

(291)

ITEM 26

3970 0024

Reports on mining properties
of Silver State Mines, Inc.

by Arthur Lakes

see also map files

Item 26

(291)

MEMOTo Dr. Banfield

The following may be of use.

PROPERTY Silver State Cons. Mines Co. owns a block of 32-mineral claims and fractionals, inclusive of 4-patented claims and 28-located claims. It also owns 200-acre placer claim in Sage Hen valley east of the mineral group.

The claims are located in Rochester Mining District, Pershing County, Nevada and occupy parts of Sections 15-16-17-21 and 22 of T 28-N, R 34-E, Mount Diablo Base and Meridian. The placer occupies east part of Section 15 and Section 14.

The claims straddle the entire east and west flanks of the northerly trending Nenzel Hill that rises from 6300 to 7900-feet above sealevel and dominates the district mineralization.

Nenzel Hill is flanked on the east by northerly trending Sage Hen valley which is drained easterly by American and South American canyons. It is flanked on the west by Rochester canyon which trends westerly. The old Rochester mine with gross production in order of 10,000,000 ounces silver and 75,000 ounces gold occupies the west flank and the "New Mine" occupies the east flank.

ACCESSIBILITY The "New Mine" is penetrated by Pitt Adit tunnel driven easterly under the western hillslope and connected by 2 285-foot vertical raise to the Crown Point Adit tunnel driven westerly under the east flank as shown on accompanying maps. The Pitt tunnel is being advanced in Blizzard Crosscut through to east flank and when completed the tunnel will extend 4350-feet from west to east portals.

The Pitt tunnel's west portal is reached by 27-miles of U. S. Highway and County road from supply center at Lovelock, seat of Pershing County which is 85-miles over U. S. Highway 40 from Reno, Nevada. (American Canyon-Limerick Canyon road's accessibility to U. S. Highway clocked by Dr. Banfield?) The east side of the mountain is accessible by County road over divide and also by road up American Canyon that connects with Highway 40. This road will be connected by 2-mil 6% hill-side road down from Pitt tunnel's East portal.

Southern Pacific Railway siding at Oreana is 11-miles over County road from Pitt's west portal. Bell telephone is installed nearby close to where Sierra Pacific Power Co. has a station to serve the mine. The Power Company has agreed to extent 13,000 volt line over the mountain to the East portal.

WATER The water supply will be by wells and springs piped to the East portal area.

Silver State Cons. Mines Co. has Water Applications as follows:

(1) APPLICATIONS SURVEYED AND AMENDED BY LICENSED WATER ENGINEER

Filed With State Engineer, Water Resources Division, subject to advertisement for adverse and if clear license given after 6-weeks advertising.

Well No. 1 Application #21735 for $\frac{1}{4}$ -sec. feet in SW $\frac{1}{4}$ - SE $\frac{1}{4}$ Section 15 about 3150-feet from proposed east millsite. Hole drilled 210-feet, cased by 8 $\frac{1}{2}$ -inch pipe with standing water at 25-feet below surface. Pump at location ready to test this well.

Well No. 2 Application 21736 for $\frac{1}{4}$ -sec. feet in SW $\frac{1}{4}$ - NE $\frac{1}{4}$ Section 15 about 650-feet from proposed mill site. Not yet drilled.

Well No. 3 Application 21734 for $\frac{1}{4}$ -sec. feet in SW $\frac{1}{4}$ - SE $\frac{1}{4}$ Section 10 about 1350-feet from proposed millsite. Hole not drilled.

(2) APPLICATIONS FILED SUBJECT TO SURVEY AND AMENDMENT BY LICENSED WATER ENGINEER .

Spring Application 21978 for 2-sec. feet in SW $\frac{1}{4}$ - SW $\frac{1}{4}$ Section 27 about 11,400-feet from proposed millsite.

Spring Application 21979 for 2-sec. feet in NW $\frac{1}{4}$ - NW $\frac{1}{4}$ Section 34, about 12,000-feet from proposed millsite

Spring Application 21780 for 2-sec. feet in NW $\frac{1}{4}$ - SW $\frac{1}{4}$ Section 34, about 14,900-feet from proposed mill site.

These springs are reported to have supplied water needs for two mills at Packard. The covering ground is owned by Harry Stokely who will give Silver State Cons. Mines Co. an easement.

<u>Elevations</u>	#21978	6400-feet
	#21979	6160
	#21980	6260

Elevation of intervening ridge between springs and millsite is about 6860. The elevation of proposed mill is 6500

June 18, 1964

Arthur Lakes
(Arthur Lakes)

Accompanying is a complete set of all maps up to date.

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BLIZZARD NO. 2

SAMPLE NO.	SAMPLE LOCATION	WIDTH	SILVER OUNCES PER TON	GOLD OUNCES PER TON	TOTAL VALUE
318	12' NORTH - FLOOR	2 1/2'	52.70	.07	70.69
319	18' NORTH - FLOOR	3 1/2'	6.10	.02	8.59
320	26' NORTH - BACK	3'	10.15	.02	13.92
321	38' NORTH - FLOOR	2 1/2'	8.80	.7	11.52
322	54' NORTH - BACK	3'	12.30	.04	17.31
323	NO. 2 STATION - BACK	4'	10.05	.03	14.06
324	12' SOUTH - BACK	4'	5.95	.7	7.70
325	24' SOUTH - FLOOR	4'	12.75	.01	16.85
326	36' SOUTH - FLOOR	3 1/2'	19.10	.05	26.41
327	58' SOUTH - FLOOR	3 1/2'	7.85	.02	10.87
328	90' SOUTH - FLOOR	4'	15.75	.06	22.50
329	106' SOUTH - FLOOR	7'	11.45	.03	15.87
330	118' SOUTH - BACK	9'	4.80	.7	6.34
331	126' SOUTH - FLOOR	7'	29.60	.10	41.75
332	190' SOUTH - FLOOR	3'	8.65	.01	11.75
333	220' SOUTH - FLOOR	3'	7.10	.03	10.24
334	245' SOUTH - FLOOR	3'	9.15	.02	12.52
335	260' SOUTH - FLOOR	3'	4.10	.7	5.30
336	295' SOUTH - BACK	4'	10.10	.02	13.78
337	315' SOUTH - BACK	3 1/2'	13.15	.05	18.75
338	330' SOUTH - BACK	4'	11.75	.03	14.97
339	336' SOUTH - BACK	5'	10.25	.01	13.63
340	342' SOUTH - BACK	6'	12.70	.04	17.82
341	348' SOUTH - BACK	6'	15.65	.05	23.86
342	356' SOUTH - FACE	6'	13.10	.02	17.68

BLIZZARD NO. 1

343	20' SOUTH - BACK	4'	21.35	.07	30.06
344	35' SOUTH - BACK	3'	10.75	.02	14.61
345	65' SOUTH - BACK	4'	16.15	.06	23.01
346	115' SOUTH - BACK	2'	23.20	.11	33.85
347	145' SOUTH - BACK	2'	11.95	.04	16.88

NO. 2 BLIZZARD AV. - #18.22

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Item 26

FORM S-3, ITEM 4, PROPERTY

(1-b) Silver State Consolidated Mines Company owns two mining properties about 100-miles apart as follows: Combined Crown Point-Rochester group of 20-claims in Pershing County, Nevada and Sunrise group of 7-claims in Lyon County, Nevada,

The exploration-development program essentially concerns Crown Point-Rochester whereby Sunrise operations will be maintained on annual assessment basis until Crown Point-Rochester is back in production.

CROWN POINT-ROCHESTER

(1 & 2-b) The Crown Point-Rochester property comprises combination of Crown Point and Rochester holdings into a compact group of 20-claims straddling Nenzel Hill which dominates the district mineralization. The claims are situated in Rochester Mining District, Pershing County, Nevada in Sections 15, 16, & 20 of T-28 N; R-04 E: Mt. Diablo Base & Meridian.

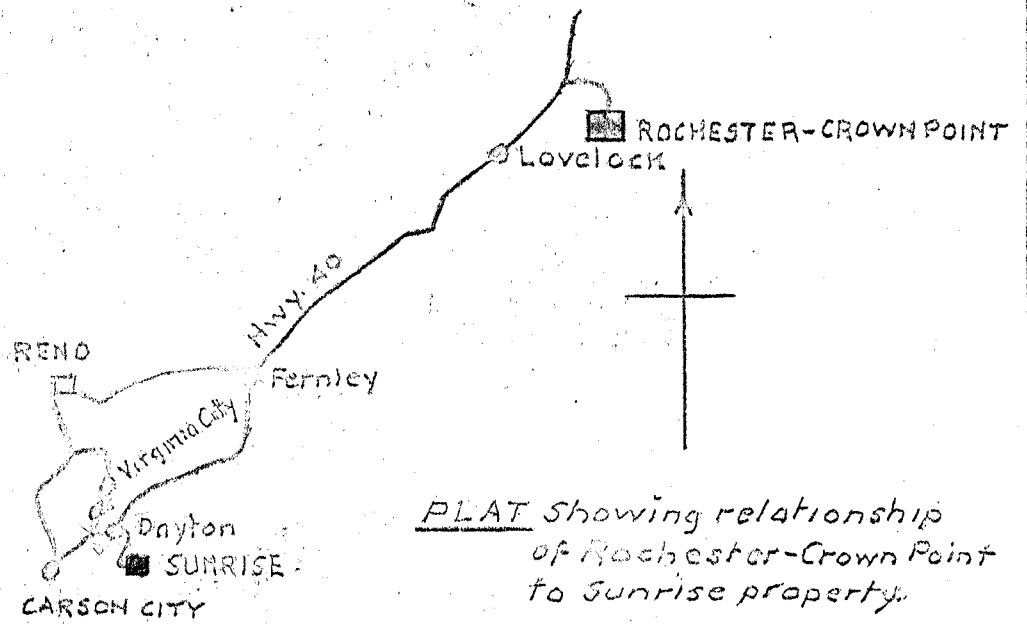
The property includes: Four patented claims subject to annual taxation as follows: #4159 Crown Point No. 1, #4159 Crown Wedge Fraction, #4159 Crown Hills & #4252 West Slope. Sixteen claims are held by location subject to annual assessment work @ \$100 per claim. These comprise Little Sunflower, Big Sunflower, Vista, Rochester, Rochester No. 1, Tony, Juniper, West Slope No. 1, Mohawk, Blizzard, Crown Point No. 2, 3, 4, 5, 7, & 8.

Current taxes on patented claims are paid up and annual assessment has been performed and recorded to next due date, September 1st, 1963.

ACCESSIBILITY The property is reached by 27-miles of United States Highway #40 and County road from supply center at Lovelock, County seat of Pershing County, which is 85-miles over Highway #40 from Reno, Nevada. Southern Pacific Railroad station at Oreana is 14-miles over County road. Bell of Nevada telephone is installed at mine camp and Sierra Pacific Electric Power line is within 1/2-mile from operating Pitt tunnel portal.

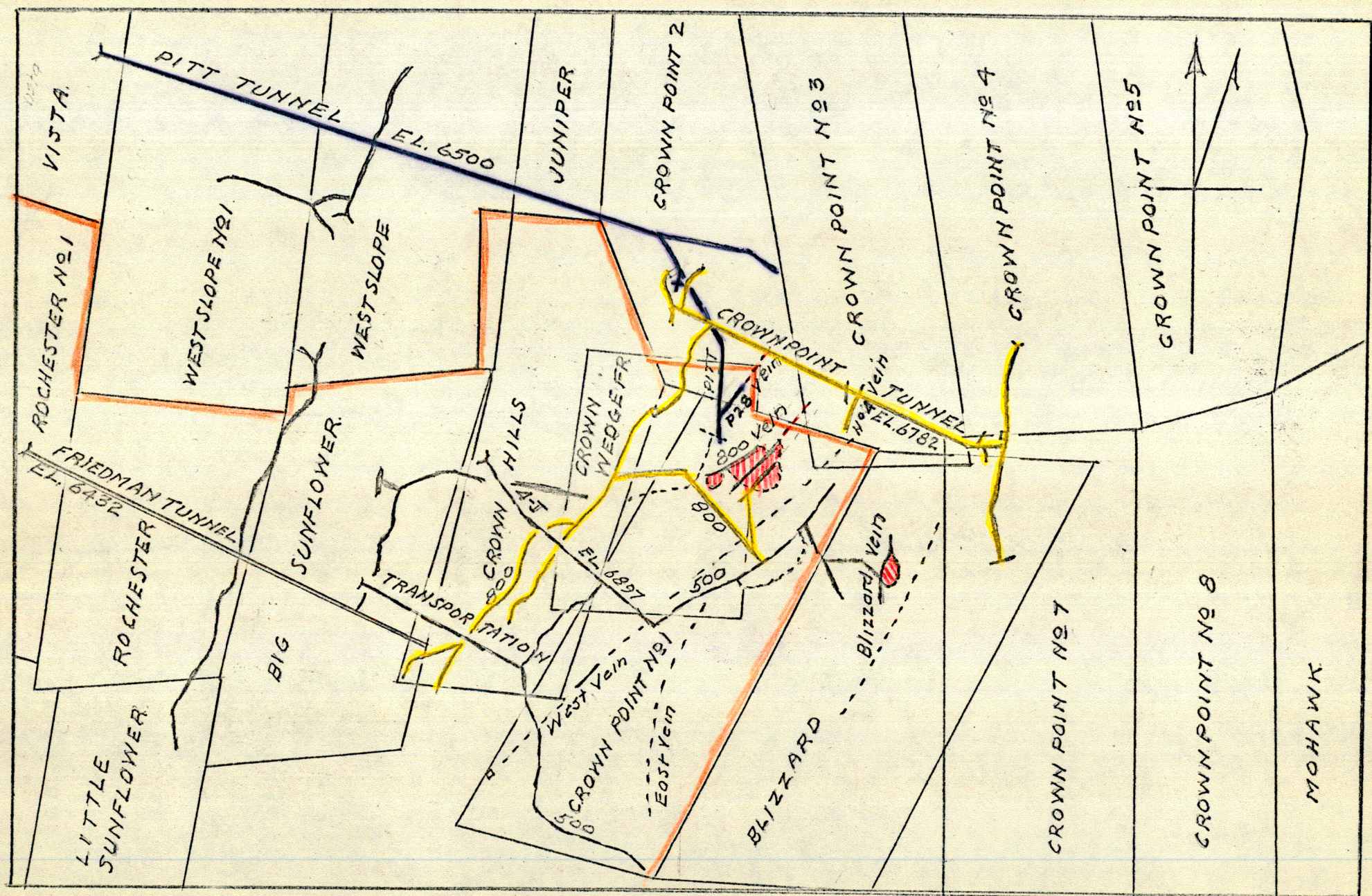
The ~~area to be explored~~ is penetrated by (1) Pitt Adit Tunnel driven easterly under western hillslope and connected by 285-vertical raise to (2) Crown Point Adit Tunnel driven westerly under eastern hillslope. The Pitt tunnel has been selected to base the exploration-development program.

The Pitt Tunnel is within 800 feet of penetrating thru the mountain. Tunneling is being driven from both West face.



PLAT Showing relationship
of Rochester-Crown Point
to Sunrise property.
Approximately 30-miles-in.

Map No. 1



PLAN OF CROWN POINT-ROCHESTER CLAIMS AND ADIT TUNNELS

SCALE: 400-ft. to 1-in.

(3-b) HISTORICAL Prospecting predated 1905 culminating in important Nenzel discovery of rich silver-gold ore which brought a rush and by 1912 population of about 2000 was divided between three towns within 2-mile radius.

The dominant Rochester mine was equipped with cyanide mill and from 1912 to 1935 provided in order of 8,600,000 ounces silver and \$1,500,000 gold at \$20.67 per gold ounce. *

The adjoining Crown Point, known to contain northerly extension of Rochester vein system, lacked milling facilities hence its output was restricted to small tonnage derived mostly from short drifts and upraises off from its main Crown Point Tunnel.

Rochester mine was owned and operated from 1912 to 1935 by Rochester Silver Mines Co. when its assets were sold to Rochester Consolidated Mines Co. The adjoining Crown Point was owned and operated by Nenzel Crown Point Mining Co. from 1912 to 1935 when its assets were purchased by Western Properties Co. In 1961 the Silver States Mines Inc. purchased the combined Crown Point-Rochester groups plus Blizzard claim, making the present total of 20-claims. On September 28, 1962 Silver State Consolidated Mines Company acquired all assets of Silver State Mines Inc. inclusive of Crown Point-Rochester and Sunrise mining properties.

During 1947-1948 Rochester Consolidated Mines Co. engaged Lawrence B. Wright, Consulting Mining Geologist of San Francisco, formerly of Wright, Dolbear Co. of New York City, to outline and perform exploration work. During this period the Pitt Tunnel was extended to total 2120-feet and its "Y" branch was extended to total 490-feet and the "1948 Tunnel" was driven 730-feet in Rochester ground.

In 1961 the properties' ore potentials were reviewed and in 1962 the proposed exploration-development program was determined. Starting October 1962 private capital financed complete rehabilitation of Pitt Tunnel to the end of "Y" branch and on November 28th, underground work was started according to description in Section 6-b.

(4-b) PRESENT STATE The exploration-development program chiefly
 OF DEVELOPMENT concerns Crown Point and northeast Rochester
areas though at some later date exploration
should also be conducted into extensive blocks of potentially productive Roch-

* United States Mineral Resources reports production from "deep mines" (Predominantly Rochester) at 8,698,243 ounces silver and \$1,573,075 gold(@ \$20.67 per gold ounce) from 1912 through 1934.

ester ground.

The workings concerned with the program are those of Rochester's northerly "800 Vein" to wit; 800, 1024, 1222, and 1323 Levels and Crown Point's Pitt and Crown Point Adit Tunnels shown on accompanying Map. The Crown Point Tunnel crosscuts 1200-feet westerly under east flank of Nenzel Hill and is joined by winz with Pitt Adit Tunnel 285-feet below that crosscuts 2120-feet easterly under west flank of Nenzel Hill as shown on accompanying map.

Crown Point Tunnel is open, showing six veins including its No. 4 Vein, a chief objective of the program.

As stated, the Pitt Tunnel has been completely rehabilitated to end of its "Y" branch where an upraise was driven 42-feet to connect with Rochester's 1323 Level.

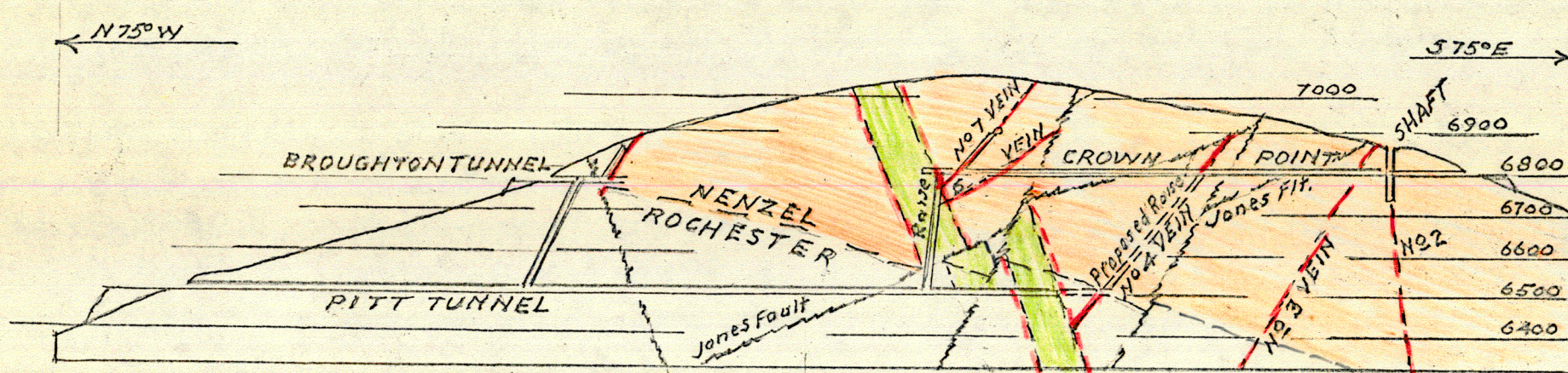
The Pitt Tunnel has been adequately equipped with Air locomotive, 6-two ton mine cars, mucking machine, 4-drills, drill steel and all necessary tools and accessories. A 4-wheel truck has also been provided.

The tunnel portal is supplied with 415-cu. ft. per min. Deisel driven compressor which can be replaced, when necessary, by larger electric compressor powered from Sierra Pacific electric lines. The surface improvements include compressor building, shop, timber yard, rail and pipe racks, stockpile dump for ore.

(5-b) MINERALIZATION Crown Point-Rochester ore is essentially silver-gold in ratio of about 100-oz. silver to 1-oz. gold. The ore is especially amenable to cyanide processing directly into bullion.

The veins strike northeasterly and dip 20° to 65° westerly through gently east dipping arm of an anticline formed in bedded succession of volcanic flows which comprise (1) underlying Rochester trachyte overlain by (2) Nenzel rhyolite and rhyolite breccia in which the silver-gold veins were first discovered and accounting for the bulk of the district's silver-gold production. Nenzel is overlain (3) by Weaver rhyolite and tuffaceous shale. Knop's map, accompanying U. S. Geological Survey Bulletin 762, shows the ore-favorable Nenzel progressively expanding as it extends northerly through the unexplored Crown Point ground.

DISTRIBUTION Nenzel rhyolite is the most competent of the formations to form and sustain fractures that afforded better channels for ore deposition more amenable to secondary enrichment which characterizes



SCALE: 600-ft.
100

DIAGRAMMATIC SECTION ALONG GENERAL COURSE CROWN POINT-PITT ADITS

APLITIC DIKE
 MINERALIZED CONTACT
 ORE VEIN
 FAULT

Refer to
Arthur Lakes, 1961 Report

The Rochester
the pay ore throughout the productive zones. Thus Nenzel is the best host rock and, by its east dipping attitude, veins found in the lower Rochester horizons as they progress upward and extend northeasterly should penetrate more and more into Nenzel where the better ore values occur.

The Rochester
Rochester's production came mostly from its chief East and West veins and spurs therefrom. The veins were explored an aggregate 2000-feet length by about 1200-feet down dip. The pay ore was mined from various oreshoots aggregating about 1700-feet length by about 900-feet depth down the vein dips, mostly in Nenzel and upper Rochester formations.

Divided ownership and controversial issues prevented Rochester from following its ore veins their full northerly limits and, conversely, limited Crown Point to short southerly explorations towards Rochester ground. Thus none of the veins have been followed to their limits and Crown Point and northern Rochester ore potentials are essentially intact and virgin to block out ore to justify re-establishing a suitable mill to put the mines back into production.

PROBABLE ORE The following estimates of Probable Ore in the veins of Crown Point Tunnel were made (1) by J. G. Huntington, Mining Engineer July 18, 1935, (2) by R. E. Eisenhauer, Mining Engineer December 31, 1936, and (3) the estimates were concurred with in Lawrence B. Wright's July 14, 1948 Report for Rochester Consolidated Mines Co.

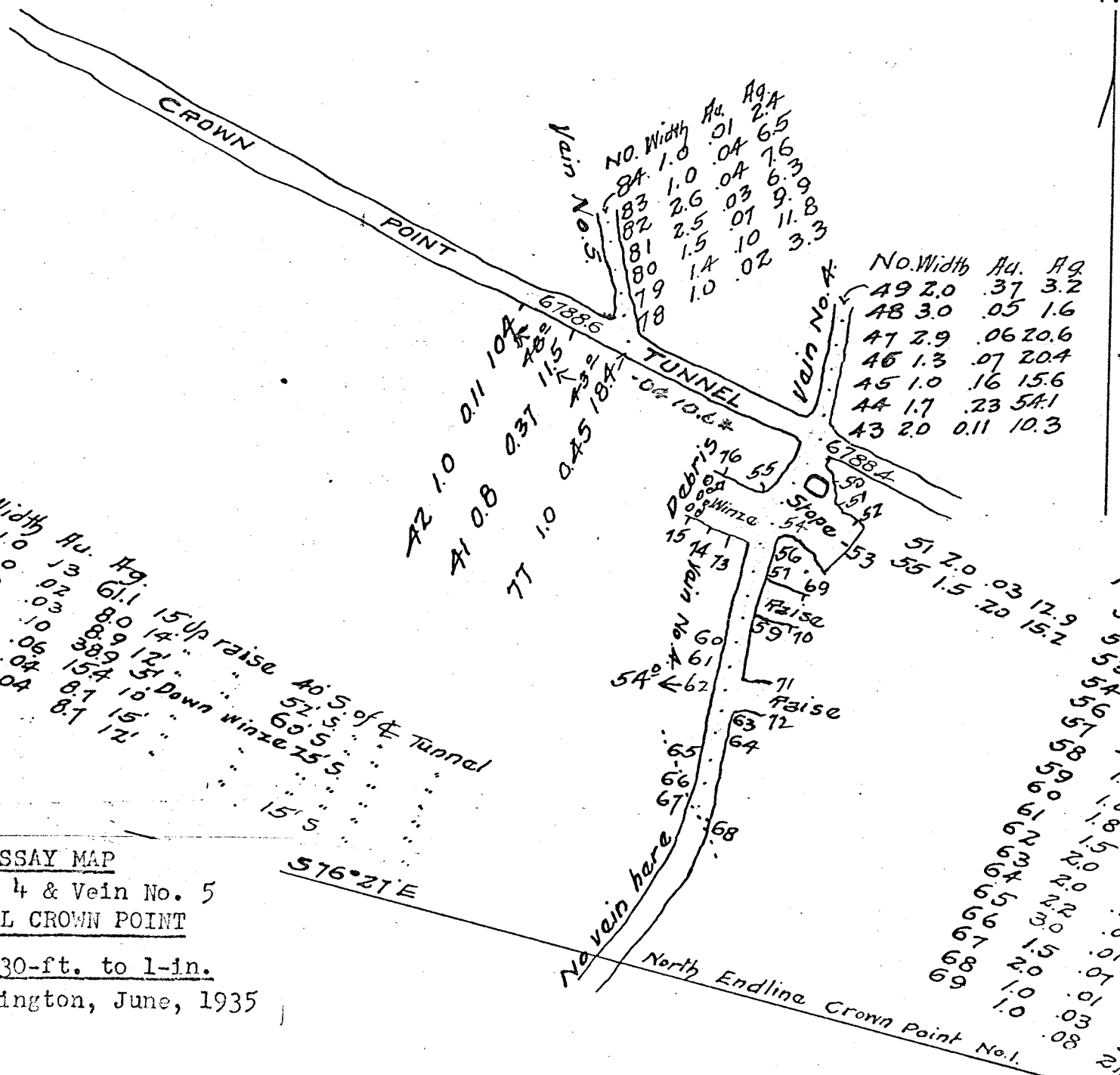
Calclater	Tons	Gold oz.	Silver oz.	Value then	Value now
Huntington	10,599	454.41	100,647	\$ 93,402	\$136,630
Eisenhauer	10,081			103,448	150,392

Value calculated @ \$35 per gold oz, 77¢ per silver oz.

Present calculation \$35 per gold oz., \$120 per silver oz.

(6-b) WORK DONE In addition to rehabilitation and re-equipment of Pitt Tunnel the Silver State Consolidated Mines Co. has performed 295-feet of tunnelling and 42-feet of upraise to 1323 Level as shown on accompanying map.

The work included 170-feet southerly along "Y" branch tunnel. The objective was (1) to explore for downward extension of Rochester "800 Vein" and (2) make upraise connection with 1323 Level for ventilation. The "Y" Tunnel encountered the "800 Vein's" flattened downward extension (here designated "P-28 Vein") at 51-feet where it expands at juncture with a steep southerly trending mineralized fault here designated "Y Vein". The



ASSAY MAP

Vein No. 4 & Vein No. 5
 NENZEL CROWN POINT

SCALE: 30-ft. to 1-in.

J. G. Huntington, June, 1935

mineralized "Y Vein" was followed 100-feet in ore averaging .026-oz. gold and 11.47-oz. silver @ \$14.67 per ton. At the 135-foot point the P-30 Raise extends up 42-feet to 1323 Level.

A 35-foot crosscut was driven across P-28 Vein at its enriched juncture with "Y" Vein. Assays for 20-feet ranged from .06-oz. gold and 2.6-oz. silver at the footwall to .175-oz. gold and 34.8-oz. silver at vein's center, averaging 0.54-oz. gold and 17-oz. silver @ \$22.29 per ton.

At the 95-foot point a back drift was run along P-28 Vein's footwall in order to give access for mine train. This drift was extended 90-feet along the low grade footwall which averages .062-oz. gold and 5.35-oz. silver @ \$8.59 for the 60-feet presently sampled.

The Pitt Level sampling was performed by Joseph Warren, Mine Foreman whose Experience Record is attached. The assaying was done by Mineral Services, Inc., 158 SW Temple Street, Salt Lake City, Utah.

