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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: FROG POND IRON DEPOSITS

ALTERNATE NAMES:

ROSS GROUP  
SIDE HILL CLAIMS  
LADY BUG CLAIMS

GILA COUNTY MILS NUMBER: 453

LOCATION: TOWNSHIP 9 N RANGE 15 E SECTION 9 QUARTER N2  
LATITUDE: N 34DEG 09MIN 10SEC LONGITUDE: W 110DEG 47MIN 37SEC  
TOPO MAP NAME: YOUNG - 15 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:  
IRON

BIBLIOGRAPHY:

ADMMR FROG POND IRON PROPERTY FILE  
CLAIMS EXTEND INTO SEC 3, 4 & 10-T9N-R15E &  
SEC 34-T10N-R15E  
MOORE, RICHARD, GEO FILE P. 29-32  
IC 8236 P. 35

FROG POND IRON PROPERTY

Mineral Deposits of the Fort Apache Indian Reservation,  
by Richard T. Moore, 1967. p. 29-32. Apache deposit.  
In Geology files. (Split Rock deposit, p. 34)

Skillings Mining Review Oct. 7, 1967 p. 17

Carbox Group of Claims (file)

S<sup>E</sup>: IC 8236 p. 35 hematite

FTJ Note 6-13-67

ARCHEAN -

George Craig, Pres.  
Alex Cotte, Treasurer and Sec'y  
Al Allison

150,000

50 tpd Sponge



Gentry Steel Inc. .was founded in 1997 to develop and produce high quality iron oxide pigments from an iron ore deposit that is located in Arizona and has high-grade ore reserves in excess of 250 million tons.

**This unique firm is a multi-functional mining, concentrating, and iron oxide pigment processing operation located in the hematite rich area of Arizona. Because it is a vertically integrated operation Gentry Steel Inc. is the one source for a natural high-grade red-brown iron oxide pigment.**

Gentry Steel Inc. has many "exclusives" to its credit. Among these, Gentry Steel Inc. is:

- The only producer of a natural iron oxide pigments that is +98% pure. (less than 1% silica)
- The hematite ore is selectively mined and concentrated in a computer-controlled facility to produce a constant +98%  $\text{Fe}_2\text{O}_3$  pigment with consistent color characteristics and uniform particle size.
- A year around mining and processing operation.

# GENTRY STEEL INC.

## What is iron oxide pigments?

Iron oxide pigments are colored inorganic substances produced and marketed as fine powders for decorative and protective coatings. Pigments are used for mass coloration of plastics, fibers, paper, rubber, glass, cement, glazes, porcelain enamels, cosmetics, and markers. (eq. Crayons)

In the above applications the pigments are dispersed, they do not dissolve, in the media forming a heterogeneous mixture.

Chemically iron oxide pigments are quite simple materials and include elements, oxides, and mixed oxides. The usefulness of the iron oxide pigments is determined by physical as well as chemical properties. Particle size, shape, and surface properties are as important in the pigment performance as chemical composition.

Value of pigments results from their physical-optical properties. These are primarily determined by the pigments' physical characteristics (crystal structure, particle size, and distribution, particle shape, agglomeration, etc.) and chemical properties (chemical composition, purity, stability, etc.) The most important asset of a pigment is the ability to color the environment in which they are dispersed and to make it opaque.

Historical. Natural pigments have been known since prehistoric times. Over 60,000 years ago, natural pigments

were used in the Ice Age as a coloring material. The cave painting of Pleistocene peoples of southern France, northern Spain, and northern Africa were made with pigments, charcoal and clays.

Painting, enamel, glass, and dyeing techniques reached an advanced state of development in Egypt and Babylon. Silicates of copper and calcium were known as Egyptian blue, antimony sulfide and galena were commonly used as black pigments, cinnabar as a red pigment and cobalt glass as blue pigments.

The pigment industry started in the 18<sup>th</sup> century with products such as Berlin blue (1704), cobalt blue (1777), Scheele's green, and chrome yellow (1778).

In the 19<sup>th</sup> century, ultramarine, Guignet's green, cobalt pigments, iron oxide pigments, and cadmium pigments were developed in quick succession.

In the 20<sup>th</sup> century, pigments increasingly became a subject of scientific investigation. In the past few decades colored pigments, cadmium red, manganese blue, molybdenum red and mixed oxides came onto the market.

# **GENTRY STEEL INC.**

## **INDUSTRIES SERVED**

*Iron oxide serves a wide spectrum of industries.*

*The primary industries can be characterized as:*

- *Building Products*
- *Surface Coatings*
- *Chemicals*
- *Colorants*

*Iron oxide benefits:*

- ◆ *Non-Toxic*
- ◆ *Non-bleeding*
- ◆ *Lightfast*
- ◆ *Durable*
- ◆ *Cost-effective*

## BUILDING PRODUCTS

### Concrete Block

Iron oxides - one of four pigments  
approved for use in concrete systems.

### Concrete Masonry

Composed of:  
Concrete  
Aggregates  
Water  
Iron Oxide (optional)

### Concrete Rooftile

### Masonry Cement

Iron Oxides - the only pigment  
covering the color space of red,  
yellow, black, and brown.

### Concrete Pavers

### Roofing Granules

Granules coated with a mixture of sodium  
silicate, kaolin clay, iron oxide pigment,  
and water are calcined at 1000 degrees and  
cooled. Then applies to Fiberglass Substrate.

## SURFACE COATINGS

### Architectural Paint

Shelf goods for normal environmental  
conditions.  
Purchased by General Public,  
Residential, Commercial, Institutional  
Buildings.

OEM Products

Coatings applied to a product as part of a manufacturing process.

Purchased by manufacturers (i.e., Transportation, Metal, Plastic Substrates, Wood)

SPECIAL PURPOSE

Formulated for Special Applications and Environments.

Purchased by General Public, Manufacturers, Government (i.e., Industrial Maintenance, Traffic Paint, Automotive Refinish, Camouflage.

CHEMICAL APPLICATIONS

- ◆ Use of Iron Oxide for its chemical or physical characteristics other than pigmentary value.

STRENE CATALYSTS

Styrene is used in many applications:

Packaging  
Toys  
Housewares  
Pipes  
Appliances  
Autos  
Carpet Backing  
Paper Coating

VEHICLE RESTRAINT SYSTEMS

Airbags inflated through a small explosion that generates a pressure wave of expanding gases.

Pyrotechnical components can include sodium azides and iron oxide.

MISCELLANEOUS APPLICATIONS

PVC siding  
Camouflage coatings  
Powder & coil coating  
Plastics  
Ceramics

COLORANT APPLICATIONS

PLASTICS

General Criteria includes:  
Heat Stability  
Dispersibility  
FDA Migration (Packaging)  
Lightfastness

COSMETIC/PHARMACEUTICAL

PET FOOD/ANIMAL FEED

OTHER

Paper  
Ceramics  
Metal Polishing  
Glass

Paul B. Jarrett, M.D.  
501 East Pasadena Avenue  
Phoenix, Arizona 85012-1518  
Phone 602-266-5472

## Paul B. Jarrett, M.D.

November 20, 1996

Charles R. Bazan, Supervisor  
Tonto National Forest  
2324 East McDowell Road  
Phoenix, AZ 85010

Dear Mr. Bazan:

As one of the residents of the Nail Ranch near Young, whose property is adjacent to the proposed strip mining by the American Industrial Minerals Consolidated, (AIMCO) I am disturbed by what appears to be lack of sensitivity on the part of the Tonto Forest Administration. Although the proposal from AIMCO was received in mid April, 1996, the Forest Service letter, which most of us received by a circuitous route, was not mailed until mid October, 1996. Notification of the scoping hearings was also received by word of mouth, and although about 40 persons appeared at the Tonto Headquarters on October 29, 1996, there were no provisions for seating, and we stood for about two hours near the entrance. The citizenry of Young were not informed of a public meeting on October 30, 1996, and no public notice was posted in the Post Office there. Consequently, the attendance was very small. A five month hiatus between the time the AIMCO proposal was received and a one month interval for the public to respond is not equitable. The Forest Service Letter of October 16, 1996, stated that "The proposed operation will start in the Winter of 1997." This would seem to indicate that it was an accomplished fact in the view of the Forest Service.

We learned at the meeting that there were a number of inaccuracies in the proposal submitted, and the lack of a track record of AIMCO, plus the fact that Mr. Rudd, who heads the organization, has been associated with five mining ventures in the past, none of which he is still associated with, has raised concerns about the ability of the company to function responsibly. The apprehension exists that the ore may be piled at the site, and never utilized inasmuch as the plant in Joseph City has not been built.

