CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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PRINTED: 02/20/2003

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: GENTRY CREEK HEMATITE

ALTERNATE NAMES:
- LADY-BUG-MINNIE GROUPS
- HCM CLAIMS
- RB CLAIMS
- AMERICAN INDUSTRIAL MINERALS
- AIMCO

GILA COUNTY MILS NUMBER: 455A

LOCATION: TOWNSHIP 9 N RANGE 15 E SECTION 16 QUARTER NW
LATITUDE: N 34DEG 07MIN 44SEC LONGITUDE: W 110DEG 47MIN 57SEC
TOPO MAP NAME: YOUNG - 15 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
- IRON HEMATITE

BIBLIOGRAPHY:
- ADMMR GENTRY CREEK HEMATITE FILE
- HARRER C M RECONN IRON RES IN AZ USBM IC 8236 1964 P 35
- CLAIMS EXTEND INTO SEC 8, 9 & 17

Gentry Creek Hematite (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

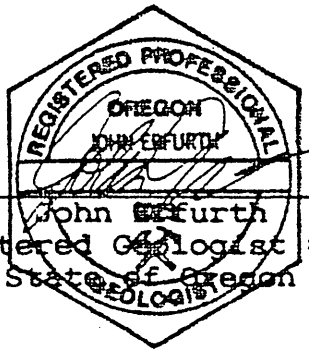
"GENTRY IRON DEPOSIT,

GILA COUNTY, ARIZONA"

FOR

AIMCO, INC.
Phoenix, Arizona

May, 1994



By: _____
John Erfurth
Registered Geologist #G023
State of Oregon

INDEX OF CONTENTS

PROFESSIONAL STATEMENT

I do hereby certify, in the County of Spokane, State of Washington, that:

1. This report has been prepared for AIMCO, INC. of Phoenix, Arizona, and that I hold no direct or contingent interest in that company.
2. This report is based on my personal examination of the Gentry Iron Deposit and pertinent, relative documents.
3. I am a consulting geologist with a business address of E. 19906 Mica View Drive, Spokane, Washington 99016.
4. I am a graduate of Eastern Washington University in Geological Sciences, 1967.
5. I am a duly registered and licensed professional geologist in the State of Oregon.
6. I have practiced my profession for than 20 years.

Dated in the County of Spokane, State of Washington on this 20th day of May, 1994.

John Erfurth, Reg. Geol. G023

INTRODUCTION

At the request of John Rud, Geological Consultant of Phoenix, Arizona, the author carried out 9 field days of reconnaissance and geological mapping of the Gentry Iron Deposit located in Gila County, near Young, Arizona.

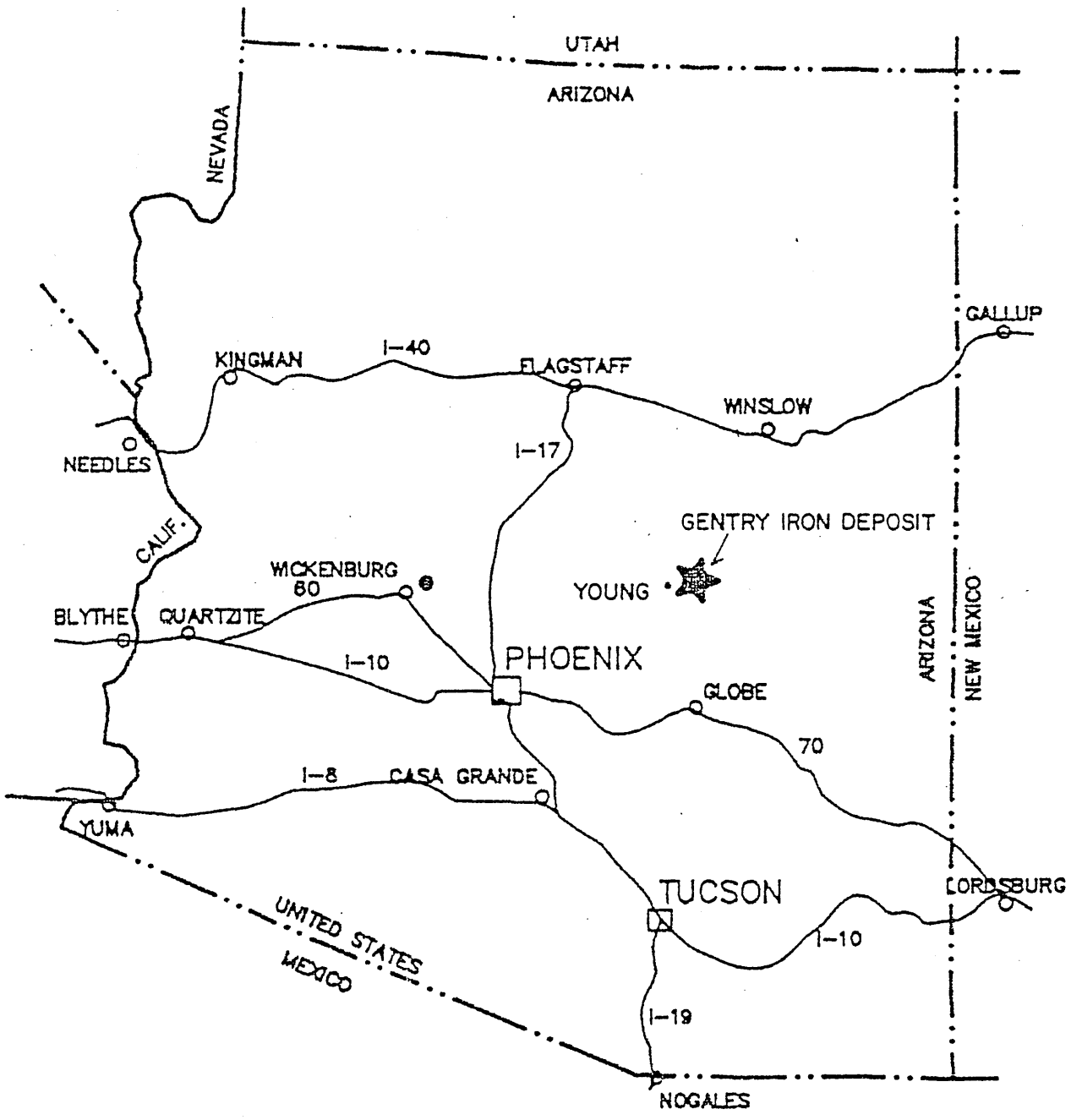
The property is located in an unorganized mining district of the Tonto National Forest approximately 13 miles north and east of Young on Forest Service Road 512 to Forest Service Road 100, then south 1.5 miles to the center of the property, which is covered by 54 lode claims held by location (see Plate 2-A). The property is further located in Sections 8, 9, 16 and 17, Township 9 North, Range 15 East, Parallel Canyon and Gentry Mountain 7.5 minute series quadrangles, Gila and Salt River Meridian, Arizona (see Figure 1).