EXPLORATION-
DEVELOPMENT
PROGRAM

The present Pitt Level ore showings in P-28 and "Y" veins are in Rochester formation that extends up between 1222 and 1323 Levels, above which is the ore-favorable Nenzel where the better ore values are to be expected.

The Program's objective is to open up ore in virgin Nenzel enclosed areas of Rochester and Crown Point veins to block out ore to put the mines back into production.

The Program essentially concerns: (1) Rochester "800 Vein" presently disclosed as "P-28 Vein" at Pitt Tunnel level. (2) Downward extension of Crown Point vein where 25-samples average .066-oz. gold and 15-oz. silver @ \$21.88 per ton. (3) Downward extension of Blizzard Vein where ore was stoped at Rochester 500-Level as shown on accompanying map.

PROJECT 1 Project No. 1 is to (1) Drive a 2-compartment working raise up "P-28 Vein" from Pitt Level to 800-Level. Because the vein flattens to less than 40° this upraise will be started in its footwall as shown on Section "B" herewith. (2) Connect sublevels with existing 1222, 1024, and 800-drifts. Extend sublevels northeasterly to block out ore in this section. At a later date work can be continued above 800 Level to surface, approximately 300-feet.

PROJECT 2 Project No. 2 is (1) to extend 1024-Level northeasterly along the vein about 200-feet and crosscut westerly for downward projection of Crown Point's No. 4 vein which at the 800-Level appears to be offset or separate from Rochester's "800 Vein". (2) Drift NE and SW along

0-5' .03 5.5 \$7.65
 5-11' .055 29.1 29.64
 11-18 .065 13.8 18.83
 18-21' .06 2.6 5.22

Start of New Work
 0-ft.

Locality Au oz Ag oz \$ per ton

56' .07 11.6 \$14.62

61' .07 7.6 9.82

67' .03 22.0 27.45

73' .025 12.9 16.35

80' .025 20.0 25.95

86' .03 26.7 33.09

92' .015 23.6 28.84

98' .04 13.0 17.00

109' .03 10.1 12.12

115' .03 5.9 8.13

121' .055 15.0 19.92

127' .035 11.7 15.36

133' .015 1.8 2.68

139' .035 8.7 11.76

.029 13.66 \$18.62*

145' .015 1.1 1.84

151' .025 3.2 4.71

.05 7.6 \$10.47

.060 5.0 \$8.10

.040 3.3 \$5.36

.055 3.7 \$6.46

Car Sample Au Ag \$

{ 0-12 ft .07 19.3 \$25.61

{ 12-21 ft .065 16.1 21.59

.050 4.1 \$6.67

.025 1.4 \$2.76

.085 4.2 \$8.01

.115 11.3 \$17.58

.08 7.5 \$11.50

Car Samples Au Ag \$ "Y Vein"

56-61 ft .035 16.7 \$21.26

61-67 .010 2.0 2.75

67-80 .030 24.8 30.75

+18' .055 16.6 \$21.84
 Raise 42-ft. to 1323 Tunnel.

ASSAY MAP PITT TUNNEL

"Y VEIN" Tunnel width @ 5+ ft.

"P 28 VEIN" Recorded width.

Assay Values compiled @
 Au \$35 - Ag \$1.20 per ounce

SCALE: 20-Ft. to 1-in.

@ Ag 1.20
 Au 35.00

No. 4 vein. (3) Connect its 1024 Level disclosure by 130-foot upraise to Crown Point's No. 4 Drift. (4) Establish sublevel to block out ore. (5) Later extend Main Pitt Tunnel about 100-feet to No. 4 Vein projection, drive SW and construct upraise connection with 1024. Establish sublevels to block out ore.

PROJECT 3 (1) Extend an easterly crosscut at 1024 Level about 320-feet into downward projection of Blizzard vein below its stoped area at 500-Level. (2) Drift NE and SW and extend a 2-compartment working raise about 260-feet up the vein to connection with 500-level. Establish sublevels to block out ore. At a later date work can be continued to surface, approximately 150-feet.

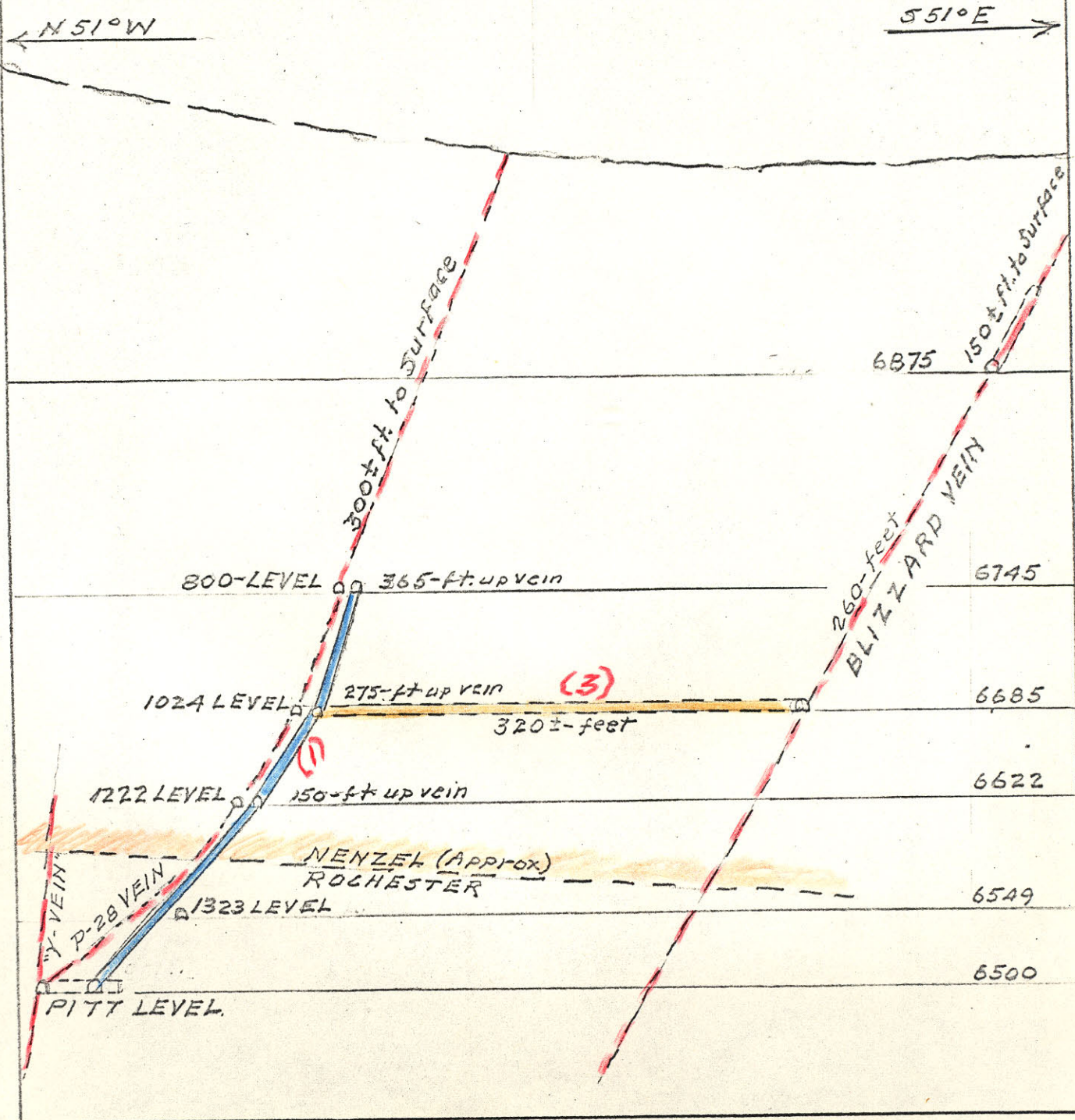
The program will be supervised by Arthur Lakes, Consulting Mining Engineer, Reno, Nevada, whose Experience Record is attached.

Reno, Nevada
March 15, 1963

Arthur Lakes
(Arthur Lakes)

- REFERENCES (1) The 1924 U. S. Geological Survey Bulletin No. 762 by Adolph Knopf.
- (2) Attached Reports. (a) J. G. Huntington, July 18, 1935.
(b) R. C. Eisenhower, December 31, 1936.
- (3) Lawrence B. Wright Reports of September 5, 1947 & July 14, 1948.
- (4) Arthur Lakes, May 12, 1961 Report.

CROSS SECTION "B"
ILLUSTRATING PROJECT 1 & 3
SCALE: 100-ft. to 1-in.



ARTHUR LAKES
Consulting Mining Engineer
700 Forest Street
Reno, Nevada

SUMMARY OF EXPERIENCE

From	To	Position
1909	1910	Exploration Engineer for Colorado Gold Dredging Co., Breckenridge, Colorado (Subsidiary of General Development Co., New York City, late J. Parke Channing, Cons. Eng.) In charge of extensive drilling, sampling, and mapping placer ground prior to installation of two dredges.
1910	1911	Editor of Mining Science Monthly, Denver, Colorado. Edited technical articles on mining and metallurgy.
1912	1917	(1) Manager and Engineer for Alturas Mining Co., Hailey, Ida. Development and exploration of silver-lead ores (b) 1913-1917 Manager and Engineer for Ymir-Wilcox Dev. Co., Ymir, British Columbia. Developed Wilcox gold mine into production.
		(2) In 1915 formed association with Andrew G. Larson, E. M. as partner in firm of Larson & Lakes, Cons. Mining Engineers, Spokane. Conducted mining examinations in Alaska, Idaho, Montana, Washington and British Columbia.
1917	1919	In United States Army as 1st. Lieut. Inf. advanced to Captain Inf., and then to Major and sent overseas. Discharged at Camp Dix, N. J. July 9, 1919.
1919	1921	Resumed partnership Larson & Lakes, Spokane, Wash. Geological and Engineering. Geologist & Engineer preparing surveys and exhibits for defendant in apex lawsuit Days vs. Last Chance M. Co., Republic, Washington. Geologically mapped and conducted exploration-development to successful operations at Lucky Jim zinc mine and White-water lead-zinc-silver mine, Slocan District, British Columbia each of which expanded into major producers. Similarly at Queen and Kootenay Belle gold mines, Sheep Creek District, B. C. both of which were successfully exploited.
1922	1929	Larson moved to Vancouver, B. C. and I established an office at Nelson, B. C. Conducted regional survey of Sheep Creek gold camp that resulted in extending Motherlode, Queen, Kootenay Belle ore showings and in discovery of Gold Belt mine that subsequently was very successfully exploited by North American Mining Co., of Boston.

Examined and mapped Reeves-McDonald zinc-lead prospect on British Columbia extension of Pend Oreille, Washington District and got Victoria Syndicate (England) to take over and develop into a major zinc-lead producer now owned by Pend Oreille Mining Co. and Bunker Hill M. Co. as a major NW producer.

Manager, Engineer & Geologist for Emerald mine, Sheep Creek B. C. lead district. Produced lead concentrates to pay off deficit owed Consolidated M & S. Co. due to lead price slump after World War I. Mapped and developed important lead-zinc showings and with my brother, the late Harold Lakes, mapped geologic details that led to lead-zinc developments warranting 1000-tons per diem production. Most importantly also disclosed the large high grade Emerald tungsten deposits that produced @ 500-units scheelite per diem(@ \$65 per unit) for years until U. S. Government ceased scheelite purchases. Property considered largest high grade scheelite producer in America. Property is one of the West's most modernly equipped with trackless mining, underground deisel trucking, endless belt surface transportation, etc.

Conducted geological and geophysical survey and mapping of north part of Texada Island, B. C. resulting in important production from two copper mines and one iron mine. Examined mines and prospects in British Columbia and Western United States.

1929 1939 Established Consulting offices at Vancouver, B. C. and Nelson, B. C. continuing supervision and association with Texada, Sheep Creek, Slocan, mining divisions of British Columbia and discovered Wesko gold mine, Ymir, B. C. later equipped with cyanide-flotation mill. Examined numerous mines and prospects and directed exploration-development in Cork Province mine to major production, likewise Noble Five mine both in Slocan Mining Division of British Columbia.

1939 1953 Established Consulting office at Spokane, Wash. and at Nelson, B. C. Geologist directing exploration and development work from beginning as a prospect to beginning its good production and development down to 1400-level of the now outstanding Lucky Friday mine, Coeur d'Alene district, Idaho.

Member of three men Advisory Board in adjustment of extra-lateral and intralimital ownership rights of Coeur d'Alene, American Silver, Silver Standard mines relative to joint deep level exploration by Hecla Mining Co., Coeur d'Alene district, Idaho.

Conducted a three season Geological Survey of Slocan District, British Columbia and geologically mapped north extension of Pend Oreille

lead-zinc district into British Columbia. Geologically mapped eastern extension of Emerald tungsten area and conducted tungsten investigations in Idaho, Washington, Montana and Nevada.

1953 1955 Came to Nevada to open Tungsten Mountain scheelite prospect into a mine presently equipped with modern 100-ton concentration plant. Examined silver-lead-zinc, copper, gold, uranium mines and prospects in Nevada, Arizona, Utah and California.

1955 - Established Consulting Office at 700 Forest, Reno, Nevada.

Association of Professional Engineers of Nevada

No. 1408

Association of Professional Engineers of British Columbia

No. 773

EXPERIENCE RECORD

Joseph W. Warren

Box 52I
Lovelock, Nev.
Mar. 2, 1963

To whom it may concern:

I have had about eighteen years experience in mining and diamond drilling, drilling for the Processed Diamond Bit and Tool Co. 66 Ritch St. San Francisco Calif. Also the Boyles Bros. Drilling Co. Salt Lake City, Utah.

I was Superintendant for the Black Diamond Mine at Cibola Arizona. Mining manganese in an underground and open pit operation.

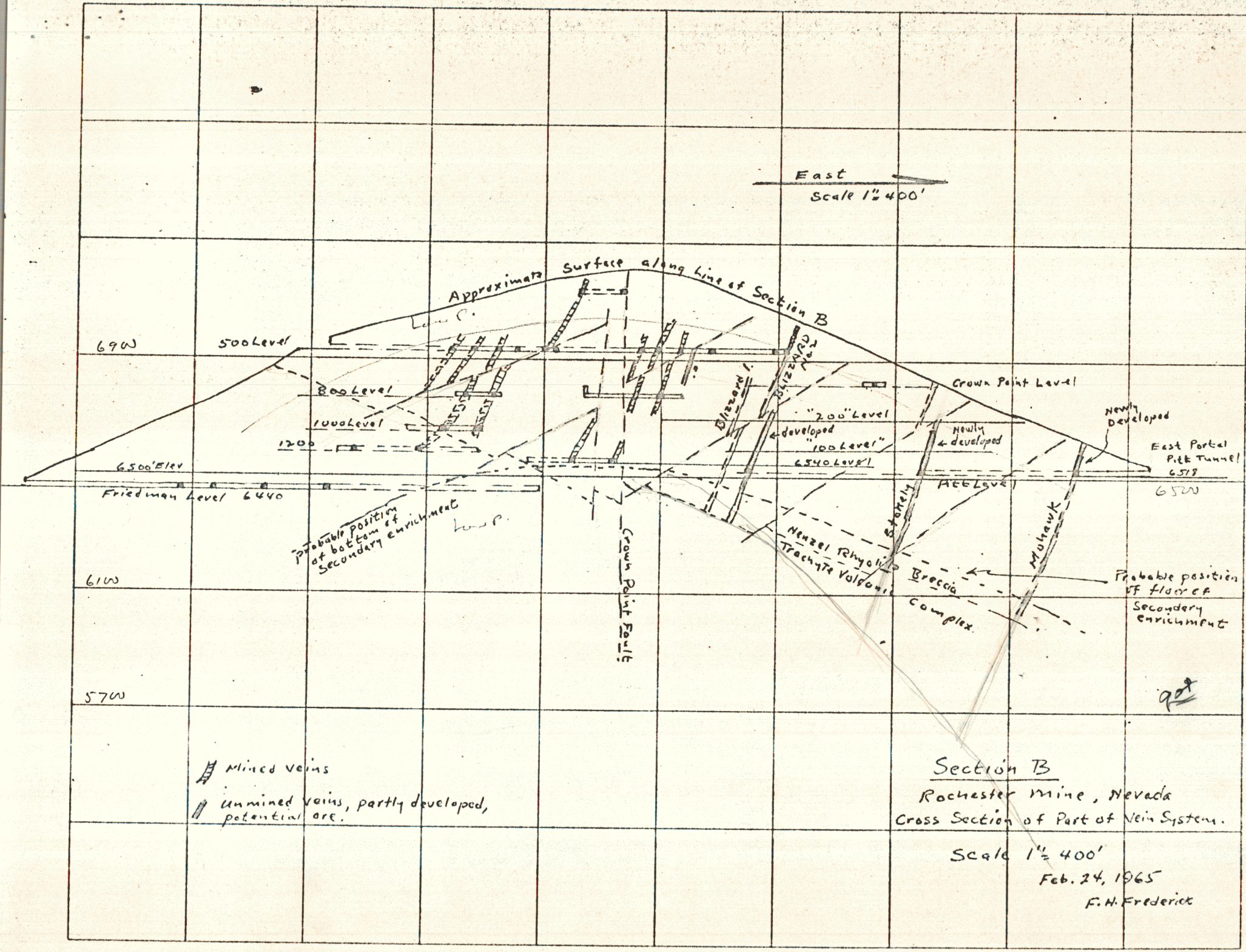
Was also shift boss and contract miner for the Highland Surprise Mining Co. Wallace, Idaho.

Did drifting and stoping also sunk shaft for the Spokane Idaho Mining Co. Kellogg Idaho.

Have also worked for the Bunker Hill Co. Kellogg Idaho. Sunshine Mining Co. Kellogg Idaho, A.S.&R. Co. Wallace, Idaho. Mine foreman for the Tungsten Mountain mining Co. Fallon Nev.

Sincerely,

Joseph W. Warren



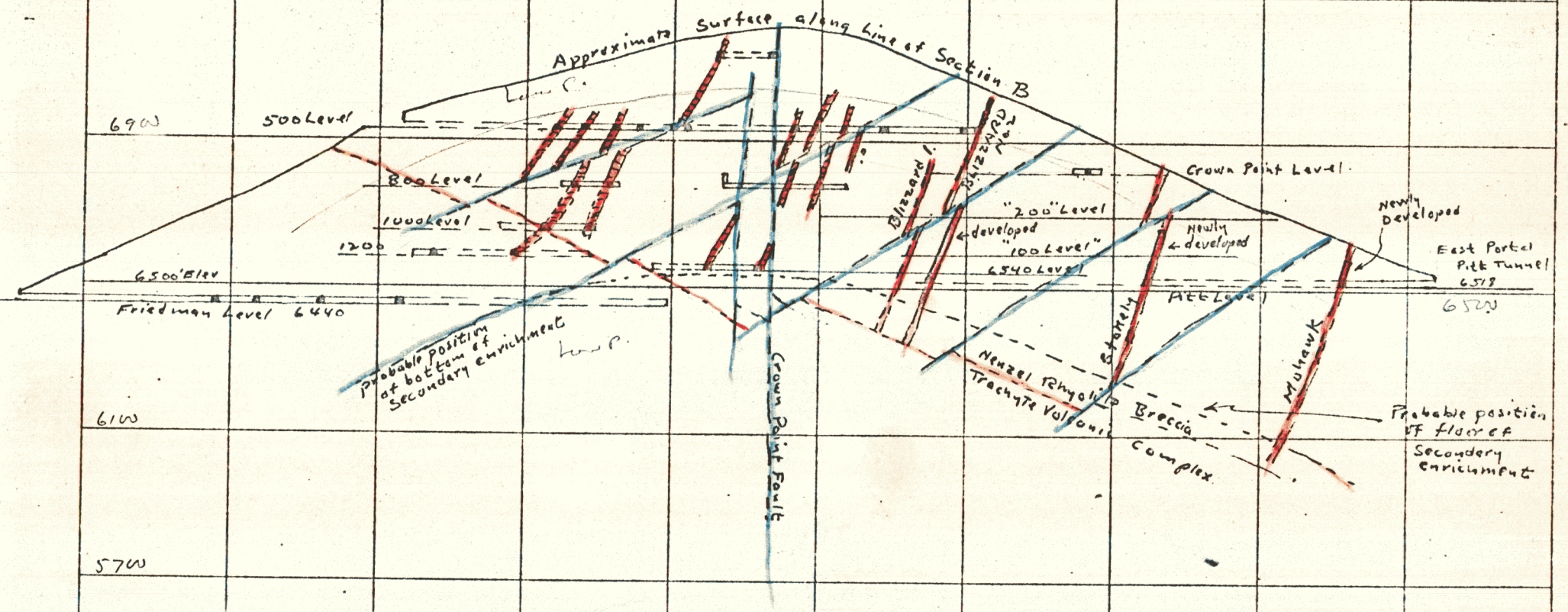
Section B
Rochester Mine, Nevada
Cross Section of Part of Vein System.

Scale 1" = 400'
Feb. 24, 1965
F. H. Frederick

(291)

Cross Section

East
Scale 1" = 400'



/// Mined veins
/// unmined veins, partly developed, potential ore.

mit

Section B

Rochester Mine, Nevada
Cross Section of Part of Vein System:

Scale 1" = 400'

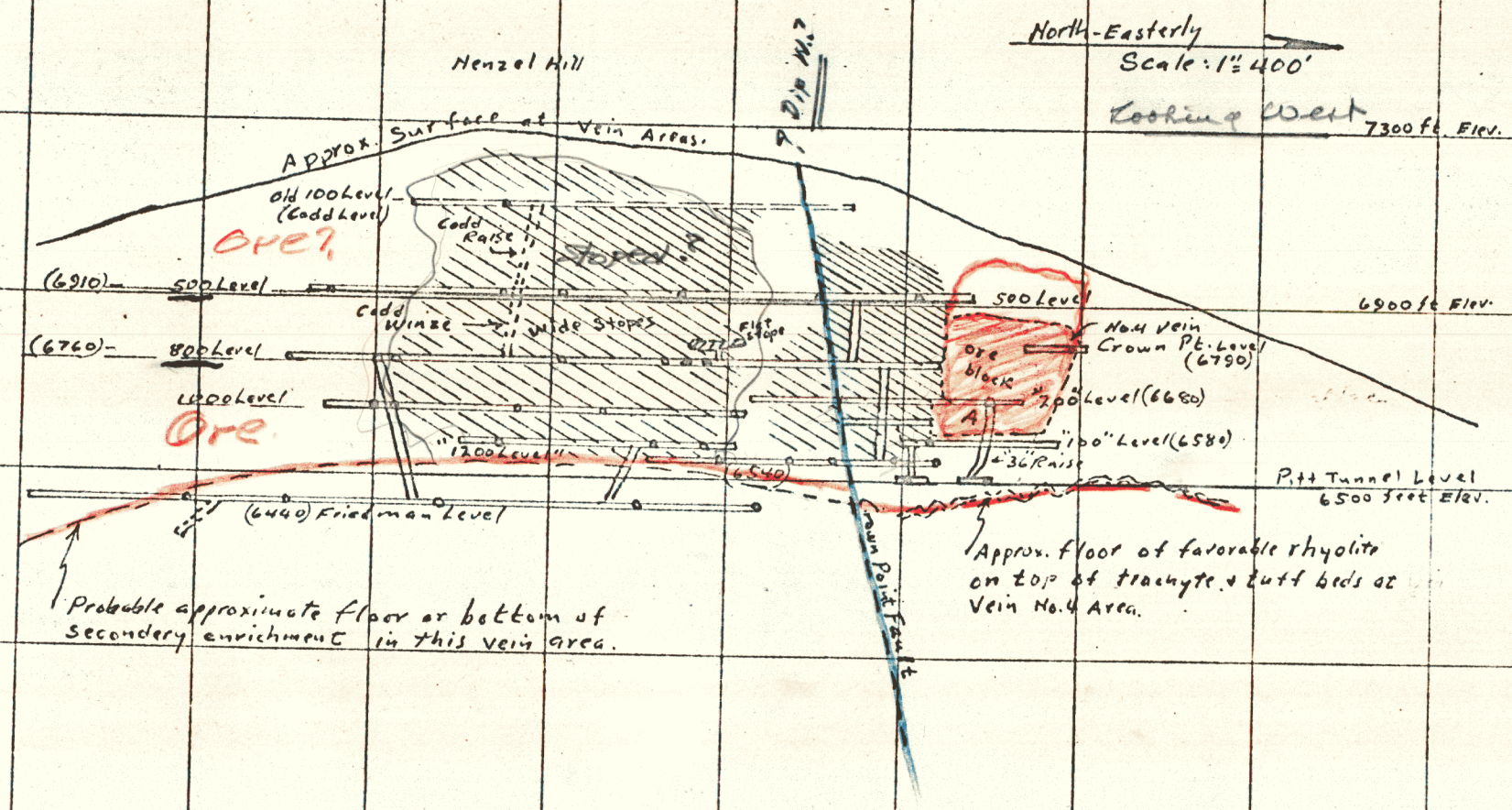
Feb. 24, 1965

F. H. Frederick

400:

291
400 (36) Yeth
36

"ALBANY" NO. 195M X & CO. N.Y.
REG. U.S. PAT. OFF.



Areas of stoping shown by shading are generalized and approximate. Main production of Mine came from the shaded area in the vertical range of 600 feet.

Vertical Section A
Projection of general productive area
Rochester Mines, Nevada.
Scale 1" = 400'

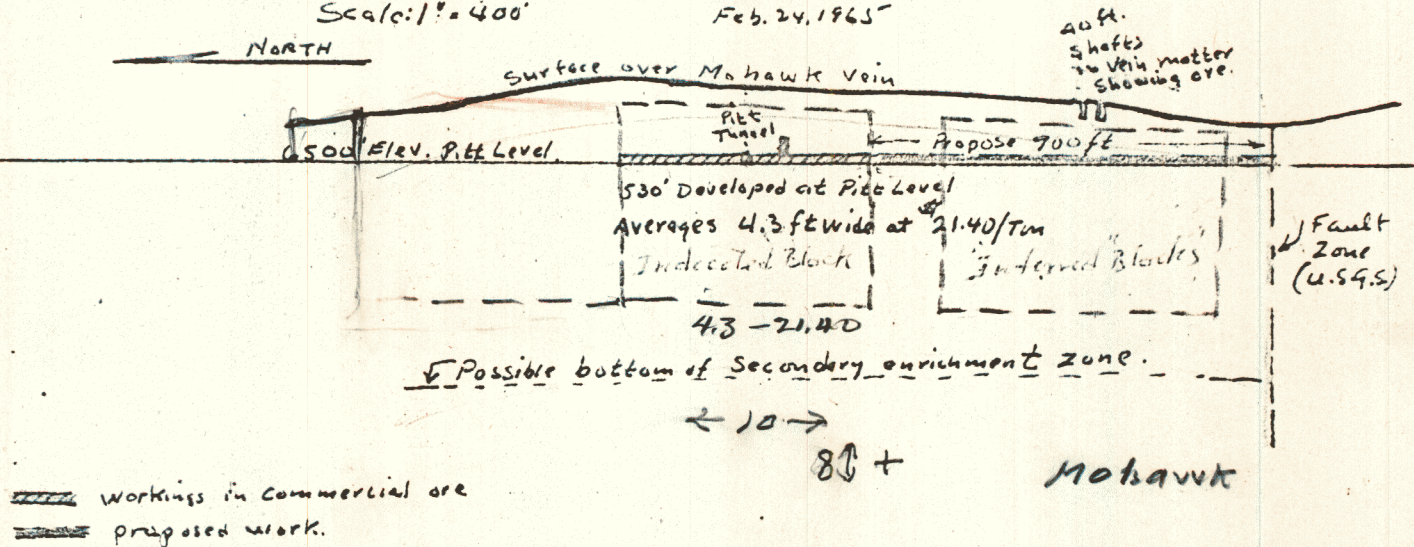
Feb. 24, 1965
Francis H. Frederick

SECTION C

Vertical Section showing development
along Mohawk Vein at Pitt Tunnel Level.

