### REVISION HISTORY

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<td>Greg Mosher</td>
<td>Scott Zellerer</td>
<td>Draft report to client.</td>
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GLOSSARY

UNITS OF MEASURE
above mean sea level........................................................................................................ amsl
acre .................................................................................................................................. ac
ampere ............................................................................................................................  A
annum (year) ..................................................................................................................  a
billion ............................................................................................................................... B
billion tonnes.................................................................................................................. Bt
billion years ago............................................................................................................. Ga
British thermal unit ....................................................................................................... BTU
centimetre .....................................................................................................................  cm
cubic centimetre .......................................................................................................... cm³
cubic feet per minute..................................................................................................... cfm
cubic feet per second .................................................................................................... ft³/s
cubic foot ...................................................................................................................... ft³
cubic inch ..................................................................................................................... in³
cubic metre ................................................................................................................... m³
cubic yard ..................................................................................................................... yd³
Coefficients of Variation ............................................................................................ CVs
day ................................................................................................................................. d
days per week .............................................................................................................. d/wk
days per year (annum)................................................................................................. d/a
dead weight tonnes ..................................................................................................... DWT
decibel adjusted .......................................................................................................... dBa
decibel ........................................................................................................................... dB
degree............................................................................................................................ °
degrees Celsius............................................................................................................. °C
diameter ......................................................................................................................... ø
dollar (American)......................................................................................................... US$
metres Baltic sea level ................................................................. mbsl
metres per minute ...................................................................... m/min
metres per second ................................................................. m/s
microns .................................................................................... µm
milligram ................................................................................... mg
milligrams per litre ................................................................. mg/L
millilitre ..................................................................................... mL
millimetre ................................................................................... mm
million ...................................................................................... M
million cubic foot........................................................................ Mft³
million bank cubic metres .................................................. Mbm³
million bank cubic metres per annum............................... Mbm³/a
million tonnes ........................................................................Mt
minute (time) ............................................................................... min
month .......................................................................................... mo
ounce ........................................................................................... oz
pascal ............................................................................................. Pa
centipoise ................................................................................... mPa
d parts per million ................................................................. ppm
parts per billion ........................................................................ppb
percent .......................................................................................... %
pound(s) ....................................................................................... lb
pounds per square inch............................................................... psi
revolutions per minute................................................................. rpm
second (plane angle) ................................................................. "
second (time) ................................................................................... s
short ton (2,000 lb)..................................................................... st
short tons per day ........................................................................ st/d
short tons per year ........................................................................ st/y
specific gravity ................................................................. SG
square centimetre ........................................................................ cm²
square foot .................................................................................... ft²
square inch ................................................................................... in²
square kilometre ........................................................................ km²
square metre ................................................................................ m²
three-dimensional ................................................................. 3D
tonne (1,000 kg) (metric ton) ......................................................... t
tonnes per day ............................................................................. t/d
tonnes per hour ............................................................................. t/h
tonnes per year ............................................................................. t/a
tonnes seconds per hour metre cubed ........................................ ts/hm³
volt .................................................................................... V
week .............................................................................................. wk
weight percent ............................................................................ wt%
wet metric ton ......................................................................................................................... wmt

**ABBREVIATIONS AND ACRONYMS**

AMEC E&C Services Inc. ................................................................................................................ AMEC
Billiton Minerals ....................................................................................................................... Billiton
Bureau of Land Management ...................................................................................................... BLM
global positioning system .......................................................................................................... GPS
Golden Queen Mining Co. Ltd. ..................................................................................................... GQMC
National Instrument 43-101 ...................................................................................................... NI 43-101
North American Datum .............................................................................................................. NAD
Norwest Corporation .................................................................................................................. Norwest
Qualified Person ....................................................................................................................... QP
quartz-alkali feldspar-plagioclase-feldspathoid ....................................................................... QAPF
Shell Mining Co. ........................................................................................................................ Shell
sodium chloride ........................................................................................................................... NaCl
Soledad Mountain Project .......................................................................................................... SMP
Standard Hill Mines Company .................................................................................................... Standard Hill
Standard Hill’s Property ............................................................................................................. the Property
Universal Transverse Mercator .................................................................................................... UTM
1.0 SUMMARY

Standard Hill Mines Company (Standard Hill) is an independent claim holder in Kern County, California. Standard Hill owns the rights to a group of five patented and 14 unpatented mining claims, and 1 fee land, approximately 3 miles south of Mojave, and 65 miles north of Los Angeles, California. The claims were previously mined for gold and silver, including four historically operated underground mines and four open pits that operated from 1987 to 1990.

In December 2013, Tetra Tech was commissioned to complete a technical review of Standard Hill's Property (the Property), in Kern County, California. This report is to comply with disclosure and reporting requirements set forth in National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects, Companion Policy 43-101CP to NI 43-101, and Form 43-101F of NI 43-101.

The objectives of the study are to:

- complete a NI 43-101 compliant technical report on the Property, including a summary of land tenures, exploration and mining history, and drilling.
- provide recommendations for additional work on the Property.

The Qualified Person (QP) responsible for this report is Scott Zellerer, P.Geo., Geologist with Tetra Tech. The site visit was conducted by Mr. Zellerer on January 3, 2014, and was hosted by John Beery of Standard Hill.

1.1 HISTORY

From its discovery in 1894 until underground mining finished in 1956, it is estimated that Standard Hill produced approximately 150,000 oz gold and approximately 500,000 oz silver, from over 15,000 ft of horizontal drifts and stopes to a maximum depth of 900 ft down the dip of the mineralization. During open pit mining by Shell Mining Co. (Shell)/Billiton Minerals (Billiton) from 1987 to 1990 it is estimated an additional 77,500 oz of gold and 258,000 oz of silver were produced. Since 1993 the Property has been leased to Granite Construction of California for the extraction of unmineralized rock.