Physiographyically the property lies within a portion of the Sierra Ancha Mountains near Lost Tank Ridge Mesa, the property lying on a north-south mesa with valley floors around 6000 feet and upper elevations of 6600 feet. The terrain is moderately to steeply incised and covered with Ponderosa Pine and sudanic grasses cover mesas and meadow floors. The weather is moderate throughout the year with snow cover or below zero temperatures not lasting long.

The property can be reached from Payson and Young on paved and improved gravel roads by two-wheel drive vehicle, but during wet weather, four-wheel drive is recommended.

CONCLUSION AND RECOMMENDATION

The Gentry Iron Deposit is a shallow horizontally bedded massive hematite replacement deposit covering an irregular tabular area of 11,480,000.00 square feet (0.4178 square miles) with an average thickness of 11 feet. The deposit harbors



Arizona General Location Map

Scale: 1" = 62 miles

FIGURE 1

14,856,470.59 tons of indicated reserves grading an inferred 46 percent Fe.

A 2,500 foot shallow exploratory drilling program is recommended along with future bulk sampling to further delineate and confirm the integrity of this unique and valuable iron deposit.

To ensure a substantial position in this district, other iron deposits within the district should be evaluated and considered for location as part of the resource reserve base.

MINE HISTORY

Historical information on exploration and production as well as geological investigations of iron occurrences in Arizona are cursory at best. "Reconnaissance of Iron Resources of Arizona" and company report on "Iron Ore Reserves of Lady Bug and Zerox Claims" reveal some earlier activities (see References).

In 1943, the O.M.E. (Office of Minerals Exploration) conducted a 4 hole drilling program on the Zerox claims which lie north of the subject property (Lady Bug claims). Little information was gathered from those earlier efforts. During the interim the Lady Bug claims, et al, were held by Alfred Haught, et al, of Young during the 60's where general exploration and assessment work was carried out. Reportedly, 500 tons of mineralized material was mined and shipped for beneficiation.

During the mid 60's, Archean Exploration Corporation of Phoenix, Arizona controlled the North Carbon, Comet, Zerox, Lady Bug and South Carbon claim groups and conducted a 4 hole drilling, sampling and mapping program on the Lady Bug claims. The results of that study are incorporated in this report (see Plate 1-A).

At this time the subject property is held by AIMCO, INC. of Phoenix, Arizona, held by location by 54 lode claims recorded in April of 1994.

GEOLOGY

General Statement:

The largest concentrations of iron are found in banded sedimentary iron formations of Precambrian age. The formations have been concentrated by natural processes to form high grade deposits of hematite or goethite by leaching of silica and oxidation of ferrous minerals. The high grade ores are classed as residual or replacement deposits. Residual ores are usually earthy, porous and contain 50-60 percent iron in their natural state. Replacement deposits are usually dense, massive and contain 64-68 percent iron. Often, the ores retain banded structures of the original sedimentary rock. Examples are the hard ores of the Vermilion Range, Minnesota; Steep Rock and Michipicoten Districts of Canada; Minas Gerais, Brazil; Fort Govroud, Mauritania and Siskem, Republic of South Africa.

These important sources of Precambrian iron ore are massive deposits of magnetite and hematite thought to be of igneous origin. Like the above, the Gentry Iron Deposit probably represents a contact pyrometasomatic replacement of bodies of limestone or volcanic rocks at or near their contacts with intrusive igneous rocks, depositing magnetite oxidized and altered to hematite containing up to 65 percent iron. Despite the long history of mining, exploration and research, the origin and mode of deposition of these deposits are still quite uncertain.

* *

The Gentry Iron Deposit lies within the central highlands, a transitional zone between the northern Colorado plateau province and the southern basin and range province. The fault bounded mountains trend northwest-southeast exposing igneous and flat-lying sedimentary and metasedimentary rocks of both Precambrian and Paleozoic age.

Periods of volcanism, granitic intrusion and mountain building (mazatzal revolution) were interceded by periods of

quiescence, erosion and deposition; followed by metamorphism of layers of sandstone, conglomerate, shale and lacustrine deposits of limestone. These formations were later intruded by Precambrian to tertiary diabase dikes, sills and stocks containing as much as 30 percent magnetite and replacing the host, mescal limestone with massive-banded cherty hematite and specular hematite; as pryometasomatic-contact metamorphic replacement iron deposits. The host rock (rocks) interruptedly cover an area 90 miles long north-northwest by 36 miles wide.

Stratigraphy-Lithology:

The iron deposit is exposed over an irregularly tabular area approximately 6000 feet north-south by 3000 feet east-west at the longest points as a horizontal bedded stratigraphic mappable unit (see Plats 1-A and 2-A).