Scale: 1" = 400'

Feb. 24, 1965



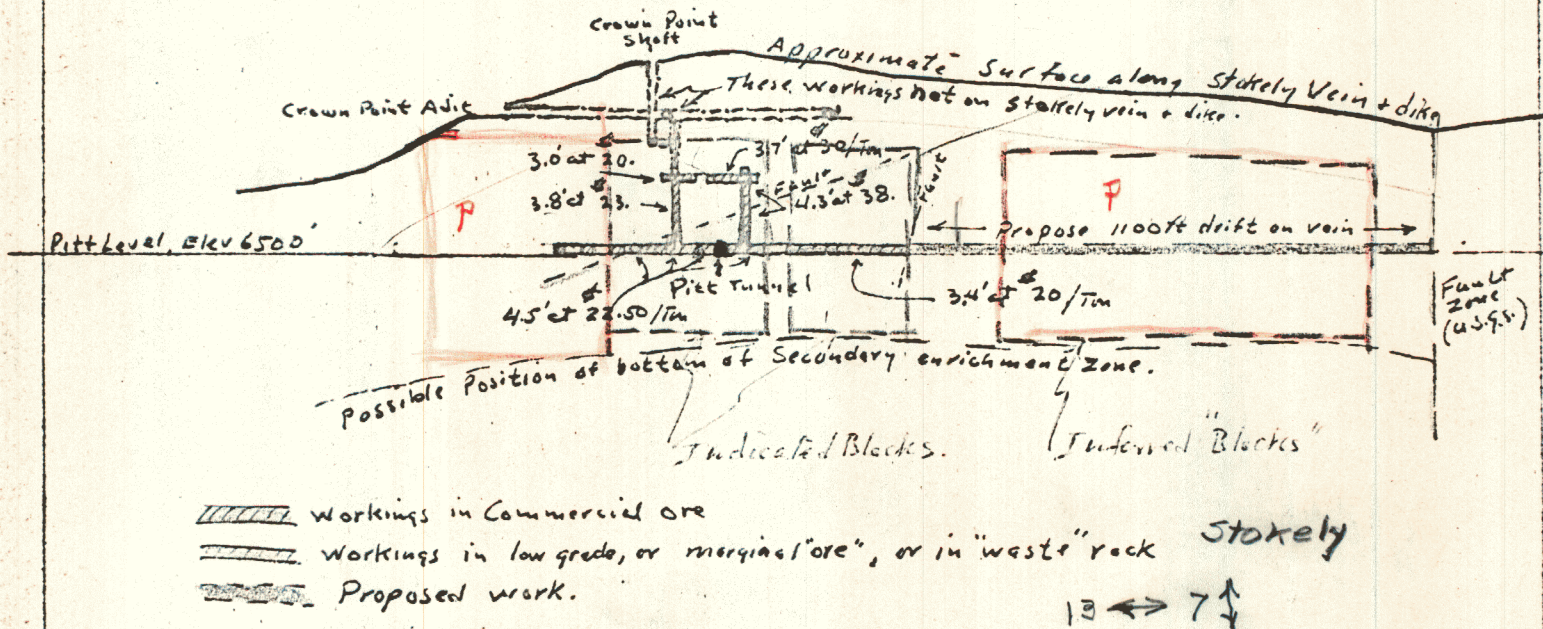
SECTION D at Stokely Vein

Showing development on Vein

Scale: 1" = 400'

Feb 24, 1965

F.H.F.



3970 0024

291

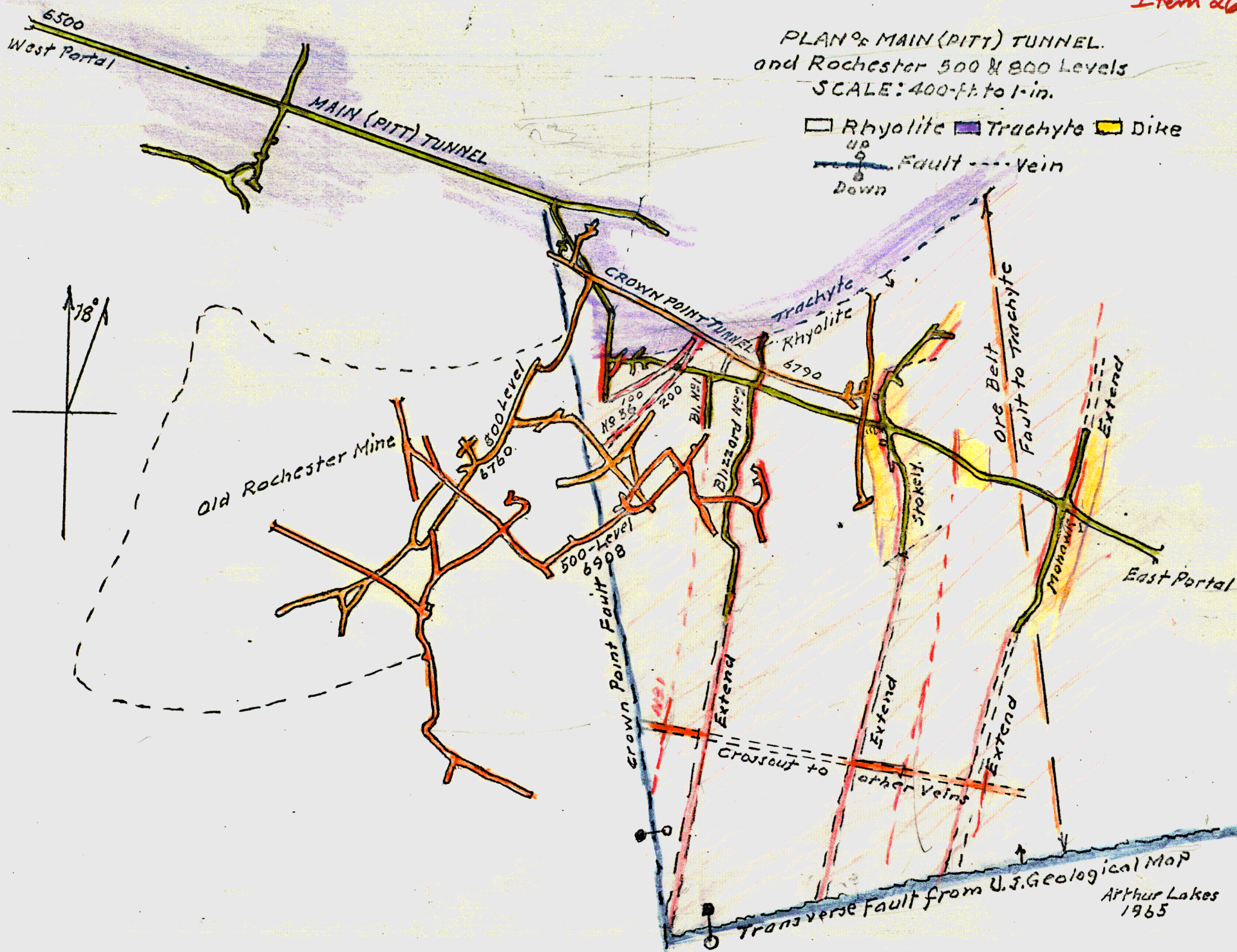
Item 26

PLAN OF MAIN (PITT) TUNNEL
and Rochester 500 & 800 Levels
SCALE: 400-ft to 1-in.

Rhyolite
 Trachyte
 Dike

Fault
 Vein

Up
Down



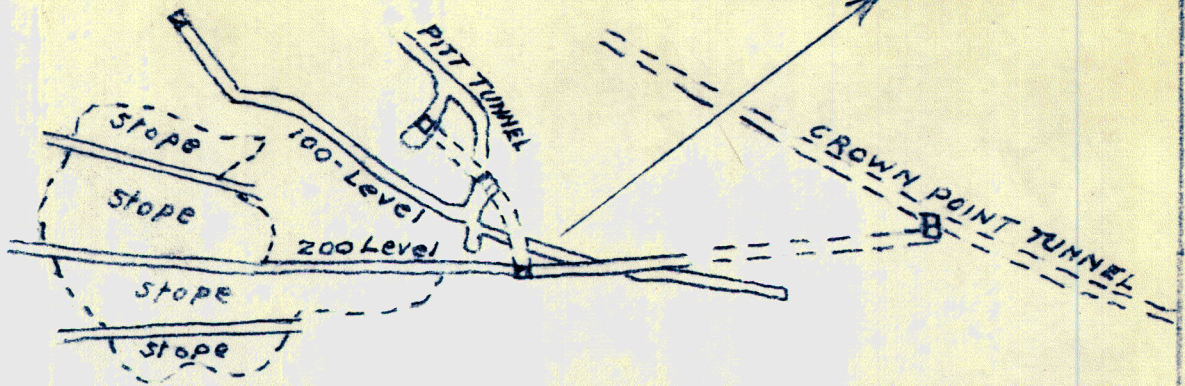
Transverse Fault from U.S. Geological Map
 Arthur Lakes
 1965

3970 0024

Item 26

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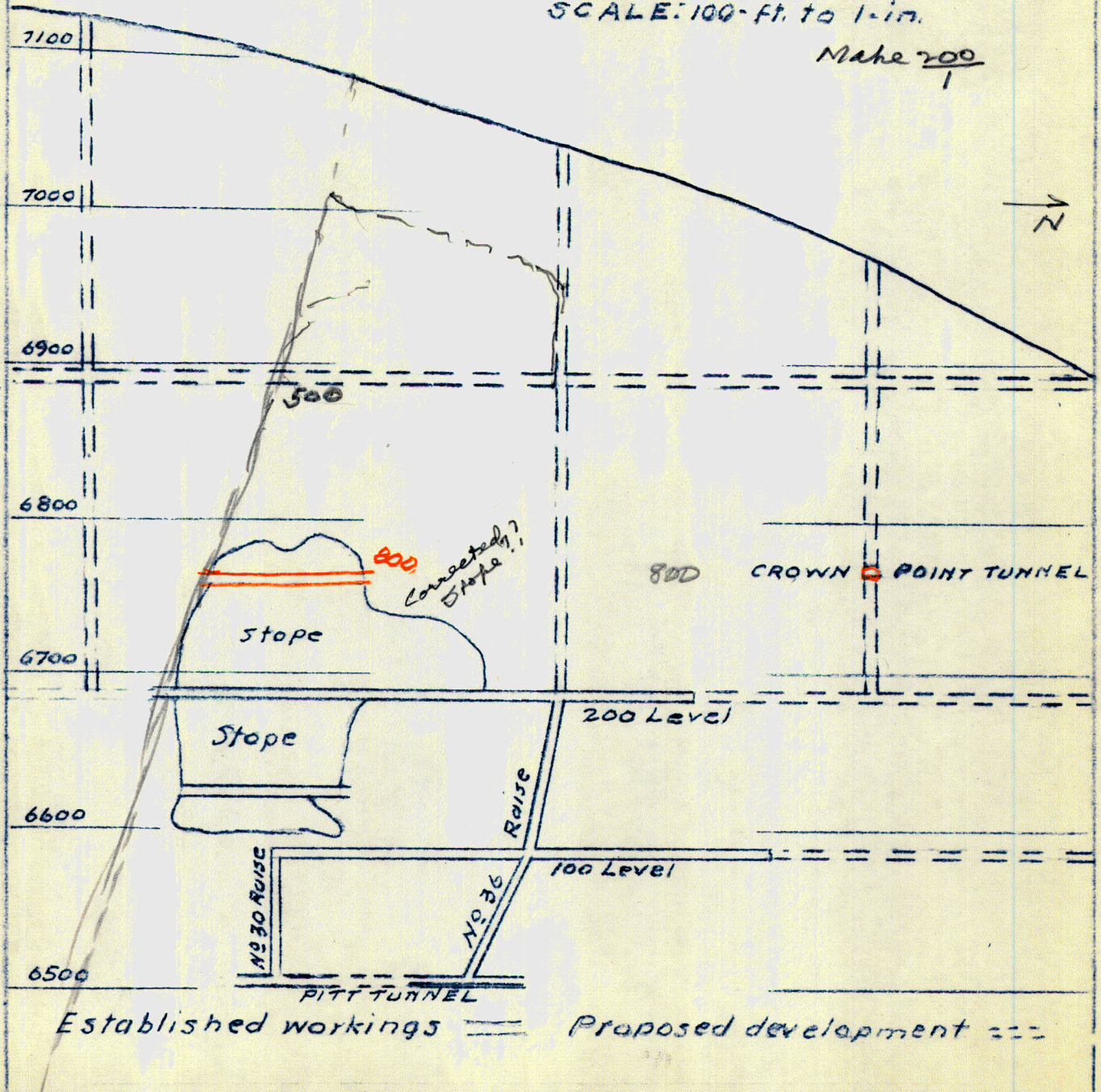
6910
6760
150



LONGITUDINAL SECTION ON N°36(400) VEIN

SCALE: 100-ft. to 1-in.

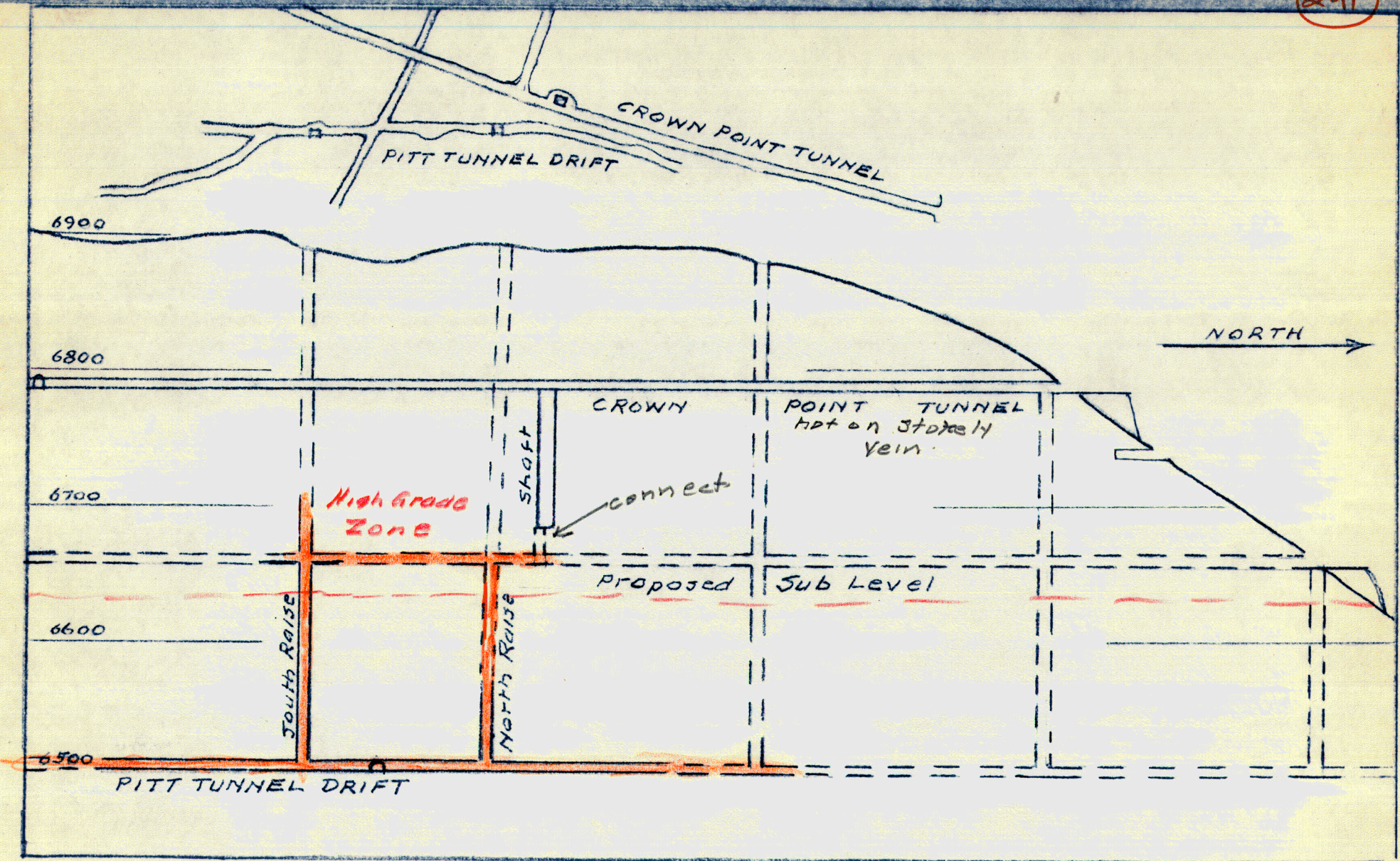
Make $\frac{200}{1}$



3970 0024

Item 26

291



LONGITUDINAL SECTION ON STOKELY VEIN-DIKE. SCALE: 100-Ft. to 1-in.

Showing workings and Proposed development

— Established development

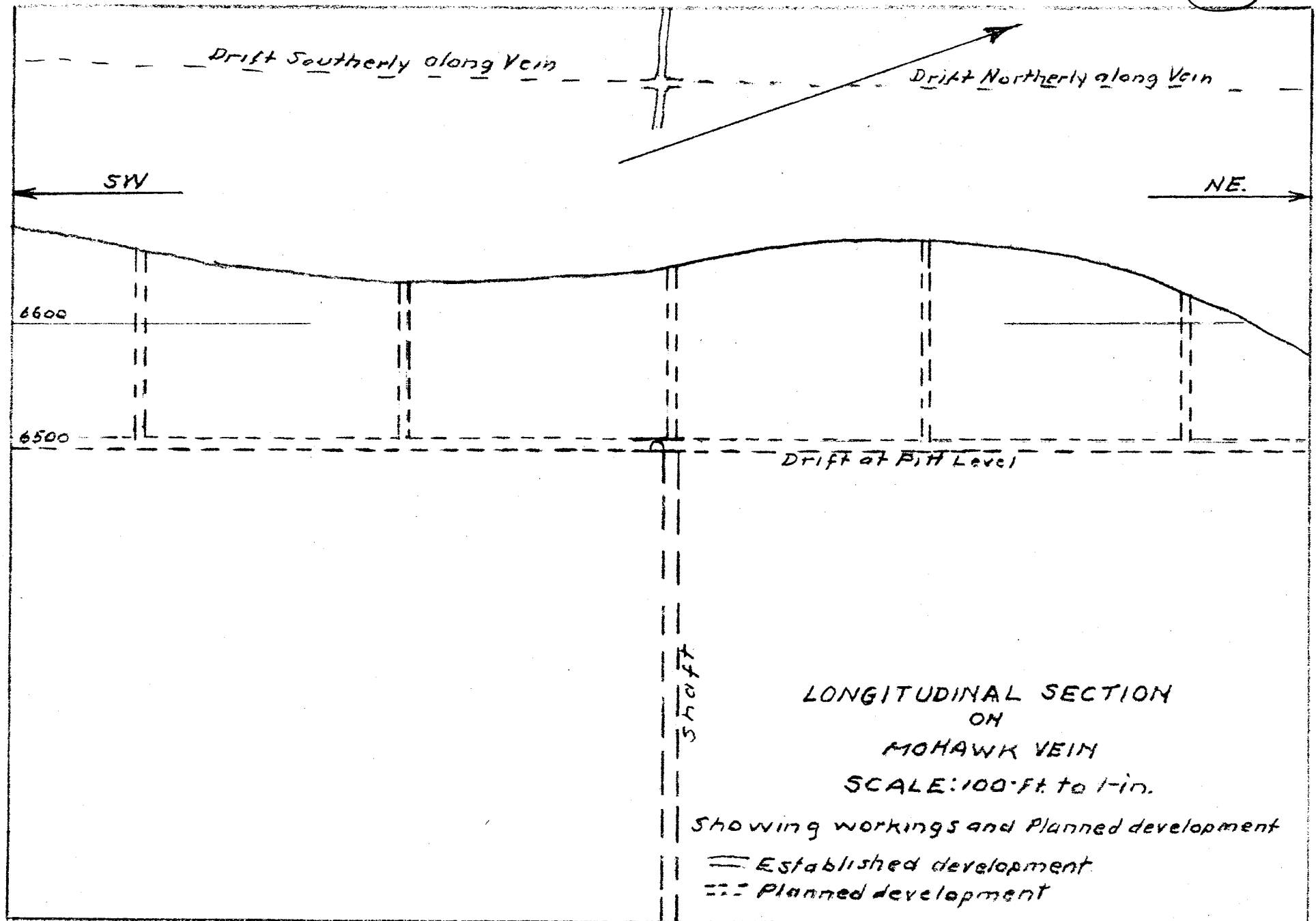
- - - Proposed development

note 200
1

3970 0024

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(291)
Item 26

T. L. WITHERS

ATTORNEY AND COUNSELOR AT LAW

40 WEST FIRST STREET
RENO, NEVADA
TELEPHONE FA 3-4135

April 28th, 1965

Mr. Arthur Lakes
702 Forest Street
Reno, Nevada

Re: Silver State Consolidated Mines Co.

Dear Mr. Lakes:

This is to advise you that Mr. Charles Oster has resigned as the President and a director of the above named company because of a possible conflict of interest between this company and various other mining properties in the Rochester District owned or controlled by Mr. Oster.

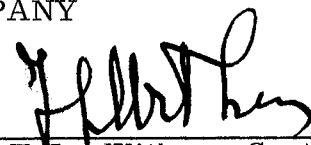
You are further advised that at a meeting of the Directors held on April 27th, 1965, the following Resolution was passed:

RESOLVED: That Arthur Lakes be employed as a consulting engineer for the company, subject only to instructions to be given to him from time to time by Board Chairman Robert Jackson, and as such shall have full charge over all the company's property, including power lines and water system, but not including anything in connection with the company's mill, and that he be directed to file with the Secretary, T.L. Withers, a monthly progress report on or before the fifth day of each month, and also to file with the Secretary an estimate of operating expenses for the ensuing month on or before the tenth day of each month, and that he receive as compensation for his services \$1,000.00 a month, plus expenses incurred by him in connection with the company's business, pending further action of the Board of Directors.

Very truly yours,

SILVER STATE CONSOLIDATED MINES
COMPANY

By:

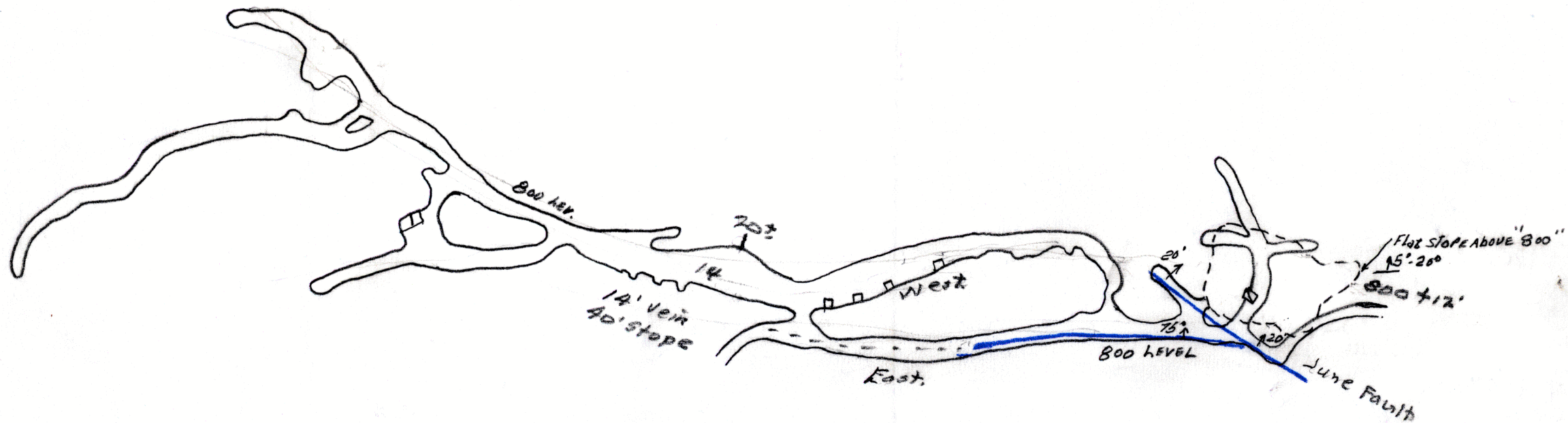


T.L. Withers, Secty.

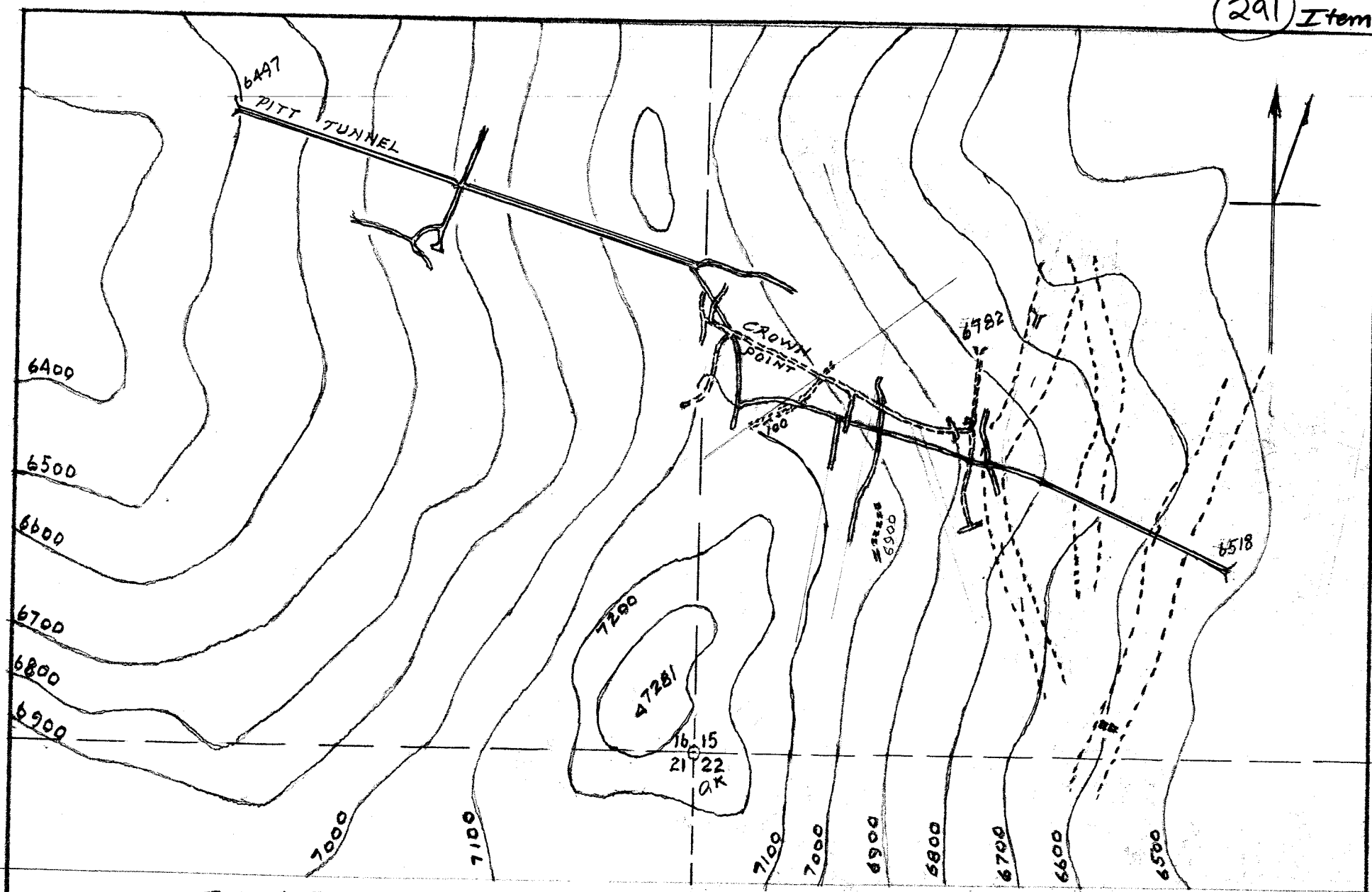
TLW/bw

(291)

Item 26



800 Level



PLAT Showing CROWN POINT & PITT TUNNELS

SCALE: 500 ft. to 1 in.

