouraging results ( $\geq$  20 ft. Au  $\geq$  0.020 opt,  $\geq$  40 ft. Cu  $\geq$  0.10%) are summarized below (Table 6-5).



Figure 6-1 Drill holes completed on the Golden Hills Property 1980-2014. (Only drill holes located on the Property appear on this map.)

	Homestake Mining -1988, 1990, 1991							
Drill hole	From - To	Interval (ft)	> .10% Cu	<u>&gt;</u> 0.02 Au opt				
BR-1	105-130	25		0.020				
BR-5	0-305	305	0.25					
	205-295	90		0.034				
BR-7	0-80	80	0.17					
	120-220	100	0.19					
	205-225	20		0.150				
BR-12	165-195	30		0.073				
	310-340	30		0.047				
BR-16	0-40	40	0.12					
	310-340	30		0.066				
BR-19	80-150	70		0.127				
BR-20	60-180	120	0.12					
	430-460	30		0.055				
BR-27	60-180	120	0.12					
BR-28	60-100	40	0.11					
BR-30	60-140	80	0.12					
BR-34	90-110	20		0.025				
BR-35	100-170	70	0.10					
	310-330	20		0.021				
BR-39	140-180	40	0.11					
BR-48	200-220	20		0.031				
BR-51	180-200	20	0.66					

Table 6-5 Homestake Mining Company drill hole results, 1988, 1990, 1991.

According to Richard Kern, President of Great Basin Resources Inc. (see Introduction, section 2.0 above) the Property was acquired by MinQuest Inc. (a predecessor company to Great Basin Inc.) after Homestake dropped the claims in 1991. No significant work was conducted on the Property until it was optioned in 2010 to Tuffnell, Ltd. (OTCBB: TUFF -1 D) a small US listed mining exploration company.

#### Tuffnell, Ltd. (2010, 2011)

To precede a planned drill program, Tuffnell commissioned a Gradient Resistivity/IP survey<sup>3</sup> with Zonge International (Reno, Nevada). The geophysical survey consisted of twelve 1,080 m long east-west oriented lines, 100 m apart, with 30 m dipoles (Figure 6-2). The primary survey objective was to identify anomalous electrically conductive or polarizable rocks in the subsurface that could be related to mineralization. The survey interpretation indicated that the mineralized structures discovered to date are part of a major north-south strike-slip fault system that averages 400 feet in width and is at least 3,000 feet long (Kern, 2011a). Additional drilling was recommended.

<sup>&</sup>lt;sup>3</sup> Resistivity and Induced Polarization (IP) are commonly-used geophysical survey methods for measuring the electrical properties of subsurface rock and are helpful in defining possible rock type, structures, sulfide minerals associated with mineralization and alteration.

Following completion of the survey, data was reviewed and interpreted by Frank P. Fritz of Fritz Geophysics, a well-known Colorado-based geophysicist.



Figure 6-2 Interpreted structures, resistivity high, and IP response (Fritz, 2010).

#### Mr. Fritz concluded that:

The resistivity contrasts measured by the GIP survey are not large; but well-defined north banding and north trending structures and contacts are indicated. A sharply bounded, central resistivity high dominates the responses. Deep oxidation in the area has muted sulfide responses so the IP response is likely due to alteration products but the highest response appears to be associated with the central resistivity high and alteration and mineralization associated with structures around the high. An interpreted NNW direction indicated in drill and trench data was not particularly evident in the geophysical data (Fritz, 2010).

Following the results of the geophysical survey, Tuffnell commenced a 12-hole RC drill program totaling 3,979 ft. (Figure 6-3, Table 6-6). The primary target of the exploration program was heap-leachable gold and copper mineralization associated with northerly trending structures interpreted from historic drilling (Kern, 2010). As indicated below, the majority of the drill holes indicated narrow to moderate intercepts of  $\geq 0.01$  oz/ton gold or  $\geq 2,000$  ppm Cu mineralization. Hole LB-1010 intercepted both significant gold and copper content (Figure 6-4, 6-5, Table 6-6), including 15 feet averaging 0.25 oz/ton gold between 20 and 35 feet and an additional 50 feet averaging 0.10 oz/ton Au between 45 and 95 feet. In addition, the hole contained 95 feet averaging 1.13% copper between 10- and 105-feet.



Figure 6-3 Tuffnell 2010 drill holes, cross-sections, trench locations.



Figure 6-4 Drill hole LB-1010 Au-Cu downhole results.

Tuffnell, Ltd. 2010 drill results summary – Phase I								
Hole #	From	(ft)	To (ft)	Width (ft)	Au (g/t)	Au (oz/ton)	Cu (ppm)	Cu (%)
LB-1001		60	70	10	< 0.01	< 0.005	2148	0.21
		135	145	10	0.82	0.02	71	
		150	155	5	0.94	0.03	63	
		165	180	15	1.17	0.03	360	
LB-1002		65	120	55	2.07	0.06	339	
		130	140	10	0.66	0.02	164	
		155	160	5	1.39	0.04	209	
LB-1003	No		Significant	Au	Or	Cu	Values	
LB-1004		55	60	5	0.3	0.01	18	
		145	150	5	0.32	0.01	17	
LB-1005		265	270	5	1.13	0.03	25	
LB-1006		30	35	5	0.33	0.01	1285	0.13
		70	95	25	0.03	<0.005	2221	0.22
		100	115	15	1.24	0.04	1199	0.12
		145	150	5	0.44	0.01	303	
LB-1007		10	20	10	0.06	< 0.005	2425	0.24
		50	55	5	0.6	0.02	1910	0.19
		245	250	5	0.4	0.01	46	
LB-1008		165	180	15	0.48	0.01	128	
		260	270	10	2.54	0.07	22	
15 4000		320	345	25	0.99	0.03	13	0 0 <b>-</b>
LB-1009		35	65	30	0.08	< 0.005	2728	0.27
		55	60	5	0.34	0.01	3345	0.33
T 1 1.		75	90	15	34.45	1.01	851	0.17
		/5	80 105	5	102.1	2.98	1055	0.17
TB-1010		10	105	95	3.14	0.09	11343	1.13
In alu din a		20	35	15	0.55 20.12	0.25	44117	4.41
Including		20 45	25	5	20.13	0.59	2920	0.29
		45 75	95	20	5.55 E E 1	0.1	4095	0.41
		115	55 125	20	1 1 2	0.101	1205	0.30
		215	225	20	1.12	0.03	1393	0.14
		215	233	20	1.13	0.03	52	
		255	200	5	0.3	0.01	120	
		200	275 205	5	0.39	0.01	130	
		220	220	ט 10	1 52	0.01	43 Q51	
LB-1011	ΩН	520	Ahandoned	In	Gravel	0.04	001	
LB-1011	DH		Ahandoned	In	Gravel			
			noundoned	111			2130	
LB-1012A		95	100	5	0.03	< 0.005		0.21



Table 6-6 Tuffnell summary drill results 2010 - phase I. Only results listed if Au value is  $\geq$  to 0.01 oz/ton or Cu value is  $\geq$  to 2,000 ppm. All widths are drilled intervals, true widths are undetermined pending further drill data.

Figure 6-5 Tuffnell 2010 phase I cross section A-A'. See Figure 6-3 for location of section.

