David S. Robertson & Associates, Inc.

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Denver, Colorado

GEOLOGIC EVALUATION OF THE MOLAS CLAIMS, ANIMAS MINING DISTRICT, SAN JUAN COUNTY, COLORADO

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David S. Robertson & Associates, Inc.
Consulting Geologists and Mining Engineers
Denver, Colorado

Richard F. Douglas, Ph. D.

January 30, 1968

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(in pocket)

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Map 2 Geologic Map of Molas Property

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Appendix A Assays from ~~Third Level-Molas Mine~~ dump material-Molas Lode claim

Appendix B Assays from Dump Material

Appendix C Bureau of Mines Record of Molas Mine Deliveries

SUMMARY

David S. Robertson and Associates, Inc. spent seven days examining the Molas property, studying the data and writing the report.

Assays of grab samples from the dump, and other data, indicate the vein on the Molas Lode claim (patented) contains values in silver, lead, copper and zinc. The values of silver and lead from the dump material, and the horizontal extent of mineralization along the vein, as indicated by dumps, suggests that there is a potential for a small viable mine. Economic appraisal is not possible at this time because of the lack of data on the tenor of ore, and the width and extent of ore, horizontally and vertically, on the property.

It is proposed that a two stage drilling program be conducted. In the first stage, it is recommended that 18 diamond core holes be drilled along the strike of the Molas vein. In this stage, the drill sites on the Molas Lode and Senior Warden claims should be situated so that in each drill hole the vein will be intersected 80 feet below the lowest level of the previous workings (at what would be the "200 foot level" in any future mining operations). On the Aladdins Lamp claims where there does not seem to have been any previous underground work, the drill sites should be situated so that the vein will be intersected in each hole 200 feet from surface. The planning of the second stage would be contingent upon the results of the first stage.

INTRODUCTION

Mr. George Rowe, Sec.-Treas. of M G Mng. Co., in a letter dated April 14, 1967, requested that David S. Robertson and Associates, Inc. carry out an investigation of the Molas property, in the Animas Mining District, San Juan County, Colorado (see Fig. 1).

Robertson and Associates, Inc. spent seven days mapping the geology, sampling dump material, studying the data, and writing the report. The mine workings were inaccessible and could not be examined. The property was examined from July 30th to August 2nd and was revisited again on August 19th. Since our examination of this property, the Wiser claims have been optioned by the Company.

DESCRIPTION AND LOCATION OF THE CLAIMS

The Molas claims consist of one patented mining claim, the Molas Lode, and four unpatented mining claims Molas 2-5 inclusive. The Wiser claims consist of four patented claims, Aladdins Lamp, Senior Warden, Junior Warden, and Tyler (see Map 1). For convenience, the Wiser and Molas claims, hereafter, will be called the Molas property. The property is located approximately four miles south of Silverton, Colorado at an elevation of about 10,000 feet. The bulk of the property lies within 1,500 feet of the main highway (U.S. 550) from Silverton to Durango, Colorado and the claims are

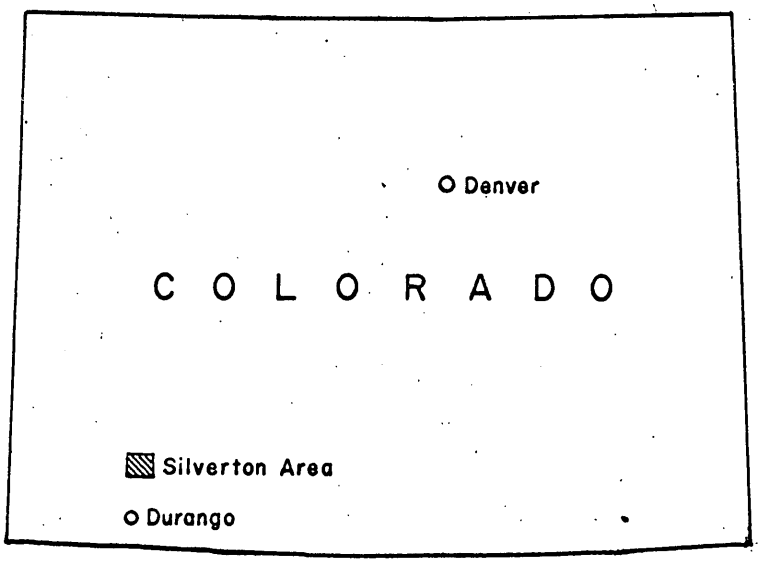


Fig. 1 Index map showing the general area in which the Molas property occurs.

easily accessible.

