Frank Lewis

ORE RESERVES

GENERAL:

Ore reserves of the Treasure City Project have been estimated from information revealed by surface exposures, underground workings, percussion drilling, extensive sampling of stockpiles at the surface, and various measurements and surveys of mineralized and stockpiled areas.

The reserves in the vicinity of the Hidden Treasure and Bullion claims were defined by percussion drilling, with samples on four foot intervals in a 5½ inch diameter hole, and calculated from blocks constructed on drill hole cross sections (See Map CC-H-2 and CC-B-2) as shown on Maps CC-B-1, CC-H-1, and CC-G-1, and discussion below. Reduced copies of the cross sections and plan view maps are enclosed with this report.

DEFINITIONS:

The terms of reference utilized in the present estimate of ore reserves in the Treasure City Project apply to that portion of the property that has been drilled, or sampled, and should not be considered as limiting the ultimate potential of the deposits. Less than 5 % of the favorable region has been studied, and only four areas drilled, and in no case has the final limits of ore been found in the drilled areas. Exploration drilling was terminated when it was certain that the basis for a long term program of mining and milling was justified and sufficient reserves had been established to provide the economic and profitable basis for the operation. Final drilling for engineering purposes in those areas reserves have now been established can be conducted after the exploitation of surface stockpiles requires mining to commence. Future exploration can best be undertaken out of future earnings rather than an investment in the ground at this time when mining may not occur for several years, or until the surface stockpiles have been exhausted.

It is quite certain that additional reserves will be found within the property area and peripheral to the known areas as well. Deep ore zones are also expected, but for the purpose of this report only the stockpiles that have been sampled, and areas that have been drilled are involved in the current computations.

ORE CLASSIFICATIONS:

Reserves are normally classed as PROVEN, PROBABLE, AND POSSIBLE.

Ore Reserves and limits have been developed from assay data of stockpile areas and from drill hole data as defined herewith, with occasional modification based on geological inference:

ORE RESERVES

SUMMARY:

MINEABLE RESERVES

CLASS: PROVEN STOCKPILES

PROVEN:	TONS
HIDDEN TREASURE	165,000
BULLION	10,000
GENESEE	150,000
HEMLOCK	30,000
POGONIP	50,000
CHARTER OAK	25,000
TOTAL:	410,000

PROVEN-SUBSURFACE

PROVEN:	
HIDDEN TREASURE	300,000
BULLION	100,000
TOTAL:	400,000
PROVEN TONNAGE:	810,000

CLASS: PROBABLE:

GENESEE	300,000
LOU CLAIMS	50,000
CHARTER OAK	300,000
PROBABLE TONNAGE: TOTAL:	650,000

CLASS: INFERRED:

GENESEE	300,000
SILVER KING-STOCKPILES	500,000
SILVER KING-SUBSURFACE	500,000
STAFFORD	100,000
INFERRED TONNAGE: TOTAL:	1,400,000