Many have grave concerns regarding the effect on Forest Route 512 to the Heber Highway of 80,000 pound ore trucks pounding a road that is extremely bad without such traffic. We are also concerned about the noise, the dust, the disturbance of tranquillity for which our area is prized, the effect on the water shed and flooding, our wells, the wild life, and the future value of our property.

The Colorado Fuel and Iron Company removed iron ore from the nearby Reservation that was so rich it required dilution by slag before smelting. They discontinued the operation because it was cheaper to import ore from South America. There is no lack of iron ore in the State or the Country. There is a lack of pristine wilderness and ambiance such as is present at the proposed strip mining site. Unfortunately, the Mining Act of 1872 gives the same consideration to the environment that we gave to the buffalo.

Sincerely,  
Signed electronically, Paul B. Jarrett

## PRELIMINARY COMMENTS ON THE GENTRY IRON MINE PROJECT

Based on the "Plan of Operations for Mining Activities on National Forest Lands" submitted to the U.S. Forest Service, Pleasant Valley Ranger District, there are a number of key issues that have not been adequately addressed. These key issues include:

- (1) The nature and extent of the proposed mining operations, including, but not limited to, water management/sediment control over the life of the mine, dust control within the active mine area, along haul roads and Young Roads, and reclamation of the mined areas;
- (2) The identification, evaluation, and proposed mitigation of potential impacts of the project as they relate to biological, socioeconomic, visual, cultural, air, noise, and land-use resources, in general, and surface-water and ground-water quality and quantity, in particular;
- (3) The economic viability of the proposed Gentry Mine Project as it relates to the operators ability to mitigate environmental and socioeconomic impacts and to achieve final reclamation of disturbed areas, in particular.

## PROPOSED MINING OPERATIONS

Other than in a general terms, a detailed Mine Plan describing the proposed mining operations was not provided with the "Plan of Operations" submitted to the U.S. Forest Service. A detailed Mine Plan is essential to the objective identification and evaluation of the potential impacts of the proposed project and the assessment of the adequacy of the proposed mitigative measures, e.g., with regard to management of surface runoff, erosion and dust control, noise abatement, and so forth.

Regarding reclamation, reference is made in the Plan of Operations that it is expected that reclamation will be completed within one year following cessation of mining. No details are provided, however, on how this is to be achieved other than to indicate that the operator will use those plant species recommended by the U.S. Forest Service. Whereas it is reasonable to expect that removal of surface facilities, final regrading of disturbed areas, and initial seeding of disturbed areas can be achieved within one year, it is unrealistic to expect that a stable, self-sustaining vegetative cover can be achieved within one year, particularly given the semi-arid climate, occurrence of periodic droughts, and unforeseen conditions such as increased grazing pressure by wildlife. The factors may significantly impact the re-established of a stable vegetative cover and point out the importance of long-term maintenance.

## ENVIRONMENTAL IMPACT ASSESSMENTS

Based on the information contained in the Plan of Operations, the potential impacts of the proposed Gentry Mine Project have not been identified or assessed, other than in very

general, conceptual terms.

As an example, in the Plan of Operations it is stated that surface runoff and sediment from the disturbed areas will be controlled through the construction of a lined surface impoundment. According to the Plan, this impoundment would be sized to accommodate runoff for a design maximum rainfall event of 4.35 inches in 24 hours from an approximate 2-acre area. This criterion for sizing the lined impoundment is based on the assumption that two acres is the maximum area that will be "disturbed" at a time, hence implying that complete reclamation and establishment of a stable and protective vegetative cover on previously mined-out areas can be achieved in one year. While the proposed sizing of the lined impoundment may be adequate during the first few years of mining, the design assumption become questionable when applied to later years - raising a serious concern with regards to the adequacy of the proposed drainage and erosion control measures and the risk of a catastrophic failure (Note: no engineering criteria are given with respect to the design of the impoundment or dam). In this regard, there is no information provided in the Plan of Operations on proposed modification or upgrading of the drainage and erosion control plans during the later stages of mining to account for the increase in the area disturbed by mining.

Equally important is the fact that potential adverse impacts of the proposed runoff control measures on surface-water and ground-water quality and quantity are not addressed. In this regard, the potential downstream impacts of intercepting the surface runoff from disturbed areas and using this water for dust control (a consumptive use) on established water rights and uses including wildlife, wetlands, and riparian vegetation are not addressed in the Plan or other information available currently available to us. Similarly, if ground water were used to augment surface-water sources for dust control, how would this impact established uses, riparian vegetation and wetlands, and so forth?

The National Environmental Protection Act (NEPA) specifically mandates that the potential impacts of any actions such as mining on federal land be addressed and considered in granting approval. As such an Environmental Impact Assessment is required prior to approval of the Plan of Operations. Also, there are other requirements, for instance under the Rare and Endangered Species Act, an assessment must be undertaken to determine the presence or absence of rare or endangered species. Similarly a survey of cultural resources within the affected area is also needed prior to approval.

Other issues that are not adequately addressed in the Plan of Operations include noise (e.g., the Plan explicitly states that the ore to be mined by drilling and blasting), air quality issues (particularly associated with the planned use of Young Road), potential impacts on wildlife including raptors (e.g., eagles, owls, etc.) and so on.

Socioeconomic issues not addressed in the Plan of Operations include the effects of increased truck traffic on Young Road and the related maintenance requirements and safety (Note: Plan provides for four (4) haul trucks (assumed to be tandem tractor/trailers) each making 2 round trips per day for a minimum of six months each year). What are the safety issues associated with the increase in traffic and dust generation on Young Road. If, because of the increase in traffic and dust concerns on Young Road, it becomes necessary to pave Young

Road, who bears the cost?

## **ECONOMIC VIABILITY OF PROJECT**

The long-term viability of the proposed Gentry Mine Project has significant implications, not only with regard to the long-term impacts (both positive and negative) to the community, but also with regard to the mitigation of the adverse environmental and socioeconomic impacts over the long-term. In this regard, will sufficient monies be available for reclamation of the mine area and removal of ancillary facilities?

The uncertainties associated with the viability of the project need to be reflected in bonding requirements should the operator not fulfil the operation and reclamation obligations set out in the requisite permits to mine.

Date

Mr. James R. Soeth  
District Ranger  
Pleasant Valley Ranger District  
U.S. Forest Service  
Box 450  
Young, Arizona 85554

Draft 11/12/96-LRR

Subject: Comments on scope of issues to be addressed in Environmental Impact Statement -  
Proposed Plan of Operation to open Gentry Iron Mine.

Dear Mr. Soeth,

Thank you for your letter of October 16, 1996, concerning a Proposed Plan of Operation submitted to the Forest Service by American Industrial Minerals Consolidated (AIMCO) to mine hematite iron ore from the Hem #1-6 and RB# 8-13 claims, Gentry Iron Mine. In line with the invitation in your letter, I wish to submit the following comments regarding the scope of issues that should be addressed in a detailed Environmental Impact Statement to be prepared by the Forest Service on the Proposed Plan.

**I. Environmental Impact Statement**

The actions to be taken by the Forest Service on the Proposed Plan of Operation submitted by (AIMCO) should be considered a major Federal action requiring a full detailed Environmental Impact Statement by the responsible official under the provisions of Sec. 102 (C), of the National Environmental Protection Act of 1970, as amended, 42 U.S.C. § 4321 et seq. (NEPA). The proposed Plan of Operation involves a Federal action relating to a long range 20 year commitment to AIMCO that has the potential for significantly affecting the quality of the human environment. The action also is related to a proposed operation that has the potential for establishing a precedent for extensive mining exploitation in a widespread area of one of the most historic and environmentally desirable areas in the State of Arizona.

**II. On-Site Environmental Impact**

Among the potential adverse environmental effects that may occur at the site and that should be addressed in the detailed statement are the short and long term changes and impacts due to the mechanical disturbance of the earth's surface at the site as well as other activities including:

- ◆ The diminished flow of water from the watershed to Gentry Creek or other tributaries. It is noted that in dry weather months the entire wildlife and cattle population in the area is dependent on the flow from Gentry Creek and other small tributaries as a source of drinking water.

