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# Report of Supervising Engineer

Docket No B-ND-4446

Date Authorization by Examiner

Received Oct 5, 1942

Date of Examiner's decision Oct 29, 1942

Date of Report Mar. 20 1942

## 1. Name + Address of Applicant

Name - John and Dean - a mining partnership

Address - Patro Hotel

City + State - Phoenix, Arizona

Correspondent - Leonard M. John, same address.

## 2. Character of Project

To develop a tungsten prospect.

## 3. Location of mine - 'Climax' mine

Township, range, section - approx T8N, R3W, 14th and

Salt River Base + Meridian

Country and state - White Pine Co District, Mendenhall  
Mts, Yavapai Co, Arizona

Name and distance by road nearest railway station -

Mormontown on the Santa Fe Railroad  
is 12 1/2 miles by road from the 'Climax'  
mine camp. Of this 12 1/2 miles distance  
5 miles is by poor dirt road and  
the balance is good graded dirt road.  
It will be necessary to construct  
about one half ~~to~~ mile  
of road to gain access to the near  
present tunnel.

#### 4. Applicant

The applicant Mr. L. M. Tobin is a man of 65 years of age who claims he has had thirty years experience in mining. He also stated that he has never worked for wages but has always worked for himself as a leaser or mill cleanup man. Tobin also ~~stated~~ says that he attended the University of Texas engineering school but did not graduate and that he was a member of the Royal Canadian Engineers during World War No 1. It is my opinion that he is not a particularly good mining man as he is not an engineer, has never had to produce ore at a profit for a mining organization, and he is a little too old and frail to push a job efficiently. Moreover he is entirely without funds at the present time and at the time of my visit to the property had some difficulty in finding the claims. He wishes to operate the property himself and is very positive that he has the ability to produce ore from the mine. Due to my belief that his mining ability is still to be proven I recommend that the first disbursement under this loan be limited to \$7000.00

#### 5. Loan Requested

The applicant requests a loan of \$10,000. ~~However~~  
if

#### 6. Description of Project

##### A. General Features

1. Camp. - Within a mile of the Clinch Tungsten claims there is a small camp consisting of about six frame houses and a <sup>water</sup> well. This camp is owned by M. Pachen the fee owner of the Clinch claims. While this camp is not under lease to the applicant under this project I have recommended that the applicant use these

Cabins for the preliminary development of these claims in order to avoid the expense of constructing a new camp.

2. Mill - Mr. Chas. W. Jolly in his letter of Sept. 30, 1942 concerning this docket has requested the supervising engineer investigating this project "to obtain as complete information as possible with regard to the Vulture mill as a custom mill for tungsten ore, because it may be useful to us for future reference".

I examined the Vulture mill and talked with the operator Ernest R. Dickie, a competent mill man and one of the owners of the mill. In the past this mill was operated as a cyanide mill treating gold ore and tailings from the Vulture mine but the mill is now idle. Since the mill contains two ball mills of 200 ton capacity each Mr. Dickie plans to convert one mill to the treatment of sulfide copper ore for a nearby property by adding a jig and flotation cells to the grinding circuit. He has made no definite commitments for the use of the other ball mill, jigs, and flotation cells he now has. Dickie informed me that some months ago the U. S. Vanadium Corp. discussed with him the use of half of his mill to treat tungsten ore they hoped to develop in this area but he has had no further word from them. However he stated that he would be glad to cooperate

with any organization that desired to use ~~his~~ part of his mill for the treatment of tungsten ore. However he is not financially able to personally convert his mill to tungsten work without a small amount of financial aid. The present mill equipment is in good shape and is electrically driven by power produced by diesel engines. Principal conversion cost would be labor for re-arranging the present equipment. A partial list of the equipment now at the Thulme Mill consists of :-

