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

PRINTED: 09/21/2001

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: HUALAPAI PLACER CLAIMS

ALTERNATE NAMES:

MOHAVE COUNTY MILS NUMBER: 539A

LOCATION: TOWNSHIP 20 N RANGE 14 W SECTION 6 QUARTER --
LATITUDE: N 35DEG 08MIN 54SEC LONGITUDE: W 113DEG 48MIN 22SEC
TOPO MAP NAME: HUALAPAI PEAK NE - 7.5 MIN

CURRENT STATUS: UNKNOWN

COMMODITY:

IRON MAGNETITE
IRON PLACER
ZIRCONIUM ZIRCON ?
ABRASIVE GARNET ?

BIBLIOGRAPHY:

ADMMR HUALAPAI PLACERS MINE FILE
HARRER, C.M. "RECONN. OF IRON RES. IN AZ"USBM IC 8236, P. 72; 1964
ADD. AREA INCLUDE: SEC 4-E2, 10, 12-S2,14-NW, NE,SE, T21N-R16W, SEC 6-SE,R-NE,SE,SW,8-SW,NW,NE, 10-W2, 18-SW,NW,NE T21N-R15W, SEC 30-T21N-R14W, SEC 20, 30 T21N-R13W, SEC 8,14,18-T20N-R14W,SEC 4,6,8,18,20,22,30 T20N-R13W

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: HUALAPAI PLACER CLAIMS

ALTERNATE NAMES:

