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ITEM

171

A M Griffith

REPORT

Handwritten note:
290530 12005

ON THE

PROPERTY

OF

The Original Keystone

SILVER MINING COMPANY,

ON THE COMSTOCK LODGE,

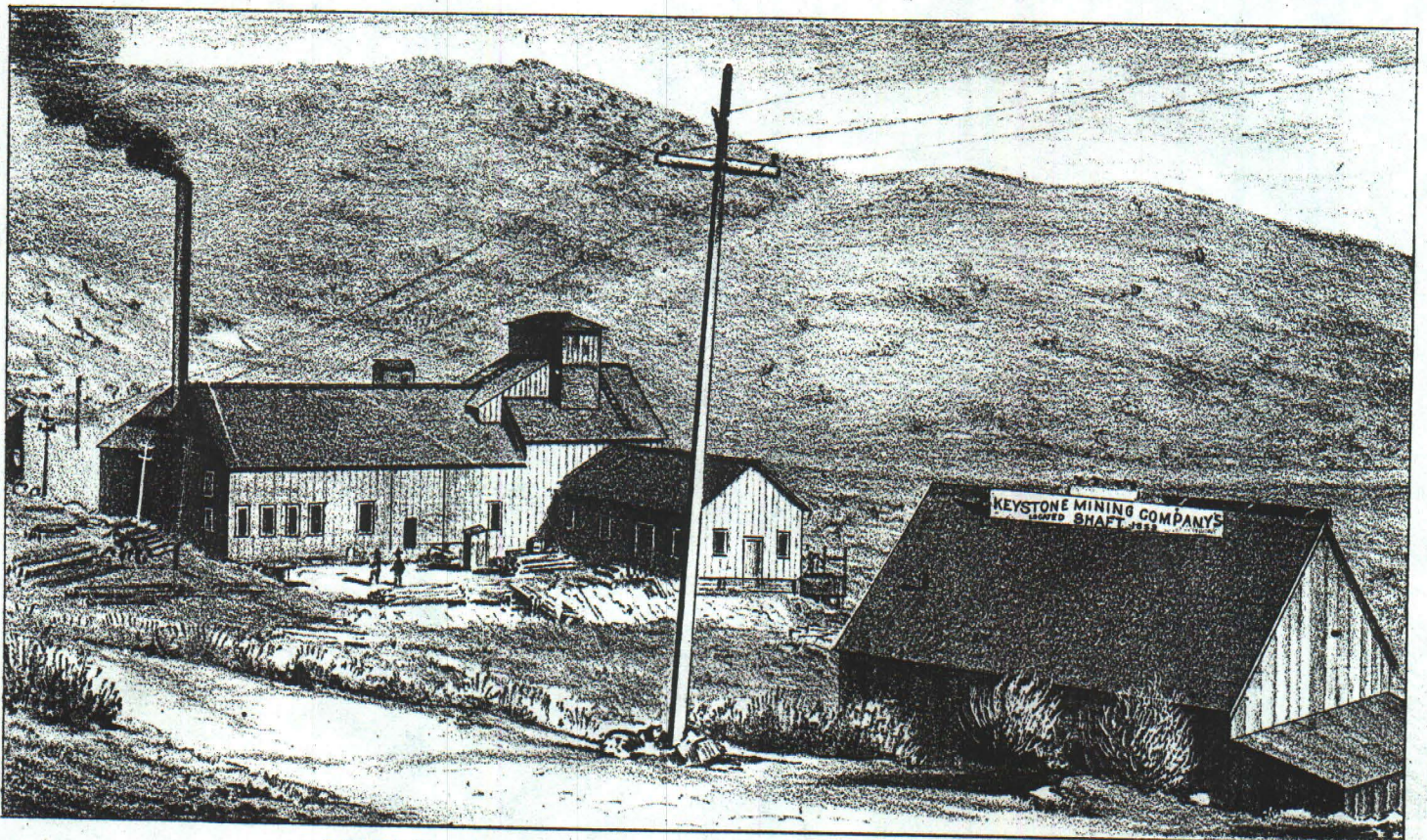
VIRGINIA MINING DISTRICT,

STOREY COUNTY, NEVADA.

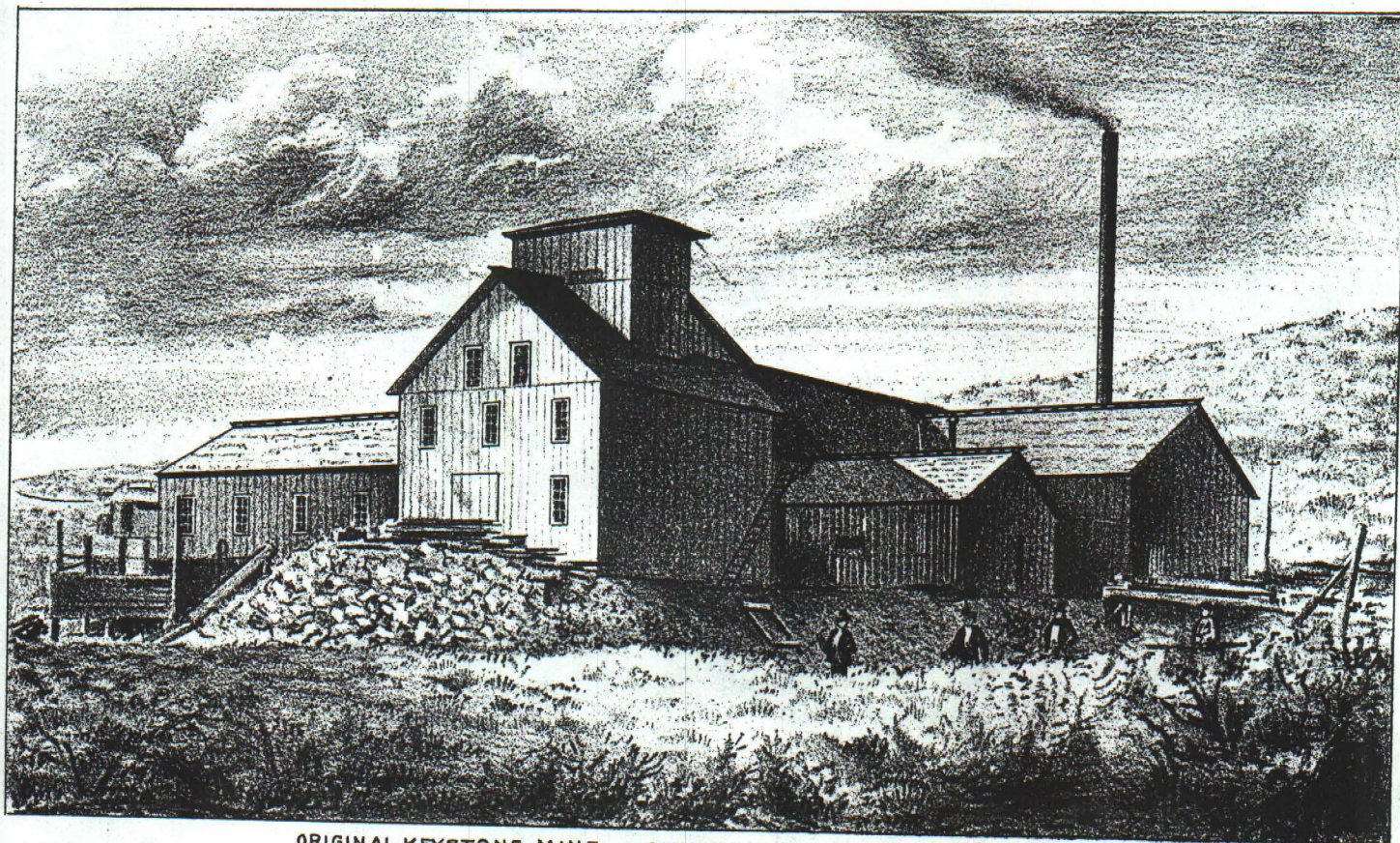
BY JOHN D. BARRY, A. I. C. E.

