



## **CONTACT INFORMATION**

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PRINTED: 11/19/2001

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: LEROY MINE

ALTERNATE NAMES:

BLACK HAWK  
CLIMAX  
COMET  
GOLD QUEEN  
JACK DEMPSEY  
STANDARD  
LOST HOPE  
ONEIDA

COCHISE COUNTY MILS NUMBER: 83

LOCATION: TOWNSHIP 14 S RANGE 27 E SECTION 27 QUARTER SW  
LATITUDE: N 32DEG 11MIN 04SEC LONGITUDE: W 109DEG 33MIN 57SEC  
TOPO MAP NAME: DOS CABEZAS - 7.5 MIN

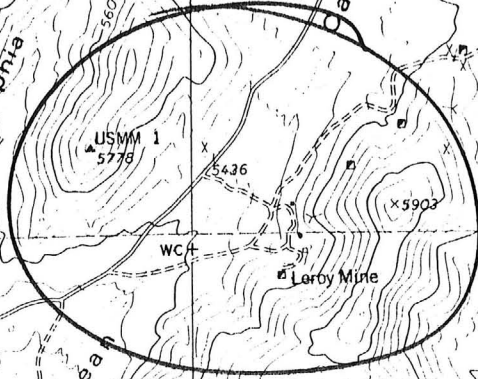
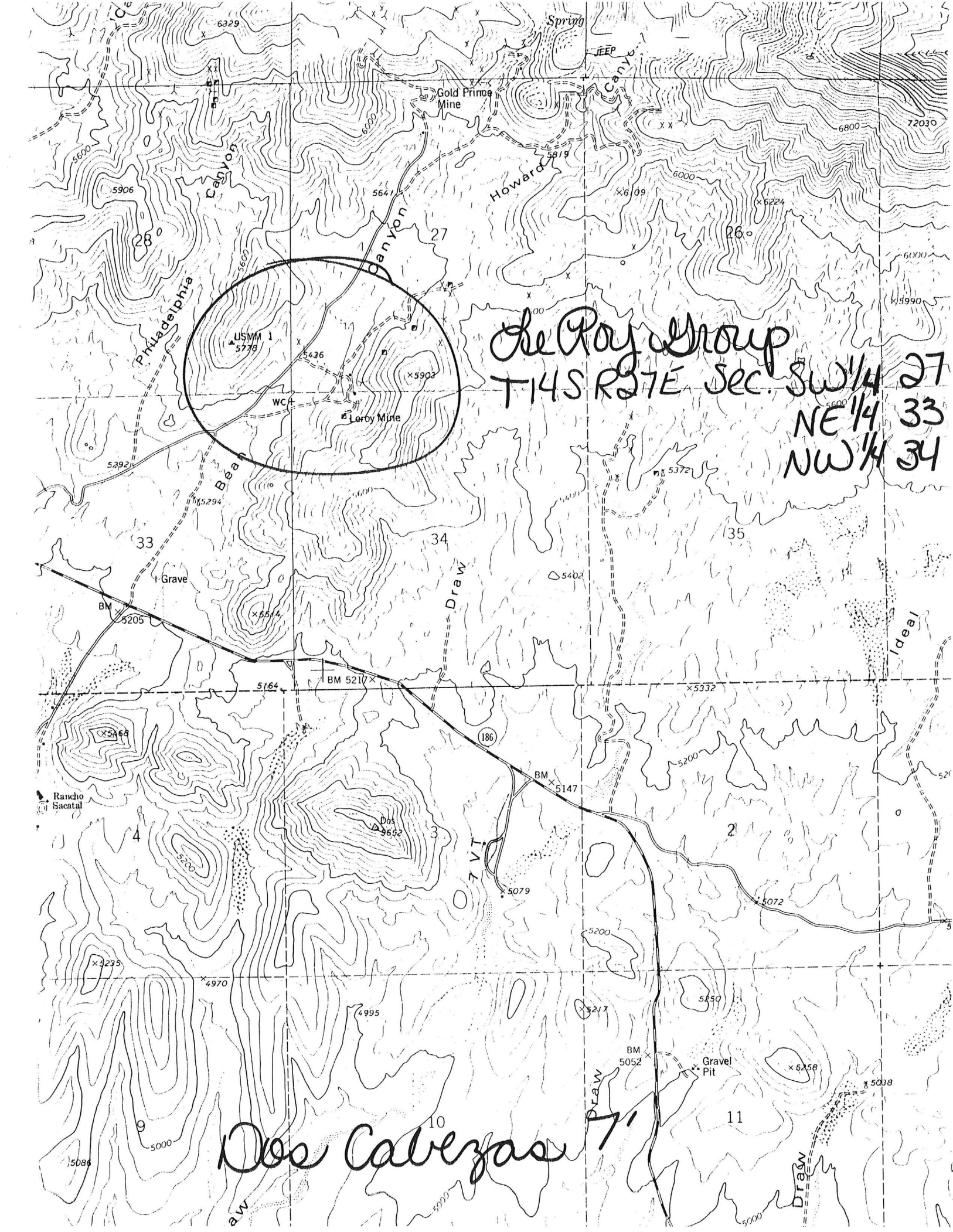
CURRENT STATUS: PAST PRODUCER

COMMODITY:

LEAD SULFIDE  
ZINC SULFIDE  
SILVER  
COPPER SULFIDE  
GOLD LODE

BIBLIOGRAPHY:

KEITH, S.B., 1973, AZBM BULL. 187, P. 62  
ADM MR LEROY MINE FILE  
USAEC 172-478, P. 25  
MINES HANDBOOK, 1926  
AZBM BULL. 137, P. 120-121  
ADDNL HOLDING IN T14S-R27E SEC. 33 & 34  
USBM 1949 MINERALS YEARBOOK



The Roy Group  
T14S R37E Sec. SW 1/4 27  
NE 1/4 33  
NW 1/4 34

Los Cabezas 7'

Rancho Sacatal

Draw

Draw

Draw

Draw

Philadelphia Canyon

Howard Canyon

Spring

JEEP

Gold Prince Mine

Lorby Mine

Grave

Gravel Pit

33

34

35

4

3

2

9

10

11

5906

6329

6000

5819

6800

72030

5641

6000

56224

5990

5778

5436

5903

5292

5294

5600

5372

5205

5514

5402

5164

BM 5217

5332

5269

186

BM 5147

5079

5072

5235

4970

4995

5277

5450

5459

5008

5086

5000

5000

5000

5-17-57

✓  
LEROY MINE  
DOS CABEZAS DIST.  
COCHISE COUNTY

✓  
Optioned by O'Keefe Dev. Company

✓  
John J. O'Keefe,  
Consultant Petroleum Engr. - Geol.

822 E. Compton Bldg.,

Compton, California

& 8 others.

k

Copy of Mine Owners Report covering property listed with the  
Department of Mineral Resources has been furnished to -

Chas. E. Lees, 240 N. Cliffwood Ave., Los Angeles, Calif.

DEPARTMENT OF MINERAL RESOURCES  
J. S. Colpal, Director

LE ROY

Au, Ag, Pb, Cu, Zn

Cochise

2 - 2

T 14 S, R 27 E

W. I. Crawford, Box 4, Patagonia

'44

NAME OF MINE: LE ROY ✓

COUNTY: COCHISE

DISTRICT: \_\_\_\_\_

METALS: PB, ZN ✓

OPERATOR AND ADDRESS:

MINE STATUS

<u>DATE:</u>	<u>OPERATOR AND ADDRESS:</u>	<u>DATE:</u>	<u>MINE STATUS</u>
5/1/44	Thomas Bean, Dos Cabezas ✓	5/1/44	Financing
12/44	Jas. R. Cray, 1916 E. 1st St, Tucson		✓
1/47	Dorsey Bros., Dos Cabezas	2/47	Shipping

LE ROY MINE

COCHISE COUNTY  
DOS CABEZAS DISTRICT  
T14S R27E Sec. SW $\frac{1}{4}$  27  
NE $\frac{1}{4}$  33  
NW $\frac{1}{4}$  34

AEC 172-478 p. 25

See: ~~Eagle-Picher "C" Confidential files~~ *Chapman report*  
*Now in this file*

ABM Bull. 187, p. 30

" "

MILS Sheet sequence number 0040030169

MILS Cochise County Index #83

AKA: Black Hawk, Climax, Comet, Oneida, Gold Queen, Jack Dempsey, Standard, Lost Hope,  
War Eagle

See: Map I-1310-B P. 51; Mineral Deposit Map of the Silver City 1<sup>0</sup> x 2<sup>0</sup> Quad., NM & AZ

Dos Cabezas 7' Quad (included in file)

ARIZONA NEWS - WILL COX 3/4/66

LEROY MINE

OCHISE COUNTY

MG WR 8/16/85: Visited the LeRoy mine (Cochise Co). The dump at the Climax (southern) shaft is large. The headframe and Fairbanks Morse hoist are in poor to fair condition. Although the shaft collar needs repair, the 2-compartment shaft appears to be in good condition. It is inclined about 75°. There is a small amount of mill tailings below (west) of the shaft. There are several buildings in good condition east of the shaft and a residence north of the shaft. One of the buildings contains several hundred feet of drill core. I understand that the owner, Mr. Edgar Anderson, lives with his daughter and son-in-law, Ruth & Paul Avila, Taylor Road, Willcox, Az. phone 384-2868.

