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MT-1

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
Mine Owner's Report

Date: June 22, 1939

1. Mine: TELLURIDE CHIEF MINE

2. Location: 20 miles southeast of Kingman, Arizona.

3. Mining District & County: Maynard Mining District, Mohave County, Arizona.

4. Former Name: Standa d Minerals Co.

5. Owners: Walter Meyer, F. C. Walker, J. M. Cochrane & Mrs. O.W.Little

6. Address (Owners): Kingman,Arizona.

7. Operator:

8. Address (Operator):

9. President, Owning Co:

9A. President, Operating Co:

10. Gen. Mgr:

14. Principal Minerals: Gold, Silver, Molybdenum and Tungsten.

11. Mine Supt:

15. Production Rate:

12. Mill Supt:

16. Mill - Type & Cap:

13. Men Employed:

17. Power - Amt. & Type:

18. Operations - Present:

19. Operations - Planned:

20. Number Claims, Title, etc: 11 claims, clear title.

*

21. Description - Topography & Geography:

22. Mine Workings - Amt. & Condition: Surface workings, about 750 ft.
Shaft 450 feet vertical
800 feet of crosscutting on 200 ft. level
Crosscut on 300 ft. level
Station and short crosscut on 400 ft.level
Collar of shaft caved.

(Over)

23. Geology & Mineralizatic..

24. Ore - Positive & Probable, Ore Dumps, Tailings:

24A. Dimensions and Value of Ore body:

25. Mine, Mill Equipment & Flow-Sheet:

26. Road Conditions, Route: Very good road.

27. Water Supply: Ample water for 100 ton mill.

28. Brief History: Property was operated during the World War for molybdenum. Present owners have shipped 7 carloads of $40.00 gold and silver ore, plus about 1% wolframite and some molybdenite. These veins were not opened from shaft by crosscuts.

29. Special Problems, Reports Filed:

30. Remarks: Owners have underground and assay map of new workings.

31. If property for sale - Price, terms and address to negotiate:

For sale - For price and terms, write
Mr. Walter Meyer, Kingman, Arizona

32. Signature: (Signed) WALTER MEYER

MT-1

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
FIELD ENGINEERS REPORT

Date: November 11, 1939.

Mine: TELLURIDE CHIEF MINE - 11 claims

District: MAYNARD MINING DISTRICT Engineer: Elgin B. Holt.

Subject: Synopsis Report.

TELLURIDE CHIEF MINE - SYNOPSIS REPORT

LOCATED in Maynard Mining District, 20 miles southeast of Kingman, Arizona, in Mohave County.

OWNER: Walter Meyer & Co., P. O. Box 150, Kingman, Arizona.

DEV. WORK: One timbered vertical shaft 450 feet deep, caved at collar. Levels at 200, 300 and 400 feet depth. On 200 ft. level there is 800 ft. of crosscutting, intersecting 2 major veins and 7 veinlets, with 100 feet of drifts on 2 major veins.

CHARACTER OF ORE: Molybdenite, tungsten, gold, copper, silver, lead.

MILL: A mill was erected at property by Standard Minerals Company of Anaheim, California, having capacity of 100 tons daily, to recover molybdenite from the ore by flotation. Plant was of poor design and did not get good results. However, this plant milled considerable molybdenite ore found in country rock removed from veins; but no attempt was made to work the veins in order to recover other values mentioned. Mill operated from Jan. 1916 to Nov. 1918.

VEINS: Two major East-West veins 50 feet apart; strike N.W. - S.E. Dip 65 deg. SW. Formation - pre-Cambrian granite complex.

ORE SHIPPED FROM VEINS: Seven cars of ore were shipped from surface working assaying around $42.50 per ton in gold and silver, plus about 1% Wolframite and some Molybdenite. These veins were not opened from shaft by crosscuts, as all crosscuts from shaft were driven southwest away from the said surface veins. A 75 ft. crosscut on 200 ft. level of shaft would cut the West vein.

Property has all the earmarks of a mine that would supply a 100-ton mill for a number of years; and I believe a great deal of money can be made in operating this property, providing the same can be adequately financed, equipped and managed. Mainly, it will be necessary to work out a process whereby all metallic values can be recovered in marketable form.

WATER: Mr. Meyers states that there is ample water in shaft to supply a 100-ton flotation mill. Excellent graded dirt road leads to property from Kingman. Climatic conditions excellent the year round.

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8. Address (Operator):

9. President, Owming Co:

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10. Gen. Mgr:

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15. Production Rate:

12. Mill Supt:

16. Mill - Type & Cap:

13. Men Employed:

17. Power - Amt. & Type:

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Collar of shaft caved.

(Over)

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24A. Dimensions and Value of Ore body:

25. Mine, Mill Equipment & Flow-Sheet:

26. Road Conditions, Route: Very good road.

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SPECIAL

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

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District Maynard Mining Dist. Engineer Elgin B. Holt.