SAN FRANCISCO:
FRANCIS, VALENTE & CO., BOOK AND JOB PRINTERS, 517 CALIF ST.
1879.

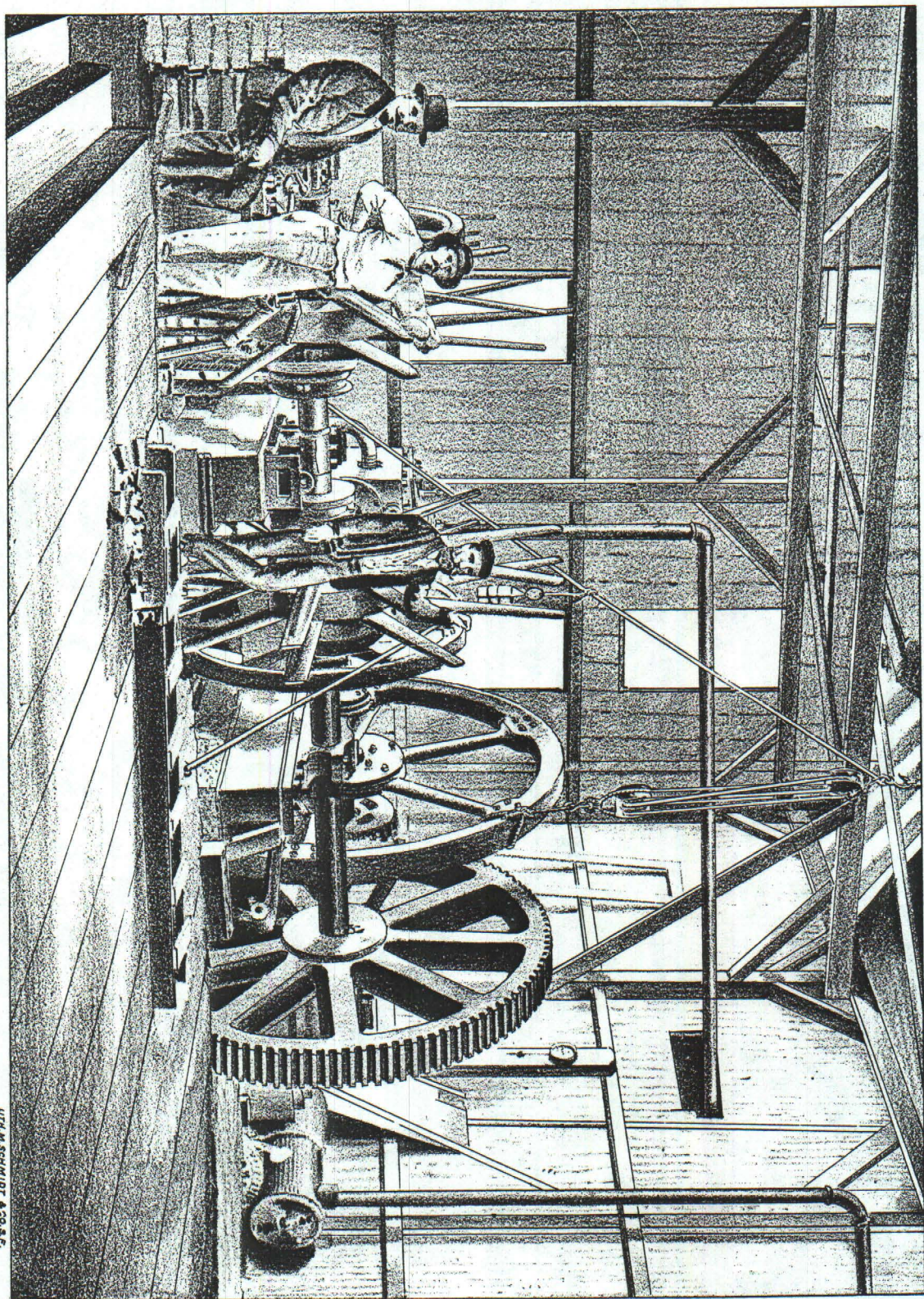
See Mine & See Pass
Dec 20, 1874



ORIGINAL KEYSTONE MINE. HOISTING WORKS, LOOKING NORTH.



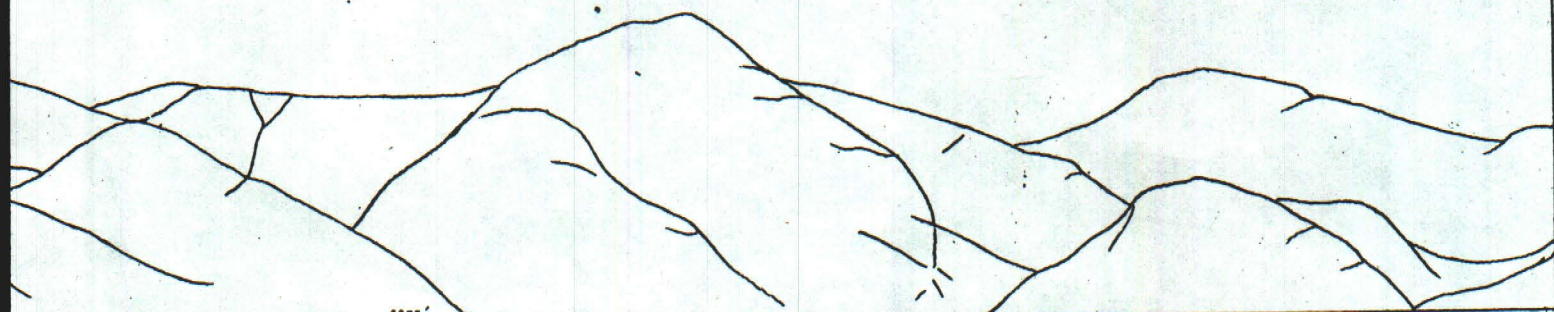
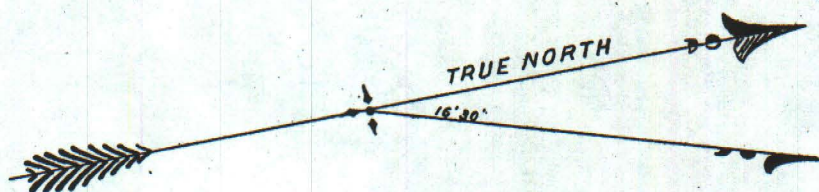
ORIGINAL KEYSTONE MINE . HOISTING WORKS, LOOKING WEST.



ORIGINAL KEYSTONE MINE. HOISTING GEAR.