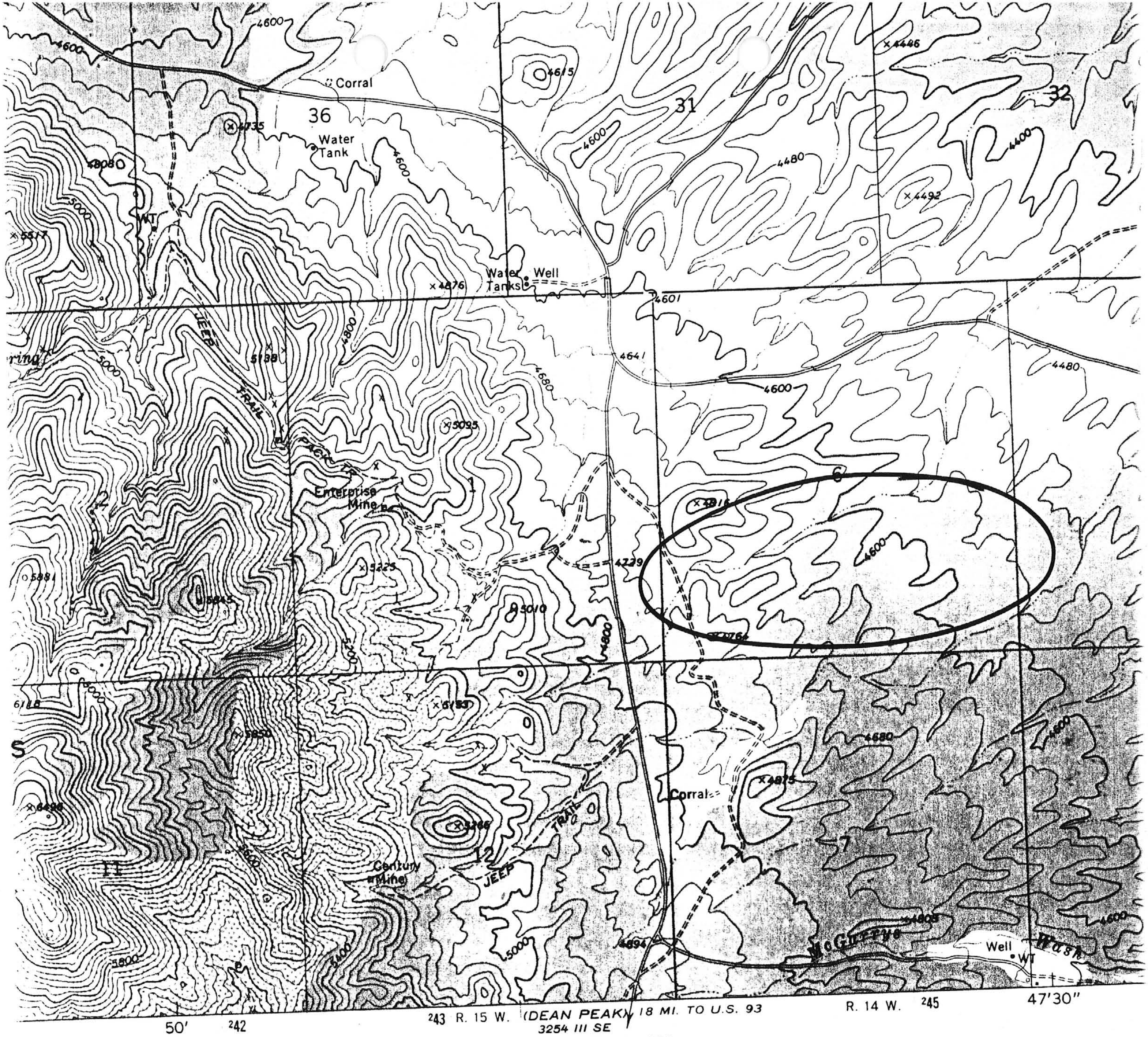
MOHAVE COUNTY MILS NUMBER: 539A

LOCATION: TOWNSHIP 20 N RANGE 14 W SECTION 6 QTR. --
LATITUDE:N 35DEG 08MIN 54SEC LONGITUDE:W 113DEG 48MIN 22SEC
TOPO MAP NAME: HUALAPAI PEAK NE - 7.5 MIN

CURRENT STATUS: UNKNOWN

COMMODITY:
IRON-(M)MAGNETITE-PRIMARY
IRON-BYRODUCT
GEMSTONE-(M)ZIRCON-BYPRODUCT
GEMSTONE-(M)GARNET-BYPRODUCT

BIBLIOGRAPHY:
ADMR HUALAPAI PLACERS MINE FILE
HARRER,C.M., USBM IC 8236, P. 72
ADDITIONAL AREA INCLUDE - SEC. 4-E2, 10, 12-S2, 14-NW,NE,SE, T21N-R16W, SEC. 6-SE, 4-NE,SE,SW, 8-SW,NW,NE, 10-W2, 18-SW,NW,NE, T21N-R15W, SEC. 30-T21N-R14W, SEC. 20 & 30 T21N-R13W, SEC. 8, 14, 18-T20N-R14W, SEC. 4, 6,8,18,20,22, & 30 T20N-R13W, 77CLS.,12320A.



SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

MN

15°
267 MILS

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

MAGNETIC NORTH
ENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Hualapai Peak NE
7.5′

IC 8236, p. ...

HUALAPAI MAGNETITE PLACERS

Kingman Mining District

Mohave County, Arizona

RIH

INDEX

I INTRODUCTION

The mining properties concerned occupy portions of Townships 20 and 21 North, Salt River Base and Meridian, and Ranges 13, 14, 15, and 16 West and consist of seventy-seven (77) unpatented placer claims of 160 acres each, totaling twelve thousand three hundred twenty (12,320) acres and are known as the "HUALAPAI" group of the Magnet Mining Company, Inc., claims. The claims are located from about four (4) miles SouthEast of Kingman, Arizona to about twenty-five (25) miles (SE of Kingman) and are traversed by paved U.S. highway 93. A main line of the AT & SF RR is at Kingman and the property is transversed by major power and gas lines. Water is reported obtainable from shallow wells in the Big Sandy river (from underground flows). The surface of the river bed is dry most of the year. This water information has not been verified by the writer, but is information obtained from the County Agricultural Agent. The Big Sandy river is located about 4 miles East of the claim.

A study of title is not contemplated in this report, but a brief outline of apparent ownership will be given. The aforementioned claims were located, tested, and staked out by Gordon G. Howard and associates during February, March, and April 1961 and were officially recorded on April 14, 1961. Between September 13th and November 1, 1961, the respective original locaters assigned and transferred the claims to the Magnet Mining Company, Inc. (the current owner) and the claims were paid for by a stock issue. The required annual assessment work for the year ending in September 1962 has been accomplished. As observed by the undersigned, the staking is adequate as prescribed under Arizona mining laws, but some stakes are now missing and should be replaced. The latter condition is apparently caused by cattle knocking down some posts, others washed by heavy periodic rains, or by thieving by individuals with malicious intent. As a matter of major consideration, it is to be understood that the Federal mineral rights of most odd numbered sections (in the townships above mentioned) were part of the early land grants to the Santa Fe railroad. And are understood to be retained by the railroad company, although much surface land has been sold to ranchers in the area by the railroad. At some future date, these mineral rights should be purchased or leased by Magnet Mining Company, Inc., in order to round out their holdings.