It should be noted that, whereas the four unpatented claims are each described as being 600 feet by 1,500 feet, the patented claims are described and surveyed as being just 300 feet by 1,500 feet.

HISTORICAL SUMMARY

There is no information in Government Publications (U. S. Geological Survey or Bureau of Mines) which give any data on the early history of the Molas property. Map 3 shows that mining operations did occur on three levels. Because Bureau of Mines records show only minor deliveries 21 tons of ore from the Molas in the late 1930's (Appendix C), it is assumed that the upper two levels were mined before the 1930's, presumably before the late 1890's and the drop in the price of silver. The lower level was developed in the 1940's. (Map 3) Therefore 1936-1939 production was from middle or upper levels - high Pb even there.

During the 1940's, Mr. Joseph Gross of Los Angeles obtained a lease on the property and attempted to renovate the shaft. He initiated development of the third (Lower) level at 120 feet. Because of difficulties with the shaft and lack of labor, the project was dropped. The development work No production done is shown on Map 3. Five Samples obtained during the development work on the third level were assayed and the results obtained are shown in Appendix A. Since the late 1940's - see p.6 (Assayed for D.S. Robertson)

no further work has been done on the property.

GEOLOGY

Rocks exposed in the immediate vicinity of the claims range from Precambrian to possibly Mississippian in age. From older to younger, the rocks exposed are: Precambrian gneisses and schists; a thin basal conglomerate on the Precambrian; the Ignacio quartzite (Cambrian); a yellowish, thinly bedded, calcareous shale and limestone which is possibly the Elber Formation (Devonian); and a massive limestone which is probably the Ouray Formation (Devonian)- see Map 2. We are not sure if the Leadville limestone (Mississippian) is present in this area.

No attempt was made to establish, conclusively, the name of the formations present or their age. These facts were not considered as pertinent to the job as the type of rocks present.

STRUCTURE

The main structural feature cutting the Molas Lode, Senior Warden and Aladdins Lamp claims is a normal fault dipping approximately 75° SW and striking N 55° W (see Map 2). Within this fault, the main mineralization of the Molas property occurs. The age of the fault is apparently pre-Pennsylvanian as Pennsylvanian aged rocks on the slopes of Grand Turk Mountain, to the northwest of property, are

not displaced by this fault. However, the fault definitely cuts a limestone which is probably the Ouray Formation of Devonian age. If Mississippian rocks are present in the area, and if the fault and mineralization cut these rocks, this must occur to the northwest of the present property boundaries.

To the north of the fault on the Molas Lode claim, the Precambrian crops out and no sedimentary rocks are exposed. To the south of the fault, the sequence of sedimentary rocks previously described are exposed.

A second fault, striking generally east-west, cuts through Molas claims 4 and 5. This fault converges with the Molas Lode fault within the Aladdins Lamp claim. It displaces the Precambrian rocks and is down thrown on the south as is the Molas Lode fault. Dip and class irrelevant?

THE MOLAS VEIN

The larger structural features of the various lode veins, within the San Juan mining district, depend mainly upon the character of the fissures in which the veins were deposited. Where the original fracture was a simple dislocation, the resulting lode is a fissure vein. Most of the lodes of the Silverton Quadrangle are of this character, i.e., nearly vertical plates of gangue and ore confined between definite walls. These veins may be irregular

in width and divide into numerous branching stringers, but essentially their workable portions are simple veins. Based on our field observations, we would categorize the Molas Lode as a simple vein.