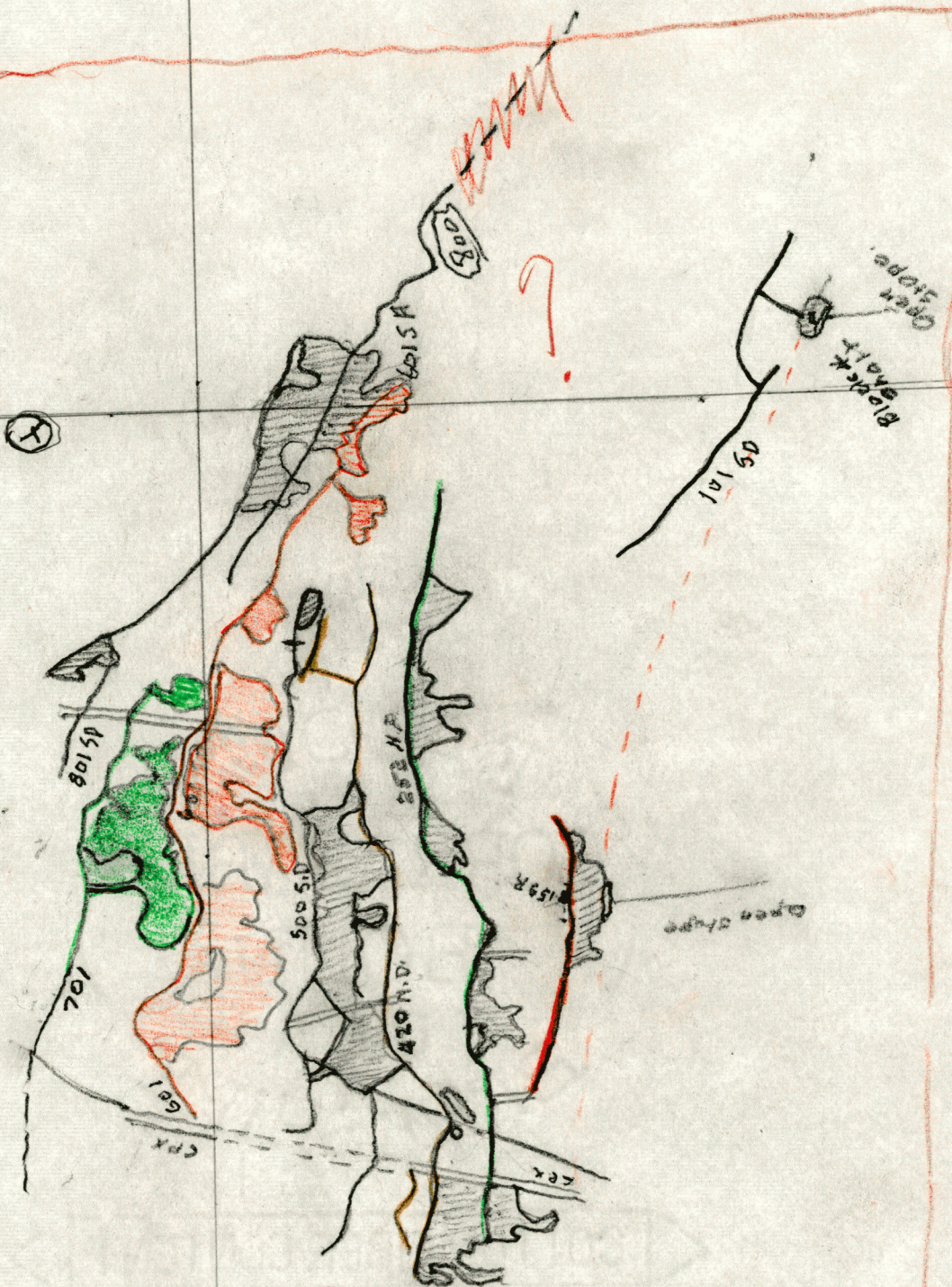
□ Vein □ Dike □ Trachite □ Rhyolite

Arthur Lakes 1964

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Stope overlay of Old Rochester
East Vein



291

Blizzard No. 2 Vein

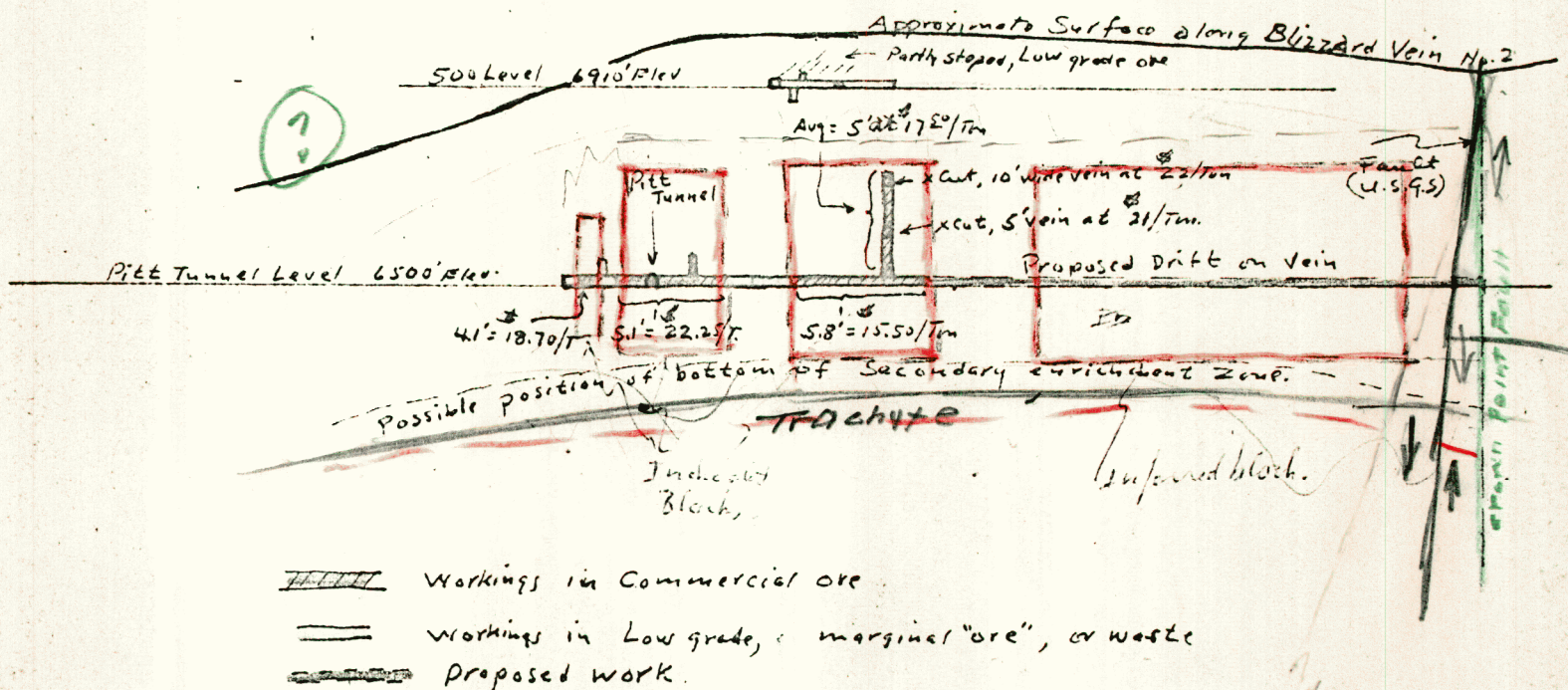
Item 26

NORTH

SECTION E at BLIZZARD No. 2 Vein

Showing development on Vein.

Scale 1" = 400' Feb 24, 1965
F.H.F.



Put on Fault

Scale 1" = 400 ft.
BL.

SECTION C

Scale: 1" = 400'

Feb. 24, 1965

NORTH

Surface over Mohawk vein

40 ft.
Shaft
to vein matter
showing ore

6500' Elev. Pitt Level

Pitt

Propose 700 ft

530' Developed at Pitt Level

Averages 4.3 ft wide at 21.40/Tm

Indecent Block

Inferred Blocks

✓ Fault
Zone
(U.S.G.S.)

✓ Possible bottom of Secondary enrichment zone.

~~Workings~~ Workings in Commercial are
~~proposed work.~~

NORTH

SECTION D at Stokely Vein

Showing development on Vein

Scale: 1" = 400'

Feb 24, 1965

F. H. F.

Crown Point
Shoat

Crown Point A.J. 11.

Approximate Surface along Statley Vein + dikes.
These workings not on Statley vein + dikes.

3.0 at 20.

3.8' \times 23.

100

3.7' ~~at 30/Ton~~

4.3 at 38

100

Propose 1100ft drift on vein

 $\pm 20/\text{Ton}$

Fault
Zone
(U.S.G.S.)

Possible position of bottom of Secondary enrichment zone

Indicated Blocks.

Indented Blocks

Workings in Commercial ore - Trochylite?
Workings in Low grade, or marginal ore, or in "waste" rock
Proposed work.

Blizzard No. 2, 17.77g
3.54t

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Item 26

Body

PROGRESS REPORT
SILVER STATE CONSOLIDATED MINES CO.

May 5, 1965

The following has been accomplished to date in the Blizzard No. 2, Stoke-ly, and Mohawk No. 2 veins currently being developed at and above the Pitt Tun-nel.

Drift to 12.24g No. 2 level 500 level 400 ft above Pitt. 2-40 ft wings from 500 level reported good ore. (Leached?)
Blizzard No. 2 Vein has been opened at Pitt level for 941-feet of which 740-feet is ore length opened 200-feet high by South Raise. The ore averages \$18 silver-gold per ton across 5-foot tunnel width expanded to 12-feet in the tunnel, 10-feet at the 100-foot point and 13-feet at 200-foot point of the South Raise. Ore occurrences in the tunnel walls indicates that this vein will stope materially wider than the widths shown on Assay Maps. An 85-foot low grade gap occurs near the south face which is now reopening ore. The probabilities are that the vein structure will expand and enrich as it progresses southerly within the ore belt in which it still has about 1000-feet to go.

Drift 14.25g
Stokely Vein workings comprise 955-feet of drifting and crosscutting at Pitt Tun-nel level, two 150-foot raises with connecting sublevel. Of this 600-feet is ore length by 150-feet high averaging about 4-feet widths at \$21.43 silver-gold per ton. The vein structure has been opened 25-feet wide in South raise and numerous occurrences of ore in the tunnel walls indicate that this struc-ture will stope materially wider than the average on Assay Maps. The vein should widen and enrich as it progresses southerly towards the south boundary of the ore belt about 1100-feet away. The surface shows good ore to the north where 6-feet of \$20.40 ore is found 250-feet north of the present North face. The North drift is now being advanced in \$16.20 ore.

Drift 14.25g
Mohawk No. 2 Vein workings comprise 730-feet of drifting and cross-cutting at Pitt Tunnel level providing 630-feet ore length by from 120 to 150-feet below surface. The ore averages \$21.00 silver-gold per ton across 4 1/2 to 6-foot tunnel width and has been expanded to 9-feet at a car pass in the southern drift. Ore occurs in the tunnel walls at numerous places which indicates that the structure will stope materially wider than the average widths shown on the Assay Map. At 290-345-feet the vein pinched but two holes drilled west return-
4 1/2 ft. 4 1/2 ft. 14.70g
ed 6-feet of \$18.20 and 4-feet of \$19.12 silver-gold ore whose southern extension has been drifted 100-feet averaging \$20.63 across 5-foot tunnel width. The south face will be extended about 700-feet to south boundary of the ore belt and at 250-feet will pass under two 30-foot shafts that returned 8-feet of \$13.14 ore. The north face will be extended 250-feet to property line where ore assaying \$24 silver-gold occurs at surface.

It is noteworthy that a composite of three large samples taken proportion-ately from all veins returned \$29.16 silver-gold per ton which is considerably higher than the general Assay Map sampling and will be taken into consideration in figuring values for ore estimate.

Reno, Nevada
May 5, 1965

Arthur Lakes
(Arthur Lakes)
Consulting Engineer

check weather "in glaucous"

Blizzard #1. Ag. 17.77 oz.

Rochester averaged 9.9 oz. Ag. diminishing from Ag in upper part (probably in rhy) to Ag in lower part (in trachyte) partly by reduction of swirling influences but I surmise (without proof) that where the veins penetrated certain trachyte breccia members it (the vein) could not hold the swirling influences which were defused into adj. brecciated wall up

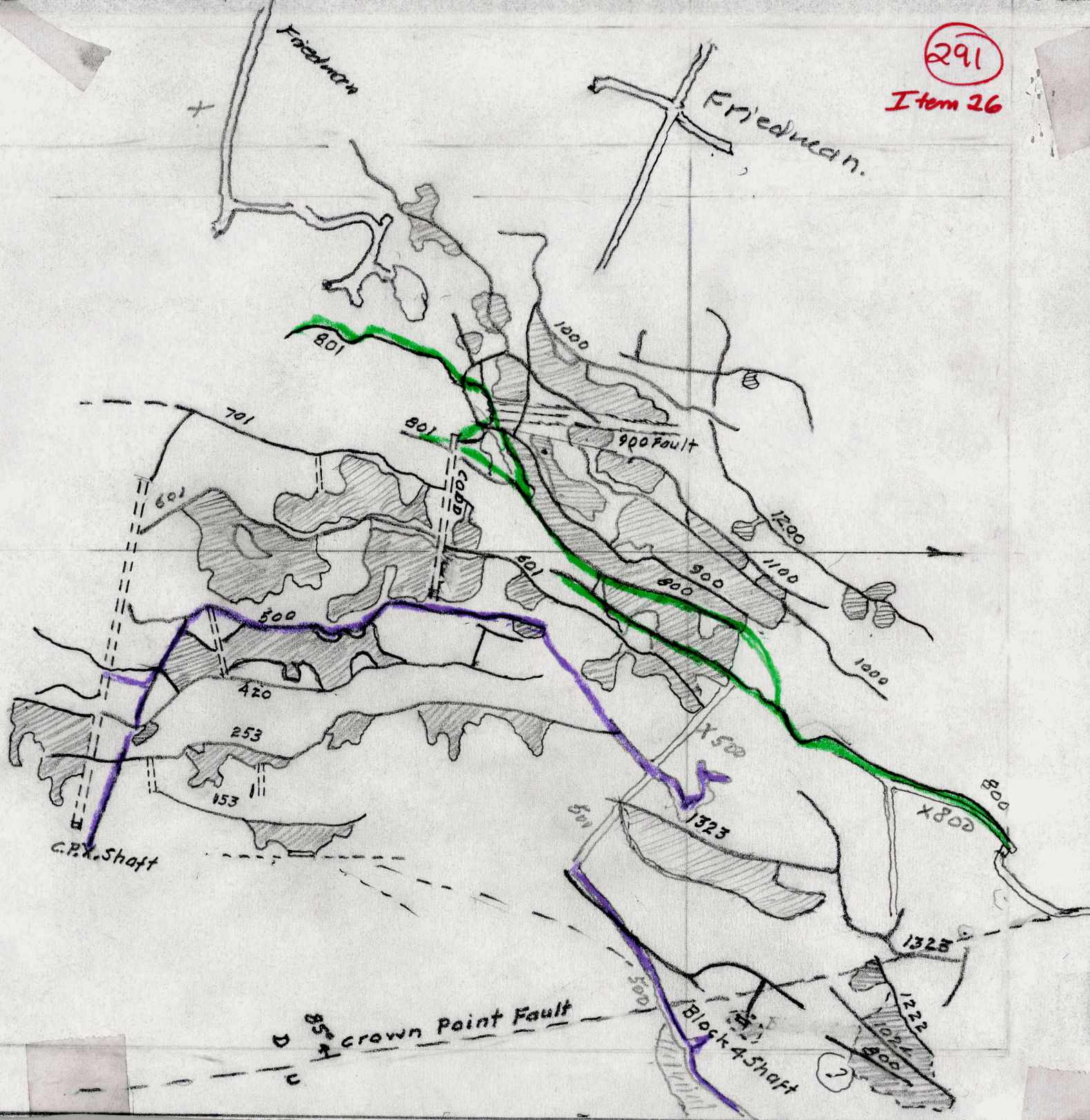
In contrast the strong S.E. veins mostly in ore-free rhyolites should maintain good Ag - an average to at least 1000 feet ^{depth} or more and exceed this where the veins associate with aplite dikes (which are deep seated) ~~shows ore in trachyte host~~ down into trachyte host like vein-dike association elsewhere in the district.

High grade above 300 level, ~~there is~~ in heavy rhy breccia where the veins entered the underlying trachyte the ore values rapidly declined. whilst

F Veins 60° near surface flattens to 35° main Fair with great regularity.

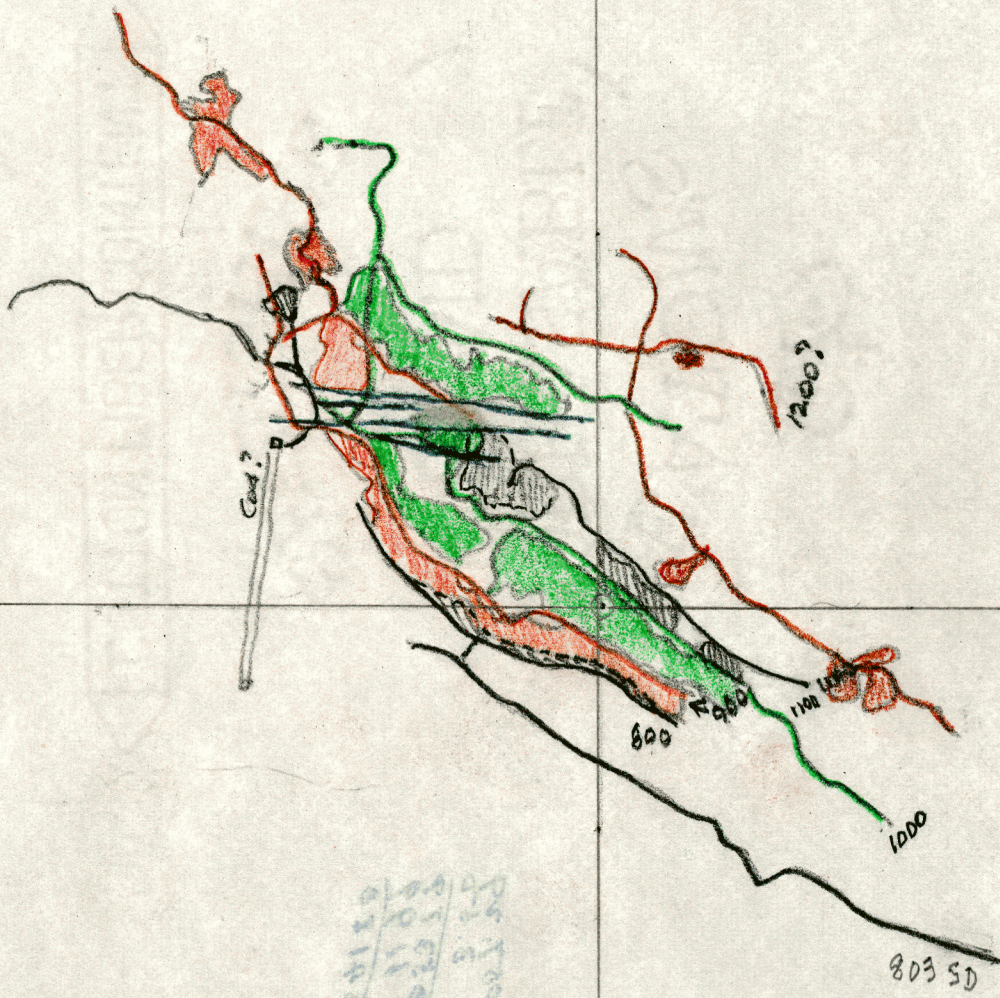
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Item 26



300
1

15 + 1 = 16 high



9	00	90
4	00	90
4	00	90
4	00	90
4	00	90
4	00	90
4	00	90
4	00	90
4	00	90
4	00	90

ROY A. HARDY
RENO, NEVADA

(291)
Item 26

April 10, 1964

Re: SILVER STATE CONSOLIDATED MINES COMPANY, Rochester, Nevada
Rochester Mining District, Pershing County, Nevada
Sec. 15-16, T28N, R34 E and Sec. 17 & 18

Mr. Charles Oster
Reno
Nevada

Dear Mr. Oster:

On April 8, 1964, I visited your Company's silver mine at Rochester, Nevada, with you and Mr. Arthur Lakes, and inspected the development work you have done over the past years and the mine development work now in progress.

This letter is an informal report - a more formal report, covering pertinent facts such as geology, etc. of the Rochester Mining District, can be prepared at a later date.

In my opinion, you are to be highly commended for your foresight in acquiring all the best mining properties in this District and further for your mining acumen in laying out the development work, namely: Driving a cross-cut, all in virgin territory, into the foot-wall of the mineralized area not previously investigated by mine workings, which opened up a practically new and most noteworthy silver mine.

This new development work consisted of advancing the Pitt Tunnel easterly 1000 feet (adit elevation 6500), cross-cutting into the foot-wall, intersecting several veins, namely: The "Y" vein, the P28, the 36, Blizzard No. 1, Blizzard No. 2, and the Stockley vein, opened up the first week in April.

The first three veins (the "Y", P28, and 36) all developed silver ore over widths of 10 and 12 feet, in raises and drifts, averaging over \$15.00 per ton.

The Blizzard No. 1 and Blizzard No. 2 are both fine looking veins, having widths averaging 12 feet.

Blizzard No. 1 vein was developed for a distance of 200 feet, about 12 feet in width, with ore in both north and south faces, averaging about \$29.00 per ton.

Mr. Charles Oster

-2-

April 10, 1964

Blizzard No. 2 vein has been developed by a drift over 240 feet, with ore in both north and south faces, averaging approximately \$23.00 per ton over an average width of 12 feet.

An up-raise of 70 feet from the drift in Blizzard No. 2 vein (sampled each 5 feet, as all sampling is done in these veins) gave an average value over the width of the raise of better than \$20.00 per ton. All these veins stand nearly vertical.

The values given in all this development work is silver at \$1.29 per ounce and gold at \$35.00. The ratio of silver to gold varies from 60 up to 100 of silver, by weight, to 1 of gold.

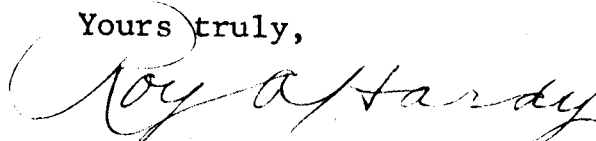
The Stockley vein was intersected in the cross-cut tunnel 450 feet easterly of Blizzard No. 2 vein. On April 8, the Stockley vein had been cross-cut for a width of over 42 feet with no east wall in sight, and I believe it is the finest and strongest vein ever developed in the District.

The silver values, so far, indicate better than \$14.00 per ton, with values increasing. The last 6 feet advanced showed \$20.00 per ton.

To comprehend the magnitude of this vein, it is necessary to realize the out-cropping may be at an elevation of better than 7000 feet, giving about 500 feet of probable backs above the tunnel - and it is only necessary to do some simple arithmetic to know there could be an extraordinary large tonnage of profitable silver ore developed in a vein that wide carrying such silver values.

With this new Stockley vein development, I believe the previous plan for a small cyanide plant should be changed to a large plant with resultant greater profits. With this in view, a final decision should wait further development of this vein and an appraisal of the total situation made at that time as to operating costs, profits, and capital investment in a plant.

Yours truly,



Roy A. Hardy, Consulting Mining Engineer

RAH:v

Geol from A.L. Report.
Scale up from 400 to 300
Bring to date

Dikes 291
Item 26

Composite Map of Levels

Rochester Mine Area
Silver State Consolidated mines
Rochester, Nevada.

Scale 1" = 400'

Compiled 2/24/65
F.H. Frederick

== Developed ore
--- proposed work on veins

up
down

N 6000

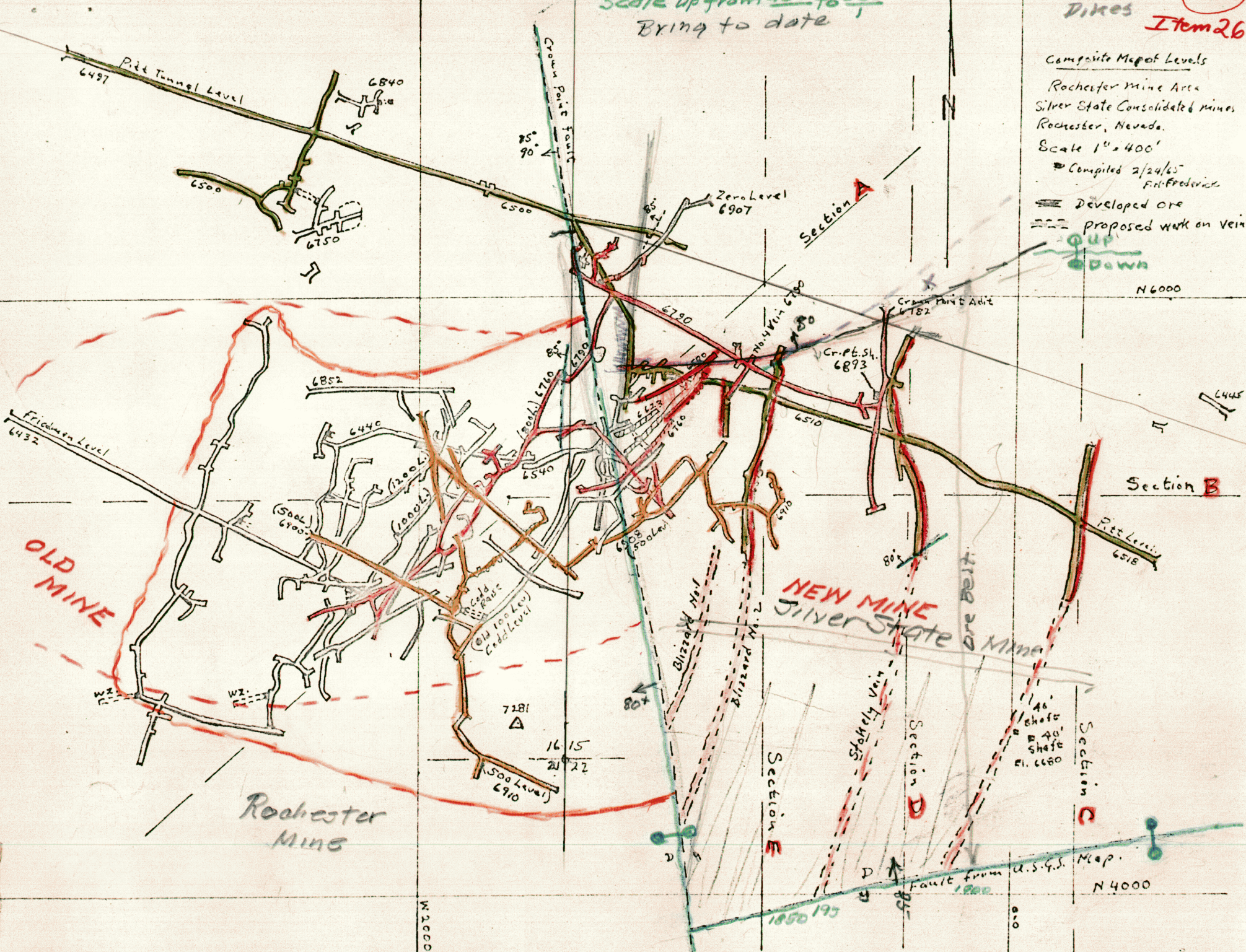
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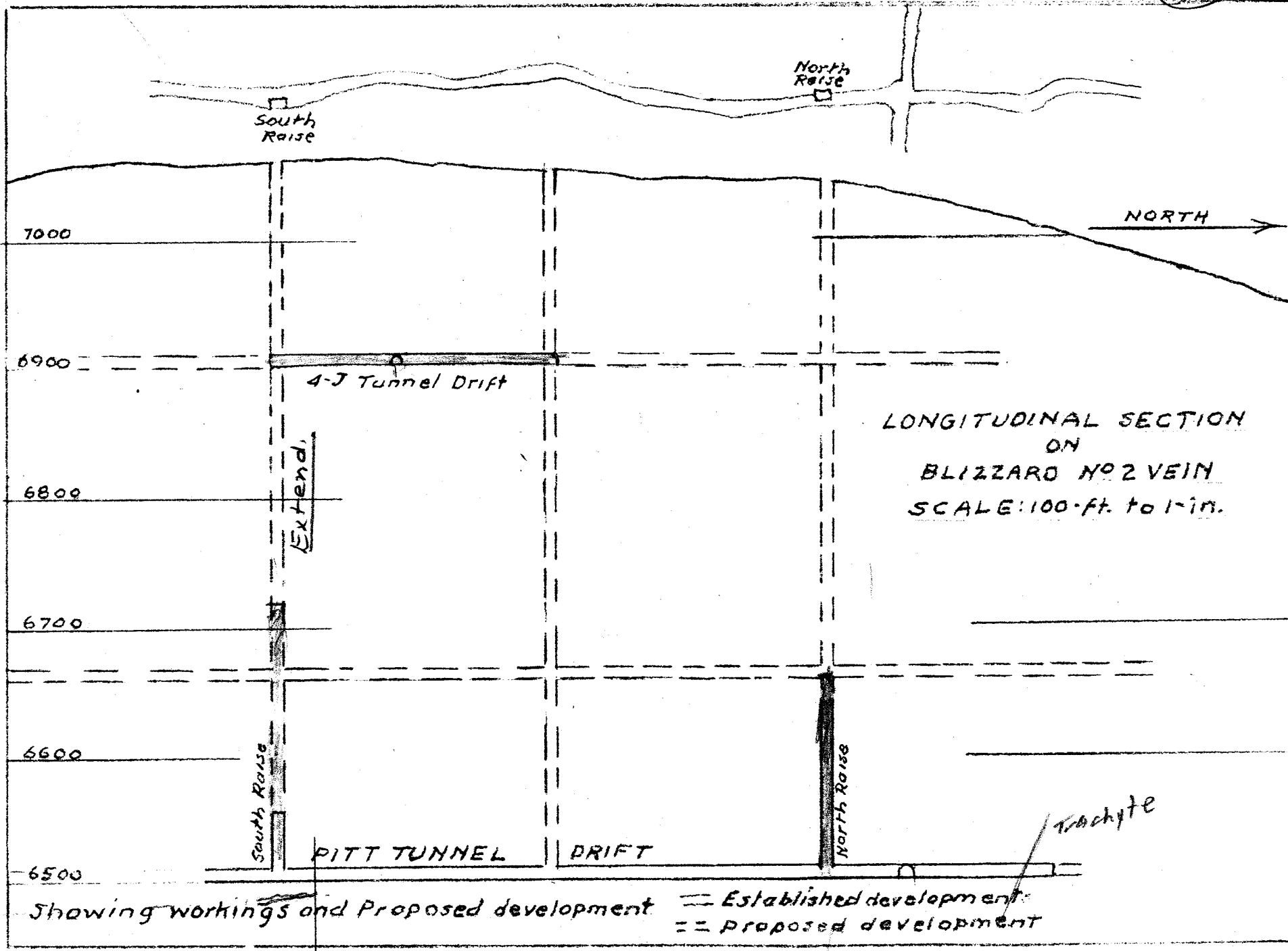
Section C