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LeROY MINES

COCHISE COUNTY  
DOS CABEZAS DISTRICT

Do Not Reproduce

The Gordon Miles Mining Company of Dos Cabezas and Beverly Hills, Calif. are in the process of reactivating the old, Hyde, Climax and Le Roy mines at Dos Cabezas. Some drilling has been done. (This is the Tom Bean holdings). GWI Quarterly Report 6-30-70

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Mine Visit - Headframe down at the Leroy mine. GWI WR 12/5/70

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The Gordon Miles Mining Co. has been active, staking claims etc. at Dos Cabezas. GWI Quarterly Report 10-1-70

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The Gordon Miles Mining Co. at Dos Cabezas is still prospecting around the Dos Cabezas area. GWI Quarterly Report 12-31-70

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Mine visit - Climax mine. Not working at present. GWI WR 2-8-71

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Dos Cabezas Mts.: The Gordon Miles Mining Co. is looking around in the range. They did a little work at the LeRoy and Climax. GWI QR 4-1-71

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The Gordon Miles Mining Company is still looking around in the Dos Cabezas district with headquarters for their exploration at Dos Cabezas. GWI QR 6-30-71

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The Gordon Miles Mining Company at Dos Cabezas is still acquiring claims. GWI QR 9/71

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The Gordon Miles mining co. at Dos Cabezas has acquired some claims near the Mascot mine, Dos Cabezas and have been reported to have been working on a deal with the Tout interests. GWI QR Oct-Dec '71

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Learned in the field that Mr. Charles Lee of the Gordon Miles Mining Company of Dos Cabezas, Arizona, Beverly Hills California, had been doing a little drilling up on the Central Copper property which they have possession of at the present time. Other than that and some little assessment work in the area, very little work is being done at the present time. GWI WR 10/3/72

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Le Roy

LEAD-ZINC QUESTIONNAIRE

October 22 1957.

Do you approve of the Emergency Lead-Zinc Committee's seeking relief for the lead-zinc industry and has it your authorization to speak for you? yes

What Arizona Mines and Mills in the lead-zinc class do you control?

(1) None at this time

(2) \_\_\_\_\_

Which ones are operating? (1) None (2) \_\_\_\_\_

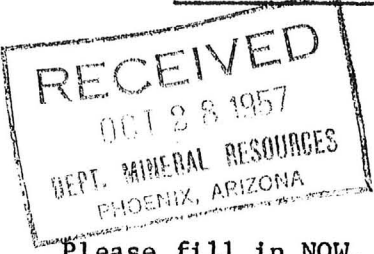
If not operating, when shut down? (1) \_\_\_\_\_ (2) Early Fall

Number employed, prior to shut-down, in mine, mill or sections thereof producing lead or zinc ores? (1) 4 (2) \_\_\_\_\_

Number so employed on January 1, 1957? (1) 4 (2) \_\_\_\_\_

Number so employed on October 1, 1957? (1) 0 (2) \_\_\_\_\_

Remarks No returns possible under present conditions.



Jyone Mining Co.  
Company

By: William D. Fencil  
Signature

Please fill in NOW, tear off, and mail to:

Arizona Department of Mineral Resources  
Mineral Building, Fairgrounds  
Phoenix, Arizona

Department Mineral  
Resources.

Dos Cabezas  
Arriz Aug-19/50

Mr. Chas. H. Dunning:

In regard to your letter of July 19/50  
My Le Roy Mine is being worked by  
Taylor & Dorsey, as leasee. We will  
ship 50 to 60 tons of ore every 40 to  
60 days. Average in lead value should  
be 25%, also contains zinc, gold & silver.  
This last one we have opened up in large  
for us. 11 feet wide in some places. and  
3 feet of Steele Galena in others.

The property is not for sale, under the  
ordinary run of buyers. And I would not  
be interested in a loan, I don't think  
it would help us any at present time.  
Conditions may change one way or the  
other any time. But as long as we have  
good shipping ore available we of course  
would not need any help.

Now I have just obtained another  
property in Wood Canyon. That in my  
opinion will develop into a good  
lead producer and may show up  
a lot of Scheelite. Indications are  
it will. There are two drawbacks one  
is that about 1 1/2 miles of road

would have to be constructed, And about  
4 miles of already existing road  
would have to be repaired, This however  
could be done at no great expense.  
The property could be developed by tunnel  
by driving along vein or mineral fault  
for a distance of 1200' to 1500' feet  
This amount of work should determine  
the value of the property. And I am  
sure it will be good. The vein is big enough  
The average width should be 3 to 4 feet wide  
Formation is favorable for lead and copper  
Also Tungsten. The mine operated on small  
scale as a high value silver mine some  
50 years ago, Not over 200' feet of work  
was done at that time and very little  
sense.

The whole property as it now stands  
consists of one claim. More could be had  
by location. We are open for a deal on  
this claim. are if the government set  
up on loan's is are becomes favorable  
I may consider a loan. However you  
know I was not interested in the  
old set up we had. As you know when  
I start a mine I am reasonably sure of  
some shipping or e. Milling one takes to long  
and costs too much. Some one else can take  
over when it reaches that stage.

Yours Very Truly  
J. P. Bean  
Box 5 MacCabe Ariz.

cc mailed  
5000 - 3/5/46

DEPT. MINERAL RESOURCES  
RECEIVED  
MAR 5 1946  
PHOENIX, ARIZONA

Sunnyslope,  
Prescott, Ariz;  
March 4, 1946

Department of Mineral Resources,  
Phoenix, Ariz;

Att: George Ballam:

Dear George:-

Herewith the data on the LeRoy property at  
Dos Cabezas which you so kindly let me have a few weeks  
ago. Thank you very much for it.

I was not able to get away to have a look at  
the mine until last week when I spent the better part of  
three days there. I had a nice visit with Mr. Bean who was  
very cooperative. He lacks definite data on the underground  
situation and there are no assay maps or longitudinal  
sections available so that it is practically impossible to  
get any sort of an accurate picture of what one might expect  
if he reopened the mine. Incidentally, Mr. Bean claims that  
he has the title in good shape, - ~~brought~~ suit last summer  
and finally obtained judgement with clear title last August.

The type of ore deposition is such that a  
geophysical survey should give a good line on what to expect  
and I would not be interested until such a survey was made.  
I may be able to get around to having that done if I can't  
find something more attractive in the near future. At any  
rate, I am not now interested, so there is no reason why  
the Department should not present the data to other potential  
purchasers so far as I am concerned. Mr. Bean has promised a  
lease on the LeRoy shaft to some local people and I told  
him that I thought he should go thru with it if he is satisfied  
with the ability of the other party to do what is necessary.

Thanking you again for the dope,

Sincerely,

Fred Gibbs.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine            Le Roy Mine ✓  
Date            June 15, 1955.  
District        Dos Cabezas Dist., Cochise County    Engineer        Axel L. Johnson  
Subject:        Present Status --- Information from Thomas P. Bean, Owner. ✓

For location and other information, see report of October 13, 1954.

Present Status    This mine is now closed down.    Very little work was done by the former lessee since the date of last report, and the mine is now open for leasing to an other party.

Proposed Plans    The owner, Mr. Bean, ✓ is now negotiating with another company in regard to leasing of the property.