UTAH M. SCHMIDT & CO. S.F.

E.



6875'



1000'
20,000

1200'

1600'

1800'

UTAH

WARD

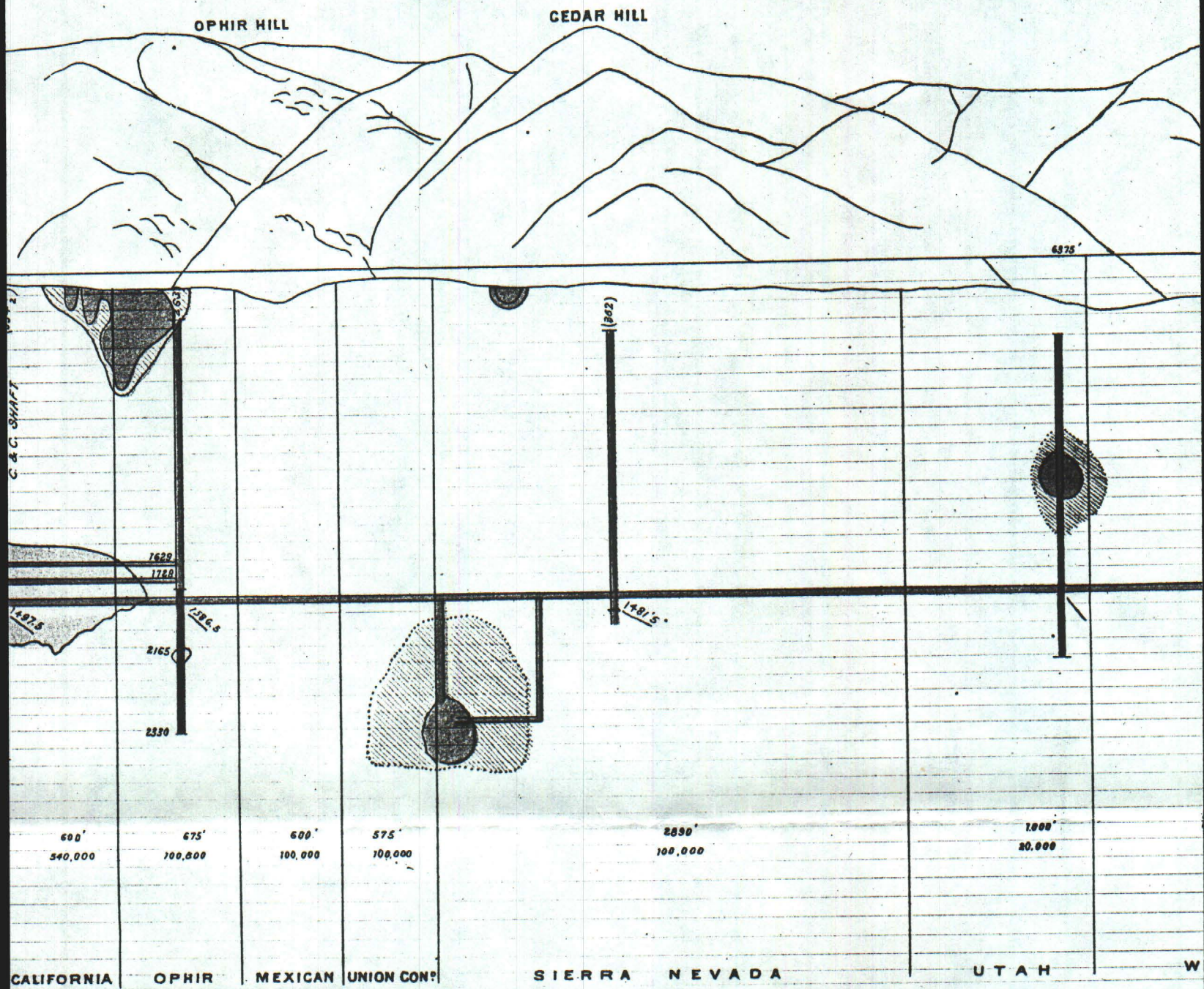
INDEPENDENCE

ORIGINAL KEYSTONE

LITH. H. SCHMIDT & CO. 411 CLAY ST. S.F.

MISTOCK LODGE.

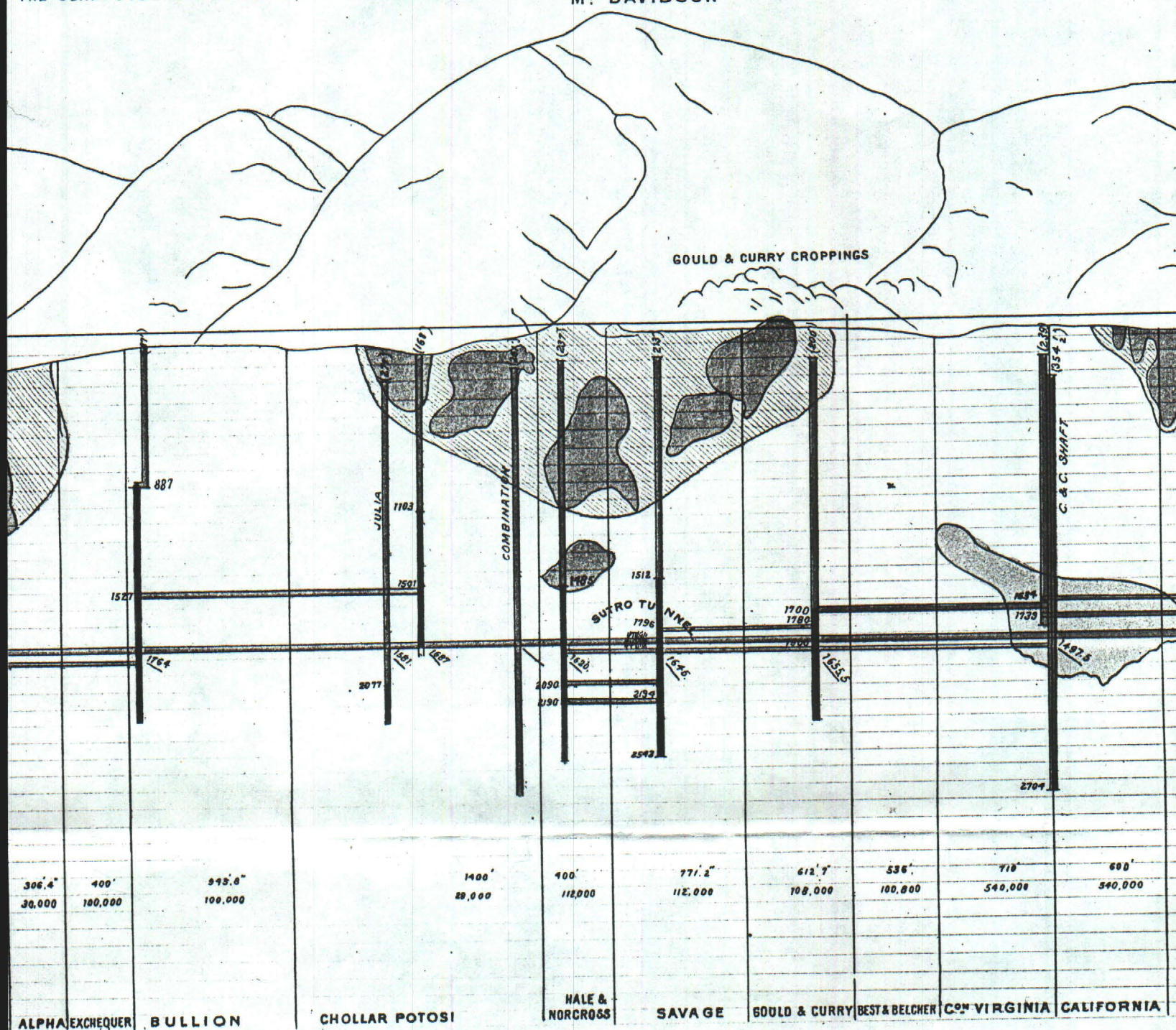
BODIES.



