REPORT

ON THE

MINING PROPERTIES

OF

SILVER STATE MINES INC.

Arthur Lakes

May 1961

MAPS

The following maps are essential to this report.

Map No. 1	Key Map showing relative localities of Crown Point-Rochester and Sunrise Properties, supply centers, roads & highways.
Map No. 2	Geologic Map of Crown Point-Rochester area showing distribution of ore-favorable Nenzel formation, roads, approximate tunnel locations.
Map No. 3	Plan of Crown Point and Rochester silver mines showing surface outcrops, partial stoping of Rochester mine (extensive stopes between surface and 500-level not shown), vein and contact disclosures in Crown Point and Pitt tunnels.
Map No. 4	Diagrammatic Section along course of Crown Point and Pitt tunnels showing (1) Ore-favorable Nenzel formation relative to less favorable underlying Rochester formation and overlying shaly bed. (2) Locality and dip of veins intersected by Crown Point tunnel, fault relations, etc. (3) Proposed Intermediate exploratory-development crosscut tunnel.
Map No. 5	Sunrise claims, veins, and indicated zone of better ore possibilities.
Map No. 6	Plan and Cross Section of Sunrise Main Shaft workings.

INTRODUCTION Silver State Mines Inc. owns two mining properties (1) Crown Point-Rochester group that produced in excess of 10,000,000 ounces silver and estimated $1,400,000 gold about 100-miles northerly from (2) Prospective Sunrise gold property as shown on Map No. 1.

This report essentially concerns exploration-development program to block out ore in Crown Point-Rochester's extensive undeveloped ore possibilities. Sunrise operations will include surface and diamond drill exploration when gold market warrants.

The examinations included inspection of Crown Point tunnels and workings that will localize the exploration-development program. The surface of both Crown Point-Rochester and Sunrise was examined.

The examination of both Crown Point-Rochester and Sunrise was greatly benefitted by study of many detailed maps, samplings, and reports by reputable mining engineers who had access to the mines' workings. Crown Point-Rochester information includes reports by (1) United States Geological Survey Bulletin No. 762 by Adolph Knopf including production records from 1912 through 1922. (2) Reports and sampling results by the late R. C. Eisenhauer, EM., and the late J. G. Huntington, EM., in 1935-1936. Mr. Huntington was long time engineer and superintendent during Rochester mine's productive history. (3) Periodic reports and geologic and sample maps by Lawrence B. Wright, EM., during exploration program through 1947-1948. Sunrise information includes reports by Mining Engineers, E. F. Howell, R. A. Fraser, and Carl Stoddard from 1927 to 1935 when underground workings were open.

Results of the investigations are stated individually in the following (1) Report on Crown Point-Rochester Mining Property and (2) Report on Sunrise Mining Property

REPORT

ON THE

CROWN POINT-ROCHESTER MINING PROPERTIES

SUMMARY This report concerns the ore possibilities of unexplored contact zones along "mineralizer dike" and unexplored northerly extensions of Rochester veins that produced about 10,000,000 ounces silver and about $1,400,000 gold (at $20.67 per gold ounce) from 1912 to 1926 when mine production ceased due to silver collapse to 28¢ per ounce. Silver has been in short supply at present 91.37¢ per ounce.

The ore tenor of the Crown Point-Rochester veins is about 99-ounces silver to 1-ounce gold, hence any change of silver price will have immediate economic effect on production returns.

Rochester mine's production was accomplished by its cyanide mill that processed mine ore into silver and gold bullion. Crown Point lacked a mill, hence its mine output was restricted to small tonnage of sorted smelting ore from present small developments in Crown Point tunnel. For this reason unexplored extensions of Rochester's productive veins - known to enter into Crown Point ground - are essentially intact and are virgin for exploration and development to block out sufficient ore to justify a suitable mill and put the mines back into production.

Eleven veins are disclosed in Crown Point ground. Five veins outcrop to the east below Crown Point tunnel. These may later be explored by extending Pitt tunnel as described in this report. Six veins are disclosed by short drifts in Crown Point tunnel. Five of these veins - assaying from $10.00 to $19.50 per ton - are extensions of Rochester's veins that were stoped up to 800-feet long and down 1000-feet along vein dip. The vein disclosures of Crown Point tunnel provide major objective of proposed exploration-development program.

Another important objective, previously overlooked, is exploration of extensive mineralized zones of contact with regional mineralizer dike. The ore possibilities of these zones are geologically valid as have been indicated at Republic district, Washington, where large ore production has been made from brecciated zones similar to local occurrences. These possibilities have been further indicated by occurrence of ore in two wide contact zones at Pitt tunnel and one zone at Crown Point tunnel.

The program proposes exploration-development of the veins and contact zones within the most ore-favorable Nenzel formation that produced the bulk of Rochester ore. The attack is planned in horizon where vein and vein-dike mergences are indicated. These are expected to provide enlarged and enriched ore bodies in accord with Rochester precedent.

A valuable asset to Crown Point-Rochester property is the Pitt and Crown Point tunnels driven from opposite sides of the mountain and connected by Pitt Upraise. These workings provide immediate access to (1) disclosed ore veins and to (2) locality to establish an Intermediate Exploratory tunnel midway between Pitt and Crown Point tunnels as described in this report.

The program plans diamond drilling at Crown Point and Intermediate tunnels and also proposes 2200 feet of tunnel work exploring downward continuations at Intermediate Tunnel of the important Vein No. 4, Vein No. 5, Vein No. 6, Vein No. 7, and Blizzard vein described in this report.

CONCLUSIONS The occurrence of five ore bearing veins and important zones of contact in Crown Point tunnel - together with established access provided by Pitt and Crown Point tunnels and raise connection - provide better than usual encouragement and economic advantage for exploring large and potentially important ore possibilities of the properties.

I am confident that Crown Point-Rochester property is capable of yielding substantial amounts of silver and gold, possibly exceeding past good production by the addition of important, previously overlooked, contact ore possibilities.

There is reasonable and tangible evidence of probable and possible ore of mineable value to warrant expenditure of $150,000 in proposed exploration-development program detailed in this report.

The details of this report are appended.

Reno, Nevada
May 12, 1961

Arthur Lakes
Mining Engineer

PROPERTY Crown Point-Rochester property comprises 20-mineral claims being combination of old Rochester and Crown Point properties. Four claims are patented subject to annual taxation and sixteen claims are held by location subject to $100 annual assessment work per claim. All property taxes have been paid and assessment work fully complied with. There are no liens or other encumbrances recorded against the claims.