ARIZONA DEPARTMENT OF MINERAL RESOURCES  
Mineral Building, Fairgrounds  
Phoenix, Arizona

Via Telephone

1. Information from: Charles Lee  
Address: Dos Cabezas Star Rte
2. Mine: Hyde - Climax - Le Roy 3. No. of Claims - Patented 7  
Unpatented ?
4. Location:  
27-28-33-34
5. Sec        Tp 14 S Range 27 E 6. Mining District Dos Cabezas
7. Owner: Anderson & Bean estate
8. Address:
9. Operating Co.: Gordon Miles Mining Co
10. Address: Dos Cabezas Star Rte Wilcox
11. President: Miles - Kernaghan 12. Gen. Mgr.: Secy T. Gordon Gallup
13. Principal Metals:        14. No. Employed:
15. Mill, Type & Capacity:
16. Present Operations: (a) Down  (b) Assessment work  (c) Exploration   
(d) Production  (e) Rate        tpd.
17. New Work Planned: Want to acquire adjoining properties install  
a - 100 to 200 flotation mill
18. Misc. Notes: Charles Lee -> Consulting Geologist Engineer at present  
time working as Project Eng.  
L. Stuchardt working for Co

Date: 8-13-70

glw  
(Signature)

(Field Engineer)

**U.S. DEPARTMENT OF MINERAL RESOURCES**  
**Mineral Building, Fairgrounds**  
**Phoenix, Arizona**

1. Information from: L. Stichradt  
Address: Dos Cabezas
2. Mine: Climax (Le Roy Mines) 3. No. of Claims - Patented 7  
Unpatented \_\_\_\_\_
4. Location: Dos Cabezas
5. Sec 20-29 Tp 14 S Range 27 E 6. Mining District Cochise
7. Owner: Mrs. T.P. Bean.
8. Address: Dos Cabezas Ariz
9. Operating Co.: Don't know
10. Address: \_\_\_\_\_
11. President: Charles Lee, Geologist 12. Gen. Mgr.: \_\_\_\_\_
13. Principal Metals: Ag Au Pb Zn Cu 14. No. Employed: \_\_\_\_\_
15. Mill, Type & Capacity: \_\_\_\_\_
16. Present Operations: (a) Down  (b) Assessment work  (c) Exploration   
(d) Production  (e) Rate \_\_\_\_\_ tpd.
17. New Work Planned: \_\_\_\_\_
18. Misc. Notes: Report to holes drilled up to 150'  
deep each last summer

(Taken from GWI Quarterly Report 9/1969) - Roy Lindsey - 6-150' holes at Climax Shaft, Charlie Lee, Geologist. A little exploration work by the owners was done at the Le Roy property. It was dewatered and the shaft repaired. Mr. Anderson also did assessment work on his tungsten claim in Wood Canyon.

Date: 10-7-69

[Signature]  
(Signature)

(Field Engineer)



DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine LeRoy Mines - Climax Shaft

Date April 8, 1965

District Dos Cabezas District, Cochise Co.

Engineer Axel L. Johnson

Subject: Mine Visit. Information from Mrs. Thelma Bean and J.A. Kennedy.

References: Report of Oct. 9, 1964

Present Activity: (1) Shaft repairs, mostly on week ends.  
(2) Pumping water

Review of Recent Operations: Since report of Oct. 9, 1964, the shaft has been repaired down to a depth of 150 ft. below the collar, - to about 8 ft. below the 142 ft. level.

The top 32 ft. is concreted as shown in the Oct. 9, 1964 report. Some concreting was done just below the 32 ft. bearing set. Below 40 ft. little timber was required since the shaft is mostly in solid rock at that depth. Sets, however, had to be put in for support of the ladders and shaft runners, which were later installed down to the 142 ft. level.

2 or 3 men are working on weekends.

1 man (J. A. Kennedy) takes care of the pumps. Water is being pumped for about 3 hours every day, and this is estimated at about 2500 gal. per day.

Proposed Plans: Repairing and sampling of the 142 ft. level will be done next, before the shaft is repaired below this level.

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Mine Visit - Mrs. Bean of Dos Cabezas about area activity and on her property. (shaft repairs and dewatering). Have discussed leasing with party from Phoenix.

GWI WR 6/5/65

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Visited LeRoy and Climax property of Mrs. Bean at Dos Cabezas. Mrs. Bean, her sister, Mrs. Violet Beals and brother Mr. Edgar Anderson were at the property having buried Mr. J. A. Kennedy the day before.

GWI WR 2/4/66

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Mine Visit to the LeRoy Mine at Dos Cabezas, according to Mrs. Bean the Joplin Industries had talked about a deal but had given up.

GWI WR 4/8/67

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Mine visit to LeRoy mine at Dos Cabezas. Mr. Anderson at property.  
GWI WR 11-16-68

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Oliver Anderson (Brother of Mrs. Bean) unwatered the Climax shaft down to the 288' level so that the level could be sampled and evaluated. There is supposed to be 300 to 400' of drift on that level. The shaft is 420' and dips 70 degrees to the west. A California company (not identified) is reported to be paying for the dewatering and will do the sampling.

GWI Quarterly Report 3/1969

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# DEPARTMENT OF MINERAL RESOURCES

## STATE OF ARIZONA FIELD ENGINEERS REPORT

Mine LeRoy Mines - Climax Shaft Date Oct. 9, 1964  
District Dos Cabezas District, Cochise Co. Engineer Axel L. Johnson  
Subject: Mine Visit. Information from Mrs. Thelma Bean and J. A. Kennedy.

References Report of April 10, 1964

Present Activity Shaft repairs, mostly on week ends.

Review of Recent Operations The following work has been done at the Climax shaft

- (1) Concreting the top of the Climax shaft down to a depth of 32 ft. below collar.
- (2) Erecting a headframe.
- (3) Installing electric power
- (4) Repairing of old gasoline hoist.
- (5) Repairing old compressor.
- (6) Installing bucket.

Proposed Plans Since the shaft is badly caved below the 32 ft. station, the location of the bearing set, above which the concreting is finished, it is found necessary to add some more concrete shaft sets below this point. Concreting the shaft down to from 39 ft. to 40 ft. below the collar is planned, but additional concreting may be found to be necessary. Further down in the shaft, wooden sets will be used.

The shaft is reported to be 435 ft. deep, with the 1st level at 142 ft. below the collar, and the water level now at 70 ft. below the collar.

As the shaft repair work continues downward, the water will be pumped out to below the 142 ft. level elevation, and the 142 ft. level will be cleaned out, repaired and sampled.

Working on the project, mostly on week ends are J. A. Kennedy, Edgar Anderson and Oliver Anderson, the latter two being brothers of Mrs. Thelma Bean, the owner.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine LeRoy Mines - Climax Shaft

Date April 10, 1964

District Dos Cabezas District, Cochise Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Mrs. Thelma Bean

References: Report of April 11, 1963, & previous reports.

Present Mining Activity: None at present.

Review of Recent Operations: Concreting of the Climax shaft to a distance of 32 ft. below the collar has been completed.

A headframe has been erected.

Electric power is now being installed.

Proposed Plans: It is planned to install a mine hoist, after which shaft repairs and retimbering below the 32 ft. bearing set will be continued. Superficial inspection shows the shaft badly caved below the 32 ft. station, and the water stands at 70 ft. below the collar. It is hoped that the shaft timbers will be in better shape below the present water level.

As the shaft repair proceeds downward, the water will be pumped out, and the 1st level, 142 ft. below the collar, will be examined.

Edgar Anderson and Oliver Anderson, brothers of Mrs. Thelma Bean, will be doing the work, mostly on week ends, and this will be started in a week or two.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine LeRoy Mines - Climax Shaft

Date April 11, 1963

District Dos Cabezas District, Cochise Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Mrs. Thelma Bean & J.A. Kennedy.

References: Report of April 15, 1959, et al

Location: About 2 miles north of Dos Cabezas

Number of Claims: 7 patented claims. On account of overlaps, this is equivalent to about 6 patented claims.

Owner: Mrs. Thelma Bean, Box 5, Dos Cabezas, Ariz.

Principal Minerals: Lead, zinc, copper with high gold & silver values.

Present Mining Activity: Concreting the top of the Climax shaft. 2 men working part time.

Old Mine Workings at Climax

- (1) Climax shaft - 435 ft. deep, slightly inclined.
- (2) 250 Ft. of drifts on the 142 ft. level.
- (3) 750 ft. of drifts on the 288 ft. level.
- (4) Blackhawk tunnel - 400 ft. long, connecting with the Climax shaft @ 15 ft. below the collar.
- (5) Over 500 ft. of crosscuts on the 3 levels.