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DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date June 22. 1939.

Mine Telluride Chief.

District Maynard, Location Mohave County

Former name Standerd Minerals, Co.

Owner Walter Meyer, F.C. Walker, J. M. Cochrane Address Kingman, Arizona.
Mrs O. W. Little,

Operator Address

President Gen. Mgr.

Mine Supt. Mill Supt.

Principal Metals Gold, Silver, Molybdenum, Tungsten. Men Employed

Production Rate Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Operations Planned

Number Claims, Title, etc. II claims, clear title.

Description: Topog. & Geog.

Mine Workings: Amt. & Condition surface workings, about 750 feet, Shaft 450 feet vertical, 800 feet of crosscuting on 200 foot level crosscut on 300 foot level, station and short crosscut on 400 foot level, colar of Shaft caved.

(over)

Geology & Mineralization

Ore: Positive & Probable, Ore Dumps, Tailings

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route very good road.

Water Supply ample water for 100 ton Mill,

Brief History Property was operated during World War for Molybdenum, present owners have shipped 7 carloads of $40.00. Gold, Silver ore from vein not yet oppened in the main Shaft.

Special Problems, Reports Filed

Remarks Owners have underground and assay map of new workings,

If property for sale: Price, terms and address to negotiate. Purchase price $65.000.00. monthly payments, until reduction plant is in opperation, than 10% royalty on all ores miiled or shippedto apply on purchase price, 6 years to pay.

Signed Walter Smeyer

Use additional sheets if necessary.

L. V. ROOT

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date June 22, 1939

Mine Telluride Chief

District Maynard

Location Mohave County

Former name Standard Minerals Co.

Owners Walter Meyer, F.C.Walker, J.M.Cochrane, Mrs. O. W. Little

Address Kingman, Arizona

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, Silver, Molybdenum, Tungsten

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Operations Planned

Number Claims, Title, etc. II claims, clear title

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(over)

Geology & Mineralization

Ore: Positive & Probable, Ore Dumps, Tailings

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route very good road

Water Supply ample water for 100 ton mill

Brief History Property was operated during World War for Molybdenum - present owners have shipped 7 carloads of $40.00. Gold, Silver ore from vein not yet opened in the main shaft.

Special Problems, Reports Filed

Remarks Owners have underground and assay map of new workings

If property for sale: Price, terms and address to negotiate. Purchase price $65,000, monthly payments until reduction plant is in operation, then 10% royalty on all ores milled or shipped to apply on purchase price - 6 years to pay.

Signed Walter Meyer.

Use additional sheets if necessary.

L. V. ROOT

REPORT ON PROPERTY OF
TELLURIDE CHIEF MINING CO.
July 5 1917

LOCATION: The property owned by the Telluride Chief Mining Co. is located on the east slope of the Haulapai mountains, in the Maynard Mining district, Mohave County, Arizona, and is reached over a good automobile road from Kingman, the County seat, and supply point for the mining districts of the county, which is 20 miles distance from the property.

GEOLOGY: Mr. Schraeder, of the U.S. Geological Survey, states that the Hualapai range consists of an east tilted uplift of the pre-cambrian complex treversed by numerous dikes of varying composition.

In the area comprising and surrounding the Telluride Chief property for some distance to the North, west and south, the country rock, granite, has been subject to movements which have given rise to shearing and faulting that has resulted in the development of a gneissoid structure, with resulting alteration, this alteration manifesting itself in the relative greater amount of feldspar & micas, both biotite & sericite

To the west of the area the granite becomes more coarsely feldspathic, while to the east they exhibit a well defined micropegmatic structure.

There are, so far as known, only three dikes on the property, all lamprophyric, two striking nearly east and west and the other having a northwestly & southwesterly strike. Not enough work has been done on this property to be able to determine whether or not the dikes bear any relationship to the ore bodies or not.

CLAIMS: The property consists of eleven unpatented claims a net area of about 220 acres. The claims are the Telluride 1 to 9, Gold Mountain Garnier No.1 Silver Hill, Helen, Madoline & Margaret. The Garnier, Garnier No.1 and Silver Hill were obtained by purchase from the origanal locators, while the last three were located and transferred to the Company without cost for the purpose of protecting the boundaries of the origanal claims. The title to the claims rests in the company by virtue of location & possession in accord with federal statutes.

VEINS AND VEIN SYSTEMS: The veins on the Telluride Chief property group themselves into three well defined systems which will be designated as the Garnier system, Number Nine system and Silver Hill system. The Garnier system has a general northwesterly & southeasterly strike and dipping to the southwesterly at from 50 to 70 degrees from the horizontal. The number nine system has a strike of from south 5 degrees east to south 9 degrees west dipping from about 60 to 65 degrees to the west. The veins of the Silver Hill system have a strike of nearly due east and west and dip flatly to the north.