TOTAL PROVEN AND PROBABLE: TONS: 1,460,000

TOTAL PROVEN-PROBABLE-INFERRED: TONS: 2,860,000

SECTION 5

ORE RESERVES

SILVER MINERALS

Native Silver	Ag
Amalgam	(Ag,Hg)
Dyscrasite	Ag_3Sb
Cocinerite	(Cu_4AgS)
Stutzite	Ag_4Te
Naumannite	(Ag_2,Pb)Se
Argentite	Ag_2S
Hessite	Ag_2Te
Petzite	$(Ag,Au)_2Te$
Aguilarite	$Ag_2(S,Se)$
Eucairite	$Cu_2Se.Ag_2Se$
Crookesite	$(Cu,Tl,Ag)_2Se$
Stromeyrite	$(Ag,Cu)_2S$
Acanthite	Ag_2S
Sternbergite	$Ag_2S.Fe_4S_5$
Sylvanite	$(Au,Ag)Te_2$
Krennerite	$(Au,Ag)Te_2$
Muthmannite	(Ag,Au)Te
Trechmannite	$Ag_2S.As_2S_3$
Andorite	$2PbS.Ag_2S.3Sb_2S_3$
Hutchinsonite	$PbS.(Tl,Ag)_2S.2Sb_2S_3$
Miargyrite	$Ag_2S.Sb_2S_3$
Smithite	$Ag_2S.As_2S_3$
Matildite	$Ag_2S.Bi_2S_3$
Aramayoite	$Ag_2S.(Sb,Bi)_2S_3$
Fizelyite	$5PbS.Ag_2S.4Sb_2S_3$
Ramdohrite	$3PbS.Ag_2S.3Sb_2S_3$
Schirmerite	$3(Ag_2,Pb)S.2Bi_2S_3$
Benjaminite	$(Cu,Ag)_2S.2PbS.2Bi_2S_3$
Owyheeite	$8PbS.2Ag_2S.5Sb_2S_3$
Schapbachite	$PbS.Ag_2S.Bi_2S_3$
Freislebenite	$5(Pb,Ag_2)S.2Sb_2S_3$
Diaphorite	$5(Pb,Ag_2)S.2Sb_2S_3$
Pyrargyrite	$3Ag_2S.Sb_2S_3$
Proustite	$3Ag_2S.As_2S_3$
Pyrostilpnite	$3Ag_2S.Sb_2S_3$
Samonnite	$2Ag_2S.MnS.Sb_2S_3$
Xanthoconite	$3Ag_2S.As_2S_3$
Sanguinite	$3Ag_2S.As_2S_3$
Tapalpite	$3Ag_2(S,Te).Bi_2(S,Te)_3$
Lengenbachite	$6PbS.Ag_2S.2As_2S_3$
Stephanite	$5Ag_2S.Sb_2S_3$
Polybasite	$9Ag_2S.Sb_2S_3$
Pearceite	$9Ag_2S.As_2S_3$
Polyargyrite	$11Ag_2S.Sb_2S_3$
Ultrbasite	$28PbS.11Ag_2S.3GeS_22Sb_2S_3$
Argyrodite	$4Ag_2S.GeS_2$
Canfieldite	$44Ag_2S.SnS_2$
Cerargyrite	AgCl
Embolite	Ag(Br,Cl)
Bromyrite	AgBr
Iodobromite	2AgCl.2AgBr.AgI
Miersite	4AgI.CuI
Iodyrite	AgI
Argentojarosite	$Ag2Fe6(OH)_{12}(SO_4)4$
Jalpaite	$3Ag_2S.Cu_2S$
Aurorite	$(Ag_2Ba,Ca,Pb,K_2,Cu,Mn^{+2})Mn_3^{+4}O_7.3H$

The Bulletin (No. 57) by Humphrey contains short summaries on most of the important mines, along with some plan view maps. In addition to this available material the June 1909 report by W. S. Larsh on MINING AT HAMILTON, NEVADA, and the 1970 report by Roscoe M. Smith, TREASURE HILL REINTERPRETED, are included within this SECTION. While providing additional geological details, the data is more historical than useful from an exploration standpoint.

A compilation of geological observations and aspects of the new interpretation will be compiled for a future report as the on-going activity accrues more details. Both of the cross sectional studies advanced and conjectured by Humphrey and Larsh are suggestive, but do not come close to the reality of the subsurface, structural, and igneous situation as it exists.

Because of the new interpretation and all out effort to close in on open ground and to acquire essential packages of claims has been made and with good success, most of the important ground has not been acquired except for some Silver King MInes, Inc. holdings on Treasure Hill, which is now being negotiated for.

PARAGENETIC SEQUENCE

The following Paragenetic sequence will be confirmed and modified as work continues in the area:

1. Westward extension of the late Nevadan Orogeny into the Basin and Range with Nevadan granodiorites invading local areas.

2. Magmatic zone developed in the Hamilton area, with early Nevadan granodiorites and later Quartz Monzonitic intrusives generated.

3. Magmatic stoping and rising, starting in the Monte Cristo region in the Nevadan time and extending into Laramide time (late Cretaceous and early Tertiary)

4. Magmatic intrusion of the Treasure Hill Paleozoic sediments by a rising block of acidic intrusives lifting the sedimentary block upward into a dome.

5. Fracturing, axial and radially, silicification upward and into rocks along structural paths.

6. Magma continues to rise, uplifts west block of Paleozoic rocks, creating thrust faulting.

7. Fracturing adjustments as magmatic intrusive completes rise and crystallization. Faulting in hanging wall portion of Thrust Fault, brecciation locally.