Review of Present Operations: The top of the Climax shaft was caved in to a depth of about 20-25 ft. below the collar, and requires repairs before any of the lower levels of the shaft can be reached for examination or exploration.

Concreting of the shaft was started at a distance of 32 ft. below the elevation of the original shaft collar, where a bearing set was anchored in solid rock surrounding the shaft. Concreting has now proceeded upward for 25 ft. to a point 7 ft. below the collar. Mr. Kennedy, one of the workers, reported that the concrete walls were 9" thick and that the structure was inclined 4 in. per foot (about 72 degrees). Engineer was unable to get the dimensions of the shaft compartments, as they were covered up to cure the concrete, but will get this information later.

Proposed Plans: (1) To dewater, clean out & repair the shaft to the 142 ft. level. Water has been reported to stand at 70 ft. below collar - but this is not known for sure.

- (2) To clean out, repair & sample the 142 ft. level.
- (3) Sell or lease the property with price & terms to be arrived at later.

Extract from Arizona Lode Gold Mines and Gold Mining - Arizona Bureau of Mines, Bulletin No. 137.

The Le Roy property is  $1\frac{1}{2}$  miles northeast of Dos Cabezas. Its principal claims, which were located in 1878, passed through several ownerships, and were obtained by the Le Roy Consolidated Mines Company prior to 1920. A few thousand tons of gold-silver-lead ore were produced, but no records or estimates of the amount are available. In 1925-1926, the Dorsey brothers shipped, from the Le Roy shaft, five cars of carbonate ore that contained from \$35 to \$40 worth of gold, silver, and lead per ton. In 1926-1927, the Arilead Company is reported to have shipped several cars of ore from the Climax shaft. During the following year, dump material was treated in a small mill. During 1928-1933, several cars of ore were shipped from the mine. In 1933, A. M. Bell installed a small mill on the property and produced some concentrates.

Here, granite, intruded by diabase dikes, forms rolling hills. The vein system strikes northeastward and dips about  $65^{\circ}$  NE. Its ore consists of coarse-textured grayish-white quartz with scattered pyrite, galena, sphalerite, and chalcopyrite.

Underground workings on the Le Roy claim include an inclined shaft, more than 300 feet deep, with water at 70 feet. On the 70-foot level, the vein is 3 to 4 feet wide. Developments on the Climax claim include a 300-foot inclined shaft and more than 2,000 feet of workings. The vein ranges in width from a few to 8 inches and in places separates into a stringer lode  $\frac{1}{4}$  or 5 feet wide. Its ore occurs in erratically distributed bunches.

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Mrs. Thelma Bean, Box 5, Dos Cabezas, is owner of the LeRoy, Climax and Oneida Mines. Mrs. Bean discussed these properties with Mr. Johnson.

MEMO ALJ Weekly Report April 15, 1963

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DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine : LeRoy Mines

Date April 15, 1959

District Dos Cabezas District, Cochise Co.

Engineer Axel L. Johnson

Subject: Present Status. Information from Thos. P. Bean & Personal visit.

References: Report of Feb. 11, 1959

Lessee: (on Mine Dump only) J. R. Schaffer, P.O. Box 775, Ajo, Ariz. (also Albuquerque)  
Lease was given to mill the dumps only. Lease provides for 10% straight royalty.

Principal Minerals: ' Gold

Present Activity: No work done at present. Mr. Schaffer, the lessee, is reported as making arrangements for drilling a well to provide water for the milling operations.

Ore Values: Mr. Bean estimates the ore in the dumps leased out to average about \$9.00 per ton in Gold values, about \$5.70 per ton of this being recoverable. He states that about 2/3 of the gold is free gold, and the remaining 1/3 occurs as gold tellurides.

Milling Facilities: No change from report of Feb. 11, 1959.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Le Roy Mine

Date Feb. 11, 1959

District Dos Cabezas District, Cochise Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Mrs. Thomas P. Bean & Personal Visit.

Location About 2 miles north of Dos Cabezas.

Number of Claims 6 patented claims.

Owner ✓ Thomas P. Bean, Box 5, Dos Cabezas.

Lessee (on mine dumps only) J. R. Schaffer, P. O. Box 775, Ajo, Ariz. (also Albuquerque)  
Lease was given to mill the dumps only.

Principal Minerals ✓ Gold

Present Mining Activity No mining activity. A small pilot mill had been erected on the property, but it was not operating. Lessee was not there.

Ore Values Dump reported by Mrs. Bean to average from \$5.00 to \$10.00 per ton in Gold. Some of the Gold ore reported to be Gold tellurides.

Milling & Marketing Facilities Lessee has installed a small pilot mill on the property. This consists of (1) Jaw crusher, driven by a 6 cyl. engine, (2) a home made ball mill (3) Flume with a copper plate bottom, leading from the ball mill discharge.

The mill test operations were described by Mrs. Bean to be about as follows:

- (1) Crush material to 1/4 inch in jaw crusher.
- (2) Grind ore fine in home made ball mill, which discharges on the flume.
- (3) Apply catalytic agent on the copper plates on the bottom of the flume.
- (4) Apply mercury on top of the catalytic agent on the plates at bottom of flume.

Proposed Plans Mr. Bean reports that the lessee plans to drill a well at or near the dump site to develop water for milling purposes.

Additional Lease is said to include the Oneida dump, nearest the pilot mill, and also the Le Roy dump and the Climax dump.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine Le Roy Mine

Date Oct. 13, 1954

District Dos Cabezas District, Cochise Co.

Engineer Axel L. Johnson

Subject: Report of Mining Operations. Information from Thomas P. Bean, Owner.

Location 2 miles north of Dos Cabezas. See my report of June 9, 1954.

Number of Claims 6 patented claims.

Owner Thomas P. Bean, Box 5, Dos Cabezas, Ariz.

Lessee William K. Pratt, Dos Cabezas, Ariz. and Albuquerque, N. Mex. (Leased Feb. 15)  
Mr. Pratt is leasing all of the Le Roy mine, including the Climax, the Oneida, and the Le Roy claims. Now working only in the Oneida Tunnel.

Sub-Lessees None now. Former sublessees quit on June 14, 1954.

Principal Metals and Minerals Lead, Zinc and Copper sulphides, with high Gold and Silver values, the gold and silver being contained in the lead and zinc sulphides.

Number of Men Employed 3

Production Rate No production. Operator doing exploration and development work.  
Expect to be in production soon.

Geology See my report of June 9, 1954.

Ore Values See my report of June 9, 1954.

Ore in Sight and Probable Ore in Sight negligible. See my report of June 9, 1954 for Probable Ore.

Milling Facilities None.

Mine Workings and Past History See my report of June 9, 1954.

Present Operations In the past 7 weeks, since operations were resumed about Aug. 26, operators have done 70 ft. of drifting along the vein, and about 30 ft. of ~~stope~~ raising. Operators are now getting ready to stope ore.



DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

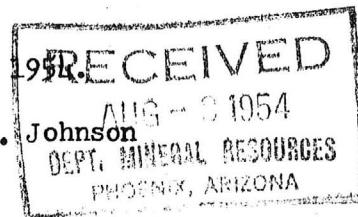
Mine Le Roy Mine (Oneida Tunnel Lease)

Date July 26, 1954

District Dos Cabezas District ----Cochise Co.

Engineer Axel L. Johnson

Subject: Report of Mining Operations



References For Location, Number of Claims, and Owner ----see my report of June 9, 1954.

Lessee William K. Pratt, 2412 1/2 Floral Road NW, Albuquerque, N. Mex.

Sub-Lessees The Sub-Lessees, Ivan Rowe and his two partners, quit operating the mine on June 14. The reason given by Mr. Bean, the owner, is that the 3 partners had a disagreement amongst themselves regarding the operation of the mine. Mr. Bean reports, that, as a consequence they closed down their operations and have given up the sub-lease. Mr. Bean reports, however, that the lessee, William K. Pratt, is going ahead with his contract, and will either operate the mine himself or sub-lease it to some other parties. At present, however, no work is being done.

Principal Minerals and metals. Lead, Zinc and Copper sulphides, with high Gold and Silver values, the gold and silver being contained in the lead and zinc sulphides.

Number of Men Employed None at present.

Production Rate None.

References For Geology, Ore Values, Ore in Sight and Probable, Milling and Marketing Facilities, Present Mine Workings, and Past History ----see my report of June 9, 1954.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine Le Roy Mine (Oneida Tunnel Lease)

Date June 9, 1954

District Dos Cabezas District ---Cochise Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report ----Personal Visit & Information from Thomas P. Bean, Owner.