The Garnier system is made up of the Garnier vein, the Big Swede vein, about 45 feet to the west of the Garnier vein, and two unnamed veins to the east of the Garnier. Up to the time the property had been acquired by this company, most of the work done had been performed on the Garnier vein, and consisted of numerous open cuts, a 75 foot incline shaft, two 75 foot drifts. The Silver Hill vein system had been exposed by two shallow shafts and about 50 feet of stripping on the Silver Hill vein and an open cut on the vein on the Helen claim. No work had been done on the veins on the north and south vein system and as these veins do not outcrop prominently, little attention has been paid to them and it was not until crosscutting from the 200 foot point in the shaft was undertaken that their importance was recognized.

DEVELOPMENT WORK: Since the acquisition of the property by this Company all work has been confined to the sinking of a working shaft on the Garnier vein. This shaft was started on the outcrop of the Garnier vein and was sunk vertically to a depth of a little more than 200 feet where a station was cut, a crosscut bearing south 40 degrees west was started and continued to a point 365 feet from the shaft. During the sinking of the shaft a number of small veins & stringers were cut, all of which dipped to the west. At the 70 foot point the secondary sulphides were first encountered, assays as high as $70. in gold, silver & copper being obtained. At the 110 foot point the first water was encountered and at about the same point the first molybdenite was found. At the 130 foot point it appeared that another vein was coming into the shaft from the east but as the sinking progressed the vein straightened, and the dip changing from the west to the east receding from the shaft into the country rock on the east of the shaft, indicating that the veins in the Garnier system might show a corresponding change of dip from the west to the east. At the west end of the station on the 200 ft. level a vein having a dip of 45 degrees to the east and a strike identical with that of the Garnier on the surface was encountered and it is possible that the vein is the Garnier. This same vein was cut in the opening of the sump and at that point was two feet wide and was sampled across that width with results of $24.50 per ton.

In cutting a station for a pump in the west end of the station a small footwall stringer from the vein last mentioned was found which gave selected samples assaying 35% molybdenite. From the shaft to a point 150 feet to the west the granite is much broken and altered locally by koalinization and sericitization and a removal of a portion of the biotite. In this distance a number of minor slips having a north south strike were cut, three of which show a molybdenite content over a sufficient width to allow of profitable mining and milling.

At the 150 foot point a vein was cut and named the Bernice. This vein occurs along a north south fault plane in which the relative movement as evidenced by the displacement of a lamprophyric dike amounts to 30 feet. Where cut by crosscut, the Bernice was sampled across 4 feet with results of $23.22. Drifting was done on this vein and at a point 12 feet from the crosscut it was sampled across four feet with returns of $41.28 per ton, while a selected sample taken from the 30 foot point gave a return of 20.2% molybdenite. The drift on the Bernice was carried to a point 68 feet from the crosscut and is still in ore, there being a considerable amount of high grade molybdenite for the last 20 feet along the drift.

From the Bernice westerly the granite becomes less altered and harder showing more nearly its normal structure and composition, at a point 290 feet westerly from the shaft a strong north south vein designated the Josephine was encountered.

EQUIPMENT: The property is equipped with necessary mess house, bunk house, office and other buildings comprising the camp equipment, a 12 h.p. hoist, with buckets, trucks, ore cars, valve bucket for handling water which is making at the rate of about 13,500 gallons per day, blacksmith shop with proper tools for all ordinary work required , etc.

METALLURGICAL TREATMENT: Exhaustive tests have been made by the writer relative to the treatment of the ores from this property and by the use of the oil flotation process assured that the recovery of at least 85% of the molybdenite content can be had, and at the same time making a

EXHIBIT "B".

The Garnier, Garnier No. 1 and SILver Hill claims, located in the Maynard Mining District, Wallapai Mountains, 19 miles south and east of Kingman, were deeded to the Company free and clear of all incumbrance, in consideration of 500,000 shares of its stock.

The Garnier vein on the Garnier claim had been opened and proved for a distance of 1500 feet by open cuts, one 40 foot crosscut with 76 feet of drifting on the vein, one 75 foot adit tunnel, one 75 foot shaft, a 15 foot winze in the 75 foot adit tunnel and numerous shallow shafts and open cuts. These workings exposed the vein for approximately 1500 feet and showed it to be 3.13 feet average width with values running from a trace to as high as $154., the general average over a length of some ~~$12.37~~ 540 feet to be being a little better than $12.

$50,000. cash was offered for the property just prior to its purchase by the Company, the owners taking $50,000. worth of stock in lieu of the cash payments, which extended over a period of months.

C C Randall
Sec. & Treas.
WALAPAI MTN. MINING Co ??
KINGMAN - ARI??

TELLURIDE CHIEF MINE
JUNE 1940

LOCATION: This mining property is located on the east slope of the Haulapai mountains in the Maynard Mining District, Mohave County, Arizona, and is about 20 miles from Kingman.