- ◆ The silting of the watershed tributaries, including Gentry Creek, and other environmental effects from erosion due to hundred year floods, taking into account historic, time related, maximum rainfall data in the area.
- ◆ The adverse effect on the water table, live springs, and existing water wells in the area including those located at nearby residences of the Frog Pond, and Nail and Gentry Ranches.
- ◆ Noise levels that will disturb and adversely affect the peace and tranquility of humans and wildlife.
- ◆ Damage to Historic, Scenic and Archeological resources that diminish their value to the public.
- ◆ The adverse affect on air quality in the area due to dust and/or other pollutants that may result from the operation.
- ◆ The overall impact of the operation on aquatic life, wild life and bird populations in the area including endangered species.
- ◆ The generation and disposal of solid and liquid waste at the site including human excrement.

### **III. Public Safety Impact from the Transport of the Ore to Proposed Joseph City Mill**

The provisions of the Proposed Plan to annually move 50,000 tons of hematite ore by trucks, (weighing approximately 80,000 pounds loaded), from the site to Joseph City, Arizona for a period of 20 years would create the potential for a significant increase in risk to the public safety on the roads involved in the operation . The risk to public safety could be particularly severe on the 14 miles that the trucks would travel on FDR 512. There could also be a substantial impact on road conditions and the human population in the towns and villages through which the roads SR 260, SR 277, and SR 77 pass.

FDR #512 is a mountainous, winding, rocky, graveled, corduroy road that, based on many years of experience, is impossible to blade and maintain during the dry weather months. The road is at an elevation of 6,500 to 7,000 feet in altitude. During the winter months it is often covered with ice and snow. It is the only access to Route 260 for the population of the community of Young, Arizona and for families that own homes in the immediate vicinity of the site, estimated at a total of nearly 1,000 persons. The road is heavily traveled not only by the Young area population but also by hunters, campers, sightseers, tourists, loggers, woodcutters and other existing commercial activities. The public lands to which FDR # 512 provides access is a major recreation area for the burgeoning population in the greater Phoenix valley. Due to the hazardous nature of the road, a maximum speed limit of 35 miles per hour is posted. For years, there have been studies underway on the feasibility of paving the road. To date these studies have led to no "concrete" results.

The Forest Service October 16, 1996 letter states that "ore will be loaded and hauled primarily during the months of June through August. A total of four ore trucks would

be used daily, each one completing two round trips. .... FDR #100, 512, State Route (SR) 260, SR 277, Sr 77 and Interstate 40 would be used to transport the ore to Joseph City". It was revealed in the Public meetings that the statement in the letter as related to the number of months that the hauling would occur and the number of trucks and daily round trips that would be necessary is inaccurate and misleading. It is obvious that only 18,400 tons of ore, not 50,000 tons, could be moved in a 92 day period with 4 trucks hauling 25 tons each, making two daily round trips each, even if they were to haul 7 days a week in the 92 day period. Further, the claim by the AIMCO representative that the round trip of the loaded 80,000 pound ore trucks between the mine and Joseph City will require only 4 hours is not credible, provided the trucks stay within speed limits. This is a total distance of approximately 105 miles one way, 14 miles of which are on the FDR# 512 gravel road with a posted speed limit of 35 miles per hour. In reality, much of the road is steep grades and curves and has a safe limit of not more than 5 -10 miles per hour, especially for 80,000 pound loaded ore trucks.

The AIMCO spokesman stated that the intent is to move 50,000 tons of hematite ore each year for 20 years to the proposed mill at Joseph City. There appears to be no specific firm commitment by AIMCO on a limitation of the number of trucks or daily round trips that may be necessary to move the 50,000 tons of ore per year. The payload of each truck would be 25 tons of ore. Clearly, 2,000 one way trips to the mill each year would be necessary to move 50,000 tons of ore. This translates to 4000 one way truck trips per year taking into account the loaded trip to the mill and the empty return trip to the mine. Considering weather and other factors and assuming that it is possible to haul with 4 trucks, 250 days per year, which is doubtful, a minimum of 16 one way trips per day would be necessary. The AIMCO spokesman confirmed that if bad weather or other circumstances prevented the trucks from making the planned number of daily trips, it would be necessary to add more trucks and make more trips. The bottom line is that 50,000 tons of ore per year would be moved to the mill, regardless of the number of trucks or daily trips that would be required. This could have the effect of the AIMCO trucks essentially preempting FDR#512 from the general public some of the days during the year.

The Environmental Statement should include a comprehensive quantitative road, traffic, and safety engineering study. The purpose of the study would be to determine the effect on road conditions and on increased risk to public safety and major inconvenience to the public from a 20 year commitment to permit the transport of 50,000 tons of ore per year from the mine to the mill site in Joseph City. The study should give special attention to the following issues:

- ◆ The impact on the quality of the FDR #512 gravel road and the increase in the risk to public safety and the major inconvenience to the public in the Young Community and mine site area , as well as to hunters, campers, sightseers, tourists, loggers, woodcutters and other existing commercial activities, that are now dependent on the use of FDR #512 to access the areas served by 512 and SR 260.

- ◆ The impact on the recreation and other values of the public lands to which FDR #512 provides access to hunters, campers, sightseers, tourists, loggers, woodcutters and other existing commercial activities.

#### **IV. Surface Replacement and Maintenance Agreement**

The specific provisions of the surface replacement and maintenance agreement for FDR#100 and 512, as discussed in the last sentence, paragraph 1, page 2 of the October 16 Forest Service letter should be included in the Statement.

#### **V. Economic and Social Considerations**

The Statement should address the overall economic and social impact to the public relating to both the operation and the unavoidable decrease in environmental quality that would occur if the operation goes forward. Special attention should be given to a cost-benefit analysis of the economic and social effect to the population of the Community of Young and the residents in the vicinity of the site. This is the public that would be most adversely affected by the environmental costs of the operation.

#### **VI. Evaluation and Discussion of Alternatives**

In accordance with the requirements of NEPA, the Statement should set forth the alternatives to the proposed action that have been considered to demonstrate that environmental amenities and values are given appropriate consideration in decisionmaking along with economic and technical considerations. To the extent possible, the evaluation of the alternatives should be quantitative in nature and based on specific references to the data and other information used in reaching decisions.

#### **VII. Financial Resources and AIMCO Qualifications**

The AIMCO representative stated in the Young meeting on October 30, 1996 that AIMCO is a company formed in Nevada and registered for doing business as a foreign company in the State of Arizona. AIMCO has no mining experience as a company.

The Statement should address the requirements that would be placed on AIMCO to post financial resources, such as bonds, sufficient to compensate for damages that may occur to the public resulting from it's operation. Further, there should be an up-front guarantee that financial resources would be available for the implementation of the surface replacement and maintenance agreement for FDR#100 and 512, for reclamation of the site, and for compliance with all environmental protection requirements, even in the event of financial failure by AIMCO.

The qualifications of the mine site managers, their previous mining experience and their track record in meeting environmental protection requirements should be discussed in the statement in specific detail.

#### **VIII. Surveillance, Inspection and Compliance**

The Statement should identify the Federal, State and Local Agencies that are responsible for surveillance, inspection and compliance with the various requirements

and agreements applicable to AIMCO and the mining operation. A discussion of the responsible Agencies and the specific provisions of their programs to assure compliance should be included.

## **IX. General Comments**

In preparing the above comments I have taken into account the following sources of information:

- ◆ The Forest Service letter of October 16, 1996.
- ◆ The "PLAN OF OPERATIONS FOR MINING ACTIVITIES ON NATIONAL LANDS" submitted by American Industrial Minerals Consolidated (AIMCO) and received by you on April 15, 1996.
- ◆ Discussions that took place in the "Public Scoping Meetings" held on October 29, 1996 in Phoenix, AZ and on October 30, 1996 in Young, AZ.

It is noted that some of the facts concerning the Proposed Plan of Operation presented in the October 16, 1996 Forest Service letter, in the Proposed Plan of Operation, and in the October 29 and 30, 1996 meetings by representatives of the Forest Service and (AIMCO), were inconsistent, contradictory and highly provisional. I remain rather skeptical as to the validity of the information that has been provided as to its reality with respect to the actual proposed operation. Perhaps, this is due to what appears to be, very preliminary planning on the part of AIMCO, even though the Proposed Plan of Operation was submitted to the Forest Service on April 15, 1996. When questioned about some of the inconsistencies in the various sources of information, the Forest Service representative responded that we, the public, did not have the latest information and that the company has submitted modifications to the original submittal. Obviously, the question comes to mind as why the latest information available was not included in the Forest Service Letter dated October 16, 1996 which was only 13 days prior to the meeting in Phoenix on October 29, 1996. These discrepancies are not conducive to public confidence that it's rights and interest are receiving full consideration.