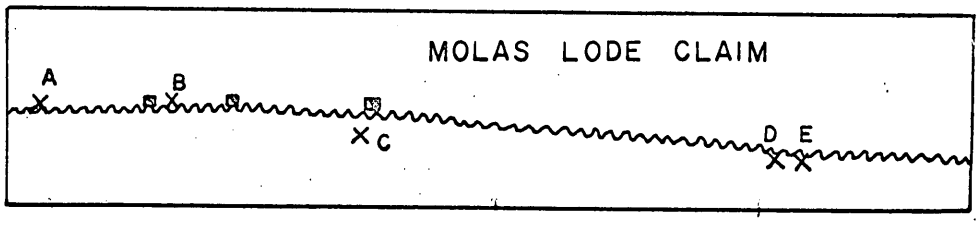
The width of a workable vein varies in the district, but a width of two or three feet is a rough average of the productive veins in the area.

The Molas Lode fissure appears to be four to five feet wide at the surface and, thus, the district average of two or three feet of ore within a fissure is, physically, certainly possible here.

ORE MINERALS

Figure 2 shows the location of dumps on the Molas Lode claim from which four grab samples A B C D E were taken for assay purposes. The most obvious ore mineral within this waste material is galena. Appendix A assays, however, show that the elements silver and copper are also present as well as lead. These chemical assays show that there is little correlation between the values of lead and silver. There is a rough correlation between silver and copper. This suggests that the bulk of the silver values are in a mineral other than galena.

Appendix B is an X-ray fluorescent assay of a lump of ore picked up on a Molas dump. This assay shows that the



M G MINING COMPANY
MOLAS LODE CLAIM

X A Location of dump sampled

Abandoned shaft

Observed fault

SCALE: 1 inch = 300 feet

Fig. 2 Molas lode claim showing location of dumps from which grab samples were taken. by Author?

elements copper, arsenic and antimony are present along with silver. These elements make up the mineral tetrahedrite. Tetrahedrite is a common copper-silver ore mineral in the district and is probably present within the Molas vein. The assays show that zinc is also present, probably in the form of the mineral sphalerite. The gangue minerals are dominantly quartz and coarsely crystalline barite.

The minerals observed, and suggested as occurring within the Molas vein, are common ore minerals in lode veins a few miles to the west and north of the Molas property; this type of mineralization is probably characteristic of this area.

Mineralized dumps along the Molas fault extend from the Molas Lode claim approximately 2,500 feet to the southeast. Based on this it is assumed that the vein is mineralized, along strike, at least this distance; this is not meant to imply, however, that the mineralization is continuous over this distance. The vertical extent of the mineralization is, of course, unknown. However, based on the vertical difference between the highest dump, on the Molas Lode, and the lowest dump, some 2,500 feet to the southeast (and off the property), the vein appears to be mineralized over a vertical distance of some 400 feet.

What about north west? viz Baddinson claims

It is most unlikely that the mineralization has continuity over these distances, vertically or horizontally.

Only the largest, most productive mines, such as the Camp Bird, have had such continuity in their mineralization. In most mines, the mineralization occurs in ore shoots within the vein. These ore shoots vary from 30 to 40 feet to over 700 feet in length. A vein may have a number of ore shoots within its length but these shoots are commonly separated by varying thicknesses of barren rock.

DRILLING PROGRAM

A two stage drilling program should be conducted on the Molas property. In the first stage, eighteen vertical drill holes are recommended along the strike of the vein from the southeastern end of the patented Molas Lode claim dumps to the northwestern end of the patented Aladdins Lamp claim. No target? These eighteen holes would be spaced at intervals of 200 feet. It is felt that spacing greater than this would leave too much to interpretation in deposits, such as these, where the mineralized shoots occur at irregular intervals. A significantly lesser spacing, although more assuring in regard to delimiting mineralization, would be too costly at this stage of exploration.

On the Molas Lode and Senior Warden claims, it is suggested that in the first stage, the drilling be planned to explore the vein 80 feet below the lowest levels (120-foot level) of the previous workings. The horizon thus tested would be the "200

foot" level as might be laid out in any future mining operations. On the Aladdins Lamp claim the vein should be intersected in each drill hole 200 feet from surface. pumps from 120 level? — galena "most obvious"?

The total footage that would be drilled in the recommended 18 holes would amount to about 3775 feet. The depth of the individual holes would range from 120 to 290 feet.