Numerous prospect pits, trenches, adits and cat cuts expose the deposit at four major workings on the property. Steeply incised gullies draining to Gentry Creek and the west prong of Gentry Creek further expose and trace the hematite bed generally along the 6400 foot contour.

As part of the Apache group of younger Precambrian, Cambrian and Devonian undivided sedimentary rocks, the iron bed is situated near the basal member of the mescal formation which includes limestone, orthoquartzite, pebble conglomerate, quartzite and shale (phyllitic). Overlying the massive iron bed is from 5 to 30 feet of varying percentages of cherty hematite intercalated with selvages of the Apache group rocks. Rocks overlying this group include the Martin limestone, Troy quartzite and conglomerates and the White Chediski sandstone.

North and off the property the Martin formation is intruded by diabase dikes and sills, rarely intruding the mescal formation or contacting the iron member. Only one exposure of the diabase was mapped at the Gentry deposit.

During mapping, 62 sample sites were measured for hematite bed thickness. Combined with historical sample sites and drill

data, 72 combined measurements gave an accumulated arithmetic average hematite bed thickness of 10.70 feet. This figure closely templates earlier independent evaluations of 11.0 feet.

As stated earlier, the hematite bed has not only been exposed from earlier prospecting but in the southern part of the property, is exposed as outcrops capping the surface and traceable from surface float through heavy cover. At the 6400 foot contour, the hematite bed and stratigraphy are easily traced around the margins of the property. Here, the hematite beds are exposed as outcrop ledges, easily measured and confirming its integrity and continuation on "three sides" (see Plates 1-A and 2-A).

Traversing north toward the Frog Pond and up creek, the hematite is stratigraphically traced into the creek bed at 6,320 foot elevation. Traversing northwest and north from the prospect near the section corner the hematite bed finally becomes covered, discontinuous and displaced? but DDH 1 and 2 do confirm the integrity of the hematite bed in this quadrant.

In the southern quadrant the hematite bed is primarily exposed on and near the road, being narrowly exposed to the ridge tops.

The Gentry Iron Deposit conforms to the flat-lying stratigraphy, contacting with little gradation to sedimentary and metasedimentary rocks. The hematite is massive steely gray to specular to cherty and banded with relict structures. Upper beds are coarse grained, more impure with varying percentages of ferruginous lenticular chert and ferruginous chert breccias.

Structure:

Bedding attitudes taken throughout the mapping confirm the flat-lying nature of the iron deposit with only minor local changes in attitude. Two faults transposed from "Geologic Map of Gila County, Arizona" (see References), seem to have added little disparity to the structure of the deposit. The west-northwest trending fault in the vicinity of the Frog Pond is supposed to

have marked vertical displacement, while the fault trending north-south through the center of the property is minor rotational with probably only minor flexuring of the stratigraphy. No evidence of major faulting was observed on the property.

Three diamond drill holes located on the northern one-half of the property from previous exploration efforts, penetrated hematite beds at 91 feet, 141.5 feet and 221 feet respectively (see Plates 1-A, 3-A cross sections). Three cross sections constructed across the property suggest the possibility of multiple hematite replacement beds, which were also observed during surface mapping. The cross sections also show an increase in overburden to the north of 100 to 150 feet.

Mineralogy-Geochemistry:

Hematite (chemical formula Fe_2O_3), is the primary iron mineral along with lessor amounts of a variety called specular hematite. The hematite is fine grained, red to brownish red, steel gray, metallic to black and occurring as massive to massive banded and containing impurities primarily as ferruginous lenticular chert and ferruginous cherty breccia. other megascopic minerals include secondary "quartz eyes", goethite and microscopic sulfides, sulfates, silicates and carbonates. Minor amounts of ilmenite, apatite and rutile may be present. Three samples analyzed by the B of M from the subject property and six from surrounding areas are shown in Tables 1 and 2.

TABLE 1

Analyses of hematite samples from Frog Pond (Lady Bug-Minnie) hematite deposit, Gila County, Arizona

Sample	Chemical analyses, percent						Remarks
	Fe	TiO_2	Mn	S	P	SiO_2	
1....	63.7		0.1	0.1	0.30	6.2	Mesa outcrop between Gentry Creek (Frog Pond) and old Nail Ranch, sec 16, T9N, R15E.
2....	35.4	.4	.4	.08	.20	37.6	Outcrop near confluence Gentry and Shell Creeks, sec 16, T9N, R15E
3....	52.4	.5	.2	.05	.40	19.8	Outcrop in bottom of Gentry Creek approximately in sec 17, T9N, R15E, Lady Bug No. 1 claim

TABLE 2 - Arizona iron analyses

Location[1]	Chemical analyses, percent										Remarks
	Fe	Mn	SiO_2	P	S	TiO_2	Al_2O_3	Cu	Zn	Pb	
Apache County:											
Lyman Reservoir Red Cap (1).	16.0	0.04	66.4	0.01	0.11	0.53 to 1.6	-	-	-	-	Alluvial hematite in sandstone; in situ.
Do.....	63.1	-	-	-	-	-	3.0	-	-	-	Gravity concentrate of above.
Cochise County:											
Dos Cabezas (3).....	52.8	-	1.62	.11	.93	.2	-	0.54	-	-	Cupreous magnetite.
Black Diamond (4).....	44.6	.20	20.4	.02	.25	.2	-	.44	-	-	Dragoon mountains magnetite-hematite.
Spike Hills (6).....	56.2	-	16.4	.03	.30	.6	-	-	-	-	Hematite.
Coconino County:											
Sycamore Canyon (7).....	41.1 to 58.2	-	-	-	-	-	-	-	-	-	Lonesome and Deadman Pockets hematite.
Iron Mine Draw (8).....	36.5	-	31.5	-	-	-	-	.37	3.5	-	Hematite replacements.
Gila County:											
Bottle Spring (13).....	51.8	.1	21.0	.34	.10	.4	-	-	-	-	Hematite replacing Mescal limestone.
Gentry Creek (22).....	35.4 to 64.1	.1 to .4	6.2 to 37.6	.1 to .48	.02 to .1	.1 to .5	-	-	-	-	Do.
Nail Ranch (35).....	35.4	.4	37.6	.20	.08	.4	-	-	-	-	Do.
Shall Mountain (41).....	64.2	.1	7.2	.15	.08	.2	-	-	-	-	Do.
Haigler-Gordon Creek (27)	43.6	.2	5.4	.01	.05	.2	-	-	-	-	Do.
Dry Creek (19).....	54.0	.1	21.4	.03	.08	.3	-	-	-	-	Do.
Pinto Creek Fern (20)....	65.7	.1	2.6	.04	.1	.1	-	-	-	-	Do.