At the conclusion of the phase I 2010 drill campaign, Tuffnell was encouraged to follow up with additional work including surface trenching and mapping leading to completion of 7 core holes (LB-1013 through LB-1019) totaling 1,187 feet. Drill hole results are summarized in Table 6-7. The purpose of the phase II program was to better define the nature of mineralization in discovery hole LB-1010, as well as determining the potential for additional high-grade zones (Kern, 2011).

Preceding the core drilling, surface trenching (Figure 6-3) was able to establish the presence of a major shear system and the attitude of specularite-secondary copper veins that contained high-grade gold and copper, although leaching of both gold and copper was apparent in trench sampling. Core drilling confirmed the north-northwest strike and vertical to steeply east-northeast dip of multiple veins developed within an en échelon, north-south, strike slip fault system. A possible flat-lying secondary copper blanket was identified at the elevation of the paleo-water table within 150 feet of the surface. On the basis of the 2010 phase I and phase II drill and trenching programs, Kern (2011a)

concluded that gold and secondary copper occurs within a stockwork-vein complex at least 3,000 feet long by 400 feet wide (Kern, 2011a). Further drilling and initial metallurgical testing were recommended.

In 2011 Tuffnell continued work activity including petrologic and X-ray diffraction studies of a highgrade gold-copper sample, ICP (Inductively Coupled Plasma – a multi-element analytical technique) on drill cuttings, and additional RC drilling (16 holes LB-1101 through LB-1115, Table 6-8, Figure 6-6, through Figure 6-8) accruing 5,395 feet. The drilling expanded significant gold mineralization to the west of the high-grade hole LB-1010 and indicated mineralization extends at least 800 feet to the north.

Tuffnell, Ltd. 2010 summary drill results - Phase II									
Hole #	From (ft)	To (ft)	Width (ft)	True Width (ft)	Au (g/t)	Au (oz/ton)	Cu (ppm)		
LB-1013	20	106	86	74.5	2.4	0.07	4159		
Including	47	55	8	6.9	24.54	0.717	31469		
Including	47	50	3	2.6	64.7	1.889	76400		
LB-1014	42	52	10	4.5	2.8	0.082	73		
	80	105	25	11.4	3.99	0.117	2493		
Including	80	95	15	6.8	6.15	0.18	1843		
Including	86	90	4	1.8	15.4	0.45	1840		
	105	110	5	2.3	0.57	0.017	931		
	120	141	21	9.5	1.05	0.031	1440		
	143	160	17	7.7	0.37	0.011	1323		
LB-1015	4.5	56.5	52	45	1.67	0.049	9980		
Including	4.5	37.5	33	28.6	2.59	0.076	14445		
	69	73	4	3.5	0.83	0.024	47		
LB-1016	13	27	14	6.4	0.8	0.023	3051		
	40	70	30	13.6	0.08	0.002	2373		
	80	85	5	2.3	0.58	0.017	860		
	100	165	65	29.5	0.67	0.02	457		
Including	100	120	20	9.1	1.32	0.039	539		
LB-1017	16	86	70	49.5	0.08	0.002	2922		
Including	16	24	8	5.7	< 0.005	<.001	4055		
Including	60	65	5	3.5	0.51	0.015	7125		
LB-1018	31	74	43	21.5	0.46	0.013	3268		
Including	59	69	10	5	1.89	0.055	5720		
	89	95	6	3	0.97	0.028	380		
LB-1019	25	64	39	33.8	0.02	0.001	2671		
	95	135	40	34.6	0.02	0.001	2752		
	276	290	14	12.1	0.51	0.015	223		
	321.5	334	12.5	10.8	0.44	0.013	28		

Results only listed if Au value is  $\geq$  to 0.01 oz/ton or Cu value is  $\geq$  to 2,000 ppm.

Table 6-7 Tuffnell 2010 phase II drill hole results.

Tuffnell, Ltd. 2011 summary drill results							
Hole #	From (ft)	To (ft)	Width (ft)	Au (g/t)	Au (oz/ton)	Cu (ppm)	Cu (%)
LB-1101A	210	215	5	0.39	0.011	398	0.04
LB-1101	130	230	100	2.35	0.068	683	0.07
Including	140	150	10	12.93	0.377	935	0.09
Also including	185	190	5	8.22	0.24	2480	0.25
LB-1102	40	45	5	1.44	0.042	349	0.03
LB-1103	45	50	5	0.48	0.014	131	0.01
LB-1104	120	125	5	0.51	0.015	123	0.01
LB-1105	90	95	5	0.48	0.014	141	0.01
	130	135	5	0.54	0.016	197	0.02
	200	205	5	0.54	0.016	328	0.03
LB-1106	15	35	20	0.05	<0.01	3268	0.33
	80	120	40	0.34	0.01	2116	0.21
Including	80	90	10	0.34	0.01	3250	0.33
	125	245	120	1.13	0.033	438	0.04
Including	195	210	15	4.16	0.121	236	0.02
Including	195	200	5	5.66	0.165	168	0.02
Including	205	210	5	6.36	0.186	187	0.02
LB-1107	50	205	155	0.15	< 0.01	2373	0.24
Including	165	170	5	0.02	< 0.01	5020	0.5
Including	185	190	5	0.79	0.023	2210	0.22
LB-1108	255	270	15	0.42	0.01	76	0.01
LB-1109	55	70	15	0.39	0.012	223	0.02
	255	270	15	0.59	0.016	91	0.01
LB-1110	210	265	55	1.73	0.05	380	0.04
Including	230	250	20	3.06	0.088	485	0.05
LB-1111	40	45	5	0.69	0.02	249	0.02
	150	165	15	0.13	<0.01	2406	0.24
	185	200	15	0.83	0.024	822	0.08
	285	295	10	0.47	0.014	147	0.01
LB-1112	135	155	20	< 0.01	<0.01	2775	0.28
	250	255	5	0.08	<0.01	2060	0.21
LB-1113A	65	70	5	0.03	<0.01	2620	0.26
	85	95	10	0.03	<0.01	2770	0.28
	190	200	10	0.16	<0.01	2300	0.23
	230	255	25	0.05	<0.01	2363	0.24
LB-1114	290	300	10	0.67	0.019	62	0.01
LB-1115		No sign	ificant values				

Results only listed if Au value is  $\geq$  to 0.01 oz/ton or Cu value is  $\geq$  to 2,000 ppm.

Table 6-8 Tuffnell 2011 drill hole results.



Figure 6-6 Tuffnell 2011 drill holes and 1600N section. Drill hole traces are projected to the surface.



Figure 6-7 Interpreted gold mineralization Tuffnell 2011 drill holes 1600N section.



Figure 6-8 Interpreted copper mineralization Tuffnell 2011 drill holes 1600N section.

#### Tojo Minerals Ltd. - 2014

Following the 2012 drill campaign Tuffnell dropped its option on the Property and it lay dormant until it was acquired in 2014 by Tojo Minerals Ltd., an Australian junior mining company. To refine drill targets, Tojo commissioned a small Dipole-dipole IP geophysical survey consisting of four lines using a 200 m dipole spacing on east-west lines 200 m apart (Figure 6-9) centered within the area of the previous survey (see 2010 Tuffnell, Ltd. above). The same consultants, Zonge International was contracted to collect the data and Fritz Geophysics was commissioned to interpret the Zonge's survey data. Fritz's conclusions (Fritz, 2015) are summarized below.