- 1 - Allis Chalmers 322 R gyratory crusher
- 1 - 14x24 jaw crusher
- 1 - Hendrie + Balt Hoff 18" rolls
- 5 - large ore bins with belt conveyors
- 2 - 200 ton ball mills
- 1 - 9 ft's screw classifier
- 2 - Denver pulsating mineral jigs
- 2 - double deck vibrating screens
- 2 - Deister sand tables
- 2 - Wilfley slime tables.
- 1 - large tractor with bulldozer blade
- 1 - 1/4 yd power shovel
- 1 - 6 cylinder Union Diesel with 200 kw a.c. generator.
- 1 - 5 cylinder Bantz diesel with 175 kw a.c. generator. Diesel (needs new heads)
- 1 complete cyanide plant.
- Various flotation cells (not inspected)

2. The proposed project should comply with all compensation and safety first statutes
3. Attached to this report is a copy of the applicants lease on the Clinton claims
4. Also attached to this report is a letter from the applicant in regard to rights of the proposed road. Since this is not a well known mining district I do not believe there are any <sup>claims or</sup> private land located along the proposed roadway.
5. No likelihood of surface or subsurface trespass

~~Enclosed with this report is~~

#### B. Existing Development

1. This is an ~~area~~ undeveloped prospect with practically no development work done to date. The vein has been partly exposed by a 20 foot tunnel but this tunnel does not follow the narrow high grade ore but was driven in the footwall of this vein. Attached to this report is a <sup>vertical</sup> section along the <sup>strike</sup> plane of the vein showing the location of the sample taken, the existing work, and also the proposed development program under this project.

In the Ministry of Arizona Bulletin Vol. VII No 2 entitled Jungster Deposits of Arizona by Cledred D. Wilson we find the following description of the property:

"Wickenburg Mountains, White Pine District -  
On the Clinton claim, about 3/4 mile north of the

2.51  
1.92  
2.43  
2.21

17

Buena Vista, fine grained <sup>sericitic</sup> schist striking eastward and dipping 65° N contains several <sup>scheelite</sup> zones. In December 1940 the principal outcrop, which is traceable for a length of about 100 feet, had been opened by a shallow cut and short adit. This work showed the <sup>scheelite</sup> bearing zone to be about 6 feet wide, ..... The mineralogy of these deposits - garnet, <sup>epidote</sup> epidote, <sup>quartz</sup> quartz, <sup>specularite</sup> specularite, <sup>scheelite</sup> scheelite, and <sup>powellite</sup> powellite - indicates them to be of contact-metamorphic origin".

The Bureau of Mines did some sampling of the Climax Claim and also of the Buena Vista group which is an adjoining group of claims not included in this project. Following is a letter, <sup>of 07-31, 1942</sup> received from J. H. Hedges, District Engineer at Tucson, Arizona for the Bureau of Mines:

" [ Quote ]

The above references cover the geology and ore distribution of this property. As a summary I might add that the ore where exposed shows a 1 foot wide high grade vein on the hanging wall which averages over 2% WO<sub>3</sub>. This vein dips 68° with the horizontal. On the footwall side of this vein there is a mineralized zone some 8 feet wide containing <sup>irregular</sup> spotty patches of scheelite ore. This footwall zone will probably average 0.20% WO<sub>3</sub> but consists of sections that will run as high as 2% and other sections showing only a trace. This whole vein ~~and~~ mineralized schist zone can be traced with the mineralite for a distance of 250 feet up the hillside above the tunnel and for a distance of about 175 feet down the hillside below the

6

tunnel but since no work has been done along this outcrop except at the tunnel the value of ~~the~~ extent of the ore along this zone cannot be determined, unless surface trenching is done. Furthermore the 20 foot tunnel is not in the 1 foot wide rich ore but it is in the footwall so little information <sup>at depth</sup> can be obtained from the tunnel.