The second stage of drilling is contingent upon the first stage being successful in proving the existence of ore grade mineralization along the vein at the depths tested. It would be designed to delimit the areas of such mineralization that might be found, explore for the continuation of this mineralization at lower levels, and to obtain sufficient core material on which to base a judgement as to ore grade. Since the planning for this second stage is dependent upon the results of the first stage, we cannot state how many holes would be required, where they might be located, or how deep they might need to be. If the first stage is successful in the manner stated above, we believe that a minimum of 5,000 additional feet of drilling would be justified.

EVALUATION

At this stage, without the knowledge of the character, distribution and extent of the mineralization within the Molas vein, we cannot properly evaluate the potential of the vein.

There is little doubt that significant silver values have been taken from this mine as indicated by (1) the shallow underground workings, and (2) by the Bureau of Mines records. Assays of grab samples collected during the Joseph Gross development work in the 1940's indicate that significant silver values are present at the 120 foot level; this level apparently has not been extensively developed. Whether mineralization extends to a deeper level can only be determined by drilling. Small viable mines in the region commonly have mineralization over a vertical extent of 600 or 700 feet. Larger mines, of course, go deeper. Thus, potentially, the Molas mineralization could extend another 500 or 600 feet in depth from the 120 foot level. Indeed, as has been pointed out, dumps tend to indicate mineralization over a vertical extent of 400 feet.

Because of the presence of limestone, generally a most favorable host for ore, on the Senior Warden and Aladdins Lamp claims, there is a possibility that ore mineralization may widen out on these claims.

A diamond drilling program will be necessary in order to evaluate the continuity of the mineralization both horizontally and vertically.

* Doubtless this refers to the 45 samples assayed for W.R. Rowland 1945-1946-1947
See Application folder

CONCLUSION AND RECOMMENDATION

The Molas property has the potential of becoming a viable mine producing silver along with lead and copper. Only by core drilling will it be determined if, indeed, the property has the necessary concentration and quantity of silver to make a viable mine.

It is recommended that a two stage drilling program be conducted on the property. The first stage of drilling will have about 4,000 feet of core drilling with the purpose of outlining areas of mineralization. The second stage of core drilling would be initiated if the first stage did indicate interesting areas of mineralization. The object of the second stage drilling would be to delimit the mineralization found and determine its continuity, size and grade. It is estimated that at least 5,000 feet of drilling would be required in the second stage.

APPENDIX A

Minerals Assay Laboratory

549 Noland Avenue -:- Grand Junction, Colorado

Phone 242-8021

Date 8/2/67

NAME David S.Robertson & Associates ADDRESS 423 Glenwood Ave. Grand Jct.Colorado

LAB. NO.	8/2/67 SAMPLE RECEIVED	Lead % Pb	PERCENT URANIUM % U_3O_8	PERCENT VANADIUM % V_2O_5	OZ. GOLD PER TON	OZ. SILVER PER TON	PERCENT COPPER % Cu
1136	Sample #A	0.3				1.5	0.11
1137	Sample #B	1.3				24.3	0.39
1138	Sample #C	0.3				1.7	0.01
1139	Sample #D	5.1				13.1	0.34
1140	Sample #E	1.9				4.1	0.03

TOTAL CHARGES $

R. E. Morris

All from surface, Mola's claim

Appendix B

FLUO RESCENT
X RAY
SPEC TROGRAPHIC
Analytical Laboratory

718 Sherman Street (rear)
Denver, Colorado 80203
Phone 255-9396
Merlyn L. Salmon, Manager

XXXX QUALITATIVE
XXXX SEMI-QUANTITATIVE
____ QUANTITATIVE

ANALYTICAL REPORT

Job Number 7092
Page 2 of 2 Pages
Date 15 August 1967

TO: David S. Robertson & Associates

SAMPLE: S #2

NOTE: The values below are estimated percentages for the metal equivalent of the indicated elements. No check was made for elements with atomic numbers less than 22 (below titanium).