The four closely spaced DDIP lines showed a consistent low resistivity and low IP. A plan view of the structures and interpreted IP target is included below (Figure 6-9). The north-south structures are well defined in both the DDIP (Dipole-dipole Induced Potential) and GIP (Gradient Induced Potential) with the DDIP showing that these structures have a consistent down drop to the west and continue to depth. Some northwest structures are suggested by the DDIP data and local geology but are poorly defined and do not appear to have significant depth extent. There does appear to be a possible right lateral off on the shallow NW structures. There is a well-defined IP high on all four DDIP lines under the cover sequence through the central part of the survey. The IP high is in higher resistivities that extend further to the east and west from the IP high suggesting a possible mineralization event within the mapped granite that outcrops to the east. The IP high appears to be bounded by a pair of northsouth faults that have also cut the cover sediment sequence. The western fault on the IP high also appears to be the location of the sharp IP defined by the GIP survey. The deep IP high is unbounded to the north and south. Depths to the top of the IP high are probably from 200 to 250m. The well-defined IP high under all four DDIP lines appears to be a possible porphyry type target. The modeled IP values are not high, suggesting a limited sulfide content.



Figure 6-9 2015 DDIP survey - interpreted structures.

In 2014 Tojo completed 18 RC drill hole totaling 5,690 feet (Figure 6-10 and Figure 6-11). Significant (>7.5m downhole and greater than 0.30g/t AuEq) are summarized below (Carnavale, 2015).

LB-1402	25 ft. @ 2.57g/t Au, 0.14% Cu from 35 ft. (2.82g/t AuEq)
LB-1406	40 ft. @ 0.6g/t Au, 0.08% Cu from 95 ft. (0.73g/t AuEq)
LB-1407	230 ft. @ 0.22g/t Au, 0.18% Cu from 40 ft. (0.52g/t AuEq)
LB-1409	150 ft. @ 0.73g/t Au, 0.24% Cu from 35 ft. (1.15g/t AuEq)
LB-1410	40 ft. @ 0.08g/t Au, 0.27% Cu from 31 ft. (0.53g/t AuEq) -
LB-1411	120 ft. @ 0.19g/t Au, 0.16% Cu from 20 ft. (0.47g/t AuEq)
LB-1413	205 ft. @ 0.43g/t Au, 0.12% Cu from 85 ft. (0.61g/t AuEq)
LB-1416	125 ft. @ 0.15g/t Au, 0.23% Cu from 15 ft. (0.57g/t AuEq)
LB-1417	205 @ 0.08g/t Au, 0.14% Cu from 30 ft. (0.32g/t AuEq)
LB-1418	240 ft. @ 0.22g/t Au, 0.1% Cu from 60 ft. (0.38g/t AuEq)

At the conclusion of the 2014 drill program Tojo interpreted gold and copper mineralized zones all available drill and surface sampling data. Figure 6-10 and Figure 6-11 below show north-northwest trending copper and gold zones based on downhole intercepts projected to the surface. In early 2016 Tojo terminated their option on the Property, citing poor financial markets existing at that time.

In 2017 Great Basin (the underlying owner of the Property, see section 2.0 Introduction) summarized the character of gold and copper mineralization at the Property reliant on all drill hole evidence, and petrologic, and detailed sampling of trenches in the northwest part of the claim block (Kern, 2017).

- Mineralization explored to date at Little Butte [Golden Hills Property] occurs as near-vertical high-grade Au/Cu/Fe veins with lower grade Au/Cu in gently dipping permeable siltstones and sandstones adjacent to the veins. Subsequently, intense weathering has mobilized both the gold and silver to various extents.
- The original sulfide mineralization has been intensely leached forming a secondary copper blanket at the paleo-water table and gold values enriched in veins that reach the surface. Because copper was much more mobile it often occurs separate from the gold.
- Gold and copper intercept thicknesses and continuity are increasing to the northwest. The last fence of drill holes completed to the northwest has the widest, most continuous gold and copper mineralization. With values increasing to the northwest and open-ended it is critical that additional drilling be completed along this trend.
- Gold and copper grades drilled to date are similar to those of Nevada and Arizona bulk minable, heap leachable deposits.
- The mineralization explored to date (all on patented claims) may be zoned around a deep copper/gold porphyry located near the northern end of the patented claims. This is a large undrilled target.

In 2020 Great Basin developed a property-wide target map summarizing the known targets identified to date (Figure 6-12).



Figure 6-10 Tojo 2014 drill holes and interpreted Au mineralization. Zones are projected to surface from downhole drill data.



Figure 6-11 Tojo 2014 drill holes and interpreted Cu mineralization. Zones are projected to surface from downhole drill data.



Figure 6-12 Summary targets Golden Hills Property as of 2017.

#### 7.0 GEOLOGICAL SETTING AND MINERALIZATION

#### 7.1 Regional and local rock units

Tectono-stratigraphic geology comprising the northern Plomosa Range is complex (Figure 7-1). Precambrian (Proterozoic), Paleozoic, Mesozoic, and Cenozoic rocks and their structural relationships are described by Scarborough, Meader (1983), and Duncan (1990).



Figure 7-1 Northern Plomosa Range chronology of rock units, tectonic events (Scarborough, Meader, 1983).

<u>Proterozoic</u> - Crystalline rocks of probable Precambrian age dominate in the northern part of the Plomosa Range and form a large mass just to the east of the Property. The predominant lithology is a medium-grained, gray-colored, foliated, quartzo-feldspathic, gneiss. Foliation is often weak or absent, and when present appears to change attitude in complex ways, probably by both folding and faulting. Other rock types include compositionally layered

(banded) quartzo-feldspathic gneiss, a medium-grained biotite and chlorite granite or quartz monzonite that is probably part of a regional 1,700 Ma (million years ago) suite, small amounts of a potash-feldspar granite porphyry that is probably related to a regional 1,400 Ma suite, and various pegmatites, diabase dikes, and aplites. Lenses and pods of white bull quartz are common and these lense-like bodies attest to the deformational history.

<u>Paleozoic-Mesozoic</u> - Paleozoic strata in the near region consist of the typical cratonic shelf assemblage of clastic and carbonate units prevalent in southeastern Arizona. Paleozoic strata are complexly deformed and slivered. The most complete section of Paleozoic strata is found in Round Mountain (in SE1/4, section 19, T7N, R17W) about one-mile due south of the southeast corner of the Property. Paleozoic units are in low angle fault contact with both underlying Precambrian rocks and low angle faulting and shearing has occurred within the block which has been separated into three tectonic plates schematically shown in Figure 7-2.



Figure 7-2 Structural section Round Mountain thrust block. 1) Proterozoic basement; 2) Cambrian Bolsa Quartzite: 3) Cambrian Abrigo Fm.; 4) Abrigo Fm.; 4) Mississippian-Devonian Redwall Fm.; 5) Pennsylvanian Supai Group; 6) Permian Kaibab Fm.; and 7) Triassic Buckskin Fm. The arrows show the relative movement on low angle faults within the sequence (Duncan, 1990).

The lowest plate of Paleozoic sediments consists of a sheared but essentially intact stratigraphic section of Cambrian Bolsa Quartzite and Abrigo Formation overlain by the Devonian-Mississippian Martin/Redwall Formation carbonates, which are in tum overlain by Pennsylvanian Supai Group sediments. The Bolsa Quartzite, where exposed is a white to gray vitreous quartzite or arkosic quartzite which weathers to a pinkish tan. The Abrigo Formation is a thin (6-10 ft.) silvery gray arkosic schist which separates the Bolsa Formation from the overlying Martin Formation, a poorly bedded tan to brown dolomite. The Redwall Formation takes the form of a medium-bedded cherty gray limestone. The

Martin and Redwall together are about 100 ft. thick. The overlying Supai Group consists of thin- to medium-bedded pink to maroonish gray shales, arkoses and calcareous sedimentary rocks.