My perception is that both AIMCO and the Forest Service have underestimated the public interest and concern about the possible short and long term negative environmental impact in opening one of the most historic and environmentally desirable areas in the State of Arizona for potentially long term extensive mining. The concern is intensified in light of the unavailability of quality access roads to the area. My perception is based on the following observations:

- ◆ It is noted that in the original AIMCO Plan of Operations for Mining Activities on National Forest Lands that was submitted to the Forest Service on April 15, 1996 the company proposed a start-up date of operation only 3 months later on September 1, 1996. This proposal is totally unrealistic and demonstrates a complete lack of understanding and concern by AIMCO for the public interest and the requirements of NEPA which, to my knowledge, provides no exemptions related to

Federal actions that may have a significant impact on the environment , even for the mining act of 1872.

- ◆ The Forest Service provided no meeting room space for the meeting in Phoenix on October 29, 1996 nor access to accommodations for sitting. The approximately 40 people that attended the meeting stood for 2 hours inside a small area near an entrance door to the building in order to ask questions and obtain information on the proposal. This was an indication of the intense interest and concern of the group of people trying to obtain factual, reliable information on the proposal.
- ◆ In the Young Community meeting on October 30, 1996, there was intense interest and concern expressed by some of the Young residents on the impact of the proposal on FDR #512. While only 8 or 9 people from Young attended the meeting, many others informed me that they were not aware of the proposal or the date and place of the meeting. Apparently, no notice of the meeting was posted in the Young post office, which I understand is normal procedure for public meetings.
- ◆ On the first page, 5<sup>th</sup> paragraph, first sentence, of the October 16, 1996 Forest Service letter, the following statement appears, "The proposed operation will start in the winter of 1997". The statement is unconditional and may have the appearance to the public of prejudging the outcome of the NEPA process, even though this may not have been the intent of the Forest Service.

My purpose in providing these general comments is only to emphasize the importance of informing the interested and concerned public with factual, reliable information to avoid confusion, misinformation, and a lack of confidence that the public interest is being protected. It is my understanding that in the future this will be accomplished by making the draft NEPA Environmental Impact Statement for this proposed operation widely available to the public and to interested Federal, State and Local Agencies, on a timely basis, for review and comment.

I am confident that the Forest Service will thoroughly investigate all aspects of the AIMCO proposal through the NEPA Environmental Impact Statement route and arrive at an objective decision on the proposal, fully taking into account an appropriate balance between the rights and interest of the general public as well as those of the commercial mining company. I look forward to reviewing and commenting on the Forest Service draft Environmental Impact Statement.

Sincerely,

Lester R. Rogers  
Gentry Ranch  
Box 126  
Young, Arizona 85554

PLAN OF OPERATIONS  
FOR MINING ACTIVITIES  
ON NATIONAL FOREST LANDS

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Submitted by: [Signature] 620/65195 4/15/96  
Signature Title Date

Plan Received by: James R. Soeth District Ranger 4-15-96  
Signature Title Date

I. GENERAL INFORMATION

- A. Name of Mine/Project: GENTRY IRON MINE
- B. Type of Operation: MINING OF THE HEMATITE IRON ORE
- C. Is this a  continuing) operation (CIRCLE ONE)
- D. Proposed start-up date of operation: September 1, 1996
- E. Proposed duration of operation: 20 years
- F. Proposed seasonal reclamation close-out: A continuous reclamation program is projected.
- G. Expected date for completion of all reclamation: Within 1 year of mine shutdown

II PRINCIPALS

- A. Name, address and phone number of operator: AMERICAN INDUSTRIAL MINERALS  
CONSOLIDATED (AIMCO) 702 W. MELINDA LN. SUITE 7, PHOENIX, AZ 85027 (602)  
582-5624 fax (602) 582-8982
- B. Name, address, and phone number of authorized field representative (if other than the operator) Attach authorization to act on behalf of operator. Same as above
- C. List the owners of the claims (if other than the operator) N/A

from the sides of the existing roadway. The natural gradient will be utilized therefore, no cut and fill will be required during the reconstruction of the access road.

The Gentry mine operation will have a 14H Caterpillar road grader at the mine site for the purpose of maintaining the road during the mining operation. In addition, a 3,000 gallon water truck will be available for dust control and road maintenance.

The road traffic will consist of four tractor/trailer rigs with a gross weight 80,000 pounds. The trucks will make two round trips per day. The remainder of the road traffic will be pickup trucks to transport the mine crew and supervisor to and from the mine site. The mining operation is projected to consist of 1 - 8 hour shift per day/5 days per week.

- B. **Map, sketch or drawing.** Show location and layout of the area of operation. Identify any streams, creeks or springs if known. Show the size and kind of all surface disturbances, such as trenches, pits, settling ponds, stream channels and run-off diversions, waste dumps, drill pads, timber disposal or clearance, etc. Include sizes, capacities, acreage, amounts, locations, materials involved. Etc.

(see PLATE 3)

- C. **Project Description.** Describe all aspects of the operation: how clearing will be accomplished, topsoil stockpiled, waste rock placement, tailing disposal, etc. Calculate production rates and total volumes of waste rock and ore. Include justification and calculations for settling pond capacities and the size of runoff diversion channels.

The hematite ore body has a tabular feature that averages 12.5 feet in thickness. The mining operation will begin on the east side of the ridge where the hematite ore body crops out and has less than one foot of overburden. (PLATE 3) The operation will consist of utilizing a D8K dozer to clear off the top soil and stockpiling this material for the reclamation program. The overburden on the hematite bed will then be removed. The overburden will be stockpile in the designated area and will be utilized during the reclamation program. The iron ore body will then be drilled and blasted utilizing a air track type drill. The hematite iron ore will then be loaded onto the ore trucks and transported to the stainless steel plant located in Joseph City, Arizona.

- E. **Structures.** Include information about fixed or portable structures or facilities planned for the operation. Show their locations on the map. Include such things as living quarters, storage sheds, mill buildings, thickener tanks, fuel storage, powder magazines, pipe lines, water diversions, trailer, sanitation facilities including sewage disposal, etc. Include justification and calculations for sizing of tanks, pipeline and water diversions.

**The support facilities required for the mining operation will consist of one 20' x 40' equipment maintenance building, 7,500 gallons above ground fuel storage tank with a spill retention pond, and portable sanitation facilities to be serviced by a licenses vendor. (PLATE 3)**

## V. ENVIRONMENTAL PROTECTION MEASURES (SEE CFR 228.8)

- A. **Air Quality.** Describe measures proposed to minimize impacts on air quality such as obtaining a burning permit for slash disposal or dust abatement on roads.

**During the clearing stage of the operation all brush will be stockpiled and applications for a burning permit will be submitted to the Tonto National Forest Service office in Pleasant Valley, Arizona. Dust control will be a continuous operation utilizing the 3,000 gallon water truck and road grader.**

- B. **Water Quality.** State how applicable state and federal water quality standards will be met. Describe what measures or management practices will be used to minimize quality impacts and meet applicable standards.
1. State whether water is to be used in the operation, and if so, how. If water is used in the operation (processing ore, washing ore, solution make-up, etc) state how the water will be stored, treated and disposed of. If ponds of any type are proposed, such as for storage or settling, state how they will be designed and built. Provide storage capacities. State how ponds will be maintained on an annual basis.
  2. Describe methods to control erosion and surface water runoff from all disturbed areas, including waste and tailing dumps.
  3. Describe proposed surface water and ground water quality monitoring, if required, to demonstrate compliance with federal or state water quality standards.

- D. **Scenic Values.** State how scenic values will be protected (such as screening, slash disposal, timely reclamation, etc.)

The mine plan proposes to begin reclamation the 2<sup>nd</sup> year of operation. The reclamation will consist of placing the overburden removed behind the open cut, recontouring the overburden, replacing the top soil and reseeding with pine trees and other appropriate vegetation recommended by the U.S. Forest Service. Slash disposal will be conducted by burning with applications for permit at the Pleasant Valley Ranger Station.

- E. **Fish and Wildlife.** Describe practicable measures to maintain and protect fisheries and wildlife, and their habitat (includes threatened, endangered, and sensitive species) affected by the operation.

The iron ore mining operation will create a open cut approximately 50 feet wide by 750 feet long. The area behind the cut will be reclaimed on a yearly basis. Data available at this time indicate there are no threatened or endangered species that will be affected by this operation.

- F. **Cultural Resources.** Describe measures for protecting known historic and archeological values.