L SECTION of the COMS

SHOWING DISTRIBUTION OF ORE BO

THE SCALE SOUTH OF SECTION INDICATES DEPTHS BELOW DATUM. MT DAVIDSON



LONGITUDINAL

REFERENCES:

THE FIGURES ABOVE SHAFTS IN PARENTHESES, THUS (499), INDICATE VERTICAL DISTANCES OF TOPS OF SHAFTS BELOW DATUM.

" " SOUTH OF
" " UNDER LINED

1763

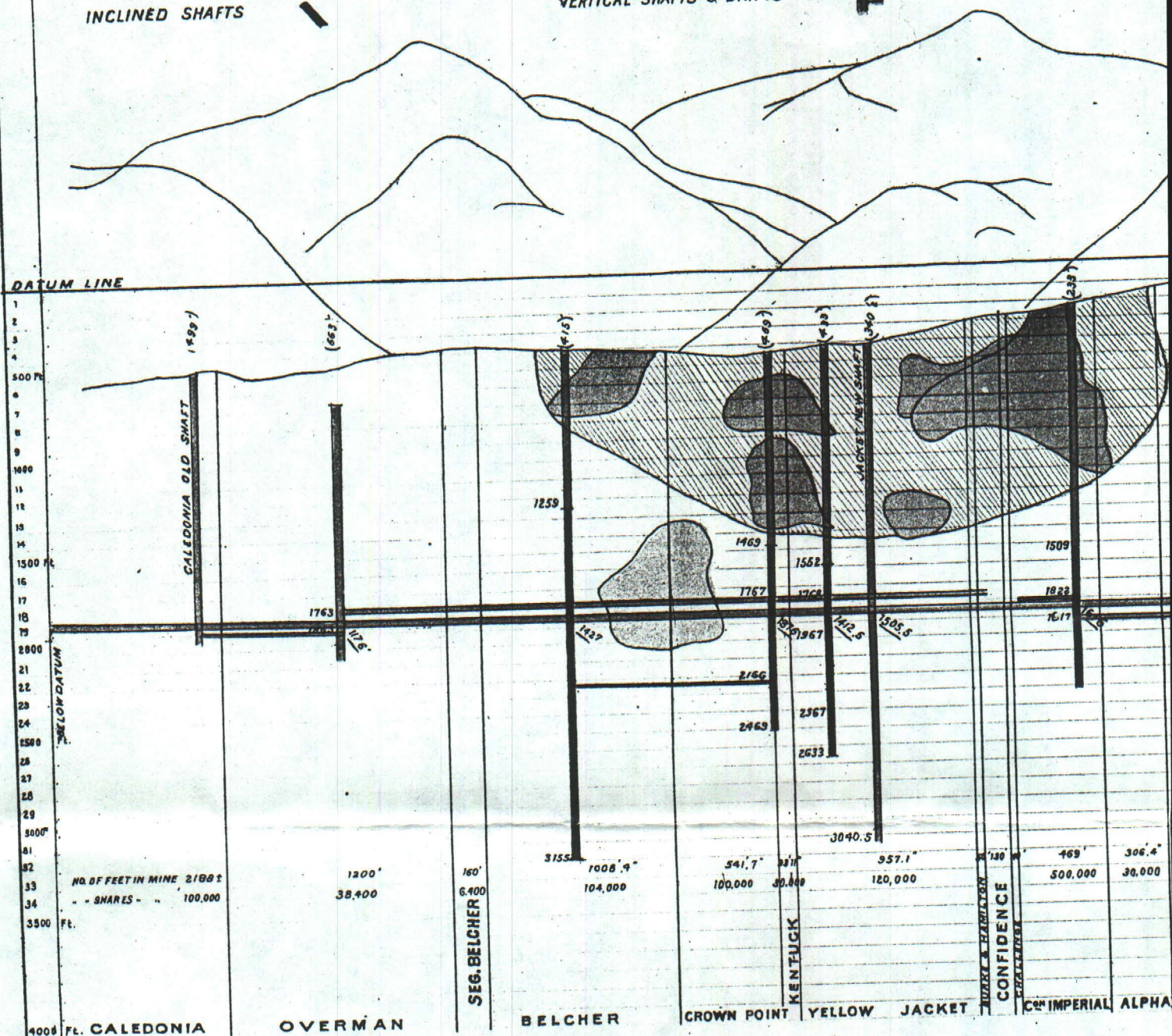
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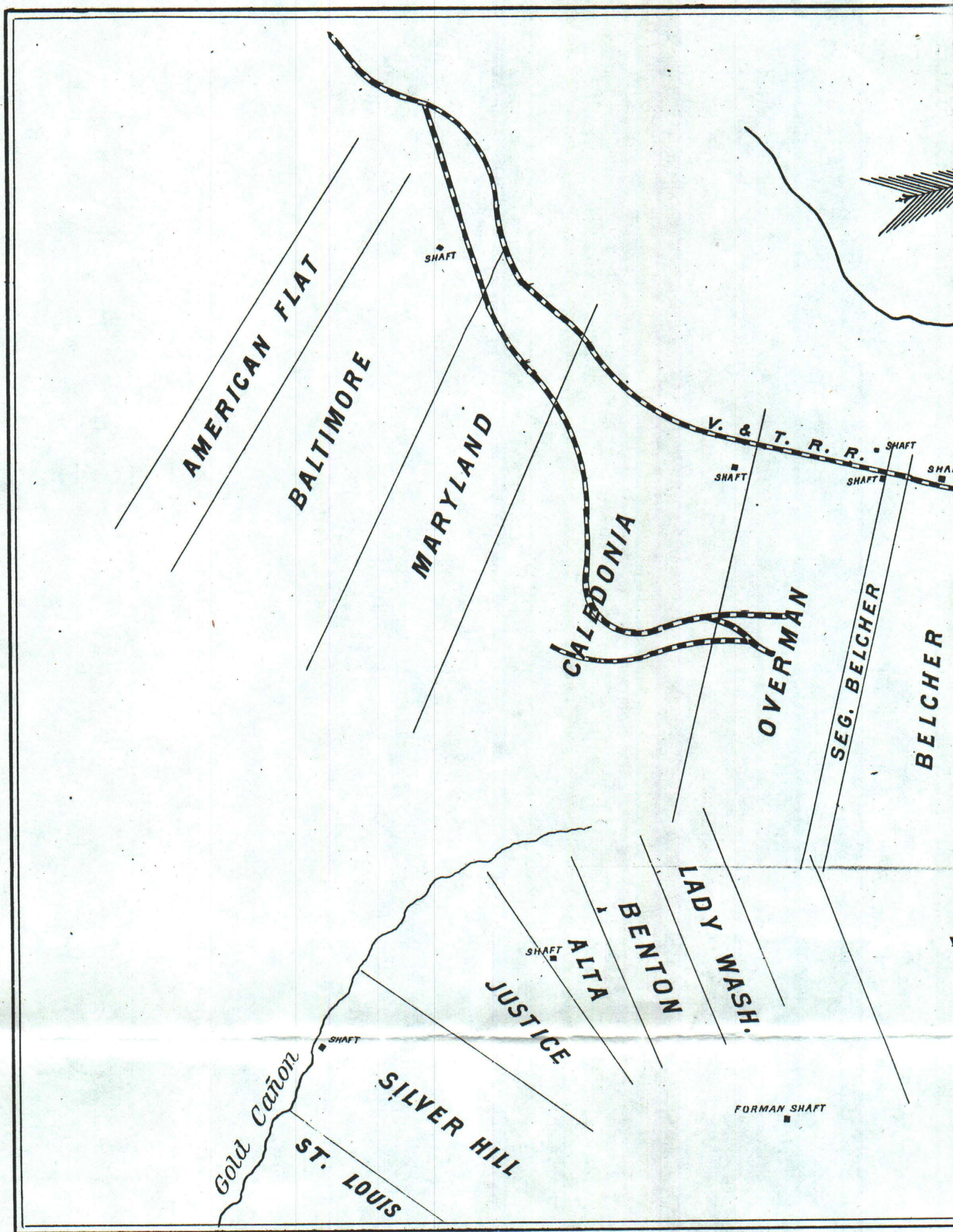
DEPTHS OF SHAFTS