Investigation of this Hualapai mining property was made by the writer, during the period of July, August, and September, 1962 (at intervals) at the request of the Board of Directors, Magnet Mining Company, Inc., (a Nevada corporation, but licensed as a corporation in Arizona, as well). The purpose of the examination was to obtain a preliminary Geology report on the potential economic value of the Hualapai property: this to build up justification for more extensive testing, drilling, geophysical and economic studies with resulting increased development expenditures. This to confirm opinions that it is an extremely valuable mining property.

Sampling was accomplished primarily by making channel cuts in open pits dug by bulldozers throughout the claims. Present with the writer at the taking of most samples was Mr. Daniel C. Jacobs, Vice-President, Magnet Mining Company, whose assistance is greatly appreciated. The testing of the samples was accomplished by Mr. Mason W. Rankin, Geologist. Acknowledgement of an earlier "Reconnaissance" report on this property by Mr. Rankin in February, 1962, is made. This report contained valuable and encouraging information on the Hualapai claims.

II SUMMARY AND CONCLUSIONS

With the diminishing of the great iron reserves in the East, such as the Mesabi range, and with the explosion in population in the Western states, with the resultant increased local demands and useage, the Hualapai group of claims is a valuable property that should be retained, maintained and further developed.

With current ore prices, processing, transportation and marketing costs as a guide, the central area (vicinity T20N R14W) appears to be most promising for profitable operation. There is indication of diminishing iron content towards the fringe areas, which places the later in a marginal category.

With the present machinery available on themarket for processing magnetite sands, such as the giant Excavator that handles 3500 yards (or more) of alluvial material per hour, (at a cost of about three cents ($.03) per yard), and with simple high speed magnetic drum separators, the magnetite (iron) can be produced most profitably.

Although the depth and full extent of the black (magnetite) sands has not been determined, it can be safely estimated that there are a 100 million tons of Fe_3O_4 (magnetite) in the general area. Of special interest is the low titanium content of the sands (.07% TiO), which is a major deterant in most of the potential black sand areas in Arizona and elsewhere (also there are no other impurities of any significance).

III RECOMMENDATIONS

a That the Hualapai group of mining claims be retained by Magnet Mining Company as a valuable mining property. Even if not placed in operation in the immediate future, time will enhance the value of this iron property.

b That further development work be undertaken, as funds become available, to include: (priority according to order of listing)

(1) Re-stake claims where necessary. Extend claims in some areas. Further elucidation and assistance will be given on this by the writer when requested. (Estimated cost: $1,000.00)

(2) Undertake extensive drilling and testing to determine probable (or proven) ore tonnages and quality. (Estimated cost: $10,000.00)

(3) Develope and lay claim to water sources in Big Sandy river. This is a river bed that is normally dry most of the year, but is understood to have a continuous underground flow. Some water will be necessary for operation, and a great deal more if "wet" type magnetic drain separation is undertaken.
(Estimated cost: $10,000.00)

(4) Establish a small pilot plant to test run typical black sand ore on a practical basis. From this small operation, firm operating costs can be determined, and it is believed that a market can be procurred for the limited carloads produced. There is a great possibility this operation can be made self sustaining. It can prove the feasibility of the iron claims and can result in increased future interest towards major production on a vast and profitable basis. Required for the pilot plant will be:

1 ea.	Stearns HS magnetic separator	8,000.00
1 ea.	Second hand dump truck	500.00
1 ea.	Second hand loader (Michigan loader or backhoe)	1,500.00
1 ea.	Davis Tube (for accurate testing)	1,000.00
	Portable building, installation, power, labor, etc.	4,000.00

(Total estimated cost: $ 15,000.00)

c Continuing and aggressive efforts should be made in promoting this property to obtain one (or all) of the following:

(1) A purchaser for the Hualapai mining group, provided the Magnet Mining Company desires a quick sale and profit.

(2) An operator, who has ample capital to develop and place the property in production, with a royalty to Magnet Mining Company. (Beware of promotors who have no capital or financial backing).