Archeological studies completed indicate no archeological values will be affected by the mining operation.

- G. **Hazardous Substances.**

1. List all substances including cyanide by name and quantity, which you intend to use or generate during the proposed operation.
2. Describe generation handling, storage, disposal, security (fencing), identification (signing/labeling), or other special operations requirement for substances necessary to conduct the proposed operation.
3. Describe the measures that will be taken if a release of a reportable quantity of hazardous does occur.





United States  
Department of  
Agriculture

Forest  
Service

Pleasant Valley  
Ranger District

P.O. Box 450  
Young, AZ 85554  
520 462-3311

File Code: 1950

Date: October 16, 1996

Virgil Labuda  
2733 S. Cholla Circle  
Mesa, AZ 85202

Dear Mr. Labuda:

American Industrial Minerals Consolidated has submitted a proposed Plan of operation to mine hematite iron ore on the Tonto National Forest from the Hem #1-6 and RB #8-13 claims, Gentry Iron Mine. The proposed operation is located approximately 8 miles north-east of the community of Young, Arizona, and south of Forest Development Road (FDR) #100. Legal location for the proposed project is Township 9 North, Range 15 East, Sections 8, 9, 16 & 17, G&SRBM. (See Figure 1).

The proposed Plan of Operation would involve the removal of approximately one million tons of iron ore over a twenty year period, at a rate of about 50,000 tons per year. The ore would be mined from consecutive open cuts of approximately 50 feet in width and 750 feet in length. Prior to ore removal, topsoil and overburden would be removed and stockpiled. The ore body will be drilled and blasted and loaded onto ore trucks for transport to Joseph City, Arizona. No processing of the ore will occur on National Forest lands.

Runoff would be retained in the open cut created during the mining operation. Berms will be installed to prevent solids from entering the watershed. Retained water will be allowed to percolate into the fractured orthoquartzite that underlies the ore body. Excess retained water would be used for dust control.

Reclamation of the mined area will start in the second year of operation, when the first year's cut is filled and recontoured using the previous year's overburden and topsoil. Reclamation would continue throughout the life of the operation, and will be completed within a year after completion of the mining operation. Reclaimed areas will be reseeded with appropriate grass, shrub, and tree species native to the area to control erosion and address visual impacts.

The proposed operation will start in the winter of 1997. Drilling, blasting, and stockpiling of iron ore would generally occur in the months of October through May. Ore will be loaded and hauled primarily during the months of June through August. A total of four ore trucks would be used daily, each one completing two roundtrips. Access to the claim is by FDR #816. FDR #100, 512, State Route (SR) 260, SR 277, SR 377, SR 77 and Interstate 40 would be used to transport the ore to Joseph City.



Caring for the Land and Serving People

To improve access, FDR #816 would be upgraded to a road surface of 14 feet wide with 3 inch minus aggregate and lead-off ditches, where appropriate. Turnoffs will also be constructed in appropriate places to facilitate. Turnoffs will also be constructed in appropriate places to facilitate traffic flow. A gate will be installed on FDR #816, near the FDR #100 intersection, to restrict traffic into the area. A road grader will be present to maintain FDR #816, along with water truck for dust abatement. The cattleguard on FDR #100 will be widened to accommodate truck traffic. A surface replacement and maintenance agreement will be developed for FDR#100 and 512.

Water for dust control would be obtained either by drilling a well or by hauling water from the community of Young.

A temporary Support facility would be erected to allow for storage of fuel and materials and equipment repair. No explosives would be stored on site.

Tonto National Forest Plan, 1985, provides the following management direction and emphasis for Management Area 5D, supports environmentally sound energy and minerals development, page 22 and mining activities are authorized in conformance with existing laws and regulations, page 151.

The decision to be made by the Forest Supervisor is to either approve or not approve the proposed Plan of Operation for the Gentry Iron Mine.

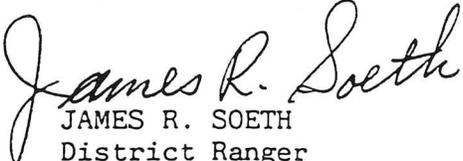
National Environmental Protection Act (NEPA) requires that projects on Federal lands creating potential impacts to the human environment be subject to an environmental analysis and disclosure of effects. Public involvement is an integral part of the NEPA process and allows public input regarding the scope of issues to be addressed.

In order to identify issues that may be associated with this project, we invite your input on the attached comment sheet. Please return the comment sheet by November 15, 1996.

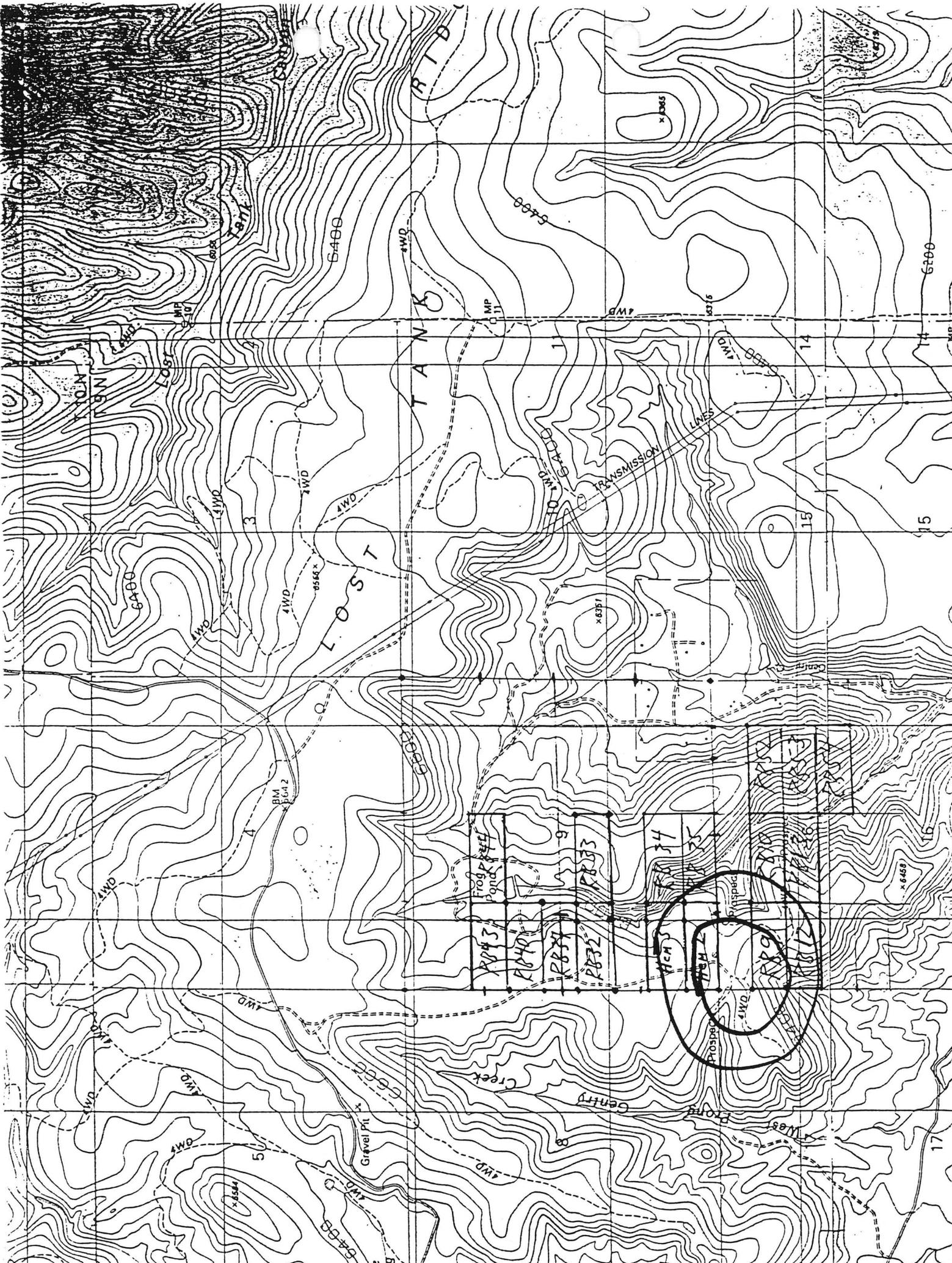
Public scoping meetings are scheduled for Oct. 29 at 6:00 - 8:00 PM at the Tonto National Forest Supervisors Office, 2324 E. McDowell Road, Phoenix, AZ and for Oct. 30 from 6:00 - 8:00 PM at the Young Public Library, Young, AZ. All persons who are interested in obtaining more information on the proposed project and providing input are invited to attend.

