

# *NI 43-101 Technical Report*

Langtry Project  
California, USA



Prepared for:

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Effective Date: December 1, 2021

Prepared by



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This Technical Report on the Langtry Project is submitted to and is effective December 1, 2021.

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# **1 EXECUTIVE SUMMARY**

## **1.1 Overview**

The Langtry Property (“the Project” or “the Property”) is located in San Bernardino County, California, USA, in a historic silver mining district of the Calico Mountains. The Property is situated approximately 145 miles (233 km) northeast of Los Angeles, approximately halfway between Los Angeles and Las Vegas, Nevada along the I-15 interstate highway. The Project comprises 38 unpatented lode mining claims and 20 patented mining claims, totaling approximately 1,177.5 acres (477 hectares).

Global Resource Engineering (“GRE”) was engaged by Apollo Silver Corp. (“Apollo”) to complete a National Instrument (NI) 43-101 Technical Report (“the Report”) summarizing the geology, exploration history and acquisition of the Langtry Property. The Technical Report includes a summary of exploration activities and historical mining conducted on the Property to date and recommendations for future work. The Report has been written on behalf of Apollo and was prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum’s (“CIM”) National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects and guidelines for technical reporting “Best Practices and Reporting Guidelines” for disclosing mineral exploration.

## **1.2 Property Ownership and Description**

Apollo controls a significant contiguous land position in the Calico District covering 2,947 acres (1192.6 hectares) of patented and unpatented land in San Bernardino County, California. Apollo’s land package includes the Langtry Property, which is the subject of this report, and the adjacent to the southeast, Waterloo Property.

The Langtry Property comprises 38 unpatented lode mining claims and 20 patented mining claims located in Sections 6, 7, 8, 9, 16, 17 and 18 Township 010N, Range 001E, SBB&M, in San Bernardino County, CA. In December 2020, Stronghold Silver USA Corp. (Stronghold Silver), now, a wholly-owned subsidiary of Apollo, entered into two option agreements to acquire the Langtry Property. One option agreement covers 36 unpatented mining claims held by Athena Minerals Inc. (the “Athena Agreement”) and the second option agreement covers 20 patented mining claims owned by Bruce and Elizabeth Strachan and two unpatented mining claims held by Bruce and Elizabeth Strachan. (the “Strachan Agreement”). Through the acquisition of Stronghold Silver by Apollo (completed July 9, 2021), the agreements give Apollo the option to acquire a 100% undivided right, title, ownership, and beneficial interest in and to the Langtry Property as a whole for the agreed upon purchase price in each agreement. Each option agreement is subject to royalties and encumbrances are discussed in Section 4.3.2.

## **1.3 Geology and Mineralization**

The Property lies in a favourable geological setting in the Calico Mountains, underlain by the mineralized Miocene-aged Pickhandle and Barstow Formations which are cut by the Calico fault. This area was a prolific silver producing region in the late 19<sup>th</sup> century. Two types of mineralization have been identified on the Property: large tonnage, moderate to low grade disseminated silver-barite, and silver-mineralized

veins. The disseminated silver-barite mineralization is hosted by the Barstow Formation: a brecciated sequence of Miocene age siltstones, sandstones, thin bedded calcarenites, and water laid tuffs that were deposited in a shallow lake environment. This type of mineralization is dominant on the Langtry Property. Silver vein mineralization is hosted in the underlying volcanic flows and breccias of primarily dacitic to andesitic composition of the Pickhandle Formation. Both types of mineralization are interpreted to have formed from a common, but multi-staged event, with the host rock controlling the style of mineralization. The vein network generally parallels a regional zone of northwestern-trending faults that has acted as both a feeder for mineralization and has displaced it during periods of tectonic reactivation.

The disseminated silver mineralization at Langtry is associated with silica and barite along with hematite, calcite, silver-hosted sulphides (acanthite), very fine native silver, very fine sphalerite, very fine galena, and local occurrences of argentojarosite and cerargyrite. A late-stage magnetite-manganese oxide-native silver bearing event has also been noted in the district.

Mineralization at Langtry is interpreted to be epithermal in origin with a similar genesis to mineralization at the nearby Waterloo project to the southeast, owned by Apollo. Mineralizing fluids were focused along detachment faults, bedding planes and within favourable horizons within the Barstow Formation. The timing of mineralization (15-20 Ma) aligns with a period of subduction and extension in the region.

## 1.4 Exploration History

Exploration on the Property dates back to the 1880's and includes silver production from the historical Langtry Silver Mine which lies on the current property. Modern exploration on the Langtry Property commenced in the late 1960's and was completed by Superior Oil Company ("Superior"), International Silver Inc. ("International Silver"), and Athena Silver Corp. ("Athena"). Exploration work on the Property by Superior included extensive rotary drilling with the completion of approximately 200 drill holes. Athena acquired an interest in the Langtry Property in March 2010. Athena drilled 10 confirmatory and three exploratory reverse circulation ("RC") drillholes in 2011 all of which identified high-grade silver mineralization. In addition, Athena completed a 20-ton bulk sample for metallurgical testing collected from three surface trenches in 2012.

Three historical mineral resource estimates have been calculated based on data from the historical drill programs. The most recent historical mineral resource estimate for the Langtry Deposit was completed in 2012 by Independent Mining Consultants Inc. ("IMC"), in cooperation with SRK Consultants ("SRK"), on behalf of Athena. Athena's resource database included 148 historical Superior drill holes and Athena's 13 confirmatory and exploration holes. IMC estimated that the Langtry Silver deposit contained Indicated Mineral Resources of 12.7 million short tons grading 1.48 opt (50.7 g/t) Ag and Inferred Mineral Resources of 30.4 million short tons grading 1.40 opt (48.0 g/t) Ag, at a 0.76 opt (26.1 g/t) Ag cutoff grade, as pit-constrained resources. The reader is cautioned that this historical mineral resource estimates is historical in nature and the authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral resource. The authors are not treating it, or any part of it, as a current mineral resources. There is insufficient information available to properly assess data quality, estimation parameters and standards by which this estimate was categorized. This historical estimate is relevant and has been included simply to demonstrate the mineral potential of the main target area of the Langtry

Property. A thorough review of all historical data performed by an independent Qualified Person (“QP”), along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Langtry Project.

## 1.5 Author’s Site Visit

Mr. L. Breckenridge and Dr. H. Samari conducted an on-site inspection of the project on February 9, 2021. During the site visit the QPs conducted a general geological inspection of the Langtry area, including checking the formations, lithologies, mineralization, and locations of historical drill collars. The QPs located two parallel open trenches in Pickhandle Formation which were excavated along two quartz-barite veins. There was no indication when the trenches were excavated. The QPs discovered a few labeled sample bags containing pulp inside one of the trenches; three samples were collected from these pulps and submitted for assay. In total, five surface samples were collected on the Property from the Barstow and Pickhandle formations and mineralized zones. Samples were submitted for assay to Hazen Research Inc. in Golden, Colorado, USA. The samples confirmed that silver mineralization is present at several locations around the Property, however the samples are not considered a scientific validation of prior exploration results.

## 1.6 Conclusions and Recommendations

Historical exploration has identified the presence of significant silver mineralization located on the Langtry Property. The Property is a high-priority for follow-up exploration and an aggressive exploration program is warranted. Confirmed historical and modern drilling on the Property totals 20,710.0 m and will form the basis for the estimation of an initial mineral resource estimate for the Property

The exploration should include but not be limited to the following phase exploration program:

**Phase 1:** The construction of an initial mineral resource estimate for the Langtry Property based on the significant amount of historical drilling coupled with modern drilling and other exploration data. The initial resource estimate would rely on the validation of the historical drilling database and assay results of confirmation drilling completed by Athena in 2011. Additional work required to support the resource estimate will be determined upon a complete review of the historical data by the QP. This work may include 3-D geological modelling, field verification of drilling monuments, and review of prior sample QA/QC methods. The estimation of an initial mineral resource estimate would be a firm foundation for Apollo’s resource base going forward. Additional exploration to be completed concurrently with the resource estimate may include airborne and ground geophysical surveys, geological mapping and sampling along with environmental studies. The cost to complete the Phase 1 program is estimated to be US\$630,000.

**Phase 2:** The Phase 2 program is contingent on Phase 1 as it would rely heavily on the results of the Phase 1 program. The authors of this report are of the opinion that potential recommendations for Phase 2 may include further field verification work, re-assaying of archived historical samples, inspection of RC chips from historical drill holes, metallurgical test work, geotechnical analysis, and completion of new drilling that twins historical holes, as well as infill and exploration drilling. The cost to complete the Phase 2 program is estimated to be US\$1,580,000.



## 2 INTRODUCTION

This Technical Report has been completed on behalf of Apollo Silver Corporation (“Apollo” or “the Company”). Apollo is a Vancouver based mineral exploration company exploring for precious metals in the United States. Apollo controls a significant contiguous land position in the Calico District covering 2,947 acres (1192.6 hectares) of patented and unpatented land in San Bernardino County, California. The land package includes the Langtry Property which is the subject of this report and the adjacent Waterloo Property. The Langtry Property (the “Property” or the “Project”) encompasses approximately 1,177.5 acres (477 hectares) in the Calico Mining District of the Mojave Desert in Southern California (CA). The location of the Property is shown in Figure 2.1. The Property comprises 38 unpatented lode mining claims and 20 patented mining claims.

The Langtry Property is being assessed by Apollo for its precious metal mineralization potential. The Property is situated in the Calico Mining District, a historically prolific mining district with 15-20 million troy ounces of silver (Ag) reportedly produced, with minor barite, gold, lead and copper, produced from silver mines in the district between 1881 and 1896 (Weber, 1966). The reader is cautioned that the historical mineralization produced from deposits within Calico Mining District may not be necessarily indicative of mineralization at the Langtry Property.

This report is a Technical Report for the Property and has been prepared by Global Resource Engineering (“GRE”) on behalf of Apollo. The intent and purpose of this Technical Report is to provide a geological introduction to the Property, to summarize historical work completed on the Property from 1964 to 2013, and to provide recommendations for future exploration work programs. This Technical Report has been prepared in accordance with the Canadian Securities Administration’s (CSA’s) National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects and guidelines for technical reporting Canadian Institute of Mining, Metallurgy and Petroleum (CIM) “Best Practices and Reporting Guidelines” for disclosing mineral exploration. The effective date of this Technical Report is December 1, 2021.

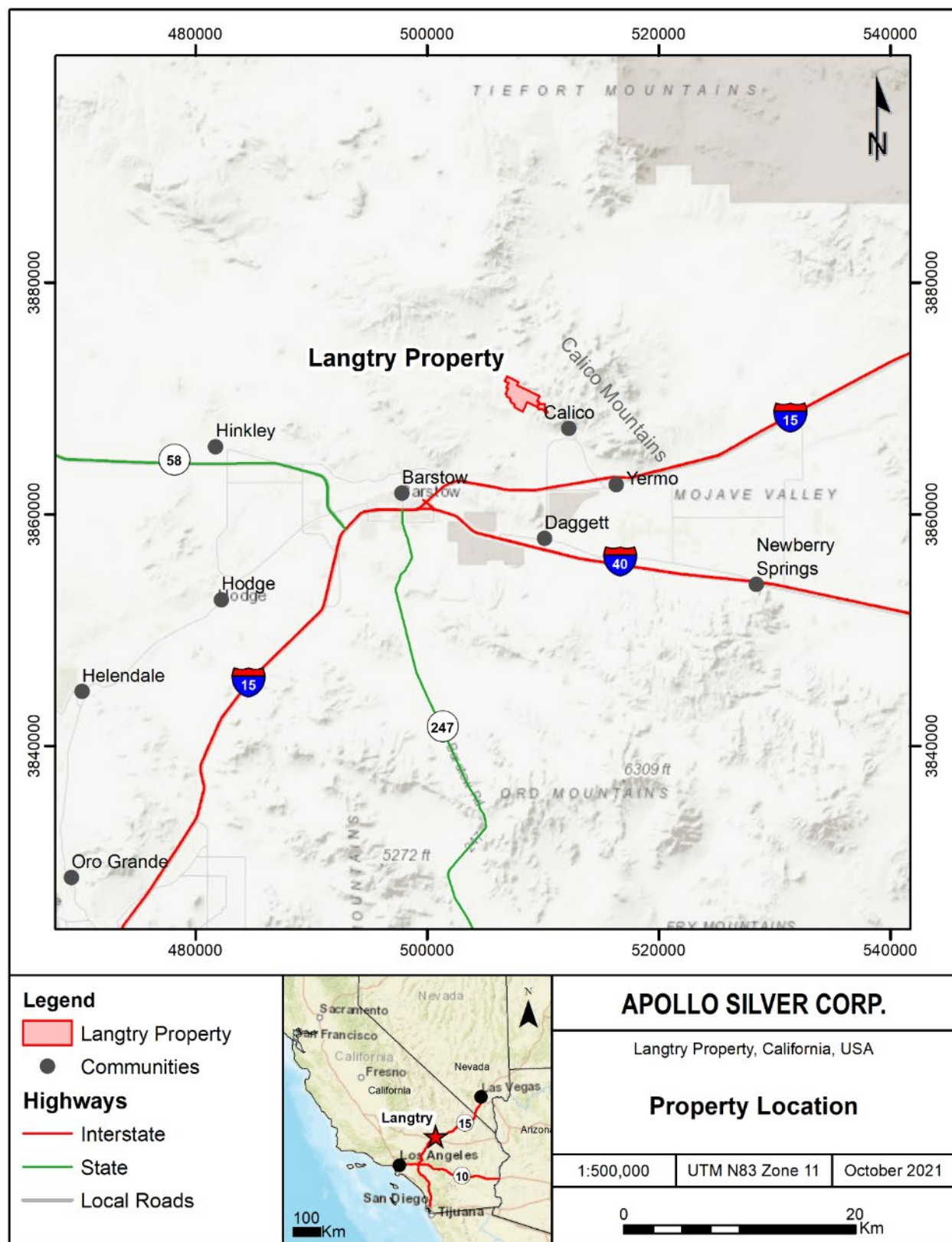
### 2.1 Authors and Site Inspection

The authors of this Technical Report include Dr. Hamid Samari, Ph.D., MMSA 01519QP, and Mr. Larry Breckenridge, PE, CO, No. 38048 of Global Resource Engineering. Both authors are independent of Stronghold Silver and Apollo and are Qualified Persons (QPs) as defined by the Canadian Institute of Mining’s Canadian Security Administration’s NI 43-101. The Canadian Institute of Mining defines a Qualified Person as “an individual who is a geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association.” Both Dr. Samari and Mr. Breckenridge have worked on epithermal precious metals mining development projects in the United States, Mexico, Peru and elsewhere in Latin America, including Gold Springs and Pinson in Nevada, Topia, and Santa Elena in Mexico, and the Corani silver project in Southern Peru.

Dr. Hamid Samari is a Senior Geologist with GRE and a member of the Mining and Metallurgical Society of America (MMSA 01519QP) with a special expertise in geology. Dr. Samari has worked in the geology, mining, and civil industry for more than 20 years since his graduation from university.

Mr. Larry Breckenridge is a Principal Mine Water Engineer (Environmental Engineer) with GRE and is a Professional Engineer CO -- No. 38048. Mr. Breckenridge has over 25 years of experience as an environmental engineer for precious metals mines in the Western Hemisphere. Mr. Breckenridge was a critical member of the team that permitted and developed the Santa Elena Silver-Gold deposit in Sonora, Mexico, for SilverCrest Mines (now owned by First Majestic Silver). Dr. Samari and Mr. Breckenridge conducted a QP inspection of the Langtry Property on February 9<sup>th</sup>, 2021. The visit included a geological inspection of the Property, including the observation of geological formations and lithologies, mineralization and historical collar locations. A total of five samples were collected from the Langtry Property, including samples from two trenches and three historical pulp samples that were discovered by the authors during the site inspection. Analytical work completed on the samples at an independent laboratory confirmed the presence of mineralization at the Property.

**Figure 2.1 Location of the Langtry Property.**



## 2.2 Sources of Information

This Technical Report is a compilation of proprietary and publicly available information. The information, opinions, conclusions, and estimates presented in this Technical Report are based on the following:

- Information provided by Stronghold Silver;
- historical information and data from current owners of the Langtry Property, including Athena Minerals Inc., and the Strachan family;
- data, reports, and opinions from third-party entities such as the United States Geological Survey or academic research; and
- information gathered during the authors' site visit to the Property.

The background information in the history section was derived from historical reports and studies by Dibblee (1970), Kirwan (2005), Matson (2008), Rodger (1994), Weber (1966) and Wright et al. (1953). Information on the regional geology of the Langtry Property area is largely derived from previously reports completed by Tarman and Jessey (1989), Rodger (1994), Matson (2008), Moran et al. (2012) and Apollo. (2021). All sources of information are listed in Section 19, References.

## 2.3 Units of Measure

With respect to units of measure, unless otherwise stated, this Technical Report uses:

- Abbreviated shorthand consistent with the International System of Units (International Bureau of Weights and Measures, 2006);
- 'Bulk' weight is presented in both United States short tons (tons; 2,000 lbs or 907.2 kg) and metric tonnes (tonnes; 1,000 kg or 2,204.6 lbs.);
- Geographic coordinates are projected in the Universal Transverse Mercator (UTM) system relative to Zone 11 of the North American Datum (NAD) 1983;
- Currency in United States dollars (US\$), unless otherwise specified (e.g., Canadian dollars, CDN\$; Euros, €);
- Assay and analytical results for precious metals are quoted in parts per million (ppm), parts per billion (ppb), ounces per short ton (opt or oz/st), where "ounces" refers to "troy ounces" and "ton" means "short ton", which is equivalent to 2,000 lbs. Where ppm (also commonly referred to as grams per metric tonne [g/t]) have been converted to opt (or oz/st), a conversion factor of 0.029166 (or 34.2857) was used;
- Temperature readings are reported in degrees Fahrenheit (°F) and Celsius (°C);
- Lengths are quoted in feet (ft), kilometres (km), meters (m) or millimetres (mm).

### 3 RELIANCE ON OTHER EXPERTS

The authors are not qualified to provide an opinion or comment on issues related to legal agreements, royalties, permitting and environmental matters. Accordingly, the authors of this Technical Report disclaims portions of the Technical Report particularly in Section 4, Property Description and Location. This limited disclaimer of responsibility includes the following:

- The QP's relied entirely on background information and details regarding the nature and extent of Mineral and Land Titles (in Section 4.2) provided by Apollo subsidiary Stronghold Silver. The legal and survey validation of the claims are not in the author's expertise and the QP's are relying on the option agreements between Stronghold Silver and Athena Silver Corporation and Athena Minerals Inc, dated December 21, 2020 and between Stronghold Silver and Bruce D. Strachan and Elizabeth K. Strachan dated December 23, 2020.
- The QP's relied entirely on information regarding royalties that was provided by the option agreements listed above and are summarized to the best of the author's knowledge in Section 4.3.
- The QP's relied entirely on information regarding permitting and environmental status of the Project that was provided by Stronghold Silver and is summarized to the best of the author's knowledge in Section 4.4.



## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Description and Location

The Langtry Project is located in the Mojave Desert in Southern California (CA), within the Calico Mountains. The Property is located in the Calico Mining District. It is situated ~145 miles (230 km) northeast of Los Angeles, CA, approximately halfway between Los Angeles and Las Vegas, Nevada along interstate I-15. The nearest population center is Barstow, CA (population: 22,000) which lies approximately 10 miles (16 km) to the southwest of the Property. The Daggett Naval Air Station is located 6 (10 km) south of Barstow and the Marine Corps Supply Center at Yermo is located 8 miles (13 km) east of Barstow.

### 4.2 Mineral Tenure

The Property consists of 38 unpatented lode mining claims and 20 patented mining claims (Figure 4.1; Tables 4.1 and 4.2). The claims are located in the County of San Bernardino, CA, in Sections 6, 7, 8, 9, 16, 17 and 18 Township 010N, Range 001E, SBB&M. The unpatented claims and patented claims are all contiguous. The total area of the unpatented claims is 764.3 acres (309 ha). The total area encompassed by the patented claims is 413.2 acres (167 ha). The total area of the Property is approximately 1,177.54 acres (476.5 ha).