GEOLOGY: Mr. Schraeder, of the U.S. Geology Survey states that the Haulapai range consists of an east-tilted uplift of a pre-cambrian complex traversed by numerous dikes of varying composition.

In the area comprising and surrounding the Telluride Chief property for some distance to the north, west and south, the country rock, granite, has been subjected to movements which have given rise to a gneissoid structure, with a resulting alteration manifesting itself in a relative greater amount of feldspar and mica both biotite and sericite. To the east the granite exhibits a well defined micro-pegmatic structure.

CLAIMS: The property consists of eleven unpatented claims, having an area of about 220 acres. The claims are named Telluride Chief, Telluride Chief 1 to 9 and the Gold Mountain and is reached over a good country road.

This is a rolling hill country with no rough topography; the gulches are not deep, but narrow and rather steep and the outcrops are easily distinguishable. There are no buildings or equipment on the property, but several good places for campsites and both domestic and mill water may be secured from a deep shaft on the property. The shaft was reported as making 23,500 gallons of water a day.

MINERALIZATION & VEINS: There are two principal vein systems; one striking east and west, dipping south at about 50 degrees from the horizontal; the other strikes northwest and southeast with a dip to the southwest of from 50 to 70 degrees. The latter vein system has most of the work done on it. This work has been, so far as tungsten is concerned confined to what will be termed the "East & West Vein". These veins are shown upon the accompanying map and outline a strong and well defined shear zone, varying in width from 20 to 50 feet or more. On the north end of the East vein there has been exposed by means of several open cuts, a shoot of quartz ore running from .84% to 4.4% WO_3 (Tungstic acid) that averages 2.5 feet in width and at least 100 feet in length. This ore could be mined through an adit tunnel that is on the west side of, and parallel to this vein. By extending a crosscut from this adit tunnel a distance of about 30 feet, it will be possible to raise on this shoot of ore. It would appear that another shoot of tungsten ore lies to the south of the one discribed above. The owner has developed more good grade ore on the north end of this ~~xhxk~~ vein about 2 claims length further northwest, another shoot of tunsten ore is indicated in an open cut.

CONCLUSION: The accompanying map was drawn by the writer who also cut the samples. The WO_3 results were made by E.A.Jacobs of Tucson, while all the others were done in a Company laboratory. I consider the Telluride Chief a good Tungsten prospect that justifies development.

Seth Langley, Field Engineer
for Mammoth Saint Anthony.

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Seth Langley, Field Engineer
for Mammoth Saint Anthony.

COPY

Kingman, Arizona, January 10, 1942

Mr. J. S. Coupal,
Arizona Department of Mineral Resources,
Phoenix, Arizona.

Dear Mr. Coupal:

As per your request, I am giving you all the information to the best of my ability as to the size of the ore bodies so far developed, the values and the amount of work in the main shaft of the Telluride Chief Mine. All this work was done prior to January 1, 1919.

The vertical shaft is 450 feet deep, with the first station cut on the 200-level; from this station a crosscut 600 feet long extends to the west, showing nine different veins, three of them major veins, known as the Bernice, Josephine and the No. 9. Both the Bernice and the No. 9 had some drifting on them showing very good molybdenite, gold, silver and copper. At that time the management did not know of the tungsten content of the different veins on the 200, 300 and 400 foot levels. They were trying to operate the property only for molybdenum and at the present metal values from $10 to $12 gold and silver. The Bernice vein has a width of six feet in the face of the drift; the No. 9 from four to seven feet. This is plus the tungsten content; the dumps show up very satisfactorily under the violet ray lamp.

On the 300-foot level the old company drifted and stoped about 2,000 tons of molybdenum ore from a width of around eight feet and milled it in their 100-ton plant. The milling operations were begun just about one month before the close of the World War No. 1, after which the price of molybdenum decreased to such extent that the company had to close the mine, but kept the water pumped out for more than a year after that.

On the 400-foot level they opened quite a large vein assaying 1½% molybdenum, .12 to .20 ounces gold and 8 ounces silver and about 1% copper. The dump on the surface from this vein shows very nice scheelite under the lamp.

The new ore bodies the present owners have opened and to date have shipped seven carloads of high-grade gold, silver and copper ore, have never been opened from any of the levels of the meain shaft and this ore body so far developed shows much better tungsten values than the vein to the west of the shaft. The tungsten content in present shipping ore will average 2 per cent. Of course we do not get pay for the tungsten at the smelter. This ore could be opened up very easily from the three levels in the main shaft which would add many thousands of tons to the present supply.

* In my estimation, the cost of retimbering the collar of the shaft and dewater same at about $3,000, not including the price of the compressor and pumps. There is ample water for more than a 100-ton plant. There is a very good road to the mine.