The claims are: (1) Patented claims comprise Crown Point No. 1, 4159-Crown Hills, 4150-Crown Wedge Fraction 4159 - and West slope 4252. (2) Located claims comprise Little Sunflower - Big Sunflower - Rochester - Rochester No. 1 - Juniper - West Slope No. 1 - (Tony) - Blizzard - Mohawk - Vista - Crown Point No. 2 - No. 3 - No. 4 - No. 5 - No. 7 and No. 8 as shown on Map 3.

Sierra Pacific Power Co. electric lines cross close to the company's Pitt tunnel.

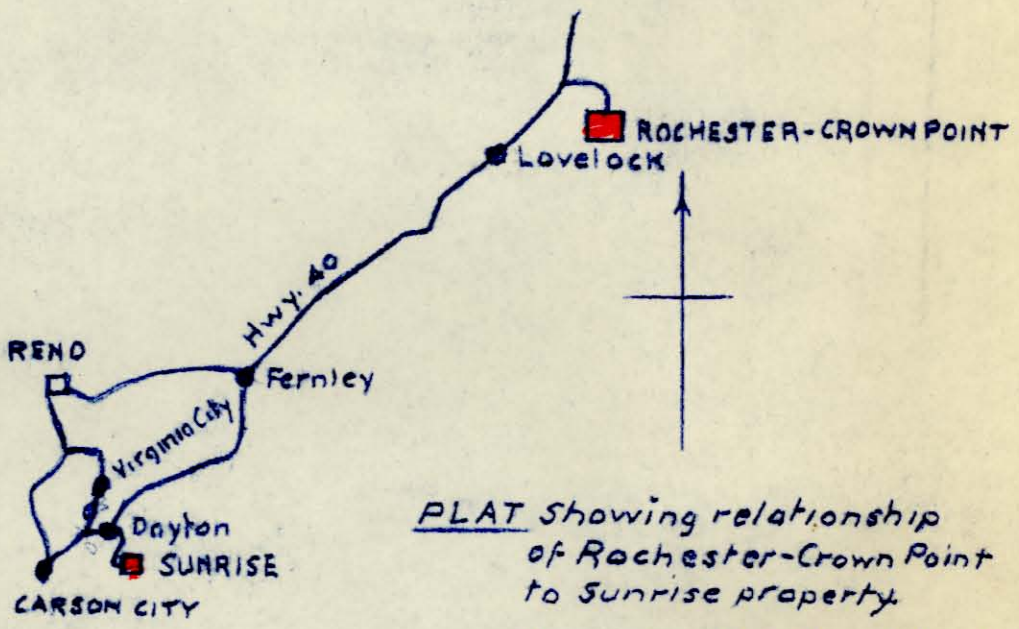
Mining and milling plants were dismantled and removed, hence resumption of operations will require replacement. Equipment requirements for the proposed exploration-development program are listed in this report.

LOCATION & ACCESS Crown Point-Rochester claims form a compact group in Rochester Mining District, Pershing County, Nevada, 27-miles over U. S. Highway 40 and County Road from chief supply center at Lovelock, Nevada, which is 95-miles over Highway 40 from Reno, Nevada. Southern Pacific Railway station at Oreana is 17-miles over County Road from Rochester camp.

The property is located on both sides of north slope of Nenzel Hill and is penetrated by (1) Pitt Adit Tunnel driven easterly from western hillslope and by (2) Crown Point Adit Tunnel driven westerly from eastern hillslope as shown on Maps No. 2 & No. 3. The ends of these tunnels are connected by Pitt Upraise.

Portal of Pitt tunnel is about 2-1/2 miles by road up canyon from Rochester camp, thence the road extends about 1-3/4 miles over the ridge to portal of Crown Point Adit Tunnel as shown on Map No. 2.

HISTORICAL Prospecting predated 1905, culminating in the important 1912 Nenzel discovery of rich silver-gold ore which brought a rush and by 1913 population of about 2000 was divided into three towns within 2-mile radius. The predominant Rochester mine produced in order of 10,000,000 ounces silver and estimated $1,400,000 gold from



PLAT Showing relationship of Rochester-Crown Point to Sunrise property.

Approximately 30-mi to 1-in.

Map No 1

1912 to about 1926 when silver price collapsed to 26¢ per ounce forcing productive cessation. Since then leasers have taken out some ore and in 1947-1948 exploratory work was performed in the company's Pitt tunnel.

Divided ownership led to controversy and threats of lawsuits which prevented Rochester from following its ore veins into Crown Point ground, and conversely, Crown Point was limited to short tunnel exploration on its disclosed veins as shown on Map No. 3. The consolidation removes these restrictions.

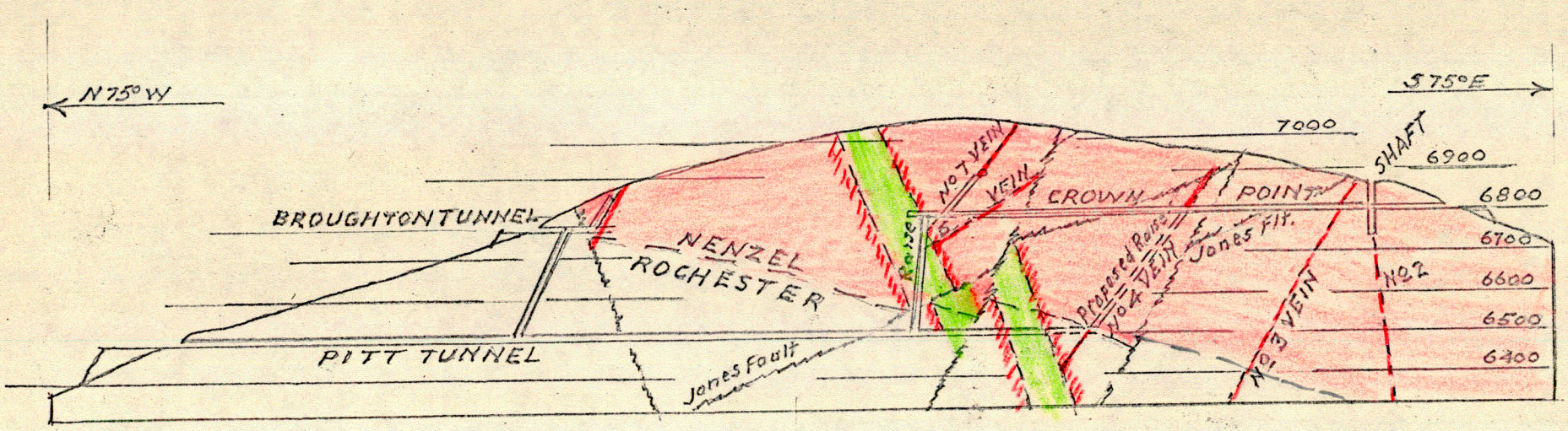
Productive History (1) According to U. S. G. S. Bulletin 762 the 1912-1922 production of Rochester amounted to 7,000,000 ounces of silver with accompanying $1,295,337 gold (at $20.67 per gold ounce). (2) Huntington, long time engineer and superintendent during Rochester mine's productive history, reports Rochester silver output in excess of 10,000,000 ounces, which, on basis of above reported silver-gold ratio, would have been in order of $1,670,000 gold. His figure undoubtedly included period after 1922.