A structurally higher fault places Bolsa Quartzite over the Supai Group of the underlying plate. The Bolsa Formation of this middle plate is markedly discordant with the underlying fault and stratigraphy. In places the bedding in the quartzite dips essentially vertically, and at high angles to bounding faults above and below. The anomalously thick and probably thrust-repeated section of steeply dipping Bolsa Quartzite is traceable southward along the eastern side of Round Mountain to its depositional contact with the overlying Martin/Redwall Formation carbonates. This relationship indicates that stratigraphic tops are to the south or southeast.

A third, structurally higher, fault places approximately 115 ft. of variably bedded and cherty gray to brown limestone and dolomite of the Permian Kaibab formation over the steeply dipping strata of the middle plate. Bedding in Paleozoic strata of this upper plate dips approximately 60° to the south, slightly more steeply than the underlying fault contact. In the southeast comer of Round Mountain dark brown carbonates and calc-silicates of the Triassic Buckskin formation lie depositionally above the Kaibab formation. Farther west, however, the Kaibab Formation is bounded above by a fourth low-angle fault which places Proterozoic Basement over the top of the entire sedimentary package.

<u>Tertiary</u> – Tertiary strata (Figure 7-3) lie depositionally on the Proterozoic crystalline rocks in the vicinity of the Northern Plomosa district in a well exposed, well defined and reasonably continuous section of Tertiary sedimentary and volcanic rocks. The section (Figure 7-3) is floored by a basal conglomeratic arkose which grades upward into finer grained arkoses, thin-bedded silty limestones, and eventually thick-bedded (3 to 10 ft.) limestone. The calcareous sediments are interbedded with layers of felsic tuff which become thicker and more abundant toward the top of the unit. Overlying the sedimentary section in apparent conformity is a thick layer of mafic to intermediate volcanic flows, flow breccias, and agglomerates, with minor interbedded sediments and tuffs. The uppermost unit in the Tertiary section is a course, heterogeneous, crudely stratified to unstratified conglomerate which was deposited with apparent disconformity onto the underlying volcanic unit. Minor Tertiary felsic intrusions intrude the Tertiary sediments and the underlying Proterozoic basement and Paleozoic metasediments.



Figure 7-3 Tertiary stratigraphy in the Northern Plomosa Range. 1) Proterozoic basement; 2) Bouse arkose; 3) Limestone-tuff unit: 4) Volcanic unit; and 5) Plomosa conglomerate (Duncan, 1990).

Tertiary volcanic and sedimentary units overlie most of the Property and are in disconformable contact with a large exposure of Precambrian crystalline rocks exposed in the southeastern quadrant of the claim block (Figure 7-4). Within this area, many of the low hills and bluffs are held up by gently dipping thin bedded limestone. Quaternary gravel and alluvium deposited on a broad pediment on the northernmost, west flank of the Plomosa Range covers most of the Property.



Figure 7-4 Local geologic map Golden Hills Property.

#### 7.2 Structure

The Northern Plomosa Range is located in the Basin and Range Province of western North America and the physiography and structural geology of this region largely results from Cenozoic extension. Large expanses of foliated high-grade metamorphic rocks, commonly green chloritic schists outcrop in western Arizona. In western Arizona, these metamorphic rocks are often bounded above by a lowangle detachment fault which is oriented grossly parallel to the foliation in the footwall metamorphic rocks, and which places relatively unmetamorphosed upper-plate rocks of various ages, in many cases Tertiary, in contact with the lower plate. The upper-plate rocks are frequently broken by numerous normal faults which merge into, or are truncated by the underlying detachment fault. The result is a number of distinct tilt blocks which dip generally southwest into the detachment fault, which are considered to be large-displacement, low-angle normal faults. Mylonitic lineation indicates the direction of extension, and asymmetric mylonitic petrofabrics indicate that the sense of shear during mylonitization was top to the northeast in west-central Arizona. This leads to the interpretation that the lower plate was in fact pulled out from under the upper plate during the southwest-directed extension. Minimum total displacements have been estimated at 25 to 35 miles in the greater region around the Northern Plomosa Range. Lower plate crystalline rocks, often showing mylonitic fabric represent pre-Tertiary rocks that were at deep crustal levels before extension. Upper plate includes Proterozoic crystalline rocks, deformed Paleozoic sedimentary rocks, Jurassic volcanic and sedimentary rocks and early - to middle Tertiary and sedimentary volcanic rocks. High angle block faults have further complicated structural blocks which have concealed Quaternary sediments and volcanic rocks (Duncan, 1990).

Scarborough and Meader (1983), divided the Northern Plomosa Range into at least six structural domains that are joined by major faults. Very dissimilar rocks have been tectonically juxtaposed during a series of low-angle, probably thrust faulting events and also during a later Cenozoic, gravity-induced detachment, or sliding event. The earlier events most likely occurred in the Cretaceous (Sevier and/or Laramide) orogeny and possibly again in the Eocene. These structural blocks were subsequently deformed during middle Miocene as detachment faulting juxtaposed terrains. As defined in the Northern Plomosa Range, the plate above the Miocene contains Cenozoic sedimentary and volcanic strata that were deposited on a tilted and erosionally beveled three plate mélange of Precambrian, Paleozoic and Mesozoic rocks. The structural plate beneath the Miocene fault contains Precambrian, Paleozoic, and Mesozoic rocks tectonized into a five-plate mélange by earlier thrust faults.

#### 7.3 Alteration and Mineralization

In his study of the Northern Plomosa Range, Duncan (1990) recognized district scale alteration and mineralization affecting virtually all rocks. Based on field observations, he noted most of the Tertiary volcanic rocks including mafic dikes and felsic agglomerates are potassium metasomatized.

Duncan (1990) conducted detailed petrographic studies of 10 mines and prospects in the Northern Plomosa district and recognized distinct alteration and mineralization stages (Figure 7-5) which are listed in chronologic order by type.



Figure 7-5 Paragenetic sequence for the Northern Plomosa Range (Duncan, 1990).

#### Alteration and replacement stages

- 1. <u>Chlorite stage</u>: In calcareous sediments the earliest stage of mineralization is widespread chlorite alteration, most pronounced in silty red to orange calcareous sediments, especially near mineralized faults and veins. It is particularly well developed around the Little Butte mine (in W1/2 sect. 7, T7N, R17W).
- 2. <u>Specular hematite replacement:</u> The second stage within calcareous rocks includes massive specular hematite developed within fractures and as replacements. Visually distinctive specular hematite is particularly well-developed just east of the Little Butte mine within the area of strong chlorite alteration. The most complete replacement was in limestones which are 85-90% hematite by volume.

#### **Open-space** Filling stages

1. <u>Early quartz-hematite stage:</u> Within volcanic rocks the early stages of chlorite and hematite is much less significant. Volcanic rocks and especially the Plomosa conglomerate exhibit an open-space filling consisting of quartz-hematite.

Contemporaneous mineralization and fault movement is evident.

- 2. <u>Late barite, fluorite, silica and oxidized copper:</u> Following chlorite and hematite stages in the calcareous sediments and second stage quartz-hematite in Plomosa the conglomerate barite-fluorite-silica-oxidized copper mineralization occurred. This assemblage is present in veinlets and as breccia along with earthy hematite.
- 3. <u>Supergene and unrelated(?) mineralization:</u> Minor manganese oxides are scattered through the district and are often associated with hematite. Manganese oxide- rich veins are found commonly in volcanic units but cross-cutting relationships are not abundant.