Section D

Section E

Section A

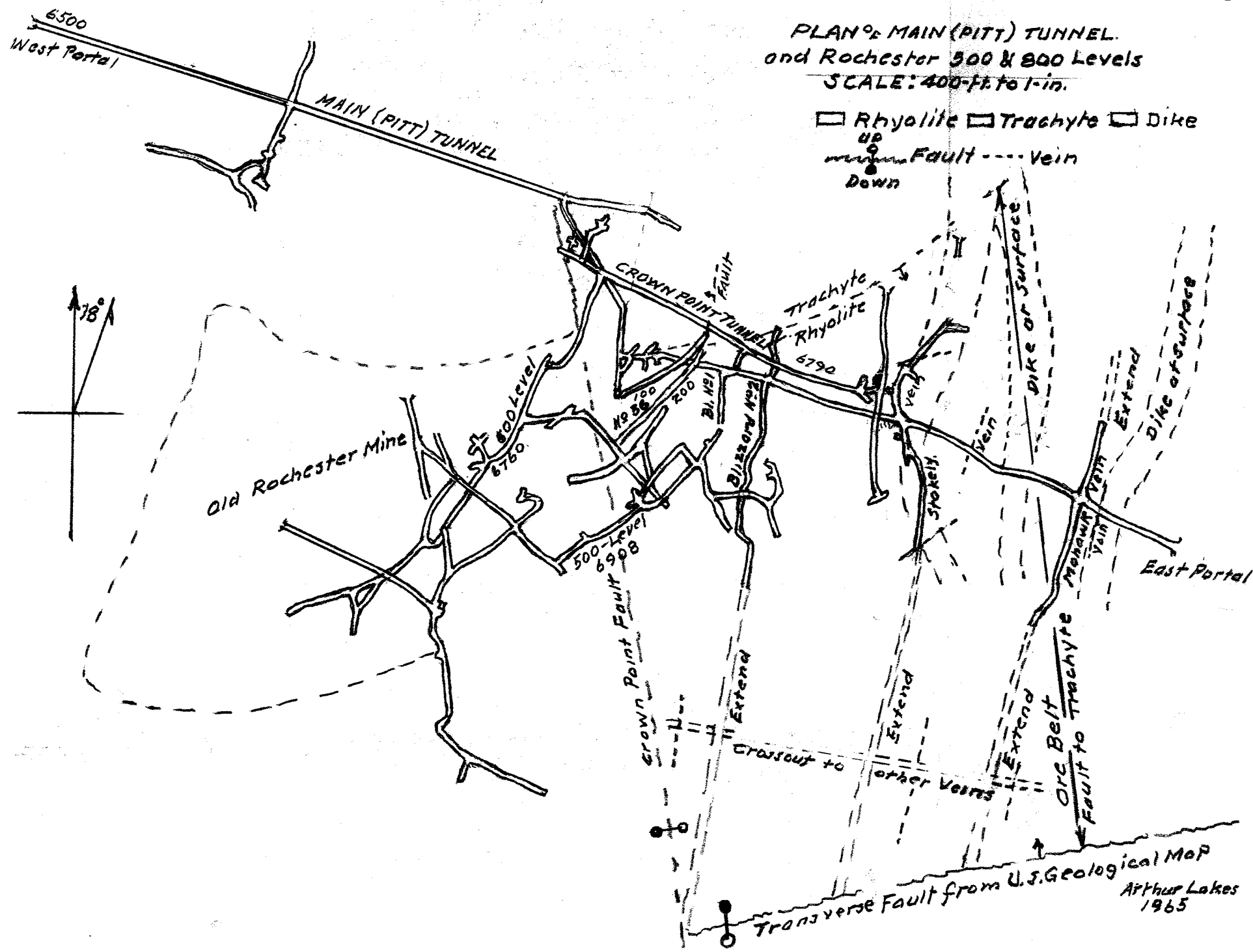




PLAN OF MAIN (PITT) TUNNEL
and Rochester 500 & 800 Levels

SCALE: 400-ft to 1-in.

□ Rhyolite □ Trachyte □ Dike
up Fault --- Vein
Down



Transverse Fault from U.S. Geological Map
Arthur Lakes
1965

c/o Box 8194
Johannesburg
South Africa

January 26, 1965

To: Mr. Charles Oster

From: E.J. Craig

Subject: Brief Report on Silver State Consolidated Mines Company.

Summary and Conclusions:

The Rochester and Crown Point Group of Silver State Consolidated Mines Co. make up a most encouraging silver-gold prospect at today's silver and gold prices.

The geologic setting is particularly favorable. The old Rochester mine won ore mainly from the veins associated with fault and shear zones. Exploration by Silver State has disclosed not only a continuation of these zones in the virgin Crown Point ground, but that ore bodies associated with aplitic dikes to the east are of even greater significance. Further, since the property lies on the east flank of an anticline, the more favorable rhyolitic host rocks become progressively deeper to the east. In effect, then, the Silver State will disclose more prospective ore at depth than the old Rochester Mine. In addition, from the evidence so far, it appears that the mineralization associated with the dikes will be fairly consistent in the underlying trachytes, unlike the fault and shear zones which tend to diminish in value in the trachytic zone.

Mine development work has been advanced sufficiently such that by the time the mill is completed in two to three months, production can start in full. Mining costs should not exceed \$7.00 per ton.

Another outstanding feature is the consistency in the value of the ore. This averages \$20.00 per ton for combined silver (making up 91% of the total) and gold (9%). Discounting high grade zones, values have been close to this value at all prospective horizons.

The ground in this area holds firm and will require little support thus excluding costly timbering methods. The mine is conveniently located to both road and rail. Power lines already extend to the west portal and a water line is presently under construction.

Overall, it is contended that the prospects for this mine are most favorable. Development to date indicates a potential in excess of 500,000 tons of ore averaging \$20.00 per ton. Exploration and development work has been well managed and conducted in accordance with best mining practice. The program to prepare the mine for full scale shrinkage stoping should be continued at current levels and stepped up at the time the mill comes into operation.

- - - - -

This report is based on an inspection of the mine on January 9, 1965 together with a study of past and present reports and assay maps.

Silver State Consolidated Mines Company comprises 20 mineral claims located in the Rochester Mining District, Pershing County, Nevada. The property lies 17 miles northeast of the town of Lovelock and 8 miles east of highway 40 and the main line of the Southern Pacific Railroad.

The property includes the old Rochester and Crown Point Mines. Early reports disclose that from 1912 to 1926 some 10,000,000 ounces of silver and \$1,400,000 of gold (at \$20.67 per ounce compared with \$35.00 today) were produced from the Rochester.

The ore bodies of the Rochester continue into the Crown Point area to the north which is comparatively virgin ground. All ore veins are associated with shear and faulted zones striking north-south and dipping steeply west, but most important of all, with aplite dikes with similar strike and dip. These enriched zones intrude into rhyolites and underlying trachytes both of Triassic age. Earlier work has shown the rhyolites to be the more favored host rocks. This is an important condition when it is considered that in the area of the mine, the structure is anticlinal. Thus, the Pitt Tunnel and its extension, the Blizzard Crosscut, penetrate the east flank of the anticline, first in the trachytic zone and then into the more favorable rhyolites dipping 30° to the east. Hence, towards the eastern portal, the veins become progressively deeper in the rhyolitic zone.

The Pitt Tunnel and Blizzard Crosscut encountered 10 veins, 8 of which are completely virgin. The #36 vein and the Blizzard #'s 1 and 2 appear to be downward extensions of the most prominent veins encountered in the Crown Point Tunnel of the old Rochester workings. After the Blizzard #2, proceeding east, all veins encountered with the exception of one, are associated with three aplitic dikes. There, as the assays prove, the ore is more favorable. The veins concerned are the Stokely, Vein 8 and Mohawk #'s 1 and 2.

From the work performed so far, those veins associated with the dikes are unquestionably the most attractive. This is indeed an important discovery when it is considered that the ore from the old Rochester Mine was removed solely from veins in shear and fault zones, most of which are also encountered in the Crown Point area of Silver State. The dike system, therefore, makes the Crown Point ground a much more attractive prospect.

One of the outstanding features of the ore bodies is the consistency of the silver-gold values. Discounting high-grade pockets, the average run-of-mine ore assays \$20.00 per ton employing silver and gold values of \$1.29 and \$35.00 per ounce respectively. Several assays have been substantiated by assays performed by an outside assay office.

Recently, a 600-lb. sample of ore was taken at several localities in the mine for a mineral dressing testing program. This probably is the most representative sample from all veins to date. It is assayed 16.55 oz. silver and 0.06 oz. gold per ton, giving a total combined silver-gold value of \$23.38 per ton.

Development work is presently progressing to block out ore in preparation for shrinkage stopping along the main veins. Drifts have been driven from the Pitt Tunnel and Blizzard Crosscut and in several drifts, raises have been extended at 200-ft. intervals. Later, these will be connected by sub-levels, thus systematically blocking out ore and enabling shrinkage stopping to progress.

The mill presently under construction, will be capable of handling up to 250 tons per day. Most equipment is at the mine site. The mill should be ready to operate in two to three months. Ultimately, this will include a cyanide plant enabling bullion to be produced on the property.







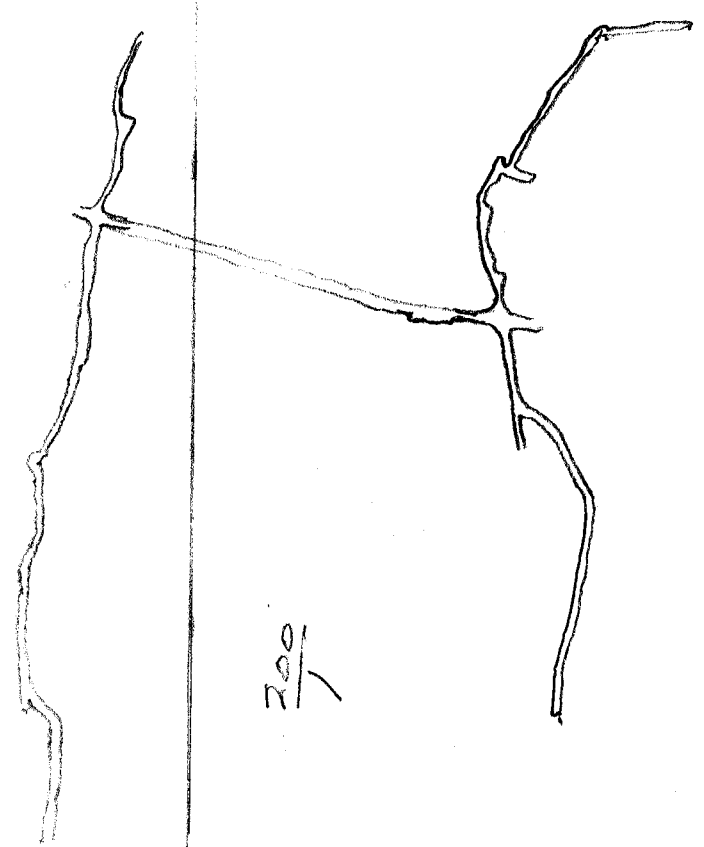
E.J. Craig, A.C.S.M., B.Sc.

Member American Inst. Mining, Met. & Pet. Engineers
Assoc. Member Aust. Inst. Mining and Metallurgy

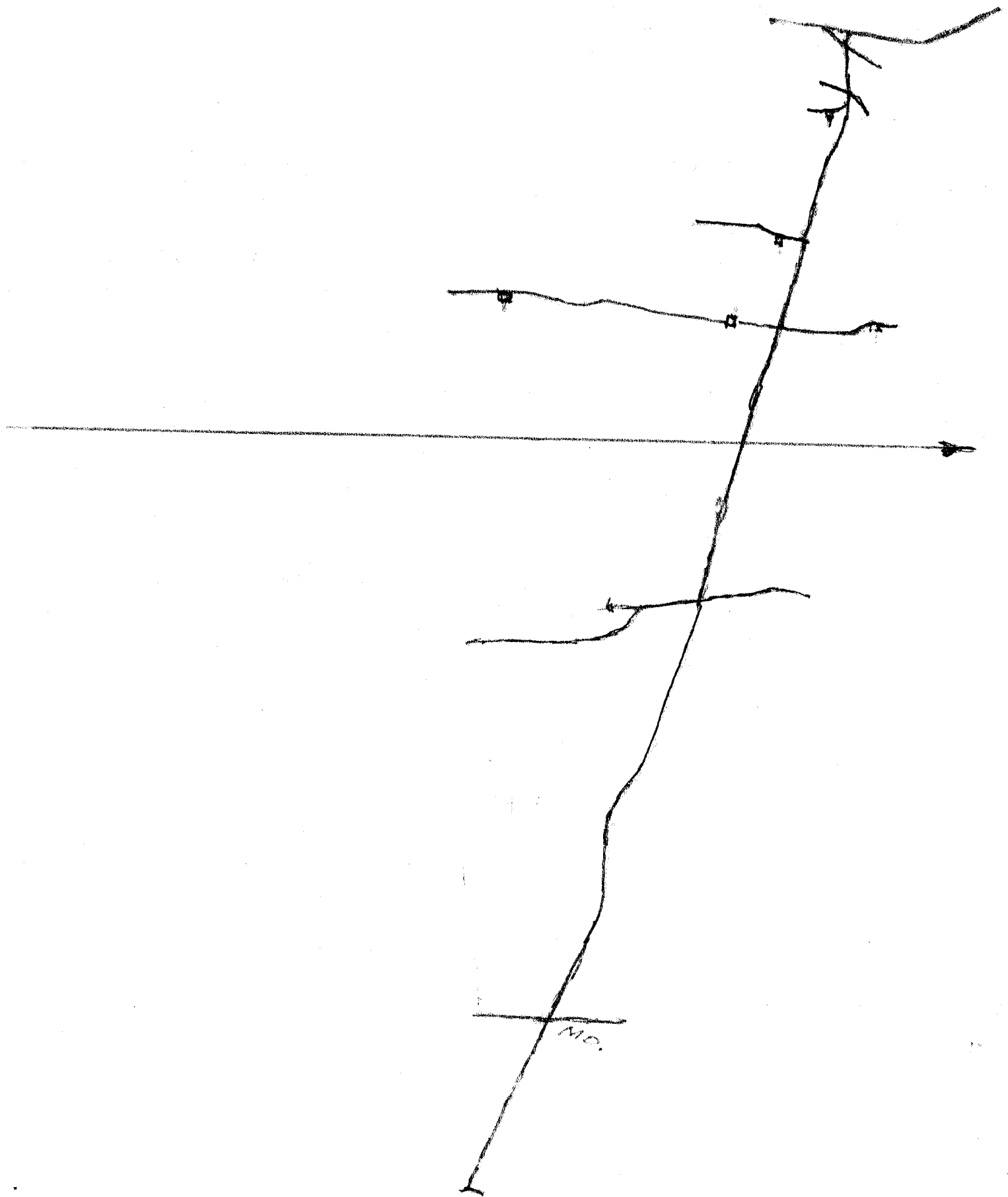
Plan of main (Pitt) Tunnel & 500-800 Levels of old Rochester Mine

Scale 400 ft to 1-in

 Fault  Rhyolite  Trachyte  Vein

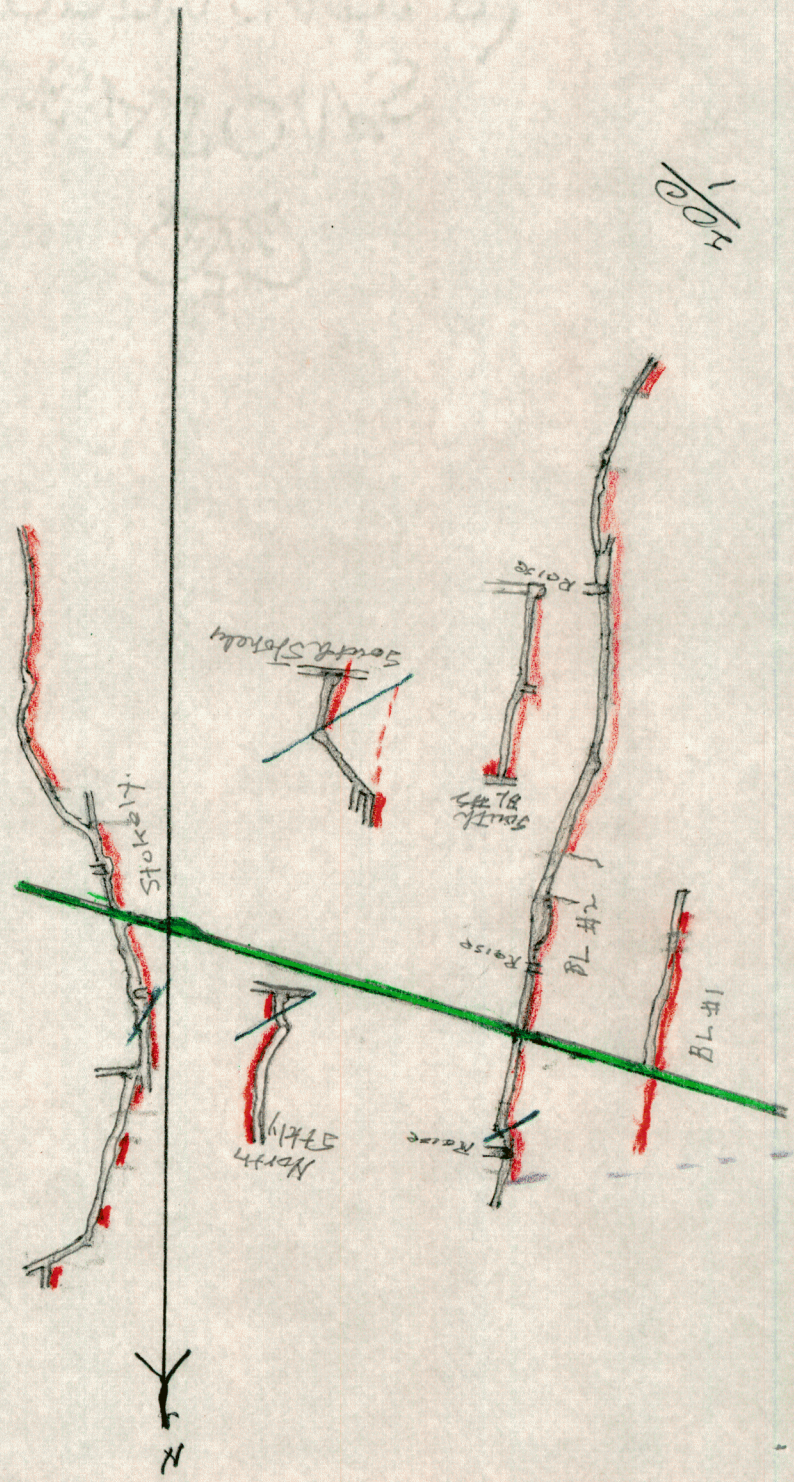
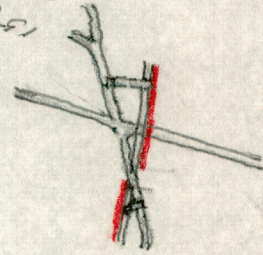


200
/

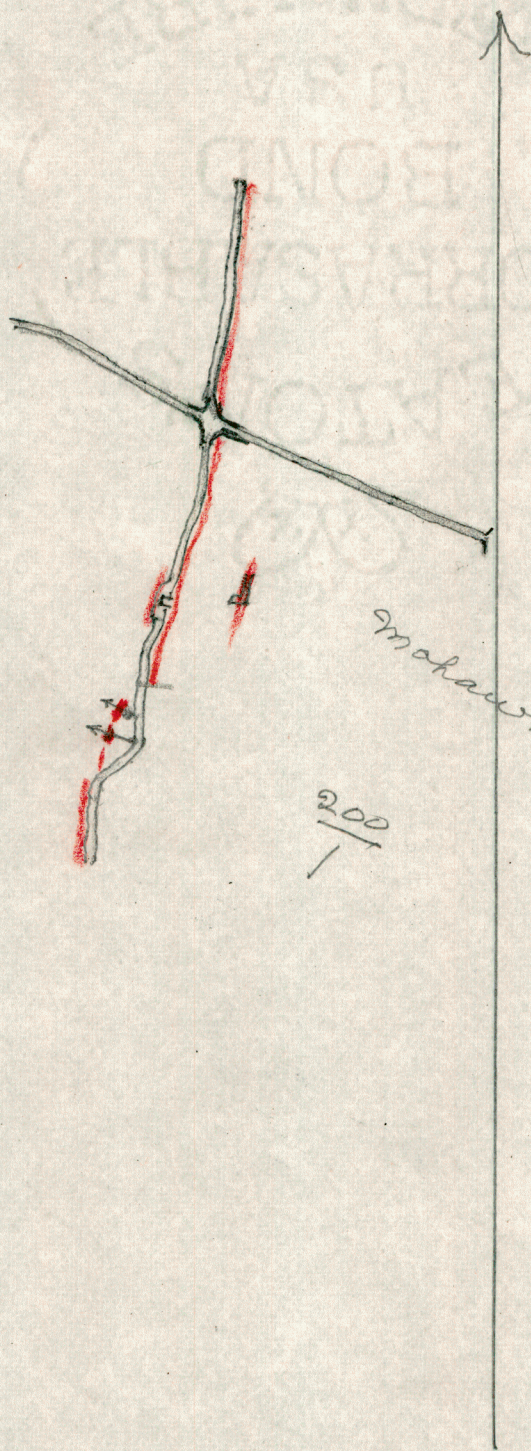


291
Item 26

150 Sqft
Storeroom



1/4



Mahawh No. 2

200
/

PROGRESS REPORT ON ROCHESTER PROJECT

Introduction

The initial investigation was undertaken in the spring of 1968 . Examination of existing underground assay maps indicated the possibility of locating a relatively large ore body containing 2-4 oz/ton silver in the vicinity of the south Blizzard crosscut. The reasoning behind the decision to go ahead was that the tunnel assays averaged about 1.5 oz./ton silver and the tunnel is in the sulfide zone, which is characteristically low grade in the district.

The first step in the program was to take a moderate amount of check assays to verify Silver State's 1965 assay map. The results checked close enough to accept the assay map as factual.

The next step was to drill the main areas of interest. Three holes were drilled in the vicinity of the south Blizzard cross-out and four were drilled on the Mohawk vein. The holes were vertical. The results are summarized as follows:

RDE # 1	averaged	0.35 oz/ton	for 450 feet.
RDE # 2	averaged	0.65 oz/ton	for 465 feet.
RDE # 3	averaged	1.38 oz/ton	for 210 feet.
RDE # 3a	averaged	1.11 oz/ton	for 318 feet.
RDE # 4	averaged	7.7 oz/ton	for 150 feet.
RDE # 4a	averaged	2.24 oz/ton	for 250 feet.
RDE # 5	averaged	0.4 oz/ton	for 286 feet.
RDE # 9	averaged	0.6 oz/ton	for 485 feet.

see map
in map files

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Item

Holes 3 and 3a , 4 and 4a were drilled to test vein structures at moderate depths. As can be seen from these averages and from the accompanying cross-sections, the results are very discouraging.

Obviously the property is not economic under present conditions. The vein systems are much too low grade for underground mining and the block with the highest potential for a low grade-high tonnage proved to average less than 0.6oz/ton silver.

The one possibility for this property lies in a very large, very low grade operation. An educated guess with the present knowledge indicates a possible 100-200 million tons averaging about 1 Oz/ton silver. Although not considered in the averages this 100-200 million tons would also contain approximately 0.01 oz/ton gold. Selective mining might raise the grade to 1.5 to 2 oz/ton silver, but would probably decrease the tonnage by more than one-third.

Geochemical analyses indicates that holes 2, 3, and 5 averaged 394 ppm (0.039%) copper and 992 ppm (0.099%) zinc. The arsenic content of hole 3 was less than 200 ppm.

The metallurgy of the ore would be very important because any metallurgical difficulties would doom an already sub-marginal deposit.

Recommendation

I would recommend retaining the property under three conditions:

1. The property can be held 10 years or more with a reasonably small investment.
2. The projected price of silver needs to be in the range of 3 to 5 dollars per ounce.
3. Expected improved open pit methods to reduce the cost of mining drastically.

Should the decision be made to continue with the project, the work should generally be organized as below; much of the work being done as yearly assesment work.

1. Drill 7-10 more holes to determine if tonnage and grade estimates are accurate.
2. Further underground sampling with the same purpose in mind.
3. Mine several hundred ton for metallurgical tests.
4. Long holes from drift to further determine tonnage.
5. Two to three deep drill holes (1000 to 2000 feet) for potential high-grade deposits.
6. Further drilling to detail ore reserves and grade.

Respectfully submitted,

Don Jennings
Don Jennings
Sept. 26, 1968

3790 0024

OFFICE

(291)

Item 26

**REPORT
ON THE
MINING PROPERTIES
OF
SILVER STATE MINES INC.**

Arthur Lakes

May 1961

M A P S

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, B. 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 26¢ 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, 4159-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

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. up to 1978

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 to 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

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-foot 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, 1936 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 7.1-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 Diagrammatic 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 merge 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 merge with mineralizer dike. Both No. 6 and No. 7 veins provide strong indications ^{for} along 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-foot southerly gap between Crown Point Tunnel and north limits of Rochester stope areas. (2) From 1300 to 1400-foot 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
	<u>2,400 feet</u>

Drifts & Crosscuts in Intermediate Level

(1) Western crosscut & drifts	400 feet
(2) Eastern crosscut	350 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
	<u>2,200 feet</u>
(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
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Estimated Cost (Cont'd.)

(2) Drifting & Crosscutting @ \$30	\$66,000	
(3) Raising @ \$20 per foot inclusive timbering	<u>3,400 x</u>	\$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 from 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 @ \$850	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
	<u>\$ 28,160</u>
1 - Compressed air driven ventilation blower	500
1200-feet 8-inch Vent pipe (estimated)	1,000
Timber 7 x 6 @ \$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)	<u>1,000</u>
	\$37,060

Costs

(1) Timbering Pitt Upraise:	Labor	\$2,500	
	Timber	1,000	
	Other	<u>500</u>	
			\$3,500
(2) Recondition Crown Point Tunnel		2,000	
	Recondition Pitt Tunnel	<u>1,000</u>	
			\$3,000 ✓
(3) Road repairs and establishment			\$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		<u>\$ 1,000</u>	
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

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

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-foot 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-foot 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 \$15.80 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 \$120 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.