8. Ascending solutions find egress upward along north-south and east-west structures. Radial faulting also occurs, lead-zinc ore emplaced along deep faults, copper mineralization along certain zones as ascending solutions further developed and egressed upward. East-west fracturing intense, dilational.

9. Five episodes of fracturing occur, dilational with mineralization interrupted. Mostly calcitic, then later disruption of previous sealed fracturing and lateral displacement, black calcite emplaced. Quartz-calcite emplaced. Silver mineralization occurs in all five episodies, declining with time.

10. Late fracturing with lower temperature silver-manganese and massive manganese calcite emplacement and replacement.

11. Late dilation of east-west fracture systems, emplacement of low temperature travertine, no silver mineralization.

12. Late fracturing, open cavities, no mineralization.

13. Erosional, late faulting, present exposure.

HIDDEN TREASURE MINE:

The original mine found on Treasure Hill occurs in the Nevada limestone (Devonian) and in part under remnant portions of the Pilot Chale, west of the Thrust Fault and on the hanging wall of the Thrust Fault zone.

Previous interpretation current in the published literature for the region considered mineralization to be extant under the Pilot Shale and the Pilot Knob or Peak west of the Hidden Treasure Mine would have deposits below the shale. Drilling in that direction did not disclose mineralization below the shale.

It was found, through underground and surface work, that a brecciated zone parallel to the thrust fault and dipping into the thrust fault zone (east-dip) having some 100 to 200 feet width, and extending north-south along the thrust zone was the lock for ore. Drilling along this zone disclosed unmined ore, and drilling along and below the old workings disclosed high grade (up to 50 ounces per ton) unmined ore below the old workings. Large areas of low grade were also intercepted locally, but at prices of silver $3.35 or more now prevailing, all zones that can be mined through strip -open pit mining having more than 1 ounce of silver content can probably be processed, depending on recovery. However, the main zones seem to carry 4 ounces of silver per ton, with richer local zones.

The mineral and structural sequences is being worked out, and when finished will provide a detailed paragenetic sequence. A preliminary summary as a working framework, is on page 4.3.

MINERALIZATION:

Early phases of calcitic replacement and brecciation, followed by calcite-quartz and then late barren quartz-calcite in association with low temperature silver minerals consitutes the main mineralization. The main sulfide mineral responsible for the bulk of silver content is probably argentite. In the manganese zones, the hypogene mineral, or primary mineral, aurorite is also found. In addition Stephanite is also found, and the finger-print mineral that identifies the silver zones in this area as derived from a distinct source, Aguilarite, is abundant. These minerals and their formulas are given on the list of silver minerals on page 4.4.

The main mineral now present in the ore, due to supergene development (oxidation) is Cerargyrite. The Hidden Treasure mine was well known for its very rich cerargyrite mineralization, in the early days. All of the minerals except aurorite will lend themselves to recovery by cyanidization. Aurorite, being a manganese mineral, and therefore refactory, will require additional treatment to remove the silver values.

GEOLOGY

REGIONAL ENVIRONMENT:

The details of the regional and local geology are contained in NEVADA BUREAU OF MINES BULLETIN 57, THE GEOLOGY OF THE WHITE PINE MINING DISTRICT, WHITE PINE COUNTY, NEVADA, by F. L. Humphrey, 1960. A copy of that report accompanies this study and therefore need not be repeated here.

Essentially the mineralized zones are occurring in the top of the Nevada formation of Devonian age, just below the base of the Pilot Shale of Mississippian age; sometimes the shale itself is mineralized and would be mined as well.

Treasure Hill is an assymetrical anticline-dome, recumbent on the east side, plunging to the north, and partially breached. Thrust faults bisect the axial zone with the west half of the anticline being thrust upward and eastward. Devonian rocks are exposed on the top of the upthrust block. Pilot shale and Joana sedimentary rocks are remnants on the northern nose of the anticline. The anticline has been faulted by north-south faults, and east-west faults which off-set the north-south fault series and sets. The east-west structures are quite vertical, certain of these east-west structures have been dilated and utilized by ascending mineralizing solutions which have replaced the Nevada limestones at various horizons; locally the Pilot Shale acted as a barrier to solutions and heat and beneath the shale in association with north-south, and east-west feeding structures mineralized centers developed. The paragenetic sequence is being worked out, a number of mineralizing phases have occurred, retrograde mineralization is evident in several places, and the pH changes in the solutions are evident from the calcitic and quartz emplacements. Zoning with some sulfide mineralization in the Genesee claim area and then late lower temperature manganese and heavy calcitic mineralization has occurred. Zoning is now being studied. The results of such work will permit future exploration drilling to be selective, and new discoveries to be made at shallow depths and at greater depths.