### C Proposed Development.

1. After thoroughly discussing this project with Mr. John the correspondent the following development plan was agreed upon:
  1. To build a 1500 foot road from the end of the present road to the proposed tunnel site. If possible this road will be built with Access Roads money or if necessary with loan funds.
  2. To dig a few preliminary trenches along the vein, below the present tunnel to determine the exact location for the proposed tunnel portal.
  3. Drive a 250' drift along the ore zone and at a vertical depth of 75 feet below the present shaft tunnel.
  4. It is estimated that this preliminary work will cost not more than \$2000.00. No further work to be done unless this drift develops pay ore.
  5. If this drift proves ore at depth additional funds can be under the loan can be used to drive the 20 foot drift ahead and connect the two drifts with



raises, thus blocking out a substantial volume of ore. Ore could then be mined by cut and fill methods, using the low grade for stone fill and shipping the high grade picked ore. Later if a mill is justified this low grade fill could be drawn and used as mill feed.

Proposed Development Plan and Cost Estimates

Road

1500' of road to be constructed from Packer Camp to Tunnel sets. To be built by Access Roads Funds or by Loan funds if necessary.

\$1000.00 14%

Camp

As many cabins as possible to be used at Packer's Camp where Domestic water is available.

Additional facilities to be purchased, tent, kitchen equipment, beds, etc

200.00 3

Trenches

Preliminary trenches to define vein and prepare for compressor location and tunnel portal

100.00 1

Equipment (used)

- 1 used Prebump truck 250.00
- 1 used Compressor + engine 1000.00
- 1 jackhammer 150.00
- Air + water hose, steel, bits, water pressure tank etc. 100.00
- 250' of 2" pipe 30.00
- 1 - tram car 50.00
- 500' of light mine rail 50.00
- Timber for tunnel portal and drifts 70.00
- Tools, etc 100.00

1800.00 26

8

continued

Drift - 5x7 size 250' long  
Using 1 shift per day and  
3 men:

1 miner \$7/day

1 mucker \$6/day

1 surface man \$5/day

Advance 4 ft/shift

Total Time 65 days for drifting

Cost \$12 per foot for 250'

3000.00 43

General Overhead & Misc Costs

Supervision (Tobin) 3 months at \$200/man \$600.00

Insurance deposit 150.00

Reserve for contingencies 150.00

Total misc cost

900.00 13

Total Cost of Project for three months

7000.00 100%

D. Equipment

at the present time there is no equipment of any kind on the property. The applicant feels positive that he will be able to purchase the need equipment and supplies necessary for this project.

No mill is contemplated under this project. For future reference there seems to be no permanent water supply in this area. Domestic water supply can be obtained by means of shallow wells in the many washes in this district.

at the present time there is no custom mill in this district able to handle tungsten ore. However I understand that C. A. Jacobs of Ineson buys tungsten ore. The freight charges from Mountain to Ineson should not exceed \$3 per ton so on

1%  $WO_3$  ore a profit could <sup>undoubtedly</sup> ~~perhaps~~ be made on shipping ore to Tucson. Furthermore it is possible that the Kulture Mill could be used as <sup>described</sup> ~~covered~~ earlier in this report.

## 8. Objections to Project

1. The chief objection to the project is the lack of definite geological information as to the extent of ore along the vein and at depth. Present prospecting ~~development~~ work is so scanty that few if any conclusions can be drawn as to the amount of ore that can be expected as a result of the proposed development program.
2. The applicant in my opinion is not an aggressive and experienced mine operator. However he should be able to carry out the proposed development work and she appears to be on about an average with other applicants I have interviewed on other projects.
3. Lack of milling facilities may be a future objection to the production of tungsten for this project.
4. There is not enough probable ore exposed in this deposit to repay the projected loan.
5. Actually the proposed work is more in the form of prospecting <sup>rather</sup> ~~than~~ <sup>rather</sup> ~~than~~ of developing known ore bodies.