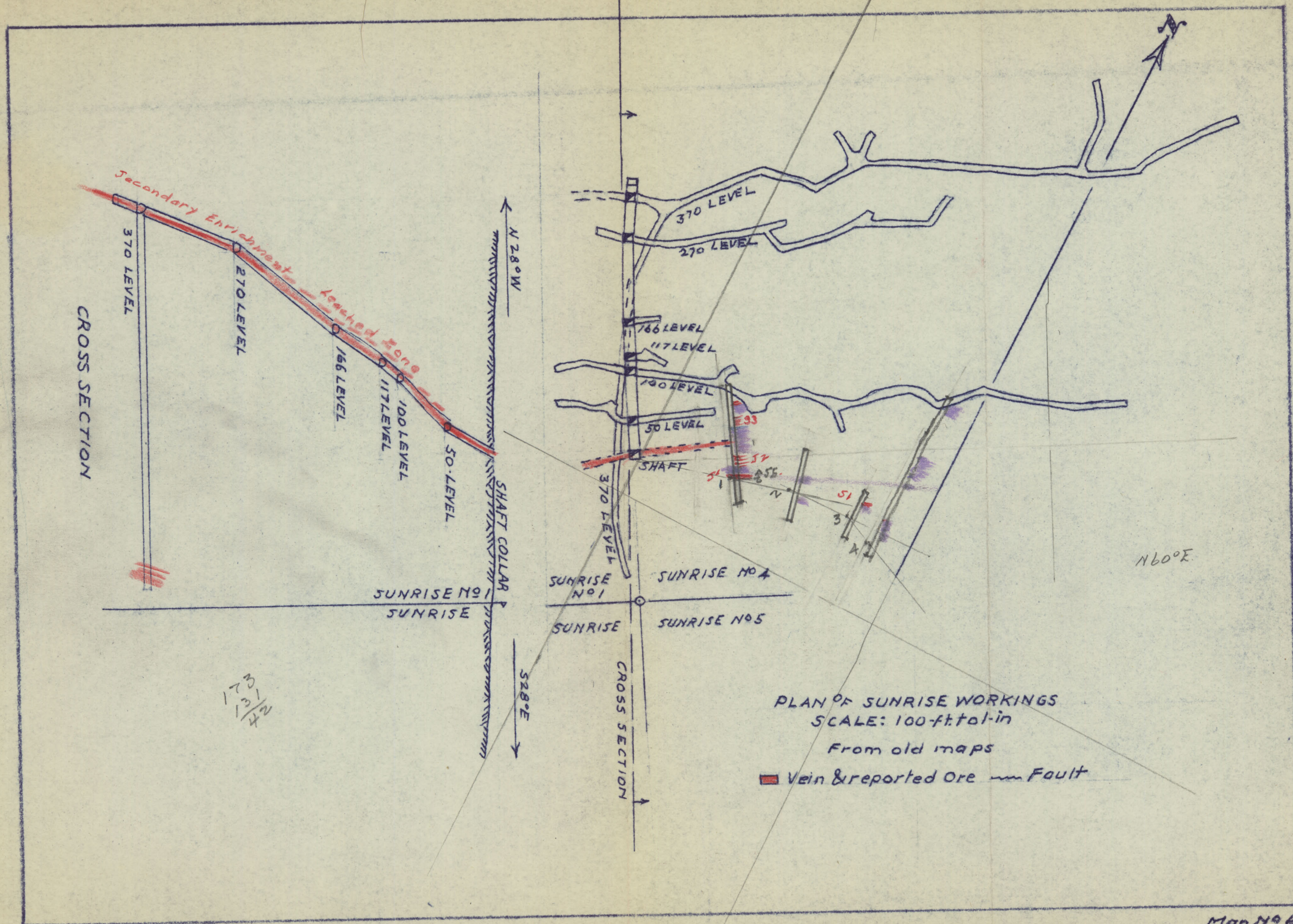
On basis of geologic allocation of ore into zones of intersection it is to be expected that when the Main and South veins are explored into the intersection zone from 600 to 800 or 900 feet northeast higher gold and silver values may be gotten.

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 1930 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 cellar 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.

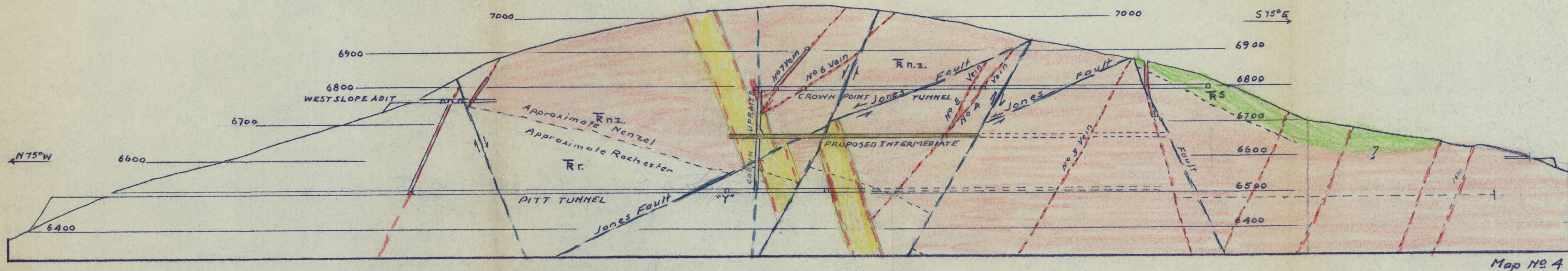


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Pg. 78

Map No 6



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

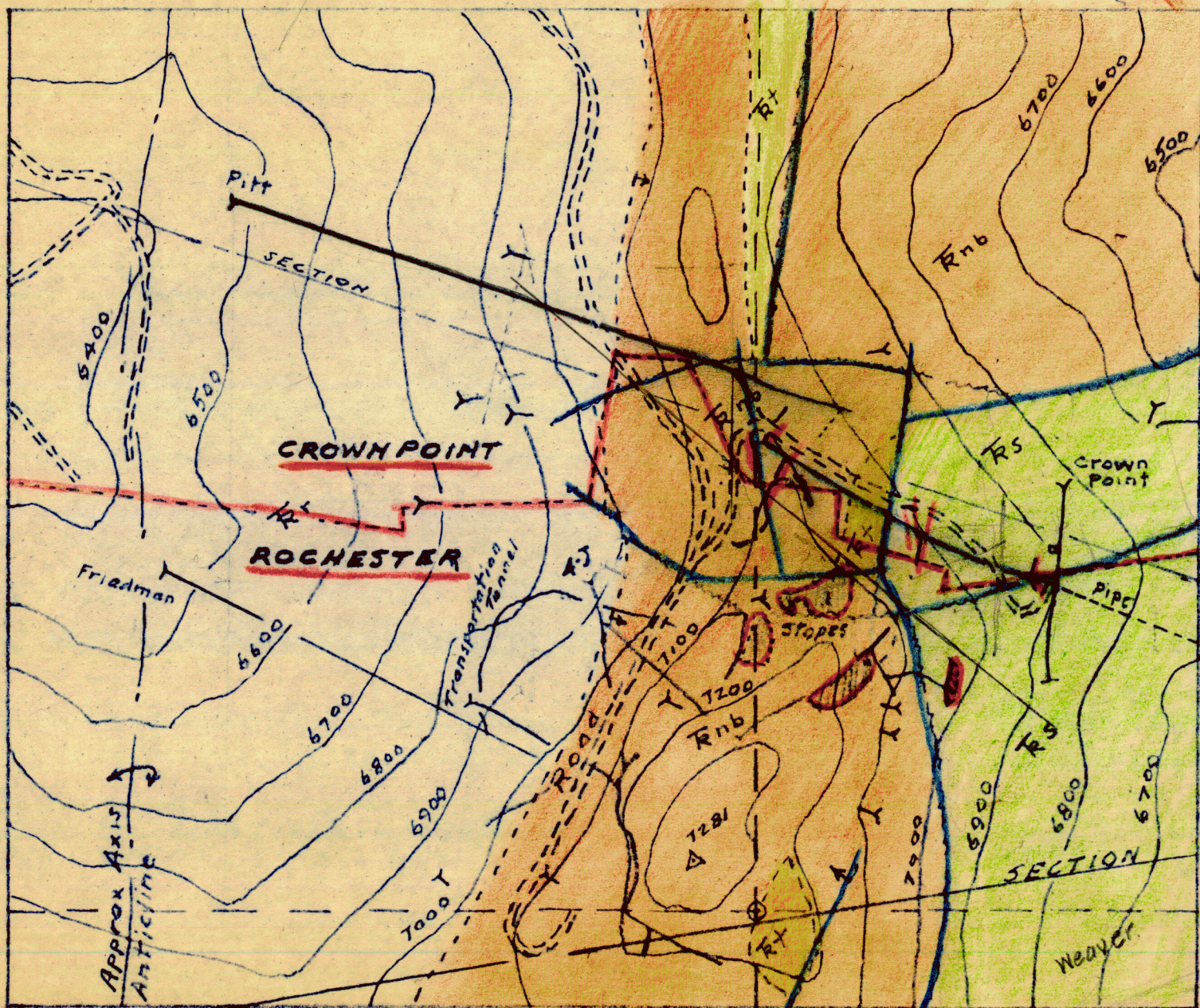


DIAGRAMMATIC SECTION ALONG GENERAL COURSE OF CROWN POINT-PITT ADITS

SCALE: 200-ft. to 1-in.

- Rs Tuffaceous Shale
 ■ Rn.b. Nenzel Rhyolite breccia (Most Ore Favorable)
 ■ Rr Rochester Trachyte
 Rhyolite Dike (Mineralizer)
 ■ Mineralized Contact Zone
 ■ Ore Vein
 — Fault

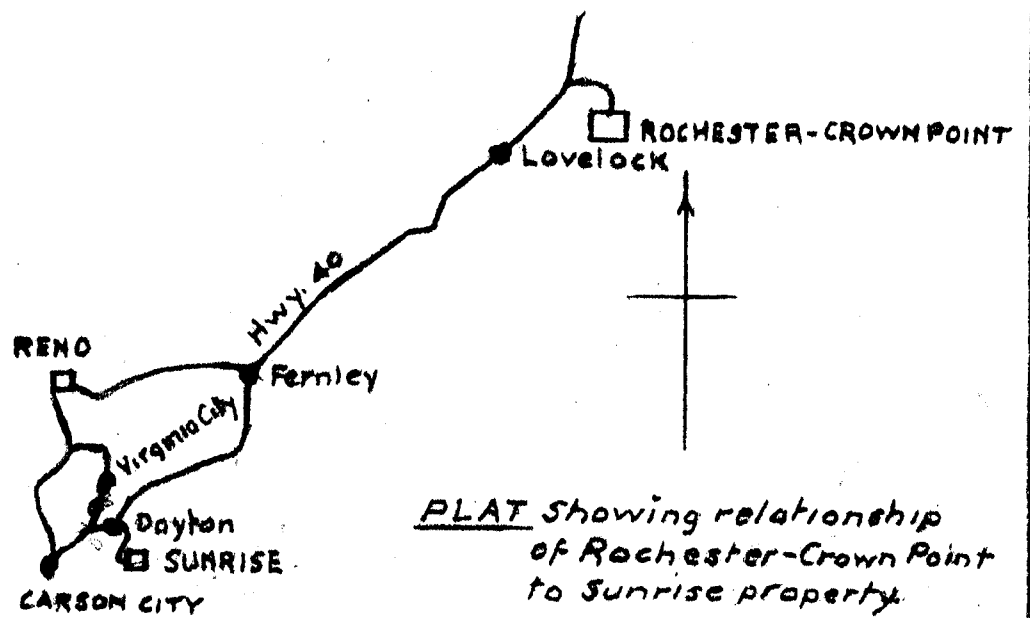
3970 0024
Pg. 80



Geologic Plan Crown Point Area
500-ft. to 1-in.

From Bul. 762 U.S.G.S.
Workings from Mine Maps

"A"



PLAT Showing relationship
of Rochester-Crown Point
to Sunrise property.
Approximately 30-mi to 1-in.

(291)

Item 26

25P
(some payware
duplicates and are
not included in this
total)

REPORT

SILVER STATE CONSOLIDATED MINING PROPERTY

Pershing County, Nevada

May 14, 1965

Arthur Lakes

REPORT
ON THE
SILVER STATE CONSOLIDATED MINING PROPERTY

Pershing County, Nevada

Directors,
Silver State Consolidated Mines Co.

Gentlemen:

Herewith Report and Ore Estimate in accord with your instructions.

Silver State Mines property is divided into Silver State and Rochester Mines.

Rochester Mine, from 1912-1934, produced 822,380 tons of ore returning from cyanide milling 8,698,200 ounces of silver and \$1,573,075 gold (\$2,663,216 today) from its two flat dipping veins..

Silver State Mine was extended into its productive zone about three years ago and has since opened up 9 veins, 6 with an ore potential indicated by present workings and geologic showings as follows:

ORE ESTIMATE values in dollars at \$1.29 per silver ounce, \$35.00 per gold ounce.

	<u>INDICATED ORE</u>			<u>INFERRED ORE</u>			<u>TOTALS</u>	
<u>Vein</u>	<u>Tons</u>	<u>\$</u>		<u>Tons</u>	<u>\$</u>		<u>Tons</u>	<u>\$</u>
No. 36	53,500	\$ 963,000		39,237	\$ 706,266		92,737	\$1,669,266
Blzrd #1	23,400	678,600		104,640	3,034,560		128,040	3,713,160
Blzrd #2	194,900	3,508,200		178,200	3,207,600		373,100	6,715,800
Stokely	131,706	2,822,459		217,800	4,667,450		349,506	7,489,909
" plus 250				175,140	3,599,127		175,140	3,599,127
Mohawk	138,292	2,904,132		152,920	3,211,320		291,212	6,115,452
	541,798	10,876,391		867,937	18,426,323		1,409,735	29,302,714

Mean of estimated mining & hauling costs \$6.22

Per ton development charge new ore 1.00

Estimated per ton costs \$7.22

Operating Net delivered to Mill \$19,124,427

Add 17,000 tons @ \$12.00 from dump 204,000

Total \$19,328,427

The ore is essentially silver ore hence any change in silver price will have immediate effect on economics.

The Silver State Mine will provide ore for gravity mining down to the Pitt Haulage Tunnel for many years before the company need be concerned with shafting operations. My costs do not take that contingency into account because we cannot presently evaluate conditions that may prevail at that time.

Attached are details of property, geology, veins, and other data contributory to the Ore Estimate.

Reno, Nevada
May 14, 1965

Arthur Lakes
(Arthur Lakes)
Consulting Engineer

PROPERTY Silver State Consolidated Mines Co. owns a block of 4-patented and 28-unpatented claims covering east and west sides of Nenzel Hill which rises from 6300 to 7200 feet above sea level. The company also owns a 200-acre placer in the valley east of Nenzel Hill.

The claims are located in Sections 15-16-17-21 and 22 of T 28-N, R-34 E, MDBM&M in Rochester Mining District, Pershing County, Nevada. The placer occupies east part of Sections 14 and 15.

Nenzel Hill is flanked on the east by northerly trending American Valley which is drained by easterly trending North and South American Canyons. It is flanked on the west by west trending Rochester and Limerick Canyons as shown on Map 1. The property is now divided into (1) the original Rochester Mine which occupies southerly part of Nenzel Hill's west flank and (2) by the newly opened Silver State Mine which contains ground surrounding Pitt Tunnel with its ore deposits occupying the east slope of Nenzel Hill.

Pitt Tunnel's west portal is reached by 22 miles of U. S. Highway and County road from supply center at Lovelock, seat of Pershing County which is 85 miles over U. S. Highway from Reno. The East portal--and proposed millsite--is accessible by mountain and valley road 5 1/2 miles from West portal and by County road leading off from U. S. Highway 40 up Limerick Canyon over into American Canyon valley.

Sierra Pacific Power Co. has installed 13,000 volt line to both West and East portals plus a power line 3 1/2 miles from East portal to water supply site at Spring Valley which is also connected by 6 inch pipeline to millsite.

GEOLOGICAL The regional rocks form a bedded succession of volcanic flows that locally comprise (1) 5000 feet of underlying Rochester trachyte consisting of lavas, breccias, and tuffs. (2) This is overlain by Nenzel rhyolite breccia varying in width up to 600 feet. (3) Overlying the Nenzel is about 700 feet of Weaver rhyolite.

The Weaver and Nenzel are the best ore hosts as proven by occurrence of old Rochester mine's best ore in the Nenzel (the Weaver does not appear there) and by the Silver State success in both Weaver and Nenzel described in this report. Whilst commercial ore extended down into the trachyte at Rochester mine, the values diminished rapidly and commercial values ended at about 1000 feet down the vein dip. The enriched ore is believed to be supergene (secondarily enriched by surface influences) hence it has been suggested that the value diminution was caused by weakening of

the enriching solutions as they progressed in depth. The lack of commercial orebodies in the extensive area traversed by Pitt Tunnel's west half suggests that where the veins enter certain brecciated trachyte members they (the veins) cannot hold the enriching solutions which dissipated into the vein walls whereby the rhyolite's better competency to form and sustain fractures for ore localization makes the Nenzel and Weaver the most important host rocks.

The formations are arched into a broad northerly trending anticline whose west arm dips about 30° and its east arm dips about 60° bringing the rhyolite formations progressively deeper into Silver State Mine's productive zone. The anticline plunges southerly so that Nenzel-trachyte contact strikes NE as shown on Map 2. This is important because the belt of ore favorable host rocks traversed by Silver State veins is apparently confined between the major Transverse Fault "A" at the south and where the veins enter the trachyte at the north as shown on Map 2.

The anticlinal structure has been extensively faulted both longitudinally (in northerly direction) and transversely (in easterly direction). Silver State veins occupy a fault block bordered on the west by northerly trending Crown Point Fault, on the south by easterly trending Transverse Fault "A", and on the east by Ridge Fault that trends northerly along American Valley about 1500 feet east from Pitt Tunnel's East portal. The effect of these faults was to lower the block bringing down Nenzel and Weaver rhyolites into opposition with Rochester trachyte at west side of Crown Point Fault as illustrated on Map 3. The block faulting set up stresses and tensions that produced in the rocks a multiplicity of steep veins, intensifying them and providing lateral and vertical ore persistence superior to occurrences in the flatter Rochester veins which are outside the fault block on west side of Crown Point Fault (See Map 2).

Crown Point and Transverse Fault "A" are particularly important in that they accompanied and effected opening of the mineral bearing veins that occupy both Rochester and Silver State mines. The Crown Point Fault effected formation of Rochester Mine's veins on its west side and also effected formation of Silver State Mine's "Y", P-28, 36, and Blizzard No. 1 veins on its east side. It is also indicated that if Blizzard No. 2 Vein maintains its recent southerly course Crown Point Fault in conjunction with Transverse Fault "A" effected formation of this most important vein. Transverse Fault "A" effected formation of Stokely veins and dike, the vein 250 feet east from Stokely vein which is also associated with a dike, and the important Mohawk No. 2 and No. 1 with their associated dike near East portal of Pitt Tunnel. All the veins should expand as they approach the two faults. For this reason the most important development work comprises extension of the vein drifts into the disturbed fault areas.

VEINS The veins pinch down laterally and vertically to about 3 feet width and swell to 14 feet or better. Rochester veins averaged about 5 feet width but stopped about 6 feet.

Rochester Mine's 882,340 ton production came essentially from its East and West veins which dipped 60° in upper area shortly flattening to 35° which maintained to the end of commercial ore at about 1000 feet down vein dip from outcrop. The veins started in Nenzel rhyolite breccia where the best values occurred, thence commercial ore extended down into trachyte with rapid diminution of values as described. The upper 200-250 feet of East vein was leached of values before good ore was encountered whilst the West vein produced high grade ore at surface. The longest ore stopes in East vein (the most important producer) were about 500 feet.

Silver State Mine is opened by Pitt Adit Tunnel driven 4350 feet through the mountain. The first 2200 feet extends easterly and southerly through trachyte devoid of commercial orebodies. Immediately the tunnel encountered the Nenzel rhyolite breccia it disclosed "Y" ore vein which was followed 130 feet. The tunnel was turned easterly for 1900 feet progressing through Nenzel and Weaver rhyolites whose easterly plunge brings them deeper as the tunnel extends east. The progress through these favorable ore hosts encountered 9 veins in which three have already opened ore lengths of from 600 to 740 feet.

- (1) "Y" Vein opened 100 feet along Pitt Tunnel in ore averaging \$19.75 silver-gold per ton across tunnel width.
- (2) P-28 Vein Flat dipping vein assaying \$28.89 along dip. Not explored.
- (3) No. 36 (400) Vein Northerly extension of old Rochester stope at 100 to 300 feet above Pitt Level. It has been opened in virgin ground 200 feet high by 370 feet long of which 240 feet averaged \$14.56 silver-gold at Level 100 feet above Pitt Tunnel with 150 feet of upraise averaging \$21.21 and 65 feet drifted northerly at 200 Level averaged \$18.14 gold-silver per ton.
- (4) Blizzard No. 1 Vein drifted at Pitt Level for 190 feet in ore averaging \$29.00 silver-gold per ton.
- (5) Blizzard No. 2 Vein is the strongest vein outcrop on the entire property where it widens to about 20 feet in southern extension. The outcrop is low grade and low grade ore was encountered at the 500 Level (400 feet above Pitt Level) about 120 feet below surface. Two 40 foot winzes down from 500 Level are reported in good ore. The above

suggests that the Blizzard vein may be leached down from surface possibly 100 feet similarly as occurred at Rochester's East vein. Blizzard vein extends southerly 1700 feet across the orebelt consisting of ore-favorable Nenzel and Weaver rocks between Transverse Fault "A" at the south and where the vein enters trachyte at the north as illustrated on Map 2. The vein has been opened at Pitt Level for 940 feet of which 740 feet is ore length by 200 feet high at south raise. The ore averages \$18.00 silver-gold per ton across 5 feet tunnel width with numerous swells in tunnel walls and width expansions to 12 feet in the tunnel, 10 feet at 100 foot point of South Raise and 13 feet at the 200 foot point. The probability is that the vein structure will materially expand as it progresses southerly towards either Crown Point Fault which is 800 feet ahead or to Transverse Fault "A" which is 1000 feet ahead dependent upon the vein's southerly course.

(6) Stokely Vein is importantly associated with a strong 75-80° west dipping aplite dike. The ore vein forms on one or both walls, favoring the footwall (east side of the dike). The dike and vein showings can be followed about 1900 feet at surface where assays varying from \$6.00 to \$24.00 are found. The Stokely vein courses about 2000 feet through the orebelt. It has been drifted and crosscut 955 feet at Pitt Level with two 150 foot raises and connecting sub-level above. Of this, 600 feet is ore length by 150 feet high averaging \$21.43 silver-gold per ton across assay widths of 4 feet with upwards of 25 feet in South Raise and numerous occurrences of ore in tunnel walls. This vein should materially expand in its southerly approach towards Transverse Fault "A" which is about 1000 feet ahead.

Stokely plus 250 ft. Vein This unexplored vein 250 feet east from Stokely vein is importantly associated with a second aplite dike. The vein assays \$20.85 silver-gold across 3 1/2 feet which is comparable with narrower areas in Stokely vein hence it may be expected to expand when drifted. Its association with the dike warrants inclusion of its ore indications in the Ore Estimates. It should continue about 1600 feet through the orebelt and should also expand in its southerly course approaching Transverse Fault "A".

Mohawk No. 2 Vein is importantly associated with dike No. 3 which can be traced about 2600 feet at surface (2100 feet within Silver State property lines). Surface assays run from \$11.47 to \$24.87 per ton silver-gold. The vein has been drifted and crosscut 730 feet at Pitt Level providing 630 feet ore length by about 125 feet to surface. The ore averages \$21.00 per ton silver-gold across assay width of 4 1/2 feet, expanding to 9 feet in part of the southern drift. Ore occurs in tunnel walls at numerous places and some assays from \$60.00 to \$171.00 have been encountered across full tunnel width. The vein extends an additional 700 feet.

southerly through the orebelt to Transverse Fault "A" and will extend 650 feet northerly within property lines making a total of 2100 feet through the ore belt. This vein should materially expand as it approaches Transverse Fault "A". This is one of the property's most important veins and should be put into early stope operation because of its richness and its nearness to the mill. Its future ore production will require shaft operation.

Mohawk No. 1 Vein which occurs about 20 feet east from Mohawk No. 2 vein has not been explored and is probably part of Mohawk vein structure. It assays \$20.94 silver-gold across 3 1/2 feet width. It should extend about 2100 feet through the orebelt unless it merges with Mohawk No. 2. As it is considered part of the vein structure its ore possibilities have not been included in Ore Estimate.

ORE ESTIMATE All Silver State veins, with one exception (36 vein) are virgin with all ore to be taken out. The workings on these veins have not yet progressed sufficiently to block out ore in a technical sense. Present estimates, therefore, are speculative until the veins have further been penetrated by drifts and upraises. These limiting conditions necessitate calculations based largely on geologic grounds with deductions to cover possible barren vein areas, possible value reduction in undisclosed areas, and possible ore dilution in mining.

In view of the above limitations the usual estimates of blocked, probable, and possible ore reserves are not adaptable hence the estimates have to be based upon the writer's judgement for what ore is indicated adjacent to present workings and what ore is inferred in geologically favorable ground extending laterally and vertically from present workings. The latter has been adjusted by tonnage deductions to cover uncertainties in the undeveloped ground.

Mineralized vein lengths The Orebelt enclosing Silver State's most productive potential along the various veins comprises the veins' intersection of the area of ore-favorable formations lying between Transverse Fault "A" and where the veins' northerly extensions enter the less favorable trachyte as indicated on Map 2. The lengths of the newly discovered veins vary from 1200 feet to 2000 feet or more as individually noted above.

Ore depths The steeply dipping (75-80°) Silver State veins plus Silver States preponderance of ore-favorable Nenzel and Weaver host rocks tend to belief that Silver State ore deposition will continue deeper than the ore in Rochester veins. It is on this theory that the following ore estimates have been made. It will here be pointed out that considerable ore tonnage

should continue below the ore estimate limits. These possibilities cannot be evaluated under present development limitations.

The ore is believed to be supergene wherein the Rochester veins with dips ranging from 60° to 35° played out of commercial values at 1000 feet depth. In view of Silver State's superior geologic setting and the contention that certain detrimental rock conditions aided in Rochester Mine's ore impoverishment it is my belief that commercial ore will extend down the Silver State veins beyond Rochester's depth limits. It is further possible that the ore depths will increase (1) where the veins are associated with dikes, and (2) in the zones of probable vein expansion which affords better access for descending enriching solutions.

Vein Widths pinch down to 3 feet and swell to 14 feet and better. Ore estimates are based upon widths recorded on Assay Maps making width allowances for vein expansion where ore occurs in the tunnel walls. It is probable that the ore will stope wider than the tunnel showings.

Values The values are reported in dollars to conform with purpose of this report. The average values shown in Assay Maps have been taken though a composite sample taken from all veins for mill tests should have bearing in raising values over mine Assay reports.

Of the 9 veins disclosed in Silver State mine, tonnages of six have been calculated. The "Y-Vein", P-28 Vein and Mohawk No. 1 veins have been eliminated for lack of exploration.

36 Vein Length in orebelt (unstoped) 900. Depth from surface to Pitt Level 550 feet. Ore width 4 feet. Values \$18.00

<u>Indicated Ore</u>		<u>Inferred Ore</u>	<u>Total Ore</u>	
400 feet long		600 feet long		
500 feet high		300 feet high		
200,000 sq. ft.		180,000 sq. ft.		
Less stope	20,000	4 ft. wide		
180,000		720,000 cu. ft.		
4 ft. wide		12.3		
720,000 cu. ft.		59,450 tons		
12.3		66%		
59,450 tons		39,237 tons		
90%		\$18.00		
53,500 tons		\$706,266.00		
\$18.00				
\$963,000.00				
			Tons	\$
			92,737	\$1,669,266

Blizzard No. 1 Vein Length in orebelt 1,300 ft. Depth surface to Pitt Level 600 ft. Ore width 3 1/2 ft. Value \$29.00.

<u>Indicated Ore</u>		<u>Inferred Ore</u>	<u>Total Ore</u>	
170 Feet long		1000 feet long		
600 feet high		600 feet high		
102,000 sq. ft.		600,000 sq. ft.		
3.25 ft. wide		3.25 ft. wide		
331,500 cu. ft.		1,950,000 cu. ft.		
12.3		12.3		
26,000 tons		158,540 tons		
90%		66%		
23,400 tons		104,640 tons		
\$29.00		\$29.00		
\$678,600.00		\$3,034,560.00	Tons	\$
			128,040	\$3,713,160

Blizzard No. 2 Vein Length in orebelt 1660 feet, Depth surface to Pitt Level 550 feet, Width 6 feet. Value \$18.00.