1.2 GEOLOGY AND MINERALIZATION

Standard Hill lies within the Mojave Mining District, which is part of the Mojave Structural Block. The Mojave block is bordered on the north by the Garlock fault, on the southwest by the San Andreas fault, and to the east by the extension of the Death Valley fault zone. The basement rock consists of quartz-monzonite that was emplaced during the
Cretaceous. The Mojave Mining District consists of a series of rhyolitic prominences that punctuate the mildly undulating alluvial plane and were formed by Early Miocene volcanism. The volcanic centers are associated with the intersections of northeast and northwest trending fracture systems. Mineralization is contained within epithermal alteration zones associated with the volcanic centers.

Standard Hill is closely associated with Soledad Mountain, an extinct caldera 1.5 miles to the south. Mineralization at Standard Hill is contained in quartz-calcite veining which occurs on the contacts between the quartz monzonite basement rock and porphyritic quartz latite intrusions, dikes, and fingers. Mineralization typically consists of disseminated free gold and silver-bearing cerargyrite, as well as various sulphides, contained within the quartz-calcite veining.

1.3 CONCLUSIONS AND RECOMMENDATIONS

Standard Hill is a well-documented, historical producer. It lies within a mining district that has been active for almost 120 years. The Property has not had any exploration activity performed on it since mining was completed in 1990 by Shell/Billiton. Historical records, as well as the exploration database created by Shell/Billiton during its exploration in the 1980s, indicate that the Property still has potential for more economic mineralization. Tetra Tech is of the opinion that the Property, as well as the database, is of sufficient quality to warrant further exploration and/or evaluation.
2.0 INTRODUCTION

Standard Hill is an independent claim holder in Kern County, California. Standard Hill owns the rights to a group of five patented and 14 unpatented mining claims approximately 3 miles south of Mojave, and 65 miles north of Los Angeles, California. The claims were previously mined for gold and silver, including four historically operated underground mines and four open pits operated from 1980 to 1991.

2.1 TERMS OF REFERENCE

In December 2013, Tetra Tech was commissioned to complete a due diligence technical report of the Property, in Kern County, California. This report is to comply with disclosure and reporting requirements set forth in NI 43-101 Standards of Disclosure for Mineral Projects, Companion Policy 43-101CP to NI 43-101, and Form 43-101F of NI 43-101.

The objectives of the study are to:

- complete a NI 43-101 compliant technical report on the Property, including a summary of land tenures, exploration and mining history, and drilling.
- provide recommendations for additional work on the Property.

All data files reviewed for this study were provided by Standard Hill in the form of “.pdf” reports, “.xls” files, “.jpg” or “.tif” images, and “.dwg” AutoCAD drawings. During the site visit, paper copies of maps and historical records were made available.

The QP responsible for this report is Scott Zellerer, P.Geo., Geologist with Tetra Tech. The site visit was conducted by Mr. Zellerer on January 3, 2014, and was hosted by John Beery of Standard Hill.
3.0 RELIANCE ON OTHER EXPERTS

In preparation of this report, Tetra Tech has relied upon others for information. This includes information provided by Standard Hill.

Tetra Tech has relied upon Standard Hill for information on legal issues, including status of ownership associated with patented claims and fee lands of the Property referred to in this report, discussed in Section 4.2.

Other information from third party sources is referenced in Section 19.0. Tetra Tech used this information under the assumption that the content is accurate.
4.0 PROPERTY DESCRIPTION AND LOCATION

The Property is defined by the mineral rights to five patented and 14 unpatented mining claims in Kern County, California. The total area covered by the claims is just under 300 ac (see Table 4.1 and Figure 4.1).

4.1 LOCATION

The Property is located in southern California, USA (Figure 4.1), within the Mojave Mining District (Figure 4.2). It is approximately 65 miles north of Los Angeles, and approximately 3 miles south of the town of Mojave. The previously mined open pits are centered on 35° 0‘25.27”N, 118° 10’18.83”W (Universal Transverse Mercator (UTM) North American Datum (NAD) 83 Zone 11S 393069 m E, 3874449 m N).

Figure 4.1 Location of Standard Hill Property
4.2 LAND HOLDINGS

Standard Hill controls approximately 300 ac of land in the area, consisting of private (fee land and five patented lode mining claims) and federal lands (14 unpatented mining claims) administered by the U.S. Bureau of Land Management (BLM), collectively referred to as the Property. The Property is shown in Figure 4.3. Table 4.1 lists the mining claims and fee lands.

The most recent title search for the Property was conducted in 1983 by Chicago Title Company, during negotiations with Shell to lease the Property for mining. At that time all patented claims and fee lands were verified and in order. Documentation for this title search was not available to Tetra Tech. All unpatented claims have been verified by the
BLM (BLM 2014). Tetra Tech is not aware of any outstanding legal disputes that would materially affect this report.

**Figure 4.3  The Standard Hill Property Claims and Fee Lands (not to scale)**

Source: Adapted from Assessors Map Nos. 427-03 and 427-13, County of Kern, California.
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</tr>
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<td>Exposed Treasure Extension</td>
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<td>CAMC298372</td>
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<tr>
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Since March 1, 1993, the Property has been leased to Granite Construction Company, of California, for the purpose of extracting unmineralized rock. The terms of the lease switched to month-to-month as of March 31, 2013.
5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The Property is located off of Silver Queen Road, a paved county road. The site access road (20th Street or Myers Road) is less than a mile west from the Silver Queen Road exit (Postmile R12.15, Exit 64) off of State Route 14, which is a major highway that connects Mojave, Rosamond, Lancaster, and Palmdale to the greater Los Angeles Area to the south, and to Indian Wells and US Route 395 to the north (see Figure 4.1 and Figure 4.2).