OF SHAFTS " " "
AT WHICH SUTRO TUNNEL WILL DRAIN.

QUARTZ WITH LOW GRADE ORE.
INCLINED SHAFTS

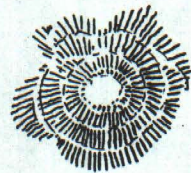
BONANZAS OR HIGH GRADE ORE BODIES.
VERTICAL SHAFTS & DRIFTS





TRUE NORTH

16° 30'



Mt. Dav

WATER CO'S FLUME

BELCHER

CROWN POINT

KENTUCK

YELLOW JACKET

BURKE & HAMILTON
CONFIDENCE
CHALLENGE

IMPERIAL

ALPHA

EXCHEQUER

BULLION

CHOLLAR

HALE & NORCROSS

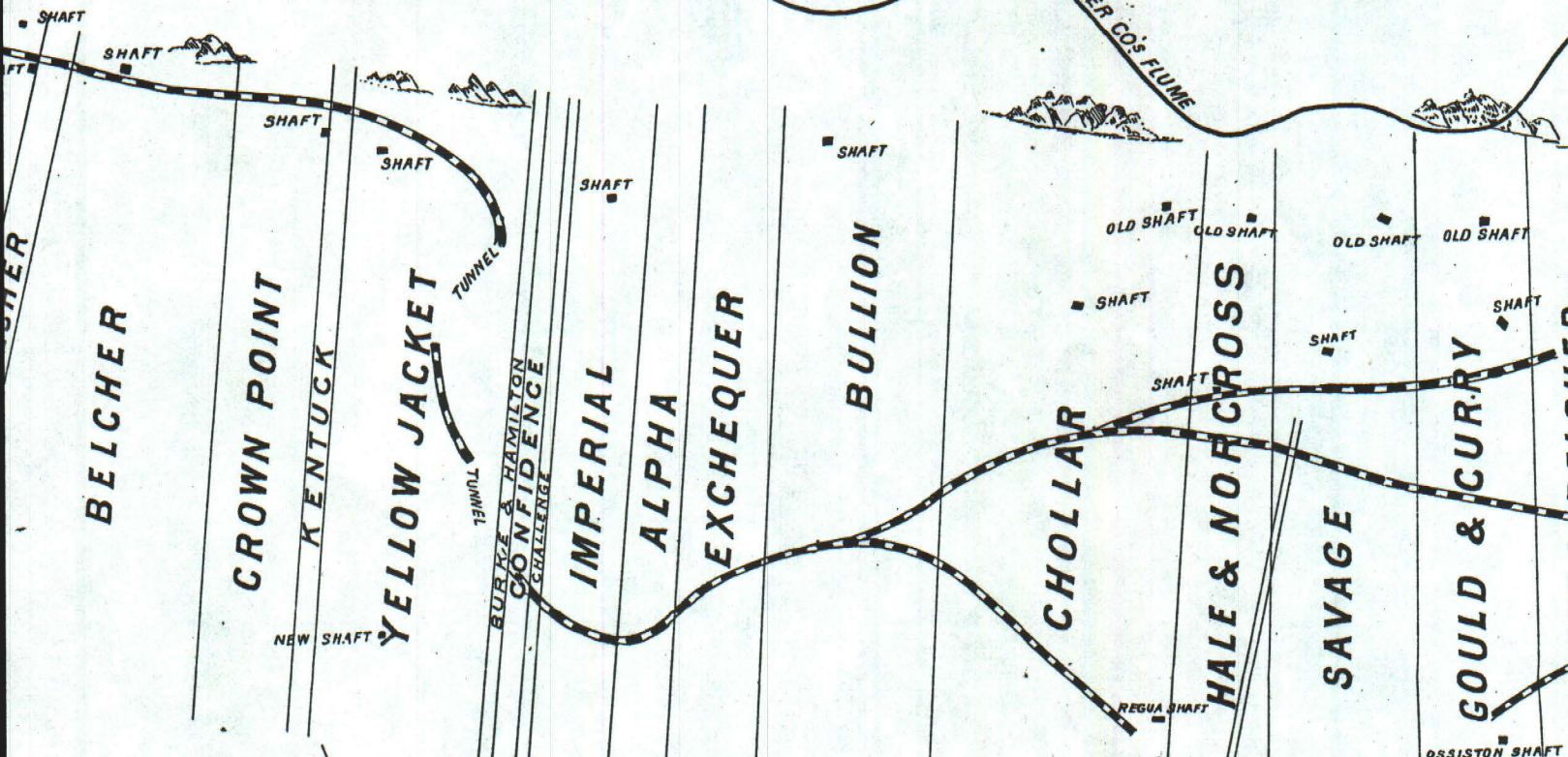
SAVAGE

GOULD & CURRY

BEST & BELCHER