If you have any questions, please contact Howard S. Okamoto.

Sincerely,

  
JAMES R. SOETH  
District Ranger  
enclosure





LOST TANK

TRANSMISSION LINES

RB31	Fog	RB34
RB32	Point	RB35
RB33		RB36

MEAS  
34  
35

RB37  
RB38  
RB39  
RB40

Creek

Centre

Front

West

Gravel Pit

BM Loc 2

MP 011

MP 014

MP 015

MP 016

MP 017

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ARCHEAN EXPLORATION CORPORATION  
AND ITS WHOLLY-OWNED SUBSIDIARY - ARCHEAN CORPORATION

CONSOLIDATED BALANCE SHEET

June 30, 1964

ASSETS

Current Assets

Cash in banks	25,615.82	
Short-term Notes	62,245.00	
Total Current Assets		87,860.82

Fixed Assets

Automotive	1,254.16	
House trailer (field)	3,005.00	
Total Fixed Assets		4,259.16

Mining Claims and Leases

Xerox claims	10,810.00	
Lady Bug claims - leases	5,000.00	
Total Mining Claims & Leases		15,810.00

Other Assets

Deposit funds	130.00	
Expense advances	510.82	
Organization expense - deferred	2,910.53	
Exploration & development costs - deferred	52,501.37	
Total Other Assets		56,052.72

<u>TOTAL ASSETS</u>		<u>163,982.70</u>
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LIABILITIES AND NET WORTH

Current Liabilities

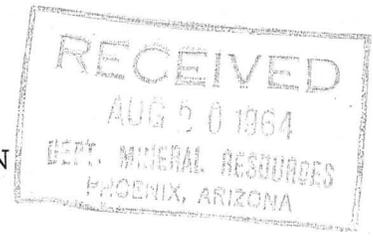
Due to officers - for cash advances		15,472.70
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Net Worth

Stated capital:		
Authorized 2,500,000 shares, 1¢ par value non-assessable common stock		
Issued and outstanding	21,118.00	
Paid-in surplus	127,392.00	
Total Net Worth		148,510.00

<u>TOTAL LIABILITIES AND NET WORTH</u>		<u>163,982.70</u>
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*a Miss Moore*  
*8-20-64-4*



ARCHEAN EXPLORATION CORPORATION  
INTERIM REPORT

July 19, 1964

To the Stockholders:

Enclosed herewith is a Balance Sheet reflecting the condition of Archean Exploration Corporation as at June 30, 1964.

For the past year, your Board of Directors has been busy with raising the necessary capital to proceed with a program of exploration on the Xerox and Lady Bug properties.

A public offering of 500,000 shares of the company's capital stock was filed under Regulation "A" with the United States Securities and Exchange Commission, and an application for financial aid was filed with the U. S. Office Minerals Exploration to drill the Xerox claims for hematite, an ore mineral for iron and steel.

Your Directors are pleased to inform you that a Contract has been signed with the government for a program of 10,850 feet of exploratory drilling, estimated to cost \$94,050.00 of which the government will participate in 50% of the cost. Adequate funds are on hand to proceed with the program.

Drilling will get underway in the near future and you will be kept informed of the results with periodic reports.

Respectfully submitted,

R. Jay Allison  
President

November 27, 1963

Mr. R. J. Allison  
Archean Exploration Corporation  
2043 North 16th St.  
Phoenix, Arizona

Dear Mr. Allison:

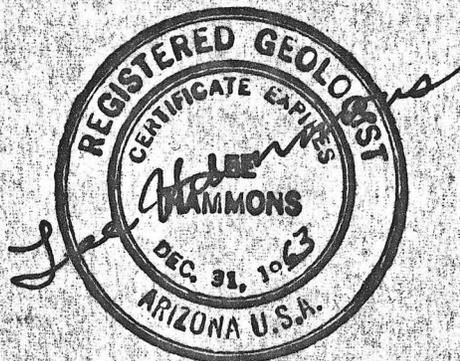
By way of answer to some questions that have arisen regarding my report dated October 2, 1963, the following paragraphs are written.

It is customary to designate as "preliminary" any work done or reports written prior to a complete and detailed evaluation of a property (which would include a drilling program).

My examination of the Lady Bug claims, and report, are just about as complete as is possible to do prior to undertaking a drilling program or major excavation. It is absolutely necessary to depend upon surface showings and shallow pit excavations for information to determine the advisability of taking the next step in mine exploration--drilling.

This property has more than enough ore showing to fully warrant an extensive drilling program. I have examined outcrops and test pits that showed ore of good grade and of good thickness in place.

In my professional judgement, this is a valuable property worthy of further exploration.



November 22, 1965

Main Lafrentz & Co.  
55 East Thomas Road  
Phoenix, Arizona

Re: Archean Exploration Corporation

Gentlemen:

As a registered geologist in the State of Arizona, it is in my opinion, based on visits to the Lady Bug group of claims in 1963, that a minimum of 2,000,000 tons of iron ore exist on the property assaying an average iron content of 44.48\* per cent.

---

Lee Hammons  
Registered Geologist

\* This is not my figure. In my report dated Oct. 2, 1963, I used an average figure of 55% as reported by the United St. Geol. Surv. on nearby properties.  
(signed)

October 2, 1963

Mr. R. J. Allison  
Archean Exploration Corporation  
2043 North 16th Street  
Phoenix, Arizona

Dear Mr. Allison:

The following Preliminary Valuation Report contains the results of my brief examination of your Lady Bug group of mining claims located in Sections 8, 9, 16 and 17, Township 9 North, Range 15 East, Gila County, Arizona.

Iron ore reserves totalling approximately 15,116,666 long tons are indicated. They have a possible value of 7½ million dollars in the ground.

Thank you for the opportunity to do this work.

Very truly yours,

Lawrence

## A PRELIMINARY VALUATION REPORT

### ON THE LADY BUG GROUP

The Lady Bug group consists of 17 unpatented lode mining claims located in Sections 8, 9, 16 and 17, Township 9 North, Range 15 East, Gila County, Arizona.

The claims cover most of an arm extending south from the large mesa known as Lost Tank Ridge. The area is approximately bisected by the north-south line between Sections 8 and 9, and 16 and 17.

The iron ore is an essentially flat-lying body of hematite apparently replacing limestone and chert in the Mescal formation. It is red to black in color and varies from soft and powdery to hard dense sometimes specular hematite. There are chert and jasper bands, especially in the upper portion.

The ore is overlain by the Troy quartzite formation. Overburden varies from zero to a few tens of feet. The property would require very little preparation to start a shallow open pit mine.

There can be little doubt that the ore is continuous under the ridge. It outcrops in the same stratigraphic horizon in all of the canyons in an area of many square miles. It does vary in grade, thickness, and impurities which adds a degree of uncertainty to un drilled properties in the area.

Preliminary investigations were made in 1959 and on September 29, 1963. Since these claims have not been drilled, these studies were limited to the numerous outcrops and prospect holes located around the periphery of the ridge. Ore thicknesses were measured by hand level, and the general character of the mineralization noted.

Since the purpose of this examination was to determine approximate ore reserves using approximate measurements of outcroppings, no samples were taken for assay. Many assay figures have been reported on this and nearby properties by the Colorado Fuel and Iron Company, The United States Geological Survey (Bulletin 621-c), Western States Iron Company and others. They average about 55% metallic iron with varying amounts of impurities.

Because of the unprecise methods that had to be relied upon, every effort was made to keep all figures on the very conservative side. Thickness measurements excluded such of the siliceous upper strata of the ore formation. Much of the outer area of the outcrops was omitted from calculations as being too thin as a result of erosion to mine economically.

It is estimated that the main area is roughly rectangular in shape and approximately 2500 feet wide by 4800 feet long and is underlain by an ore thickness averaging at least 10 feet. The southern end of the property is roughly a right triangle having base and height both equal to about 2500 feet, and underlain by an ore thickness of 6 feet.