A five ton lot sample taken by Mr. Langley from the surface and shipped to Tucson gave tungsten returns of 1½ per cent, plus the gold and silver. The new crosscut on the No. 9 vein shows 2½ feet of very nice tungsten ore and the new workings a quarter of a mile north of the present workings show very nice ore in tungsten, gold and silver.

Trusting this information is satisfactory,

Very truly,

(Signed) WALTER MEYER

REPORT ON THE PROPERTY OF THE

ARIZONA-BUTTE MINES COMPANY,

KINGMAN, ARIZONA.

by

STUART CROASDALE.

c/o J. H. Palmer, President,
Arizona-Butte Syndicate, Inc.,
503-4 First National Bank Bldg.,
Pittsburgh, Penna.

This property is located on Stockton Hill in the Cerbat Mountains, Mohave County, Arizona. It is 18 miles north of Kingman by wagon road and 7 miles from Barry, the nearest railroad point, on the main line of the A.T.S.F. RR.

The property consists of 35 claims, 17 of which are patented, or a total area of about 600 acres. The property is not fully surveyed but the more important claims are shown on map No.1.

VEIN SYSTEM AND ORE BODIES.

The ore occurs in fissure veins with a quartz gangue.

The principal vein, known as the Prince George, traverses the entire length of the property from east to west, or a distance of about 2-1/2 miles.

Intersecting this vein, or joining it from the North-west, are at least three very prominent and extensive veins, known as the Banner, Sirius and Tigress, which have a combined outcrop of over two miles on the property.

In addition to these are the Alta, Jubilee, Little Chief and other less prominent but perhaps less influential veins as shown on Map No.1.

The locations of these veins are also shown on the photographs.

The width of ore in the veins varies from one to three of four feet as a rule. In the Prince George vein, near its juncture with the Tigress vein, the quartz vein filling is from ten to twenty feet wide and is not only more or less mineralized throughout, but the mineralization extends into the country rock in some places.

The ore shoots range in the veins from a few hundred to over one thousand feet in length.

The commercial values in the ore are gold, silver, lead and zinc.

On the eatern end of the property toward the portal of the proposed tunnel and east of the Tigress and Prince George vein intersection, silver is the predominating value, with some lead.

Toward the center of the property in the vicinity of the Banner and Prince George vein intersection, gold and zinc values increase, producing a complex ore carrying all four metals. This ore can be readily separated into marketable products by ordinary methods of concentration.

On the De La Fontaine claim at the western end of the property, zinc is the predominating metal, carrying some gold, while lead and silver become subordinate in value. This part of the property is not far from the Golconda zinc mine and is apparently on the same vein system.

DEVELOPMENT.

Most of the development work on the property has been done by the former owners. Unfortunately, this has been allowed to fill with water and to cave where any ore reserves have been blocked out. These portions of the workings were therefore inaccessible and no ore reserves could be measured nor intelligent sampling done on any part of the property. The greater portion of the ore above the water level has been removed while mining high grade ore in the early days.

For a knowledge of this work, we are therefore dependent upon the maps and records of the former owners. These are as follows:

DE LA FONTAINE WORKINGS. These are on the claim of the same name. They consist of a shaft about 400 feet deep on a prominent cropping of what is supposed to be the Prince George vein; also an adit level that cuts the shaft nearly 200 feet below the surface. These workings are shown in section on map No. 4, which is compiled from data and not from actual survey. The workings below the adit level were not accessible.

The ore is a clean zinc sulphide similar to the Golconda ore. The ore shoot is one to three feet wide and about 400 feet long, but most of the ore above the adit level has been mined. There is no doubt but what this ore shoot will continue in size and value to a great depth.

THE BANNER WORKINGS, are on the Banner vein, extending northwestward from its junction with the Prince George vein.

The U. S. Smelting & Refining Company developed this property to a depth of 450 feet, as shown on map No. 2, which has been compiled from the original surveys.

At the present time all of the workings below the adit or 165 foot level are in accessible, due to caves which have not yet been cleaned out. The tonnage of ore blocked out below this level, and its value, as given on the map, are taken from the records of the U. S. Smelting and Refining Company, made at the time ore was developed.

Some ore can still be mined above the adit or 165 foot level, but much of it has been removed in mining the higher grade ore for shipping in a crude state. In no place can it be satisfactorily measured from an estimate of tonnage. Ore mined from above this level supplied the mill during the time it was operated in 1917.

A series of winzes was sunk along this adit at points shown on the map where sketched in ink, as well as the character of the vein and ore body above the level, tend to confirm the tonnage and value of the ore below as given by the smelting Company.

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THE BANNER WORKINGS, are on the Banner vein, extending northwestward from its junction with the Prince George vein.

The U. S. Smelting & Refining Company developed this property to a depth of 460 feet, as shown on map No. 2, which has been compiled from the original surveys.