LEVIATHAN

SUTRO TUNNEL



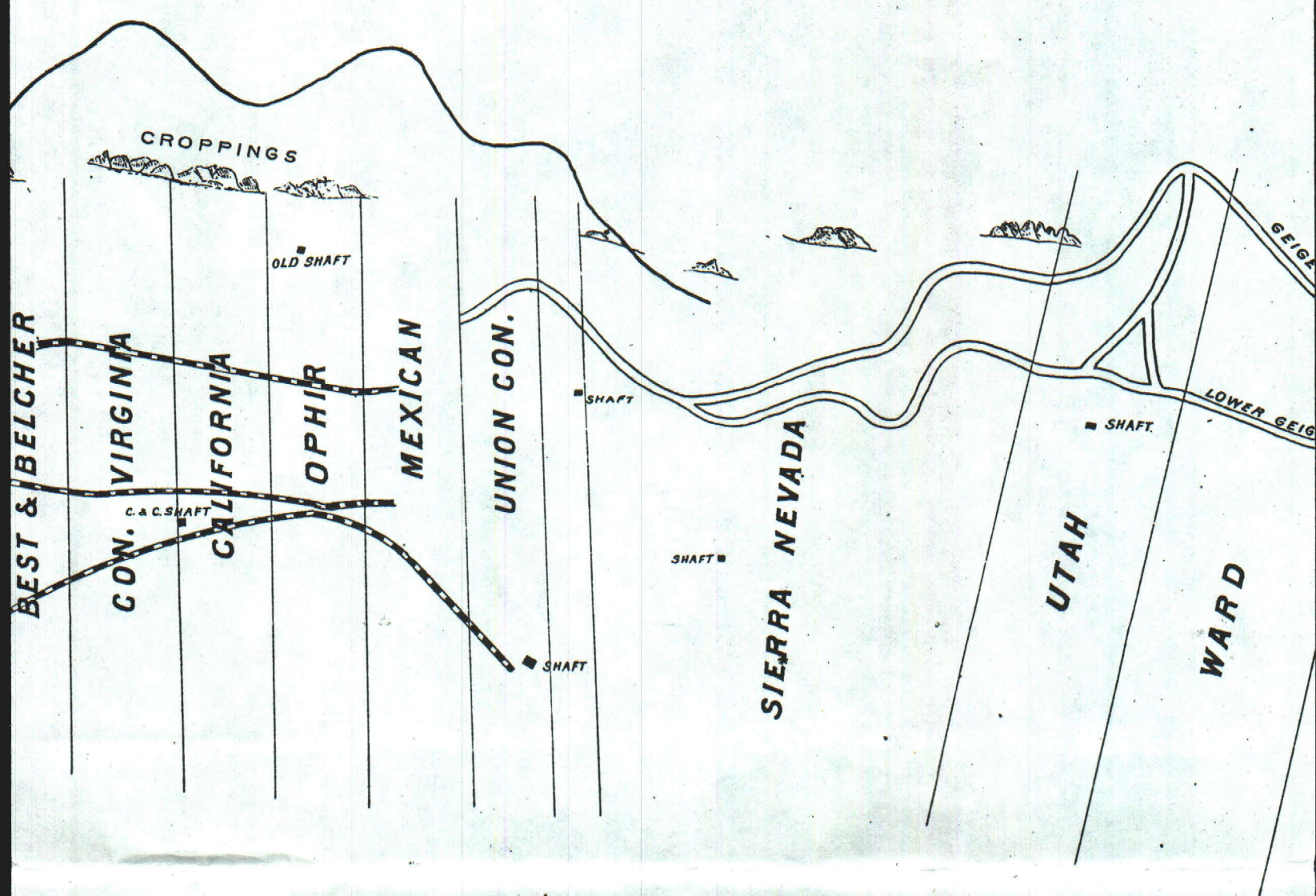
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MAP

OF THE

COMSTOCK

SCALE 1000 FEET TO T

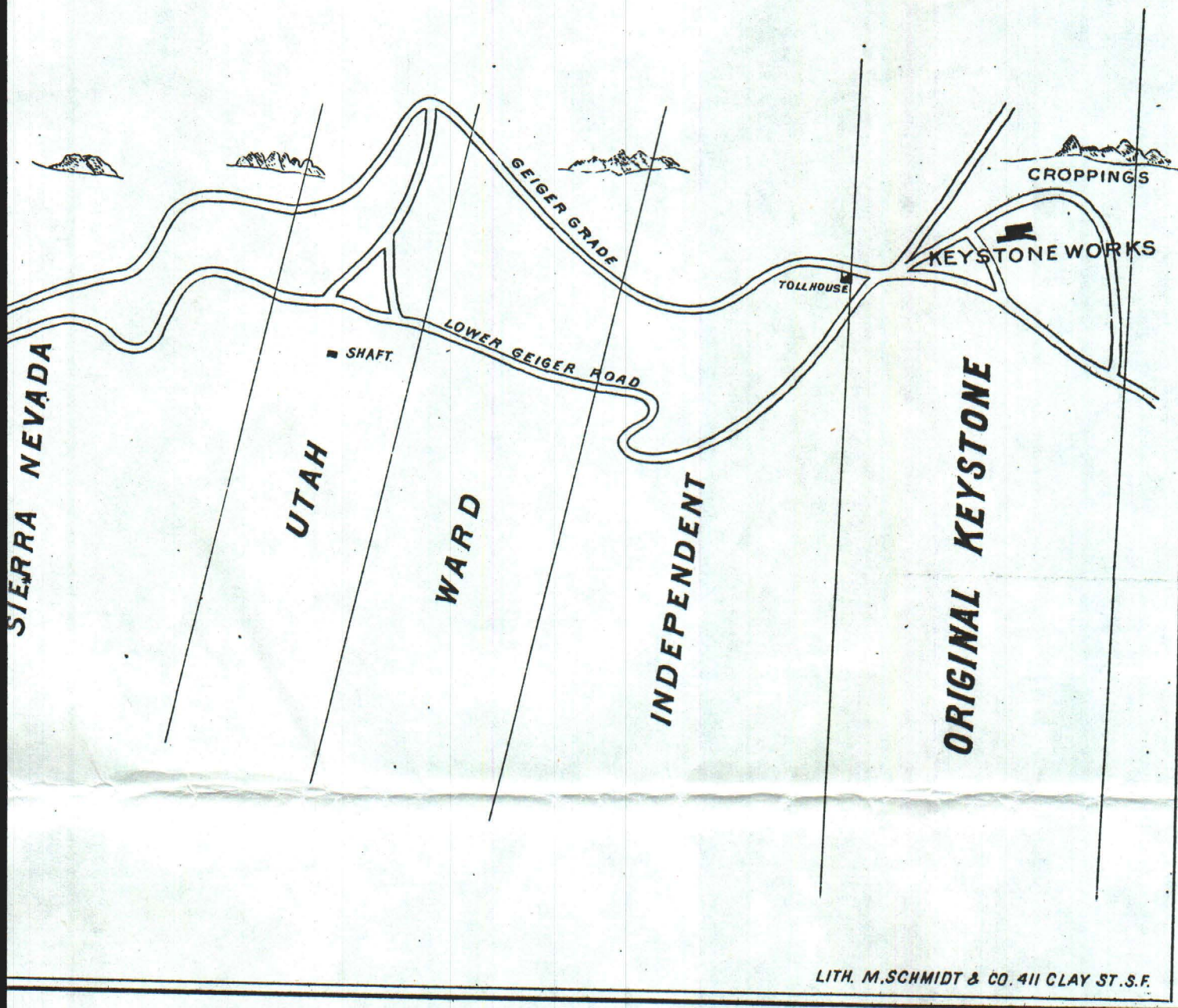


MAP

OF THE

OMSTOCK LODGE.

SCALE 1000 FEET TO THE INCH.



LITH. M. SCHMIDT & CO. 411 CLAY ST. S.F.

REPORT

ON THE

PROPERTY

OF

The Original Keystone

SILVER MINING COMPANY,

ON THE COMSTOCK LODGE,

VIRGINIA MINING DISTRICT,

STOREY COUNTY, NEVADA.