GEOLOGIC The regional rocks comprise bedded succession of volcanic flows. Locally they comprise (1) Underlying thick beds of Rochester trachyte conformably overlain by (2) upwards of 600-feet of Nenzel rhyolite and rhyolite breccia which is of main economic interest because the silver veins were first discovered in it and the bulk of the district's silver and gold has come from it. Nenzel is overlain by (3) about 700-feet of Weaver rhyolite and tuffaceous shale.

Nenzel's better competency to form and sustain fractures for ore-vein localization makes this formation the most important and ore-favorable. Above Nenzel the veins tend to thin out in shaly beds and below Nenzel the veins tend to spread out, diffusing ore into submarginal values within the Rochester trachyte.

The ore-favorable Nenzel, due tc repetition by faulting, becomes progressively more widespread as it extends northerly through Crown Point ground thus providing opportunity for occurrence of additional veins and ore deposits.

Mineralizer dike The district is traversed about N 35° E by a strong steeply east dipping rhyolite dike believed to be the district mineralizer. Striking nearly parallel with the mineralizer dike but dipping westerly toward it are (1) mineralized shear zones up to 30-feet wide (illustrated by 1-zone in 4-J tunnel and 2-zones in Crown Point tunnel) and (2) the better quartz veins, varying from 2 to 8-feet



SCALE: 100 600-ft.

DIAGRAMMATIC SECTION ALONG GENERAL COURSE CROWN POINT-PITT ADITS

APLITIC DIKE | MINERALIZED CONTACT | ORE VEIN | FAULT

Refer to
Arthur Lakes, 1961 Report

width. These are essentially spurs off from the mineralizer dike. The veins have provided the district's silver and gold production to date.

Mineralized Zones of Contact A highly important addition to ore possibilities is occurrence of mineralized zones of contact on each side of the mineralizer dike. Two wide zones have been disclosed at Pitt tunnel where assays around 6.5 to 10.3 oz. silver and 0.03 to 0.17 oz. gold have been found in the lesser ore favorable Rochester formation. One zone disclosed in ore-favorable Nenzel at west end of Crown Point tunnel is reported to have returned good silver-gold values.

The occurrence of mineable ore within these zones of contact is geologically valid as indicated by above disclosures and Wright in his September 5, 1947 report noted: "It is believed that early operators mined the obvious quartz veins without giving attention to the broader (ore) possibility. It is possible that there might be repeated here the experience during the past several years in the Republic, Washington district, where past mining was on 3 to 6-foot quartz veins. New stoping is being done up to 50-feet widths in a large body of breccia ore. Total past production has been equalled."

Zones of Enrichment Rochester mine provided enriched and enlarged orebodies in vicinity of vein mergences and intersections and where premineral gouge entrapped mineralizing solutions. Enlarged and enriched orebodies are expected in vicinity of vein mergences with the mineralizer dike.

Some very high grade ore was mined in upper Rochester and Crown Point levels. Near surface ores averaged from 30 to 60-ounces silver with lesser but important gold content. Silver-gold values diminished with depth into submarginal noncommercial values as the veins penetrated deeper into the underlying Rochester formation. These conditions emphasize the desirability and necessity to conduct future exploration within the ore-favorable Nenzel formation.

VEINS Rochester mine's production was accomplished by its cyanide mill that processed mine ore into silver and gold bullion. Crown Point lacked a mill, hence its mine output was restricted to unrecorded small tonnage of sorted smelting ore derived from short vein drifts and small stopes. For this reason the unexplored extensions of Rochester's productive veins, known to enter Crown Point, are essentially intact and are virgin for exploration and development within Crown Point ground.

Rochester's 10,000,000 ounces silver and estimated $1,400,000 gold came essentially from six veins of which its "East" and "West" veins

were most important varying from 2 to 8-feet width (up to 30-feet at part of 800-Level) and stoped up to 800-feet long to 1000-feet dip depth. Their extensions are disclosed in Crown Point Tunnel as follows: Crown Point property has disclosed eleven veins, six in Crown Point Tunnel and five unexplored veins lying east of Crown Point shaft that have not been explored. In reference to these five veins, Huntington (in his July 18, 1930 report recommending a tunnel below present Crown Point Tunnel) states "There is a strong probability that ore will be coming from the deep tunnel long before connection is made with present (Crown Point shaft) workings. It may mean the opening of the greatest producing veins of the region."

Crown Point Tunnel disclosures comprise six veins, of which five are known extensions of Rochester mine's productive veins. Disclosures of Vein No. 2 through Vein No. 5 are south of easterly striking, north dipping Jones fault, whose direction of displacement is known but extent of offset to be determined by proposed program. The ore possibilities of the veins' northern extensions are of major concern to the program. The strong Vein No. 6 and Vein No. 7 are north of the fault with their displaced southern extensions presently undetermined, though there is possibility that Rochester's 800-Level may have drifted along displaced southern segment of Vein No. 6.

Vein No. 2 is followed part way by Crown Point Tunnel. The vein was opened 200 feet deep by Crown Point shaft. Crown Point Tunnel is 100-level. Good ore is reported at shaft bottom. A few samples of this vein averaged $5.10 per ton silver-gold.

Vein No. 3 drifted 110-feet. Assays varied from 2 to 21-ounces silver and from trace to 0.23-oz. gold. Ore averages $10.47 per ton at present metal prices.

Vein No. 4 drifted 130-feet. Assays varied from 3 to 27-ounces silver and from 0.01 to 0.37-ounces gold. Ore averages $19.50 per ton. This vein is one of the most important and will center Intermediate Level exploration-development program.

Vein No. 5 is drifted 55-feet. Assays varied from 2.4 to 11.8-ounces silver and 0.01 to 0.077-ounces gold. Ore averages $10.00 per ton. This vein appears to be a cross vein possibly merging in depth with No. 4 vein.

Vein No. 6 is one of the strongest and most important. It has been drifted 250-feet to where its southern extension is cut off by major fault. Detailed sampling is presently unavailable but Huntington

averaged 3.1-ounces silver, 0.045-ounces gold which would average $8.10 per ton. There are appreciable vein areas of higher grade where Huntington recommended raises and intermediates therefrom. The Diagramatic Section, Map No. 4 indicates that the Crown Point drift is at the top of an enlarged and enriched orebody caused by Vein No. 6 mergence with the mineralizer dike.