Copper	0.097	Iron	3.2	Lanthanum	
Silver	0.007 (2 o3)	Cobalt		Cerium	
Gold		Nickel		Praseodymium	
Zinc	1.7	Cesium		Neodymium	
Cadmium	0.007	Rubidium		Samarium	
Mercury		Barium	5.6	Europium	
Gallium		Strontium	0.10	Gadolinium	
Indium		Titanium		Terbium	
Thallium		Zirconium	0.066	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	17.	Vanadium		Thulium	
Arsenic	0.17	Columbium		Ytterbium	
Antimony	0.090	Tantalum		Lutetium	
Bismuth		Chromium	0.040	Yttrium	
Selenium		Molybdenum	0.006		
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	0.74		

By Merlyn L. Salmon

NOTE: A PORTION OF THE REPORTED SAMPLES WILL BE RETAINED ON FILE FOR A PERIOD OF FIVE YEARS FROM THE ABOVE DATE. THE REMAINDER OF THE SAMPLE WILL BE RETAINED FOR THIRTY DAYS PENDING RECEIPT OF WRITTEN INSTRUCTIONS FOR DISPOSAL FROM THE ADDRESSEE ABOVE.

METAL PRODUCTION (Contents)

A ORE MILLED AND BULLION PRODUCED.
B CONCENTRATES PRODUCED.
C ORE SMELTED.

APPENDIX C

YEAR	A B C	CRUDE ORE PRODUCED		CONCENTRATES PRODUCED		GOLD (OUNCES)			SILVER (OUNCES)			COPPER (POUNDS)		LEAD (POUNDS)		ZINC (POUNDS)	
		DRY TONS	CLASS	DRY TONS	CLASS	GROSS IN ORE	GROSS IN CONCENTRATES	RECOVERED	GROSS IN ORE	GROSS IN CONCENTRATES	RECOVERED	GROSS IN ~~ORE~~ Tons	~~GROSS IN CONCENTRATES~~ Pounds	GROSS IN ~~ORE~~ Tons	~~GROSS IN CONCENTRATES~~ Pounds	GROSS IN ~~ORE~~ Tons	~~GROSS IN CONCENTRATES~~ Pounds
1936	C	8	L			—		—	189		189 — $146	—	—	3,919		3,566 — $164	
1939	B	13	L	2	LCu		.53	.53 — $19		163	163 — $11	175	140 — $15	2246		2,020 — $95	178 —

PERMANENT INDIVIDUAL MINE RECORD—BUREAU OF MINES

(METAL OUTPUT—OVER)

MOLAS

NAME OF GROUP—ALPHABETICAL LISTING

CLAIMS:

APPENDIX C

Colo San Juan Animas

STATE — COUNTY — DISTRICT

CHARACTER OF DEPOSIT:

OVER SEC: TWP. RANGE:

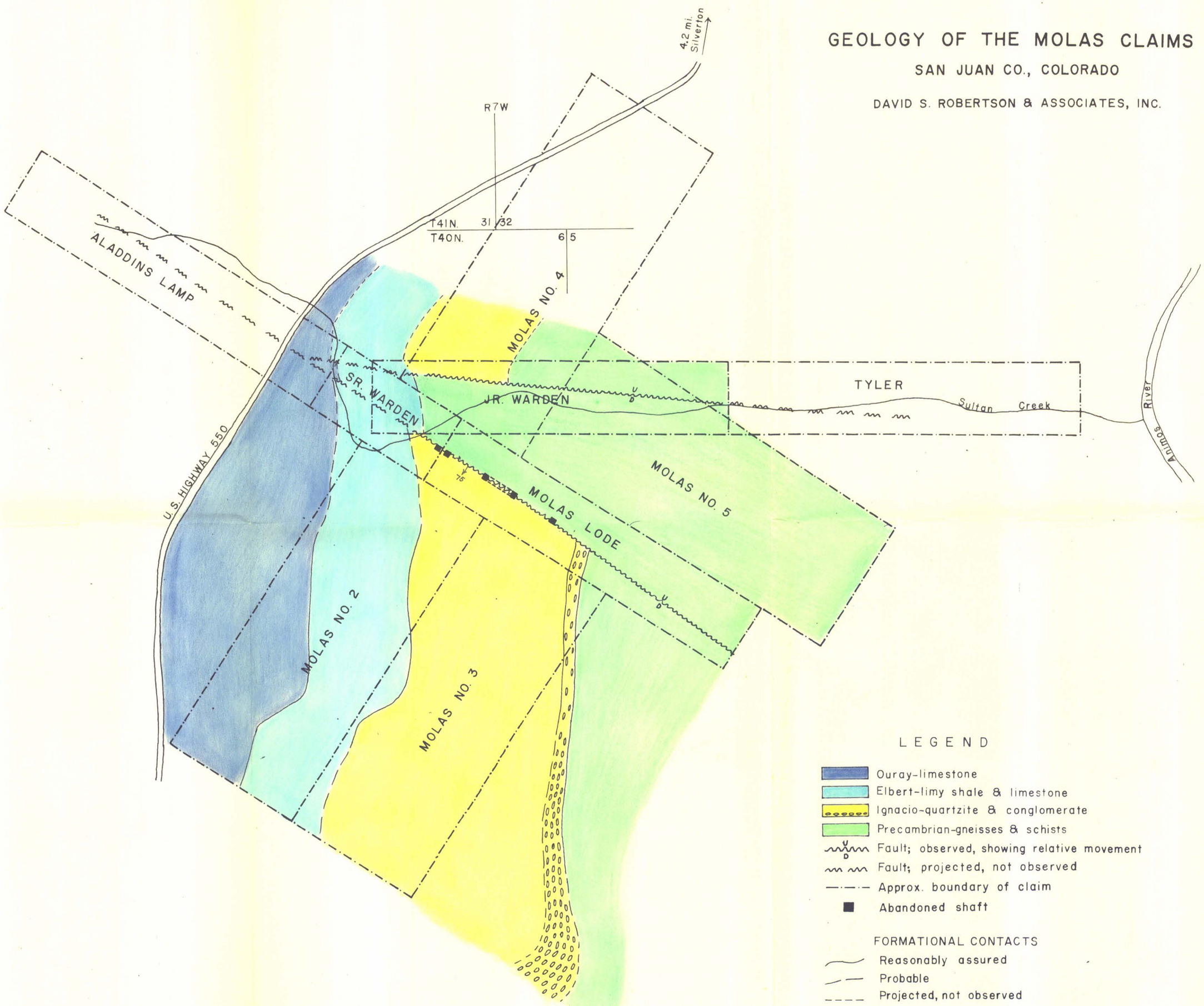
YEAR	ABC	AV. ASSAY OZS. PER TON Au	Ag	AVERAGE ANALYSIS PERCENT Cu	Pb	Zn	SiO_2	Fe	Mn	S	Al_2O_3	CaO	MgO	OWNER (NAME AND ADDRESS)	OPERATOR (NAME AND ADDRESS)	DAYS OPERATED	DEVELOPMENT AND OTHER DATA
1934															Fred Olsen, Durango-Lease—		No production
1935																	No operation
1936														Matt Kaults reports no production-Figures ours			
1938														W.F. Hausberger 819 5th St Durango leased to Mogul G.M.Co-as below			No Production 1938
1939														Mogul Gold Mining Assc. Chas E Fetterhoff Durango Colo. although W.F. Hausberger lists as owner (?)			
1940																	No operation 1940
1941														W.F. Hausberger, Durango			No operation-1941