5.2 CLIMATE

The Property is located within the Mojave Desert, and the climate is typical of the westernmost areas of the Mojave. According to the Köppen–Geiger classification it is a cold desert climate (BWk), as the average annual temperature is only 61.7 °F, and it receives on average 6.4 in of precipitation annually. The maximum average monthly temperature is 97 °F (July) and the minimum average monthly temperature is 57.4 °F (December and January). Over 75% of the annual precipitation (5 in on average) falls during the “wet” season from November to March (Climate-Data.org 2014).

5.3 LOCAL RESOURCES

The nearby town of Mojave, with a population of 4,238 (2010 U.S. Census), offers typical services, such as a hospital, ambulance service, fire department, garbage and hazardous waste disposal, schools, motels and housing, and shopping. Mojave is also home to the Mojave Air and Spaceport, the first facility to be licensed as such in the U.S. The facility has a general-use public airport as well as flight testing, space industry development, and aircraft heavy maintenance and storage.

Mojave is a crossroads for several railroad lines. It has a railroad yard located where BNSF Railway’s Barstow line and Union Pacific’s Tehachapi Pass line meet. Additionally, the branch line to Searles leaves the main line at Mojave, eventually connecting with the Trona Railroad (www.trainweb.org 2014).

The Property does receive cellular coverage.
Adjacent to the Property on the east is Recurrent Energy’s Rio Grande Solar Project, a 5 MW solar trough (Kern County 2014). To the north-east and east of the Property are numerous wind turbines which are part of Terra-Gen Power’s Alta Wind Energy Center, which has a rated capacity of 1,020 MW and covers 9,000 ac (CleanEnergy 2014).

5.4 INFRASTRUCTURE

The Property itself is accessible by dirt or gravel access and mining roads. These have been constructed, redirected, and maintained through several mining periods, most recently ending in 1991. There are remnants of past mining operations as well, including various derelict buildings and machine parts. The access roads are maintained to accommodate current operations on the Property, and, due to low erosional rates, mining roads as well as the ramps into the four previously mined open pits are still accessible by four-wheel-drive pick-up truck.

5.5 PHYSIOGRAPHY, FLORA, AND FAUNA

The Standard Hill Butte is located in Antelope Valley, in the southwestern region of the Mojave Desert. It rises to a maximum elevation of 3,128 ft (relative to sea level), about 300 to 400 ft above the desert valley floor. The Antelope Valley itself is typical of the Basin and Range province, consisting mostly of the flat arid plateau, punctuated by abrupt elevation changes to narrow faulted mountain chains or, in the case of Standard Hill, isolated volcanoes, cinder cones, and related buttes.

Vegetation is also typical of the Basin and Range desert valleys, consisting of numerous scrub plants including Creosote, California Scrub Oak, California Juniper, and prominently Joshua trees, as well as various other grasses and wildflowers. It is rare now to see the Pronghorn Antelope for which the valley received its name; however Black bears, Bobcats, and Coyotes are not uncommon, especially in the foothills. Other wildlife consists of typical native Mojave and Basin and Range fauna (Digital-Desert.com 2014).
6.0 HISTORY

The Mojave Mining District is in southeastern Kern County, California. Gold deposits are associated with five prominent buttes south of the town of Mojave and west and north of the town of Rosamond (see Figure 4.2).

The first discovery of gold in the Mojave Mining District occurred in 1894, on Standard Hill (sometimes also referred to as Bowers Hill or Elephant Butte). George Bower’s initial discovery is now called the Yellow Rover vein. Mr. Bower’s gathered and shipped two rail carloads of ore from the surface which was valued at $1,600 in gold and silver. This sparked a rush of activity in the area, and between 1894 and 1901, most of the other major veins in the vicinity had been discovered, including the Exposed Treasure and the Desert Queen (Troxel and Morton 1962).

In 1900, the Exposed Treasure and Yellow Rover mines were consolidated under the Exposed Treasure Gold Mining Co. In 1901, a 20-stamp mill and 60-ton cyanide plant was constructed. From 1903 to 1907, the Exposed Treasure vein is estimated to have produced 1% of the total gold and silver production in the state of California. In 1912, Mojave Consolidated Gold Mines purchased all the mines on Standard Hill and operated them until 1915 (Figure 6.1). In 1921, the newly formed Standard Mining and Milling Co. restarted mining activity, until 1928 when a fire destroyed the mill and surface plant (Panhorst 1989).

Figure 6.1 The Historic Exposed Treasure Mine, circa 1914

Source: Clark (1970)

After the fire, mining was continued on an intermittent basis by lessees who likely shipped the ore south to the Tropico mill. In 1940, Standard Hill Mines Co. purchased the Property and mined it until 1942, when the War Production Board’s limitation order L-208 shut down all non-essential gold mines. In 1946, after the war, mining was again resumed, albeit intermittently, until 1956 (Troxel and Morton 1962). During this time, mining occurred mostly on the Yellow Rover vein.
From 1894 until 1956, it is estimated that Standard Hill produced approximately 150,000 oz gold and approximately 500,000 oz silver. Approximately 70 to 85% of this total is attributed to the Exposed Treasure vein (Panhorst 1989).

The Exposed Treasure vein was mined to the 900-ft level along the dip of the vein, and over 10,000 ft of drifts and stopes were developed. The Yellow Rover/Golden Carrier vein system was mined to 290 ft and 4 levels along the dip of the main mineralization, and over 2,000 ft of horizontal drifts were developed. The Desert Queen vein was mined to the 400-ft level along the dip of the vein and over 3,000 ft of drifts were developed.