Vein No. 7 also known as Zero vein was opened 320-feet long by Zero adit tunnel 125-feet above Crown Point tunnel. It was drifted 30-feet on Crown Point Tunnel. Assays varied from 2.4 to 37.8 ounces silver and 0.08 ounce gold. Average along upper level was $13.80 per ton. This vein (and Vein No. 6) occurs north of Jones fault and its faulted southern extension is presently undetermined. Downward extension of Vein No. 7 may enter into enlarged and enriched orebody in vicinity of mergence with mineralizer dike. Both No. 6 and No. 7 veins provide strong indications for north continuance of other veins. Both veins are major objectives of exploration at Intermediate Level.

WORKINGS Crown Point property is already provided with tunnels, upraise connections and workings of value to the exploration-development program. The workings are in good condition and can be quickly readied for attack into the various veins and structures.

Crown Point workings comprise (1) Pitt Adit tunnel that progresses 1870-feet easterly in west flank of the mountain through Rochester formation to (2) Pitt 2-compartment Upraise that extends 290-vertical feet up to (3) west end of Crown Point Adit tunnel driven 1500-feet westerly in east flank of the mountain through ore-favorable Nenzel formation as shown on Maps No. 3 and No. 4.

Pitt tunnel provides transportation outlet for waste and ore to surface. The tunnel cuts a number of low grade veins and shearage zones that should improve to commercial ore when they enter the overlying Nenzel formation. It importantly intersects two mineralized zones of contact with the regional mineralizer dike, possible new source for substantial ore tonnage.

Pitt Upraise supplies means for gravity transport of ore produced from Crown Point tunnel workings and importantly provides a site for Intermediate Level to conduct exploration-development program. The upraise apparently penetrates into Nenzel formation about 70-feet above Pitt tunnel from where the ore-favorable formation continues to surface. The program plans establishment of a station in this raise about midway Pitt and Crown Point tunnels. Crosscut tunnels will be extended easterly and westerly into Crown Point's most important veins

which will be drifted as outlined later.

Crown Point Tunnel provides transportation outlet into Pitt Upraise, thence through Pitt Tunnel to surface, or waste can be trammed out to Crown Point dump. The tunnel's most significant feature is the disclosure of five commercially important veins, 2-mineralized shearage zones, and 1-important zone of contact with regional mineralizer dike, said to have produced some good ore.

EXPLORATION-DEVELOPMENT The proposed program concerns exploration-development of known Rochester veins' extensions disclosed in Crown Point Tunnel. Later exploration may be conducted into the veins east of Crown Point Tunnel by extending Pitt Tunnel eastward.

Unexplored areas along Rochester vein extensions comprise: (1) 300 to 400-feet southerly gap between Crown Point Tunnel and north limits of Rochester stope areas. (2) From 1300 to 1400-feet northerly along vein strikes to property limits in ore-favorable Nenzel.

Four known veins are presently disclosed south of Jones fault. Their southern extensions can immediately be followed but their northern continuations require search to locate their displaced segments. The quickest method will be by diamond drilling from near Crown Point Tunnel portal. Ore occurrence north of Jones fault is proven by showings of strong Vein No. 6 and Vein No. 7. (Map No. 3)

Work The work will comprise: (1) Diamond drilling (a) off from Crown Point Tunnel to disclose faulted segments of Veins 3-4-5 north of Jones fault. (b) Diamond drilling from south end of Intermediate drift along Vein No. 4 to determine locality and identity of the important Blizzard vein. (c) Diamond drilling from north end of Intermediate drift along Vein No. 4 to determine northerly extensions of Vein No. 3 and Vein No. 5. (2) Intermediate Level about midway Pitt and Crown Point Tunnels. (a) Crosscut west 100 to 200-feet to intersect downward extension of strong Veins No. 6 and No. 7 and to disclose important zones of contact with mineralizer dike where enlarged and enriched ore bodies may be expected both along the merged veins and along zone of contact (Map No. 4). Drift on each structure according to showings. (b) Crosscut east 500 to 550-feet to downward extension of the important Vein No. 4 which here might be joined by Vein No. 5, possibly providing enlarged and enriched ore body. (c) Drift 200 to 350-feet southerly along Vein No. 4 into Rochester mine's stoped horizon. (d) Drill and then crosscut 150-200-feet easterly to intersect northerly extension of important Blizzard vein. Drift this vein 200-feet or more

according to ore conditions. (4) Drift northerly on Vein No. 4 to Jones fault. continue through fault and crosscut east to No. 4 Vein's displaced segment as determined by diamond drilling. Drive northerly on Vein No. 4 according to ore conditions and limitations of program. Obviously further work should be performed into northern segments of Veins No. 3, and No. 5.

The footage of proposed program will vary according to offset distance of Jones fault (here taken at 200-feet which might be considerably less).

FOOTAGE

Diamond Drilling

(1)	Crown Point Tunnel, 3-holes @ 400-feet	1,200 feet
(2)	Intermediate Level: Vein No. 4 south to Blizzard vein 3-holes @ 150-feet	450 feet
(3)	West from No. 4 Vein's north drift to intersect No. 5 vein, 3-holes @ 250-feet	750 feet
		2,400 feet

Drifts & Crosscuts in Intermediate Level

(1)	Western crosscut & drifts	400 feet
(2)	Eastern crosscut	550 feet
(3)	Vein No. 4 South drift	350 feet
(4)	East crosscut to Blizzard (as modified by Drilling)	150 feet
(5)	Drift Blizzard (as modified by drill or crosscut)	200 feet
(6)	Drift on Vein No. 4 through fault	150 feet
(7)	Crosscut east from Vein No. 4 north segment (modified by drilling, may be more or less)	200 feet
(8)	Drift on Vein No. 4 north segment	200 feet
		2,200 feet
(9)	Upraise No. 4 Vein from Intermediate to Crown Point Tunnel to explore ore, provide ventilation and escape way required by law	170 feet

Estimated Cost

(1)	Diamond drilling @ $6 per foot	$15,000

Estimated Cost (Cont'd.)

(2) Drifting & Crosscutting @ $30	$66,000	
(3) Raising @ $20 per foot inclusive timbering	3,400 x	
		$84,400

The plan requires installation of Diesel driven compressor at Crown Point Tunnel portal, renovating parts of compressed air and water pipelines, track, etc. to collar of Pitt Upraise. Roads will have to be repaired and established to provide car and truck transport over the mountain from Pitt to Crown Point Tunnel.

Pitt Upraise will be timbered from top at Crown Point Tunnel down as follows: (1) Hoist & Manway compartments and rock chute for 140-feet to proposed Intermediate (2) Manway and rock chute down 90-feet from Intermediate to top of timbered raise up from Pitt Tunnel.

Equipment Required

The following prices are based upon quotations for good used equipment where desirable and on new prices for other items.