The paragenetic sequence described above by Duncan (1990) is consistent throughout the Northern Plomosa district but there is a strong association of certain types of alteration with specific host rocks (e.g. chlorite alteration with calcareous rocks, and massive specular hematite within thicker limestone units). Bancroft (1911) described the ores of the Little Butte mine as "a breccia of chrysocolla and malachite cemented by specularite." Jemmett (1966) noted that the oxidized copper minerals are commonly also part of the breccia matrix and he observed gold to be late in the sequence, occupying microfractures in the earthy-hematite matrix to breccia as in the Dutchman mine. Assays of dump material collected by Duncan (1990) confirmed that the highest values, both in copper and gold, are associated with the brecciated earthy hematite vein material containing abundant chrysocolla, malachite, and fine-grained silica.

In his district study of the paragenetic sequence, Duncan (1990) concluded that mineralized postdetachment high angle faults in the area hosting minor mineralization are not as significant as much more important mineralization associated with the latest stages of the paragenetic sequence. Measured strikes of mineralized veins in the district have a strong predominant northwest trend (Figure 7-6).



Figure 7-6 Rose diagram: strikes of 29 mineralized faults (Duncan, 1990).

Surface trenching and detailed sampling conducted by Tuffnell, Ltd. (see section 6, History, above) confirmed conclusions reached by Duncan (1990) and Jemmett (1966) and others. Samples from trench 3 (NW1/4 T7N, R17W or UTM NAD27 Conus 770091mE X 3762574mN) which assayed up to +55 g/t Au, and +2% Cu (Figure 7-7) are composed of specularite copper oxide within stockwork zones up to 100 feet wide (Kern, 2011a). Based on this sampling and the resistivity/IP survey interpretations, Kern concluded that a major north-south strike slip fault system which averages 400 feet in width extending for at least 3,000 feet along strike is present in the northwest part of the Property. These northwest striking veins are likely en échelon, tensional gashes developed as a result of north-south extension within the shear complex. Horizontal slickensides were noted by the Author at one locality (NAD27 Conus UTM 0771449mE, 3761214mN) developed within a hematitic siltstone. In the photo the hammer parallels the slickensides along a face which strikes N25W, 80W (Figure 7-8).



Figure 7-7 Trench 3 in the northwest part of the Property. For the trench location see Figure 6-3.



Figure 7-8 Hematitic siltstone with horizontal slickensides.

These specularite-copper oxide +/- gold veins (Figure 7-9) have a vertical extent of less than 200 feet with a few hundred feet of strike and are less than 20 feet thick within enclosing stockwork zones. Significant copper mineralization in this area was also recognized within the stockwork zones and as a flat-lying, enrichments at the paleo-water table within 150 feet of the surface. High grade gold samples from trench 3 were submitted for petrographic study at the University of Nevada (Reno). Gold from the vein encountered in trench 3 was determined to be coarse and rounded from accretion during weathering (Figure 7-10). Kern speculated that this suggested gold is mobile within the supergene environment, although gold mobility is likely to be small, at most a few tens of feet.



Figure 7-9 Coarse gold and copper oxide in trench 3. Pencil is pointed towards small coarse gold grain.



Figure 7-10 Polished thin section with rounded grain of gold. Gold grain (bright yellowish white) in chrysocolla veinlet (dark gray) with botryoidal goethite (light gray) in siltstone (medium to dark gray), section MQ1102. Reflected light, uncrossed polars, field of view is 0.85 millimeters (Schumer, 2011).

#### 8.0 **DEPOSIT TYPES**

The tectonic setting and structural characteristics, alteration mineralogy, and the mineral assemblage Au-Cu (described above, section 7 Geological Setting and Mineralization) suggest that the Golden Hills Property fits within a deposit type referred to as "Detachment-Fault-Related Mineralization" (Long, 2004). Detachment-faulted terrane is recognized within a northwest-southeast belt encompassing parts of southeastern California, southernmost Nevada, and west-central Arizona. The location of the Property within this belt is shown in Figure 8-1.



Figure 8-1 Detachment-faulted terrane in California, Nevada, and Arizona. The Golden Hills Property is located at the red diamond (Long, 2004).

Detachment faults are low-angle (up to 30°) normal faults of regional extent that have accommodated significant regional extension by upward movement of the foot-wall (lower-plate) producing horizontal displacements on the order of tens of miles. Common features of these faults are supracrustal rocks in the upper-plate on top of lower-plate rocks that were once at middle and lower crustal depths, mylonitization in lower-plate rocks that are cut by the brittle detachment fault, and listric and planar normal faults bounding half-graben basins in the upper plate. The detachment fault and structurally higher normal faults locally host massive replacements, stockworks, and veins of iron and copper oxides with locally abundant sulfides, barite and manganese veins, and/or fluorite.

Whether or not Golden Hills fits within a deposit model referred to as "Detachment-Fault-Related Mineralization" is uncertain but the location within the northwest-southeast trending belt of recognized detachment systems suggests the tectonic and structural setting has similarities to other

recognized systems along the corridor. Clearly, the paragenetic sequence at Golden Hills, described in Figure 7-5 and extensive potassic, copper-oxide, and hematite alteration is consistent with alteration and mineralogic characteristics of other detachment related systems as described by Long (2004).

Notwithstanding the structural, alteration and mineralogic similarities to other recognized detachment systems along the belt, the local source of Au-Cu mineralization at the Golden Hills Property is believed to be a proximal intrusive body or bodies. Although no intrusive bodies have been intersected in drill holes completed to date, most of this drilling has been relatively shallow (< 600 ft.) and in the northwest part of the Property where elevated Au-Cu mineralization has been encountered in drill holes (e.g., LB-1010, Table 6-6) and trenches (Figure 7-7), the deepest holes do not exceed 400 feet and most are under 300 feet. In the 2010 Gradient Resistivity/IP survey in the northwest part of the Property, Fritz (2010) concluded that a central resistivity high Figure 6-2) with alteration and mineralization associated with structures around the high is present. The overall sulfide response from this feature was diminished due to extensive oxidation. Although no clear intrusive body has been discovered to date on the Property, felsic to intermediate dikes are present six to eight miles south of the Property (Scarborough, Meader, 1983) although their clear genetic association with an intrusive was not recognized. Ultimately, to confirm the presence of a deep intrusive body on the Property a deep drill hole(s) will be necessary to test this idea.

# 9.0 **EXPLORATION**

Since the grant of the NSJ Option in August, 2020, NSJ has commenced a modest work program including the following:

- Interpretation of satellite imagery using Google Earth to identify alteration and structure:
- Research all geologic publications associated with the project area and compilation of all historic data on the region;
- Geologic mapping;
- Plotting and interpretation of all historic rock chip and drilling geochemistry;
- Collecting, assaying, plotting and interpreting additional rock chip samples;
- Creating gold/silver drill cross sections;
- Reviewing historic geophysical surveys;
- Making recommendations for further geophysical surveys; and
- Drafting new compilation maps.

As of the date of this Technical Report, the compilation effort described above is still underway and not available to the Author. Recent geochemical sampling by Great Basin on behalf of NSJ is summarized in Table 9-1 and Figure 9-1.