The interpretation now being considered is the possibility that Treasure Hill represents a topographic high area due to the emplacement of a buried magmatic body that created the doming and anticlinal development, fractured the dome and through a series of episodes of mineralization emplaced the silver ores in higher stratigraphic levels, lead-zinc ores in the major feeder structures radiating out of the domal feature, and copper-silver-lead-zinc ores along fracture systems, with east-west trends. It is possible that the intrusive, at depth, below the domal feature, may have retained considerable of its higher temperature values, such as copper and constitute a porphyry copper type target. Contact zones may also be heavily and richly mineralized at depth. These possibilities can be evaluated with time and confirmed by drilling.

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SECTION 4

GEOLOGY

PROPERTIES

GENERAL:

The following patented claims are included in the Company property holdings in the White Pine Mining District, White Pine County:

Emerald Isle	51
First Southerly Extension of the Hidden Treasure	58
Nimrod	61
Genesse	64
Emerald Isle	69
Pogonip	72
Hemlock	73
Idaho Westerly	74
Glasier	76
Charter Oke	87A
Charter Oke	87B
Stafford	88
Bullion	89
Haggin & Tevis Lode	94
Hidden Treasure	101
Sweet Water	103
Eugene N. Robinson	108

The following unpatented claims are included in the Company property holdings:

Black Calcite Claims:	12 through 33
Black Calcite Claims:	1
Silver Chance No.	1 through 6
Lou Claims	1 through 59

Townshite Placer
Quartz Mill Placer
Cal 1 Placer
Smoky Mill Site
Charter Oak Mill Site
Hidden Treasure Mill Site

Also, recent contracts provide for additional claims in the Black Calcite Group 2 through 11, and patented claims in the California Group.

A master claim map CC-MC-1 is being prepared and when surveyed in will provide the location of all of the claims of the Company.

It takes an hour to drive from the proposed mill site at Hamilton to Ely, Nevada over existing roads.

Removal of stockpiles and new mined material from the Treasure Hill area will require a new haulage road to be prepared from the mine and stockpile areas to the new mill site. Some stockpiling can be done over existing roads, however. Road and access improvements can then be conducted during the advanced construction of the milling facility, and need not be done before.

CLIMATE:

There are at least 150 days of freeze and thaw in the Hamilton region. During January and February, sub-zero weather is normal, with lows to 30° below zero for short periods of time during the night. Daily temperatures, during clear days, and day time temperatures, are equable since the extreme temperatures are experienced during the night.

Snow fall is considerable on the Treasure Hill area, compounded by winds that create drifting. However, there is less than 12 inches total precipitation during the year, so accumulative snow fall is not very large and the spacing between storms will permit snow removal and un-interrupted activity. Snow does not normally become a problem until about November. Mining activity would be conducted during the period April to October. Milling activity, linked by good roads to main highways, would be carried on as usual all year. The mill would be sustained by stockpiled reserves during the winter months. Access to the mill and its immediate environs would be maintained by patrol and the usual snow removal equipment.

The mill and water resources would be constructed and handled in such a way as to take into consideration the temperature extremes. The old site of Treasure City seems to have been sustained over several decades after the 1868 discovery without great difficulty.

LOCATION:

The properties that now comprise the Cathedral Canyon Mining Co. (Treasure City Mines, Inc,) Hamilton silver project, are located in the White Pine Mining District of White Pine County, Nevada in Sections 17, 18, 19, 20, 29, 30, 31 and 32 of Township 16 North, Range 58 East, and in Section 6 of Township 15 North, on and around Treasure Hill and the old cities of Hamilton and Treasure City.