Map 2

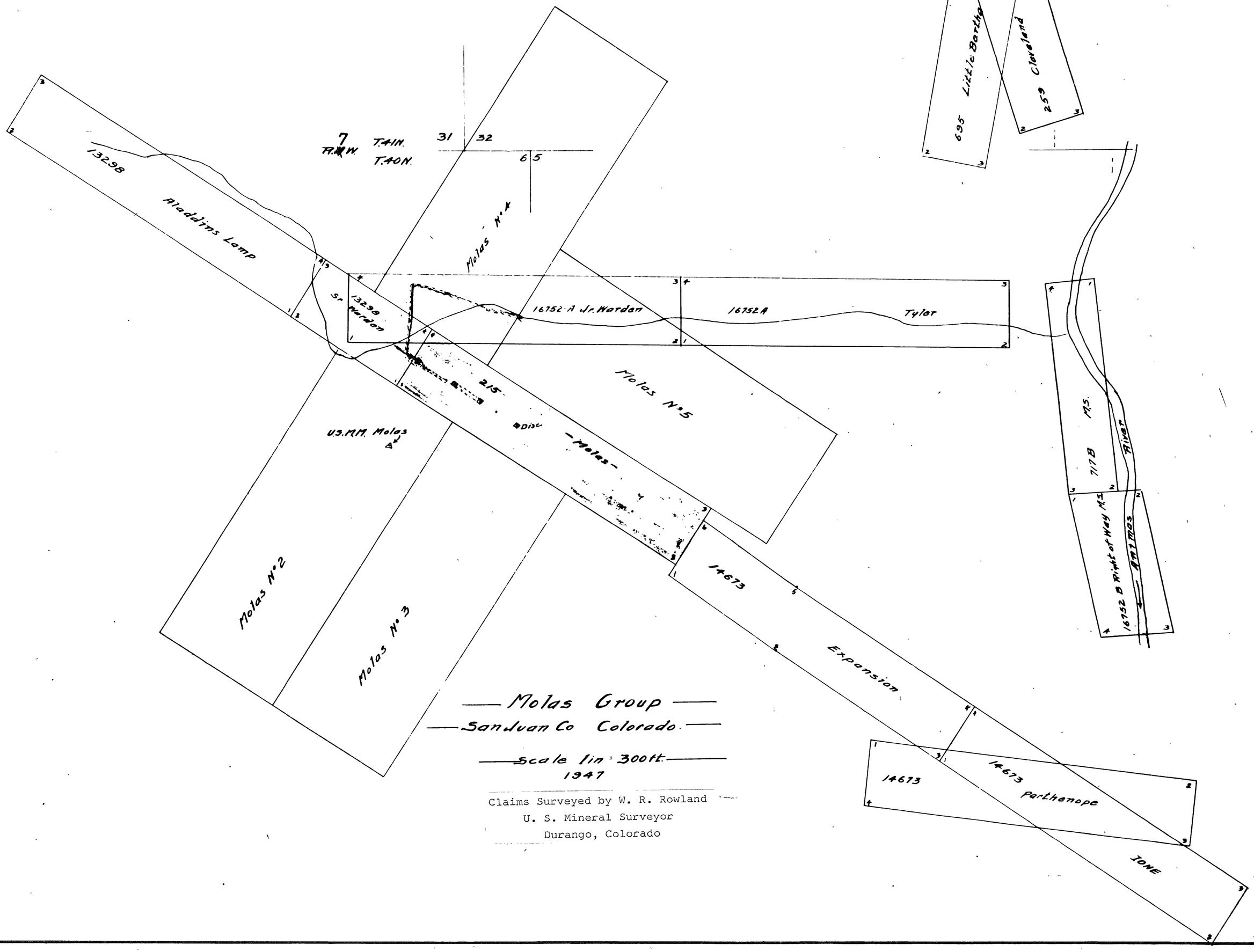
GEOLOGY OF THE MOLAS CLAIMS

SAN JUAN CO., COLORADO

DAVID S. ROBERTSON & ASSOCIATES, INC.