**Table 4.1 Langtry Property Unpatented Mining Claims**

BLM Serial Number	Township/Range Section/Qtr	Claim Name	Area (acres)	Claimant
CAMC296910	10N/1E/7/SE	Clipper #1	103.34	ATHENA MINERALS INC
CAMC296911	10N/1E/7/SE	Clipper #2		ATHENA MINERALS INC
CAMC296912	10N/1E/7/SE	Clipper #3		ATHENA MINERALS INC
CAMC296913	10N/1E/18NE	Clipper #4		ATHENA MINERALS INC
	10N/1E/7/SE			
	10N/1E/8/SW			
CAMC296914	10N/1E/17NW	Clipper #5		ATHENA MINERALS INC
	10N/1E/7SE			
	10N/1E/8SW			
	10N/1E/18NE			
CAMC296915	10N/1E/16NW	Hawaii Clipper	20.66	ATHENA MINERALS INC
CAMC296916	10N/1E/17NE	Calif Clipper #2	61.9	ATHENA MINERALS INC
	10N/1E/8/SE			
CAMC296917	10N/1E/16NW	Calif Clipper #3		
	10N/1E/17NE			
	10N/1E/8/SE			
	10N/R1E/9/SW			
CAMC296918	10N/1E/16NW	Calif Clipper #4		
	10N/R1E/9SW			

BLM Serial Number	Township/Range Section/Qtr	Claim Name		Claimant
CAMC300265	10N/1E/7/NW	Clipper #12	262.6	ATHENA MINERALS INC
CAMC300266	10N/1E/7/NW	Clipper #13		ATHENA MINERALS INC
CAMC300267	10N/1E/7/NW	Clipper #14		ATHENA MINERALS INC
CAMC300268	10N/1E/7/NW SW	Clipper #15		ATHENA MINERALS INC
CAMC300269	10N/1E/7/NW SW	Clipper #16		ATHENA MINERALS INC
CAMC300270	10N/1E/7/NW SE	Clipper #17		ATHENA MINERALS INC
CAMC300271	10N/1E/7/NW SE	Clipper #18		ATHENA MINERALS INC
CAMC300272	10N/1E/7/NW SE	Clipper #19		ATHENA MINERALS INC
CAMC300273	10N/1E/7/NW SE	Clipper #20		ATHENA MINERALS INC
CAMC300274	10N/1E/18/NE NW	Clipper #21		ATHENA MINERALS INC
CAMC300275	10N/1E/7/NW SE	Clipper #22		ATHENA MINERALS INC
CAMC300276	10N/1E/18/NE	Clipper #23		ATHENA MINERALS INC
CAMC300277	10N/1E/17/NW	Clipper #24		ATHENA MINERALS INC
CAMC290264	10N/1E/8/SW	Lily 11	185.94	ATHENA MINERALS INC
CAMC290265	10N/1E/8/NW SW	Lily 12		ATHENA MINERALS INC
CAMC290266	10N/1E/8/SW	Lily 13		ATHENA MINERALS INC
CAMC290267	10N/1E/8/NE NW SW SE	Lily 14		ATHENA MINERALS INC
CAMC290268	10N/1E/8/SW SE	Lily 15		ATHENA MINERALS INC
CAMC290269	10N/1E/8/SW SE	Lily 16		ATHENA MINERALS INC
CAMC290270	10N/1E/8/SW SE	Lily 17		ATHENA MINERALS INC
CAMC290271	10N/1E/8/SE	Lily 18		ATHENA MINERALS INC
CAMC290272	10N/1E/8/SE	Lily 19		ATHENA MINERALS INC
CAMC289957	10N/1E/6/SW	Silverado 30	103.3	ATHENA MINERALS INC
CAMC289958	10N/1E/6/SW	Silverado 31		ATHENA MINERALS INC
CAMC289960	10N/1E/6/NW SW	Silverado 33		ATHENA MINERALS INC
CAMC289962	10N/1E/6/NW; 10N/1E/7/NW	Silverado 35		ATHENA MINERALS INC
CAMC289963	10N/1E/6/NW; 10N/1E/7/NW	Silverado 36		ATHENA MINERALS INC
CAMC290263	10N/1E/7/NE SE	Lily 10	206.6	BRUCE AND ELIZABETH STRACHAN
CAMC306178	10N/1E/7/NE SE	Quad Deuce XIII	20.66	BRUCE AND ELIZABETH STRACHAN

**Table 4.2 Langtry Property Patented Mining Claims**

<b>Patented Claim Name</b>	<b>Main Township/Range/ Qtr Section2</b>
Quad Duece 1	T10N/R1E, SE Sec 6
Quad Duece 2	T10N/R1E, SW Sec 6
Quad Duece 4	T10N/R1E, SW Sec 6
Quad Duece 5	T10N/R1E, NW Sec 7
Quad Duece 10	T10N/R1E, NE Sec 7
Quad Duece 12	T10N/R1E, NW Sec 7
Quad Duece 14	T10N/R1E, NE Sec 7
Quad Duece 22	T10N/R1E, NW Sec 7
Cisco 1	T10N/R1E, SW Sec 8
Cisco 2	T10N/R1E, NW Sec 8
Cisco 3	T10N/R1E, SW Sec 8
Pal 16	T10N/R1E, NE Sec 7
Pal 17	T10N/R1E, NE Sec 7
Pal 35	T10N/R1E, NW Sec 8
Pal 36	T10N/R1E, NW Sec 8
Langtry 1	T10N/R1E, SE Sec 7
Langtry 2	T10N/R1E, NE Sec 7
Langtry 4	T10N/R1E, NE Sec 7
Langtry 5	T10N/R1E, SE Sec 7
Langtry 6	T10N/R1E, NE Sec 7

The owner of record of 36 unpatented mining claims is Athena Minerals Inc. Two unpatented mining claims: Lily 10 and Deuce XIII are held by Bruce and Elizabeth Strachan and cover the same land parcel. Unpatented lode mining claims grant the mineral rights and access to the surface for exploration activities which cause insignificant surface disturbance. The mineral rights are maintained by paying a maintenance fee of \$165 per claim to the Department of Interior, Bureau of Land Management (“BLM”) prior to the end of the business day on September 1st every year. The federal BLM maintenance fees for the Langtry Property have been paid in full for 2021-2022. A complete listing of all claims on file with the BLM and San Bernardino County is presented in Table 4.1. All of the unpatented (BLM) claims are valid until August 31<sup>st</sup>, 2022.

The owner of record of the 20 patented mining claims are Bruce and Elizabeth Strachan (Patent #04-76-0087). Historical title to the patented mining claims is summarized in Table 4.3. Property taxes are due annually on the patented claims, which can be paid either in full by November 1 annually, or in two installments: by November 1 and by February 1. The first installment of Property taxes associated with the patented mining claims have been paid to the County of San Bernardino for the 2021-2022 period.

There is no requirement to file a notice of federal mining claims with San Bernardino County. However, claims that are submitted will be recorded with the following filing fees: \$15 for the first page and \$3 for

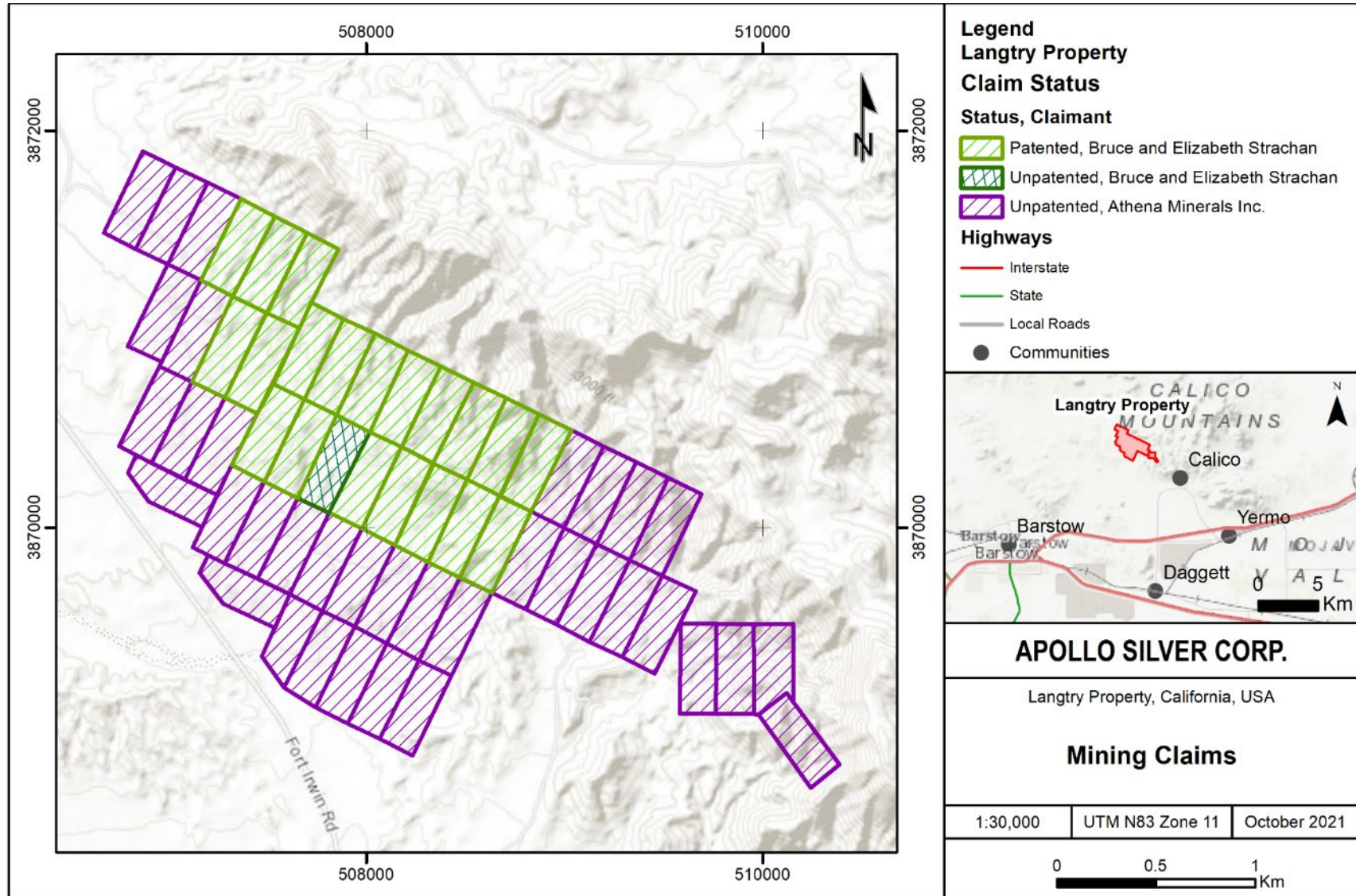
each additional page. Athena has recorded all claims with San Bernardino County (Moran et al., 2012). Additionally, after claims are recorded with the County, the owner is obligated to annually file a Notice of Intent to Hold mining claims with the County. This has been completed for the 2021-2022 period.

**Table 4.3 Historical Title of the patented claims of the Langtry property**

<b>Owner Name</b>	<b>Acquisition Date</b>	<b>Document Date</b>	<b>Inactive Date</b>	<b>Document No.</b>
STRACHAN, BRUCE & ELIZABETH REV LIV TR (100 %)	02/10/2009	02/10/2009	None	20090058926
STRACHAN, BRUCE D (50 %)	05/17/2004	07/16/2004	02/09/2009	20040508882
STRACHAN, ELIZABETH K (50%)	05/17/2004	07/16/2004	02/09/2009	20040508882
HUMPHREYS MINERAL INDUSTRIES INC (100 %)	None	12/31/1990	05/16/2004	9051137700000
TITLE INSURANCE AND TRUST CO, TR [for Superior Oil]	None	11/09/1976	12/30/1990	---

Source: San Bernardino Assessor's website (accessed May 21, 2021).

**Figure 4.1 Langtry Property mining claims.**





## **4.3 Royalties and Agreements**

### **4.3.1 Agreements**

Apollo Silver Corp. entered into a definitive acquisition agreement dated May 11, 2021, to acquire 100% of the issued and outstanding shares of Stronghold Silver Corp., the parent company of Stronghold Silver. The acquisition closed on July 12, 2021. As part of the agreement Stronghold shares were exchanged for common shares of Apollo on the basis of a share exchange ratio of one (1) Stronghold share for one (1) Apollo share.

Prior to acquisition by Apollo, Stronghold Silver entered into two option agreements that cover the patented and unpatented claims that comprise the Langtry Property. As part of the acquisition, Apollo has assumed all the rights bestowed to Stronghold Silver through the Option Agreements described below to the Langtry Property.

#### **4.3.1.1 Stronghold Silver and Athena Silver Corporation and Athena Minerals Inc. Option Agreement (the “Athena Agreement”)**

Stronghold Silver and Athena Silver Corporation and Athena Minerals Inc., entered into an Option to Purchase agreement dated December 21, 2020 that encompasses the 36 unpatented mining claims that are held by Athena Minerals Inc. Athena Minerals Inc. is a wholly owned subsidiary of Athena Silver Corporation. Apollo, through its wholly-owned subsidiary Stronghold Silver, can acquire a 100% undivided right, title, ownership and beneficial interest in and to the Property for an aggregate purchase price of US\$1,000,000 cash. The option agreement is subject to the Royalties discussed in Section 4.3.2 below.

To maintain the Option in good standing, Stronghold Silver will incur the following payments:

- (i) \$15,000 on the Closing Date (paid);
- (ii) \$25,000 on each anniversary date of the Closing Date;
- (iii) all real estate taxes, BLM fees and assessments payable to a Governmental Authority which are related directly to the Property as they become due in the ordinary course, and
- (iv) All option payments made during the 24 month period prior to the exercise of the Option will be applied and credited against the Purchase Price of \$1,000,000 on or before December 21, 2025.

#### **4.3.1.2 Stronghold Silver and Bruce D. Strachan and Elizabeth K. Strachan Option Agreement (the “Strachan Agreement”)**

Stronghold Silver and Bruce D. Strachan and Elizabeth K. Strachan (Trustees of the Strachan Trust) entered into an Option to Purchase agreement dated December 23, 2020 that encompasses the 20 patented mining claims owned by Bruce and Elizabeth Strachan and the 2 unpatented mining claims held by Bruce and Elizabeth Strachan. Apollo, through its wholly-owned subsidiary Stronghold Silver, can acquire a 100% undivided right, title, ownership and beneficial interest in and to the Property. The aggregate purchase price for the exercise of the Option may be payable at any time during the Term and will be the greater of: (a) \$5,200,000 or (b) the Spot Price of 220,000 troy ounces of silver. Up to the date of exercise, all payments

made under this agreement will be applied to the purchase price. The option agreement is subject to the Royalties discussed in Section 4.3.2 below.

To maintain the Option in good standing, Stronghold Silver will incur the following payments:

- (i) \$100,000 on the Closing Date (paid);
- (ii) \$100,000 on each anniversary date of the Closing Date; and
- (iii) all real estate taxes, fees and assessments payable to a Governmental Authority which are related directly to the Property (the "Expenditures") as they become due in the ordinary course.

## **4.3.2 Royalties and Encumbrances**

### **4.3.2.1 Royalties**

The Athena Agreement, dated December 21, 2020 outlines the following royalty pertaining to the 36 unpatented mining claims that are held by Athena Minerals Inc.:

Stronghold Silver will grant the royalty to Athena Silver Corporation with respect to production of all Minerals from the Property. 1% of all proceeds received from the sale of concentrates, precipitates or metals produced from ores mined, extracted or taken from the claims, only on such claims that do not currently have existing royalties above 1% to a maximum of 1% on such claims. The payment will be based on 1% of the actual amount received from a smelter or other buyer. No deductions of any kind shall be allowed.

The Strachan Agreement dated December 23, 2020 outlines the following royalty pertaining to the 20 patented mining claims owned by Bruce and Elizabeth Strachan and the 2 unpatented mining claims held by Bruce and Elizabeth Strachan:

Stronghold Silver will grant royalties to the Strachan with respect to production of all Minerals and Non-Minerals, including other income derived from the Property, as described below:

Clarification of the Royalties payable to the Strachan Trust on income derived from the Langtry Silver Mine Property, include:

- (i) 1% net smelter return royalty on silver. The payment to be made to the Strachan Trust shall be based on 1% of the actual amount received from a smelter or other buyer. No deductions of any kind shall be allowed.
- (ii) 5% gross royalty on all other mineral production (for example: barite, volcanic ash, sand, gravel, water, natural gas, oil, crushed stone, etc.). Payment to the Strachan Trust shall be based on the actual amount received from the buyer. No deductions of any kind shall be allowed.

(iii) 10% gross royalty on all other non-mineral production income on the Property (for example, use of the Property as a solar farm, windmill farm, landfill, residential, industrial or commercial subdivision, cell phone tower site, etc.). Payment to the Strachan Trust shall be based on the actual amount received. No deductions of any kind shall be allowed.

#### **4.3.2.2 Encumbrances**

The Athena Agreement, dated December 21, 2020 outlines the following encumbrance pertaining to the 36 unpatented mining claims that are held by Athena Minerals Inc.:

John D. Gibbs has a security interest in 100% of the common stock of Athena Minerals Inc.

The Strachan Agreement between Stronghold Silver and Bruce D. Strachan and Elizabeth K. Strachan dated December 23, 2020 outlines the following encumbrances pertaining to the 20 patented mining claims owned by Bruce and Elizabeth Strachan and the 2 unpatented mining claims held by Bruce and Elizabeth Strachan:

1. An existing royalty in favour of a subsidiary of Exxon-Mobil Corp. which is further described in a deed recorded as Document #88-076838 in the official records of San Bernardino County, California.
2. Said existing Exxon-Mobil Corp. royalty is the subject to an existing contract between Exxon-Mobil Corp. and Athena Minerals Inc. which obligates Exxon-Mobil Corp. to reduce the royalty due on silver to a 2% net smelter return royalty on silver produced from the patented claims (Langtry Silver Mine) upon payment by Athena Mineral Inc. to Exxon-Mobil Corp. of US\$150,000 payable in annual payments of US\$10,000. The payments due on said contract are current.
3. An existing contract obligates the Strachan Trust to grant a 1% net smelter return royalty to Athena Minerals Inc. contingent on the payment in full by Athena Minerals Inc. of the royalty reduction contract with Exxon-Mobil Corp. The current balance on the said contract is US\$90,000 and the said contract is payable in full at any time.
4. A lien may exist on the unpatented claim described as CAMC#029063.

### **4.4 Environmental Liabilities, Permitting and Significant Factors**

#### **4.4.1 Environmental Liabilities**

The authors are unaware of any environmental liabilities associated with the Langtry Property. Both option agreements state that there are no known environmental liabilities associated with the Property. The authors are not Qualified Persons with respect to environmental issues.

#### **4.4.2 Exploration Permits**

Permits to conduct exploration drilling on BLM lands may require either a Notice of Intent or a Plan of Operations, depending upon the amount of new surface disturbance that is proposed. In the event that an operator does not have financial assurances in place with the County for reclamation, activities that may create <1.0 acre of new disturbance require a Temporary Use Permit to be obtained from the County of San Bernardino. A Notice of Intent is appropriate for planned surface activities that anticipate > 1.0 and < 5.0 acres of new surface disturbance and usually can be obtained within 30 to 60 days.

A Plan of Operations is required if >5.0 acres of new surface disturbance are planned during the exploration program. Approvals for a Plan of Operations can take several months, depending on the nature of the intended work, the level of reclamation bonding required, the need for archeological surveys, and other factors as may be determined by the BLM. No other permits are required for exploration drilling.

#### **4.4.3 Hazards**

Hazards relating to abandoned shafts and historical mine workings are present on the Property. Some of these areas have been fenced by Athena for safety purposes. However, several historical bulk sample trenches and adits remain open including the adits at the 2 main veins observed by the QP's during the site visit. Apollo intends to secure these areas in the Fall 2021.

## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

### **5.1 Accessibility**

The Langtry Property is located in the Calico Mining District of the Mojave Desert in San Bernardino County in Southern California (CA), approximately 8.4 miles (13.5 km) to the northeast of Barstow, CA. The Property can be accessed from Los Angeles, CA, by travelling east on Interstate 10 and continuing northeast on Interstate 15 for 130 miles (210 km) to Barstow. From Barstow, continuing east on Interstate 15 for 10 miles (16 km) to the junction with Fort Irwin Road. The Property can be accessed by travelling north on Fort Irwin Road for approximately 5 miles (8 km). Alternately, the Property can be accessed from Las Vegas, Nevada, by travelling southwest on Interstate 15 for 145 miles (233 km) to Barstow (Figure 2.1). Gravel roads transect the Property from the northwest to southeast, as shown in Figure 5.1.

### **5.2 Site Topography, Elevation, Vegetation and Wildlife**

The topography of the Mojave Desert generally is of low relief, characterized by broad alluvial valleys. These broad valleys are separated by steep mountain ranges. The Langtry Property is situated along the steeply to gently dipping southwestern pediment of the Calico Mountains. The elevation of the Langtry Property ranges from approximately 2,300 to 3,000 feet (700 to 915 m) above mean sea level. Dry alluvial channels that drain the mountain front create low-lying, flat-topped ridges separated by the narrow drainages.