Iron Reserves:

Hematite iron reserves were calculated using accepted definitions adopted by the U. S. Department of the Interior for use by the Geological Survey and Bureau of Mines (see Appendix A).

The mapped area on a scale of 1"=500' (see Plate 2-A), was divided into three contiguous blocks, (A, B and C) and using a compensating polar planimeter, the irregular areas were measured several times each following contour outlining the iron deposit perimeter. By picking the proper scale and arm factor X the unit vernier, square footage measurements were obtained. Conservative arithmetic averages of hematite bed thickness were gained by the author from 64 separate sample measurements and combined with 8 other historical field and drill intercepts, an average thickness of 10.7 feet was calculated. Historical references use 11.0 feet for bed thickness. We will round off and use 11.0 feet hematite bed thickness for our tonnage calculations. A tonnage factor of 8.5 Cu.Ft/T has been found acceptable for this deposit. Therefore:

Block "A":
1,800x4000 Cu.Ft. = 7,200,000.00 Cu.Ft.x11 = $\frac{79,200,000.00}{8.5}$

= 9,317,647.059 Tons

Block "B":
780x4000 Cu.Ft. = 3,120,000.00 Cu.Ft.x11 = $\frac{34,320,000.00}{8.5}$

= 4,037,647.059 Tons

Block "C":
290x4000 Cu.Ft. = 1,160,000.00 Cu.Ft.11 = $\frac{12,760,000.00}{8.5}$

= 1,501,176.471 Tons

TOTAL TONS BLOCKS A, B and C = 14,856,470.59 Tons of hematite iron reserves.

Referring to the accepted ore reserves classification (Appendix A), we could "demonstrate" some of the iron reserves as "measured" because of the closely spaced outcroppings, prospects and drill holes. Combining those areas with known "indicated" areas we could show "demonstrated" reserves. But, with the open untested areas lacking "drill indications", I would classify this deposit with "Total Identified Resources" of:

14,856,470.59 tons of INDICATED
hematite iron reserves

Iron Grade:

Hematite and magnetite replacement deposits in Navajo and Gila Counties have been inferred to average 46 percent iron. Three samples taken by the B of M on the property ran 63.7 percent Fe; 35.4 percent Fe, 52.4 percent Fe, respectively, averaging 50.5 percent Fe (see Table I). Other samples taken on surrounding properties by the B of M ran 51.8 percent Fe, 35.4 to 64.1 percent Fe, 35.4 percent Fe and 64.2 percent Fe (see Table 2)

An inferred average of 46 percent iron content for the Gentry iron Deposit is a fair estimate for identified resource calculations at this time.

When pure, hematite contains 70.0 percent iron. While mapping, the author made the effort to estimate "percent Cherty hematite", that is percent chert within the hematite bed or beds. I found my estimates too broad and unquantitative. Estimates would be best obtained from logging of core during exploration drilling. As recommended, bulk samples of 5 to 10 tons should be extracted later for analysis and benefication.

Exploratory Drilling:

A first phase program of approximately 2,500 feet of exploratory shallow drilling in 18 holes on 400 foot center spacing would confirm reserve base estimates and possible multiple bed occurrences.

This would be accomplished with a truck mount longyear 38 class diamond core drill using wireline NX tools, holes posi-

tioned on or near existing road access (see Plates 1-A, 3-A, proposed DDH-depth). A drill of this size has the torque to penetrate the silicified rock using impregnated bits and allowing good recovery with 1.875" diameter core. This would take about one month. Step-out and fill-in drilling would be recommended after exploratory results.

OTHER PROSPECTS - INFERRED RESERVES

Beyond the indicated reserves and grade of The Gentry Iron Deposit are other iron deposits open for evaluation and location, adding substantially to the reserve base of this district.

In Gila County alone there are at least 36 separate prospects of iron deposits ranging from magnetite to hematite, limonite and titaniferous varieties (see Figure 2, Table 2).