420-cu. ft. per min. Diesel compressor	$ 3,000
Tugger Hoist	700
15-H.P. mine hoist	800
3000-feet 16# rail (24-tons @ $140)	3,400
3800-feet of 3-inch pipe @ 75¢ (used)	2,900
3800-feet of 1-inch pipe @ 20¢	760
Track ties, etc.	200
1 - #12 Mucking machine (used)	2,500
2 - storage battery Mancha trammers (used) (inclusive extra batteries & charger)	11,000
2 - Jackleg drills @ $350	1,700
1 - Stoper drill (used)	500
24 - pieces drill steel threaded & shanked	200
24 - detachable drill bits 1-1/2 and 1-3/4 inch	400
	$ 28,160

1 - Compressed air driven ventilation blower	500
1200-feet 8-inch Vent pipe (estimated)	1,000
Timber 7 x 8 @ $150 & 12 x 2 @ $120	4,000
1 - good used pickup truck; 1-ton	1,500
1 - used water truck (600-gallons) estimated	1,000
10 - 20-cu. ft. mine cars (used)	1,000
	$37,060

Costs

(1)	Timbering Pitt Upraise:	Labor	$2,500	
		Timber	1,000	
		Other	500	
				$3,500
(2)	Recondition Crown Point Tunnel		2,000	
	Recondition Pitt Tunnel		1,000	
				$3,000
(3)	Road repairs and establishme nt			$2,000
(4)	Preparing tankpipe water supply for drilling Crown Point Tunnel and down			$ 500
(5)	Equipment (List)			$ 37,000
(6)	Exploration-development program			$ 85,000
(7)	Engineering & Superintendence			$ 18,000
(8)	Other			$ 1,000
	Total			$150,000

REPORT
ON THE
SUNRISE MINING PROPERTY

SUMMARY The Sunrise property comprises seven claims in the gold productive Palmyra-Indian Springs district. The property is reached by road and paved highways from chief supply center at Reno and is crossed by commercial electric power lines.

The property is in the same ore-favorable formation that produced the best gold mines of the district. It contains 2 known, possibly 4, north-east striking veins of the type that provides the principal ore producers of the district. At least two of these veins are intersected about 600 feet east of Main shaft by one strong north-northwest striking vein of the type whose intersection with the NE striking veins forms the district's most important ore bodies. Early reports indicate probability of a number of these enriching veins farther to the east.

Surface examination and study of mine map indicates that little or no exploration work has been done along the ore productive veins into the ore-favorable zone of vein intersection. The Main Shaft's 400 Level is believed to have extended along Main vein to within 100 feet of this ore-favorable zone.

CONCLUSIONS The established fact that the district's better ore bodies form and cluster at, and in vicinity of, points of intersection of the major northeasterly striking veins by enriching north-northwest striking veins provides basis for expectancy that work performed into this zone should produce good workable gold ore shoots.

Fraser's description of secondary enrichment zone starting at Main Shaft's 400 Level encourages expectancy that if this level is continued 100 feet or more easterly into the indicated zone of vein intersection it may provide good bodies of gold ore further enriched by silver values leached from upper vein zones.

RECOMMENDATIONS It is recommended that about $1,500 worth of Bulldozer stripping be performed over north-eastern extensions of "Main" and "South" veins where they are crossed by northwesterly striking veins. (2) If favorable results are gotten by this surface exploration it is recommended that upwards of $10,000 diamond drilling be done to intersect the ore-favorable zones of vein intersections such as have provided the better ore bodies of this district. (3) If favorable results are gotten from the above exploration work, and

when the gold market sufficiently improves, it is recommended that the Main Shaft be pumped out and rehabilitated and that the 400 East drift be reopened and extended into the zone of vein intersection. Success here would warrant extending crosscut into South vein's zone of vein intersection.

Following are details upon which this report is drawn and attached maps are essential to this report.

Reno, Nevada
April 18, 1961

Arthur Lakes
Mining Engineer

PROPERTY The Sunrise property comprises seven mining claims as follows: Sunrise, Sunrise No. 1, No. 2, No. 3, No. 4, No. 5 and Crest, all in a compact group as shown on Map No. 5.

The claims are held by location, subject to $100 annual assessment work per claim. Assessment work has been completed and filed for the current period. There are no recorded encumbrances or liens against the Sunrise property.

LOCATION & ACCESS The claims are in Palmyra-Indian Springs gold-silver district which is 12 miles southerly from similar geologic setting at the famous Comstock Lode adjacent to Virginia City as shown on Map 1.

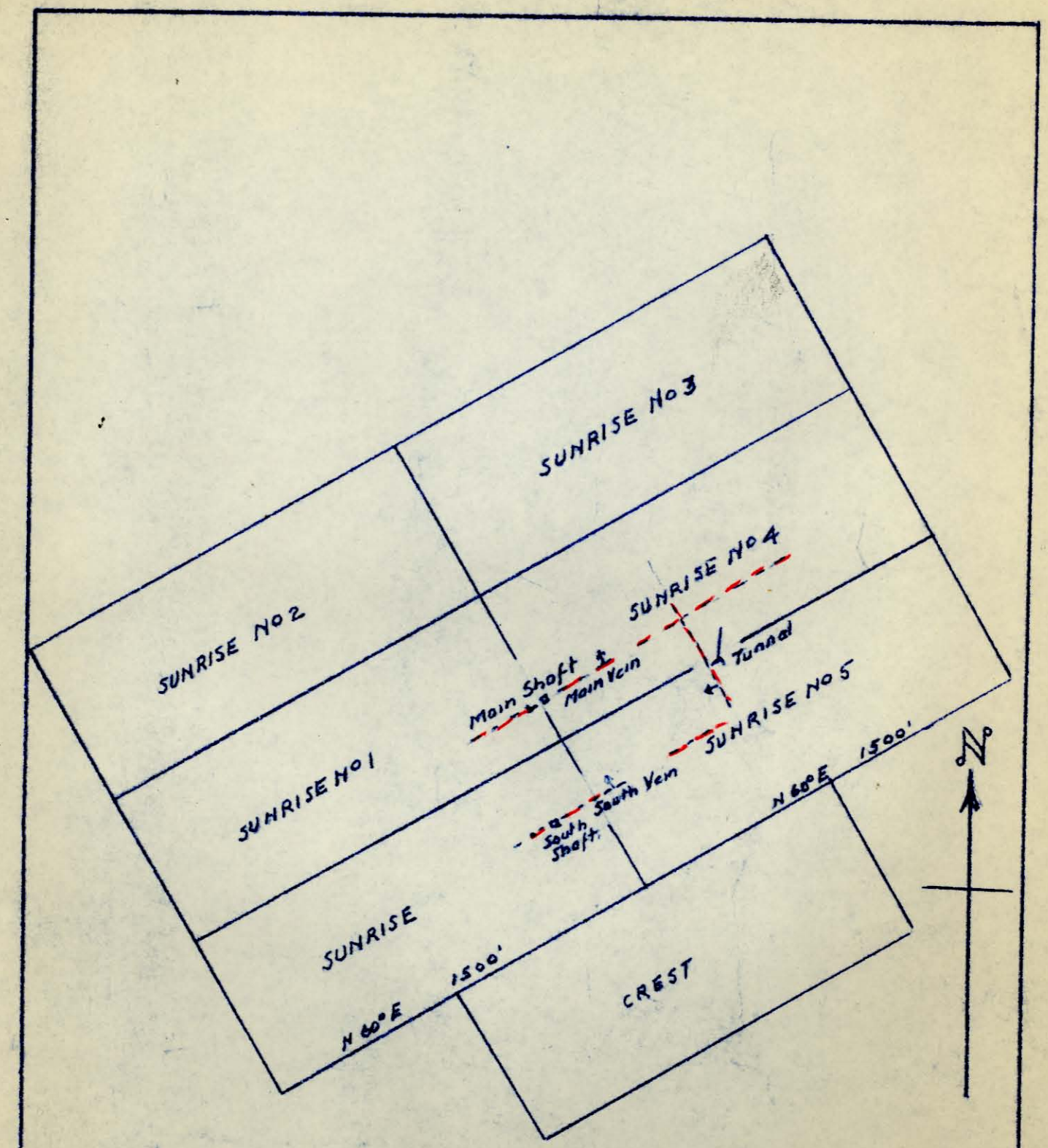
The claims are 12 miles over mountain road from Dayton which is 36 miles over paved highway from the chief supply center at Reno, Nevada.