(3) A market for the magnetite iron concentrates, with a firm committment for a yearly tonnage. If this level is reached, capitol can be borrowed to place the property in operation.

IV. GEOGRAPHY

As mentioned previously, the mining claims are located in the vicinity of Kingman, Mohave County, Arizona. They are in the West central part of the State and are on the East side of Hualpai Mountain (elevation 8000 feet) and on the West slope of the Big Sandy bolson. The distance to the Kingman railhead is from 4 to 25 miles provided truck haulage is considered. Kingman to the port of San Pedro (California) is about 400 miles by rail.

The claims are considered to be in the Northern reaches of the Sonoran desert, in the mountain region, with the drainage generally to the Southeast, and then ultimately to the Colorado river to the Southwest. Accessibility is no problem as a paved highway traverses the claims; practically any vehicle can be driven into most areas although sandy stream beds and some arroyos should be negotiated with a 4 wheel drive vehicle. Other geographical features are:

Climate is arid (desert) but closely approaches a "steppe" type. Precipitation is above 10 inches.

Elevation is about 3000 feet in lower area up, to about 4000 feet.
Temperatures get up to 120 degrees F. in Summer; low about 20 degrees in Winter.
Vegetation is desert Exerophytic plants (cholla, yucca, spanish bayonet, etc.) but higher elevations have junipers, scrub Oak, Mountain Laurel and a few pinion pines.
Soil is Sierozen (pedical).
Area is suitable for livestock ranching, although water is a problem.

V GEOLOGY

The principal feature of this mining property is the black sands that contain relatively high percentages of Magnetite (Fe_3O_4) which is the iron mineral that is highest in the element iron. The alluvial material in which this magnetite occurs varies from sand to gravel and is all in the clastic sedimentary category. While there are vast regions in Arizona, and other neighboring states, that have limited amounts of fine magnetite grains or particles in the soil or sand, most do not have concentrations of economic feasibility, and they are frequently contaminated with Titanium, Phorporus, aluminium, sulfur and other undesireable minerals that are too costly to eliminate, in order to have the iron marketable.

Fortunately, the Hualapai group has Exogenetic iron concentrations in the alluvium that will average above 5% magnetics. (See exhibit B). In fact some of the samples taken were as high as 27.90% magnetics. A sample of the concentrates that was given a spectrographic examination revealed Titanium to .07% and Aluminum to .5%, all of which is within acceptable standards (from information received by writer from iron ore buyers) and all other impurities were nil (See exhibit C). As a rule of thumb, the writer uses 5% magnetics as profitable to process and market (although an engineering firm has computed 2.7% as a "break even" level).

Getting into the historic geology of the claims area; the writer will outline his conclusions. The Hualapai range is composed of ancient granites (chrystalline and gniessoid) that are easily discernable by the normal exfolliation that occurs in arid areas. By correlation, these mountains are believed to be similiar in age to the Yavapai series (near Bagdad) and these strata have been determined to be early Algonkian of Proterozoic era of the Cryptozoic eon (1600 million years). The Hualapai was apparently formed by the diastrophic upheaval and tilting Eastward of a large crustal block and this is considered allied to the Nevada block faulted mountains which occurred during the Nevadian orogency in the late Jurassic (now disputed by some Geologists), with greater displacement during the Laramian revolution (late Cretaceous). From on examination the surface of these mountains, it should be recognized there is a hiatus of about 1 billion and a half years. Obviously, a series of later deposits have been made on these granites that have long since eroded away. To the East of the Hualapai there are the Big Sandy valley followed by the Cottonwood and Aquarius cliffs that are topped by the Truxton plateau. The valley is categoried as Tertiary-Quaternary sand, gravels and conglomerates (Sedimentary); the cliffs are late Algonkian; and the Truxton plateau is of Quaternary basalts. The Hualapai, Cottonwood and Aquarious are Plutonics, and the Truxton is igneous. Further on to the East is the area generally known as the Colorado Plateau. It should be recognized that there has been a series of distrophism, vulcanism and sedimentation in this area and that most of Arizona was covered by seaways during parts of the Cambrian, Devonian, Mississippian, Pennsylvanian and Permian times. In the opinion of the writer, the bulk of the mineralization happened during periods of diastrophism and vulcanism during the Mesozoic and Cenozoic eras.