At the present time all of the workings below the adit or 165 foot level are in accessible, due to caves which have not yet been cleaned out. The tonnage of ore blocked out below this level, and its value, as given on the map, are taken from the records of the U. S. Smelting and Refining Company, made at the time ore was developed.

Some ore can still be mined above the adit or 165 foot level, but much of it has been removed in mining the higher grade ore for shipping in a crude state. In no place can it be satisfactorily measured from an estimate of tonnage. Ore mined from above this level supplied the mill during the time it was operated in 1917.

A series of winzes was sunk along this adit at points shown on the map where sketched in ink, as well as the character of the vein and ore body above the level, tend to confirm the tonnage and value of the ore below as given by the smelting Company.

The ore is complex, carrying gold, silver, lead and zinc in commercial quantities, but these are readily separated into marketable products by ordinary methods of concentration.

The ore shoot as exposed on the adit level, is 1500 feet or more in length. The southern half is narrow and will average but little more than one foot in width, while the northern half widens to two or three feet of workable ore.

The Prince George vein has not been developed near this junction or intersection.

THE PRINCE GEORGE WORKINGS consist of a shaft nearly 150 feet in depth and more or less drifting on the vein on the Prince George and Co-op. claims. These workings are shown in plan and section on map #3, which has also been compiled from old surveys.

Much of the ore above 100 foot level is oxidized or has been removed in searching for high grade. The shaft below the 100 foot level was not accessible.

There is ample evidence of high grade ore in these workings, as well as considerable quantity of lower grade or milling ores. In searching for the high grade, no effort has been made to block out any ore reserve, so there is no tonnage to measure at this point. The conditions are such that isolated sampling would give little information of value. The character of the ore is self evident.

silver value predominates, while enough lead is present to make a good concentrating ore. Zinc and gold are very subordinate.

These workings are on a wide and prominent section of the Prince George vein that is extensively mineralized for over 2000 feet eastward from its junction with the Tigress vein. Geological and surface indications are more promising here for a large and promising ore body than on any other part of the property.

THE "DEEP TUNNEL". This has been started on the extreme eastern end of the property, to develop the entire property along the Prince George vein, and, through it, the tributary and parallel veins.

The greatest depth attained will be about 1200 feet on the De La Fontaine claim, at a distance of about 7500 feet from the portal, but this entire distance can be driven on the Prince George vein system.

The tunnel is now 600 feet in length and has reached the Prince George vein. Work was stopped in January of this year. Owing to lack of timber, part of the tunnel has caved and was inaccessible at the time of my examination.

The plan of this tunnel can be followed by referring to Map No.4 and No. 1.

OTHER WORKINGS on the property consist of numerous prospect shafts and adits on the several veins at many points. Most of these are not deep enough to extend through the oxidized portion of the vein, and some are caved or are full of water. None of them are important except to show the continuity of the veins and the probability of their mineralization with depth.

ORE PRODUCTION AND VALUE.

The ore production by the present company during the past 16 months may be summarized a s follows:

During the first twelve months the concentrating plant was operated intermittently, as the ore could be supplied to it. This ore came principally from the Banner vein above the 165 foot or adit level. Judging from the ratio of concentration obtained by the U. S. Smelting Company on the same ore in their plant at Needles, the tonnage of concentrates given below represents about 2500 tons of crude ore.

The total net production from the property during the past 18 months is as follows: The money value represents the net proceeds F.O.B. Kingman. These figures are compiled from the smelter statements.

752.75	tons	concentrates	at $43.32	$32,612.63
1217.	"	Crude Ore	at 31.50	38,321.90
275	"	Crude lead ore mine, in transit and not paid for, estimated		8,650.00
47.87	"	Silicious silver ores	at 14.90	713.80
84.60	"	Zinc ore and concentrates	at 18.12	1,533.09
		Total net production F.O.B. Kingman.....		$81,331.42

From this amount must be deducted the costs of mining, milling, truck haul from mine to Kingman, and overhead expenses.

The average value of the ore will depend entirely on the way it is mined. It usually occurs in the vein as one or two streaks of solid mineral from one to six or eight inches in width. The vein matter between or alongside of these streaks will also vary in width and will vary in degree of mineralization, so that any method of hand sampling of the ore bodies will be more or less arbitrary and give less reliable information than a careful study of the smelter returns from the ore actually mined and shipped, or from the ore sent through the mill. For this reason any attempt to arrive at the average value of the ore by sampling the irregular and incomplete exposures now accessible, was abandoned as unreliable and misleading.

The smelter statements show that the ores contain substantial values in gold, silver, lead and zinc, respectively, or in silver and lead where gold and zinc are subordinate.

The ore shoots are long. The ore can be extracted in sufficient width to permit the most economical mining on this type of deposit and yet undoubtedly maintain the grade of the milling ore at a very profitable average of $10.00 or $12.00 per ton. As the facilities for economical mining and milling increase,

the average grade of ore that can be mined at a profit will of course be lowered and the available tonnage correspondingly increased.