Great Basin			
Sample #	Au ppm	Sample #	Au ppm
GH1	< 0.01	GH9	< 0.01
GH2	< 0.01	GH10	0.03
GH3	0.10	GH11	8.55
GH4	8.29	GH12	0.02
GH5	0.01	GH13	< 0.01
GH6	< 0.01	GH14	6.42
GH7	< 0.01	GH15	0.28
GH8	< 0.01	GH16	0.14
		GH17	< 0.01

Table 9-1 Great Basin surface sampling Au results, October, 2020.



Figure 9-1 Great Basin, and Author sample locations. Recent Great Basin sample locations (GHseries) and the Author's samples (370- series) are shown. The results of the Author's samples are listed in Table 12-1.

Results from the spectral analysis study conducted by Kern (2021) revealed structural sets and trends that are expressed both locally and regionally (e.g., the NE structural set extends for tens of miles whereas the NE trend persists for +100 miles). The general NW trend is believed to be the most important to gold mineralization. However, where the NW structural trends cross a NE trending set of structures, the highest grades have thus far been found on the Property. This may indicate either some NE structures aided in initial mineralized fluid flow or later facilitated remobilization.

In December, 2020 NSJ authorized commencement of a small Gradient Array IP Survey in the northwest part of the Property where other IP/Resistivity surveys had been conducted (see section 6, History). As in the past, data was collected by Zonge International (Reno, Nevada) but the logistics report from this survey is not available to the Author at this time. Data was again interpreted by Frank P. Fritz of Fritz Geophysics (Fritz, 2020).

As summarized by Fritz, data for the survey was collected using a small 10m receiver dipole on N70E lines 100 m apart covering a square kilometer. Previous GIP (Gradient IP) surveys in 2010 and 2014 showed a well-developed NS structural direction with a sharp IP high associated with a central NS structure (Figure 6-2). Concern was raised by Fritz (2020) that the previous GIP survey did not penetrate below a persistent resistivity horizon with a thickness estimated at 100-200m. The 2020 survey with the 10 m dipole spacing indicated a significant resistivity layer but the greater detail showed probable individual veins with a strong northerly trend. As concluded by Fritz:

For the expected mineralization either resistivity highs or IP highs might suggest mineralization. Resistivity and IP Effects are closely associated with porosity. Tighter rocks with lower porosity would generally have a higher resistivity. Mineralization of almost all types alters the host rocks, increases the porosity, and lowers the resistivity. Even with significant oxidation the increased porosity and the products left from mineralization in the pores increases the IP Effect.

Utilizing the Fritz interpretation, Kern (2021) concluded that the NNW trending zone with the highest grades correlates with very high resistivity but typically on the edges of the high resistivity zone. However, the direct correlation with grade is not clear (Figure 9-2). Alternatively, IP appears to correlate a little better with grade than resistivity (Kern, 2021).



Figure 9-2 Interpretation of 2020 Gradient Array/IP 10m survey. Veins and structures are interpreted from drill hole evidence, surface mapping, trenching, and the results of the 2020 survey. Drill hole traces are shown from 2010, 2011, and 2014 drill programs (section 6, History).

# 10.0 DRILLING

No drill programs have been completed by NSJ on the Golden Hills Property.

# 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Despite the substantial heritage of drill data and other geochemical sampling on the Golden Hills Property, little information has been documented on sample preparation, analyses, and security protocols in the collection, and sample handling procedures employed by the companies responsible for the work programs. Richard Kern, of Great Basin the underlying owner of the Property and a Qualified Person (pursuant to NI 43-101 requirement), supervised several of the drill programs including those conducted during 2010, 2011, and 2014 and sampling programs and took appropriate measures to ensure sample integrity and credibility. During this period the principal analytical laboratory used for sample analyses was ALS Chemex<sup>4</sup> (Reno, Nevada), a widely used and

<sup>&</sup>lt;sup>4</sup> ALS is part of the ALS Group (a subsidiary of Campbell Brothers Ltd. – ASX: CPB) a diversified group of testing companies with offices strategically located around the world. Most ALS Geochemistry laboratories are registered or are pending registration to ISO 9001:2008,

well-regarded, multi-national lab. In addition to ALS Chemex, several well-regarded analytical laboratories including Legend Inc., Nevada GSI Inc., Inspectorate America Corp., American Assay Laboratories, and others were used for drill sample analyses and geochemical sampling programs conducted during the 1980s and 1990s. All of these laboratories were widely used in the mining industry by both junior and senior companies. Aside from ALS Chemex, specific certifications are not known by the Author especially since several of these laboratories have been acquired by larger testing labs including ALS (Chemex) and Bureau Veritas (Inspectorate America). These well qualified laboratories employed standard fire assay and AA (atomic absorption), ICP (Inductively Coupled Plasma) analyses for precious and base metals, and multi-element analyses of drill cuttings/cores and geochemical samples. ALS Chemex in particular operates their labs with the highest professional standards using validated methods to achieve accurate reproducible results with equipment that is maintained and calibrated to achieve the highest levels of performance. They employ extensive procedures for internal quality control, sample preparation, analyses, proficiency testing programs, and scheduled audits. ALS Chemex internal blanks, replicates, and reference standards are anonymously inserted into client's sample batches to assure analytical accuracy and validation.

During the 2010 and 2011 drill programs completed by Tuffnell Ltd. (see History section 6 above), a comprehensive QA/QC control program of sample checks using standards, blanks and duplicates (assay sample pulps) to ensure accuracy and precision of analyses by the "primary" lab ALS Chemex, and the use of a third party, "external" laboratory, Inspectorate America Corporation (Reno, Nevada) was employed. Inspectorate America Corporation is now part of Bureau Veritas, one of the largest analytical and testing laboratories in the world and also certified to ISO 17025 and other accreditations.

To provide an "external" assay check of the "primary" lab ALS Chemex, Richard Kern selected the "external" lab, Inspectorate to provide fire assays for gold using duplicate sample pulps from ALS Chemex. To verify the accuracy and precision of the 2010-2011 drill hole assay data base for gold as reported by ALS Chemex, Inspectorate completed fire assays for gold on 110 - LB-2010, LB-2011 drill intervals and nine gold standards. Both Chemex and Inspectorate America employed the same type of fire assay analysis with an AA (Atomic Absorption) finish to determine gold content including, respectively, the analytical codes AA-23, and FA-430. Both labs used a 30g assay charge and reported in a range of values from 0.005 to 10 ppm.

Assay checks of ALS Chemex results by Inspectorate were also completed on an additional nine samples from BR-9, a 1990 drill hole (see History section 6 above).

Comparative results for the 110 drill interval samples and 9 Certified Reference Standards for gold are shown in Figure 11-1, and Figure 11-2 below.

and a number of analytical facilities including the Reno ALS laboratory have received ISO 17025 accreditations for specific laboratory procedures.



Figure 11-1 ALS Chemex vs. Inspectorate pulp re-assays. Plot of 119 sample pulp Au results in ppm obtained from Chemex and re-analyzed by Inspectorate. The sample pulps were selected from six 2010 and three 2011 drill hole intervals.



Figure 11-2 Variance pulp re-assays ALS Chemex vs. Inspectorate. The graph is based on the same data set from Figure 11-1, above.