Vegetation on the Property, although sparse, is typical of the Mojave Desert region. Characteristic trees are the pinyon pine, mesquite, and California juniper. Predominant shrubs include the creosote bush, white bursage, allscale, saltbush, iodine bush, desert holly, desert trumpet, prickly pear cactus, and black bush. Arrow weed black willow, Fremont cottonwood, narrowleaf willow, and red willow are a few of the species restricted to riparian settings (Apollo Silver Corp. 2021a).

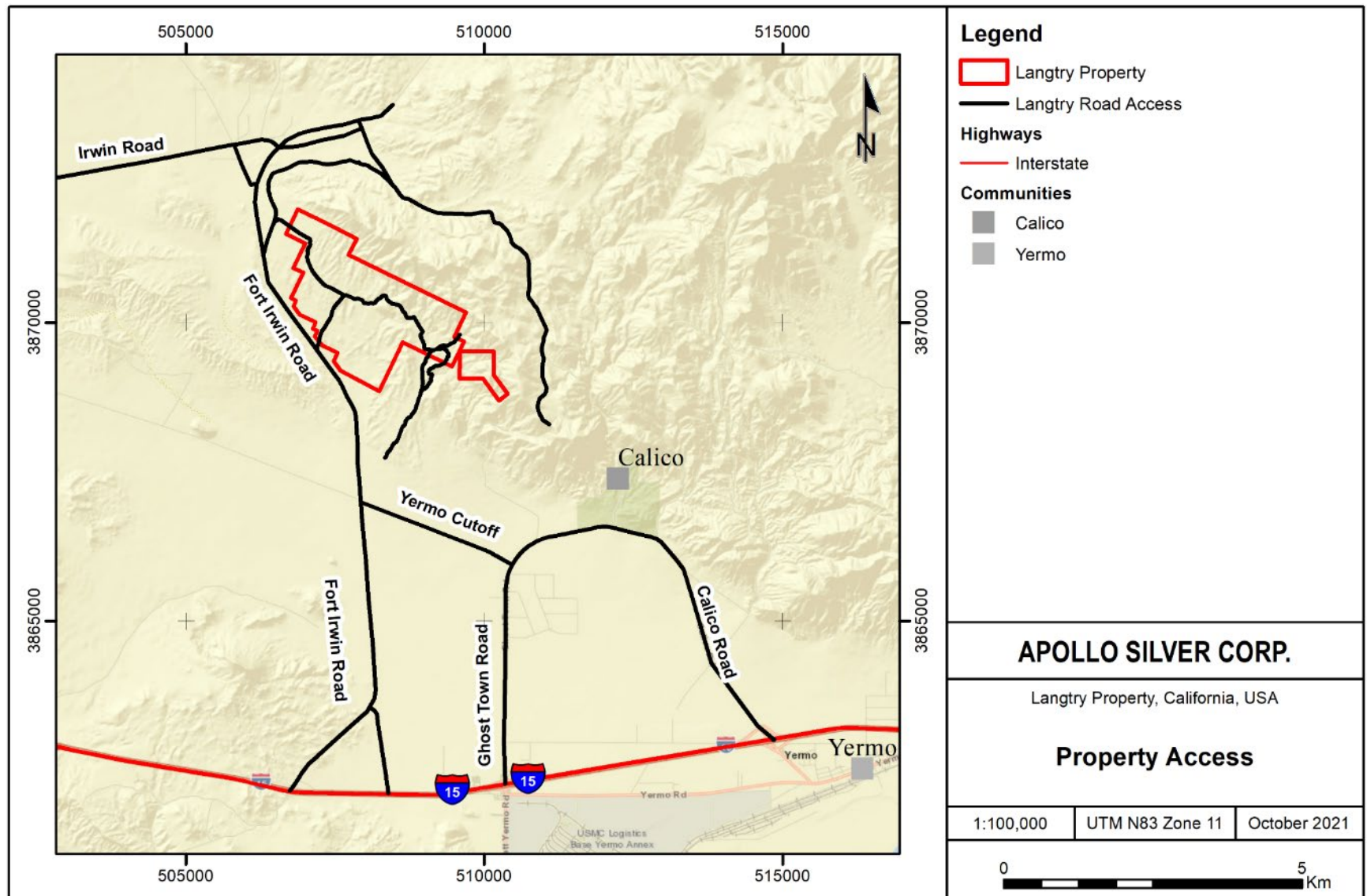
No formal survey has been completed assessing vegetation or wildlife on the Project.

### **5.3 Climate**

The climate is arid, typical of low desert climate of southern California with hot summers, cold winters, and low levels of annual precipitation. Weather records indicate maximum temperatures of 110 degrees Fahrenheit (°F) (37 degrees Celsius (°C)) may be expected in summer months with relatively cool nights averaging 70°F (21°C). Winter temperatures are mild, averaging between 50 and 60°F (10 and 15°C) during the day and 32°F (0°C) at night. Rainfall averages about 8 inches (20 cm) per year (Matson, 2008).



**Figure 5.1 Langtry Local Property Access**



## 5.4 Local Resources and Infrastructure

The Langtry Property is well-suited in terms of infrastructure and is in close proximity to road, rail, electrical energy, natural gas and telephone services. The Property has excellent cellular phone service and data coverage. The Union Pacific Railroad main transcontinental line lies along interstate highway I-15.

The city of Barstow is located 8.4 miles (13.5 km) southwest of the Property. Barstow has a population of 22,639, according to 2010 United States Census data, and is a full-service community. Field personnel and resources for exploration and potential operations are expected to be available from Barstow and the surrounding communities, as well as Los Angeles and Las Vegas.

There are no perennial rivers, streams, or springs in the vicinity of the Property. The Mojave River is the nearest watercourse, and it is highly ephemeral, running only during spring runoff or during storm events. Overall, surface water is scarce in the Mojave Desert. Groundwater on the Property is poorly explored, but it is likely that the hard-rock formations in the Calico district do not produce groundwater. Additionally, the Property lies within an adjudicated groundwater basin (Mojave Basin, Baja Subarea) in which groundwater rights have been apportioned amongst existing users and groundwater extractions are administered by the local water agency. Stronghold Silver, Athena and Strachan do not hold any rights to extract groundwater from within the adjudicated basin. Purchase of water rights for milling and mining dust control will need to be pursued which is not uncommon for operations within desert regions.

If groundwater rights can be acquired, pipelines and attendant infrastructure (wells, pumps to lift the water to higher elevation, etc.) would be required to convey process water to the Property. The actual distance that groundwater would need to be conveyed would depend upon the location of a suitable site.

## 6 HISTORY

The Langtry deposit is located in the Calico Mining District. The Calico Mining District is part of the north-west trending belt of precious metal districts associated with Tertiary volcanic centers in the Western Mojave Block of Southern California. The Calico Mining District has a lengthy history of exploration and mining, with silver rich mineralization discovered in the Calico Mountains in 1881.

### 6.1 History of the Calico Mining District

The following history of the Calico Mining District has been reproduced or summarized from Dibblee (1970), Kirwan (2005), Matson (2008), Rodger (1994) and Weber (1966). The authors of this Technical Report have not verified the information in this sub-section regarding historical exploration and mining in the Calico Mining District, outside of the Langtry Property, and where references are made to past production and/or historical mineral resources, the authors have not verified the information. Accordingly, this information is not necessarily indicative of the mineralization on the Langtry Property that is the subject of this Technical Report. The reader is cautioned that in the following sections the term “ore” is used as per the original reference documents and does not necessarily imply technical feasibility and economic viability of the mineralization.

**1881-1896:** Silver rich ore was discovered in the Calico Mountains in 1881 with exploration centered around high-grade oxidized deposits of vein related silver ore (Dibblee, 1970; Matson, 2008). Silver production from the Calico Mining District from 1881 to 1896 was never recorded, however, historical estimates vary from 15 to 25 million troy ounces, with most mines situated in the Wall Street and Odessa Canyon areas at the southern end of the Calico Mountains, east of the Langtry Property (Figure 6.1; Kirwan, 2005; Matson, 2008). Silver grades mined during this period were estimated to average 25 ounces of silver per ton of ore (opt) (857.1 grams per tonne [g/t]) but often ranged up to 100 opt (3,428 g/t) Ag. Silver deposits were characterized as low tonnage, high-grade oxidized and possibly supergene enriched (Matson, 2008). The most prolific producer of the area was the Silver King Mine, located approximately 2.2 miles (3.5 km) to the southeast of the Langtry Property. The Silver King Mine operated from 1882 to 1896 and produced at rates of up to 100 tons of ore per day with reported silver grades ranging from 20 to 64 opt (685.7 to 2,194 g/t) (Rodger, 1994). The historical Langtry Silver Mine is situated within the central to eastern portion of the current Property. Other historical past producers near the Langtry Property include the Leviathan Mine, Silver Bow Mine, Silver Contact Mine to the east of the Property and the Waterloo Mine, Voca Mine, Union Mine and Burcham Mine to the southeast of the Property (Figure 6.1).

**1896 to 1950 -** Most mining operations in the Calico Mining District ceased in 1896 due to the sharp decline in the price of silver and/or as a result of most of the ore being mined out (Dibblee, 1970). Additionally, the end of operations in 1896 was concurrent with an acute economic depression known as the Panic of 1896.

*“The manpower shortage and downturn in mining during World War I and the subsequent Great Depression marked the end of significant activity, but not before the Calico Mining District had established itself as the largest silver producer in California. Total production is thought to have exceeded \$20,000,000 by 1940. However, put in the perspective of a true giant like the Comstock Lode (total production of \$396,000,000), the Calico Mining District must be considered quite small” (Smith, 1943).*

Limited production from the district continued sporadically until the 1930's. Additionally during the 1930's tailings from the old mills were re-treated utilizing cyanidation.

**1950's:** The barite potential of the Calico Mining District was investigated in the 1950's due to accelerated petroleum exploration in Southern California. The Leviathan Mine was the largest producer of barite on the west coast of the United States during this period (Figure 6.1; Weber, 1966). During the 1950's an economic boom and a renewed interest in silver resulted in the reopening of several of the mines in the Calico Mining District, but production remained low.

**1960's-present:** In the 1960's, exploration programs conducted along the southwest flank of the Calico Mountains resulted in the discovery of the disseminated silver mineralization at the nearby Waterloo Property. In the late 1960's exploration programs conducted by Superior Oil Company (Superior) resulted in the discovery of disseminated silver mineralization at the Langtry Property. Modern exploration of the Langtry Property is discussed below in Section 6.3.

## 6.2 Historical Past-Producers

Numerous past-producing mines and historical workings are located in the vicinity of the Langtry Property, with most of the historical mining operations of the Calico Mining District situated over a 12 square mile (19.3 km<sup>2</sup>) area northeast of Calico (Figure 6.1). The historical Langtry Silver Mine is situated within the central to eastern portion of the Langtry Property. Other historical past producers in the proximity of the Langtry Property include the Silver Bow Mine, Silver Contact Mine, and the Leviathan Barite Mine to the east of the Property and the Waterloo Mine, Voca Mine, Union Mine, and Burcham Mine to the southeast of the Property. The Waterloo, Voca, Union silver mines and the Burcham gold-silver mine are situated within Apollo's Waterloo Property, located to the south-southeast of the Langtry Property.

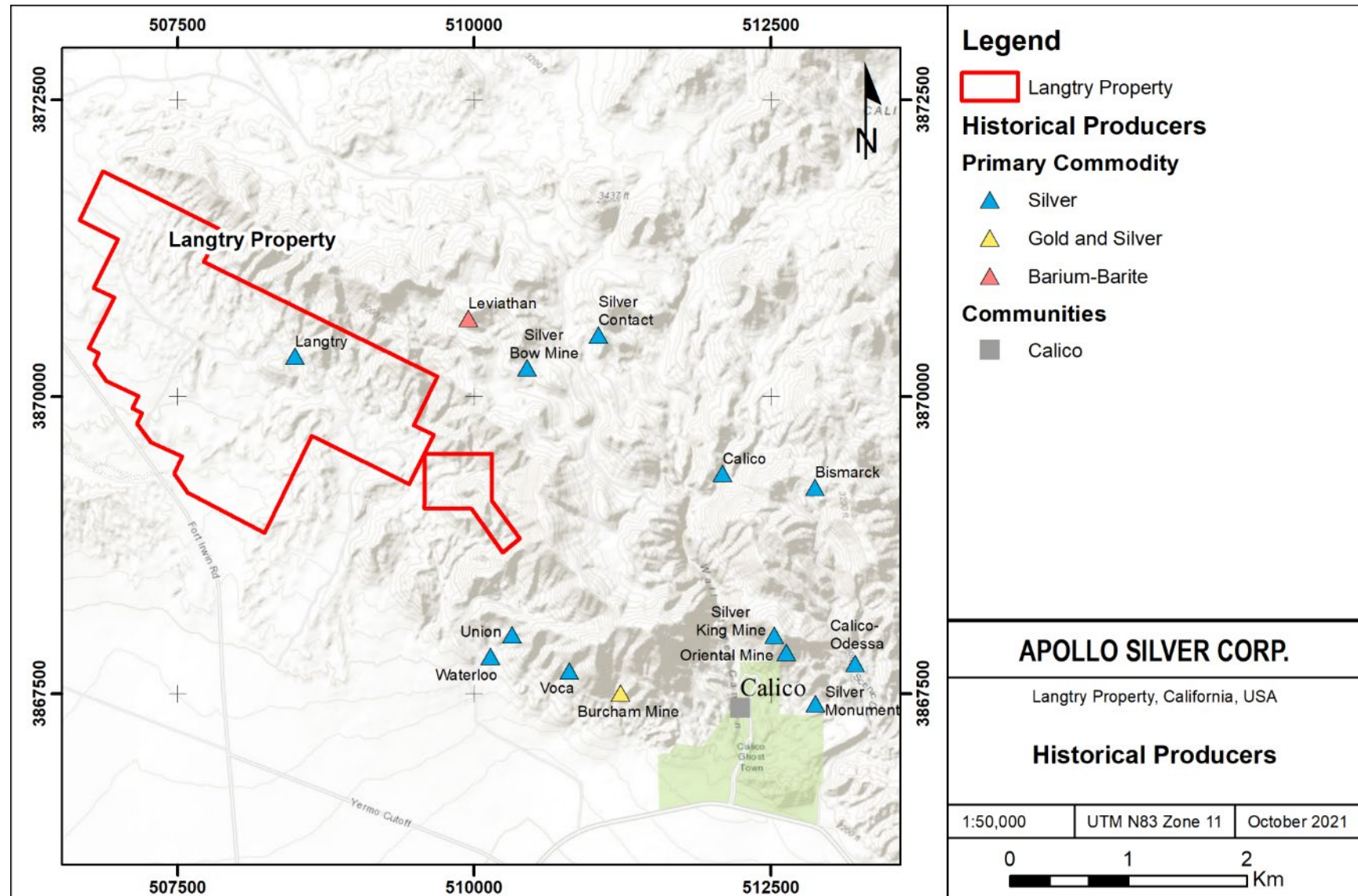
The following information on the Langtry Silver Mine and on select past producing mines located near the Property has been summarized from Dibblee (1970), Matson (2008), Moran et al. (2012) and Wright et al. (1953). The reader is cautioned that where references are made to past production or historical mineral resources, the authors have not verified the information.

### 6.2.1 Langtry Silver Mine

The Langtry Silver Mine is the westernmost mine in the Calico Mining District and lies within the central to eastern portion of the Langtry Property. Silver mineralization at the Langtry Silver Mine is contained in veins hosted by a sequence of flat lying mud shales and argillaceous sandstones. The ore bodies of the Langtry Silver Mine are fissures in tufa that show little brecciation or fracturing, which is uncharacteristic of ore bodies in the Calico Mining District. The mineralized veins are predominately coarsely crystalline barite and quartz, with iron and manganese oxides, lead carbonate and silver chlorides. Two mineralized veins at Langtry are described by Wright et al. (1953) as 60 feet (18.3 m) apart on the surface, striking to the northwest and dipping steeply toward each other. The veins average 3 to 4 ft (0.9 to 1.2 m) in width and range from a fraction of an inch to more than 10 ft (3 m) wide. The ore at Langtry Silver Mine is reported to have averaged from 6 to 22 opt (205 to 754 g/t) silver. The mine workings total approximately 250 ft (76 m)



**Figure 6.1 Historical producers in the Calico Area**



in length, including a 50 ft (15m) winze, from which approximately 200 tons of silver ore has been mined (Wright et al., 1953).

### **6.2.2 Leviathan Mine**

The high-grade barite, low-grade silver producing Leviathan Mine is located 0.4 miles (0.6 km) to the east of the Langtry Property. Silver mineralization at Leviathan is contained in several northwest-striking nearly vertical veins of barite with jasper and hematite. The veins are hosted in andesite breccia-tuff and red andesite breccia. The largest vein at Leviathan is the northeast vein with a maximum width of 35 ft (10.6 m). The northeast vein extends 3,000 ft (914 m) to the northwest of the mine. Mine workings at Leviathan total approximately 1,500 ft (457 m) in length with the northeast vein being explored using four adit levels (Dibblee, 1970). It is reported that the Leviathan Mine was the largest producer of barite on the west coast from 1957 to 1961 and was placed into open pit production to supply barite to the oil industry (Moran et al., 2012). The Leviathan Mine closed in the mid 1960's (Matson, 2008).

### **6.2.3 Silver Bow Mine**

The Silver Bow Mine is located 0.5 miles (0.8 km) to the east of the Langtry Property. Silver and lead mineralization at Silver Bow is contained in a 3 ft (0.9 m) barite vein hosted by andesite breccia and tuff breccia. The Silver Bow Mine workings total approximately 730 ft (223 m) in length. Silver production at Silver Bow occurred prior to 1925 and in the 1950's (Dibblee, 1970).

### **6.2.4 Silver Contact Mine**

The Silver Contact Mine is located 0.9 miles (1.4 km) to the east of the Langtry Property. Silver mineralization at Silver Contact is contained in a barite vein hosted by andesite breccia. The workings at Silver Contact Mine include two shafts totaling 215 ft (65.5 m) (Dibblee, 1970).

## **6.3 Historical Exploration and Ownership**

Modern exploration on the Langtry Property commenced in the late 1960's and has consisted of drilling, geochemical sampling, geologic mapping, trench work and the calculation of historical mineral resource estimates by three companies: Superior Oil Company ("Superior"), International Silver Inc. ("International Silver") and Athena Silver Corp. ("Athena"). An overview of the historical exploration and ownership of the Langtry Property is summarized in the following paragraphs.

**Superior Oil (1967-1984):** Around 1967, Superior commenced exploration on the Property near the old Langtry Silver Mine. Exploration work by Superior included geologic mapping and extensive rotary drilling with the completion of approximately 200 drill holes and led to the discovery of the Langtry disseminated silver mineralization. In 1974, a Mineral Validity Report was prepared for Superior by Mr. Carl Livesay and Mr. Tom Woodward of the United States Department of the Interior Bureau of Land Management ("BLM") for 21 unpatented lode mining claims located in Township 10 north, Range 1 east, Sections 6, 7 and 8 (Livesay and Woodward, 1974). The BLM completed confirmatory drill holes, collected 62 check samples, excavated surface cuts and trenches in mineralized zones near surface and collected assay data for each of the lode mining claims. The BLM's Mineral Validity Report concluded that the upper and lower mineralized zones of the Langtry Prospect contain consistent mineral values throughout and that the

assay results of their check samples verify results reported by Superior (Moran et al., 2012). Following the results of the BLM'S Mineral Validity Report, the claims over the mineralized ground were patented and title was transferred to Superior in 1976.

**Mobil (1984-1987); Humphreys Mineral Industries (1987-2004) and Bruce and Elizabeth Strachan (2004-2007):** Mobil Exploration and Producing Inc. ("Mobil"), a subsidiary of Mobil Corp., acquired the Langtry Property in March of 1984 with the purchase of Superior (Moran et al., 2012). In 1987, Mobil sold the Langtry claims to Humphreys Mineral Industries Inc., a wholly owned subsidiary of Buttes Gas and Oil Company. Mobil retained a net smelter royalty of 3%. Buttes Gas and Oil Company declared bankruptcy and the Property was acquired by Bruce and Elizabeth Strachan through a tax sale in May 2004 (Moran et al., 2012).