In 1980, the Property was leased to Shell/Billiton. From 1983 to 1986, the Property was extensively drilled and mapped. In total, Shell/Billiton drilled 446 drillholes totaling over 95,000 ft in length, and mapped all of the underground mine workings of the Exposed Treasure, Desert Queen, and Yellow Rover mines. By 1987, the necessary permits and mining plans had been finalized. Open pit construction began in March 1987, with the first ore being extracted in May, and the first precious metal pour occurring on July 21, 1987.

Shell/Billiton operated four open pits using conventional drilling, blasting, and mucking procedures. The ore was selectively processed; rounds running 0.026 to 0.032 oz/ton were segregated as low-grade, while those running greater than 0.032 oz/ton were sent for processing. High-grade ore was crushed to a size of \( \frac{3}{8} \) in using a jaw, cone, and roll crusher system, at a rate of approximately 2,000 tons/d. This material was then agglomerated with cement and stacked in 30 ft high heaps using a radial arm stacker. A sodium cyanide solution was used to dissolve the gold and silver. Leaching took approximately six months and achieved estimated recoveries of 70% for gold and 60% for silver. Tanks of activated carbon in a portable process plant were used to recover the precious metals from the cyanide solution. The barren cyanide solution was pumped back to the heap, creating a closed loop.

It is estimated that Shell/Billiton extracted approximately 77,500 oz of gold and 258,000 oz of silver. Open pit mining was completed in 1990, and the heap leach was decommissioned in 1991. Shell/Billiton left behind low-grade stockpiles as well as the heap leach mound, however volumes or tonnages for these were not available to Tetra Tech. At mine closure Shell/Billiton reported remaining gold and silver resources to be 100,000 oz and 200,000 oz (John Beery, personal communication, December 11, 2013), respectively. These estimates have not been verified by Tetra Tech and are not compliant in accordance with NI 43-101. A QP has not performed the necessary verification in order to classify this as a current mineral resource.

Since March 1, 1993, the Property has been leased to Granite Construction, who has been extracting rock (unmineralized altered quartz latite) from the Property and maintaining access.
7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The Mojave Desert lies within one of the most diverse and complex geological regions in North America. It is part of the Basin and Range Province that makes up much of the southwestern US and northwestern Mexico. The Mojave itself is defined tectonically and is bordered by the Garlock fault to the north, the San Andreas fault to the southwest, and the southern extension of the Death Valley fault zone to the east (Figure 7.1) (Walker et al. 2002).

The basement Precambrian rocks of the Mojave are generally either ca. 1700 Ma or ca. 1400 Ma metamorphic rocks of greenschist- to amphibolite-facies. Overlying the basement are the earliest Phanerozoic rocks observed in the region: miogeoclinal-cratonal sediments of Cambrian-Lower Permian age. Unconformably adjacent to these are eugeoclinal sediments of similar age. Permian-Triassic plutonic rocks intrude both the miogeoclinal and the eugeoclinal assemblages. During the Triassic-Jurassic, marine sediments and various volcanic and epiclastic strata were deposited. During later Jurassic-Cretaceous, the region was at the heart of a magmatic arc, causing widespread volcanism and batholith emplacement, including the quartz-monzonite that forms the basement in the western Mojave. During this period, a strike-slip truncation of the continental margin caused it to convert from a passive margin to an active subduction zone. This was accompanied by late-stage contractional deformation and igneous activity (Walker et al. 2002).

During the Cenozoic period, three important types of deformation have occurred. During early Miocene time, large-scale, north-east directed extension occurred in the central Mojave, locally coincident with clockwork rotation. Extensional faulting also led to volcanic and epiclastic activity (Walker et al. 2002). During late Miocene time strike-slip faulting along northwest striking dextral faults began. In addition, since the Miocene, north-south shortening of the region has also played an important role, evidenced by contractional faulting and folding (Schermer et al. 1996).
Figure 7.1  Regional Geology Map of the Western Mojave Desert

Source: Jennings et al. (2010)
7.2 **District Geology**

The Mojave Mining District lies near the western tip of the wedge-shaped Mojave structural block. The Mojave Mining District is made up of a series of prominences that rise up from the mildly undulating alluvial plane that were formed by Cenozoic aged volcanism of rhyolitic composition. This volcanism has been associated with north-east directed extension which occurred in the early Miocene. The volcanic centres are associated with the intersections of northeast and northwest trending fracture systems, and generally consist of initial widespread sheet flows and pyroclastics of quartz latite, followed by restricted centres of rhyolitic flows and rhyolite porphyry intrusives. Extensional terranes typically promote increased hydrothermal activity, due to the increased geothermal heat flow, which in turn promotes hydrothermally driven alteration and mineralization of metals. The volcanic rocks in the Mojave Mining District are typically altered meso- to epithermally, and contain abundant hydrothermal fracturing in the form of breccias and quartz veining (Ennis and Hertel 2012 after SRK 2006).

7.3 **Deposit Geology**

Standard Hill is associated tectonically and geologically with Soledad Mountain, 1.5 miles to the south. Soledad is a typical volcanic centre in the Mojave Mining District, with a basement of quartz monzonite overlain by quartz latite flows and pyroclastics, intruded by isolated centres of rhyolite flows and rhyolite porphyry intrusives. Soledad has extensive gold and silver mineralization occurring in low-sulphidation quartz-adularia veins and stockworks (GQM 2012 after GQM 2006).

The intrusives of Standard Hill are identified as part of the Bobtail Member, belonging to the Gem Hill Formation, itself a member of the Tropico group. These are dated as middle-Miocene in age and are related to the volcanic activity centred at Soledad Mountain (Panhorst 1989).