The magnetite in the sands is derived from the erosion of the Hualapai mountains (and from the material that was formerly on top of them) and fluviatile (aqu eous) deposition into the alluvium below. The claims area is on a series of overlaping alluvial fans or bajada accumulations that are normally formed in arid regions, resulting from great quantities of rock and sand with water and mud flowing down the mountain sides. Of course, this sedimentary area has now been aggraded and degraded repeatedly, resulting in sills and lenses of magnetite concentrations, that are alternatively rich and poor. Likewise, it should be understood that it has taken many million years to do this. The writer notes that in approaching the mountain, to the zone of contact metamorphism, the pebbles, cobbles and boulders become angular and sharp, while those to the outer fringes of the fans are rounded. Imperfect sorting is characteristic of these deposits. It should be thoroughly understood that there are some cobbles and boulders throughout the entire area, but the general consistency of the alluvium ranges from silt to sand to gravels; there is some caliche as well as argillecious material, but all contain magnetite that can be mined with earth moving equipment.

No sedimentary petrography has been seriously accomplished, but the sands (besides magnetite) contain some ilmenite, apatite, garnet, zircon, and the common detrital minerals (quartz, feldspars, etc.) Some authigenic minerals are also present. There is good reason to suspect that a small amount of gold is present, but no testing was accomplished for this.

The magnetite sand in the Eastern states is considered to be derived from Norite rocks, but locally the concensus of opinion is that it comes from the precambrian granites. The writer does not entirely hold with this viewpoint. Examination of the granidorites, andesites, and quartz monsonites of the Hualapai reveals they do not contain sufficient magnetite to account for the quantities in the alluvium. It can be understood that some magnetite can come from alteration of the biotite in these rocks, and some quartz othoclase veins have small quantities of magnetite, along with sulfides, in the older formations. But this is insufficient. It is believed that extrusives of gabbros, diabases, basalts, etc. (ferromagnesiums), of which magnetite is an important accessory mineral, produced most of the alluvium magnetite. Formations of these rocks which were probably deposited from the late Cretecious to the Quaternary, were in this area, but they have long since eroded away. This is believed to be the primary source of present magnetite.

Getting back to the mining property in question, as mentioned earlier, samples were taken from a multitude of locations throughout the claims. An average of two samples was taken from each placer section by the writer. This was accomplished by making a channel cut on the side of pits averaging 8 feet in depth, that had been dug by bulldozers. An average of about 5 lbs of material was carefully taken from each pit, placed in a sack and labeled. Later, Mr. Rankin, geologist, was engaged to test the samples, which he did in the following manner. First the ore was screened through a 14 mesh screen and both the heads and tails from the screening were, respectively, weighed on a gram balance. Following this, all magnetics were removed carefully and tediously with a large hand magnetic. These magnetics were then carefully weighed and arithmetical computations were made to give the total magnetics (percentages by weight) in the sample. (See exhibit B) Both the heads and middlings of magnetics were saved, placed in sample bags, and were sent to the Arizona Assay Office, Phoenix, Arizona for wet iron assays. These results are on exhibit C. At the same time, a composite sample of concentrates was sent to the Arizona Testing Laboratory, Phoenix, Arizona for a spectrographic examination. (See exhibit D) The results showed negative impurities.

It should be understood that the pure mineral "magnetite" contains 69% iron. Hand lense examination of the magnetics separated from the sands reveals that much of the magnetite crystals are adhering to tiny fragments of quartz. This is verified by the Arizona Assay tests; apparently one-half of the sample weights were silica. In order to have marketable iron concentrates, the iron content should be around 60% or above, and this percentage can be attained by processing the heads through a roller (for a grind to about 50 mesh). This will break the magnetite loose from the quartz and bring the iron percentage up with two passes on magnetic drum separators. It is also noticed that screening alone results in a high percentage magnetite concentration. While no laboratory tests have been made on this, it should be done when the ore processing is worked out. The writer is of the opinion that screening through a 60 mesh sieve, alone, will result in about a 25% concentration of magnetics. Anything above 1/4" mesh is worthless for magnetics. Of course, it should be understood that there is a limit to the fine screening that can be accomplished commercially and economically.