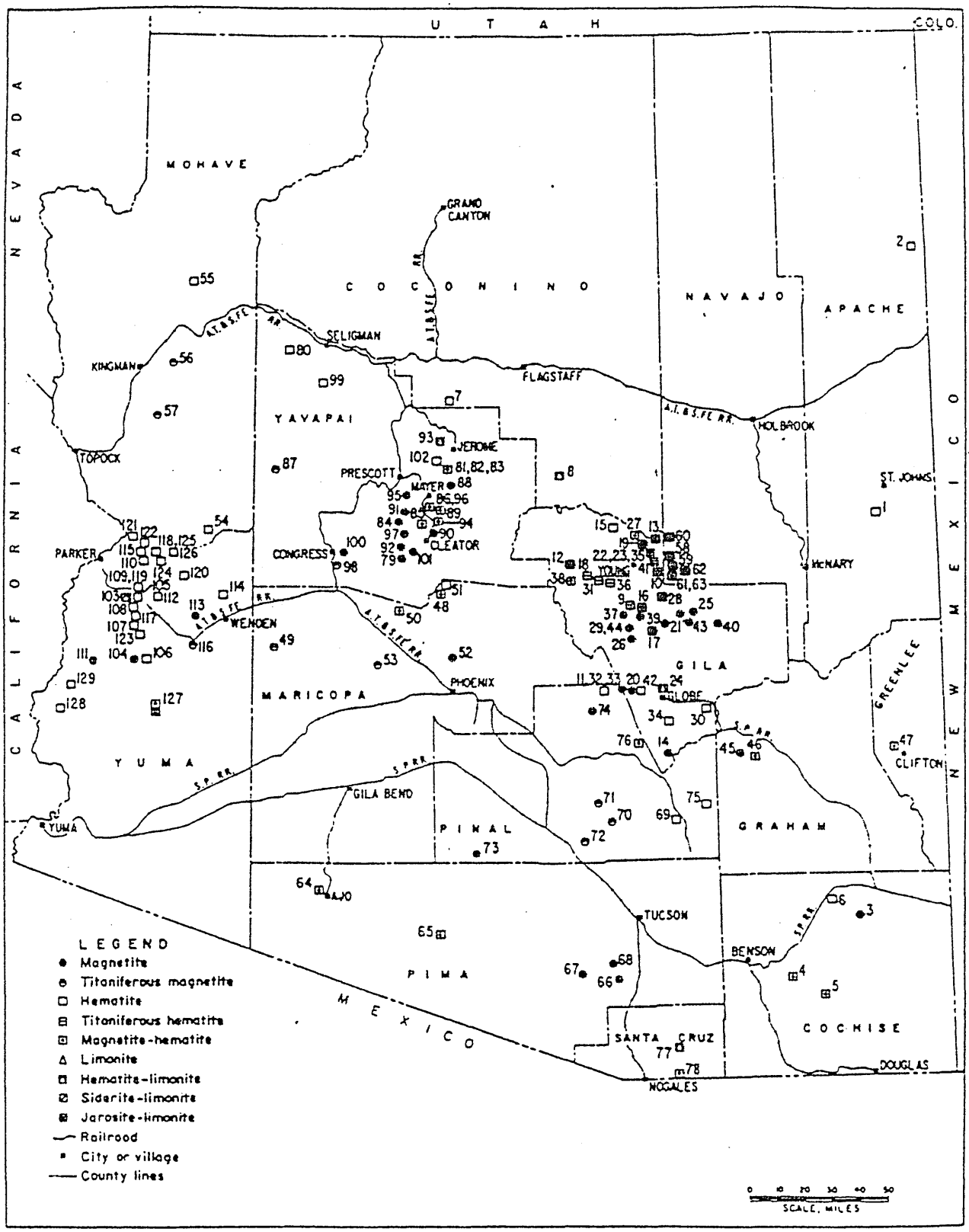
Five deposits covering substantial areas plus other historically prospected areas surround the Gentry Iron Deposit. Literature evaluation and reconnaissance of these areas confirms the probability of only cursory geological examination in the past or at least a lack of any modern exploratory detailed mapping evaluations.

The following deposits are part of the same stratigraphic sequence and "broad contact-metamorphic replacement of the mescal limestone that has been dilated and shattered into a complex of fault blocks by widespread intrusions of diabase".

Carroll Spring Hematite:

On the mesa directly west of the Gentry Iron Deposit in Sections 8 and 17, literature points to a diamond drillhole of unknown depth penetrating 11 feet of hematite assaying 40.45 percent Fe. Two surface sampled areas along the 6,400 foot and 6,200 foot contours reportedly ran 15 feet of 57.9 percent Fe and 18 feet of 55.8 percent Fe, respectively. The area was briefly reconned in April, 1994 and only minor hematite float was found. This area deserves more than a cursor examination (see Plate 2-A).

FIGURE 2



Location of Iron Resources and Railroads in Arizona.

Nail Ranch Hematite:

This deposit consists of about 80 acres of patented land surrounded by the Tonto National Forest and lies in Sections 8, 9, 15, 26 and 17 directly east of the Gentry Iron Deposit southwest along Gentry Creek. Reportedly, the hematite zone consists of "sporadic outcrops and high-grade float about 70 feet thick". The hematite zone was traced intermittently southwest from the nail Ranch for 1.5 miles. One sample taken by the B of M ran 35.4 percent Fe, other samples contained as much as 57.0 percent Fe.

Bottle Spring Hematite:

This deposit lies about 1.25 miles northeast of Bottle Springs and was part of the old Zerox Group of claims, Sections 29 and 32, Township 10 North, Range 15 East. The hematite bed dips 35 degrees, trending northeast and west and can be traced in the parallel Creek Canyon area for more than one mile. A character sample taken by the B of M reportedly ran 51.8 percent Fe. Earlier evaluations by Archean Corp. in this area, which lies north of Frog Pond to Parallel Creek, inferred reserves of 85 million tons hematite (refer to Parallel Canyon 7.5' quadrangle).

Gentry Mesa Hematite:

This deposit lies about one mile south-southeast of the Gentry Iron Deposit and directly east of Shell Mountain, covering Sections 21, 22, 27 and 28, Township 9 North Range 15 East. "Hematite crops out intermittently 2,000 feet eastward in a zone as much as 50 feet thick. The zone comprises high-grade bodies of hematite, observed as much as 10 feet thick interlayered with lower-grade ferruginous material, as a contact-metamorphic replacement of gently dipping mescal limestone in complexly faulted mesa-canyon terrain. Hematite occurs just below a silicified and hematite stained algal member of the mescal limestone and above a thick-diabase intrusion".