Standard Hill is formed by a main intrusion of northwest trending funnel-shaped brown porphyritic quartz latite, surrounded by smaller dikes and fingers of similar porphyry. The main intrusion has in places been fissured and re-silicified (De Kalb 1907), forming a bluish, porcelain-like texture. The resistive nature of the latite, and in particular the altered latite, has caused the topographic prominence of the butte. The lattes intrude into the Cretaceous-aged quartz monzonite, which has a light to medium grey colour, and is medium-grained. The contacts between the lattes and the monzonite are typically sharp, with occasional narrow chill margins in the latite. Quartz-calcite veins trend north to northwest and dip moderately to the east. The veins occur most commonly at or near the contact of the monzonite and latite. The contacts of the veins are usually sharp and visibly distinct (Panhorst 1989).

The monzonite disintegrates into typical light brown clays and other rock fragments, and is mixed with the alluvial sediments of the valley to form the overburden typical of the area. Where exposed on the hill, the monzonite has been extensively altered to saprolite by exposure.
7.4 MINERALIZATION

As noted above, quartz-calcite veins trend north to northwest in conjunction with the contacts between quartz latite intrusions and the basement quartz monzonite. These epithermal fissure veins contain almost all mineralization on Standard Hill. The principal veins, from west to east, are the Exposed Treasure, the Yellow Rover, and the Desert Queen, separated by several hundred feet. Between these veins, notably between the Exposed Treasure and Yellow Rover, there exist multiple smaller veins, mineralized and otherwise (Troxel and Morton 1962).

7.4.1 EXPOSED TREASURE VEIN

Previous to open pit mining, the Exposed Treasure vein outcropped on the east flank of a small ridge on the southwest part of Standard Hill, as well as along the west side of the main body of the hill. At surface, the southeastern portion of the vein struck north 15° west and dipped 40° northeast. The northwest portion of the vein swung sharply west over the ridge then struck north 45° west along the northwest flank of the hill, before swinging almost due north at its northernmost exposure. The dip ranges from 60° northeast at the maximum, to a minimum of 28° northeast at the 900 level in the underground mine workings, with an average of approximately 40° at surface. The vein was exposed for more than 3,000 ft on surface, has been explored to greater than 900 ft down dip, and ranges 2 to 20 ft in width, averaging approximately 6 ft (Troxel and Morton, 1962 after Julihn and Horton, 1937).

In the southern portion of the vein, quartz latite porphyry forms the hanging wall and the footwall is quartz monzonite, however the latite is again encountered 10 ft into the footwall. Between the 100 and 400 levels the contact is reversed, with monzonite on the hanging wall and latite on the footwall. Below the 400 level quartz monzonite forms both walls of the vein. The mineralization of the Exposed Treasure vein consists primarily of silver-bearing cerargyrite and finely disseminated free gold. The precious metals occur in a gangue of altered wall rock and quartz with smaller quantities of pyrite, arsenopyrite, calcite, galena, cerussite, chalcopyrite, bornite, azurite, and malachite (Troxel and Morton 1962 after Julihn and Horton 1937).

7.4.2 YELLOW ROVER VEIN

Previous to open pit mining, the Yellow Rover vein outcropped 930 ft northeast of the Exposed Treasure vein, along the western side of a north-trending ridge. It struck north 5° west with a dip of 60° northeast. Quartz latite forms the hanging wall and quartz monzonite the footwall. The vein could be traced for more than 1,000 ft on surface, has been explored to a depth of 300 ft down dip, and ranges in width from 1 to 3 ft. The composition is similar to that of the Exposed Treasure, however the fault itself can be divided into four parts: a hanging wall shear zone (1 to 2 ft wide) of fine gouge; an intermediate zone (3 to 5 ft wide) of decomposed but mostly unsheared footwall material; a mineralized zone (1 to 3 ft wide) of similar minerals as the Exposed Treasure; and a brecciated footwall zone (5 to 10 ft wide) consisting of clay- to boulder-sized
fragments, including some quartz fragments (Troxel and Morton 1962 after Julihn and Horton 1937).

7.4.3 DESERT QUEEN VEIN

Previous to open pit mining, the Desert Queen vein outcropped 550 ft east of the Yellow Rover shaft along the northeast flank of Standard Hill. It struck north 15° east and dips about 70° southeast. Quartz latite porphyry forms the hanging wall and quartz monzonite the footwall, from surface to the 300 level, below which both walls are quartz monzonite. The vein could be traced on surface for 800 ft, was explored to a down-dip depth of 400 ft, and ranges in thickness from 2 to 6 ft. The composition differs from the Exposed Treasure and the Yellow Rover, consisting mostly of coarsely crystalline calcite heavily stained with manganese oxides and hydrous iron oxides. Free gold is finely disseminated in lenticular quartz strings within the calcite, accompanied by pyrite, arsenopyrite, and other sulphides (Troxel and Morton 1962 after Julihn and Horton 1937).
8.0 DEPOSIT TYPES

The mineralization at Standard Hill is classified as a (possibly alkalic-type) low-sulphidation epithermal gold/silver deposit. This classification is based on that set out by Sillitoe and Hedenquist (Hedenquist et al. 2000; Sillitoe and Hedenquist 2003) as summarized by Gemmell (Gemmell 2009), and based on sulphidation states and mineral assemblages of observed hypogene sulphide assemblages.

Low-sulphidation deposits contain pyrite-pyrrhotite-arsenopyrite and high-iron sphalerite, while intermediate-sulphidation epithermal deposits tend to contain pyrite-tetrahedrite/tennantite-chalcopyrite and low-iron sphalerite. Abundant arsenopyrite, as well as some chalcopyrite, has been described in the mineralized zones of Standard Hill (Troxel and Morton 1962 after Julihn and Horton 1937). Additionally, alkalic-type deposits typically occur adjacent to or within alkalic volcanic structures, such as calderas; the extinct caldera at Soledad Mountain and related diatremes and flows appears to match this description, and support this classification. Rock types are described as latites and monzonites, which fall somewhere between sub-alkaline and alkaline according to quartz-alkali feldspar-plagiochlor-feldspathoid (QAPF) classification (Le Bas and Streckeisen 1991), so the deposit(s) are more likely a composite of the alkalic-type and traditional low-sulphidation epithermal deposits.