The results of the QA/QC program of analytical checks ensured that the accuracy and precision of all sample analyses from the 2010-2011 drill program are credible and accurate. Sample variance, or the spread between two sets of numbers, indicated only a few sample "outliers" returned unacceptable variance. These include two drill hole intervals. Sample <u>LB-1013</u>: 47-50 ft; Chemex reported 64.70 ppm gold while Inspectorate indicated 0.115 ppm gold. A second drill sample <u>LB-1101</u>: 190-195 ft. contained 0.076 ppm gold as reported by Chemex versus the Inspectorate analysis which returned 8.737 ppm gold. These sample results which show wide variance, are not indicative

of an analytical error, rather the results indicate the samples contained significant coarse gold and when the sample was split did not appear equally in each sample pulp.

Comprehensive primary details and data regarding sample collection, analytical procedures used, statistically validated QA/QC protocols, and detailed security employed by companies who conducted work programs on the Property are unknown. However, several of these drill programs were conducted prior to the establishment of NI 43-101 beginning in the late 1990's which required such protocols, especially leading to resource/reserve estimation. Drill programs were conducted by professional Canadian and American mining companies supervised by ostensibly competent geologists although it is undetermined if such personnel were (or are) Qualified Persons as defined by NI 43-101.

Notwithstanding the limitations discussed above, it is the opinion of the Author that the voluminous data collected on the Property is credible and adequate for the purposes being used to guide further exploration.

Despite the cost and efficiency and cost advantage of RC drilling, future drill programs at the Property intended to obtain an initial Inferred Mineral Resource estimate should include at least a statistically validated number of core holes. As well, future drill operations should include a documented systematic, and comprehensive program of security, and QA/QC measures supervised by a Qualified Person. These should include the use of standards (Au and Ag), duplicates (sample splits), and blanks (no Au, Ag content) and "outside", third-party check assays for up to 15% of the total sample population collected.

# **12.0 DATA VERIFICATION**

The Author conducted a site visit of the Property on October 7-8, 2020 under the guidance of Richard Kern of Great Basin Resources Inc. To confirm the presence of gold and copper the Author collected eight rock samples from targets on the Property. In conjunction with the collection of the Author's samples, prospects, mines and other general geologic features in particular alteration and mineralization were observed in detail. The Author's sample locations (Figure 9-1), descriptions, and analytical result are summarized below (Table 12-1). The Author collected and securely retained the samples until they were transported directly to the ALS Chemex (see Sample Preparation, Analyses, and Security section above) facility in Reno, Nevada. The ALS facility was subsequently responsible for sample custody. The Author's rock samples were submitted to ALS Chemex for the determination of gold and copper content, and multi-element analyses. Preparation and analytical codes employed included the following:

*Preparation* <u>PUL-31</u> -pulverize up to 250g 85% <75 μm;

Analyses

<u>ME-OG62</u> –ore grade elements – Four Acid; <u>Cu-OG62</u> -Ore grade Cu – Four Acid; <u>Au-AA26</u> -Ore grade Au, 50g FA AA finish; <u>Au-GRA22</u> -Au 50g FA-Grav finish [Gravimetric]; <u>Au-ICP22</u> -Au 50g FA ICP-AES finish; and <u>ME-ICP61</u> -33 element Four Acid ICP-AES.

Author sample locations and results - October 7-8, 2020						
SAMPLE #	E UTM*	N UTM*	TYPE	DESCRIPTION	Au ppm	Cu %
370987	770091	3762574	RC	siderite w abundant spec hem, siderite, ls host, occ. CuOx, pervas h	0.19	1.27
370988	770091	3762574	Dump	as above - stockpile	0.74	0.1385
370989	770498	3762555	Dump	abundant CuOx, spec hem stkwrk, pervas hem, at Little Butte shaft	19.3	3.36
370990	771678	3762275	Dump	occ spec hem, sporadic wk qtz veinlets, ls host	0.034	0.0099
370991	771678	3762275	RC	0.33 m, dense v f.g. silt?, occ spec hem, w CuOx, abundant pervas he	0.01	0.0281
370992	771036	3761210	Dump	stockpile, spec hem stkwrk, pervas hem, matrix is bleached K-felds	0.138	1.125
370993	771036	3761210	RC	1.0 m N50E, 25S replacement bed, as above but w less CuOx	0.1	2.46
370994	769150	3761293	Grab	drill cuttings from BA-6, fine and coarse pervas hem silt	0.008	0.0687
	*NAD27 Co	nus				

Table 12-1 Author samples and results October 7-8, 2020. Sample locations appear on Figure 9-1. Abbreviations are: *w* with; *spec* specular; *hem* hematite, *occ* occasional; *pervas* pervasive; *alt* 

alteration; *stkwrk* stockwork; *wk* weak; *qtz* quartz; *ls* limestone; *vfg* very fine grained; *silt* siltstone.

In addition to the field visit, the Author reviewed, in detail the complete digital and hard copy data base supporting the Property. The earliest information prior to 1984 was fragmentary and only very limited summary data was available. Drill and other work programs completed after 1984 were supported by more comprehensive data including in many cases drill logs, drill hole parameters, cross-sections, analytical certificates, summary memorandums, and other information. The Author checked some of the reported mineralized drill interval assay averages against the applicable analytical certificates and/or individual assay compilations. Summary conclusions regarding the nature and character of mineralization on the Property were verified by reviewing external references including those of the Arizona Geological Survey and academic studies by graduate students from the University of Arizona.

It is the Author's opinion that the project data generated by Great Basin and other companies to the date of this Technical Report is of acceptable technical merit. Accordingly, this data is appropriate and adequate for the purposes used within this Technical Report.

# 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Despite the large data base including extensive drill programs, almost no work has been conducted on metallurgical testing of mineralized material from the Property. In 2019, Great Basin submitted a single rock (approximately 15 kg) described as "high grade gold/copper specularite ore" to McClelland Laboratories, Inc. (Reno, Nevada) for metallurgical testing to determine the most efficient processing for gold and copper recovery (McClelland, 2019).

The head assay of the rock sample was determined to be 25.0 gAu/mt, and 2.53% Cu with negligible silver. The recovery response of gold and copper was evaluated by grinding to 80%-106  $\mu$ m, whole ore gravity concentration of the milled feed for gold recovery, sulfuric acid leaching of the gravity tailings for copper recovery and cyanide leaching of the acid-leached residue for additional gold recovery.

The study concluded the test process resulted in high gold and good copper recovery. The combined (gravity concentration + tailings cyanidation) gold recovery was very high at 99.6%. The recovery did not account for gold losses likely to be incurred during subsequent processing of the gravity concentrate. The copper recovery by acid leaching was determined to be 70.1%. The acid consumption was moderate and the cyanide consumption was very low considering the process sequence.

# 14.0 MINERAL RESOURCE ESTIMATES

There is no information available on the Golden Hills Property that would allow for estimation of a mineral resource.

### **15.0 MINERAL RESERVE ESTIMATES**

There is no information available on the Golden Hills Property that would allow for estimation of a mineral reserve.

#### **16.0 MINING METHODS**

There is no information available on the Golden Hills Property that would allow for a discussion of mining methods.

#### **17.0 RECOVERY METHODS**

There is no information available on the Golden Hills Property that would allow for a review of the recovery methods anticipated.

#### **18.0 PROPERTY INFRASTRUCTURE**

There is no information available on the Golden Hills Property that would allow for the Property infrastructure to be reviewed.

#### **19.0 MARKET STUDIES AND CONTRACTS**

Possible market studies and contracts associated with possible development of the Golden Hills Property are not known.

#### 20.0 ENVIRONMENTAL STUDIES, PERMITTING, SOCIAL OR COMMUNITY IMPACT

No information is available on the Golden Hills Property to determine environmental, permitting, and social and community impact.