**International Silver Inc. (2007 - 2010):** International Silver Inc. entered into an option to purchase agreement with Bruce and Elizabeth Strachan in September 2007, covering the 413 acres of patented land with mineral rights. In the following months, International Silver acquired an additional 63 unpatented lode mining claims covering 1,200 acres adjacent to the patented claims. The International Silver Langtry-Leviathan Property overlapped the current Property area and extended to surrounding areas. Matson et al. (2008) report that the Langtry Prospect was the principal known silver resource on the Property with the Leviathan areas being relatively unexplored. Western Range Services Inc. ("Western Range"), on behalf of International Silver Inc., calculated a mineral resource estimate for the Langtry Prospect in 2008, as discussed below in Section 6.5.2(Matson et al., 2008). By 2010, International Silver abandoned exploration on the Property.

**Athena Silver Corp. (2010-2020):** On March 15, 2010, Athena signed a 20-year lease with option to purchase agreement with the Bruce and Elizabeth Strachan Revocable Living Trust ("SLRT"). Exploration work completed by Athena at the Langtry Property during this time included the drilling of 10 confirmatory and three exploration reverse circulation ("RC") drill holes in 2011 and the excavation of three surface trenches in 2012 (Moran et al., 2012). A 20-ton surface trench bulk sample was collected from three surface trenches to conduct metallurgical testing (Athena Silver Corp., 2012). Additionally, Athena prepared a mineral resource estimate for the Langtry deposit using the 13 RC drill holes and a portion of Superior's historical drilling data, as discussed below in Section 6.5.3.

On April 28, 2020, Athena entered into an agreement to terminate the lease with option to buy dated March 10, 2016, with the Strachan Family. As a result of this termination agreement, all scheduled lease option payments due in 2020 and beyond were considered terminated and void upon signing of the agreement.

## 6.4 Historical Drilling

Historical drilling at the Langtry Property has been completed by Superior Oil Company ("Superior") and Athena Silver Corp. ("Athena") between 1967 and 2011. Reports by Matson et al. (2008) and Moran et al. (2012) indicate that Superior completed approximately 200 rotary drill holes at the Langtry Property and Athena completed 13 reverse circulation ("RC") drill holes. The Langtry drillhole database provided by Athena to the authors only contains coordinates for 148 Superior drill holes and 13 Athena drill holes. A



summary of the historical drilling conducted at the Property is presented in Table 6.1 and Figure 6.2. A geological cross section in Figure 6.3 shows characteristic results for silver assays across the Langtry deposit.

**Table 6.1 Langtry Property historical drill hole summary (1967-2011)**

Owner	Years	Project	Type	Number of Holes	Drilled (m)	Drilled (ft)
Superior Oil	1967 1976	Langtry	Rotary	148	18,888.8	61,971.2
Athena	2011	Langtry	RC	13	1,821.2	5,975.1
<b>Total</b>				161	20,710.0	67,946.2

The Minerals Division of Superior Oil began exploration on the Property near the area of the Langtry Silver Mine around 1967. The drilling covered an area of approximately 5,100 ft by 2,700 ft (1,555 m by 823 m) along the southwest slope of the Calico Mountains. Most of the drill holes that were completed over the main area of the Langtry deposit were drilled at 125 to 200 ft (38 to 60 m) spacings along section lines spaced 150 to 200 ft (45 to 60 m) apart. At the northwest edge of the drilling area, the drill holes were completed at variable spacings ranging from 250 to 360 ft (75 to 110 m). All of the rotary holes drilled by Superior were vertical holes with hole depths ranging between 20 to 574 (6 to 175 m) and averaging 420 ft (128 m). Rotary cuttings were collected at 5 ft (1.5 m) intervals and assayed for silver and barite. Superior recorded assay results on graphic drill logs with silver results in ounces per ton reported for every hole drilled. Per cent of barite (BaSO<sub>4</sub>) and lead (Pb) results were shown for select drill holes (Moran et al., 2012).

Highlights from the rotary holes drilled by Superior include (from Stronghold Silver, 2021):

- Drill hole CAL – 40: 80 ft (24.38 m) at 14.5 opt (497 g/t) Ag from a depth of 5 ft (1.52 m)
- Drill hole CAL – 194: 120 ft (36.57 m) at 5.8 opt (197.8 g/t) Ag from a depth of 290 ft (88.39 m)
- Drill hole CAL – 177: 90 ft (27.43 m) at 6.8 opt (233.9 g/t) Ag from a depth of 220 ft (67.05 m)
- Drill hole CAL – 38: 90 ft (27.43 m) at 5.6 opt (193.0 g/t) Ag from a depth of 240 ft (73.15 m)
- Drill hole CAL – 102: 65 ft (19.81 m) at 7.0 opt (241.3 g/t) Ag from a depth of 370 ft (112.77 m)
- Drill hole CAL – 96: 195 ft (59.43 m) at 3.8 opt (129.1 g/t) Ag from a depth of 200 ft (60.96 m)
- Drill hole CAL – 31: 115 ft (35.05 m) at 4.9 opt (167.2 g/t) Ag from a depth of 275 ft (83.82 m)
- Drill hole CAL – 2: 110 ft (33.53 m) at 3.9 opt (133.9 g/t) Ag from a depth of 295 ft (89.91 m)

Athena drilled 13 RC holes totaling 5,975.1 ft (1,821.2 m) in early 2011. Ten of the drill holes were confirmation holes that twinned historical holes completed by Superior and three of the drill holes were exploratory. The exploratory holes targeted mineralized veins near historical workings on the Property (Athena Silver Corp., 2010). The drilling covered an area of approximately 2,887 ft by 902 ft (880 m by 275 m) with the drill holes covering the Langtry deposit in a northwesterly trend. The depths of the drill holes ranged between 350 to 600 ft (107 to 183 m) and averaged 460 ft (140 m). The confirmation drill holes

were drilled at a vertical orientation and the exploratory drill holes (drill holes ATH-12, ATH-13, ATH-14) were drilled at an azimuth of N60°E or N50°E and a dip of -50° or -60°. Drill holes ATH-13 and ATH-14 were drilled at the same location at different angles: drill hole ATH-13 was drilled at a 50° angle and ATH-14 was drilled at a 60° angle.

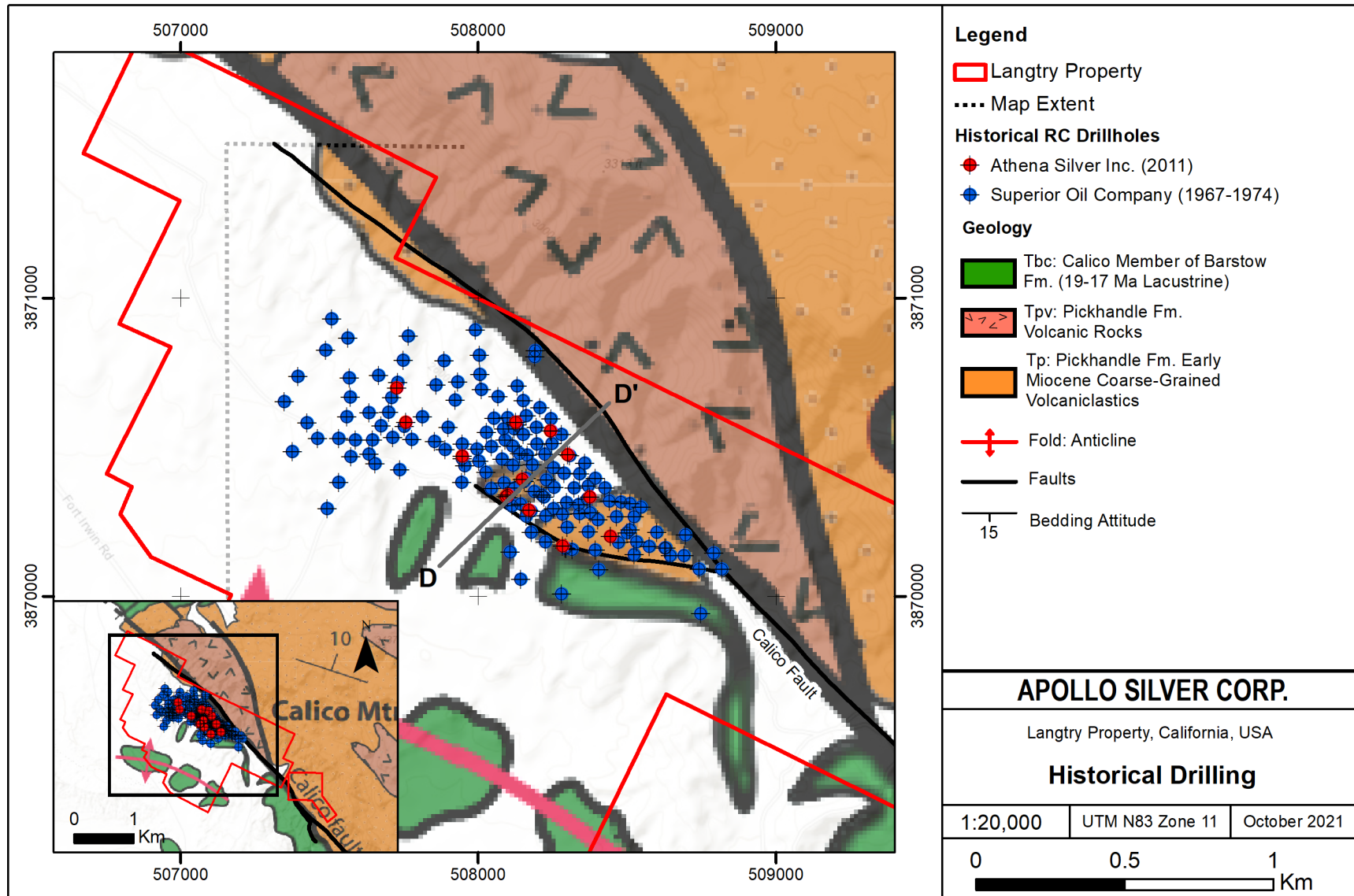
The Athena drilling was completed using an Atlas Copco RD-10 rig and the drill company was WDC Exploration and Wells (now National Drilling) of Gilbert, Arizona. The down hole information was recorded on paper logs. Information on the logs included drill hole name, date, coordinates, bearing, inclination, total depth, geologist name, rock type, oxide occurrences, type and degree of alteration, type and percentage of mineralization and general comments.

Highlights from the exploration holes drilled by Athena in 2011 at a cut-off grade of 2.00 opt (68.6 g/t) Ag include (from Athena Silver, 2011):

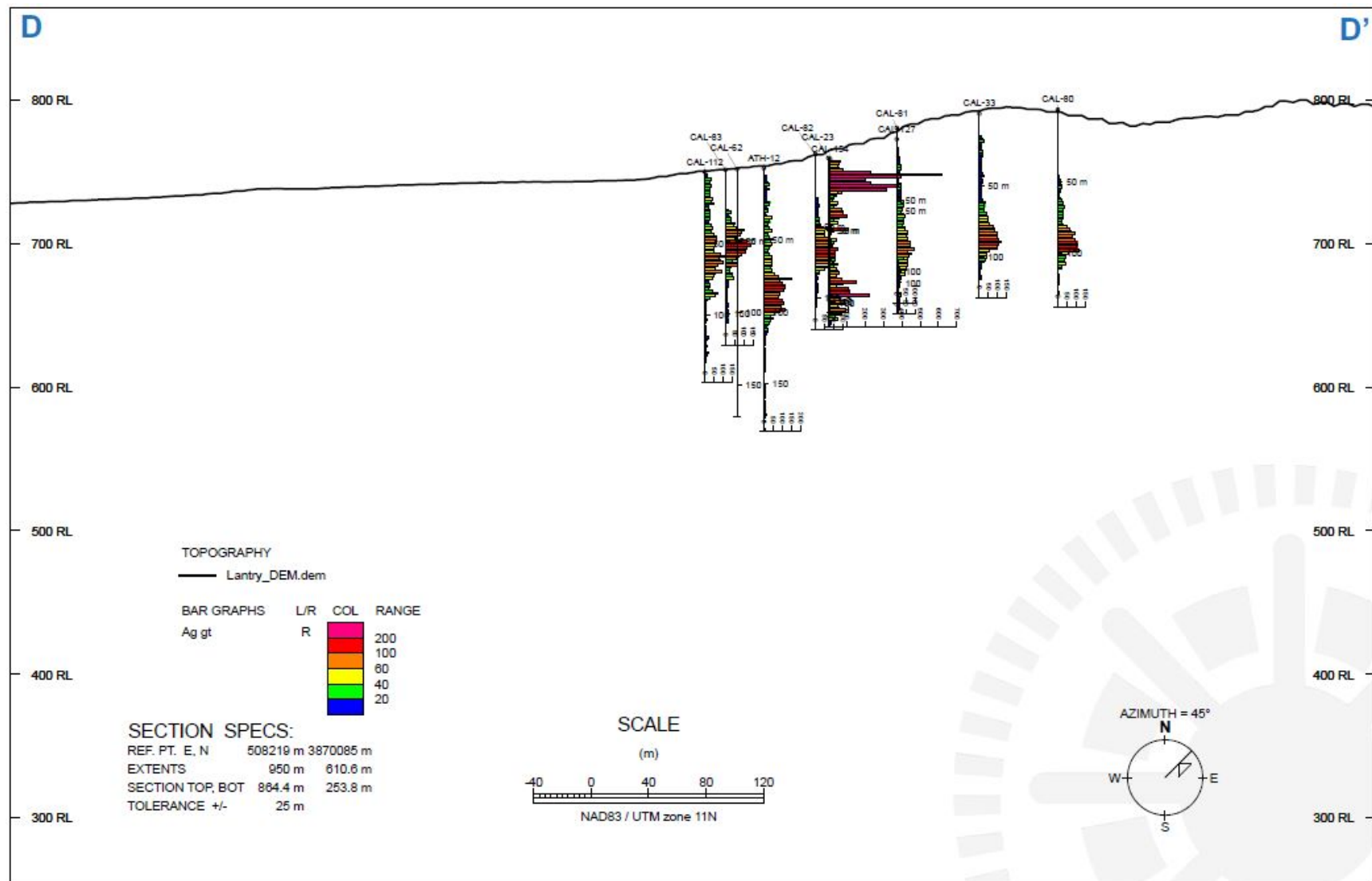
- Drill hole ATH – 12: 85 ft (25.9 m) at 2.85 opt (97.7 g/t) Ag from a depth of 245 ft (74.7 m)
- Drill hole ATH – 13: 135 ft (41.1 m) at 3.57 opt (122.4 g/t) Ag from a depth of 145 ft (44.2 m)
- Drill hole ATH – 14: 115 ft (35.0 m) at 2.19 opt (75.1 g/t) Ag from a depth of 135 ft (41.0 m)

A comparison of the 2011 Athena silver assays and the twinned Superior assays at selected cutoff grades and depth intervals is presented below in Table 6.2 (from Moran et al., 2012). The comparison intervals used in Table 6.2 were selected from the drill hole with the higher silver assays. The results show that, as expected, the higher cut-off grades have shorter intervals of mineralization and are within intervals of the lower grades. A per cent difference of greater than 100% indicates that twin hole drilled by Athena in 2011 had a greater thickness of mineralization above the cut-off grade, a higher grade, or a combination of the two than the Superior drill hole. A per cent difference of less than 100% indicates that the hole drilled by Superior in the late 1960's/early 1970's had a greater thickness of mineralization above the cut-off grade, a higher grade, or a combination of the two in comparison to the twinned Athena drill hole (Moran et al., 2012). The results of the Athena confirmation drill program are generally congruent with the results from the Superior drill programs and are discussed in detail in Moran et al., (2012)

**Figure 6.2 Historical drilling at the Langtry Property.**



**Figure 6.3 Geological cross section D-D' with drill holes and silver assays (Apollo, 2021)**





**Table 6.2 Comparison of historical Athena and Superior silver assay results at selected cut-off grades  
(from Moran et al., 2012)**

Vertical Drill Holes	Cutoff Grade	From	To	Thickness	Superior Oil	Athena 2011	% Difference
		Measured In Feet			Silver (Opt)		
ATH-1	@ 0.50 opt Ag C/O	360	520	160	1.21	1.6	133%
	@ 1.00 opt Ag C/O	370	445	75	1.46	1.49	102%
	@ 2.00 opt Ag C/O	380	395	15	4.29	3.06	71%
	@ 2.00 opt Ag C/O	465	520	55	1.25	2.27	181%
ATH-2	@ 0.50 opt Ag C/O	250	325	75	0.48	0.78	163%
	@ 0.50 opt Ag C/O	340	465	125	2.59	1.18	45%
	@ 1.00 opt Ag C/O	345	445	100	3.07	1.43	47%
	@ 2.00 opt Ag C/O	360	435	75	3.61	1.47	41%
ATH - 3	@ 0.50 opt Ag C/O	65	350	285	1.57	1.5	96%
	@ 1.00 opt Ag C/O	65	115	50	3.53	2.70	76%
	@ 1.00 opt Ag C/O	145	280	135	1.44	1.6	111%
	@ 2.00 opt Ag C/O	80	110	30	3.98	3.20	80%
	@ 2.00 opt Ag C/O	160	220	60	1.95	2.21	113%
ATH - 4	@ 0.50 opt Ag C/O	200	350	150	1.55	2.98	193%
	@ 1.00 opt Ag C/O	235	350	115	1.92	3.74	195%
	@ 2.00 opt Ag C/O	260	345	85	2.18	4.47	204%
ATH - 5	@ 0.50 opt Ag C/O	40	60	20	0.55	0.66	121%
	@ 0.50 opt Ag C/O	100	335	235	1.74	2.24	129%
	@ 1.00 opt Ag C/O	140	320	180	2.08	2.73	131%
	@ 2.00 opt Ag C/O	220	300	80	2.85	4.36	153%
ATH - 6	@ 0.50 opt Ag C/O	165	385	220	1.66	1.53	92%
	@ 1.00 opt Ag C/O	215	365	150	2.16	2.11	98%
	@ 2.00 opt Ag C/O	275	360	85	2.79	2.84	102%
ATH - 7	@ 0.50 opt Ag C/O	10	85	75	0.61	0.84	136%
	@ 0.50 opt Ag C/O	130	305	175	1.59	1.77	111%
	@ 1.00 opt Ag C/O	180	285	105	2.27	2.59	114%
	@ 2.00 opt Ag C/O	220	285	65	3.02	3.43	113%
ATH - 8	@ 0.50 opt Ag C/O	35	70	35	N/A	1.26	N/A
	@ 0.50 opt Ag C/O	195	415	220	1.04	1.02	98%
	@ 1.00 opt Ag C/O	320	390	70	2.09	2.27	109%
	@ 2.00 opt Ag C/O	340	385	45	2.56	2.78	109%
ATH - 9	@ 0.50 opt Ag C/O	5	460	455	1.8	1.46	81%
	@ 1.00 opt Ag C/O	190	460	270	2.6	1.94	75%
	@ 2.00 opt Ag C/O	255	425	170	3.13	2.43	78%
ATH - 10	@ 0.50 opt Ag C/O	5	385	380	2.48	1.93	78%
	@ 1.00 opt Ag C/O	5	140	135	4.17	2.81	68%
	@ 1.00 opt Ag C/O	250	370	120	2.25	2.2	98%
	@ 2.00 opt Ag C/O	5	95	90	5.37	3.55	66%
	@ 2.00 opt Ag C/O	115	135	20	2.45	1.43	58%
	@ 2.00 opt Ag C/O	270	350	80	2.65	3.04	115%
Source: Athena Silver, 2011							

## 6.5 Historical Mineral Resource Estimates

The following discussion of historical mineral resource estimates for the Langtry Deposit has been sourced from previous reports written on the Property by Matson et al. (2008) and Moran et al. (2012).

The Superior Oil Company (“Superior”), International Silver Inc. and Athena Silver Corp. (“Athena”) mineral resource estimates discussed in this section were calculated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated May 10, 2014). The authors of this Technical Report have not done sufficient work to classify these historical estimates as a current mineral resources. The authors of this Technical Report have referred to these estimates as “historical resources” and the reader is cautioned not to treat them, or any part of them, as current mineral resources. The authors did not review sufficient information to properly assess the data quality, estimation parameters and standards by which the estimates were categorized. The historical resources summarized below are relevant and have been included simply to demonstrate the mineral potential of the main target area of the Langtry Property. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Langtry Deposit. The reader is cautioned that in the following sections the term “deposit” is used as per the original reference documents and does not necessarily imply technical feasibility and economic viability of the mineralization.

The authors of this Technical Report have reviewed the information in this section, as well as that within the cited references, and have determined that it is suitable for disclosure. Cautionary language pertaining to the disclosure of historical resource estimates has been added to the text as necessary.