TOPOGRAPHY:

The claims vary in elevation from 7000 feet on the south end of Treasure Hill (California Claim group) to 9170 feet on Treasure Hill. Most of the stockpiles are at an elevation of 9,000 feet, and most initial mining that will be conducted will be at that same elevation. Most of the stockpile removal and mining would be done seasonally, generally before November of each year and after April of each year. The geomorphology of the claim area is youthful to mature topography with steep canyons on the east and west sides of the project area. The steepness on the west side may be a very important advantage in the sub-surface exploitation of rich ore zones reaching north from the Stafford Mine area, Erosional incision into the hill on the west side may provide lower elevation portal openings for more economic mining of high grade zones known to exist at depth below the surface on Treasure Hill.

ACCESS:

The project area is 50 miles west of Ely, Nevada, approximately 14 miles south over good dirt roads from U.S. Highway from the Hamilton Junction with Highway 50, some 36 miles west of Ely. Ely is the closest supply center having rail, air, and other transportation facilities as well as sources of labor and other essentials because it servces the large Kennecott copper mining activities at the Ruth, Nevada area.

The stockpile areas, and the future Treasure City Mine area on Treasure Hill, is accessible over dirt roads from the old site of Hamilton. See INDEX MAP ELY, NEVADA 1962, and MAP TREASURE HILL, NEVADA 1949, which accompany this report. Improved access roads and mine roads will be prepared to expedite the haulage of materials and the exploitation of the mineralized areas.

Some improvements and re-routing of existing roads will be required to provide all year access to the project area. Once the project has been economically established, the County will provide a new asphalt road for the project. However, equipment for construction and installation of the mill can be moved over existing roads.

Various interpretations of the origins of the silver ores guided exploration, but most exploration was unproductive after the initial discoveries, and soon the region was abandoned. the interpretation in vogue at the time turned out to be an erroneous one. After 1961 exploration commenced again in the region. Umont Mining Company, Shell Oil, and Silver King Mines, Inc. conducted extensive geological investigations in the district. The writer consolidated more than 80 % of the existing claims into a single package for Silver King Mines and later Phillips Petroleum Company. Claims were staked from Saligman Canyon on the west to Treasure Hill on the east, but limited drilling did not disclose new discoveries. Clearly the old interpretation of the origins of ores required reexamination.

In 1964 it was clear that one or more copper porphyry type deposits existed at depth in the Monte Cristo and Saligman areas. Deep drilling was successful in deep exploration. Moblydenum-gold zones were found at depth in the Monte Cristo area. Shallow drilling on Treasure Hill near the old Hidden Treasure mine disclosed extensions of ore but in a direction contrary to old interpretations. Intercepts up to 13 ounce silver were made. However, silver prices at that time were about 92 cents an ounce and did not encourage further exploration. Further technical surveys were conducted by various parties with a new discovery south of Treasure Hill made by New Products during 1969-70.

The Hidden Treasure, Bullion Mine, and associated patented claims were not included in the Silver King Mines, acquisitions. They became the property of Frank Lewis, son-in-law of Fred Farnsworth, their owner. Frank Lewis consolidated additional ground. Eventually this property package was acquired by Cathedral Canyon Mining Company, now Treasure Hill Mines, Inc. Exploration was conducted in the region during 1971-1972, and then during 1973 a series of drill holes explored various areas of merit extablished by a re-interpretation of the district, this time with results. Much of the drilling was phased to provide engineering data for an open pit operation. Extensive re-examination of the old stockpiles was also made with positive results, leading to the present recommendations to proceed with an exploitation program.

In 1973 drilling was conducted in the Hidden Treasure, Sweet Water, Bullion, Genesee, and Nimrod areas. Some 36 holes were completed. Zones of silver ore with up to 50 ounce silver content were intercepted below the old workings, and extensive lower grade zones were established along the trend of a structural feature that controlled the Hidden Treasure Ore Body. As a result of sampling of the stockpiles in the region a large tonnage of surface material having morethan 6 ounces of silver content was established, and shallow zones of silver mineralization were delimited and work was done to extend future drilling into these areas for future reserves for a mining-milling operation.