#### 21.0 CAPITAL AND OPERATING COSTS

No information is available on the Golden Hills Property to determine possible capital and operating costs.

### 22.0 ECONOMIC ANALYSIS

No information is available on the Golden Hills Property to provide an economic analysis.

#### **23.0 ADJACENT PROPERTIES**

Several unpatented and patented lode claims lie within and adjacent to the Property (Figure 4-2). The most relevant of these are a group of 13 unpatented lode claims which lie directly east of the patented claims comprising the Property. These third-party claims are surrounded by unpatented and patented claims comprising the Property. Ownership of these claims was not verified by the

Author, but according to Richard Kern they are owned by an individual who resides in Las Vegas. Any work history results and other details to more accurately determine the importance of these claims are unknown.

#### 24.0 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is known by the Author to be necessary to make this Technical Report understandable and not misleading.

#### 25.0 INTERPRETATION AND CONCLUSIONS

The tectonic setting and structural characteristics, alteration mineralogy, and the mineral assemblage Au-Cu (described above, section 7 Geological Setting and Mineralization) suggest that the Golden Hills Property fits within a deposit type referred to as "Detachment-Fault-Related Mineralization". Clearly, the paragenetic sequence at Golden Hills, described in Figure 7-5 and extensive potassic, ubiquitous copper-oxides, and hematite alteration is consistent with alteration and mineralogic characteristics of other detachment related systems as described by Long (2004). Notwithstanding, the structural, alteration and mineralogic similarities to other recognized detachment systems along the belt, the local source of Au-Cu mineralization at the Golden Hills Property is believed to be a proximal intrusive body or bodies. Although no intrusive bodies have been recognized on the Property or within drill holes. the 2010 geophysical survey completed in the northwest part of the Property suggests the presence of an altered intrusive source to mineralization.

The Property is underlain by rocks ranging in age from Precambrian crystalline units, Paleozoic and Mesozoic clastic and carbonate units, and Tertiary fine and coarse clastics and volcanic tuffs and flows. Structural dismemberment and deformation within this entire sequence has been intense and the Property and surrounding area have been divided into six structural domains. Alteration and mineralogic studies conducted by the Arizona Geological Survey and graduate level students from the University of Arizona have completed detailed studies to support this deposit model, and the complex tectono-stratigraphic setting. In addition to these studies a large heritage of exploration data including in excess of 128 drill holes dating to 1984 have confirmed that mineralization discovered to date is dominantly gold-copper. Mineralization occurs as nearvertical high-grade Au/Cu/Fe veins with lower grade Au/Cu in gently dipping permeable siltstones and sandstones adjacent to the veins. Gold shows evidence of local mobility, while copper has been intensely leached forming a secondary blanket at the paleo-water table. In the northwest part of the Property close-spaced drilling and surface trenching have discovered high grade gold-copper mineralization which assayed up to +55 g/t Au, and +2% Cu (Figure 7-7). Here veins are composed of specular hematite, copper oxide and in some cases coarse gold. These northwest trending veins are believed to be tension gashes resulting from north-south strike slip faulting in a zone up to 400 feet wide and at least 3,000 feet long. Gradient resistivity and IP surveys conducted in 2010 and 2014 support this interpretation.

Drill data compiled to date is reasonably well documented. However, comprehensive QA/QC procedures and protocols have not been implemented for most drill programs. A significant (+110 samples) check was conducted on the 2010 drill samples which confirmed that the "primary" analytical laboratory ALS Chemex provided reliable, analytical results. Most of the drilling on the Property to date has been RC (Reverse Circulation) drilling which sometimes can lead to variations of analytical results as compared to in-situ gold grades, depending on several variables. Additional in-fill, close-spaced RC drilling or at least some core drilling will be necessary to allow for estimation of a mineral resource to proceed.

## 26.0 RECOMMENDATIONS

The Golden Hills Property is a project of merit and strongly deserving of additional work programs. The recommended work program herein includes a continuation of previous drilling focused in the northwest part of the Property, where the 2020 geophysical (Gradient Array/IP survey) was completed, and described (section 6, History) and 2010, 2011, and 2014 drilling was concentrated. Budgets proposed for RC (Reverse Circulation) drilling below, are broken into two phases (Table 26-1 and Table 26-2). The Phase II program is contingent on results from the Phase I program and will only proceed if further drilling is warranted.

The initial drill budget (Phase I) consists of 10 reverse circulation drill holes with a pre-determined depth 150 feet (Table 26-1) for a total of 1,500 feet. The intent of the shallow drilling is to test for near surface, high grade (Au+Cu) veins and structures. Precise hole locations have not yet been determined as of the date of this Technical Report. Following the conclusion of the program, all results should be carefully compiled and analyzed in conjunction with previous drilling in the area. Continuity and tenor of mineralized structures and veins is of primary importance and careful logging of cuttings should be focused on the key lithologic, mineralogic and alteration controls to mineralization.

Following compilation and analysis of the Phase I program, if results warrant, a second Phase II program is recommended (Table 26-2), both as in-fill, and step-out drill holes. Again, the objective of this drill program is to test for shallow mineralized veins and structures. All precise hole locations should be based on a preliminary drill sections compiled from all previous drill campaigns, especially Phase I drill results. The follow-up program includes 19 additional reverse circulation drill holes with an average depth of 150 feet (2,900 feet total). The budget allows for detailed logging of cuttings and local storage of all samples. The Phase II program should also include initial metallurgical testing to determine the most efficient processing methods to treat oxide, sulfide, and mixed mineralization types.

Phase I Budget - Golden Hills Property - US\$/C\$*								
Work Activity	Cost US\$	US\$	C\$					
Drill direct - Reverse Circulation	(\$75/foot X 1,500')	112,500	144,231					
Drill pad/road construction		1,500	1,923					
Assays primary	(\$39/sample X 300)	11,700	15,000					
QA/QC 15%/total	(\$39/sample X 50)	1,755	2,250					
Sr. Project supervision	(21 X \$650/day)	16,250	20,833					
Assistant geologist	(15 X \$350/day)	5,250	6,731					
Supplies, bags, tags, etc		1,250	1,603					
Field support: lodging, meals, transp.	(18 X \$300/day)	5,400	6,923					
Core/cutting sample storage	6 mos X \$75/mo	450	577					
	Total	156,055	200,071					
	*1.00 C\$ = 0.78 US\$ /	exch. rate Ja	in 30, 2021					

Table 26-1 Phase I drill program.

Phase II Budget - Golden Hills Property - US\$/C\$*			
Work Activity	Cost US\$	US\$	C\$
Drill direct (Reverse Circulation)	\$75/foot X 2,900'	217,500	278,846
Drill pad/road construction		3,000	3,846
Assays primary	(\$39/sample X 600)	23,400	30,000
QA/QC 15%/total	(\$39/sample X 87)	3,393	4,350
Sr. Project supervision	(40 X \$650/day)	26,000	33,333
Assistant geologist	(40 X \$350/day)	14,000	17,949
Supplies, bags, tags, etc		5,000	6,410
Field support: lodging, meals, transp.	(25 X \$300/day)	7,500	9,615
Core/Cutting sample storage	12 mos X \$75/mo	900	1,154
Metallurgical testing		11,500	14,744
	Total	312,193	400,247
	*1.00 C\$ = 0.78 US\$ / exch. rate Jan 30, 2021		

Table 26-2 Phase II drill program.

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