### 6.5.1 Superior Oil Company (1974)

In 1974, Superior calculated a historical mineral resource estimate that was based on the results of their rotary drill program. The historical mineral resource was estimated at 22 million tons of ore grading 2.37 opt (81.3 g/t) silver and 7.9% barite per ton. The historical resource calculated to have a 3.3:1 waste to ore ratio at 1.3 opt (44.6 g/t) silver mine cut-off grade for a total of 52.14 million ounces, and barite grading 7.9% for a total of 1.73 million tons of barite. Superior estimated a potential 60-65% recovery rate of silver using cyanidation for silver recovery and flotation of the barite. A later study evaluated a silver leaching process using HCl and  $\text{NH}_4\text{HF}_2$  with laboratory tests indicating an 80-85% recovery (Matson, 2008). In the report by Matson et al. (2008) for the Property, the terms mineral resource and mineral reserve were used interchangeably to categorize Superior’s mineral resource estimate; however, the authors of this Technical Report are not aware of any historical economic studies conducted on the Property to classify the historical mineral resource as a “mineral reserve”.

The reader is cautioned that the Superior mineral resource estimate was estimated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources or Ore Reserves dated May 10, 2014). The authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral resource. The authors of this Technical Report have referred to this estimate

as a “historical resource” and are not treating it, or any part it, as a current mineral resource. The estimate does not classify the resource as either a measured, indicated or inferred resource and, accordingly, readers should not assume it satisfies the requirements of any of such classifications. This historical resource estimate is relevant and has been included to demonstrate the mineral potential of the Langtry Property.

### 6.5.2 International Silver Inc. (2008)

Western Range Services Inc., on behalf of International Silver Inc., calculated a historical mineral resource estimate for the Langtry deposit in 2008 (Matson, 2008). Western Range used data from 201 rotary drill holes completed by Superior to generate a set of north-west cross sections. International Silver Inc. reported a historic measured mineral resource estimate of 76.8 million ounces of silver contained in 38.4 million tons averaging 2.0 opt (68.6 g/t) Ag, at a cut-off grade of 1.0 opt (34.3 g/t) Ag (Matson, 2008). The method utilized sections and does not appear to be consistent with current state-of-the-practice work for geo-statistics. The total resource table stated that the deposit was “measured”, but “inferred” is probably a more-accurate descriptor of the type of analysis performed based on modern standards. The total contained ounces (from the tonnage and average grade) were calculated to be 76.8 million ounces.

*“Drill hole assays were composited into mineable thicknesses using a 1 opt [68.6 g/t] silver cut-off. These sections were then used to check the continuity of the mineralized intercepts and to project geologic structures displacing the mineralization and or limiting the mineralization. Ore reserve blocks were drawn on the sections and mineralization was projected from each hole. Interpolation of thickness was used to calculate tonnage, but grade was assigned in the conventional manner as a uniform block surrounding each drill hole. Areas of mineralization with insufficient drilling was considered as a uniform block surrounding each hole. Areas of mineralization with insufficient drilling, or areas where mineral continuity was in question, were excluded from the sectional ore reserve blocks. [The] range of influence for each hole varied with surrounding geologic constraints and drill hole density. Reserve blocks were projected half-way to each adjoining section, or in the case of end sections, to the limiting structure or a maximum of 100 feet. A preliminary open pit outline was contoured to fit on the sectional data and the grade and tonnage of the ore body within the preliminary open pit was calculated. A tonnage [density] factor of 11.5 cubic feet per ton was calculated for use based on specific gravities of various components of the average Langtry type ore” (Matson, 2008).*

The modeled reserve was described as potentially open pit mineable, extending in a thick blanket-like form from near surface to a depth of 505 ft (154 m). The projected waste to ore ratio was only 2:1. Additional mineralization continues beyond the limits imposed on the reserve model in one direction, but was excluded from the calculation due to increased drill hole spacing. It was noted that further laboratory data from specific gravity tests on both the ore and waste rock would be required to improve the tonnage. The model considered barite as an economic resource, in amounts ranging from about 4% to over 15% (compared to prior estimates of 7.9% in the ore zone by Superior). Lead content may average 0.2% to 0.4%, but was not considered economic (Matson, 2008).



The reader is cautioned that the use of the term “reserves” in the International Silver Inc., estimation of mineralized material is simply a reproduction of the original terminology used in Matson, (2008) and does not reflect the current definition of the term “reserve” or imply that there are current reserves defined within the Property. The historical mineral reserve estimate was calculated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated May 10, 2014). The authors of this Technical Report have not undertaken sufficient work to classify this historical estimate as a current mineral resource. The authors of this Technical Report have referred to this estimate as a “historical resource” and are not treating it, or any part it, as a current mineral resource. This historical resource estimate is relevant and has been included to demonstrate the mineral potential of the Langtry Property.

### 6.5.3 Athena Silver Corp. (2012)

Independent Mining Consultants Inc. (“IMC”), in association with SRK Consultants Inc., on behalf of Athena, completed a historical mineral resource estimate for the Langtry Deposit in May 2012. Athena’s resource database included a total of 148 historical Superior drill holes and 10 confirmatory and three exploration holes that were drilled by Athena in 2011. As estimated by IMC, the Langtry Silver deposit contains a historical mineral resource with Indicated Mineral Resources of 12.7 million short tons grading 1.48 opt (50.7 g/t) Ag and Inferred Mineral Resources of 30.4 million short tons grading 1.40 opt (48.0 g/t) Ag, at a 0.76 opt (26.1 g/t) Ag cutoff grade, as in-pit resources Table 6.3).

**Table 6.3 Athena Silver 2011 Mineral Resource Estimate, Langtry Deposit (modified from Moran et al., 2012)**

Classification	Silver Cut-off Grade (opt)	Silver Cut-off Grade (g/t)	Ktons (1000 short tons)	Silver Grade (opt)	Silver Grade (g/t)	Contained Silver (Koz)
Indicated	0.76	26.1	12,709	1.48	50.7	18,809
Inferred	0.76	26.1	30,445	1.40	48.0	42,623

The drill hole assays were capped at 15 opt (514.3 g/t) Ag prior to compositing. The historical mineral resource estimate was calculated using a computer-based block model that was based on the drill hole database and geological interpretation of the Langtry Deposit. The block model was assembled in the coordinate system of California State Plane Zones 2 and 5. A bench height of 25 ft (7.6 m) and a horizontal block size of 50 ft (15.2 m) were selected for the calculation. Moran et al. (2012) suggest that a geological interpretation of the deposit other than the vein structures could be reasonably represented with a 50 x 50 x 25 ft block. Silver was the only economic mineral estimated in the block model (Moran et al., 2012).

The reader is cautioned that the International Silver Inc. mineral resource estimate was estimated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources or Ore Reserves dated May 10, 2014). The authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral resource. The authors of this Technical Report have referred to

this estimate as a “historical resource” and are not treating it, or any part it, as a current mineral resource. This historical resource estimate is relevant and has been included to demonstrate the mineral potential of the Langtry Property. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Langtry Deposit.

## 6.6 Metallurgical Test Work

Metallurgical test work has been conducted on samples from the Langtry Deposit in several campaigns throughout the history of the Property. Superior tested an initial recovery system comprising cyanidation for silver recovery and barite recovery by flotation. Silver recovery by direct cyanidation yielded a generally low recovery of 60 to 65% (Matson, 2008). Additional metallurgical test work conducted by Mountain States Research and Development International (“MSRDI”), on behalf of Superior, evaluated a silver leaching process using a temperature-controlled acid leach method with hydrochloric acid and ammonium hydrogen fluoride. Silver recovery by this method yielded a recovery of 80 to 85% (Matson, 2008). The leaching process was completed at a temperature of approximately 90° Celsius (Moran et al., 2012).

MSRDI, on behalf of Athena, conducted metallurgical test work on samples from the Langtry deposit in 2011 to 2012. The aim of the metallurgical testing was to provide: 1) information on the mineralogy of the silver mineralization; 2) information on the amenability of the mineralization to leach recovery of silver; 3) a preliminary estimate of potential leach recoveries; 4) recommendations of potential processing methods; and 5) recommendations for additional work. MSRDI completed sample preparation and characterization tests, mineralogical studies, preliminary cyanidation tests, gravity separation, preliminary floatation tests, Bond Work Index and columns leach tests on RC drill cuttings. The preliminary metallurgical testing by MSRDI indicated that approximately 50% of the silver at Langtry is “free milling” and amenable to direct cyanidation and the remaining silver is tied up in silicates (Moran et al., 2012).

*“...cyanidation tests show recoveries of 30 to 33 per cent of total silver; 60 to 66 per cent of the readily available silver in only five days of leaching of pulverized material, with recovery curves still climbing. An additional 50 per cent of the total silver appear to be “refractory,” or tied up in silicate minerals, not amenable to cyanidation even at a very fine grind size, and not amenable to either gravity or floatation concentration methods” (Moran et al., 2012).*

The metallurgical tests were run using composites of RC drill cuttings. The cuttings caused issues with percolation due to a high percentage of fine grain material and Moran et al. (2012) recommended further metallurgical testing to be conducted on properly staged core samples.

Metcon Research (“Metcon”), on behalf of Athena, conducted a metallurgical column leach study at two crush sizes (P<sub>100</sub> and P<sub>80</sub>) on two bulk composite samples in late 2012 to early 2013. The purpose of the study was to measure the silver recovery at various head grades and crush sizes (Athena Silver Corp., 2012). The two bulk samples, MET I and MET II, were collected from three surface trenches within the Langtry mineralized zone and weighed 8,307 kg and 10,254 kg, respectively (Metcon Research, 2012). Athena Silver Corp. (2013) reported that the bulk samples collected for the test work assayed below the

cut-off grade of the project resource; however, a bottle roll test on the low-grade ore yielded a recovery of approximately 45% silver after 96 hours of agitated leach with relatively low consumption of cyanide.

The authors of this Technical Report have referred to these metallurgical studies as “historical metallurgical studies” and are not treating them, or any part them, as a current assessment of metallurgical recovery. This historical study discussion has only been included to demonstrate the metallurgical potential of the Langtry Property.

## 7 GEOLOGICAL SETTING AND MINERALIZATION

Detailed descriptions of the geology and mineralization of the Langtry property have been extracted from reports and articles by Tarman and Jessey (1989), Rodger (1994), Matson (2008), and Moran et al. (2012). The authors have reviewed these sources and they are considered to contain all the relevant geological information about the project area. Most of sections 7.1-7.4 have been reproduced from these reports.

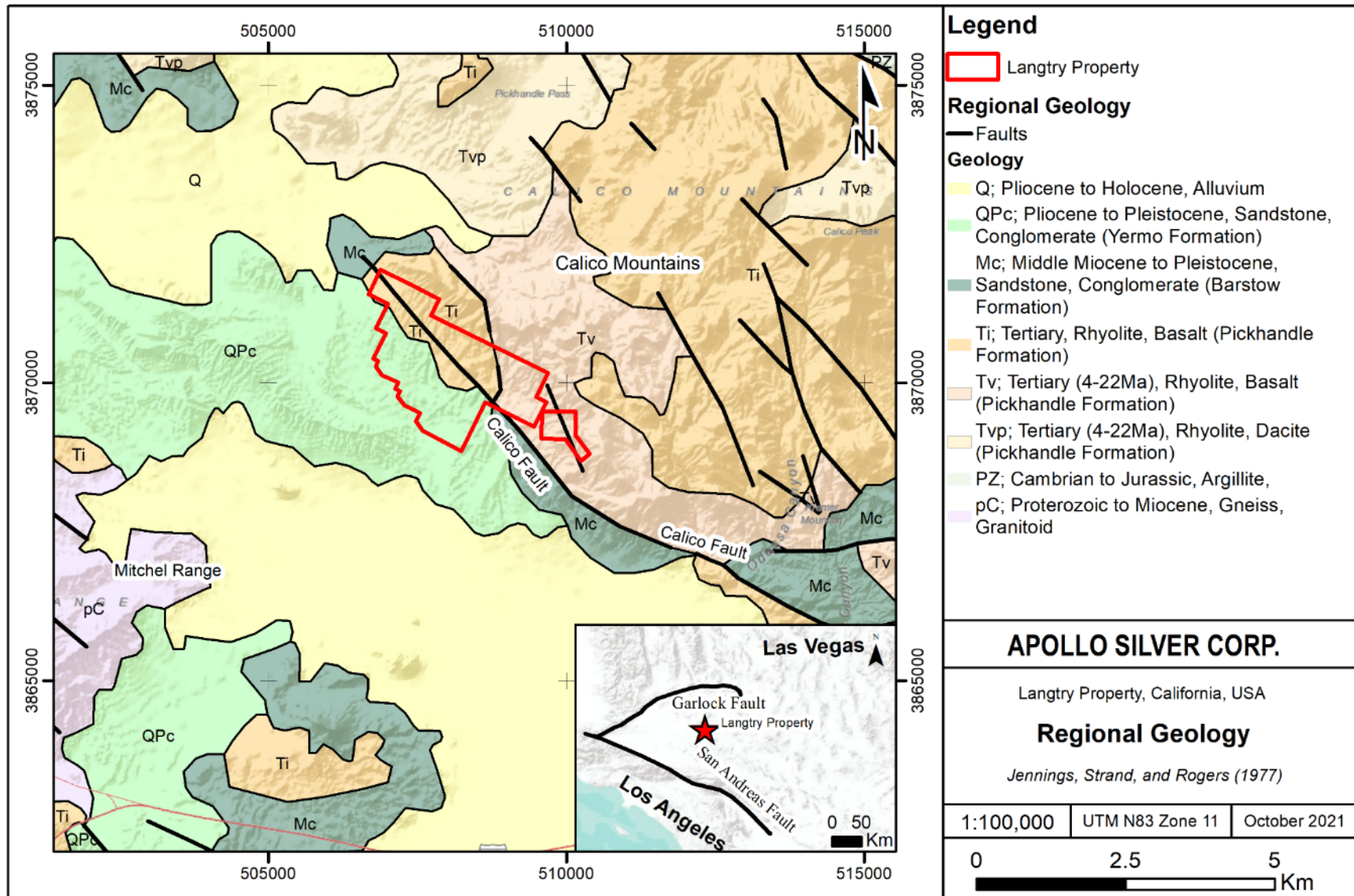
### 7.1 Regional Geology

Stronghold Silver's Langtry project is in the Calico Mountains of the Mojave Desert of the southwestern United States, part of the Basin and Range Province. The Basin and Range Province consists of evenly spaced north-south trending mountain ranges with intermittent flat desert basins filled by lacustrine-gravel-volcaniclastic-volcanic deposits. The Calico Mountains are situated in the central western portion of the Basin and Range and consist of a 9-mile (15 km) northwest-southeast trending range dominantly composed of Tertiary (Miocene) volcanics, volcaniclastics, sedimentary rocks, and dacitic intrusions (Figure 7.1; Singleton and Gans, 2008, and Eaton, 1972). The following has been extracted from Singleton and Gans (2008):

*"The Calico Mountains are posited centrally between the right lateral San Andreas Fault Zone bounding the Transverse Ranges on the West and the Death Valley Fault, also right lateral, on the East. The Northern boundary of similar terrain is defined by the Garlock Fault Zone, a left lateral wrench fault system while the southern boundary is irregularly shaped with either the Pinto Mountain or Manix Fault systems as left lateral wrench fault boundaries. The sub-province has been termed the Daggett Terrain of the Western Mojave Block. Understanding of this regional geology has only recently advanced with the identification of two Tertiary-age, large scale crustal deformation events. The terrain is now associated with extensive detachment faulting dating to 23 million years before present followed and displaced by the strike slip fault dominant regime beginning about 18 million years ago and continuing to the present.*

*The Calico Mountains form an uplifted block in a wedge-shaped zone between the east-west Garlock fault and the NW-SE trending faults with right lateral movement. Silver mineralization appears to be associated with mid-Tertiary volcanic activity along the NW trending fracture zones."*

**Figure 7.1 Geology of the Calico Mountains, Southeast of California (Modified from CGS, 2015 and USGS Fault Maps 2021).**



## 7.2 Stratigraphy

The following section has been taken from Jessey and Tarman (1988), Pan American Minerals Corp. (1994) and Singleton and Gans (2008):

*The oldest rocks in the region are foliated metamorphic rocks, possibly Precambrian, underlying the Waterman mountains some 4 miles to the west of Calico. The dominant rock type in the Precambrian formation is a quartz diorite gneiss.*

*Quartz monzonite and quartz diorite intrusions of Jurassic and Early Cretaceous age are found to the northeast. There are basement rocks of different varieties to the SW, occurring as diatremes, volcanic necks and rhyolite tuffs.*

*The stratigraphic succession of Tertiary rocks, as briefly outlined below, from the oldest to the youngest, has been strongly broken up by faulting [see Figure 7.2 and Figure 7.3].*

**Jackhammer Formation (recent mapping has grouped with the Pickhandle Formation):** [The formation up to] 700' [213m] of tuff, tuff breccia, volcanogenic sedimentary rock, arkosic conglomerate, and basalt.

**Pickhandle Formation [Ti and Tvp]:** *The formation, up to 1,500' [460m] thick, is dominated by rhyolite flows, breccias and tuffs. There are also glassy andesite flows near the middle of the formation. The Pickhandle is found primarily to the north and east at all elevations.*

**Calico Formation [Pickhandle Formation Tv]:** *The formation, up to 1,000' [300m] thick, consists primarily of bedded to massive rhyolite tuffs. It is exposed in the central portions of the district.*

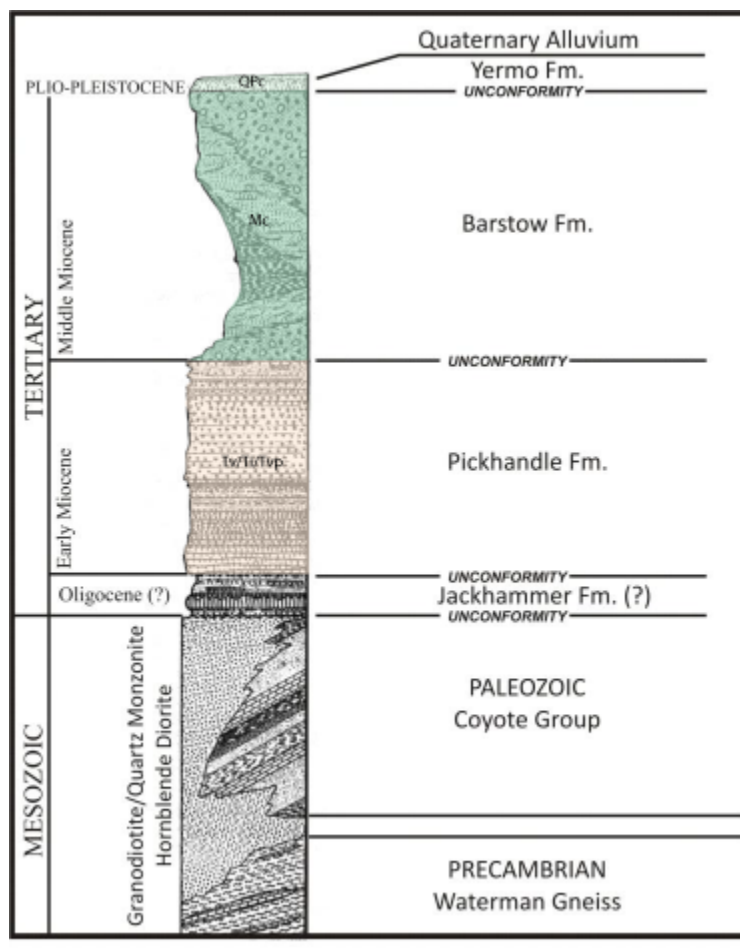
**Barstow Formation [Mc]:** *The formation, up to 2,200' [670m] thick, consists of sandstones, mudstones, siltstones and limestones, which are silicified to varying degrees. It occurs in the west-central part of the district.*

**Calico Member of the Barstow (Mc):** Research by Singleton and Gans (2008) identified a member of the Barstow formation called the Calico Member. The Calico Member consists primarily of lacustrine siltstone, sandstone, and limestone. Lateral and vertical facies changes are common, although some distinct groups of beds can be mapped for around 2.5 miles (4 km). The Calico Member is generally considered part of the middle Miocene Barstow Formation, which is 3,280 feet (1,000 m) thick at its type-locality in the Mud Hills (Dibblee, 1968; Woodburne et al., 1990).