<u>Indicated Ore</u>	<u>Inferred Ore</u>	<u>Total Ore</u>	
740 ft. long	920 ft. long		
600 ft. high	600 ft. high		
444,000 sq. ft.	552,000 sq. ft.		
6 ft. wide	6 ft. wide		
2,664,000 cu. ft.	3,312,000 cu. ft.		
12.3	12.3		
216,600 tons	270,000 tons		
90%	66%		
194,900 tons	178,200 tons		
\$18.00	\$18.00	Tons	\$
\$3,508,200.00	\$3,207,600.00	373,100	\$6,715,800

Stokley Vein Length in orebelt 2000 feet, Depth from surface to Pitt Level 400 feet, Width 5 feet. Value \$21.43.

at Dike

<u>Indicated Ore</u>	<u>Inferred Ore</u>	<u>Total Ore</u>	
600 ft. long	1350 ft. long		
600 ft. high	600 ft. high		
360,000 sq. ft.	810,000 sq. ft.		
5 ft. wide	5 ft. wide		
1,800,000 cu. ft.	4,050,000 cu. ft.		
12.3	12.3		
146,340 tons	330,000 tons		
90%	66%		
131,706 tons	217,800 tons		
\$21.43	\$21.43	Tons	\$
\$2,822,459.00	\$4,667,450.00	349,506	\$7,489,909

Vein 250 feet east of Stokely vein Length in ore belt 2000 ft. Depth, surface to Pitt Level 250 ft. Width 3 1/2 ft. Value \$20.55.

at Dike

Indicated Ore

Inferred Ore

Total Ore

	1600 ft. long		
	600 ft. high		
	960,000 sq. ft.		
	3.4 ft. wide		
	3,264,000 cu. ft.		
	12.3		
	265,370		
	66%		
	175,140 tons		
	\$20.55		
		Tons	\$
\$3,599,127.00		175,140	\$3,599,127

Mohawk No. 2 Vein

at Dike

Indicated Ore

Inferred Ore

Total Ore

	630 ft. long		950 ft. long		
	600 ft. high		600 ft. high		
	378,000 sq. ft.		570,000 sq. ft.		
	5 ft. wide		5 ft. wide		
	1,890,000 cu. ft.		2,850,000 cu. ft.		
	12.3		12.3		
	153,658 tons		231,700 tons		
	90%		66%		
	138,292 tons		152,920 tons		
	\$21.00		\$21.00		
				Tons	\$
\$2,904,132.00		\$3,211,320.00		291,212	\$6,115,452

MINING The vein widths, steep dips (75-80°) and competent walls are ideal for shrinkage stoping. It will probably require simultaneous operation of four or more stopes distributed into the veins in order to produce 200 tons of ore per diem. In the event that an expanded zone is penetrated it is possible, by full development, that the ore tonnage could be raised to 250 or 300 tons per diem.

DEVELOPMENT The most important development work is to continue the Blizzard No. 2 south drift 1000 feet, the Stokely south drift 1000 feet and Mohawk No. 2 south drift 750 feet into the south limits of the ore belt.

In event that a zone of expanded ore veins is intersected crosscuts should be run from these drifts in the expanded zone as follows (1) 135 feet west from Blizzard No. 2 drift to intersect Blizzard No. 1 vein then drift explore the latter as far as conditions permit, (2) crosscut east from Stokely vein drift 250 feet to intersect the vein there and then drift explore the latter, (3) Crosscut east from Mohawk No. 2 drift into Mohawk No. 1 and explore.

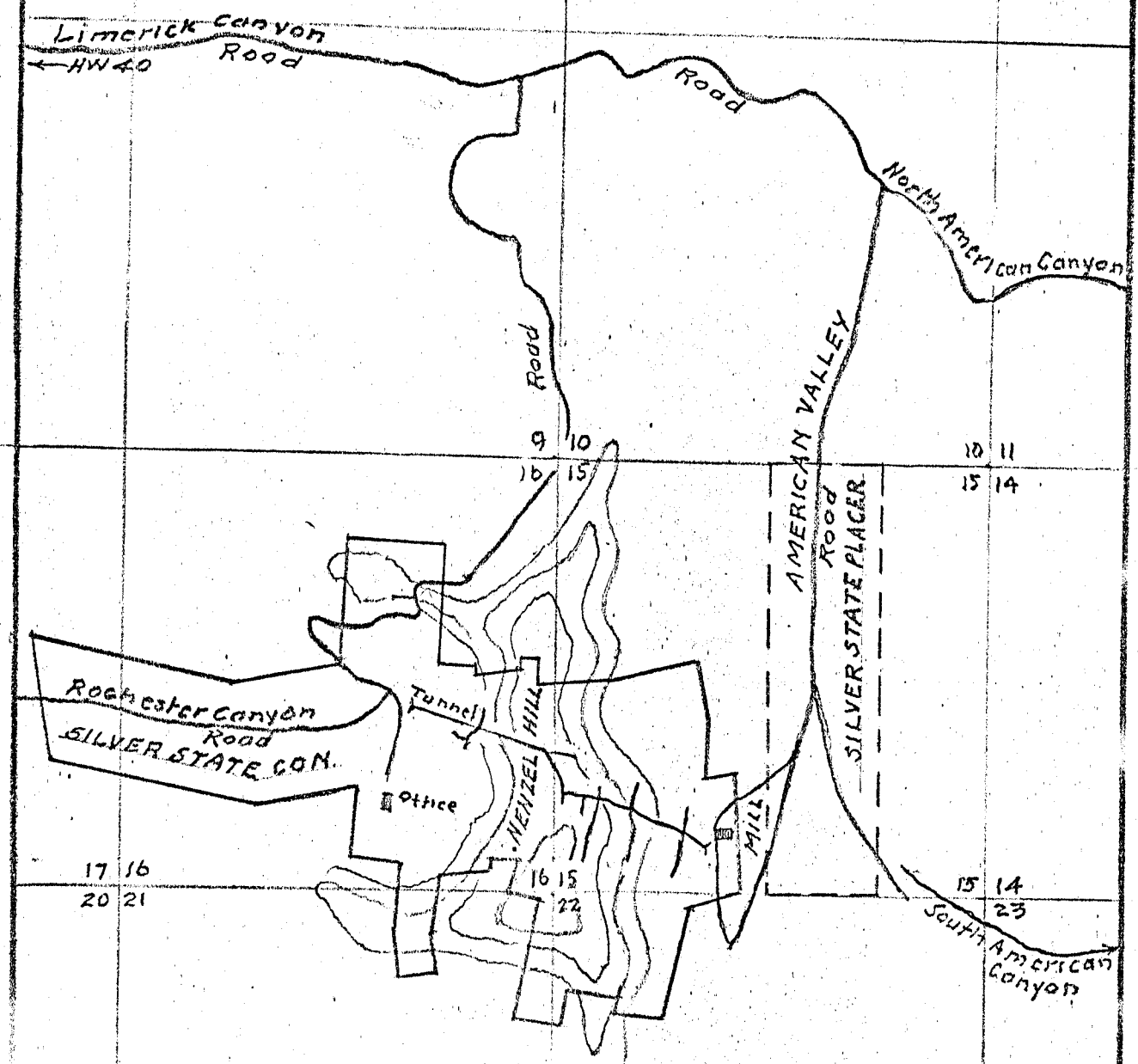
The Stokely North drift should be extended about 250 feet to explore for ore found at surface. The Mohawk No. 2 North drift should be extended 400 feet possibly to surface.

Blizzard South Raise should be advanced 200 feet to the 500 Level to develop ore and attain ventilation. At south end of Stokely 150 Level a raise should be extended 150 feet up the vein thence crosscut to Crown Point Tunnel to develop ore and attain ventilation. A raise should be run about 125 feet up from Mohawk South drift to surface to develop ore and attain ventilation.

COSTS Stoping costs per ton of ore @ 200 tons per diem are figured:

	<u>3 ft. width</u>	<u>4 ft. width</u>	<u>5-6 ft. width</u>
Labor	\$2.60	\$1.86	\$1.38
Explosives	1.20	1.30	1.50
Power	.15	.20	.20
Insurance	.30	.30	.30
Steel, etc.	.45	.44	.47
Supporting labor (fixed)	1.15	1.15	1.15
Supervision	<u>.85</u>	<u>.85</u>	<u>.85</u>
	\$6.70	\$6.10	\$5.85
Development (new ore)	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>
Totals	\$7.70	\$7.10	\$6.85

The mean of the above figures is \$7.22 per ton taken in estimate.

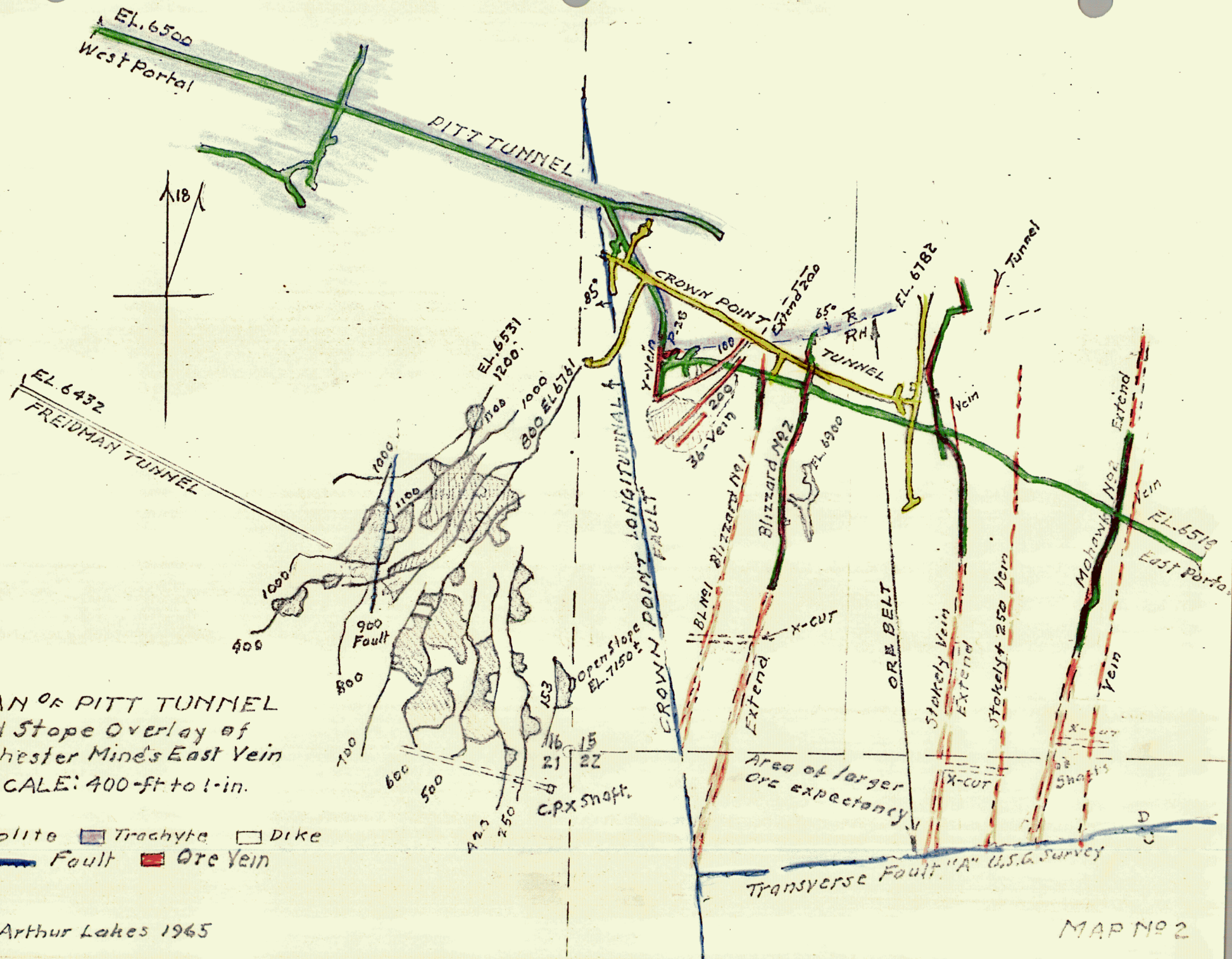


PLAN SHOWING LOCATION
 SILVER STATE CONSOLIDATED PROPERTY
 T2B-N: R34-E MDBM.
 SCALE: 2000-ft. to 1-in.
 Arthur Lakes
 1965

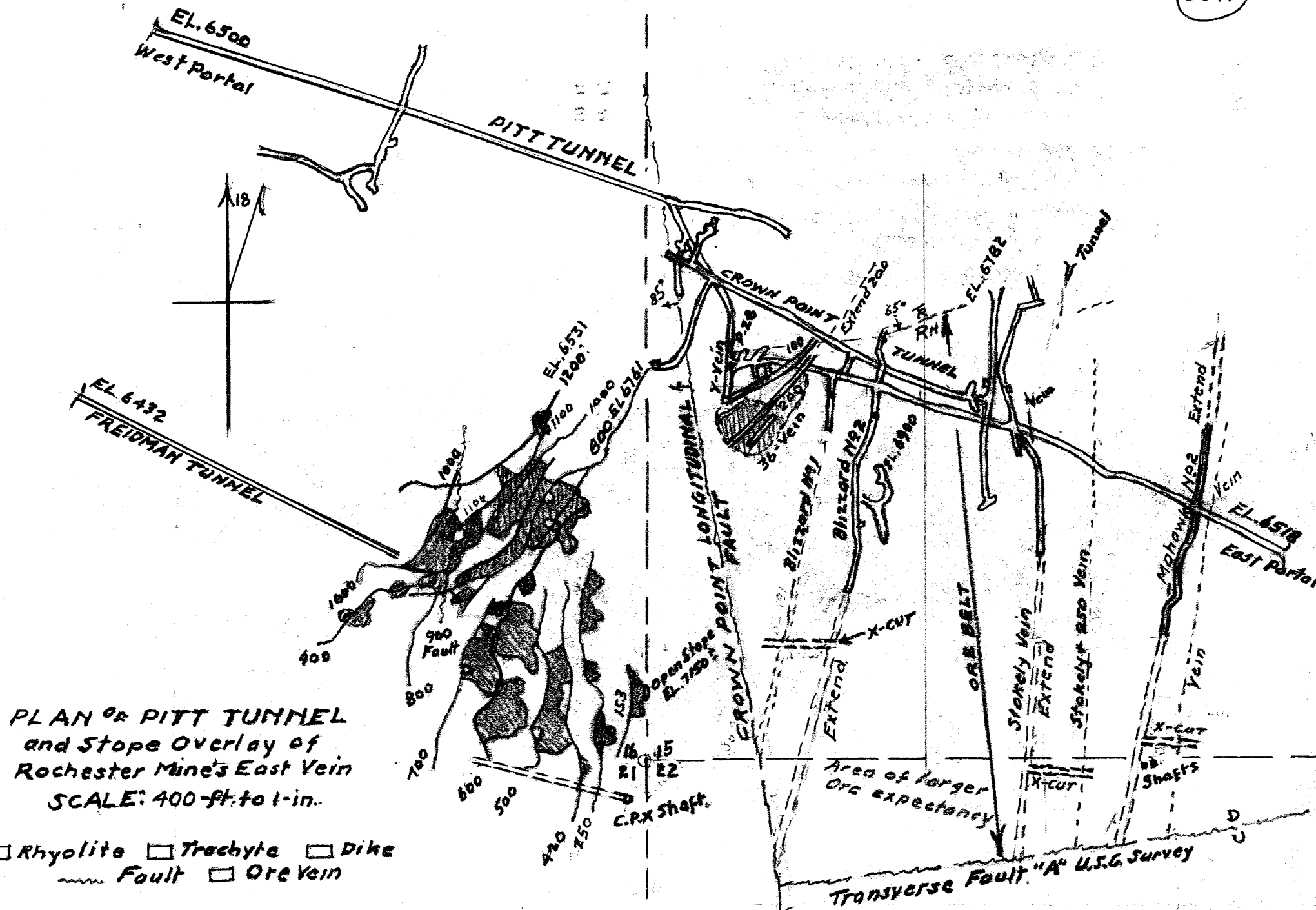
PLAN OF PITT TUNNEL
and Stope Overlay of
Rochester Mine's East Vein
SCALE: 400-ft to 1-in.

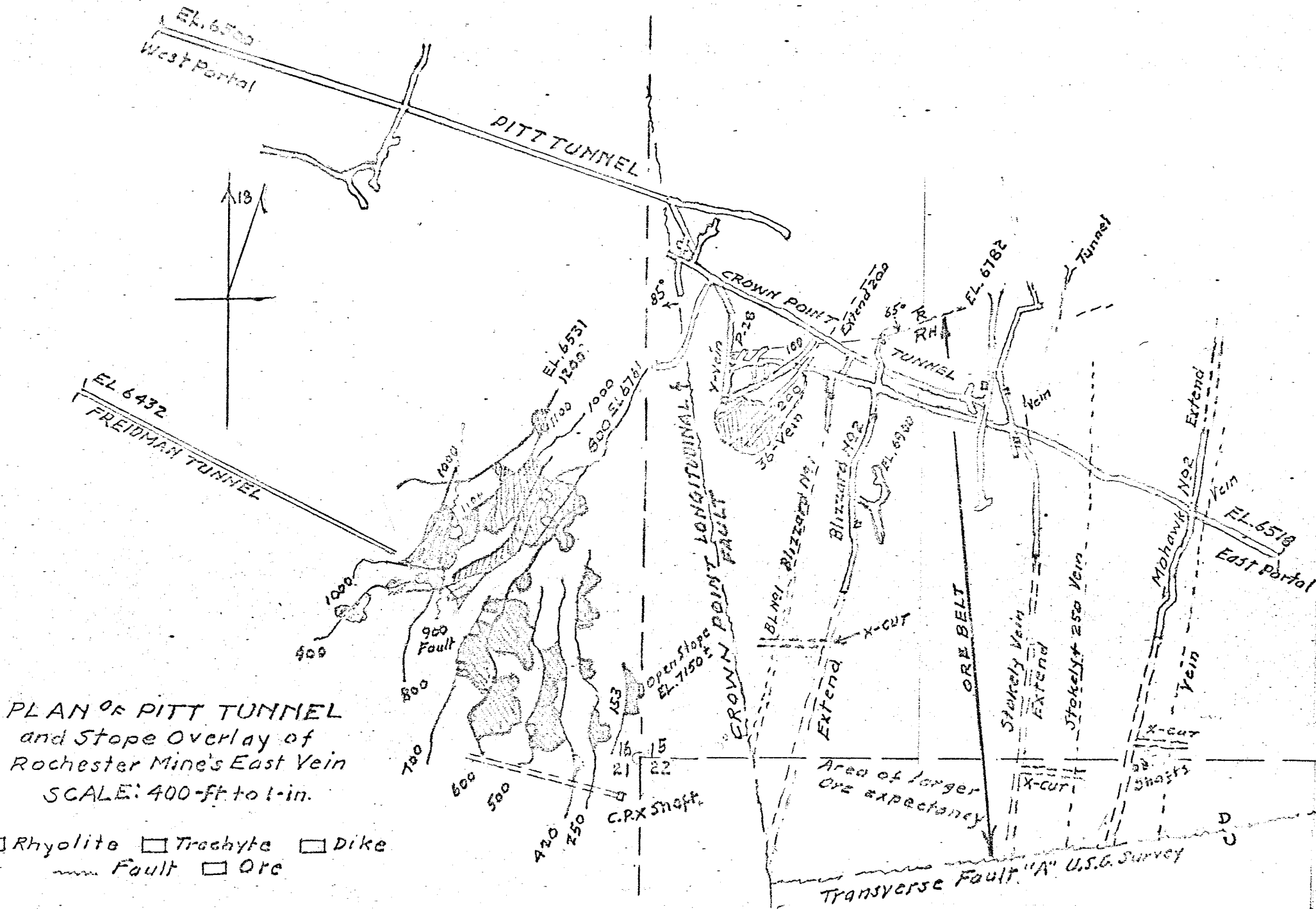
□ Rhyolite □ Trachyte □ Dike
— Fault ■ Ore Vein

Arthur Lakes 1965



MAP NO 2





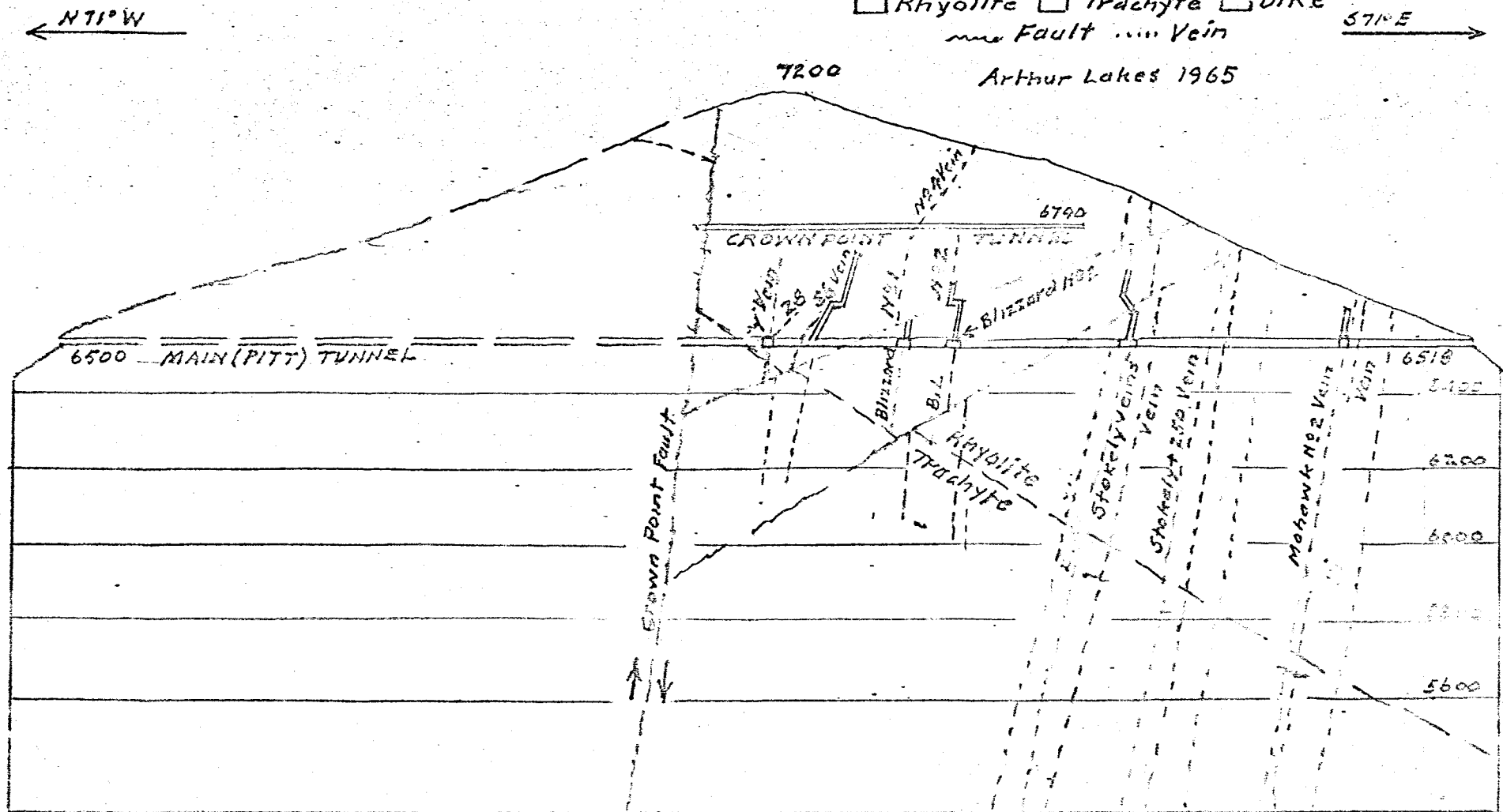
DIAGRAMMATIC SECTION
ALONG MAIN (PITT) TUNNEL.

SCALE: 400-ft. to 1-in.

Showing the Veins, dikes, and
other features of "New Mine"

□ Rhyolite □ Trachyte □ Dike
--- Fault Vein

Arthur Lakes 1965



SCALE: 400-ft. to 1-in.

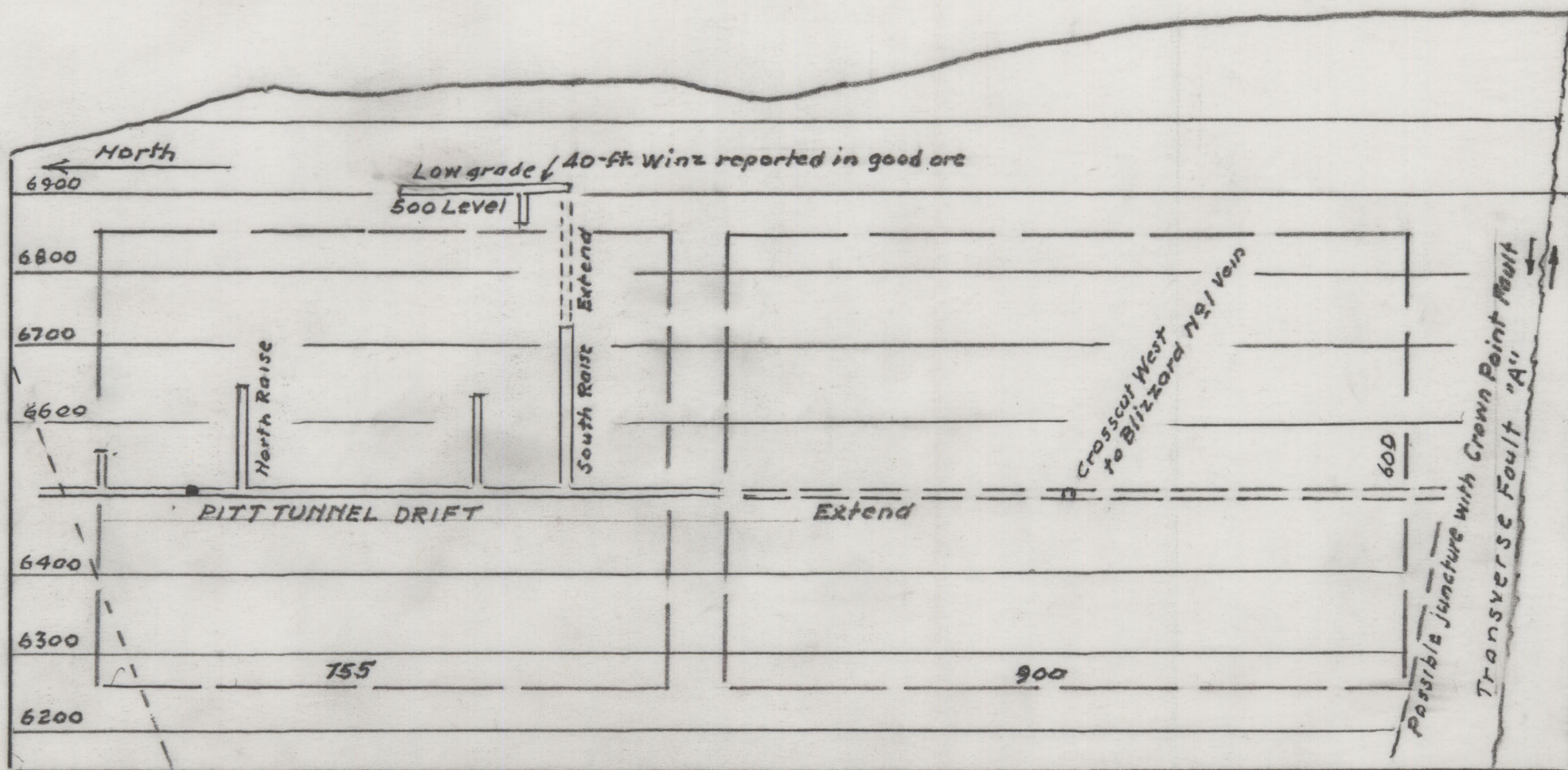
☐ Rhyolite ☐ Trachyte ☐ Dike
 ~ Fault ~ Vein

Arthur Lakes 1965

Redwood this
steep to 60° and 70°



291



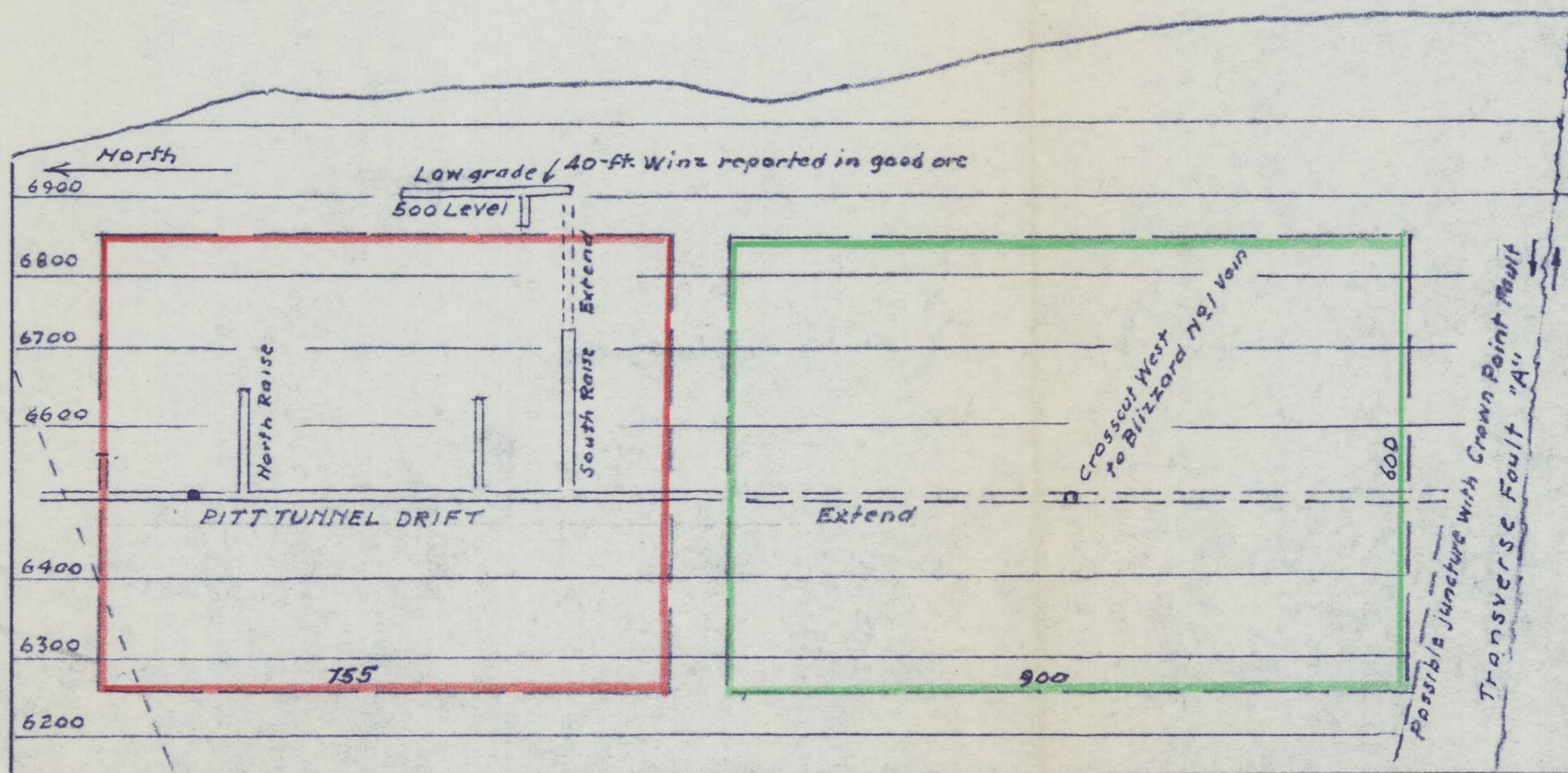
LONGITUDINAL SECTION ON BLIZZARD NO. 2 VEIN