⑫ Comments of Supervising Engineer

I recommend that a loan of \$7000 be granted on this project for the following reasons:

1. For a comparatively small amount of money the ore prospects for this deposit and perhaps for this district can be definitely proven.

2. There is definitely exposed on small tonnage (25 tons on dump and estimated 100 tons exposed by tunnel) of ore that will average 1%  $WO_3$  or \$24 per ton. The <sup>gross</sup> value of the ore now on the dump is \$600 and the probable value of the ore in <sup>and around</sup> the tunnel is \$2400.

~~3. The amount of ore in this deposit is~~

3. Whether this project will become a good producer of tungsten or not will be determined by the proposed development work.

4. There should be no difficulty in milling and concentrating this ore.

5. The property vein can be developed <sup>cheaply</sup> ~~economically~~ by means of adit tunnels.

6. I believe sufficient "shipping" ore of 1% grade will be developed on this property to pay back a \$7000 loan altho I cannot ~~quite~~ justify this belief by any ~~open~~ geological conclusions.

William B. Marshall

Supervising Eng.

24  
25  
120  
48  
600

# Assay Record

Sampler	No	Width	% WO <sub>3</sub>	Value @ \$24/unit	Mineralite Used	Location of Sample
Maitland	1	Grab	2.02	48.48	No	Grab from 25 ton ore dump <sup>High grade</sup>
"	2	2'	0.17	4.08	"	South edge of tunnel portal
"	3	4'	0.01 (Tr)	0.24	"	Face of 20' tunnel
"	4	3'	0.54	12.96	"	North edge of tunnel portal including <sup>High grade</sup>
"	5	Grab	0.51	12.24	"	Grab from 25 ton ore dump average
"	6	Grab	0.01 (Tr)	0.24	"	From outcrop 250' east of tunnel
"	7	Grab	0.01 (Tr)	0.24	"	From " 175' west of tunnel
"	1a	1'	2.51	60.24	Yes	Across High grade at tunnel portal
"	2a	Grab	2.04	48.96	"	Grab from 25 ton ore dump <sup>High grade</sup>
Total	9	—	0.869%	20.85	—	Numerical Average of 9 samples
Bureau of Mines	Compare Maitland No 2a	About 1'	1.92	46.08	Yes	W.E. McMillan - along 10' of vein at tunnel
"	Compare Maitland No 2a	Grab	1.54	36.96	"	" " - From sorted ore on dump
"	Compare Maitland No 1, 2a	Grab	2.27	54.48	No	John M. Price - General sample of ore
"	Compare Maitland No 4	3'	0.46	11.04	"	" " " - Average over 3' across fissure north side of tunnel
"	Compare Maitland No 3	4'	0.01	0.24	"	" " " - Face of tunnel
"	Compare Maitland No 5	Grab	0.78	18.72	"	" " " - Average ore on dump, about 40 tons
Total	6	—	1.163%	27.92	—	Numerical Average 6 samples
Grand Total	15	—	1.02%	24.38	—	Numerical Average of 15 samples

E + M J Oct 1942 Tungsten price 65% + up Domestic \$26.00/unit WO<sub>3</sub>

Prices at mines, small lots, usually several dollars less

For this report the assumed price is \$24.00/unit WO<sub>3</sub> at S.F. RR at  
Morristown, Ariz

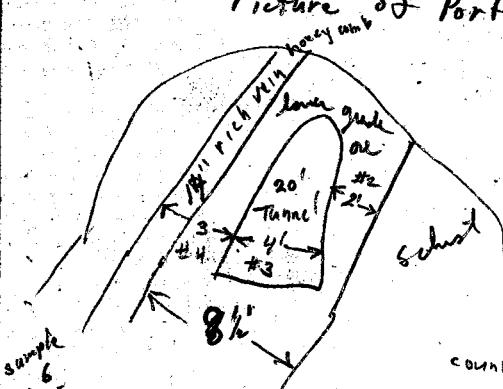
Assume 1 ton of picked ore of plus 1% WO<sub>3</sub> for every 2 tons  
of low grade ore 0.10% WO<sub>3</sub> mined