*"Intrusions of rhyolite cut the Pickhandle Formation, but not the Barstow. These lens-shaped to irregular intrusions appear to be controlled by pre-existing faults. The rhyolite is generally dark red to maroon, with a siliceous groundmass containing hematite. Poorly consolidated alluvial gravel, conglomerate, and sandstones of the Yermo Formation of Pliocene age are found to the west of the Calico Range."*

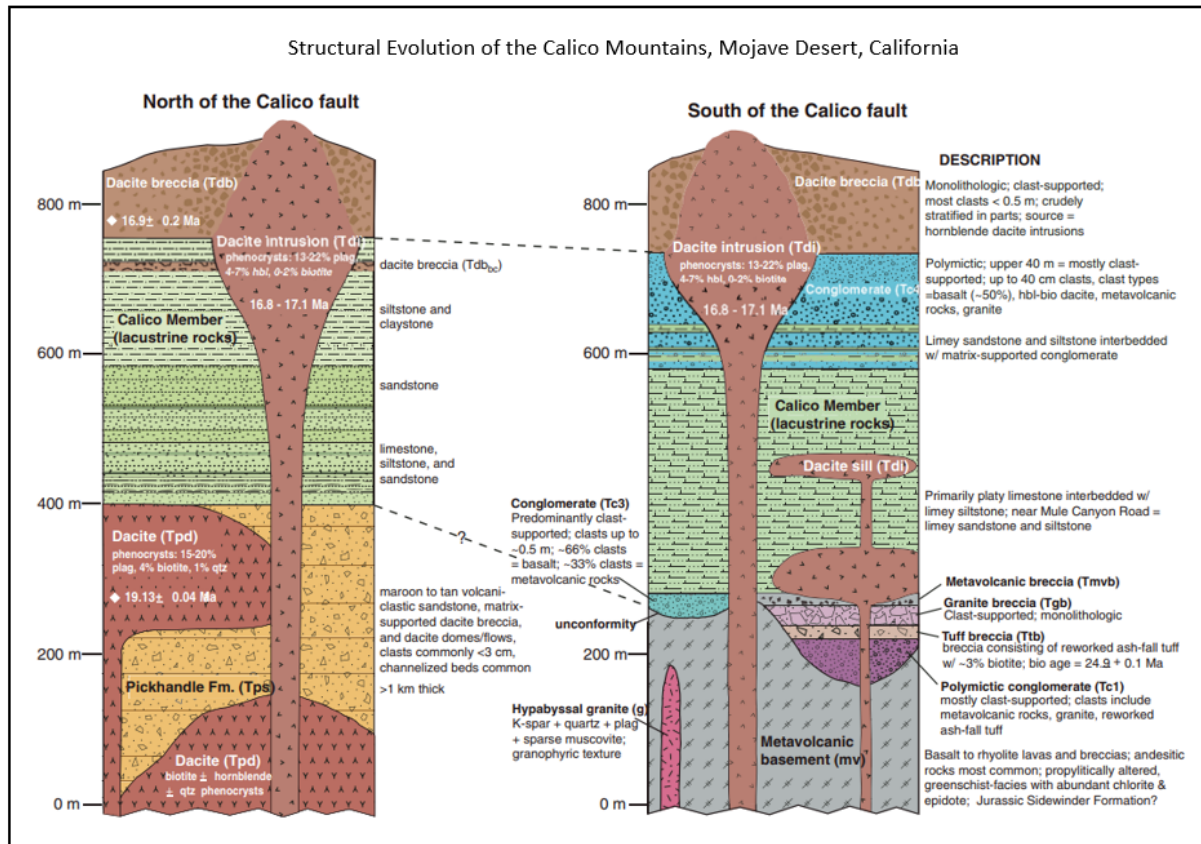


**Figure 7.2 Generalized Stratigraphic Column for the Central Mojave Region (from Jessey and Tarman, 1989).**





**Figure 7.3 Composite Stratigraphic Columns North and South of the Calico Fault in the Southern Calico Mountains (from Singleton and Gans, 2008).**



## 7.3 Structural Geology

The following section has been quoted Pan American Minerals Corp., (1994), Matson (2008), and Moran et al., (2012).

*“The Calico Mountains are thought to be part of the upper plate of a regionally extensive detachment fault. The fault surface is not known to be exposed in the Calico district but is projected from exposures in nearby ranges. This detachment block consists of fractured block fault segments that have been displaced in varying directions by mainly normal faulting and vertical rotation.*

*Numerous folds have been mapped in the Calico Mountains, and the general structure of the bedded rocks is that of an anticlinorium plunging northward. Beds of the Barstow Formation north of the Calico fault are intensely folded into numerous east-west – trending, upright anticlines and synclines that represent 25– 33 percent (up to [0.3 mile] ~0.5 km) north-south shortening. Folds are detached along the base of the Barstow beds and thrust over the Pickhandle Formation, which dips homoclinally ~15–30° to the south-southeast. The geometry and distribution of folds are most compatible with localized transpression between the Barstow and Pickhandle Formations. The transpressional folding and faulting in the Calico Mountains postdate the ca. 17 Ma dacite intrusions*

*and appear to be largely restricted to the area along the Calico fault restraining bend.*

*The regional deformation has been displaced by movement along the N70°W to N40°W trending system of the Calico-Hidalgo fault zone, which is a major Holocene and locally, historically active zone. The fault zone is a 115-km-long right-lateral fault system that lies along the southwest flank of the Calico Mountains and roughly defines the western boundary of the range front. The Calico-Hidalgo fault zone is delineated by well-defined geomorphic evidence of Holocene right lateral strike-slip displacement and locally offset Holocene alluvium. The system has been divided into three segments.*

*Deformation by faulting, with rotation and warping, is the major structural feature of the region. The most prominent are northwest trending faults, with right lateral movement. Extension faulting may have triggered volcanic activity during placement of the Pickhandle Formation, culminating in a major episode during the upper flows. Movement on faults is much larger in the Pickhandle Formation than the [Barstow Formation]. Some of the major faults are warped and branching. Blocks have been tilted by rotation on curved fault planes. Later movement occurred along the range-front faults in the south and southwest including the Calico fault. Rotation is demonstrated by the steep dip of the Barstow units. The Calico fault cuts through the [Langtry Property] with a right lateral movement. Complex crumpling of the beds within the Barstow resulted from compression.*

*Most recently, the Calico and West Calico sections exhibited triggered slip during 1992 as a result of the M 7.3 Landers earthquake. A magnitude 5.3 aftershock occurred in the Calico Mountains in 1997 near the Calico ghost town.*

*Total strike slip displacement on the Calico fault may be several miles, while vertical displacement is several hundred feet with large local variations. The latest Pleistocene to Holocene slip rates are not well documented. Although Byrant (2000) reported proposed rates that range from 0.4 millimeters per year (mm/yr) to 5 mm/yr, the Southern California Earthquake Data Center (SCEDC, 2011) reported slip rates between 1.0 and 2.6 mm/yr for the Calico and West Calico segments, and a lower rate of 0.5 mm/yr or less for the Hidalgo segment. SCEDC reported probable magnitudes of M 6.4 to 7.1 with a questionable interval between major ruptures of roughly 1,500 years.”*

## **7.4 Local geology**

The Langtry Property lies within a north-west trending block of metamorphosed sedimentary rock of the Barstow formation and tertiary volcanic rocks of Pickhandle formation.

Detailed geological mapping completed by Asarco on the late 1970's, in cooperation with Superior, covers a large portion of the current Langtry Property, and resulted in a map produced in January 1975: 1":1000' *Asarco Waterloo Area* by R.K. Kirkpatrick. The mapping illustrates that the Langtry Property is underlain by Quaternary alluvium and Talus (Qal); sandstone and conglomerate of the Yermo Formation (Qty); the Barstow Formation (Tsa); and the Pickhandle Formation (Tv). The Pickhandle Formation outcrops in the northeastern part of the mapping area. The bedrock exposures in the southwest of the mapping area are

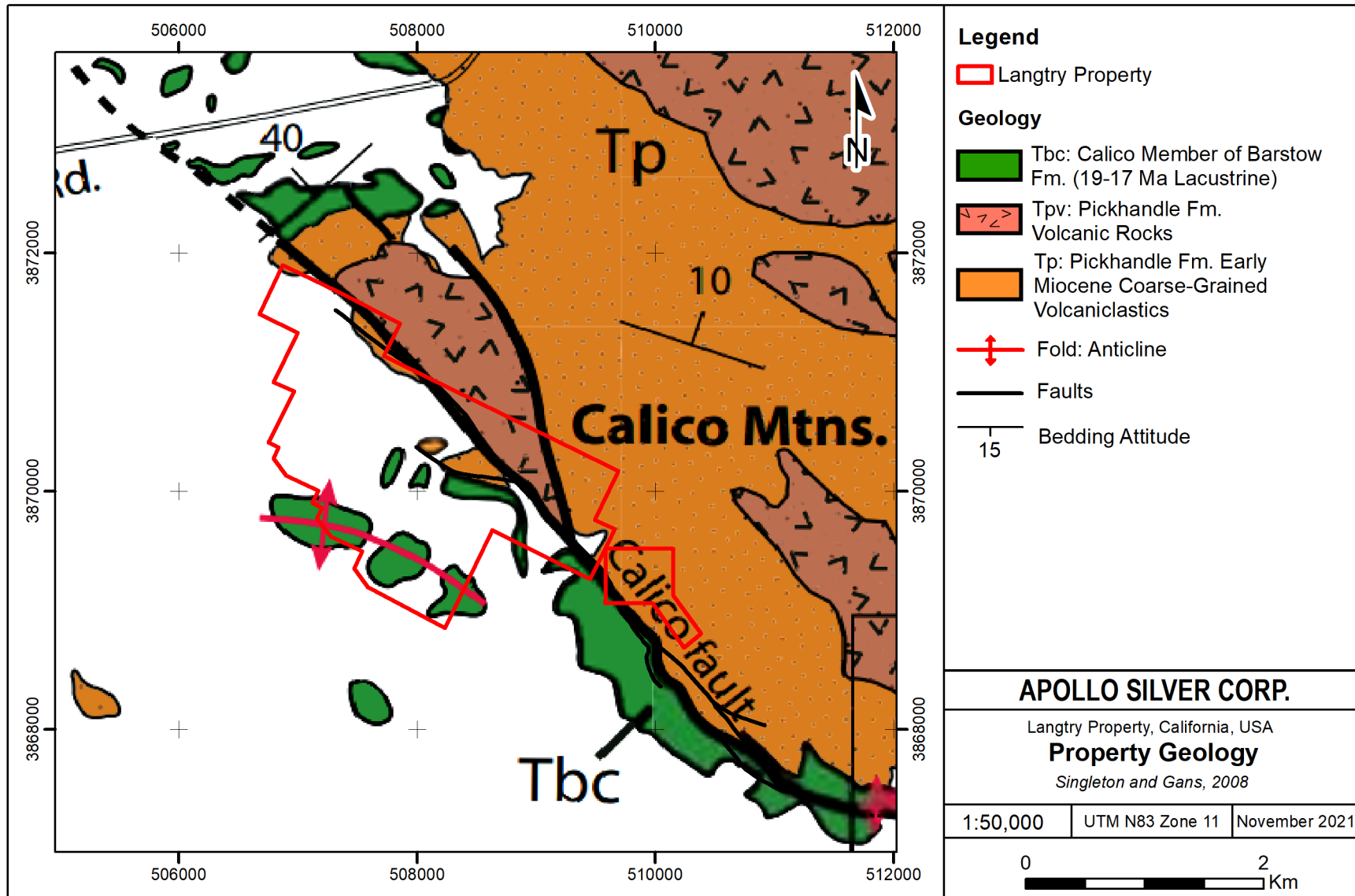
mainly of the Barstow and Yermo Formations. A thin cover of Quaternary alluvium and talus is found throughout the area but is mainly found southwest of the Calico Fault (Figure 7.4).

The host rocks for the silver mineralization are the veins of the Pickhandle Formation and disseminated silver in the Barstow Formation. The Pickhandle Formation consists primarily of andesitic and dacitic flow-breccias, flows tuff breccias, agglomerates, dikes and minor volcanic derived sandstones (Photo 7.1). Individual volcanic units are typically irregular and discontinuous. The Pickhandle has been estimated to be up to 5,000 ft [1524 m] thick in the eastern Calico Mountains.

Overlying the Pickhandle Formation, the middle Miocene Barstow Formation consists of an alluvial fan facies, fluvial facies and lacustrine facies that were deposited in a paleo- basin. The respective rock types are conglomerate with sandstone, mudstone with siltstone and local silty limestone (Photo 7.2). The formation was deposited on the Pickhandle and eroded after mountain building. It may also have been deposited adjacent to the Pickhandle volcanics and on the lower flanks of the volcanic topographic high. Maximum thickness of the Barstow Formation is projected to be about 3,000 ft [914m] but based on vein zoning, it would have been much thinner if present, over the Pickhandle Formation. The Barstow Formation is host to the disseminated silver mineralization at the Langtry Project.

The Calico Fault runs northwest-southeast through the Property. In the northwest end of the Property, the Calico fault is interpreted to be the contact between Barstow and Pickhandle Formations (Photo 7.3), through the middle and southeast of the Property the fault passes through the Barstow Formation (Figure 7.4). Most of the drilling at the Langtry Property has been focused around the silicified and brecciated Barstow Formation and a branch of the Calico fault.

**Figure 7.4 Project geology of the Langtry Property (Singleton and Gans, 2008).**





**Photo 7.1 A view from Volcaniclastic Rocks of Pickhandle Formation at Langtry Project.**



**Photo 7.2 A view from Sand Stone in Barstow Formation at Langtry Property**



**Photo 7.3 A view of both the Barstow and Pickhandle Formations, with the trace of Calico Fault.  
View to the North, Langtry Project.**



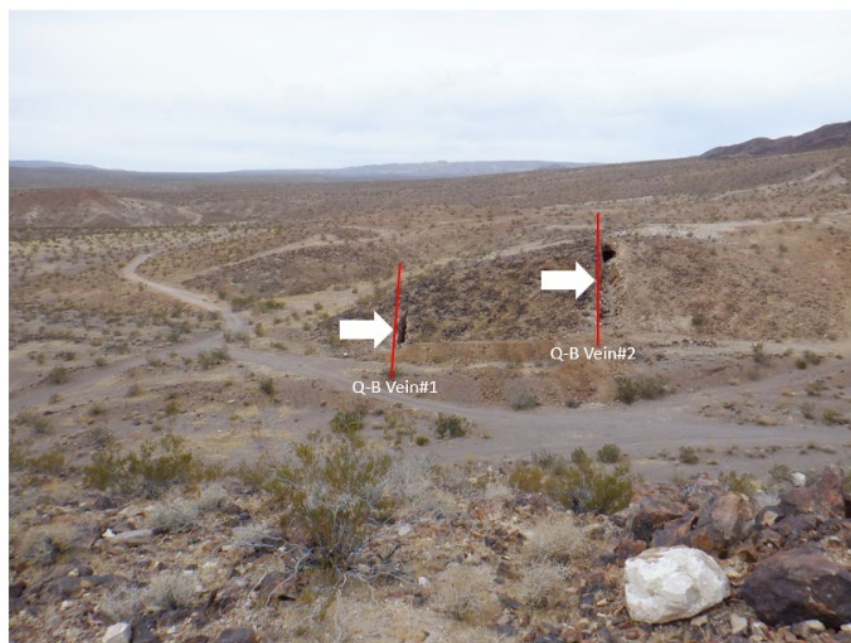
## 7.5 Mineralization

Silver-barite mineralization occurs regionally in both the Lower Miocene Pickhandle Volcanics and the overlying sedimentary units of the Middle Miocene Barstow Formation. The lithological and structural controls on the mineralization differ between the units resulting in a predominance of vein-type mineralization in the Pickhandle formation rocks and primarily dissemination mineralization in the Barstow formation rocks. The veins of the Pickhandle volcanics consist of early barite and jasperoid, followed by a second stage of later barite, jasperoid, oxides and sulfides. Subsequent oxidation of some veins by meteoric water resulted in the formation of supergene oxides, carbonates and silver chlorides. Mineralization in the Barstow Formation is largely disseminated with veins accounting for only one percent of the total volume. However, paragenesis of the Barstow vein minerals closely parallels that of the Pickhandle with "Early Barite Veins" followed by "Silver-Silicification Veins" and "Late Calcite Veins". A suggested model favors hydrothermal emplacement of vein mineralization in dilatant zones in the Pickhandle Formation and disseminated mineralization in the Barstow Formation during Middle Miocene detachment faulting. This was followed by reactivation and continued dilation of some fissures and deposition of secondary oxides and jasperoid (Fletcher, 1986).

Photo 7.4 shows two parallel quartz-barite veins with a trend of 310° in Pickhandle Formation and, Photo 7.5 shows a close view from these two veins. These veins were excavated historically, leaving adit-like openings behind. The vein network generally parallels a regional zone of northwestern-trending faults that has acted as both a feeder for mineralization and has displaced it during periods of tectonic reactivation.



**Photo 7.4 Two parallel quartz-barite veins (NW strike) in Pickhandle formation, Langtry Project.**



**Photo 7.5 Two parallel quartz-barite veins (NW strike) in Pickhandle formation, Langtry Project, a (Q-B vein#1) and b (Q-B vein#2).**



At Langtry mineralization occurs primarily as disseminated silver-barite replacements hosted in tuffaceous sandstones and silicified siltstones of the Barstow Formation (Matson, 2008). Fletcher (1986) identified two phases of significant silver mineralization at Langtry. The initial stage of hydrothermal activity is characterized by early-stage barite and quartz veining and disseminations that contained lesser amounts of specularite, sphalerite, galena and native silver. The barite is typically massive but locally occurs as bands of medium to coarse grained crystal aggregates. Generally, quartz comprises less than 30% of this stage. The early barite-quartz mineralization stage is primarily disseminated into the lacustrine wall rock with lesser well-defined veinlets. Sulfides and native silver are present as less than 100 micron grains as identified by microscopy (Matson, 2008).



The second stage of mineralization is interpreted to account for the majority of the silver present in the deposit. This stage, termed the silver silicification stage, deposited veins and replacements of quartz with barite, some calcite, minor hematite and pyrite, acanthite, native silver, magnetite, sphalerite and galena. Quartz is of the dominant mineral instead of barite, but barite is still present in amounts up to 25% of the replacement [see Photos 7.6 and 7.7].

**Photo 7.6 A general view of quartz-barite veins in Pickhandle formation, Langtry Project.**



Pyrite is found as euhedral grains and colloform blebs. Acanthite and native silver occur as highly dispersed isolated grains, usually with sizes of 25 micron and smaller. Similarly sized sphalerite and galena were found dispersed throughout the quartz and barite (Matson, 2008). Silver mineralization at Langtry in either vein form or disseminated replacements cannot be identified macroscopically. No gold is present in the mineralization.

Fletcher (1986) identified a relatively minor, late stage of veining that comprised calcite and some fine-grained quartz. No significant economic mineralization has been identified in these veins.

Controls for the mineralization, in addition to the permeability of the Barstow Formation host rocks, are interpreted to be related to the Calico fault zone. The Calico fault defines the range front of the Calico Mountains and is a major structural feature in the district. The fault and extensional structures that formed along the fault zone are interpreted to be the deep-seated conduits for the ascending hydrothermal fluids that deposited the mineralization (Matson, 2008).

**Photo 7.7 General view of coarse barite, fine grained quartz veins in Pickhandle Formation, Langtry Project.**



The Langtry deposit is bounded by the Calico fault on the east, which is a control on mineralization in the sense that sub-vertical thrust movement placed less permeable andesitic volcanics of the Jackhammer Formation in footwall contact against sediments of the Barstow Formation. This contact limited disseminated mineralization to the area west of the fault. Since the structure is mostly dextral strike slip with movement occurring both before and after the period of mineralization, the presence of differently mineralized rock on the footwall could be expected. The occurrence of disseminated silver mineralization in footwall rocks a little more than a mile to the southeast has been cited as evidence of this post-mineral movement (Matson, 2008).

The extent of silver mineralization at Langtry has been defined by drilling to lie within a irregularly shaped structural zone approximately 1,000 feet (305 m) wide by 4,000 feet (1,219 m) long with disseminated silver-barite mineralization extending in a tabular zone through a vertical interval of 250 feet (76 m). Average silver intercept thickness is more than 100 feet (30 m) with many intercepts exceeding 200 feet (61 m) in thickness.

## 8 DEPOSIT TYPES

Mineralization at Langtry is characterized by large tonnage, modest grade disseminated silver-barite, that is hosted in undeformed, Miocene age, flat lying sediments that were deposited in a shallow lake environment. The sediments are underlain by volcanic flows and breccias of primarily dacitic to andesitic composition. Mineralization occurs as both disseminated and vein mineralization with the host rock controlling the variation. Both types of mineralization are believed to have formed from a common event. The vein network generally parallels a regional zone of northwestern wrench faulting that has both acted as a feeder for mineralization and during reactivations, displaced it. Limited mineralization crops out at the surface (Moran et al., 2012).