GENERAL DESCRIPTIONS

HISTORY:

Silver in the Hamilton, or White Pine Mining District, was first discovered in 1864, in the vicinity of what is now called Monte Cristo. By 1866 a small smelting operation had been constructed and was striving to make things go. J. Leathers, and Thomas Murphy and other prospectors from Austin, Nevada were those who made the discovery and organized the region by 1865. The Monte Cristo Mining Company was formed with Edward Marchand as superintendent. The mill became operational in 1866 and extended operations into 1867, when an Indian brought silver samples from the present locality of Treasure Hill to J. Leathers. On January 4, 1868, the Indian, Napis Jim, Leathers, Murphy, and Marchand located the rich Hidden Treasure Mine on Treasure Hill, and a second prospecting party, which included T. E. Eberhardt, discovered silver ore in the Eberhardt Mine area. A rush began, and by 1869, a new town, Hamilton, had been established, with a population of 10,000, and 15,000 more people were living in 13 other small communities in the district. Some 13,000 mining claims were staked, and 195 mining companies were active in the region.

The Hidden Treasure, Emersley Virginia, Eberhardt, South Aurora, Keystone, Silver Glance, Argyle, Pocotello, and Stanford patented claims were all patented in 1868. The Hidden Treasure claim, site of the first rich discovery, was mined until 1887, then sporadically thereafter up until 1928. Most of the mines of the district produced at one time or another until operations shut down during World War II. After 1916, most activity in the region was limited to several rich vein or bedding areas, the lead belt in Rocco Canyon, and the removal of stockpiles, dumps, and surface material left over from the earlier operations.

There was no water on Treasure Hill, therefore mills were built near springs around the base of the hill, near Hamilton, or in Eberhardt Canyon, Shermantown Canyon, or Rocco Canyon. In 1869 a water project was completed which brought water from the Head of Illapah Canyon and Illapah creek, some three miles east of Hamilton. A 12-inch pipe line was installed with five steam-powered pumping plants that pumped water to Hamilton and Treasure Hill, over a vertical lift of 1500 feet. Five saw mills provided necessary timber and materials for the mines. The regional hills were denuded of pinion and juniper to make charcoal. After the near-surface rich ores were seemingly worked out, an attempt was made to develop ore at depth below Treasure Hill. The Eberhardt tunnel, some 6,000 feet long, with two 1,000 foot cross-cuts, found only small ore bodies, and the 850 foot deep Ward Beecher shaft intercepted several small, but rich ore zones, before connecting with the Eberhardt tunnel.

SECTION 3

GENERAL DESCRIPTIONS

METALLURGICAL WORK:

Volume II of this study will present the metallurgical, mineralogical, and mill plant design. This work would be completed within a next short period of time to permit a Critical Path to be worked out for operations and on-going activity.

All other data not included within this report would then be assembled into the VOLUME II compilation.

TERMS OF REFERENCE AND CONTROLS

GENERAL:

The following terms of reference and controls apply to CASH FLOW PROJECTIONS SECTION 16, as developed; and based on RESERVES SECTION 5 of this report.

MILLING RESERVES:

1. SURFACE STOCKPILES:

   410,000 tons: 6 ounces recovered

   170,000 tons production per year for three years

MILLING RATE:

1. 500 tons per day 170,000 per year
2. $8.00 operating total costs
3. $10.00 per ton net before taxes
4. $1,700,000.00 net before taxes end of first year

OPERATING LIFE:

Present operating life based on total reserve position would be more than 15 years on a 500 ton per day capacity mill. Since more than 95 % of the favorable ground requires exploration, emphasis should be on higher grade zones, so exploration should expand after production money becomes available, and the mill expand to 1000 tons per day, perhaps to 1500 tons per day.

MINING PLAN:

Mining would be introduced at near end of second year, or end of third year, should higher grade ore be available through open pit mining. Emphasis will soon be on higher grade ores because total reserves will permit selection of annual grades and materials.

SECTION 2

TERMS OF REFERENCE AND CONTROL

PROGRAM:

The following time flow would probably prevail:

1. Complete transactions with Power Company.
   Letter requesting righ-of-way for power line.
   Power line contract.
   Power line construction.

   Probably a 4 to 8 month program.

2. As soon as area is accessible, improve roads to Hamilton area, select suitable site for mill, prepare mill sites and stockpile area, and develop water.

   Probably commence during April-extend into June.