A sample of "hematite-rich" outcrop taken by the B of M in 1961 ran 64.1 percent Fe (refer to Parallel Canyon and Gentry Mountain 7.5' quadrangles).

Shell Mountain Hematite:

This "hematite-rich" formation occurs about two-thirds the way up the slope of Shell Mountain above Gentry Creek in Sections 27 and 28, Township 9 North, Range 15 East.

"The hematite-rich formation crops out intermittently in a zone about 0.5 miles in length northwest, 1,000 feet in width northeast and 20 to 50 feet in thickness as a contact-metamorphic replacement of gently dipping mescal limestone, underlain by a thick diabase intrusive. The limestone dips as much as 20 degrees north in the complexly faulted mesa-canyon terrain. Along Gentry Creek Canyon opposite Shell Mountain, mescal limestone and hematite are exposed on the Gentry mesa side near the canyon bottom; whereas, on the south side of the canyon the lower two-thirds of Shell Mountain is diabase. Above the diabase, almost pure to mixed hematite occurs as irregular deposits just beneath the silicified and hematite stained algal member of the mescal limestone formation. Magnetite is abundant in the diabase of the area and is prominent as placer sand in the Gentry Creek drainage bottoms of the area" (see Gentry Mountain 7.5' quadrangle).

A representative sample collected by the B of M in 1961 ran 64.2 percent Fe.

Other hematite occurrences out-of-the-area such as the Split Rock (Gentry-Rock Creek) hematite crops out in thicknesses of 5 to 30 feet for about 3,000 feet and intermittently exposed for about one mile along Canyon Creek in Sections 27 and 28, Township 8 North, Range 15 East. A sample taken by the B of M ran 67.9 percent Fe.

East of Canyon Creek the hematite is sufficiently shallow for consideration as a "limited open-pit area". West of Canyon Creek the hematite is more deeply buried.

Apache and Chediski Hematite Deposits:

As part of the National Defense Appropriation Act in 1941 the Bureau of Mines (B of M) in concert with the United States Geological Survey (USGS) evaluated iron deposits in the western United States for raw material for western steel production. The Apache and Chediski deposits were selected for detailed evaluation (see References).

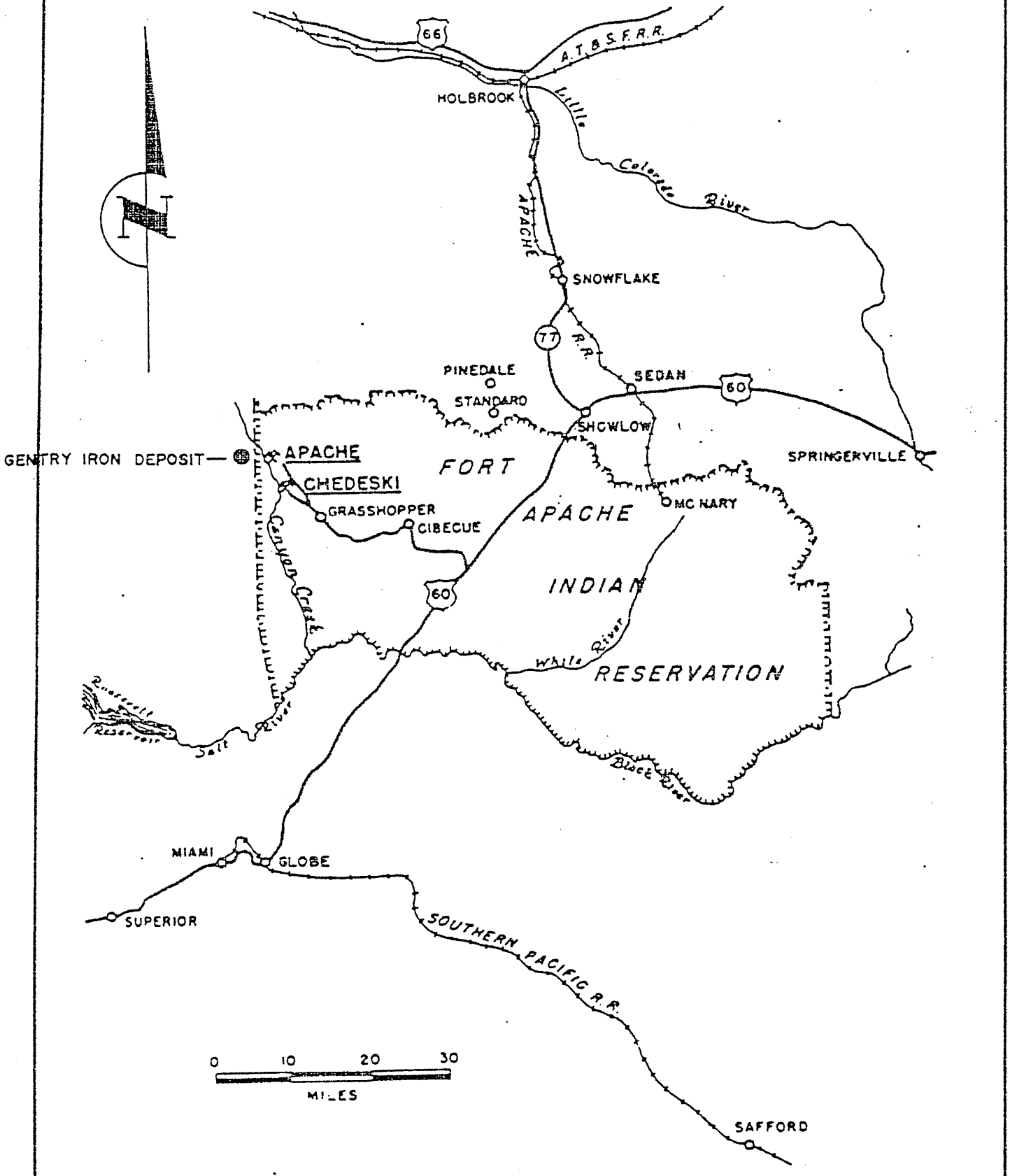
The deposits are located on the Fort Apace Indian Reservation near Canyon Creek in Sections 23, 24, 25, 26, 35 and 36, Township 9 North, Range 15 East, Navajo County Arizona (see Figure 3 - location map).