Classic examples of low-sulphidation epithermal deposits are the Hishikari and Kushikino in Japan, and the Round Mountain, McLaughlin, Midas, Bullfrog, and Sleeper in the US; classic examples of intermediate-sulphidation epithermal deposits include the Victoria in the Philippines, and the Creede and Comstock Lode in the US; and finally, classic examples of the alkalic-type low-sulphidation epithermal deposits are the Cripple Creek in Colorado and the Emperor in Fuji (Gemmell, 2009) Global distribution of major epithermal deposits, with alkalic-type low-sulphidation deposits highlighted, is shown in Figure 8.1.
Source: After Simmons et al. (2005)
Note: Major epithermal deposits in yellow; major alkalic-type low-sulphidation deposits in red and labelled: CC - Cripple Creek, Em - Emperor, Hi - Hishikari, Ke - Kelian, La - Ladolam, Mc - McLaughlin, Pa - Pachuca-Real del Monte, Po - Pergera, and RM - Round Mountain.

### 8.1 CHARACTERISTICS

The following summary of the deposit characteristics are paraphrased from Gemmell 2009.

Low-sulphidation deposits are associated with subaerial bimodal (basalt-rhyolite) volcanic suites in a broad range of extensional tectonic settings; however some intermediate-sulphidation deposits are associated with rhyolitic volcanic activity. A subset of low-sulphidation deposits is associated with extensional-related, alkaline magmatism, and is hosted within or adjacent to alkalic intrusive rocks and related volcanic structures (such as diatremes or calderas). Typically this subset occurs closer to the magma source than its calc-alkaline brethren. Regardless, all low-sulphidation epithermal deposits are typically associated with modern and ancient subduction-related environments, particularly surrounding the Pacific tectonic region (see Figure 8.1).

Gold and silver are the main metals in low-sulphidation deposits, with lesser amounts of zinc, lead, copper, molybdenum, arsenic, antimony, and mercury. Typically, silver content is one to two orders of magnitude greater than gold content. Mineralization is hosted by vein, stockwork, breccia, or disseminated form, depending on host rock and structural setting. Economic mineralization may occur from surface to depths of up to 3,000 ft, and extend for up to 10,000 ft along strike. Typical depths are about 1,000 ft with areal extents ranging from several hundred acres to greater than 50,000 ac in the largest deposits.
Alteration consists of broad propylitic (chlorite, calcite +/- epidote) at deep levels, giving way to increasing amounts of clay, carbonate, and zealoites at lower levels. Proximal to the mineralized ore bodies, alteration minerals include quartz, adularia, illite, and pyrite. The size of the halos is variable form deposit to deposit, with the mafic- to intermediate-hosted deposits displaying much more prominent distal propylitic alteration than the felsic-hosted deposits. Depending on the system and levels of erosion, supergene advanced argillic alteration can occur above the sulphidation system.

Low-sulphidation deposits are formed by circulating hydrothermal fluids of variable salinities, but generally near-neutral pH. Low-sulphidation deposits tend to have salinities less than 5 wt% sodium chloride (NaCl), intermediate-sulphidation deposits tend to range from 0 to 20 wt% NaCl, and alkalic-type tend to range from 0 to 10 wt% NaCl. Typically alkalic-type deposits have a greater input of magmatic fluids than calc-alkaline deposits, which follows from their proximity to the magmatic source. Studies of modern geothermal systems suggest that boiling and fluid mixing play key roles in the deposition and concentration of precious metals in epithermal deposits. Figure 8.2 displays a generic cross-section of a low-sulphidation epithermal deposit.

**Figure 8.2** Generic Cross-section through a Low-sulphidation Epithermal Deposit

Source: Adapted from Camprubí and Albinson (2007)
9.0 EXPLORATION

There is no current exploration to report on the Property.
10.0 DRILLING

There is no current drilling to report on the Property.
11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

There is no current sampling to report on the Property.
12.0 DATA VERIFICATION

Information provided to Tetra Tech by Standard Hill was in the form of “.jpg” figures, “.pdf” reports, paper copies of reports, “.xls” files for drill logs, and “.dwg” files for topography, underground workings, and site layout.

12.1 SITE VISIT

On January 3, 2014, the Tetra Tech site visit was conducted by Scott Zellerer, P.Geo., and was hosted by John Beery of Standard Hill. Global positioning system (GPS) measurements were taken with a Garmin GPSMAP® 60CSx handheld GPS unit.

The Property was visited, including all four open pits and the heap leach mound (Figure 12.2 to Figure 12.6). Drillholes were not cased, so at surface there is no longer any evidence of their locations, however one drillhole was GPS surveyed where it intersected a bench in the Exposed Treasure pit. Unfortunately, due to the depth and pit walls, the accuracy of the GPS unit was decreased; however hole DH-217 does intersect the pit within the range of accuracy of the GPS unit. A GPS track was also recorded in order to verify the locations of the pits and the general layout of the site (Figure 12.1). GPS measurements were also taken of the heap leach mound in order to estimate its extent.

Evidence of the historical underground mining is evident as well. In addition to the derelict buildings and machinery around the site, and the abandoned head-frames, stopes and drifts are visible where they have been intersected by later open pit mining. The most prominent is in the Exposed Treasure Pit, where a drift and stope from the 300 ft level of the Exposed Treasure Mine intersect the pit (Figure 12.7).