3. Foundation work on mill, moving in of equipment with equipment being purchased and moved into Ely area as an on-going activity.

4. Move equipment into Hamilton area, construct mill and accomodation facilities, develop water supply. June-October.

5. Improve and prepare haul roads, start stockpiling and development of reserve at mill site.
   June to October

6. By October-November, mill prepared for initial testing and banking. Develop tailings area, and begin operations, assuming power available.

The Critical Path of activities would be subject to equipment availability, and power availability.

6. It is likely that some multiple of this tonnage will be found in the remaining 95 % of unexplored ground. Thus the project is a large one with extreme potential, including the potential of a porphyry copper type zone at depth.

7. Estimated costs of putting the Treasure City Mines program into production capable of treating 500 tons per day would be $552,500.00, excluding the haulage equipment or stockpile hauling and reserves, which could be contracted for a stockpile of 100,000 tons for $150,000.00, or purchase of equipment at a capital cost of up to $350,000.00 as outlined herewith.

8. Onward costs would include some exploration drilling as a pre-production and pre-mining activity in preparation for some mining activity in the third year. This would involve some $25,000.00 during 1974.

9. The price of silver is rising, but on the downside, is not expected to drop below $3.00 per ounce, and cash flow projections based on a $3.00 per ounce price, an $8.00 mining-milling cost and a recovered 6 ounces of silver per ton would net $1,700,000.00 before taxes each year.

10. Because of the large tonnage potential, the project the operation could be expanded to 1000 tons per day and the operations expanded in terms of exploration, open pit and underground mining.

Thus, the project is a viable one, a profitable one even with a $3.00 per ounce value, a $10.00 per ton cost, and only a 4 ounce recovered content.

Mine maps, plan maps, index maps, and data including drill logs, and various analytical evaluations of most aspects of the operation are included within this study.

SUMMARY AND CONCLUSIONS

GENERAL:

During the 1973 period a sustained program of exploration sampling, geological investigations, and evaluation of the entire Treasure Hill region was undertaken and partially completed, with the result that new discoveries of ore were made, and a full understanding of the value and silver content of the numerous stockpiles was achieved, and a new interpretation of the region arrived at.

A decision was then made to develop a feasbility study and procede to outline a program of mill construction and mine development, and to establish reserves. A total of 36 holes were drilled, augmented by holes previously drilled, and a mine plan for open pit mining was worked out. The sampling of the stockpiles indicated that a 500 ton per day capacity mill could be sustained for upwards of three years at 170,000 tons per year, with additional extensions of time should other stockpiles be obtained not now belonging to the company. Also, several years of reserves were established in various underground areas, but only 5 % of the favorable ground was explored and evaluated, leading to the conclusion that a very large silver potential existed on Treasure Hill and the region should be totally acquired. A new group of claims, 59 in all, were staked, and land acquisitions made. One remaining land position, belonging to Silver King Mines, Inc. needs to be consolidated, and then the major region would be administered by the company under along range development program.

Water appeared to be available, and through the construction of 21 miles of power line available commercial power would be brought in. Thus the Treasure City Mines program has developed.

Pertinent conclusions relating to viability of the projected Treasure City Mines programs are enumerated herewith:

1. ORE RESERVES on the surface in stockpiles exceed 410,000 tons with a recoverable 6 ounces of silver per ton.

2. MINEABLE RESERVES in established areas exceed another 400,000 tons having a recoverable 4 ounces of silver per ton.

3. PROBABLE additional reserves of more than 650,000 tons exist in partially evaluated areas.

4. INFERRED tonnages of more than 1,400,00 tons in other stockpiles and shallow zones can be acquired and developed.

5. A TOTAL RESERVE WITHIN 5 % of the favorable ground of 2,860,000 tons of 4 to 6 ounce silver is extant.

SECTION 1

SUMMARY AND CONCLUSIONS

MAPS

ACKNOWLEDGEMENTS

In bringing the Treasure City Mines program in silver at Hamilton, Nevada, to the stage of feasibility, the efforts of many persons have been involved.

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FEASIBILITY STUDY

TREASURE CITY MINES, INC.
(CATHEDRAL CANYON)

SILVER PROJECT

HAMILTON, NEVADA

JANUARY 1974

EINAR C. ERICKSON AND ASSOCIATES

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