The geology here is similar to the Gentry Iron Deposit. "Hematite occurs widely as more or less bedded, contact-hemamorphic and pyrometasomatic replacement of mescal limestone closely associated with diabase intrusives". The Apache deposit was explored with 51 trenches and channel samples aggregating 4,111 feet along 12,000 feet of outcrop and 22 core holes, totalling 8,985 feet. Composite sampling of the above averaged 46.8 percent Fe. Hematite Bed thickness ranging from 3 to 47 feet. The Chediski deposit was mapped, trenched and sampled at 800 foot intervals along 10,000 feet of hematite outcrop. The outcrops averaging 18.7 feet in thickness and running 42.21 percent Fe.

The USGS estimated both deposits with reserves of 10 millon long tons.

Collectively, prospects surrounding the immediate area of the Gentry Iron Deposit could infer upwards of 100 million tons of prognosticated iron reserves, based upon the general stratigraphic continuance of the replacement iron beds and possibility of multiple iron bed occurrences (see References).

Figure 3



LOCATION MAP, APACHE IRON, 904, NAVAJO CO., ARIZONA

REFERENCES

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APPENDIX A.

Classification of Ore Reserves Adopted by the U. S. Department of the Interior, for use by the Geological Survey and the Bureau of Mines

Measured Ore: Ore for which tonnage is computed from dimensions revealed in outcrops, trenches, workings and drill holes and for which the grade is computed from the results of detailed sampling. The sits for inspection, sampling and measurements are so closely spaced and the geologic character is defined so well that the size, shape and mineral content are well established. The computed tonnage and grade are judged to be accurate within limits which are stated, and no such limit is judged to differ from the computed tonnage or grade by more than 20 percent.

Indicated Ore: Ore for which tonnage and grade are computed partly from specific measurements, samples or production data and partly from projection for a reasonable distance on geologic evidence. The sites available for inspection, measurement and sampling are too widely or otherwise inappropriately spaced to outline the ore completely or to establish its grade throughout.

Inferred Ore: Ore for which quantitative estimates are based largely on broad knowledge of the geologic character of the deposit and of which there are few, if any, samples or measurements. The estimates are based on an assumed continuity or repetition for which there is geologic evidence; this evidence may include comparison with deposits of similar type. Bodies that are completely concealed may be included if there is specific geologic evidence of this presence. Estimates of inferred ore should include a statement of the special limits within which the inferred ore may lie.

Demonstrated: A collective term for the sum of measured and indicated reserves or resources.

Reserve: That part of the identified resource from which a usable mineral and energy commodity can be

economically extracted at the time of determination. The term "ore" is used for reserves of some minerals.

Resource: A concentration of naturally occurring solid, liquid or gaseous materials in or on the earth's crust in such form that economic extraction of a commodity is currently or potentially feasible.

PLAN OF OPERATIONS
FOR MINING ACTIVITIES
ON NATIONAL FOREST LANDS

Submitted by:_____ _____ _____
Signature Title Date

Plan Received by:_____ _____ _____
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 (new, 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

List name and address of any other lessees, assigns, agents, etc. and briefly describe their involvement with the operation, if applicable N/A

III PROPERTY OR AREA

Name of claim, if applicable, and the legal land description where the operation will be conducted.

MC# 328113 - 328-118	Hem #1-6	Sections 8, 9, 16, 17	T. 9 N.	R. 15 E
MC# 330171 - 330176	RB #8 - 13	Section 16, 17	T. 9 N	R. 15 E.

IV. DESCRIPTION OF THE OPERATION

A. **Access.** Show on a map (USGS quadrangle map or a National Forest map, for example) the claim boundaries, if applicable, and all access needs such as roads and trails, on and off the claim. Specify which Forest Service roads will be used. Where maintenance or reconstruction is proposed. And where new construction is necessary. For new construction, include construction specifications such as width, grades, etc., location and size of culverts, describe maintenance plans, and the type and size of vehicles and equipment that will use the access routes.

Access to the Gentry Iron mine is provided by the graveled FS 100 road for a distance of one mile to the junction of FS100 and the Gentry Mine road. The Gentry mine road is 3,000 feet long with a drop in elevation of 84 feet. (PLATE 1) The mine road provides access to the old mine workings within the claim group. The Gentry mine road will have to be graveled for the 3,000 feet with culvert installed 300 and 500 feet south of the FS100 and Gentry Mine road junction. (PLATE 2) The first 700 feet of the Gentry mine road becomes soft when it rains or during a snow melt. Therefore, it is proposed that a 18 inch x 35 ft culvert be installed and the road built up by suitable rock to provide safe all season access to the mine area. (PLATE 2)

The reconstruction of the 3,000 ft long Gentry Mine road will consist of installing sufficient gravel on the existing road to create an all weather road for the trucks that will haul the iron ore from the mine to the stainless steel mill located near Holbrook, Arizona. (PLATE 2) The road has been cleared to a haulage width by the past operators of the mine. Minor brush will have to be removed

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.

Based on the data derived from the completed drilling program the following production rates have been determined.