CONCLUSION.

There is unquestionably a large amount of both high grade and milling ore that can be developed on this and adjoining properties, but the only feasible method of mining it economically and profitably is by means of the proposed deep tunnel. It cannot be done profitably by present methods of operation or by those which have been used by the former owners.

This tunnel will not only develop the principal vein on the property as fast as it is driven, but it will develop equally extensive and valuable and tributary veins on this property and practically control the development and operations of some adjoining properties.

The present face of the tunnel is now 600 feet from the portal and is on the Prince George vein. By driving the tunnel approximately 600 feet farther along the vein, it should reach the eastern end of the first ore shoot.

The outcrop of the Prince George vein at this point is from 10 to 30 feet wide and the mineralization extends to the country rock beyond.

From the surface appearance of this vein and from its development in the Prince George shaft, there is every indication that commercial ore will extend at least to the junction with the Tigress vein, or a distance of over 2,000 feet, and that one of the largest and best ore bodies on the property will be found. While the tunnel will not cut the vein at a depth exceeding 600 feet at the Tigress junction, the ore body can easily be developed to a greater depth by sinking from the tunnel level.

The cost of driving this tunnel should not exceed $15.00 per lineal foot, including timbering, even with the present high cost of labor and supplies, so that $10,000 should meet all

expenses of reaching the first ore body from this point.

The time required should be less than three months.

Ample funds should be provided to continue the tunnel to the Prince George shaft, to make the necessary connections for ventilation and to do all of the necessary lateral work to develop the ore bodies found.

This may cost $50,000 to 75,000 additional, so that the treasury of the company should hold available at least $100,000 to provide for the ultimate development of the property, and, if possible to put it on a self-sustaining basis.

As can readily be seen, this entire fund will not be required immediately, and its expenditure will be determined as justified by the progressive development of the property.

I recommend the discontinuance of all development and repairs in the old workings. While the ore extracted is probably paying for this work and a little more, it is a waste of time and money to continue it, since it does not develop the property to any extent nor to any advantage for future work or production. Money spent on development by means of the deep tunnel will obtain the desired information much more cheaply and quickly and the results will be of permanent advantage to the property.

As soon as ore bodies of sufficient size are developed, the present mill should be moved to the portal of the tunnel and put into operation. In all probability it will have to be completely remodeled to meet the change in the character of the ore. The flotation process will have to be installed and some new machinery added.

The cost of milling is now said to be 65 to 75 cents per ton. It ought not to exceed this with a differentcharacter of ore from the tunnel level and will probably be less.

The present cost of mining is no criterion on which to make an estimate and it is difficult to make an estimate until the character and size of the ore bodies are known, but $2.00 per ton should be a maximum, so far as the conditions can now be anticipated.

The present truck haul to Kingman is about $2.25 per ton, which includes all back freight on supplies. From the portal of the tunnel to Barry, the nearest railroad point, the distance will be seven miles instead of twelve, and no hills to climb as now. This cost can be reduced to less than half.

Therefore the total operating cost to put the product on the cars ought not to exceed $4.00 per ton, and $5.00 per ton should include the necessary continuous development of the property when operating at a capacity of 200 to 250 tons per day.

The property in its present condition is much more promising than the adjoining Golconda mine was with similar development. The veins and ore shoots are more numerous. The ore shoots are longer and will undoubtedly go to as great depth. The average width of the ore is as great, if not greater than that found in the Golconda. The value of the ore consists in gold, silver, lead and zinc, instead of zinc with some gold. Owing to the lead contents in the ore, the tonnage per cubic foot is considerably greater than a similar type of zinc ore deposit in the Golconda mine.

I consider the property a most promising one from every point of view, and I unhesitatingly recommend its development along the lines suggested. This development can be done quickly and with the initial outlay of comparatively little money, but when once started, the work must be sustained as the results justify.

In view of the favorable results that are practically assured from this development, I think it is advisable to make immediate arrangements for certain changes in the organization

of the company, in order that you are properly represented on its directorate in return for financing the proposed development.

Respectfully submitted,

(signed) STUART CROASDAILE,

Mining & Metallurgical Engineer.

Denver, Colorado,
May 20th, 1918.