The site is currently leased to Granite Construction and there is evidence of their work on the Property (see Figure 12.1, fresh rock visible north of the Exposed Treasure Pit). They are extracting rock to the north and above the Exposed Treasure Pit. This rock corresponds to and is described as altered quartz latite in Section 7.2.

Following the last period of mining, exact records are not available for the amount of low-grade material or heap leach residue that was left behind. Using GPS measurements, Tetra Tech calculated an estimated volume of the heap leach mound to be 24 to 30 Mft³. The low-grade stockpiles that were left behind are irregular and therefore difficult to estimate. Based on topographic information from before and after open pit mining, they may be 20 to 30 Mft³.
Figure 12.1  
3D View of the Standard Hill Mine, with GPS Track, Looking Down to the Northwest
Figure 12.2  Exposed Treasure Pit, Looking Southeast

Figure 12.3  Exposed Treasure Extension Pit, Looking East
Figure 12.4  Desert Queen Pit, Looking North

Figure 12.5  Yellow Rover Pit, Looking North
Figure 12.6  Heap Leach Mound, Looking Northeast
Figure 12.7 Intersection of 300 ft Level Stope in the Exposed Treasure Pit, Looking West
12.2 DATABASE VERIFICATION

All available data was imported into CAE Studio 3.22.151.0 software in order to visualize the data, as well as verify locations using imported GPS coordinates from the site visit. AutoCAD drawing files of the topography were available for pre-excavation of the open pit mining (Figure 12.8), as well as post-mining (Figure 12.9). Additionally, AutoCAD drawing files of all drillholes, as well as excel files of the collar and assay information were available. Assay certificates were also made available to Tetra Tech. Assays for the Shell/Billiton drilling were sent to Barringer Resources, in Nevada, for silver and gold fire assay. Tetra Tech checked several holes and found all assays recorded in the excel database matched those reported in the assay certificates. Overall the database is of consistently good quality, except where data gaps exist. Of the 446 holes recorded, there are 12 holes which are missing collar information, and 72 holes which are missing assay information. The assay database contains 15,027 gold assays and 10,818 silver assays. Statistics are shown in Table 12.1.

Historic underground and open pit mining layouts are also recorded in AutoCAD drawing files. Tetra Tech has converted these to 3D polylines and wireframes for visualization purposes. Figure 12.10 shows a 3D view of the Standard Hill Property displaying 3D drillholes (with assay legend) and 3D underground workings. Drillhole lines were scaled to highlight high grade samples from the assay database. In total there are 22 samples grading higher than 0.5 oz/st gold, and 165 samples grading higher than 0.5 oz/st silver.

Table 12.1 Assay Statistics

<table>
<thead>
<tr>
<th>Metal</th>
<th>No. of Samples</th>
<th>No. of Trace (0) Values</th>
<th>Minimum (oz/st)</th>
<th>Maximum (oz/st)</th>
<th>Mean (oz/st)</th>
<th>Variance</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>15,027</td>
<td>8,783</td>
<td>0.00</td>
<td>4.60</td>
<td>0.010</td>
<td>0.003</td>
<td>0.058</td>
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<tr>
<td>Silver</td>
<td>10,818</td>
<td>4,859</td>
<td>0.00</td>
<td>28.50</td>
<td>0.056</td>
<td>0.21</td>
<td>0.46</td>
</tr>
</tbody>
</table>
Figure 12.8  3D View of the Standard Hill Property, circa 1978, with Drillholes, Looking Down to the North

Figure 12.9  3D View of the Standard Hill Property, circa 2014, with Drillholes, Looking Down to the North
Figure 12.10  3D View Looking Northwest of the Standard Hill Property, Displaying 3D Polylines of the Historic Underground Workings (in green) and Drillholes (scaled and coloured on gold grade)
13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

There is no current metallurgical test work on the Property.
14.0 MINERAL RESOURCE ESTIMATES

There are no current Mineral Resource estimates on the Property.
15.0 ADJACENT PROPERTIES

The Property lies within the Mojave Mining District, and so there are numerous historical properties in the vicinity (see Figure 4.2), discussed earlier in Section 6.0. The closest historical properties are those on Soledad Mountain, which was consolidated beginning in 1985 under Golden Queen Mining Co. Ltd. (GQMC) and renamed the Soledad Mountain Project (SMP).

SMP is located 1.5 miles south of Standard Hill, on the south side of Silver Queen Rd (see Figure 4.2 and Figure 15.1). SMP is a gold-silver project consisting of 33 patented lode mining claims, 122 unpatented lode mining claims, 1 patented millsite claim, 6 unpatented millsite claim, 1 unpatented placer claim, and 897 acres of fee land (Ennis & Hertel 2012). SMP has been advanced to the infrastructure construction phase (GQMC Website 2014).

Figure 15.1 View of Soledad Mountain Project from Standard Hill

In October 2012, a feasibility study produced by Norwest Corporation (Norwest) and AMEC E&C Services Inc. (AMEC) was filed for the SMP (Ennis & Hertel 2012). This had several key outcomes quoted below:

- Total Proven and Probable Mineral Reserves of 66,808 ktons grading 0.0188 oz/ton Au and 0.343 oz/ton Ag.
• **Capital cost of US $119 million.**

• **Operating costs of $32 million per year; $7.58 per ton leached**

• **The pre-tax net present value (NPV) at 8 percent discount rate is $787 million and the internal rate of return (IRR) is 82.9 percent.**

• **Payback for the Project is less than two years on an after-tax basis.**

The SMP will use conventional open pit mining methods, and process mined material using a cyanide heap leach and Merrill-Crowe processes for gold and silver recovery (Ennis & Hertel 2012).

The latest resource estimate (effective February 29, 2012) is displayed in Table 15.1, and the latest reserve estimate (effective August 31, 2012) is displayed in Table 15.2.