BY JOHN D. BARRY, A. I. C. E.

SAN FRANCISCO:
FRANCIS, VALENTINE & Co., BOOK AND JOB PRINTERS, 517 CLAY ST.
1879.

THE ORIGINAL KEYSTONE SILVER
MINING COMPANY,

INCORPORATED AUGUST 13, 1877.

CAPITAL STOCK, . . . \$10,000,000.

Number of Shares, 100,000. . . Par Value per Share, \$100.

LIST OF OFFICERS.

President,

E. GREEN.

Vice-President,

S. L. THELLER.

Secretary,

F. E. LUTY.

Directors,

E. GREEN; R. E. BREWSTER,
S. L. THELLER, J. S. LUTY,
J. VAN ORDEN.

Office,

330 PINE STREET, SAN FRANCISCO, CAL.

SAN FRANCISCO, 1st September, 1879.

*To the President and Directors of the Original Keystone
Silver Mining Company:*

SIR AND GENTLEMEN,—According to your request, I visited your property, and I have now the pleasure to submit to you my report and opinion.

I have come to the following conclusions:

1st. That your property is situated on the main Comstock lode, as traced on the surface from the Hale and Norcross to Best and Belcher, Con. Virginia, California, Ophir, Mexican, Union, Consolidated Sierra Nevada, Utah, and Original Keystone.

2d. That it appears difficult to understand that a piece of ground so favorably situated and with such good surface indication, should have remained so many years in abeyance, and at so short a distance from the greatest mines yet discovered in the world.

3d. That the value of the machinery and improvements on the ground is at least fifty-five thousand dollars, and is entirely suitable to your wants.

In conclusion, I congratulate you upon having so promising a property; and I have little doubt that the future will develop satisfactorily to the stockholders of the Original Keystone Silver Mining Co.

I remain, Sir and Gentlemen,

Yours, obediently,

JOHN D. BARRY.

REPORT

ON THE

EXAMINATION

OF THE

ORIGINAL KEYSTONE SILVER MINE.

THE COMSTOCK LODE.

This celebrated vein or lode is situate in Storey County, in the State of Nevada, United States of America, on a chain of mountains called the Washoe Range, East of the Sierra Nevada, having a mean elevation of about 6,000 feet above the level of the sea, Mount Davidson, the highest peak, reaching an elevation of 7,960 feet.

The range begins near Carson City, running with a general direction of 22° West of North for one hundred and fifty miles.

The whole region represents a great barren wilderness, where nature has denied all agricultural prosperity, but in her equity has stored probably the greatest amount of mineral wealth to be found in one locality in the world.

The range is formed mainly of subaerial, volcanic and basaltic rocks, overlying to great depth the granite, syenite, diorite, and sedimentary formations which preceded them.

The age of the formation belongs to the Jurassic period, and it is probable that most of the igneous rocks

belong to that epoch. At the time of their eruption all the depressions of the Sierra Nevada formed one series of fresh-water lakes, of which Lake Tahoe and Walker Lake are the only remains; the others have been filled by the erosion from the mountains, and their beds now constitute the valleys of the Carson, Walker and Truckee Rivers, and a few alkali flats, where the drainage is insufficient. The Comstock lode must be classed as a vein of infiltration, formed by solfatara action, the last stage of volcanic activity. The large bodies of hot water still met with in some of the mines, 2000 feet below the surface, at as high a temperature as 156° Fahr., demonstrates conclusively that the thermo-chemical action is not yet extinct.

The general course of the vein is N. 25° E., with a general dip to the East of 45° , but sometimes reaching 60° . One important feature in the Comstock vein should here be noted—the difference of the dip of the hanging and foot walls for the first 400 feet from the surface. While the foot wall takes a general dip of 45° East, the hanging wall varies from a westerly inclination to a nearly vertical position, the result of the two lines would meet between 500 and 600 feet. The West wall is chiefly dolomite and trachytic greenstone, and the East wall porphyrite, tennite, etc.

The formation of the lode appears to date to the Miocene period; the matrix is generally quartz; but in the Justice, Alta, and Benton, gypsum often takes its place.

The vein shows the great effect of the successive volcanic eruptions, and the great lateral pressure resulting therefrom, which is strongly illustrated by the crushing and disintegration of the great masses of

quartz, sometimes 300 feet thick, into small and fine particles.

The extensive and eccentric ore bodies of this lode have been greatly influenced by the position of the hanging wall, as also by the caved horse-matter in the vein, which, forming obstructions in the fissure to the thermal and solfatara action, may have been the principal cause of the local deposit of large and rich bodies of ore.

Unlike any other known vein, the past gives no key to the future—it is no guide as to where the rich bodies of ore may be met with; once on the Comstock, they may be formed on the surface, as in the Ophir, Yellow Jacket, Gould and Curry, or at great depth, as in the Union, Consolidated, and Sierra Nevada mines. At any moment, on this capricious and eccentric lode, a blast may develop rich ore, which may lead to a bonanza equal or superior to any yet discovered.

The north end of the ledge, which is more especially the object of this report, is much the same character as already described; there is little or no difference in the geological features, but there is one important topographical point to note: A spur of the main range, called Flowery Ridge, runs at right angles with this latter at the place where the toll gate is situated on the Geiger grade. This ridge acts like a buttress to the range itself, and has presented an effective obstacle to the yielding and sliding of the vein which is observed in the great crescent below Virginia City. The vein in the Original Keystone claim presents the characteristics already described in the other mines. The quartz is pulverized by lateral pressure, but the dip of the foot and hanging walls are alike— 51° to 53° each. It is

difficult to speculate upon the mineral-bearing advantages to be derived from this variation in the dip, but it will be satisfactory to remember that all the bonanzas, as far as known, have been formed in a vertical, or nearly vertical position, without reference to the dip of the vein. The straightening of the vein may, therefore, be looked upon as an encouraging feature.

During the last twenty years the Comstock vein has given sixteen bonanzas, from which six millions five hundred thousand tons of ore have been extracted. The average assay value of this large mass was \$56 per ton; it yielded in the mill \$41.80; and from the treatment of the sluices, \$5—total, \$46.80 per ton.

Thus the total value of the ore extracted was \$363,671,605, yielding a net sum from mills and sluices of \$323,671,605, showing a loss of \$40,000,000 in the tailings. The average proportion of the precious metals in value is 45 per cent. gold and 55 per cent. silver.

The Original Keystone claim is eighteen hundred feet on the course of the Comstock vein. The location was made November 19th, 1859; it is, therefore, among the earliest locations.

This question of early location is of great importance to mining companies. According to the United States mining laws, where two veins come together, the lode belongs to the oldest location.

The position of the Original Keystone will be seen on the accompanying map, located north of the Sierra Nevada, Utah, and Independent claims, just beyond Flowery Ridge, at the entrance to Long Valley. It is admirably situated for working, uniting all the essential conditions for the effective and permanent development of the mine.

The work executed in the first instance was to find the vein, which was blind on this claim, and generally to prospect the ground, in order to decide upon the definite position of the main working shaft. It consists:

1st. Of a tunnel sixty feet long in the hillside on the west of the claim. This laid open the ledge to view, showing it to be 35 feet wide on the surface, giving fair assays in silver and gold.