The property is crossed by Sierra Pacific Power Company's high tension electric power line. Adequate water for operations is assured from Main Shaft where water level is 270 feet below surface. Timber is procured from Reno. All mine equipment has been removed and resumption of mining operations will require replacement.

GEOLOGY Sunrise claims enclose the same ore-favorable andesite that has hosted most of the gold-silver ore bodies of the district.

Similarly to Comstock Lode, the productive veins of this district provide their best ore shoots at, or in vicinity of, points of vein intersections or mergers. This district's most prominent and productive veins strike northeasterly and ore shoots cluster where they are intersected or merged by a series of north-northwest striking veins. Good ore may extend out (1) in each direction along the NE vein or (2) may extend out in each direction along the crossing north-northwest veins, (or) extend out along both the northeast and the crossing north-northwest veins.

Veins This examination disclosed surface trace of (1) two northeast veins of the most productive type and (2) one strong northwest striking calcite-quartz vein of the intersecting enriching type. The referred reports indicate existence of four of the northeast veins and numerous crossing veins. These indicated vein intersections apparently start at, and extend east from, the Sunrise No. 5 Tunnel shown on Map No. 5. This intersection zone is 600 feet and more easterly from Main Shaft where surface examination indicates that little or no stripping



PLAN OF SUNRISE GROUP
SCALE : 500-ft. to 1-in.

MAP 1

has been done. The Main Shaft map indicates that Shaft's 400 Level east is within 100 feet of probably downward continuation of the first "Cross" vein of the intersecting series.

The Main Vein has been mostly explored about 700 feet long to 450 feet vein dip by Main Shaft workings as shown on Map No. 6 drawn from old plan, presumed to show conditions at time of work cessation.

(1) Main Vein is described by Fraser to be a contact vein on underside of steep diorite dike that intruded easterly and westerly through the ore-favorable andesite. Vein width is described to vary from 6 to 20 feet with best ore in quartz streaks varying from 2 to 4 feet width. The ore occurs in andesite footwall country in upper levels shifting to the diorite hangingwall in lower levels. The upper levels are oxidized where small stopes were run out to the east at 50 and 75-foot levels reported to have returned $25-$30 per ton after custom mill treatment at Silver City, Nevada.

Fraser describes a thoroughly leached barren zone between 100 and 300 Levels then sulphide ore occurs and at the 400 Level he indicates the beginning of secondary enriched zone with increased values that are to be expected for several hundreds of feet below until primary ore again reduces gold and silver values. This described condition indicates that the zones of vein intersection about 100 feet or more ahead of 400 Level's east face should be explored at this level when gold market permits.

(2) The northeast striking "South vein" is described as strong with widths up to 20 feet but has been meagrely prospected at surface by some cuts and a 60-foot shaft where short drifts at 30-foot point provided $7 to $8 gold ore. The south crosscut from southwest part of 400 Level is reported by Stoddard to have provided 11-feet width of $12 gold ore in this vein. South vein's northeasterly extension should be surface explored into vicinity of Cross vein series.

(3) "Cross vein" occurring at Sunrise No. 1 Tunnel portal strikes about N 30° W with westerly dip at 60°. It courses uphill away to west of the N 8° W tunnel course which followed no perceptible structure. This vein is upwards of 10-feet width of calcite-quartz structure with evidence of considerable continuity both NW and SE so it should intersect both Main and South veins as indicated on Map No. 5. It is believed to be forerunner of a series of north-northwest cross veins noted by early engineer reports. No assays are reported and panning at tunnel portal showed no metallics.

Ore Values The ore is essentially gold ore sometimes with silver present in important amount. Indicated ratio is 0.47-ounce gold to 1-ounce silver.

According to Stoddard's 1935 report, summarizing Fraser and Howell reports, Howell got an average $11.20 gold and 40¢ silver at surface east of Main shaft and his sampling down 100 feet of Main shaft is reported at $15.60 gold and 1.57 silver at from 3 feet to 14 feet width. Stoddard further notes that Howell's sampling from 100 to 275 Level provided values from $4 to $130 per ton, no details or widths noted. He also states that Howell's sampling at 100 Level showed 3 feet : $12 per ton, no details given. Stoddard notes that Fraser took 15 samples at various points which ranged from $1.80 to $35 per ton. All values figured @ $35 per gold ounce and 77¢ per silver ounce. Howell notes that sulphide ore from 400 Level assayed $25.83 gold per ton.