Hydrothermal mineralization in the Calico District is associated with Tertiary age volcanic rocks that define a crude, northwest-trending belt of silver and gold mineralization at the eastern edge of the Western Mojave Block. The faults and extensional structures that formed along the Calico-Hidalgo fault zone are thought to be the deep-seated conduits for the ascending hydrothermal fluids that deposited the mineralization. Deposition at the Langtry Property through replacement and veining of permeable sediments is thought to have taken place in a sub-lacustrine sulfate rich environment. The style of mineralization was dictated by the host rock (Moran et al., 2012).

Tarman and Jessey (1989) proposed a model for the mineralization in the area where early Miocene extensional stresses, related to detachment faulting, created a series of normal faults in the upper plate Pickhandle Volcanics. Subsequently, a small stock was emplaced in the vicinity of Wall Street Canyon which drove a hydrothermal convective system mineralizing the normal faults as well as the flat-lying sediments of the lower Barstow Formation. During the late Miocene, strike-slip movement along the Calico Fault reactivated the dip-slip faults. The reactivated faults underwent additional extension in areas adjacent to bends in the main Calico fault causing further dilation and permitting the circulation of meteoric waters which oxidized the existing mineralization and deposited secondary oxides and silver chlorides.

At Langtry mineralization is hosted in flat lying and generally undeformed sediments. Whereas at the nearby Waterloo property mineralization is hosted in highly brecciated and broken rocks that overlie (in fault-contact) highly folded unmineralized sediments. Further work needs to be completed at the Langtry Property to gain a full understanding of the deposit model for the Langtry mineralization.

## **9 EXPLORATION**

Apollo and Stronghold Silver have not performed any exploration to date on the Property. Historical exploration completed on the Property is discussed in Section 6.

## **10 DRILLING**

Apollo and Stronghold Silver have not completed any drilling to date on the Property. A summary of the historical drilling completed by companies other than Apollo and Stronghold Silver is presented in Section 6. None of this work was conducted by or on behalf of Apollo or Stronghold Silver.

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

Apollo have not collected any samples on the Property. The preparation, analysis and security of historical samples is briefly discussed in Section 6.



## **12 DATA VERIFICATION**

The authors visited the Langtry Property to perform a QP site visit and to attempt some data validation.

### **12.1 Site Inspection (2021)**

GRE QPs L. Breckenridge and Dr. H. Samari conducted an on-site inspection of the Langtry Project on February 9, 2021. Due to the excellent access roads across the Property and low topography compared to the Waterloo property, the QPs conducted the site inspection quickly and efficiently. No client representatives accompanied the QPs during the site visit. Historical samples are stored in a warehouse in Tucson, Arizona, and as such the QPs had no access to core, RC chips, or any other form of sample collected during the historical exploration programs.

While on-site, QPs conducted a general geological inspection of the Langtry Property, including checking the formations, lithologies, mineralization, historical mine workings and historical drill collar locations (Photos 12.1 and 12.2).

### Photo 12.1 Langtry Project Site Inspection



General View of the Barstow Formation



General View of the Pickhandle Formation



Silicification in the Pickhandle formation



Historical working along the quartz-barite vein



No collar identification was associated with historical collars located on site.



## 12.2 Visual Sample Inspection and Check Sampling

In absence of access to historical drill samples for visual inspection and collection of check samples, the QPs collected surface samples to confirm the presence and distribution of silver mineralization at Langtry. Based on geological context, five samples from the Langtry Project were selected to be assayed (Table 12.1).

Samples collected by the QPs for assay were selected from different formations and mineralized zones. All samples were bagged and labeled by the QPs. Samples were packed and delivered by the QPs to Hazen Research Inc. (Hazen) in Golden, Colorado, USA (Photo 12.2).

**Photo 12.2 Selected, and Packed Surface Samples from the Langtry Project.**



A close view from Q-B Vein#1 in Pichhandle formation



Sampling from the Q-B vein#1



Checking the samples, logging, and packing

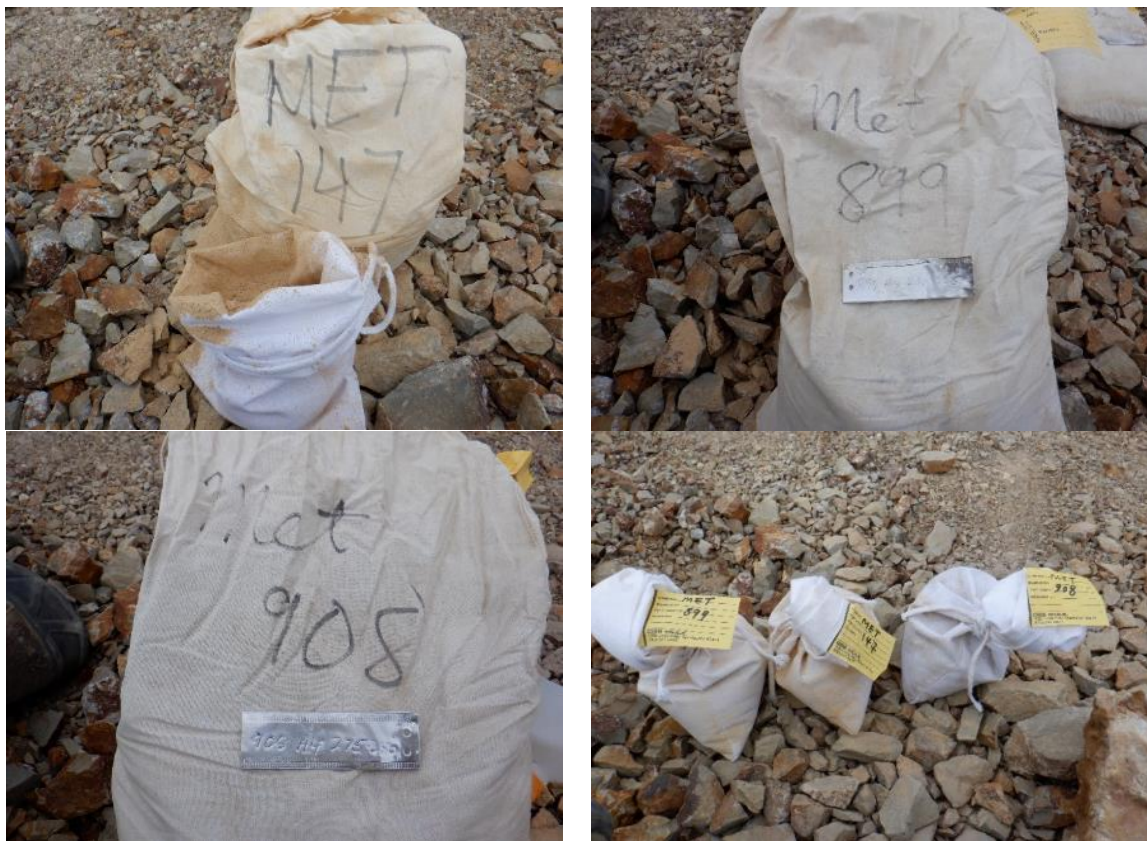


Shipping the samples by QPs

The samples were collected from the Pickhandle and Barstow formations: one sample from the Barstow formation and four samples from the Pickhandle formation (Table 12.1). Sample locations are shown on Figure 12.1. The samples were collected from two surface trenches, referred to in this report as Q-B vein#1 (trench#1) and Q-B vein#2 (trench#2). Within Trench#1 the QPs discovered historical pulp sample bags.

Three samples: MET-147, MET-899, and MET-908 were selected for assay (Photo 12.3). It is unknown exactly where these samples were collected from or what year they were collected.

**Photo 12.3 Pulp samples taken from Q-B vein#1 (Trench#1)**



On March 3, 2020, Hazen provided an analytical report on five selected samples that were analysed by Fire Assay for gold and silver. The results of the analyses from Hazen are shown in Table 12.1. The results indicate that both the Barstow and Pickhandle formations have silver mineralization potential. Silver assays >30 ppm were obtained from samples found in the two excavated veins (Q-B vein#1 and Q-B vein#2) in the Pickhandle formation (MET-908 and L-2) as well as in the surface sample from the Barstow formation (L-1). Faults, fractures and lithology contacts appear to be the primary controlling structures for emplacement of silver-bearing veins in the Langtry area, and as such, should be closely considered in future exploration efforts.

**Table 12.1 Summary Table of Assay Results for Gold and Silver for the Langtry Project.**

No.	Location	Geological Formation	Specification	Longitude	Latitude	Elevation (m)	GRE Sample ID	Lab Sample ID	Request Analysis	Hazen Au (ppm)	Hazen Ag (ppm)
									Fire Assay Gold & Silver		
1	Langtry	Barstow	Surface Sample	507652	3870431	754	L-1	21M01263-001	<input checked="" type="checkbox"/>	<0.02	33.3
2	Langtry	Pickhandle	Trench#1	508144	3870323	765	MET-147	21M01263-003	<input checked="" type="checkbox"/>	<0.02	6.29
3	Langtry	Pickhandle	Trench#1	508144	3870323	765	MET-899	21M01263-004	<input checked="" type="checkbox"/>	<0.02	18.1
4	Langtry	Pickhandle	Trench#1	508144	3870323	765	MET-908	21M01263-005	<input checked="" type="checkbox"/>	0.02	38.8
5	Langtry	Pickhandle	Trench#2	508162	3870345	768	L-2	21M01263-002	<input checked="" type="checkbox"/>	<0.02	30.5



## 12.3 Database Audit

The author completed a manual audit of the digital project database by comparing assay certificates (from ALS Minerals of Reno, Nevada) to corresponding information contained in the database. The manual audit revealed no discrepancies between the hard-copy information and digital data for the Langtry Project.

## 12.4 Validation Limits

The historical assay certificates and quality assurance/quality control (“QAQC”) information were not available to the authors to verify the Superior (1967) and Athena (2011) exploration data.

## 12.5 QP Opinion on Adequacy

Although there are several excel files for Langtry covering the in-house QA/QC procedures, no detailed explanation or reports were found in the database about sample preparation, chain of custody, analytical procedures, and data security measures for the project

Athena’s in-house Quality Assurance and Quality Control (QA/QC) procedures in 2011 were limited to the insertion of 23 certified standard reference samples, 33 Blank samples, and 48 duplicates samples within the samples collected from 13 RC holes totalling 1,820 m of samples. Athena also tried to consider nine of these 13 RC holes as twin holes with previous Superior Oil holes. As a result, the assay results have no indication of systematic errors that might be due to sample collection or assay procedures. Twinned drill holes, from the 1967 Superior Oil and the 2011 Athena campaigns, show highly congruent Ag assay results.

As a result, it is difficult to determine sample adequacy of the historical database, although the sample management and QA/QC procedures performed by Athena show:

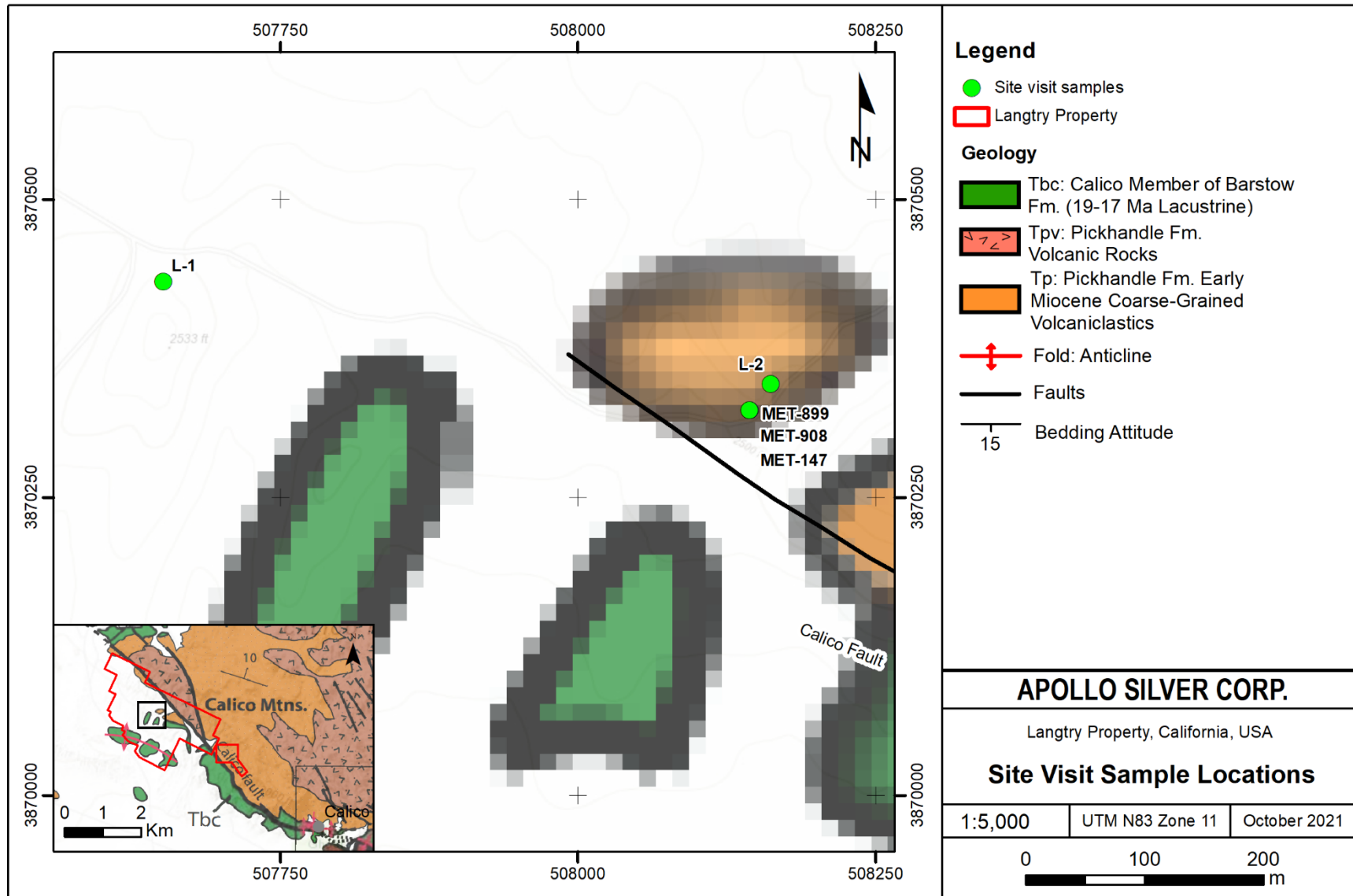
- Assaying of standard material produced no systematic errors
- Blank material assays indicated that no contamination occurred from sample to sample
- Duplicate assays showed the sample preparation protocol produced sufficiently precise results.

In general, the assay results from the 2011 Athena program show no indication of systematic errors, however, the QA/QC sample insertion rates used by Athena fall below general accepted industry standards. For future exploration campaigns, standards, blanks, and duplicates including one standard, one duplicate, and one blank sample should be inserted every 20 interval samples, as is common within industry standards.

After examining existing geological maps in the field, field observations of the formations and mineralization, reviewing all existing documents and results of assay analyses of the recent surface samples, and after reviewing both manual and mechanical database audit efforts, the QPs consider the lithology and mineralization data contained in the project database to be sufficiently reliable for use in ongoing exploration and studies.



**Figure 12.1 Author's Site Visit Sample Locations at the Langtry Project.**



## **13 MINERAL PROCESSING AND METALLURGICAL TESTING**

Apollo and Stronghold Silver have yet to conduct mineral processing and/or metallurgical testing at the Langtry Property.

## **14 MINERAL RESOURCE ESTIMATES**

A current Mineral Resource Estimate has not been completed for the Langtry Property. Historical resource estimates are reviewed in Section 6.5.

## 15 ADJACENT PROPERTIES

The reader is cautioned that the following section discusses mineralization, and/or historical mines that are not located on the Langtry Property but are located in the vicinity of the Property. The authors of this report have not had the opportunity to visit most of these sites and mineral deposits, or verify any of information presented below, and the reader is further cautioned that this information is not intended to imply that such mineralization exists at the Langtry Property. The information provided in this section is simply intended to describe examples of the type and tenor of mineralization that exists in the region and that is being explored for at the Langtry Property.

### 15.1 Historical Mines Proximal to the Langtry Property

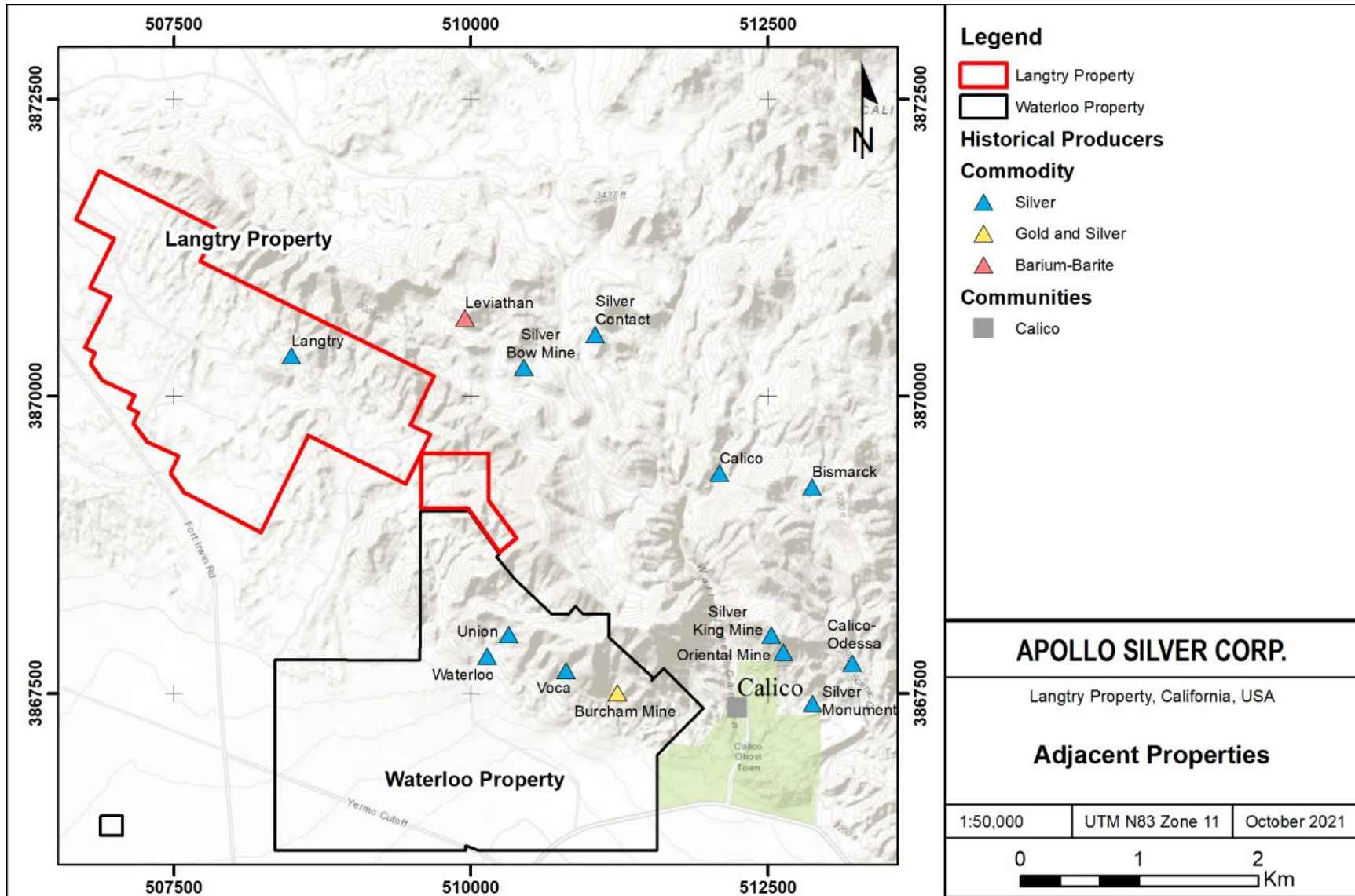
The area has a long history of precious and base metal mining as described in Sec 6.1. Silver was the primary ore produced from the area with majority of production occurring between 1881-1896. Historical production during this period was not recorded however, historical estimates vary from 15 to 25 million troy ounces (Kirwan, 2005; Matson, 2008). Silver grades were estimated to average 25 ounces of silver opt with localized grades up to 100 opt (Matson, 2008). Historical producers stretch over an area 5 miles long by 2 miles wide and are divided into three districts: Central group, East Group and the West Group (Figure 15.1). The Langtry Property including the historical Langtry Silver mine lies within the West group. Silver deposits in the area were characterized as low tonnage, high-grade oxidized and possibly supergene enriched (Matson, 2008).