SCALE: 200-ft. to 1-in

☐ Indicated Ore ☐ Inferred Ore

3970 0024

MAP No. 4



LONGITUDINAL SECTION ON BLIZZARD NO. 2 VEIN

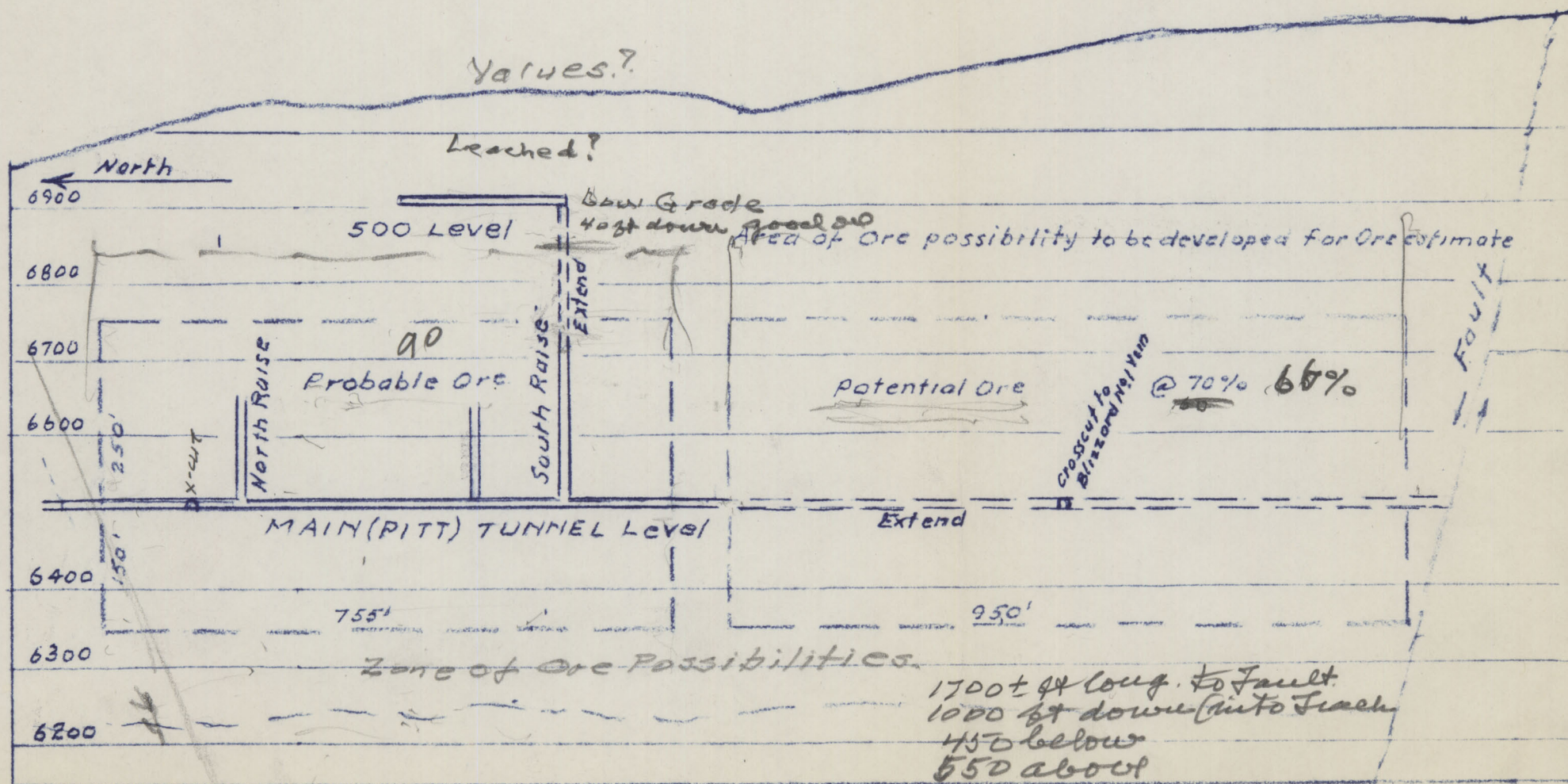
SCALE: 200-ft. to 1-in

■ Indicated Ore ■ Inferred Ore

3970 0074

MAP No 4

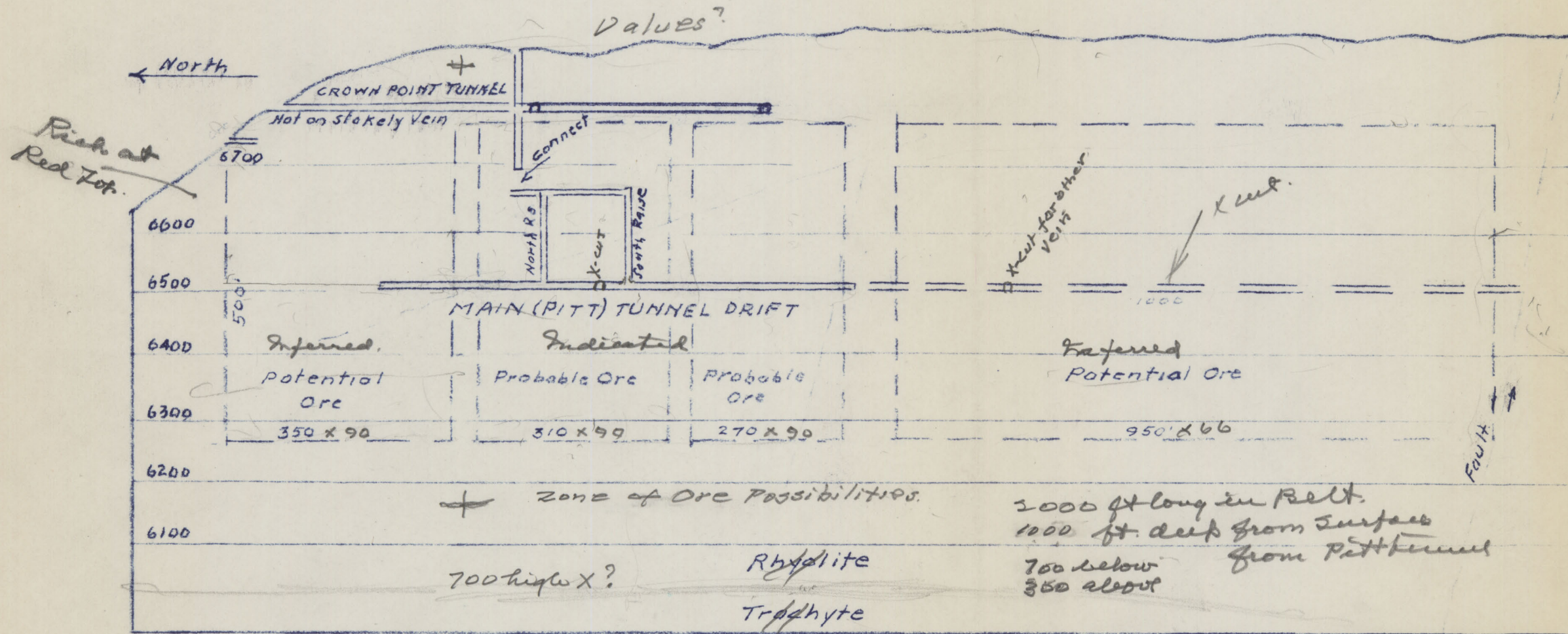
291



LONGITUDINAL SECTION ON BLIZZARD NO. 2 VEIN
SCALE: 200 ft to 1 in.

□ Rhyolite □ Trachyte Fault
□ Probable Ore □ Potential Ore

4
3970 00 24



Take 1/2 below
300 ore box
cannot be
evaluated

LONGITUDINAL SECTION ON STOKELY VEIN

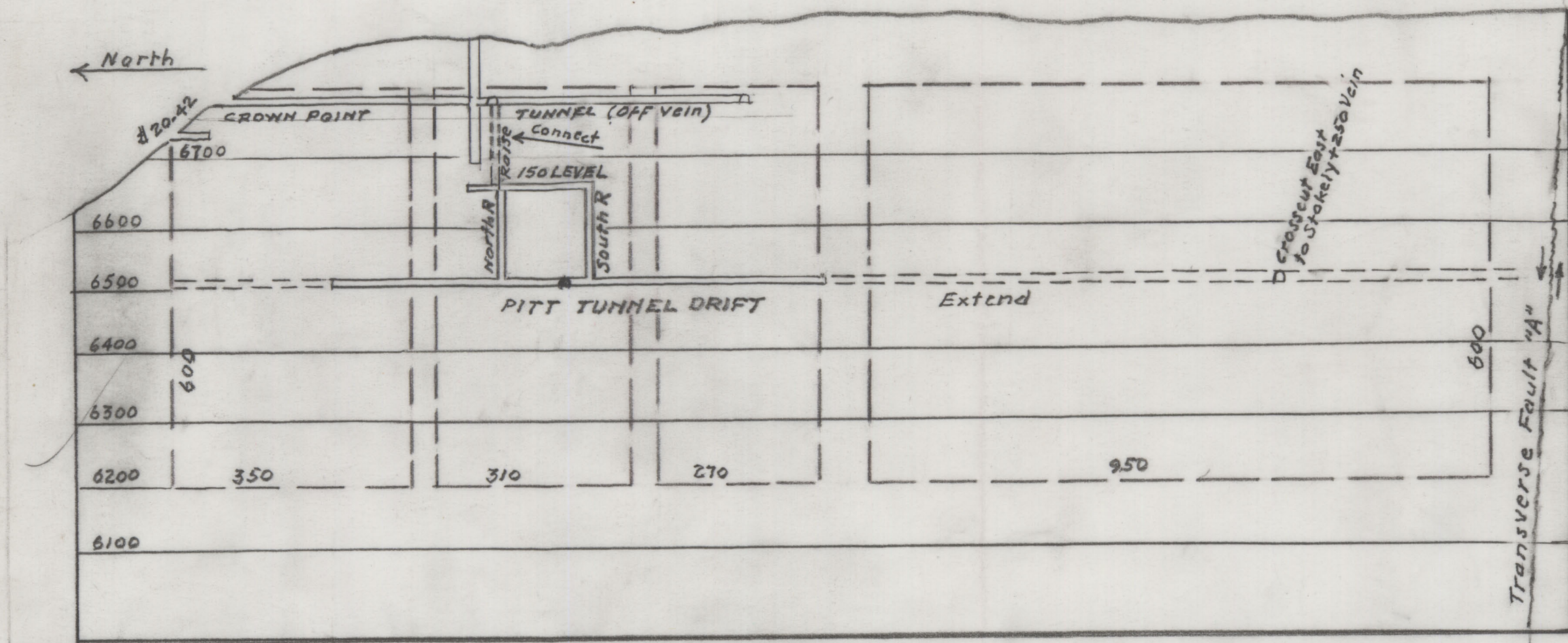
SCALE: 200-ft to 1-in

☐ Rhyolite ☐ Trachyte ☐ Fault
☐ Probable Ore ☐ Potential Ore

56

3970 0024

291



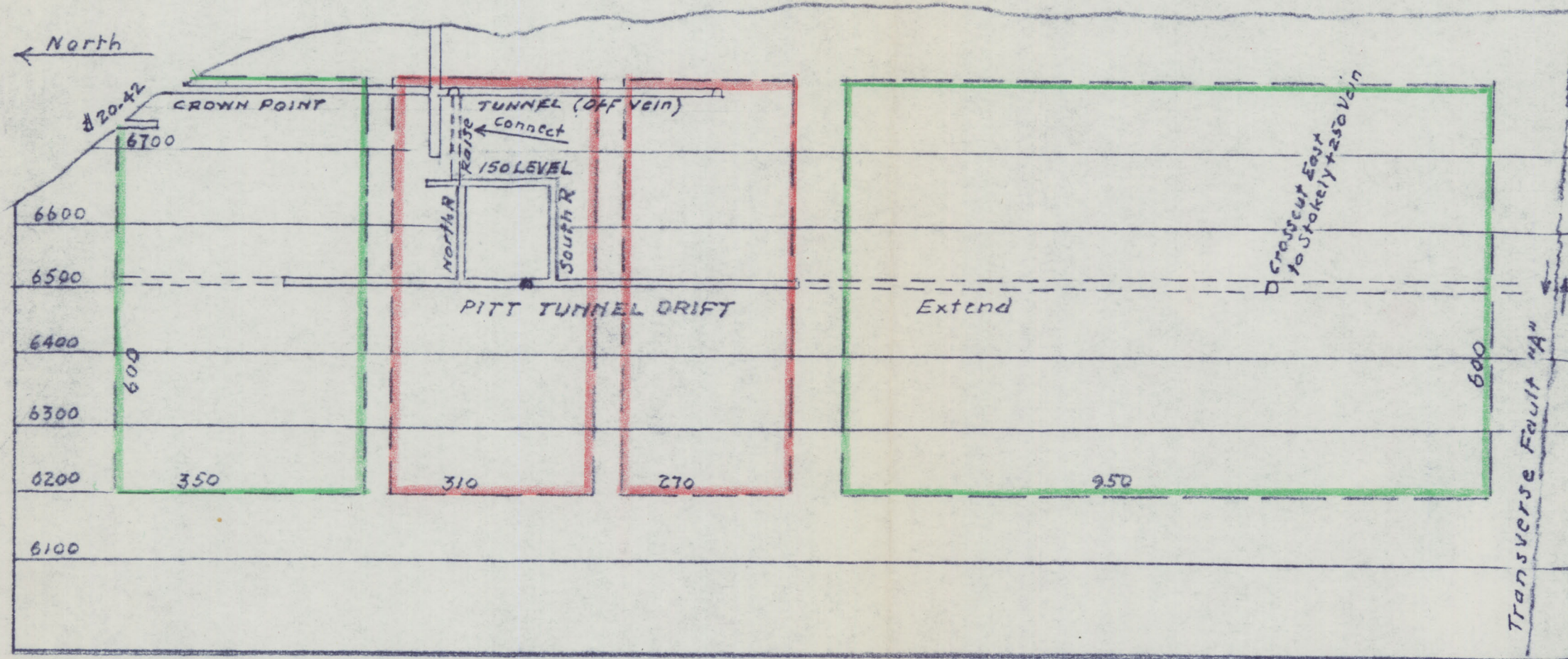
LONGITUDINAL SECTION ON STOKLEY VEIN

SCALE: 200-ft to 1-in

☐ Indicated Ore ☐ Inferred Ore

3970 0024

MAP No 5

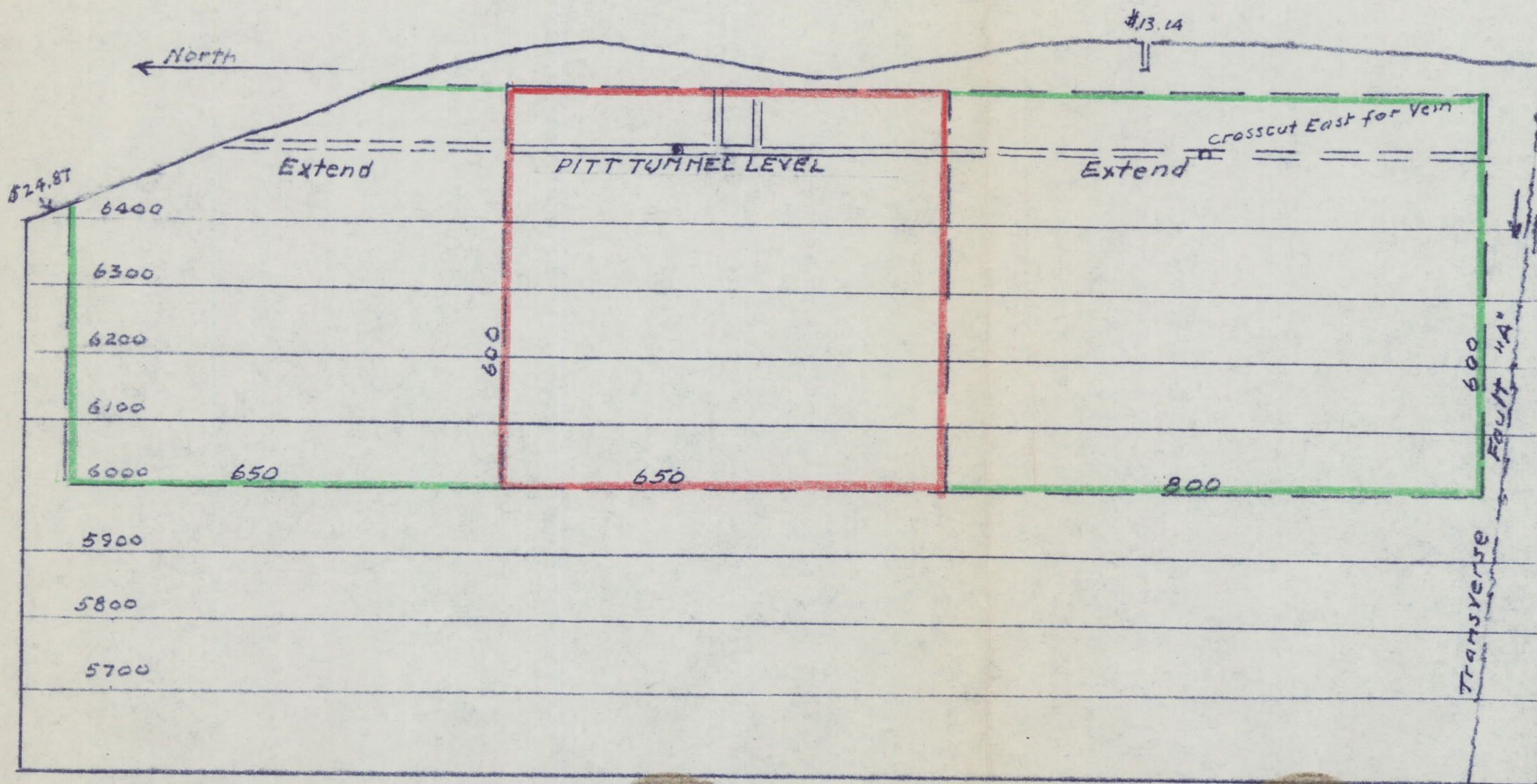


LONGITUDINAL SECTION ON STOKLEY VEIN

SCALE: 200 ft. to 1 in

Indicated Ore Inferred Ore

3970 0024



LONGITUDINAL SECTION ON MOHAWK NO 2 VEIN

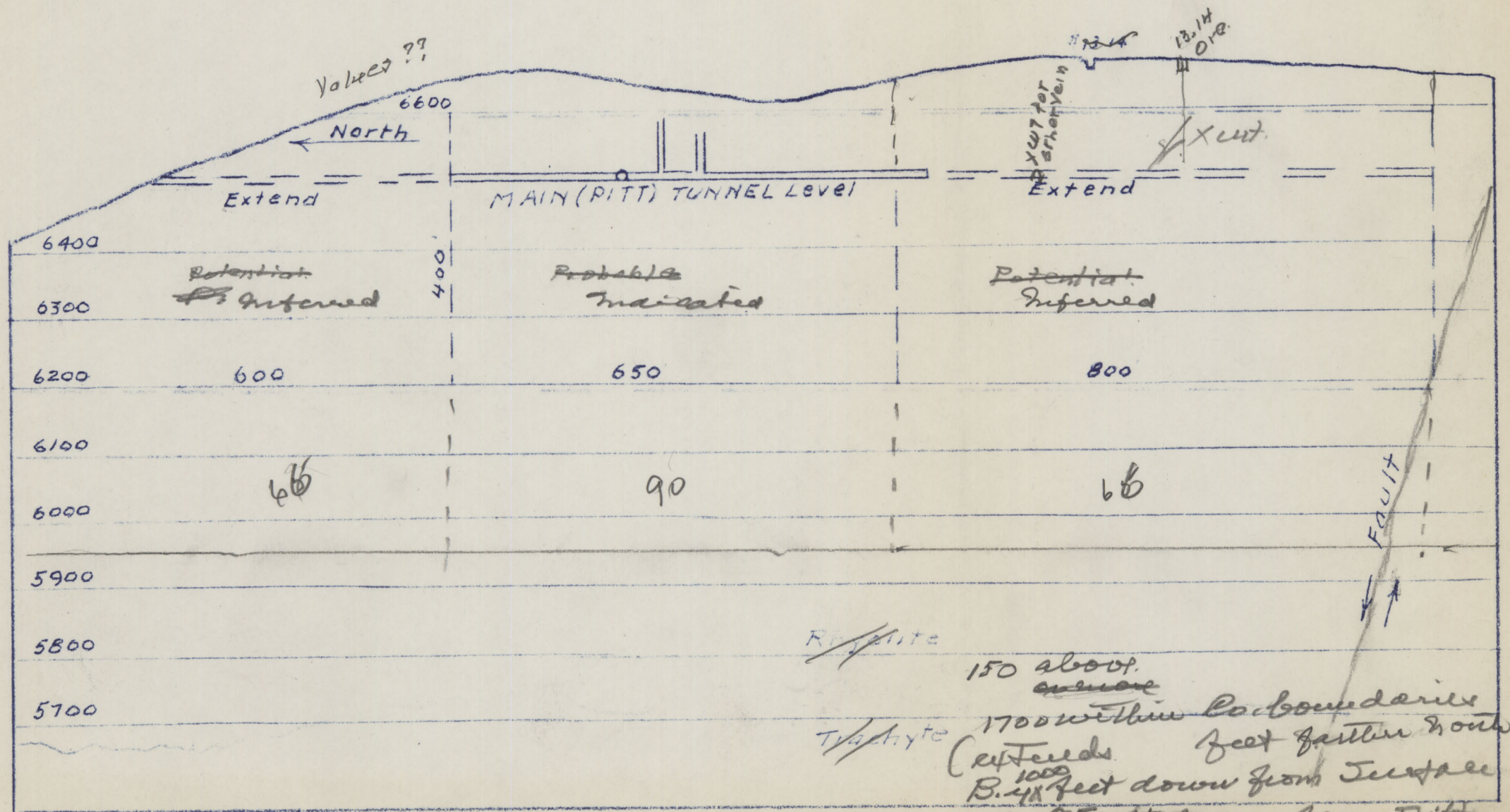
SCALE: 200-ft. to 1-in.

Indicated Ore Inferred Ore

3970 0024

MAP NO 6

291



LONGITUDINAL SECTION ON MOHAWK NO. 2 VEIN




SCALE: 200-ft. to 1-in.

□ Rhyolite □ Trachyte □ Fault
□ Probable Ore □ Potential Ore

6.

3970 0024

Showing Ore occurrences & Projections
& Exploration - Development Plans.

 New Work
  Proposed Work
  Slope
~~Vein~~ ~~Fault~~ ~~Dike~~

PLAN OF PITT & CROWN POINT
& Part of ROCHESTER N.E. Workings.
Showing Ore occurrences & Projections
& Exploration - Development Plans.

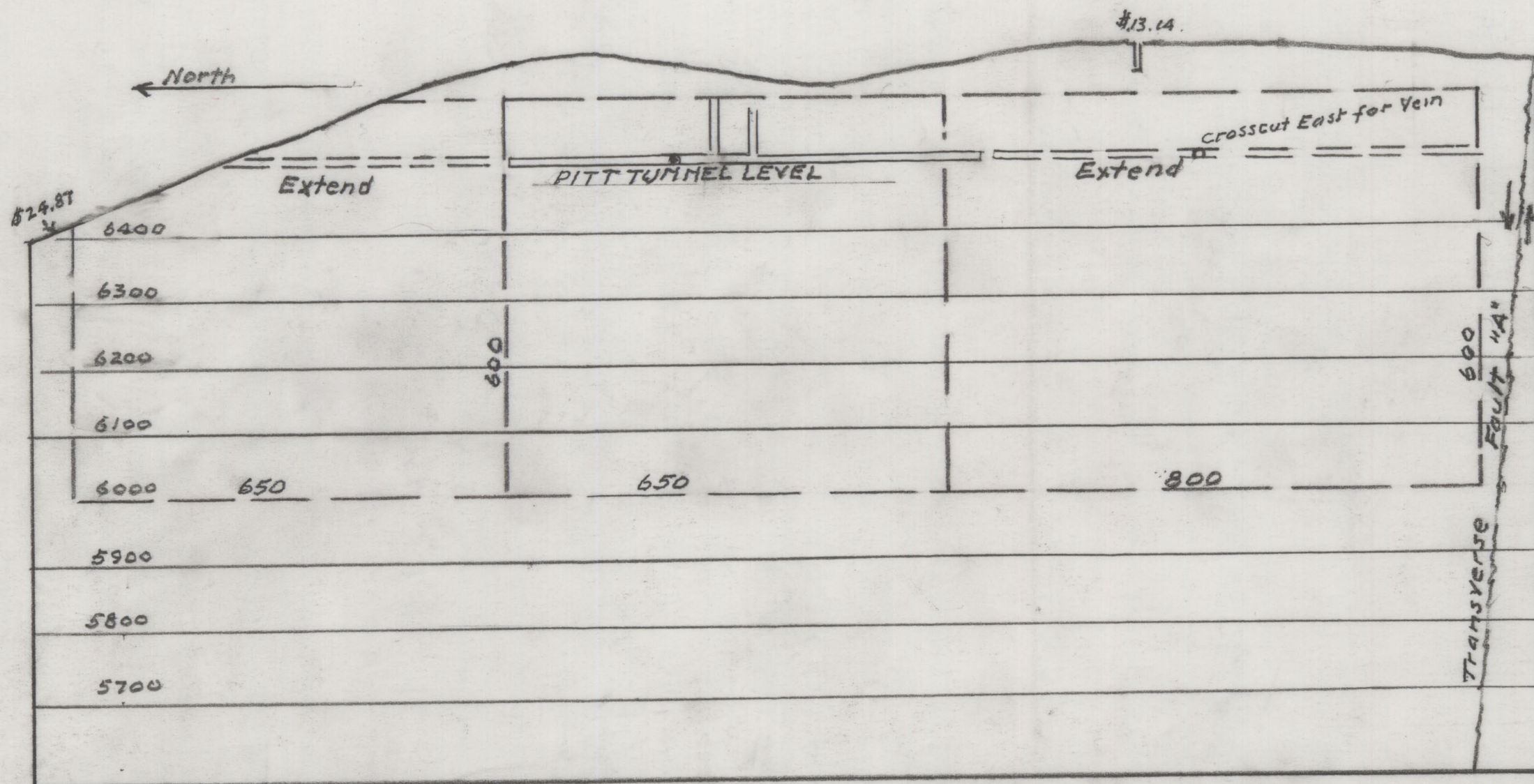
SCALE: 100-ft. to 1-in.

Legend:
 ■ New Work
 ■ Proposed Work
 ■ Slope
 --- Vein
 --- Fault
 --- Dike

Arthur Lakes, March 1963

3970 0024

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LONGITUDINAL SECTION ON MOHAWK NO 2 VEIN

SCALE: 200-ft. to 1-in.

☐ Indicated Ore ☐ Inferred Ore

3970 0024