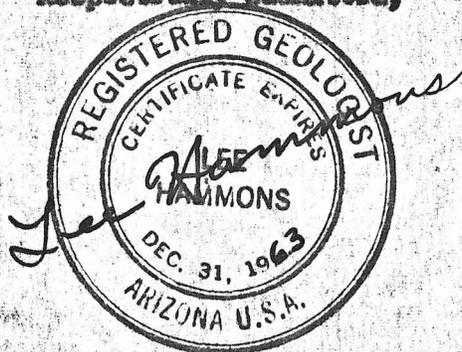
These dimensions are equal to a volume of ore of 138,750,000 cubic feet. The U. S. G. S. arrived at a density of 9 cubic feet per long ton in their study of the nearby and similar deposit on the Fort Apache Indian Reservation. Using this figure, reserves of 15,416,666 long tons are indicated.

Obviously, to get proven ore reserve figures, it is necessary to carefully map, core drill, and assay a mining property. The Lady Bug group has sufficiently strong showings to warrant such a program.

In the absence of precise figures on reserves, costs and market prices, any dollar values assigned to this property would be speculative. It might, however, be worthwhile to consider that mineable ore should be worth at least \$.50 per ton in the ground. That would indicate a value for the Lady Bug group of some 7½ million dollars.

Respectfully submitted,

October 2, 1963



Lee Hammons

November 13, 1963

Mr. R. J. Allison  
Archean Exploration Corporation  
2043 North 16th St.  
Phoenix, Arizona

Dear Mr. Allison:

If there is any question on the ore grade of your Lady Bug group of mining claims covered in my report dated October 2, 1963, please note the second paragraph in the cover letter for that report. It says "Iron ORE reserves . . . . ."

A large amount of the material visible in the outcrops is obviously high grade ore. For that reason I did not repeat sampling and assaying that had been done by others. Of course, any study and report that I might make where it was desired to establish accurate values I would insist upon doing a thorough sampling and assaying job.

If there are any other questions or any other way that I could be of assistance, please don't hesitate to call.

Very truly yours,



Frog Pond Iron Property (F)  
Frog Pond Iron Property (F)

**ARIZONA DEPARTMENT OF MINES & MINERAL RESOURCES**

**InterOffice Memo**

**To:** H. Mason Coggin, Director  
Nyal Niemuth, Mining Engineer  
Diane Bain, Technical Assistant/Editor

**From:** Ken A. Phillips, Chief Engineer

**Date:** March 17, 1994

**Subject:** Rumors of a proposed new steel mill for Arizona

---

There have been recent rumors of a proposed steel mill being planned for the Snow Flake area of northeastern Arizona.

The mover/shaker in this project is E. Alan Ferguson  
AIMM Corp.  
P.O.Box 41597  
Mesa, Arizona 85274-1597  
Phone 731-9802

I have received a number of calls from Mr. Ferguson on the subject of a new steel plant to be built at Snowflake next to the Stone Container paper mill. He has recently claimed that all of the "ducks are in a row" for the design of the plant to begin. He is, however, concerned about the long haul of 55 miles, one way, for iron ore from the Frog Pond Iron Mine north of Young to the planned plant site.

Mr. Ferguson is involved with a firm called AIMM Corporation. He has explained that AIMM plans to construct a number of small, (not mini), steel mills throughout the Western Hemisphere using a fluidized bed iron oxide reduction process which has been developed over the last twenty years. Although the development of the process appears valid and has been well documented in the technical iron and steel metallurgical literature, I have no information on the authenticity of AIMM's involvement.

The planned steel mill is to use a fluid bed reduction process incorporating ground iron ore, ground coal, ground limestone and fluxes if necessary. The calcium carbonate both fluxes the iron oxides and combines with the sulfur (if any) in the coal to produce calcium

sulfate which is collected in bag houses along with that portion of the fly ash that is not combined into the slag. The process is potentially very low in atmospheric emissions.

Mr. Ferguson claims to have an agreement with Ben Warren of Arizona Public Service to source coal via the Cholla Power Plant, Joseph City at the power plant's contract rate which is lower than the open market rate. He also reports to have control of the Frog Pond iron deposit by location. He had no information about need for limestone or fluxes, but he is not involved in the technology.

The long, and weather limited, haul from the Frog Pond iron deposit has prompted Mr. Ferguson to ask about other iron deposits in Arizona. They require at least a 30 year supply at 1,000,000 tons per year of 50% iron or an appropriately larger amount of easily beneficiated lower grade material. He wants to meet with me to discuss other deposits. I asked that he include some of their technical people. It was suggested they investigate the Pikes Peak Iron deposit east of Morristown.

I believe a relatively small, modern, low/no emission, integrated steel mill using a mix of secondary and newly mined iron ore is a viable industrial development for Arizona. A steel mill would support both mining and steel consuming industries and provide a market for recycled iron and steel scrape. Although I have not yet met face-to-face with E. Alan Ferguson, he sounds sincere, but promotional. Perhaps he's involved as a real estate broker. I have made inquiry to Ben Warren at APS, but do not yet have a response.

ADMMR Summary Time Accounting:

Thus far: 12 hr

Total expected <40 hr

Potential Impact For Arizona:

>\$100 million capital investment

> 150 mining and manufacturing jobs

\$10-\$100 in annual sales

CC: Glenn A. Miller, Museum Curator

Ann Turney, Administrative Assistant

Archean Corporation of Snowflake, Arizona is currently producing sponge iron at the rate of 50 tons per day for use in copper precipitation plants of two major Arizona Copper mines.

World Mining (Catalog, Survey and Directory Number 1968-June)

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Snowflake Iron Plant - - A Dr. Pierre, metallurgist from Ohio State or other mid-west university has worked out the metallurgy and they now claim to have the grade of the reduced ore up to 75-80 percent iron, using better ores - 60% iron.

Hilton Johnson from Chicago is in charge. New operators are trying to get SEC approval of stock prospectus, etc.

(Info from Harmon Keyes). 10/14/68

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Active Mine List Oct. 1968 - 5 men - iron - Archean Plant - Navajo Co.

Arthur Lyon visited office re Archean. He said Archean had completed a 50 tpd pellet plant near Snowflake to treat ore from the Frog Pond iron deposit.

FTJ WR 5/26/67

---

Visited Archean Iron Plant, 18 miles west of Snowflake. John Gilchrist is foreman. The plant is complete, but more automation is to be installed. Supplement report to be submitted. The mine was idle but a stockpile at plant will last about 10 days.

FTJ: WR 6/20/67

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Interview with Mr. Cotte, Secretary of Archean - visited Archean Iron Plant. Mr. Craig, Mgr. & Pres. not at plant. No mining conducted as they have about 1000 tons stockpiled. Plant operation is questionable.

FTJ WR 9/15/67

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Interview with Rex Town - he has taken a contract to mine 1,000 tons of iron ore from the Frog Pond deposit. (Contract is with Archean Corp.)

FTJ WR 3/29/68

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Active Mine List Nov. 1967 - 5 men

The Archean Iron Mine near Young was shut down after stock piling enough ore to run the small mill near Snowflake for several months.

CLH Quarterly Report 4/1968

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Active Mine List April 1968 - 5 men

Visited Archean office - interviewed Tony Scalone, Plant Superintendent, who said they were waiting for new equipment from Los Angeles. Dr. Klein said Dravo Corp. is making a move to acquire Archean, pending S.E.C. approval.

FTJ WR 5/17/68

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Checked operations of the Archean Iron Company between Snowflake and Heber, three miles NE of the Highway near the Pulp Plant of the Southwestern Lumber Co. I spent considerable time in Snowflake trying to locate Mr. Tony Scalone, Manager of the operation, but he could not be located. Continued on to the Plant. They were shut down and from all indications, had been for some time. Estimated stock piles of what I supposed to be the end product and the mill feed. Found very low grade finished product. The flow sheet was not available.

K.N.Garard WR 6/14/68

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Visited with Rex Town at plant - He expects to start mining for Archean within the next week. Rumored that Kennecott was interested in the Archean.

FTJ WR 5/31/68

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ARCHEAN EXPLORATION CORPORATION

8/20/64

8-24-64

Application for registration was withdrawn - so they are not registered with Corporation Commission

Corporation Commission this day advised -

✓ R. Jay Allison, President and Treasurer  
1902 E. Van Buren  
Phoenix, Arizona

(1963)

*1416 E. Thomas*

✓ Frank Matthews, Vice President ✓  
511 N. Dotsy Street  
Odessa, Texas

✓ Bernard J. Boris, Secretary ✓  
620 N. 2nd Street  
Phoenix, Arizona

*Aluminum*

*See: M.M.P. 2/1965 p38*



*Metals M.M.P. Pro. 2/1965*

Frog Pond Iron Claims Apache Iron Dist. Gila Co.

Conference with J. R. Brooks, C.F.&I. 6/30/65.