Year	Overburden	Iron Ore
1	>150,000 cubic feet	425,000 cubic feet
2	200,000 cubic feet	425,000 cubic feet
3	300,000 cubic feet	425,000 cubic feet
4	375,000 cubic feet	425,000 cubic feet
5	450,000 cubic feet	425,000 cubic feet
6 - 20	500,000 cubic feet	425,000 cubic feet

The mining rate will be 50,000 tons of hematite iron ore per year and as noted above the increase in the amount of overburden to be removed increases each year due to the fact that as the open cut progress to the north where the overburden increase in thickness while the iron ore body remains at the 6,400 ft elevation. It is projected that .86 acres will be disturbed per year. The open cut will be approximately 37,500 square feet in size. The reclamation program will begin in the second year when the overburden removed from the first year open cut will be contoured, top soil replaced, and the area reseeded to prevent erosion.

The U.S. Weather Bureau records indicate the maximum daily rainfall recorded for this area is 4.35 inches. Therefore, with a maximum of two acres disturbed at a time, it is calculated the retention pond must be able to contain a minimum of 250,000 gallons of water. The retention pond designed for the project will contain 540,000 gallons of water. (PLATE 3)

D. **Equipment and Vehicles.** Describe that which is proposed for use in your operation. (example: drill, dozer, wash plant, mill etc.) include sizes, capacity, frequency of use, etc.

The mining operation will utilize a D8K dozer for overburden removal and reclamation, 980 wheel loader to load trucks, 12H motor grader for road maintenance, 3,000 gallon water truck for dust control and road maintenance, lube and fuel truck for equipment maintenance, 4 - tractor/trailer rigs to haul iron ore to the Joseph City Stainless Steel Mill, 4 pickups to transport the men and supplies to the mine site. It is projected the operation will consist of 5 - 8 hour shifts per week.

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 will 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.

4. Describe the measures to be used to minimize potential water quality impacts during seasonal closures, or for temporary cessation of operations.
5. If land application is proposed for waste water disposal, the location and operation of the land application system must be described. Also describe how vegetation, soil, and surface and groundwater quality will be protected if land application is used.

The iron ore mining operation does not use any water in any of its functions. Water will be used as the primary method of dust control on the road and pit area. Water collected in the retention pond will be the primary source of water for dust control. Before mining operation commence an application to drill a water well will be made to the Arizona Department of Water Quality. This water well will be the secondary source of water for dust control during low rainfall periods.

A retention pond has been designed for the mining operation to control any runoff from the open cut during the mining operation. This will prevent any solids from entering the Frog Pond drainage during periods of heavy rainfall. The pond has been located in a the head of a small wash with a dam to be constructed at the 6,400 ft. elevation. The dam will be 60 feet long with the pond lined with a plastic liner. The pond will have a 72,000 Cu. Ft. capacity.

The surface water from the open cut will be diverted to the retention pond to create an area for the solids to settle. The water retained in the retention pond will be used to control dust from the vehicular traffic.

C. **Solid Wastes.** State whether the proposed operations will produce tailings, dumpage, or other waste, and if so, what types of waste and their estimated quantities. State how tailings, dumpage, or other waste produced by operations will be disposed of or treated so as to minimize adverse impacts upon the environment and forest surface resources.

The hematite bed consist of a horizontal tabular bed that crops out at a elevation of 6400 feet with a 10 degree dip to the southeast. Overburden thickness ranges of one to fifty feet. The projected mine plan consists of removing the top soil and overburden from the hematite bed and placing the material behind the open cut by conveyor and dozer. The overburden material will then be recontoured to the original surface configuration, top soil replaced, and reseeded with the appropriate vegetation. No dumpage, tailings, or waste will be created by this mining operation.

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 2nd 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.

The mining operation does not use any chemicals in its operation. The mining operation consists of drilling and blasting the hematite ore, loading the material onto highway trucks and transporting to the stainless steel mill. All oils from the mining equipment will be placed in appropriate containers and disposed of according to federal and state regulations. Any spills will be clean up immediately and disposed of according to federal and state guidelines. The diesel fuel tank will have a retention device to contain any spill that may occur in this area.

H. **Close-out Reclamation.** Describe such items as: (1) the removal of structures and facilities including bridges and culverts. (2) new construction prior to reclamation, (3) a revegetation plan (4) permanent containment of mine tailing, waste, or sludges which pose a threat of a release into the environment, (5) closing ponds associated with the operations and eliminating any standing water, (6) a final surface shaping plan, and (7) post operations monitoring and maintenance plan.

Upon close-out of the mine operation all buildings and culverts will be removed. The final reclamation of the open cut will be completed with revegetation. No tailings, waste or sludges are created in the mining operation. The retention pond dam will be removed and the area recontoured into its original shape.

Post operations monitoring will consist of maintaining the revegetation program until minimum of 25% plant cover has been attained on the area disturbed by the mining operation.

September 29, 1996

Tonto National Forest
Pleasant Valley Ranger District
Young, Arizona

Re: Retention Pond

The proposed retention pond to prevent solids from entering the Frog Pond drainage system has been deleted from the mine plan. Discussions with personnel of the Tonto National Forest permitting staff indicate the runoff from the mine area during heavy rainfall should be retained in the open cut created during the mining operation. Adequate berms will be installed to prevent solids from entering the Frog Pond drainage. The water will be allowed to percolate into the fractured orthoquarzite of the Troy formation that underlies the Hematite iron bed. Excess water that is retained in ponds will be pumped onto a water truck and used for dust control on the haulage roads.

September 29, 1996

Tonto National Forest
Pleasant Valley Ranger District
Young, Arizona

Re: Gentry Mine Access Road

Discussions with Mr. Bill Mitchell, Tonto National Forest Engineer, has indicated the installation of a culvert will not be required on the proposed improvement to the 3,000 ft. existing mine access road. Therefore, the upgrade to the access road will consist of installing a road base 14 feet wide of 3 inch minus aggregate. The road base will have a 3 to 1 slope and leadoff ditches excavated where appropriate to create adequate drainage. Turnoffs will also be constructed in appropriate places to facilitate traffic flow. (see enclosed design sketch)