The above samples taken by me were assayed first by  
the Arizona Testing Lab, <sup>Samples No 1, 2, 3, 4, 5, 6, 7</sup> but results were not found satisfactory after  
examination <sup>of the samples</sup> with the Mineralite so the rejects of some of these pulps, <sup>No 1, 2, 4, 5</sup> were  
sent to E. A. Jacobs a tungsten specialist. Also the property was partly resampled  
<sup>(Samples No 1a, 2a)</sup> at night with the use of Mineralite and these samples also were sent to  
Jacobs for assay. In the above table Jacobs assays were used where  
possible as they are considered more reliable.

Tobin & Dean Tungsten

Oct 29, 1942

Picture of Portal of 20' tunnel



#1 Sample of best high grade from vein & dump by Tobin.

25 tons on dump of ore

Strike EW dip 68°N

In diorite schist dark gray country rock

Ore is honey comb schist belt

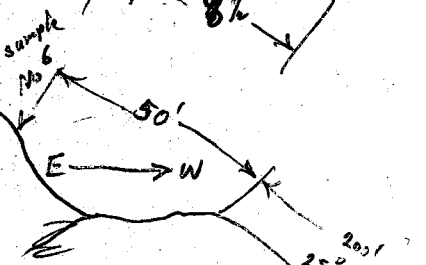
rich in garnet & epidote with quartz seams.

Some black ferro magnesium minerals

#2 sample 2' S of tunnel portal

#3 " 4' Face of tunnel

#4 " 3' N side tunnel portal + including high grade schist



Sample #7

#5 Grab off 25 ton dump

sample #7 Grab from tunnel site vein outcrop 4' wide

#6 Grab off wide outcrop 250' up slope from tunnel

No 1 across 1' of rotten rock  
at portal

No 2 picked with grade rock

No 3 dump 3.24% Col Assaying  
Co Denver

# E. A. JACOBS

30 S. MAIN ST.

P. O. BOX 1889

CERTIFICATE OF ASSAY

REGISTERED ASSAYER

Certificate No. 40386

TUCSON, ARIZONA, Nov 16 1912

Sample Submitted by Mr. Reconstruction Finance Corp Phoenix Ariz

ALL SAMPLES ASSAYED IN DUPLICATE

WE DO NOT QUOTE ON SINGLE WORK

SERIAL	SAMPLE MARKED	<del>GOLD</del> OZS PER TON ORE	<del>GOLD</del> VALU PER TON ORE *	<del>SILVER</del> OZS PER TON ORE	<del>COPPER</del> PER CENT WET ASSAY	<del>LEAD</del> PER CENT WET ASSAY	<del>PER CENT</del> WET ASSAY
103477	#1-BARR. 4446		\$		2.02	WO <sub>3</sub>	
478	#2 " "		"		0.17	"	
479	#4 " "		"		0.54	"	
480	#5 " "		"		0.50	"	
481	#1 A		"		2.57	"	
482	#2 A		"		2.04	"	
<p><u>Mr Wm B. Maidland</u> <u>Superintending Engineer.</u></p>							

Gold Figured \$        per oz. Troy

Very Respectfully

Charges \$ 30.00 control

E. A. Jacobs



# ARIZONA TESTING LABORATORIES

ANALYTICAL AND CONSULTING CHEMISTS  
ASSAYERS, MINING ENGINEERS  
823 EAST VAN BUREN STREET

## ASSAY CERTIFICATE

PHOENIX, ARIZONA November 2, 1942

Mr. W. H. Weiland, Engineer, 110

325 Board Building, Phoenix, Arizona

WE HAVE ASSAYED THE SAMPLES RECEIVED FROM YOU AND FIND THE RESULTS AS FOLLOWS:

GOLD FIGURED AT \$ \_\_\_\_\_ PER OUNCE.