**Table 15.1 Soledad Mountain Project Mineral Resource Estimates**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnes</th>
<th>Ton</th>
<th>In Situ Grade</th>
<th>Contained Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>g/t</td>
<td>oz/ton</td>
</tr>
<tr>
<td>Measured</td>
<td>26,727,000</td>
<td>29,400,000</td>
<td>0.850</td>
<td>0.025</td>
</tr>
<tr>
<td>Indicated</td>
<td>118,090,000</td>
<td>129,900,000</td>
<td>0.442</td>
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<tr>
<td>Total &amp; Average</td>
<td>144,817,000</td>
<td>159,300,000</td>
<td>0.517</td>
<td>0.015</td>
</tr>
<tr>
<td>Inferred</td>
<td>14,545,000</td>
<td>16,000,000</td>
<td>0.362</td>
<td>0.011</td>
</tr>
</tbody>
</table>

Source: Ennis & Hertel (2012)

**Table 15.2 Soledad Mountain Project Mineral Reserve Estimates**

<table>
<thead>
<tr>
<th>Reserve Category</th>
<th>Tonnes</th>
<th>Ton</th>
<th>In Situ Grade</th>
<th>Contained Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>g/t</td>
<td>oz/ton</td>
</tr>
<tr>
<td>Proven</td>
<td>18,371,000</td>
<td>20,250,000</td>
<td>0.910</td>
<td>0.027</td>
</tr>
<tr>
<td>Probable</td>
<td>42,237,000</td>
<td>46,558,000</td>
<td>0.529</td>
<td>0.015</td>
</tr>
<tr>
<td>Total &amp; Average</td>
<td>60,608,000</td>
<td>66,808,000</td>
<td>0.644</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Source: Ennis & Hertel (2012)

SMP has a planned 15-year mine life (Ennis & Hertel 2012). Currently the Project is fully permitted, and the mine is scheduled to be commissioned in 2015 (GQMC Website 2014).

The preceding information has not been verified by Tetra Tech, and is not necessarily indicative of the mineralization on the Property which is the subject of this technical report.
16.0 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant information to this report.
17.0 INTERPRETATIONS AND CONCLUSIONS

The Property is located in Kern County, California, approximately 3 miles south of Mojave and 65 miles north of Los Angeles. The Property is defined by five patented and 14 unpatented claims, as well as 1 fee land, comprising approximately 300 ac. The Property has a well-documented history of production, both underground (from 1894 to 1956) and open pit (from 1987 to 1990). It lies within a mining district that has seen mining activity for almost 120 years, including active properties such as the Soledad Mountain Project 1.5 miles to the south.

Gold mineralization is associated with epithermal, fault-controlled quartz-calcite veining. The host rocks are Miocene-aged rhyolitic-trachytic volcanics and intrusives which have intruded into Cretaceous-aged quartz monzonites. Mineralization has been explored to depths of up to 900 ft down-dip, with widths of 2 to -20 ft and lateral extents of up to 3,000 ft. Underground mining on the Property included three separate sets of workings operated on three adjacent vein systems. Open pit mining includes four separate pits operated on the same three vein systems.

The Property has not had any exploration activity performed on it since mining was completed in 1990 by Shell/Billiton. They reported resources of 100,000 oz gold and 200,000 oz silver at mine closure (John Beery, personal communication, December 11, 2013). Tetra Tech has not verified these estimates and they are not compliant in accordance with NI 43-101. A QP has not performed the necessary verification in order to classify this as a current mineral resource.

Tetra Tech is of the opinion that historical records, as well as the exploration database created by Shell/Billiton during its exploration in the 1980s, indicate that the Property still has potential for more economic mineralization. Tetra Tech is also of the opinion that the Property, as well as the database, is of sufficient quality to warrant further exploration and/or evaluation by interested parties.
18.0 RECOMMENDATIONS

Tetra Tech has no meaningful recommendations to include at this time. It should be noted that in order to estimate a NI 43-101 compliant resource, further drilling would need to be completed to verify the drilling completed by Shell/Billiton. As Standard Hill is not listed on the Toronto Stock Exchange as an issuer, it is under no requirement to complete such an estimate or comply with NI 43-101 standards for any estimations or evaluations it should undertake on the Property.
19.0 REFERENCES


WEBSITES


20.0 CERTIFICATE OF QUALIFIED PERSON

I, Scott Zellerer, B.Sc., P.Geo., of Toronto, Ontario, do hereby certify:

- I am a Geologist with Tetra Tech WEI Inc. with a business address at Suite 200, 350 Bay Street, Toronto, Ontario, M5H 2S8.


- I am a graduate of Carleton University (B.Sc. Honours, 2008). I am a member in good standing of the Association of Professional Engineers and Geoscientists of Ontario, License #2078. My relevant experience is more than five years working in mineral exploration, operational mining, and mineral project assessment, including: five months working underground in a producing gold mine, which contains structurally controlled gold-bearing quartz veins, similar to the Project; three years working in exploration including a structurally controlled gold deposit; and two-plus years modelling, estimating, and evaluating mineral properties including several gold deposits. I am a “Qualified Person” for the purposes of National Instrument 43-101 (the “Instrument”).

- My most recent personal inspection of the Property was January 3, 2014 for one day.

- I am responsible for Sections 1.0 to 20.0 of the Technical Report.

- I am independent of Standard Hill Mines Company as defined by Section 1.5 of the Instrument.

- I have no prior involvement with the Property that is the subject of the Technical Report.

- I have read the Instrument and the Technical Report has been prepared in compliance with the Instrument.

- As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 6th day of February, 2014 at Toronto, Ontario.

Original document signed and sealed by
Scott Zellerer, B.Sc., P.Geo.
Geologist
Tetra Tech WEI Inc.