Location Secs. 20 & 29 -- T 14 S -- R 27 E.

Go east from Willcox for 15.0 miles to Dos Cabezas. Pass through Cabezas, and continue for about 1/2 mile east of town. Turn left (north), and drive 1 1/2 miles on good road to the mine.

Number of Claims 6 patented claims in the Le Roy mine holdings.

Owner Thomas P. Bean, Box 5, Dos Cabezas, Ariz.

Lessee William K. Pratt, Dos Cabezas, Ariz. and Albuquerque, N. Mex. (Leased Feb. 15)  
Mr. Pratt is leasing the whole property of 6 patented claims from Mr. Bean.  
Lease calls for a 15 % royalty, with a minimum royalty of \$300 per month.

Sub-Lessees Ivan Rowe, Dos Cabezas, Ariz. and 2 partners have taken a sub-lease from Mr. Pratt of the Oneida Tunnel part of the mining property. (Sub-Leased on April 1, 1954)  
Sub-lessees contract to pay a royalty of 25 %, with a minimum royalty of \$300 per month. The sub-lessees are now operating the property.

Principal minerals and metals. Lead, Zinc and Copper sulphides, with high Gold and silver values, the gold and silver being contained in the lead and zinc sulphides.

Number of Men Employed 3 men (the 3 sub-lessees) ---1 shift only.

Production Rate None yet. Sub-lessees are doing development work.

Geology The country rock is Granite, with diabase intrusions, and also some pegmatites. The ore vein at the Oneida tunnel strikes N & S, dips about 64 degrees to the west, and cuts across the diabase intrusion in the granite, and continues through the granite. The vein varies in width from a few inches to 2 ft., with a possible average of about 14 inches. The vein material consists of galena, sphalerite, chalcopryrite, pyrite, and quartz. Mr. Bean reports that occasionally he has found some niccolite (NiS), and arsenopyrite (FeAsS). The vein has been cut off by a large fault. The ore on the south side of the fault has been mined out above the level of the Oneida tunnel, while the ore on the north side of the fault has not yet been touched.

Ore Values Following are the estimated ore values of the vein material, as given to me by Thomas P. Bean, The owner:- Lead ---10 %. Zinc ---6 %. Copper ---- 0.35 %.  
Silver ----- 8.5 oz. Gold ---- 1.5 oz. Value approx. \$70 per ton.

Ore in Sight and Probable Ore in sight to date is negligible. Operators drifted 70 ft. to intersect the vein on the north side of the fault, and have now drifted 15 ft. on the vein. Vein is about 14 inches wide at that point, with ~~some~~ a considerable amount of quartz found in the vein, as well as lead and zinc sulphides. The depth of the drift is now about 180 ft. below the surface, and, according to Mr. Bean, this depth will increase to 400 ft. below the surface by driving the drift north along the vein. The probable amount of ore in the ore vein is, therefore, quite large, assuming that the vein continues north for some distance, and that it is mineralized continuously up to the surface. Writer recommended to the sub-lessees that they take a representative sample of the ore vein of the 15 ft. cut by the drift, in order to get information on the approximate value of the ore in the vein near the point where they expect to start stoping operations.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Page 2.

Mine LeRoy Mine (Oneida Tunnel Lease)

Date June 9, 1954.

District Dos Cabezas District -- Cochise Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report --- Personal Visit & Information from Thomas P. Bean, owner.

Milling and Marketing Facilities No milling facilities on the property. Past operators have all shipped the ore direct to the smelter.

Present Mine Workings (Oneida Tunnel only) The old part of the Oneida Tunnel extends for a distance of 490 ft. into the mountain, and in a northerly direction along the ore vein. The ore vein above this tunnel has been all stoped out by previous operators. At a point about 460 ft. from the entrance of the tunnel, the ore vein was found to be cut by a fault. This resulted in limiting past mining operations to the area on the south side of the fault.

The present operators started a side drift about 400ft. from the tunnel entrance and drifted in a north-easterly direction for 70 ft., at which point they picked up the ore vein on the north side of the fault. They then turned the drift to follow the ore vein and drifted for about 15 ft. along the ore vein.

Past History of LeRoy Mine Since first discovery was made about 1880 until 1914, the mine was operated by small mine operators, either owners or lessees at intermittent periods, and with varying results.

In 1914, the property was acquired by the LeRoy Consolidated Mining Co., who patented the property in 1916 or 1917, and worked the property until 1922, with Frank Peterson as their mine manager. Between 1922 and 1942, the LeRoy Consolidated Mining Co. had the property leased out to several lessees, and operations were conducted intermittently.

In 1942, LeRoy Consolidated Mining Co. sold the property to Thomas P. Bean, the present owner of the property. Since 1942, Mr. Bean has had the property leased out to several lessees, most of whom operated the property only for short periods. One of these lessees was Dorsey and Taylor.

On or about Feb. 15th last, Mr. Bean leased out the property, including all the 6 patented claims to William K. Pratt, on the lease terms mentioned on page 1 of this report. On or about April 1st last, Mr. Pratt sub-leased the Oneida Tunnel part of the property to Ivan Rowe and his 2 partners, according to the terms mentioned on page 1 of this report.

Present Operations The present operators of the property, Mr. Ivan Rowe and 2 partners, started their mining operations on April 22. They have drifted for 70 ft. in a north-easterly direction off the main tunnel, and intersected the vein, after which they turned the drift and drifted for an additional 15 ft. in the ore vein.

Proposed Plans Operators plan to start a raise near the breast of the drift, and raise all the way to within 10 or 20 ft. of the surface, and then cutting a small drift out to the surface for ventilation. The raise will be sampled and then cribbed, and will be in the ore vein at an incline of about 64 degrees.

Operators will then begin stoping operations above the drift, leaving a narrow pillar of ore just above the drift, and then stoping the ore vein almost up to the surface. The stope will be kept at a width of 36 inches at all places, regardless of the width of the ore vein. The ore and the rock will be blasted separately in the stope ----first the ore and then the waste rock. Short holes of about 3 ft. will be drilled, long drilling faces being used. After operations get under way, most, if not all the waste will be used to fill up the mined portion of the stope below the working face. Estimated mining cost (overall) -----about \$20.00 per ton, not including royalties.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine Le Roy ✓  
District Dos Cabezas  
Subject: Preliminary report

Date February 17, 1944

Engineer George A. Ballam

The Le Roy group comprising 3 patented and one unpatented claims, is located one and one-half miles northeast of Dos Cabezas in the southwest slope of the Dos Cabezas range, one mile east of the Dos Cabezas Willcox highway and about 16 miles southeast of Willcox. It is reached by a good road from the highway. It is under bond and lease to Jas. R. Cray of Tucson.

Country rock is a coarsely crystalline granite intruded by diabase dykes adjacent to and containing a coarse grayish quartz carrying pyrite, chalcopryite, galena and sphalerite. These veins have a northeasterly strike and dip about 65° southeast. There are also some dykes striking at right angles to this series which have not been fully explored.

The property is developed by two shafts, Climax and LeRoy, some 2000 feet apart with midway between a tunnel and winze on the Oneida claim. The LeRoy shaft, vertical, is reported by E.D. Wilson to be somewhat over 300 feet deep, with water now standing at about 50 feet. At about 70 feet, there are drifts in both directions, some 200 feet northerly and about 300 feet southerly. Several thousand tons of ore have been stoped and shipped from this level over a distance of 275 feet and almost to the surface, most of it being in the southerly drift. An examination of smelter returns representing about 1000 tons of this ore showed values of about 0.80 oz. Au, 20 ozs. Ag, 28% Pb and about 1% Cu. Zinc penalties were excessive, many shipments showing \$12 to \$15 per ton zinc and sulfur penalties. Thos. Bean, who has been associated with operation of the property for many years, and who is now living at the camp as watchman, reported that work was discontinued in the south drift when 35% zinc was encountered.

There are additional levels at 140 and 190 feet with 75 and 125 feet of drifting on either side of the shaft. Some ore was stoped on both levels but high zinc was again encountered, increasing with depth, with corresponding decrease in gold-lead values. The vein has widened to about four feet on the lower levels from 18 inches and up on the 70-foot level. Timber seems to be in fair shape. Ground is reported to stand well.