Average Sample No. 1, taken from the open cut at entrance of tunnel on the hanging wall, gave,

Gold.....	\$1.53
Silver.....	3.02
Total.....	<u>\$4.55</u> per ton of 2,000 lbs.

Average Sample No. 2, ten feet in the vein from hanging wall at entrance of tunnel,

Gold trace.....	\$2.02
Silver.....	3.37
Total.....	<u>\$5.39</u> per ton of 2,000 lbs.

Average Sample No. 3, twenty-two feet in the vein from hanging wall at the south side of shaft sunk in tunnel,

Gold.....	\$2.52
Silver.....	4.52
Total.....	<u>\$7.14</u> per ton of 2,000 lbs.

Average Sample No. 4, thirteen feet further in tunnel on foot wall of vein,

Gold trace.....	\$2.62
Silver.....	3.78
Total.....	<u>\$6.40</u> per ton of 2,000 lbs.

Selected sample near hanging wall on south side of tunnel—average of three samples:

Sample No. 5, of quartz,	
Gold.....	\$24.11
Silver.....	31.16
Total.....	<u>\$55.27</u> per ton of 2,000 lbs.

Average Sample No. 6, vein matter from dump extracted from the winze sunk in said tunnel,

Gold.....	\$1.53
Silver.....	4.12
Total.....	<u>\$5.65</u> per ton of 2,000 lbs.

Sample No. 7, vein matter from said dump,

No trace.....	
Silver.....	\$3.75
Total.....	<u>\$3.75</u> per ton of 2,000 lbs.

Sample No. 8, a selected parcel of fine stuff, taken from the same dump,

Gold.....	\$12.06
Silver.....	\$19.62
Total.....	<u>\$31.68</u> per ton of 2,000 lbs.

The shaft in said tunnel was in such a state, with water in the bottom, that it was impossible to examine it without repairs. But a fair estimate of the merits of this part of the vein were obtained from the dump.

2nd. At the north end of the claim, another shaft has been sunk about 35 feet deep, which had also water in the bottom. Examination of the rock extracted from this shaft showed that the vein had not been cut, and that the shaft was sunk in the hanging wall in temisite, but all the rock on the dump was so

highly charged with pyritic matter, that a sample was taken for assay No. 9. It contained no gold, but \$3 in silver per ton of 2000 pounds.

Mining engineers now generally admit, that the richness of mineral veins depends mainly upon the amount of pyritic matter contained in the enclosing walls. The verification of this theory in the original Keystone will prove a fortunate circumstance for all parties interested therein.

3rd. About 300 feet from the south end of the claim, another shaft had been sunk, but its condition did not permit examination.

To refer to the assays taken from the different places, they must not be considered as a general mining proposition, but as Comstock assays. It would be difficult to give statistics of the assay value of the vein outside of the Bonanza masses, but there is strong evidence to show that they will not average better than the original Keystone. The paying mines on the Comstock seldom found ore that would assay over three to five dollars per ton through the whole vein outside of the bonanzas.

Main Working Shaft.

In June 1877, a main working shaft was started 580 feet due east of the mouth of the tunnel, where the vein was exposed.

The shaft has three compartments, with all the modern improvements; it is 6 x 18 feet, and well timbered; is down 80 feet, and preparations are at present being made to continue the sinking.

The engine for hoisting is one second motion horizontal engine, fourteen-inch cylinder two foot stroke, crank shaft eight feet long and eight inches diameter, fly-wheel eleven feet two inches, main shaft 20 feet long, diameter nine inches, two tubular boilers fourteen feet long, three feet diameter, completely fitted. There are two flat steel ropes for hoisting, and in fact all that is necessary to work the mine effectively.

The shaft and engine are covered with a suitable building 97 feet in length, 37 breadth, and 18 feet in height; there is also a carpenter shop 52x25 feet, blacksmith shop 20x30, boiler house 29x31. The whole are built in the most substantial manner, that would do credit to any of the biggest mines on the Comstock.

There is a stock of tools and materials on the ground amply sufficient for all present requirements. A first-class boarding-house was in course of completion when I was on the property; there is also a powder-house, office, etc.

All these works are sufficient to put down the main shaft from 1,500 to 1,700 feet without additions of any importance, and explore the vein according to the usual system employed in the neighborhood. As the ore bodies are large masses called bonanzas, lying in the vein, which, outside of these rich deposits, is composed of low grade ore, no amount of ingenuity or science can foretell where these bonanzas may be found; but their extraordinary richness, containing sometimes as much as one hundred millions dollars, will always prove an inducement to prosecute the works on this marvelous lode.

Surface indications would lead to the conclusion that the main working shaft would strike the lode at six hundred and twenty-two feet, but other data lead to the conclusion that it will be reached before that point.

The position selected for the shaft gives unlimited dumping ground, and once the shaft meets the ledge, it may be continued with an incline, as in most of the other mines.

In conclusion: There is no doubt that the Original Keystone is situated on the main Comstock ledge, as traced from the Hale and Norcross, California, Con. Virginia, Sierra Nevada, Utah, to the tunnel on west side of the property.

The machinery and building and other improvements, are in every way suitable to the requirements of the mine, and their total value alone is at least fifty-five thousand dollars.

SAN FRANCISCO, Sept 1st, 1879.

JOHN D. BARRY.

SECRETARY'S REPORT.

OFFICE OF

THE ORIGINAL KEYSTONE SILVER MINING CO.,

330 Pine St., San Francisco, Cal.,

AUGUST 12th, 1879.

To the Stockholders of The Original Keystone Silver Mining Company.

GENTLEMEN,—In compliance with the request of the Directors of said Company, the Secretary will prepare, order printed, and forward by mail to the stockholders whose addresses are known to him quarterly reports showing the cash receipts and disbursements during the previous quarter, and generally the Company's financial condition. Quarterly reports of the work done at the mine, its condition, prospects, etc, will also be forwarded.

To enable the Secretary to mail said reports to the proper parties, each owner of stock of said Company is respectfully requested to send to the Company's office his address and the numbers of the certificates of stock that he holds. Communications from stockholders will always receive prompt and cheerful attention.

Following is a statement showing the cash receipts and disbursements of the Company from the time of its organization, August 13, 1877, to date:

S T A T E M E N T.

Receipts.

From Working Capital Stock sold, net....\$27,511.02
 Assessment No. 1.....50,000.00
\$77,511.02

Disbursements.

Salaries and Wages (including work on building) ..	\$24,027.61
General Expenses	5,038.80
Supplies for Mine, lumber, machinery, tools, etc.....	21,403.04
Expenses of grading, masonry for, and putting up machinery, etc.....	11,813.87
Interest and Exchange.....	592.00
Legal Expenses, settling titles, etc.....	5,170.00
Company's Stock acquired at Delinquent Sale, etc.....	4,610.00
Freight.....	630.66
Toll	194.50
Office Expenses	935.91
Traveling Expenses.....	8.50
Surveying.....	2.50
Insurance.....	412.00
Telegrams	4.85
Taxes.....	6.00
Express Charges.....	1.60
Total Payments.....	\$74,851.84
Cash in hands of Superintendent	47.25
Cash balance.....	2,611.93
	<u>\$77,511.02</u>

Respectfully submitted,
 F. E. LUTY, Secretary.

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