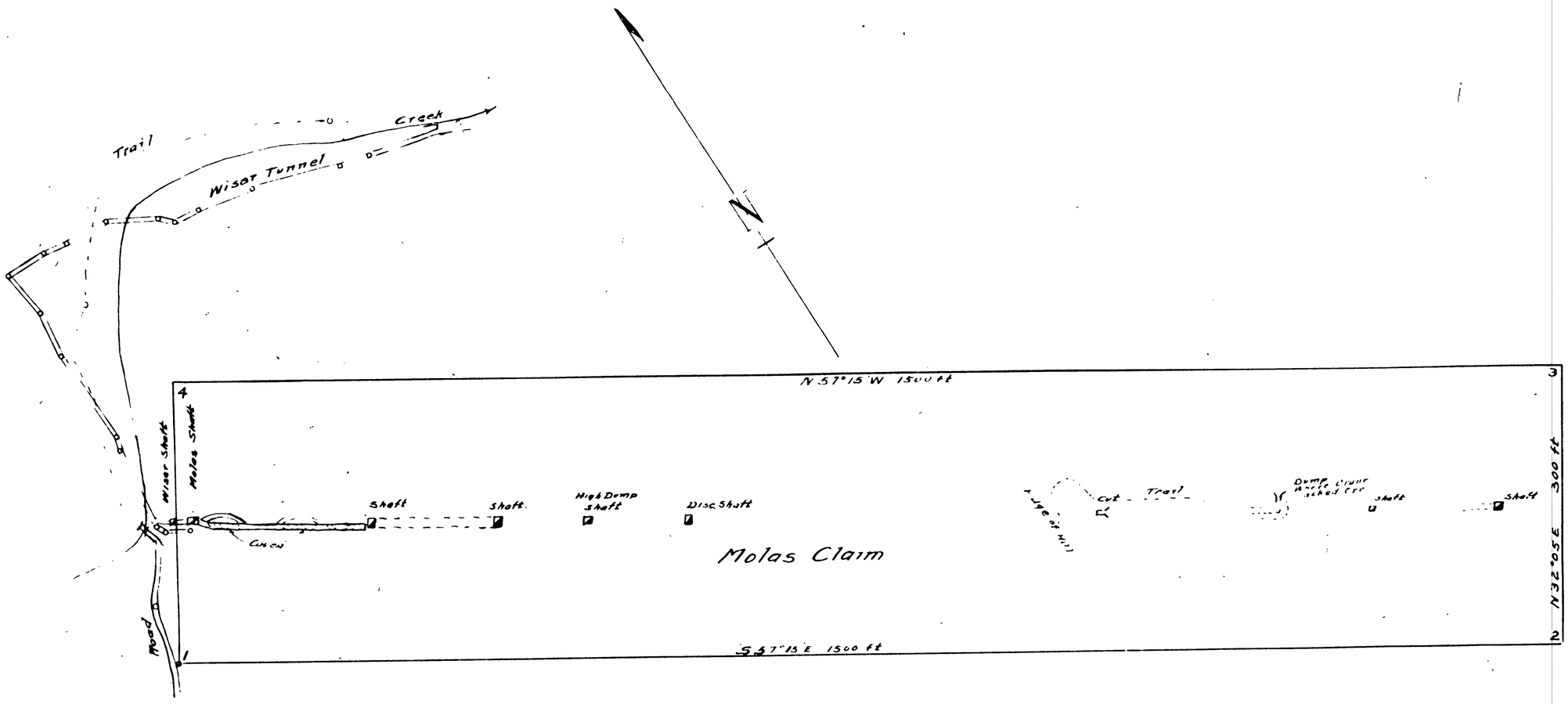
Map I

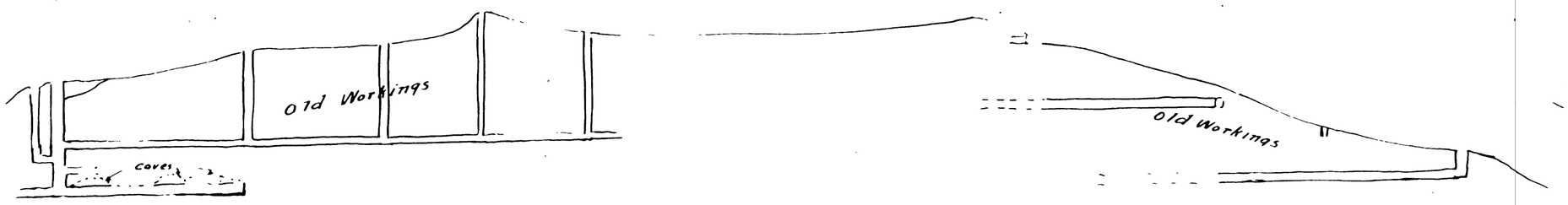


Molas Group
San Juan Co Colorado
Scale 1in = 300ft
1947

Claims Surveyed by W. R. Rowland
U. S. Mineral Surveyor
Durango, Colorado

Map 3





Section along Molas Vein
showing approximate location of old workings. Extent of the stopings above these workings is not known.

Surveyed by W. R. Rowland,
U. S. Minerals Surveyor, Durango, Colorado

Horizontal and Vertical Scale: 1 inch = 100 feet