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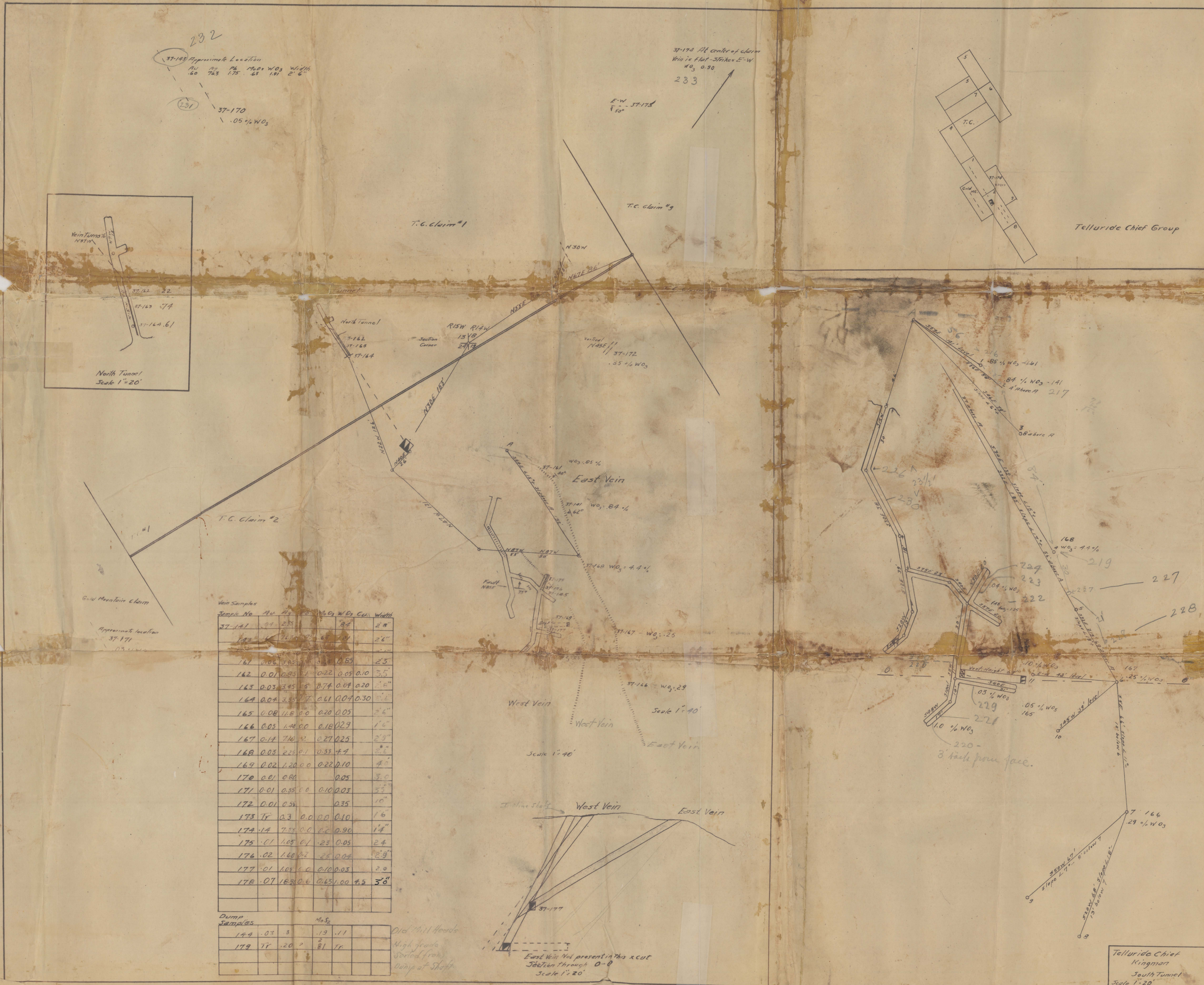

Vein Samples

Sample No	Au.	Ag	[illegible]	MoO3	WO3	Cu.	Width
37-141	.94	2.35			.84		2'8"
143	[illegible]	76.3	1.75	.63	1.91		2'6"
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
161	0.06	3.85	[illegible]	[illegible]	0.85		2'3"
162	0.01	0.85	0.1	0.22	0.05	0.10	3.5
163	0.03	3.45	1.5	0.74	0.04	0.20	2'8"
164	0.04	3.55	1.7	0.61	0.04	0.30	2'6"
165	0.08	11.8	0.0	0.20	0.05		2'6"
166	0.03	1.40	0.0	0.18	0.29		1'6"
167	0.14	7.10	.2	0.27	0.25		2'9"
168	0.03	2.25	0.1	0.33	4.4		2'6"
169	0.02	1.20	0.0	0.22	0.10		4'0"
170	0.01	0.80			0.05		3.0
171	0.01	0.35	0.0	0.10	0.03		3'5"
172	0.01	0.56			0.35		10"
173	Tr	0.3	0.0	0.0	0.10		1'6"
174	.14	7.55	0.0	0.0	0.90		1'4"
175	.01	1.05	0.1	.23	0.05		24
176	.02	1.60	0.2	.25	0.04		2'9"
177	.01	1.05	0.0	0.10	0.03		2.0
178	.07	18.90	0.6	0.63	1.00	4.5	3'0"

Dump Samples

Sample	Au.	Ag		MoS_2			
144	.03	.3		.19	.11		
179	Tr	.20	?	2 .81	Tr.		

Old Mill Heads
High grade Sorted from Dump at Shaft