The Central group includes the historical Silver King-Oriental Mine located just north of the Calico townsite, 0.6 miles (~1 km) east of the Waterloo Property. The Silver King-Oriental Mine was the first mine in the district, it was the most productive and the longest operating mine on the Calico area. Mining targeted two main, northwest striking veins: the Oriental and Silver King. The veins extended for 2 miles on the surface and vary in width from 21 inches to 2 feet. Mine workings were very extensive and include over 12,000 feet of drifts. Between 1883 and 1886 the mine yielded 37,000 tons of silver ore (Wright et al., 1953). Production continued into the 1930's at a reduced scale. The area surrounding the historical Calico townsite and encompassing the Silver King-Oriental Mines has been converted into the Calico Ghost Town regional park on land currently owned by San Bernardino County.

The East Group encompasses the Calico-Odesa group of mines. The Odesa group includes Dragon, Dunderberg, Gobbler, Little Jane and Odesa. The Occidental Group includes mines Argonaut, Bismarck, Boss, Cleveland, Garfield, Invisible, Occidental, Runover, Thunderer and Veto. Silver deposits in this area were hosted in rhyolite tuffs as impregnations along a zone of porous rock. No production is reported directly for the majority of the mines in this group. However, Odesa Mine is reported to have had the highest average ore grade in the district. Partial production figures are available only for the Garfield mine and from 1882-1884 total approximately 400 tons of ore. The Garfield Mine continued production to 1896 (Wright et al., 1953). Privately held Fee land parcels cover the areas of the historical Odesa and Garfield mines.

In addition to the Langtry Silver Mine the West Group also encompasses the Waterloo, Union, and Voca silver mines, the Burcham gold-silver mine and Leviathan barite mine. The historical Langtry Silver Mine lies within the current Property and is described in Section 6.1.

**Figure 15.1 Historical Mines of the Calico District and Adjacent Properties**



The historical Waterloo, Union, Voca and Burcham mines are located within the nearby Waterloo Property and are described in Section 16 below.

The Leviathan Barite Mine is located 0.4 miles (0.6 km) to the east of the Langtry Property. It is a historical producer of high-grade barite and low-grade silver. Silver mineralization at Leviathan is contained in several northwest-striking nearly vertical veins of barite with jasper and hematite. The veins are hosted in andesite breccia-tuff and red andesite breccia. The largest vein at Leviathan is the northeast vein: it has a maximum width of 35 ft (10.6 m) and extends 3,000 ft (914 m) to the northwest of the mine. Mine workings at Leviathan total approximately 1,500 ft (457 m) in length with the northeast vein being explored using four adit levels (Dibblee, 1970). It is reported that the Leviathan Mine was the largest producer of barite on the west coast from 1957 to 1961 and was placed into open pit production to supply barite to the oil industry (Moran et al., 2012). The Leviathan Barite Mine closed in the mid 1960's (Matson, 2008).

## 15.2 Current Active Projects

In the nearby vicinity of the Langtry Property two placer claims are held by private owners. No information is available about the production from the placer claims. Two unpatented lode mining claims are located 1 mile (~1.5 km) east of the property over the Silver Contact historical producer. They are held by private owners; no additional information is available on any exploration completed on these claims.

The Waterloo Property is adjacent to and located immediately to the southeast of the Langtry Property. Apollo acquired a 100% interest in the Waterloo Property from Pan American Minerals Corp., a wholly-owned subsidiary of Pan American Silver Corp., ("Pan American") in July 2021 (Apollo, 2021). The Waterloo Property covers the historical Waterloo, Union and Voca silver mines and the Burcham gold-silver mine (Figure 15.1). The Property comprises 21 unpatented lode claims and 27 fee land parcels, totaling approximately 1,770 gross acres (715 hectares). The Waterloo Property is host to epithermal precious metal vein-type and stockwork type mineralization hosted in mainly in Miocene-aged Barstow Formation sediments, and to a lesser extent in the underlying Pickhandle Formation. The geology, host rocks, and mineralization style of the Waterloo Project are similar to that of the Langtry Project, the focus of this Technical Report. The two deposits have been interpreted to be part of the same mineralization system.

Modern exploration on the Waterloo Property was conducted by American Smelting and Refining Company ("Asarco") and Pan American between 1964-2013. Historical drilling on the Property includes a total of 58,365.78 ft (17,789.62 m) in 255 RC and 3 diamond drillholes. In addition to confirmation drilling, Pan American also completed re-sampling of pulps from 32 historical Asarco drill holes. The results of the confirmation drilling and re-sampling program returned assays that confirmed historical drill results. The drilling programs identified high-grade silver mineralization within the Barstow Formation. The high-grade intercepts were found to be associated with fault structures indicating that faults and lithological contacts were important conduits for the mineralized hydrothermal fluids on the Property.

A historical reserve estimate was calculated by Asarco in the 1960's (Rodger, 1994). In 2013 Pan American calculated an historical internal resource based on the results of their 2012 drilling program, along with validated historical data from Asarco. The resource yielded a 103 million ounce silver deposit with an



average grade of 93 g/t at a cutoff grade of 1.5 opt (~42 ppm; Pan American, 2013). The historical mineral reserve estimate was calculated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated May 10, 2014). The reader is cautioned that the historical mineral resource estimates are historical in nature and the authors of this Technical Report have not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves. The authors are not treating them, or any part of them, as a current mineral reserves or resources. The authors did not review sufficient information to properly assess data quality, estimation parameters and standards by which these estimates were categorized. These historical estimates are relevant and have been included simply to demonstrate the mineral potential of the main target area of the Waterloo Property. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Waterloo Property.

## **16 OTHER RELEVANT DATA AND INFORMATION**

The authors are not aware of any other information or data relevant to the Langtry Project at this time.

## 17 INTERPRETATION AND CONCLUSIONS

It is the opinion of the authors of this Technical Report that the Langtry Property is a “Property of Merit” that warrants future exploration work.

The Langtry Property is located in San Bernardino County in California, approximately 145 miles (233 km) northeast of Los Angeles and is situated approximately halfway between Los Angeles and Las Vegas, Nevada. It is situated in the Calico Mining District, a historically prolific mining district with 15-20 million troy ounces of silver, with lesser barite, gold, lead and copper, produced from silver mines in the district between 1881 and 1896 (Weber, 1966). The reader is cautioned that the historical mineralization produced from deposits within Calico Mining District may not be necessarily indicative of mineralization at the Langtry Property. Several past-producing mines and historical workings are situated in the vicinity of the Property including the Langtry Silver Mine which lies on the current Property. The Property is currently being assessed by Apollo for its precious metal mineralization potential.

The Property lies in a favorable geological setting in the Calico Mountains. The Property is underlain by the mineralized Miocene-aged Pickhandle and Barstow Formations which are cut by the Calico fault. Two types of mineralization have been identified on the Property: large tonnage, moderate to low grade disseminated silver-barite and mineralized veins. The disseminated silver-barite mineralization is hosted by the Barstow Formation: a brecciated sequence of Miocene age siltstones, sandstones, thin bedded calcarenites, and water laid tuffs that were deposited in a shallow lake environment. This type of mineralization is dominant on the Langtry property. Vein mineralization is hosted in the underlying volcanic flows and breccias of primarily dacitic to andesitic composition of the Pickhandle Formation. Both types of mineralization are interpreted to have formed from a common event, with the host rock controlling the style of mineralization. The vein network generally parallels a regional zone of northwestern-trending faults that has acted as both a feeder for mineralization and has displaced it during periods of tectonic reactivation.

The disseminated silver mineralization at Langtry is associated with silica and barite along with hematite, calcite, silver-hosted sulphides (acanthite), very fine native silver, very fine sphalerite, very fine galena, and local occurrences of argentojarosite and cerargyrite. A late-stage magnetite-manganese oxide-native silver bearing event has also been noted in the district. Mineralization at Langtry is interpreted to be epithermal with a similar genesis to mineralization at the nearby Waterloo project. Mineralizing fluids were focused along detachment faults and bedding planes of the Barstow Formation. The timing of mineralization (15-20 Ma) lines-up with a period of subduction and extension in the region.

Exploration on the Property dates back to the 1880’s and includes silver production from the historical Langtry Silver Mine which lies on the current property. Modern exploration on the Langtry Property commenced in the late 1960’s and was completed by Superior Oil Company (“Superior”), International Silver Inc. (“International Silver”), and Athena Silver Corp. (“Athena”). Exploration work on the Property by Superior included extensive rotary drilling with the completion of approximately 200 drill holes. Athena acquired an interest in the Langtry Property in March 2010. Athena drilled 10 confirmatory and 3 exploratory reverse circulation (“RC”) drillholes in 2011 and excavated 3 surface trenches in 2012. A 20-ton bulk ore sample for metallurgical testing was collected from the surface trenches. The drilling identified high-grade silver mineralization within the Barstow and Pickhandle Formations.

Three historical mineral resource estimates have been calculated based on data from the historical drill programs. The most recent historical mineral resource estimate for the Langtry Deposit was completed in 2012 by Independent Mining Consultants Inc. ("IMC"), in cooperation with SRK Consultants Inc., on behalf of Athena. Athena's resource database included 148 historical Superior drill holes and Athena's 13 confirmatory and exploration holes. IMC estimated that the Langtry Silver deposit contained Indicated Mineral Resources of 12.7 million short tons grading 1.48 opt (50.7 g/t) Ag and Inferred Mineral Resources of 30.4 million short tons grading 1.40 opt (48.0 g/t) Ag, at a 0.76 opt (26.1 g/t) Ag cutoff grade, as in-pit resources. The reader is cautioned that this historical mineral resource estimates is historical in nature and the authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral resource. The authors are not treating it, or any part of it, as a current mineral resources. The authors did not review sufficient information available to properly assess data quality, estimation parameters and standards by which this estimate was categorized. This historical estimate is relevant and has been included simply to demonstrate the mineral potential of the main target area of the Langtry Property. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Langtry Deposit.

The authors conducted an on-site inspection of the project on February 9, 2021. During the site visit the QPs conducted a general geological inspection of the Langtry area, including checking the formations, lithologies, mineralization, and locations of historical drill collars. The QPs located two parallel open trenches in Pickhandle Formation which were excavated along two quartz-barite veins. In total, five surface samples were collected on the Property from the Barstow and Pickhandle formations and mineralized zones. Assay results from the samples confirmed that silver mineralization is present at several locations around the Property.

The Property is situated in mining-friendly San Bernardino County in California, USA, and is in a country with low political risk. California has several operating mines in San Bernardino County including Castle Mountain Gold Mine (Equinox Gold Corp.), the Mesquite Gold Mine (Equinox Gold Corp.) and Mountain Pass Rare Earth Mine (MP Materials Corp.). The Langtry Property is well-suited in terms of infrastructure and is in proximity to road, rail, electrical energy, natural gas, and telephone services.

## **17.1 Risks and Uncertainties**

Permitting and development challenges exist in the exploration and development for any exploration and mining project. In the opinion of the authors', the Langtry Project will require a full Environmental Impact Statement ("EIS") under the National Environmental Policy Act ("NEPA") in order to proceed to a decision to mine. Available water resources must be identified to advance the Langtry Project. In addition, there is a historical mineral resource on the Property, however that has not been confirmed and it is uncertain whether future work will lead to a current mineral resource estimate being declared for the Project. While San Bernardino County is a mining-friendly jurisdiction, California in general is a difficult place in which to pursue mining operations (when compared to neighboring states such as Nevada) due to its more stringent regulatory requirements. There is risk of delay and complication in the acquisition of permits. Furthermore, in 2002 California instituted backfill regulations which may substantially increase reclamation costs.

No formal vegetation or wildlife survey has been completed on the Project. The Project lies within Desert Tortoise (*Gopherus agassizii*) habitat as identified by the San Bernardino County Draft Resource Conservation Investment Strategy (Dudek, 2018). There exists a number of Federal and State statutes that will require stringent measures to mitigate the potential impact on the Desert Tortoise and its habitat. Development and implementation of mitigation plans may result in permitting or operating delays. Until a formal vegetation and wildlife survey is completed, the extent of the impact that this and other species of concern may have on the project is unknown.

In addition to the risks and uncertainties mentioned above, the Property is subject to the typical external risks that apply to all mineral exploration projects, such as changes in metal prices, availability of investment capital, changes in government regulations, community engagement and general environmental concerns. The authors are unaware of any unusual risk factors, other than the ones mentioned above and risks normally associated with mineral exploration, that might affect future exploration work and potential development of the Property.



## 18 RECOMMENDATIONS

Historical exploration has identified the presence of significant silver mineralization located on the Langtry Property. The Property is high-priority for follow-up exploration and an aggressive exploration program is warranted. Confirmed historical and modern drilling on the Property totals 20,710.0 m and will form the basis for the estimation of an initial mineral resource estimate for the Property.

Depending on the proposed activities and their scale, certain permits and approvals for an exploration and development program may be required. Due to the presence of both patented and unpatented lode mining claims comprising the Project, and due to the size of the project, the authors believe that the project will require a full Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) should the company decide to proceed with an application for a Permit to Mine. Baseline environmental data should be collected as soon as possible to support of future permitting activities. Due to the complexity of US mine permitting, this may be the critical path for commercial-scale mining.

Overall, the authors believe that the Langtry Project warrants additional exploration and development investment, the authors recommend a phased approach for future exploration at Langtry that includes:

**Phase 1:** The construction of an initial mineral resource estimate for the Langtry Property based on the significant amount of historical drilling coupled with modern drilling and other exploration data. The initial resource estimate would rely on the validation of the historical drilling database and assay results of confirmation drilling completed by Athena in 2011 (see Section 6.5.3). The historical drilling and exploration data would be validated by a Qualified Person. The initial resource estimate would be completed in accordance with CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 29, 2019 and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated May 10th, 2014 to be reported in accordance with the CSA NI 43-101 rules for disclosure. Additional work required to support the resource estimate will be determined upon a complete review of the historical data by the QP. This work may include 3-D geological modelling, field verification of drilling monuments, and review of prior sample QA/QC methods. The estimation of an initial mineral resource estimate would be a firm foundation for Apollo’s resource base going forward. Additional exploration to be completed concurrently with the resource estimate may include airborne and ground geophysical surveys, geological mapping and sampling along with environmental studies. The cost to complete the Phase 1 program is estimated to be US\$630,000.

**Phase 2:** The Phase 2 program would rely heavily on the results of the Phase 1 program and the recommendations made by the QP for defining and/or modifying the mineral resource estimate. Any additional work recommended by the QP during Phase 1 should be incorporated into Phase 2. The authors of this report are of the opinion that potential recommendations for Phase 2 may include further field verification work, re-assaying of archived historical samples, inspection of RC chips from historical drill holes, metallurgical test work, geotechnical analysis, and completion of new drilling that twins historical holes, as well as infill and exploration drilling. At Langtry prior leach testing had less-than-optimal recoveries, metallurgical testing is recommended to identify the most-economical processing method. This testing should be completed early so the information could be incorporated into any future Preliminary Economic Assessment (PEA). The cost to complete the Phase 2 program is estimated to be US\$1,580,000.

A recommended budget for the two-phase technical program is included as Table 18.1.

**Table 18.1 Recommended budget for Phase 1 and Phase 2 Proposed exploration programs.**

<b>Phase 1 Technical Program</b>	
<b>Activity</b>	<b>Estimated Cost (US\$)</b>
Airborne Geophysics (magnetics) survey, data quality control and inversion	\$125,000
Ground Geophysics survey (induced polarization)	\$125,000
Surface mapping and sampling	\$15,000
Historical Data review and compilation	\$15,000
Environmental Studies	\$50,000
3D Geological modelling and desktop studies	250,000
Maiden Resource Estimate and Reporting	\$50,000
<b>Subtotal</b>	<b>\$630,000</b>

<b>Phase 2 Technical Program</b>	
<b>Activity</b>	<b>Estimated Cost (US\$)</b>
Additional Geological Studies	\$50,000
Drilling - twinning, infill and exploration (4,000 m @ \$240/metre)	\$960,000
Drilling - analytical work (3,000 samples @ \$40/sample)	\$120,000
Re-assaying historic samples	\$75,000
Earthworks	\$25,000
Environmental	\$100,000
Permitting	\$100,000
Metallurgical Studies	\$75,000
Resource Estimation and Reporting	\$75,000
<b>Subtotal</b>	<b>\$1,580,000</b>

<b>Total</b>	<b>\$2,210,000</b>
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## **CERTIFICATE OF QUALIFIED PERSON**

I, Hamid Samari, PhD, of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled “NI 43-101 Technical Report, Langtry Project, California, USA” with an effective date of December 1, 2021 (the “Technical Report”), DO HEREBY CERTIFY THAT:

1. I am currently employed as a senior geologist by Global Resource Engineering, Ltd.
2. I am a graduate of Azad University, Sciences and Research Branch, Tehran and received a PhD in Geology-Tectonics in 2000 and I am a graduate of Beheshti University, Tehran and received a MS in Geology-Tectonics in 1995 and I am a graduate of Beheshti University, Tehran and received a BS in Geology in 1991.
3. I am a Qualified Person under 43-101 because I am registered with the Mining and Metallurgical Society of America (MMSA) with special expertise in Geology with membership number 01519QP.
4. I have practiced in the area of geology, mining, and civil industry for over 23 years. I have worked for Azad University, Mahallat branch, as assistant professor and head of geology department for 19 years, for Tamavan consulting engineers as senior geologist for 12 years, and for Global Resource Engineering for nearly five years.
5. I have read the definition of “qualified person” set out in National instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I visited the Langtry property in February 9, 2021 and prepared geologic maps including formations, lithologies, structures, and mineralization within the property. A few samples of potentially mineralized outcrops and trenches were collected for assay purposes.
7. I am responsible for Sections 7 to 12, and contributed to 1, 17, 18, and 19.
8. I have not previously worked on the Langtry project.
9. I am independent of Apollo Silver Corp. and Stronghold Silver USA Corp. as described in section 1.5 by National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1 and confirm the sections of the Technical Report for which I am responsible (as listed above) have been prepared in compliance with that instrument and form.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.

**Hamid Samari, PhD**

***“Hamid Samari”***

**Director of Geology**

**Global Resource Engineering, Ltd.**

**Denver, Colorado**

**Date of Signing: December 1, 2021**

## **CERTIFICATE OF QUALIFIED PERSON**

I, J. Larry Breckenridge, P.E., of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled "NI 43-101 Technical Report, Langtry Project, California, USA" with an effective date of December 1, 2021 (the "Technical Report"), DO HEREBY CERTIFY THAT:

1. I am currently employed as principal environmental engineer by Global Resource Engineering, Ltd.
2. I am a graduate of Dartmouth College with a degree in Engineering Modified with Environmental Science (BA) and from the Colorado School of Mines with a Masters' degree in Environmental Engineering.
3. I am a Qualified Person under NI 43-101 because I am a registered Environmental Engineer in the State of Colorado, USA, No. 38048.
4. I have practiced in the area of water management, geochemistry, and environmental management -- exclusively for precious and base metals projects for over 25 years. I have worked with Global Resource Engineering in my same role for the last 12 years. I have participated in the permitting process for numerous mines in the United States and in Latin America. I have evaluated geochemical risk for precious metals projects and also performed water availability studies. My most-relevant experience (similar to Langtry) has been the Corani project, a large-tonnage, low-grade silver development project in Peru, which was GRE's flagship client for four years. For this project, I worked on geochemistry, mine water management, pit dewatering, and environmental compliance/permitting.
5. I have read the definition of "qualified person" set out in National instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I visited the Langtry Property on February 9, 2021, and surveyed the site for potential environmental issues, water availability, and geochemistry risks. I supported Dr. Samari as required.
7. I am responsible for Sections 4-6, and contributed to 1, 2, and 15-19.
8. I have not previously worked on the Langtry Property.
9. I am independent of Apollo Silver Corp. and Stronghold Silver USA Corp. and as described in section 1.5 by National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1 and confirm the sections of the Technical Report for which I am responsible (as listed above) have been prepared in compliance with that instrument and form.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.

**Mr. J. Larry Breckenridge, P.E.**

***"J Larry Breckenridge"***

**Principal Environmental Engineer**

**Global Resource Engineering, Ltd.**

**Denver, Colorado**

**Date of Signing: December 1, 2021**