The Climax shaft, 2000 feet to the southwest, is sunk on an incline to a reported depth of over 300 feet. Water stands at about 70 feet. There are over 2000 feet of workings on three levels. The ore here is more erratically distributed in bunches in stringer loaves four to five feet wide, and such returns as were available indicated gold-lead values characteristic of a higher horizon, with low zinc.

The Oneida tunnel, stopes and winze appear to be badly caved. Bean reported gold as high as 16 ozs. associated with steel galena, which caused the early operators to sink a winze about 100 feet where values went out. In all openings it appears that gold is directly associated with lead and yields to zinc at about 100 feet with copper coming in, indicative of

leaching and secondary enrichment.

There is considerable equipment, and several buildings on the property, most of which is in good condition, a watchman having lived constantly at the camp. Ample water is available for all purposes as planned. For milling, if such were indicated, it is probable that water could be developed as has been done on the Dives and Mascot, neighboring properties. Mexican labor is available in Dos Cabezas. I spoke to two miners who are anxious for this property to get started, and Bean reports that more are available.

*George A. Ballam*

# DEPARTMENT OF MINERAL RESOURCES

## REPORT TO OPA ON ACTIVE MINING PROJECT

Date..... 1-16-44  
Name of Mine.....  
Owner or Operator.....  
Address.....  
Mine Location.....

### Filing Information

File System.....  
File No.....  
This chart to be used for gallons of gasoline required per month.

### PRESENT OPERATIONS: (check X)

Production.....; Development.....; Financing.....; Sale of mine.....;  
Experimental (sampling).....; Owner's occasional trip.....;  
Other (specify).....

### PRODUCTION: Past and Future.

Tons

Approx. tons last 3 months .....  
Approx. present rate per 3 months .....  
Anticipated rate next 3 months .....  
If in distant future check (X) here .....

### EQUIPMENT OPERATED:

Type	Quantity or Horse Power	Miles or Hours Per Month	Gallons Required Per Month
Personal Cars	35-40	950	63
Light or Service Trucks	.....	.....	.....
Ore Hauling Trucks	.....	.....	.....
Compressors	.....	.....	.....
Other Mine or Mill Eqpt.	.....	.....	.....

### PRODUCT PRODUCED OR CONTEMPLATED: Name metals or minerals.

.....  
.....  
.....

### REMARKS:

.....  
.....  
.....

ARIZONA DEPARTMENT OF MINERAL RESOURCES

By.....

*George W. Ballan*

February 17, 1944

MEMORANDUM

Le Roy Group  
Dos Cabezas dist.

To: Director, Dept. Mineral Resources  
From: George A. Ballam

J. M. Cray of Tucson has a bond and lease on the Le Roy group and is planning on making application for a preliminary development loan. I was somewhat familiar with the property and he asked me to go to it with him to aid him in filing application for loan.

It would seem that the Le Roy shaft is the logical place to commence operations. The shaft is in better shape, workings are newer with better ground, and there is a fairly good block of zinc ore which has not been worked. This is one of those things which looks too good to have been overlooked, and one might ask why. I believe the reason is obvious when the available smelter returns - representing a couple of thousand tons - have been examined. It is only during the present emergency that this zinc situation has been partially relieved so that zinc becomes an asset rather than the liability indicated in attached copies of returns (end of Lindsley report). I am also enclosing a partial list of other shipments which is quite representative, and includes ore shipped from the Le Roy.

Operators in the past have always exploited the high gold values which have invariably been associated with galena or cerussite in the upper levels, and with the incidence of zinc these values dropped and work soon ceased.

This ore - sulfides - is amenable to differential treatment, but the unfavorable position of zinc in the past has operated against so handling it as long as shipping ore was available. Cray proposes for the present to ship either by truck or rail to Shattuck-Denn which has reported favorably on mill samples.

There is a good-sized dump containing at least 2000 tons of milling ore as the attached assay sheet indicates. This was a grab sample but I believe it is representative of the type of ore former operators were obliged to reject on account of excessive penalties. It appears that 15% to 18% zinc was about their cut-off point.

Bean will manage the property. He is a good miner and thoroughly familiar with all the workings. He says he can get a full crew together any time he gets the word to go.

In my opinion a preliminary loan of \$4000 to \$4500 is warranted to unwater the LeRoy, to repair the shaft, to clean out drifts, and to extend either or both of the lower drifts 100 feet or so to the south to make available the known block of zinc ore south of the shaft.

Am attaching maps and report in the event Cray does not have them with his application.

*George A. Ballam*

May 27, 1943

Mr. Thomas P. Bean  
Box 5  
Dos Cabezas, Arizona

Dear Mr. Bean:

I was very/glad to get your letter and to know that you have a lease on the old Le Roy Mine.

It is possible to get a loan on such a property. I am sending you the RFC Revised Mine Loan Circular and also a mimeographed copy of the form on which a loan application has to be made. This will show you the information necessary to furnish. If you are then ready to apply for a loan, you should write to William S. Cohring, RFC Mine Loan Division, 325 Heard Building, Phoenix, Arizona for three copies of the application form of which you fill in two and mail them to Phoenix and retain the other one for your files.

For rehabilitating a shaft and opening a mine for sampling and examination there is a limit of \$5000 for such a loan. In order to get the loan you must submit authentic records, if possible, showing just what ore will be encountered if and when the mine is unwatered. In order to get a loan you must sell the project to the RFC just exactly the same as though you were trying to sell it to a hard-headed mining business man. By that I mean you must supply factual data showing that the mine warrants unwatering.

If you do this, I doubt very much if you will have any difficulty in getting a loan. It usually takes from two to three weeks to get a loan through. Apart from gathering and preparing the information necessary, there should be no expense.

I am also enclosing a copy of the form for filing your intention to hold mining claims together with a copy of the Act authorizing this.

With best wishes and kindest regards, I am

Very truly yours,

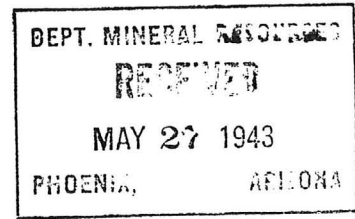
J. S. Coupal, Director

JSC:kk  
Enclosures



Mr. J. S. Coupal Director  
Dept. Mineral Resources  
Phoenix Ariz

D S Cabezas Ariz  
May - 25 / 43



Dear Mr. Coupal:

I can obtain a lease on the old Le Roy Mine here at Dos Cabezas.

This mine as you know was a high grade shipper, in Lead, Zinc, Silver, Gold and some Coppers.

The shaft I would operate is 335 feet deep and full of water. And I am sure the whole thing would need re timbering. What I would like to know could I obtain a loan, on a condition of this kind. As you know an under-ground examination and sampling is out of the question. As it will involve a considerable expense. I would also like to know if a loan could be obtained. How long it would take to get it, and at what expense to me. I have always mined gold and have never been interested in other metals, to a degree involving any personal expenditure. And I have not changed. I would like to help out in our present shortage, if a way could be found.

Yours Very Truly

Mos. P. Bean

Dos. Cabezas Ariz Box-5:

Department of Mineral Resources  
413 Home Builders Building Phoenix

Dos Cabezas Ariz  
May-25-1943

Dear Sirs:-

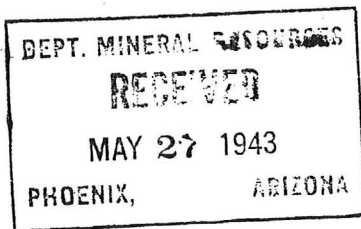
I would like to have copy The Approved  
Bill, Together with the Forms required  
in filing Notices of Intention to Hold  
Mining Claims.

I would like enough Forms to cover  
Two groups of 9 claims each, and one  
group of 4-claims, for three different  
owners.

Yours very truly  
Tom. P. Bean

Box-5

Dos Cabezas  
Ariz.



m 2-2

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
OWNERS MINE REPORT

Date June 5, 1939.

Mine Le Roy

District Dos Cabezas, Cochise Co.

Location 18 miles east from Willcox

Former name None

Owner W. I. Crawford

Address Dos Cabezas, Arizona.

Operator Same

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, Silver, Lead, Copper (Zinc)

Men Employed

Production Rate 30 tons high grade ore per mo.

Mill: Type & Cap.

Power: Amt. & Type (Compressor C P 310 cu ft  
(Hoist 40 hp F-M.

Operations: Present Idle

Operations Planned Dependant on financing.

Number Claims, Title, etc. 16 claims , 7 patented 3 unpatented lode claims.