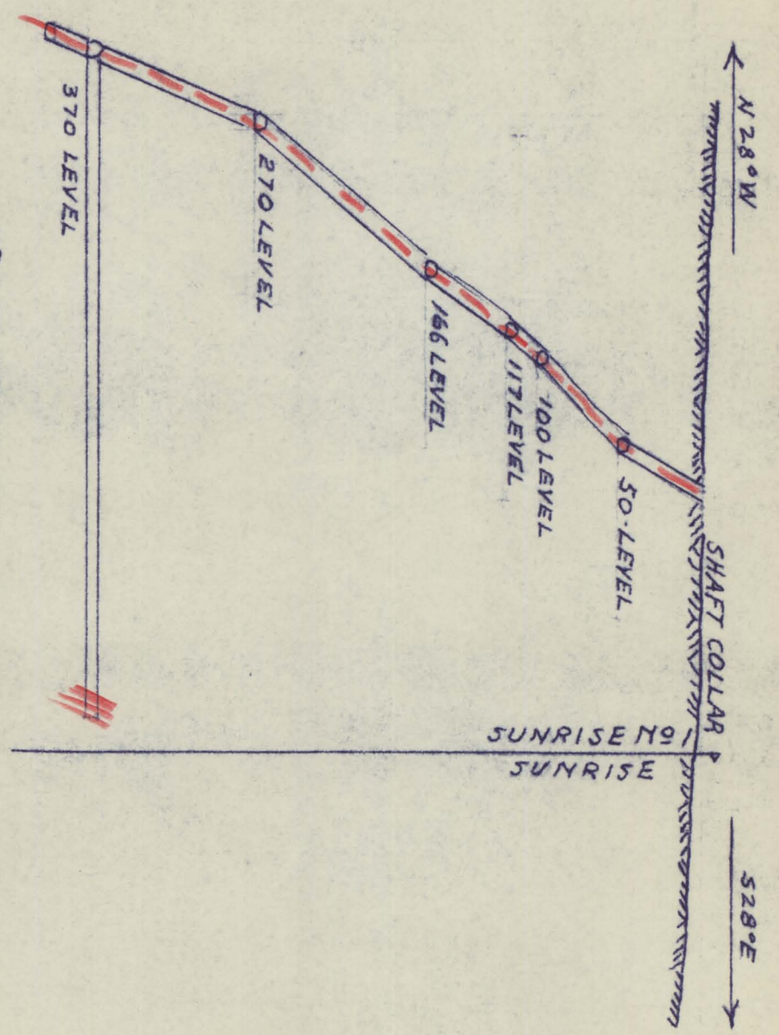
On basis of geologic allocation of ore into zones of intersection it is to be expected that when the Main and South veins are explored into the intersection zone from 600 to 800 or 900 feet northeast higher gold and silver values may be gotten.

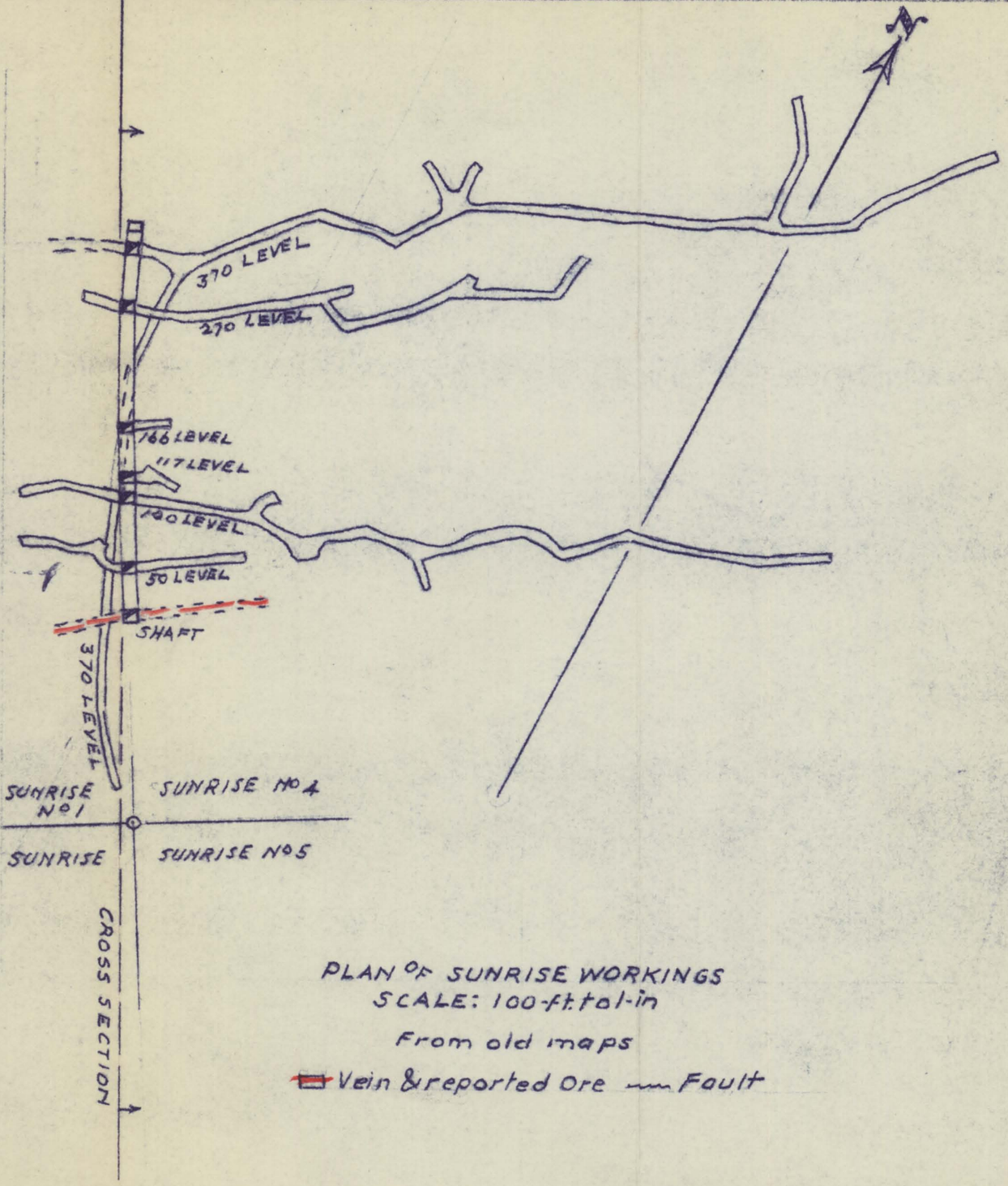
WORKINGS (1) The Main Shaft comprises 2 compartments sunk 450 feet down the Main vein to 370 feet vertical as shown on Map No. 6. The available map shows about 1030 feet of drifting northeast and southwest on "Main vein" for maximum length of 700 feet at 400 Level. About 670 feet of crosscutting was done inclusive of 400 feet into the "South vein" area. Six levels were run at 50, 100, 117, 166, 270, 370 vertical feet to 425 feet down the vein as shown on Cross Section Map No. 6. Pump Stations were put in at 300 Level (270 vertical feet) and at shaft bottom to drain below water table at 270 vertical feet down shaft.