SILVER FIGURED AT \$ \_\_\_\_\_ PER OUNCE.

LAB. FORM 2

LAB. NO.	SAMPLE <u>R-110-4446</u>	GOLD		SILVER		PERCENTAGES		
		OZ. PER TON	VALUE	OZ. PER TON	VALUE	COPPER	LEAD	Antimony (10%)
45311	41							1.45% <i>He-assay</i>
45312	42							Trace
45313	43							Trace
45314	44							Trace 0.48
45315	45							Trace 0.42
45316	46							Trace
45317	47							Trace



RESPECTFULLY SUBMITTED,  
ARIZONA TESTING LABORATORIES

BY Claude E. McLean  
CLAUDE E. McLEAN  
ASSAYER

CHARGES \$ 21.00

# ARIZONA TESTING LABORATORIES

ANALYTICAL AND CONSULTING CHEMISTS

ASSAYERS, MINING ENGINEERS

823 EAST VAN BUREN STREET

## ASSAY CERTIFICATE

PHOENIX, ARIZONA November 2, 194 2

Mr. Wm. B. Waitland, Engineer, RFC

325 Heard Building, Phoenix, Arizona

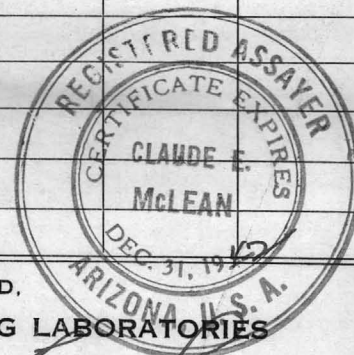
WE HAVE ASSAYED THE SAMPLES RECEIVED FROM YOU AND FIND THE RESULTS AS FOLLOWS:

GOLD FIGURED AT \$ \_\_\_\_\_ PER OUNCE.

SILVER FIGURED AT \$ \_\_\_\_\_ PER OUNCE.

LAB. FORM 2

LAB. NO.	SAMPLE	GOLD		SILVER		PERCENTAGES			
		OZ. PER TON	VALUE	OZ. PER TON	VALUE	COPPER	LEAD	Tungsten (WO <sub>3</sub> )	
	<b>B-ND-4446</b>								
45311	#1							1.45%	Re-assay
45312	#2							Trace	
45313	#3							Trace	
45314	#4							Trace	0.48
45315	#5							Trace	0.42
45316	#6							Trace	
45317	#7							Trace	



RESPECTFULLY SUBMITTED,

ARIZONA TESTING LABORATORIES

BY

*Claude E. McLean*  
Claude E. McLean

ASSAYER

CHARGES \$ 21.00

# Road Construction

1500' of road to build perhaps by Access roads  
maybe by Tobin \$1000.00

2  
1.5  
30  
Camp. Tents, cook house eqmp, beds 200.00  
Preliminary developing of trenches to define vein  
and for portal of tunnel 100.00

## Equipment

	Pickup used	250.00	
	Compressor	1 500.00	
12	Jackhammer	150.00	
4 1600	Hose, steel, photo	100.00	
	Pipe 2" 250'	30.00	
	Car	50.00	
	Track 500' single rail 8"	50.00	
	Timber, portal + ties	70.00	
\$ 3100	Tools,	<u>100.00</u>	
			1800.00

Drift 5x7-  
 1 surface \$5/day  
 1 timber \$6/day  
 1 shaft 3 men - 1 miner - \$7/day  
 \$1/shift \$12/ft for 250' 63 days 3000.00  
 Suspensions 2 months <sup>drift</sup> @ \$200 400  
 " 1 month preliminary work 200  
 Total insurance deposit 150.00  
 Reserve for contingencies 150.00  
\$7000.00

6  
4)25  
250  
12  
300  
250  
3000  
62  
4)250