Description: Topog. & Geog. On relatively level ground, two miles from old town of Dos Cabezas.

Mine Workings: Amt. & Condition Development work totals about 3500 feet. Main workings two shafts located about 2000 feet apart, one 435 feet deep the other 265. Both shafts have drifts and stopes.

Geology & Mineralization Fissure vein in granite. Width of milling grade ore 1' to 5', Width of Shipping grade ore 0.5' to 3'. Strike of vein NE, dip of vein 55 deg. NW. Ore is oxidized to 75 ft, sulphide ores below. Zinc is minor in oxidized zone. Increases in sulphide zone.

Ore: Positive & Probable, Ore Dumps, Tailings  
(2) 2500 T. No.

Ore shows in third level of both ~~shaft~~ shafts. Shipping returns show 1.6 oz gold, 10 to 40 oz silver, 10% to 60% lead, 1% Copper. S

Mine, Mill Equipment & Flow Sheet Mine equipment includes blacksmith shop with drill sharpener.

Road Conditions, Route Road good. From Willcox to Dos Cabezas 16 mi. Dos Cabezas to mine 2 mi. Can drive practically any place on property.

Water Supply Water stands about 65 ft below surface in both shafts. Both shafts make about 10,000 gallons per day (combined output).

Brief History Property has been worked intermittently for past forty years. In 1920 was equipped and worked full force.

Special Problems, Reports Filed A. L. Flagg, Box 2345, Phoenix has made report which can be attached to this report.

Remarks

If property for sale: Price, terms and address to negotiate. Property is for sale at \$30,000 on term payments, \$200 per month for first three months and \$500 per month thereafter. Will negotiate on other terms, lease, lease and bond, or working arrangement.

Signed..... W. I. Crawford,  
Dos Cabezas, Arizona.

Use additional sheets if necessary.

V

REPORT ON THE LE ROY CONSOLIDATED MINES,  
DOS CABEZAS, ARIZONA.

Dos Cabezas, Arizona  
15 August, 1921.

Mr. Frank Peterson,  
President,  
Le Roy Consolidated Mines Co.,

Dear Sir:

In accordance with your instructions,

I have, while acting as superintendent of the Le Roy Mines, examined the same, and herewith submit report.

GENERAL SUMMARY.

The factors contributing to successful mining operations are present; i.e., ore of good value and quantity, that is amenable to metallurgical treatment; accessibility; ample transportation facilities; adequate water supply; an abundance of labor, and a climate that permits continuous operations.

GENERAL CONCLUSIONS AND RECOMMENDATIONS.

Excellent exposures of ore have been made, considering the relatively small proportion of the vein that has been prospected.

We may expect to encounter the ore in shoots of mixed sulphides, which will decrease in lead and gold values, and increase in copper and zinc values, as greater depth is reached.

The complex nature of the ore demands separation of the zinc prior to shipment to a smelter. The zinc is then removed as a source of penalty, and is added as a source of revenue.

I would recommend testing the ore for treatment process, with the idea of later erecting a fifty ton mill.

Development work should be pushed well ahead of shipping or milling needs, both to insure a steady supply of ore, and to permit of uniformity of mine output.

In my opinion, which is based on knowledge gained by a close study of conditions during the five month period in which I was employed as superintendent, I consider the property very valuable, and believe that further exploration will result in the development of a profitable mine.

### NEAR BY PROPERTIES.

W Within the district are three other properties that have undertaken development work on a considerable scale.

The first of these, in magnitude of operation, being, the Central Copper Company, which company, with subsidiaries, has expended over \$5,000,000 in development of low grade copper deposits, which occur in the recent lavas to the northward of the gold-silver-lead-zinc belt.

In a still different geological horizon, also to the northward of the Le Roy Group, the Gold Prince and Dives companies have developed on different portions of a large fissure vein in limes and shales.

At the Dives mine, a ten stamp mill amalgamates the gold, which is mostly free, while the presence of considerable amounts of sulfide caused the erection of a concentrating mill, by the Gold Prince Company.

### FACILITIES:

#### (A) TRANSPORTATION:

The Mascot and Western Railroad, a subsidiary of the Central Copper Company, connects the town of Dos Cabezas with the Southern Pacific at Wilcox, sixteen miles distant.

The Le Roy Consolidated Mines Company owns its own private right-of-way, with loading yard, at a spur of the Mascot and Western. (since discontinued). Transportation to and from the mine is by truck, slightly over 16 miles, on good roads to the railroad at Wilcox.

#### (B) POWER:

There is no power distribution system in the locality, and each mine must supply its own unit. The Le Roy equipment includes fuel oil engines.

#### (C) WATER:

Good water for domestic purposes is obtained by pumping from shallow wells.

For future metallurgical uses, the normal flow of mine water, supplemented by pumping from shallow wells, will suffice.

### CLIMATE:

The climate is such that work can be carried on without interruption throughout the year. The winters are open and mild, while the altitude alleviates the extreme heat of summer.

### TOPOGRAPHY:

The topography of the Le Roy group is that of Piedmont hills, rising from the desert, and flanked by the higher peaks of the Dos Cabezas range, the main peaks of which rise to an altitude of over 8,000 feet above sea level.

### GEOLOGY:

The country rock of the gold-silver-lead-zinc area is a coarsely crystalline granite. In the granite mass are intrusions of diabase, for the most part being in narrow dikes trending north-easterly and south-westerly. Other dikes of diabase trend approximately at right angles to the named series.

Fissures within the diabase, or roughly parallel, are filled with quartz, and form the ore-bodies.

It is altogether probable that the vein fissures were formed by the shrinkage due to the cooling of the diabase dikes.

The fact that the quartz veins cut the diabase upon entering or leaving the granite, establishes the fact that the quartz is more recent than the diabase.

The ore deposit is characteristic of those formed at intermediate depth by ascending thermal waters, and in genetic connection with intrusive rocks. (See Lindgren, "Mineral Deposits", page 513.)

"This class yields a large proportion of the gold production of the world, as well as much of its silver, copper and zinc". (see Lindgren, "Mineral Deposits", page 515.)

Within the fissure, we find three different classes of vein stuff.

First, we have on the surface, or very close thereto, the oxidized zone, which is characterized by very high gold values with small amounts of lead carbonates. The zinc and copper, being more readily soluble, have been leached out and redeposited at greater depth, along with most of the lead.

These oxidized pockets represent the "stubs" of old ore shoots, and are not found continuously along the outcrop, but intermittently.

Second, both on the surface, and at depth, we find areas that are barren, or commercially so.

Third, are the ore shoots, consisting of irregular shaped "bonanzas" of mixed sulphides of lead, zinc, iron and copper, and containing gold and silver values.

These shoots may be only a few feet across, or may have a breadth and depth of over a hundred feet, as in the case of the main ore shoot in the Climax shaft.

Usually there is a fairly sharp line of demarcation between ore and waste.

Comparing this deposit to others of similar type, we may expect a gradual decrease of gold and lead values with greater depth, and a corresponding increase in copper and zinc.

#### EQUIPMENT:

Attached is a list of such machinery and equipment as are now on the property.

#### DEVELOPMENT:

In the Climax<sup>✓</sup> mine, about 1400 feet of development work has been done, partly by former owners, but for the most part by the present company.

Former development was directed wholly within the oxidized zone. The old workings have since caved, and are now inaccessible.

The exploration and discovery of the sulfide zone is due to the efforts of the present management.

On the first level, driven to explore beneath the old workings, and directly beneath the old stopes, ore of good value was uncovered. The tenor is about as follows:

Gold, .75 oz., silver, 3.7 oz., lead, 12.5%, zinc, 6.0%. The width of the vein at this place varies from eight to eighteen inches; the breadth is about thirty five feet, with the face of the drift still in ore.

In sinking the shaft, at a depth of about sixty-six feet below the first level, another ore shoot was encountered. This ore shoot persisted for a depth of one hundred and thirty feet further, or to a point three hundred and thirty eight feet below the collar of the shaft.

A station was cut for a second level, at two hundred and thirtyeight feet below the collar of the shaft.

Fifty feet below the second level, a third level was started. On this level, a total of seven hundred and two feet of drifting was done, exposing the large ore shoot found in the shaft, laterally, for a distance of over one hundred feet, the greater portion of the shoot being to the northward of the shaft.