(2) A 60-foot shaft down NW dipping "South vein" about 300 feet southerly from Main Shaft as shown on Map No. 5. This shows a strong vein that provided $7 to $8 gold ore at small drifts run both ways from 30 feet. A 400-foot south crosscut from Main Shaft's 400 Level west drift is reported to have encountered $12 gold ore.

(3) Shallow Sunrise No. 5 Tunnel driven 85 feet northerly about 600 feet east from Main shaft. This tunnel attains less than 30 feet depth and follows no perceptible structure.

Condition of Workings The Sunrise No. 5 tunnel is open. The South vein's 60-foot shaft is open for about 40 feet. The Main Shaft timbers are good at collar and it is possible that the shaft can be rehabilitated by replacing ladders and replacing a few timber sets. Obviously only examination can determine condition of the drifts off from shaft and the amount of rehabilitation required.



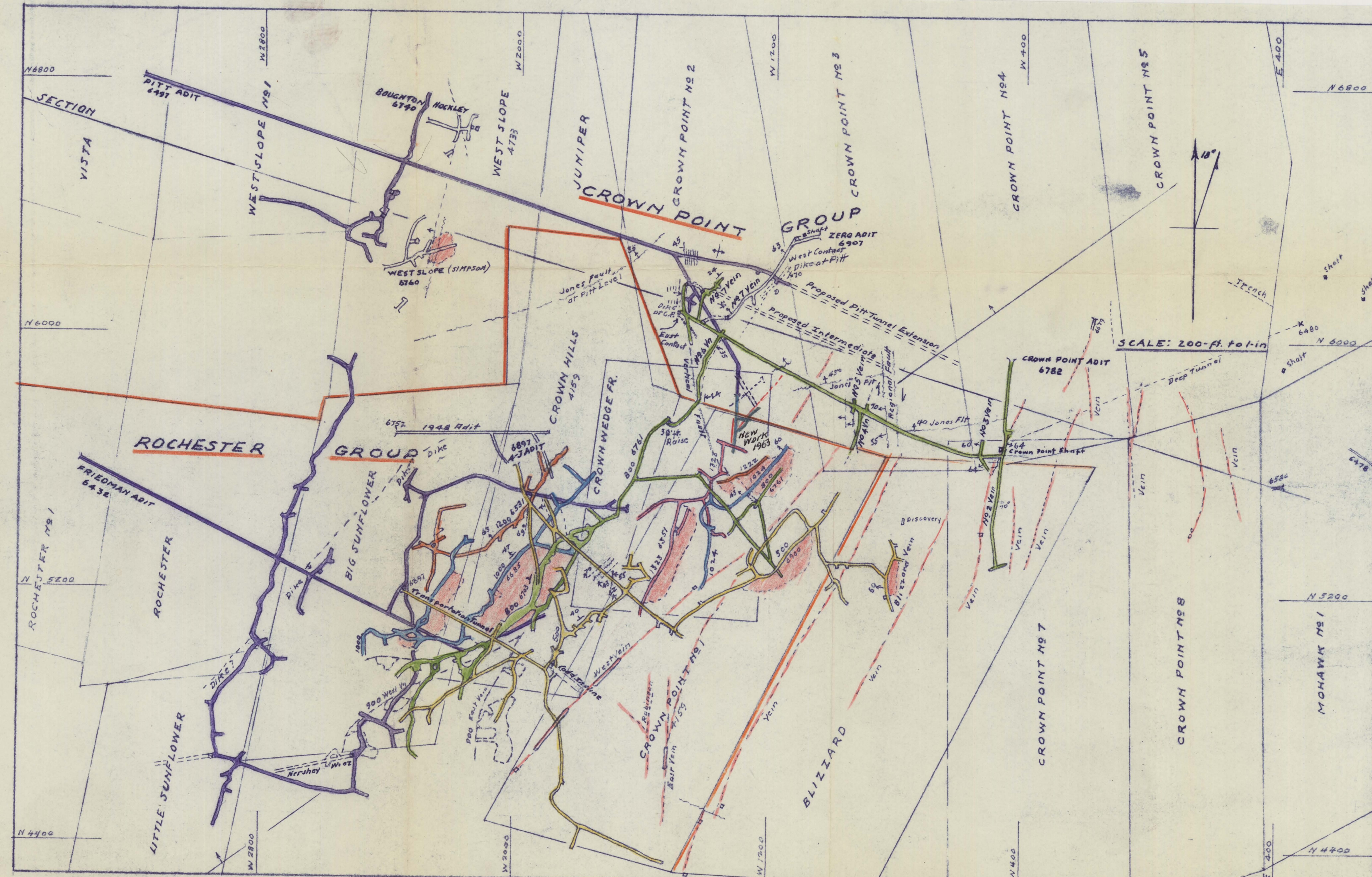


PLAN OF SUNRISE WORKINGS
SCALE: 100-ft. to 1-in
From old maps
Vein & reported Ore — Fault

Map No 6

3970 0037

291
Item 40


CROWN POINT GROUP
ROCHESTER GROUP
SECTION
VISTA
WEST SLOPE No 1
WEST SLOPE 4733
JUNIPER
CROWN POINT No 2
CROWN POINT No 3
CROWN POINT No 4
CROWN POINT No 5
CROWN HILLS 4159
CROWN WEDGE FR.
CROWN POINT No 1 4159
CROWN POINT No 7
CROWN POINT No 8
MOHAWK No 1
BLIZZARD
ROCHESTER No 1
ROCHESTER
BIG SUNFLOWER
LITTLE SUNFLOWER
PITT ADIT 6497
BOUGHTON 6740
HOCKLEY
WEST SLOPE (SIMPSON) 6760
ZERO ADIT 6907
CROWN POINT ADIT 6782
Crown Point Shaft
FRIEDMAN ADIT 6432
1948 Adit
6897 4-J ADIT
Transportation Tunnel
Proposed Pitt Tunnel Extension
Proposed Intermediate
Deep Tunnel
Jones Fault at Pitt Level
Jones Flt
Regional Fault
West Contact Dike at Pitt
East Contact
Dike at C.P.
No 7 Vein
No 6 Vn
No 5 Vein
No 4 Vn
No 3 Vein
No 2 Vein
New Work 1963
30 ft. Raise
West Vein
East Vein
Blizzard Vein
Discovery
Hershey Winz
900 West Vn
900 East Vein
Codd Incline
Trench
Shaft
Dike
Vein
SCALE: 200-ft. to 1-in
N 6800
N 6000
N 5200
N 4400
W 2800
W 2000
W 1200
W 400
E 400

PLAN OF CROWN POINT - ROCHESTER SILVER MINES.

SCALE: 200-ft. to 1-in.

Reduced from Mine maps by Arthur Lakes Oct. 1960

Map No 3

3970 0037

(291) Item 40