According to Brooks no work has been done lately on the Frog Iron Claims, by Archean Iron Co.

MEMO IAS 6/30/65

Examined the Frog Pond Exposures that belong to the Archean Company. These deposits are well described in U.S.B.M. I.C. 8236 "Reconnaissance of Iron Resources in Arizona." *1964*

FTJ WR 9/16/66

FROG POND IRON PROPERTY

GILA COUNTY  
NE of Young

FPK-Memo-10-31-62 - ARCHEAN EXPLORATION CO. has two groups of claims about 10 miles NE of Young. One group consists of 17 claims. A Mr. Ridland is connected. Said to have 65 tons of 62% iron ore with 5 million tons of like grade "at the top". They claim to have been offered \$27.50 per ton at rail head and that production cost is estimated at \$4 per ton plus \$2 or 3 trucking.

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11-1-62- FPK Memo - A Mr. Paul Bennett from Aspen, Colo. and a Mr. Allison called re location work on 115 iron claims located by Archean Exploration Co. NE of Young next to the Reservation boundary. They wanted to spend the \$25,000 for useless pits on churn drilling instead.

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FROG POND IRON PROPERTY

Active Mine List April 1969 - 5 men - Hilton Johnson in charge - Archean Corp., Box 779  
Snowflake, Arizona

Went to Snowflake and visited Archean Iron Plant, idle. FTJ WR 5-15-70

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250000 \$ to issue  
in May change over

Id. off Name - Acheson out  
Mutual Fund

Hilton Johnson Incharge  
Chicago Manager

pay off August

Andy Brown Eger, Denver  
Plant set-up, cooling  
etc.

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Arkota Sovereign owners in Osborn  
Mr Wood

AL IONA DEPARTMENT OF MINER. RESOURCES

Mineral Building, Fairgrounds

Phoenix, Arizona

- 1. Information from: Roy Haskins Furnace foreman  
Address: \_\_\_\_\_
- 2. Mine: Snowflake reduction plant 3. No. of Claims - Patented \_\_\_\_\_  
Unpatented \_\_\_\_\_
- 4. Location: Less than a mile east of S.W. Forest Ind's paper plant About 10 mi. or line W of Snowflake.
- 5. Sec \_\_\_\_\_ Tp \_\_\_\_\_ Range \_\_\_\_\_ 6. Mining District \_\_\_\_\_
- 7. Owner: \_\_\_\_\_
- 8. Address: \_\_\_\_\_
- 9. Operating Co.: (Formerly) Archean Corp. (- see below)
- 10. Address: Snowflake.
- 11. President: \_\_\_\_\_ 12. Gen. Mgr.: "Tony" did not know last name.
- 13. Principal Metals: Iron 14. No. Employed: 5
- 15. Mill, Type & Capacity: Batch type using 3'x8' Hardinge mill as reducing furnace
- 16. Present Operations: (a) Down  (b) Assessment work  (c) Exploration   
(d) Production  (e) Rate \_\_\_\_\_ tpd.
- 17. New Work Planned: Capacity is claimed to be 50 tpd of reduced iron ore. This evidently would require 3 shifts and at least 3 batches. Present operation apparently 1 shift. Men reluctant to talk.
- 18. Misc. Notes: Imp from Helmick Equip. Rental - Archean Iron has been bought out by a mutual fund and Archean stockholders paid off. <sup>in August</sup> Fund is to issue 250,000 shares of new owner. Change over took place in May. Milton Johnson from Chicago in charge. Andy Brown from Denver - engineer. Info received by Leonard Klein.  
Helmick Equip. Rental owns the crushing equipment at the Snowflake plant, consisting of two sets of rolls, 26" (x 12"?) and 16" (x 30"?) ; conveyors and 3'x8' Hardinge. Gas is introduced at the feed end of the Hardinge mill. Ore and coke are charged and fired to reduce the hematite ore, which has been crushed to about minus 1/4 inch. Very small stock of crushed ore and practically no crude ore at hand.

Date: 9/11/68

L.P.K.  
(Signature) (Field Engineer)



STATE OF ARIZONA  
DEPARTMENT OF MINERAL RESOURCES  
MINERAL BUILDING, FAIRGROUNDS  
PHOENIX 7, ARIZONA



July 29, 1963

B. J. Allison, nephew of W.L.A., is with Archean Exploration Co., or with a concern having a substantial interest in it. He and another man called re estimated consumption of grinding balls in Arizona. He claimed to have knowledge of C. F. & I. Co. drilling results in Fort Apache reservation and said the average grade found was 55% Fe. I said that that didn't check very well with the U.S.B.M. sampling and he agreed and added that the Bureau drilling was poorly done. He claims that they have the biggest hematite deposit west of the Mississippi - bigger than Cedar City, Utah.

He said C. F. & I. were working on railroad route and that it would not be via the old Avergaard grade.

See letter to Allison 7/31/63 re grinding balls.

FPK

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Frog Pond Iron  
~~Archean Exploration Corp.~~ Date March 26, 1964  
District Sierra Ancha Dist. Engineer Lewis A. Smith  
Subject: Interview with B. J. Allison

Location: T. 9 N., R. 15 E. and T. 10 N. R. 15 E. (on both sides of line)

Property: 2 groups of claims: -

136 claims (including 17 of Alfred Haught's)

235 claims (south of above and mostly in T. 9 N.)

Owners: Archean Exploration Co. (& Canyon State Development, Inc.), L.E. Delaney, Pres.  
(Al) ~~Bxxx~~ Allison, Vice Chairman, 5449 W. Camelback R., Phoenix or 4700 N. Central  
(277-6502)

Ore Reserves: Hematite ore reserves roughly estimated by Allison at 125,000,000 tons assaying 40 to 60 per cent iron. The ore is a replacement of a certain bed in the Mescal Formation of the Apache Group (Pre-Cambrian), probably the same one that replaces at the Apache Iron mine farther east. The ore bed averages about 17-20 feet, but ranges up to 40-45 feet in the thickest areas. A large claim holding is required because of the ore occurring in the walls of numerous mesas interspersed between sharply sloped deep canyons. An extensive drilling program would be required to pinpoint reserves.

Rex Ricks also in company.

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10-6-64 - According to Allison, Pres. of Archean Exploration the Lady Bug claims in the Frog Pond Iron property east of Young, are drilled out, and the drilling showed 40 million tons of commercial ore. 5 percent of it can be open-pitted on the Lady Bug claims which are leased. Allison spoke of a cut-off of 45 percent.

Archean is into the second month on their OME loan work, started August 1st, Allison said.

Notes - FPK

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ARCHEAN EXPLORATION CO. is still drilling at the Lady Bug claims the 4th hole is down to 700 feet. McClintock, R. S. Diamond Drill Co., 2135 E. Indian School Rd. Phoenix, is doing the drilling (264-7559). A Chicago Penumatic C. P. 8 core drill is being used. The ground is more rugged and varied than was found on the Apache Iron, according to the McClintock people. Reserves are now figured at more than 15,000,000 tons of reserves with a 1:1 stripping ratio, or less. Tests are now being run on the gas-reduction of the ore in a pilot plant in Phoenix. If these tests prove adequate, costwise we will be given a flow sheet.

Conference with R. Jay Allison, LAS 12/8/64.



STATE OF ARIZONA  
DEPARTMENT OF MINERAL RESOURCES  
MINERAL BUILDING, FAIRGROUNDS  
PHOENIX 7, ARIZONA



November 6, 1962

Notes from recent report by George C. Ridland *Registered geologist No. 5087*

Frog Pond Iron property 2877 acres

6 miles N.E. of Young, Arizona in Sections 3,4,9,10 around common corner of Sections 3,9,16,17(?), in T. 9 N., R. 15 E.

Reached by 10 miles of gravel road from Young. (The Young-Heber road evidently goes near the property)

Lady Bug claims 1 to 17, owned by Homer Haught et al and leased to Archean Exploration Co. also optioned at \$200,000.

Frog Pond Patent, 35 acres, owned by J. R. Vallee, optioned by Archean.

Archean also has located 125 claims in western Lost Tank ridge.

Western States Iron had a lease from Haught et al and transferred it to Archean. Western did 650 feet of wagon drilling and cut 6 to 15 ft. of iron ore.

C.F. & I. Co. has a Whiteriver Apache lease in the east section of Lost Tank ridge. The company has spent \$2 million, discovered 65 million tons of plus 45% iron ore averaging 54 to 58% Fe and averaging 17ft. 4 in. thick.

FPK.