Several smaller shoots were exposed in drifting to the southward of the shaft. One of these has a breadth of about thirty feet, and is almost directly underneath the shoot uncovered on the first level, indicating possibility of continuity of the ore between levels. The face of the south drift shows about two feet of ore, worth approximately fifty dollars per ton.

On the Oneida vein (which is the extension of the Climax vein) former owners drifted three hundred and seventy feet, but very evidently followed a small stringer part of the way, rather than the main vein.

At a point one hundred and fifty feet from the adit, the present management found the vein in the floor of the drift, and sank a winze to a depth of one hundred feet. For some distance from the beginning, very good ore was encountered. At a depth of thirty seven feet, a drift was started, and ore was uncovered for a distance of about eighty feet along this drift. The south face is still in ore, which shows higher gold values than average.

A cross-cut drift on this same level, to the eastward, intercepted another lode, which appears on the surface. At the point of interception, no values are in evidence. By continuance of this cross-cut, two other lodes will be intercepted within a short distance.

At the Le Roy mine, the shaft has reached a depth of three hundred and twenty eight feet.

The very slight development on the two lower levels sufficed to developmentship of ore from each level.

The lower levels show good gold values, and we would recommend further lateral and vertical development from this shaft.

A shipment was also made from the first level, from the small stope adjacent to the shaft. The south drift shows good values for a distance of about one hundred and twenty feet from the shaft.

In the north drift, two veins, more or less parallel, finally join shortly before reaching the present face.

Two excellent ore shoots were found recently in this drift, one being in the present face.

Summarizing the development work, we may say that very satisfactory showings of ore have been made, considering the comparatively small amount of work that has been done. None of the veins have been adequately explored, and some very promising surface showings have not been explored at all.

By further development, both in depth and laterally, we may expect to discover other ore bodies, with a reasonable degree of surety.

Development should be kept well ahead of the needs of a mill, or of a shipping output.



### SAMPLING:

In as much as no ore is "blocked out" or "positive", in the parlance of engineering, i.e., exposed on four sides, any attempt at exact and systematic estimation of quantities, and of tenor, would at this stage be unjustifiable.

The sampling was done conservatively, and is intended merely to indicate the values we may expect to find when the ore is finally blocked out, and sampled according to accepted rules.

The best obtainable sample is that of an unsorted shipment to a smelter. No such shipment has been made from this property, but the shipment from the Climax, under date of March, 1921, very nearly approximates the conditions of the ore in place, being ten per cent higher in value.

At the time the writer sampled the mines, the second and third levels of the Le Roy mine were under water.

However, reliable data, gathered by a mining engineer of known repute and integrity, were available, and used as correct assumption in arriving at conclusions.

### METHODS AND COSTS:

#### (A) MINING

The mining of the ore presents no serious problem. One of several standard overhand stopping methods could be used to advantage in the wider portions of the vein, while narrow seams could be recovered by "resuing", or separately breaking ore and waste.

Under the conditions of production, the mining of ore should not cost to exceed eight dollars per ton, and in all probability, the cost would be much less.

#### (B) REDUCTION:

In the past, the mine has been considered only in the light of a shipper of high grade smelting ore.

There are many vital objections to such a plan.

In the ore deposits, and on the dumps, are considerable quantities of ore which are too low grade to ship directly at a profit. In addition to this, the zinc content should be segregated, thereby eliminating it as a source of penalty, and adding it as a source of profit.

Zinc concentrates bring at the refineries, in normal times, about thirty to thirty-five dollars per ton. From this price, must be deducted about six dollars per ton for freight to Oklahoma or Kansas refineries.

Therefore, it would seem that separation, if brought about at a reasonable cost, is highly desirable.

Recent metallurgical improvements have resulted in greatly increased efficiency in the separation of lead and zinc. Advances have been chiefly along the line of differential flotation.

The estimated cost of a fifty ton mill is thirty thousand dollars. The cost of operation should not exceed one dollar per ton. In fact, at most plants, the cost ranges between fifty and seventy-five cents per ton.

The zinc penalty would be eliminated, the insoluble penalty reduced. Between \$4.00 and \$5.00 would be realized from each ton of ore for its zinc content, while the lead-copper-gold-silver concentrates would be enriched in proportion to the ration of concentration, thereby effecting great saving in freight and treatment charges.

A partial list of smelter returns is appended.

Respectfully submitted,

Norman D. Lindsley,  
Mining Engineer.

SMELTER RETURNS

All shipments made to the Consolidated Kansas City Smelting and Refining Company, at its El Paso works.

First shipment: 12,158 pounds

Date	Assays	Value	Shipped by
6 Feb. 1916	Gold 1.76 oz.	\$35.20	Norton-Morgan Commercial Co., Wilcox, Arizona.
	Silver 22.8 "	12.48	
	Lead 28.5%	23.23	
	Iron 13.8%	.69	
		<u>\$72.10</u>	

Penalties, Insoluble 36%  
Sulphur 1.5% 3.75

Net value \$68.35 Per ton

Second shipment: 21,192 pounds

11 Nov. 1916	Gold 1.80 oz	\$36.00	Demarest & Morgan.
	Silver 31.7 oz	19.79	
	Lead 33.4%	28.98	
	Copper .34%	1.46	
	Iron 1.50%	.77	
		<u>\$86.99</u>	

Penalties, Insol. 25.0%  
Sulphur 1.7% 2.71

Net Value \$84.28 Per ton

Third shipment: 92,392 pounds

3 Feb. 1917	Gold 1.02 oz	\$20.40	
	Silver 24.0 oz	16.98	
	Lead 28.9%	28.45	
	Copper 1.3%	1.36	
	Iron 10.0%	.50	
		<u>\$67.69</u>	

Penalties, Insol. 22.0%  
Sulphur 13.0% 5.20

Net Value \$62.49

The following shipments were all made by the Le Roy Consolidated Mines Company.

Date, January, 1918.                      Weight, 82,902 pounds

	Assay	Value
Gold	.93 oz.	\$18.60
Silver	20.2 oz.	19.09
Lead	29.6%	27.32
Copper	1.96%	3.84
Iron	10.5%	<u>.57</u>
		\$69.42
Penalties,		
Insol	13.9%	
Zinc	18.8%	
Sulphur	18.8%	<u>7.63</u>
	Net Value	\$61.79 Per Ton

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Date, July 29, 1918.                      Weight, 66,706 pounds

	Assay	Value
Gold	.74 oz	\$14.80
Silver	22.1 oz	20.92
Lead	33.0%	33.15
Copper	1.78%	3.51
Iron	10.0%	<u>1.25</u>
		\$75.63
Penalties,		
Insol	11.9%	
Zinc	19.2%	
Sulphur	19.2%	<u>8.50</u>
	Net Value	\$67.13 Per Ton

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"Second Class" shipped August 29th, 1918      Weight, 89,754 pounds.

	Assay	Value
Gold	.78 oz	\$15.60
Silver	7.9 oz	7.48
Lead	11.0%	10.21
Iron	10.2%	<u>1.36</u>
		\$34.65
Penalties		
Insol.	34.4%	
Zinc.	18.5%	
Sulphur	<u>12.4%</u>	<u>\$12.34</u>
	Net Value	\$22.31

Note: This class of ore would make an excellent mill-feed. Much of the same grade remains on the dump.

COPIES OF PARTIAL ORE SHIPMENTS FROM LE ROY GROUP, DOS CABEZAS, ARIZONA

ORE	ASSAYS	POUNDS
Gold	1.76 oz	12,158
Silver	22.8 "	
Lead	28.5%	
Iron	13.8%	
<hr/>		
Gold	1.80 oz	21,192
Silver	31.7 "	
Lead	33.4%	
Copper	.34%	
Iron	1.50%	
<hr/>		
Gold	1.02 oz	92,392
Silver	24.8 "	
Lead	28.9%	
Copper	1.3%	
Iron	10.0%	
<hr/>		
Gold	.93 oz	82,908
Silver	20.0 "	
Lead	20.6%	
Copper	1.96%	
Iron	10.5%	
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Gold	.74 oz.	66,706
Silver	22.1	
Lead	33.0%	
Copper	1.78%	
Iron	10.0%	
<hr/>		
Gold	.79 oz.	89,754
Silver	7.9	
Lead	11.0%	
Iron	10.2%	
<hr/>		
Gold	.86 oz	92,634
Silver	8.3 "	
Lead	12.9%	
Copper	1.19%	
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Gold	.84 oz.	101,418
Silver	10.2 "	
Lead	20.2%	
Copper	.01%	
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