Perhaps someone would like to question the figure of 100 million tons of concentrates in the mining claim area, as stated earlier. Actually this is most conservative. A cubic yard has about one and one-half tons of sand; on a 5% magnetics basis, each yard will produce 150 lbs. of concentrates. Thus, it will take about 13.3 cu. yards of the alluvial material to produce 1 ton of magnetite concentrates. On this basis, one square mile at 50 feet depth will produce 3.8 million tons of concentrates. With an area about 20 miles in length and about 5 miles in width and an average depth of 500 feet, the tonnage would be fabulous. As none of these figures have been practically verified let us ~~merely~~ say, ~~been verified,~~ there is great tonnage and this is no problem. "Proven tonnage" will require extensive drilling at great depth.

VI ORE PROCESSING

It is probably well known that ore dressing and plant procedure and costs are not in the geological field. (They properly come under the Metalurgical engineering) Marketing of course, is still another matter. However, the writer will outline his ideas in these matters.

The big break-through in alluvial operations has been the successful development of the giant excavator in Germany. This machine has now been introduced into the United States and one is reported to be in operation in New Mexico. This machine is portable and is suitable for dry land operations and its "business end" is a large wheel with steel buckets that rapidly eats into alluvial material at the rate of 2500 yards (up to 13,000 yards) per hour. Such a machine is operated by one man and sells for around 1 million dollars (and up). The ore is then passed along belt conveyors (or by truck) to the processing plant. A cogent problem is going to be the magnetic separation as the sand at the lower levels contains moisture and will not work satisfactorily on dry magnetic separators. The cost of drying the sand for this purpose will be somewhat costly. Therefore, by obtaining water from the Big Sandy river, efficient wet magnetic drum separators can be utilized. It is proposed that the ore be run over a grizzely and vibrating screens near the excavator to eliminate everything above granule size (pebbles, cobbles, boulders). Final information on the grading and amount of screening will have to be determined as a result of further engineering studies (as well as specific data on other processing). Following, the screening, the ore should be rolled (crushed) to reduce it to at least 60 mesh. It then should go through the magnetic separators and it will then probably take a second magnetic separation on separators to bring the concentrations up to above 60% iron content. If gold, zircon, and/or rare earths are found to be in the sands in commercial quantities, gleaning machinery can be added somewhere along the fines line to obtain these valuable minerals as a by-product. From the sorting procedures mentioned, a high grade of sand should also be a potential by-product and this is valuable even in a desert area. Disposal of the waste material (tailings) is also a minor problem that can be easily solved by filling in the dug out areas. From the magnetic separators, the concentrates should be placed in giant bins or hoppers and subsequently transported to the railhead by large trucks for final roading in railroad cars. If an operation of suitable magnitude is established, then it will be economically feasible to build a rail line from Kingman to the property. In order to be a money making proposition, 1 million tons of concentrates (or more) should be produced annually. Japan and Europe should be a probable market for this iron, as well as United States outlets.

VII ECONOMIC CONSIDERATIONS

As mentioned earlier, ore dressing and the economic factors are not within the scope of the writer, but some rough estimates can be given. No attempt will be made to go into the initial cost of the required major machinery, utilities, and installation. It was mentioned before, that there are major gas and electric lines crossing the claims that can be made available for power and drying purposes as needed, and there is a potential source of adequate water supply. Estimated costs of producing each ton of magnetite concentrates follows, as well as transportation for marketing and other factors:

a Removing the ore from the orebody with the giant excavator at 3 1/4 cents per yard operating cost (it is reported that one such excavator in South America operates for slightly over one cent a yard). Using the figure of 5% magnetitie in the raw material, one ton of concentrates will cost:

	$	.40
Operating the grizzely and screens:		.10
Conveyor belt to processing plant:		.05
Processing through rollers:		.05
Magnetic drum separation (2 passes)		.38
Haulage to railhead (figuring 10 miles) and loading		1.05
Estimated cost in cars at Kingman:	$	2.03

b Using the shipment to San Pedro port, California as a basis, it is reasonable to assume that a freight rate of $4.00 per ton can be negotiated for with the railroad. Estimated RR freight cost: 4.00

c Cost of production and shipment to possible market (one ton of concentrates - 60% iron): 6.03

d Recently reported iron price $10.20 (51% fines) 10.20

e Possible profit (gross) per/ton of concentrates: 4.17

E X H I B I T S

A. Claim map.

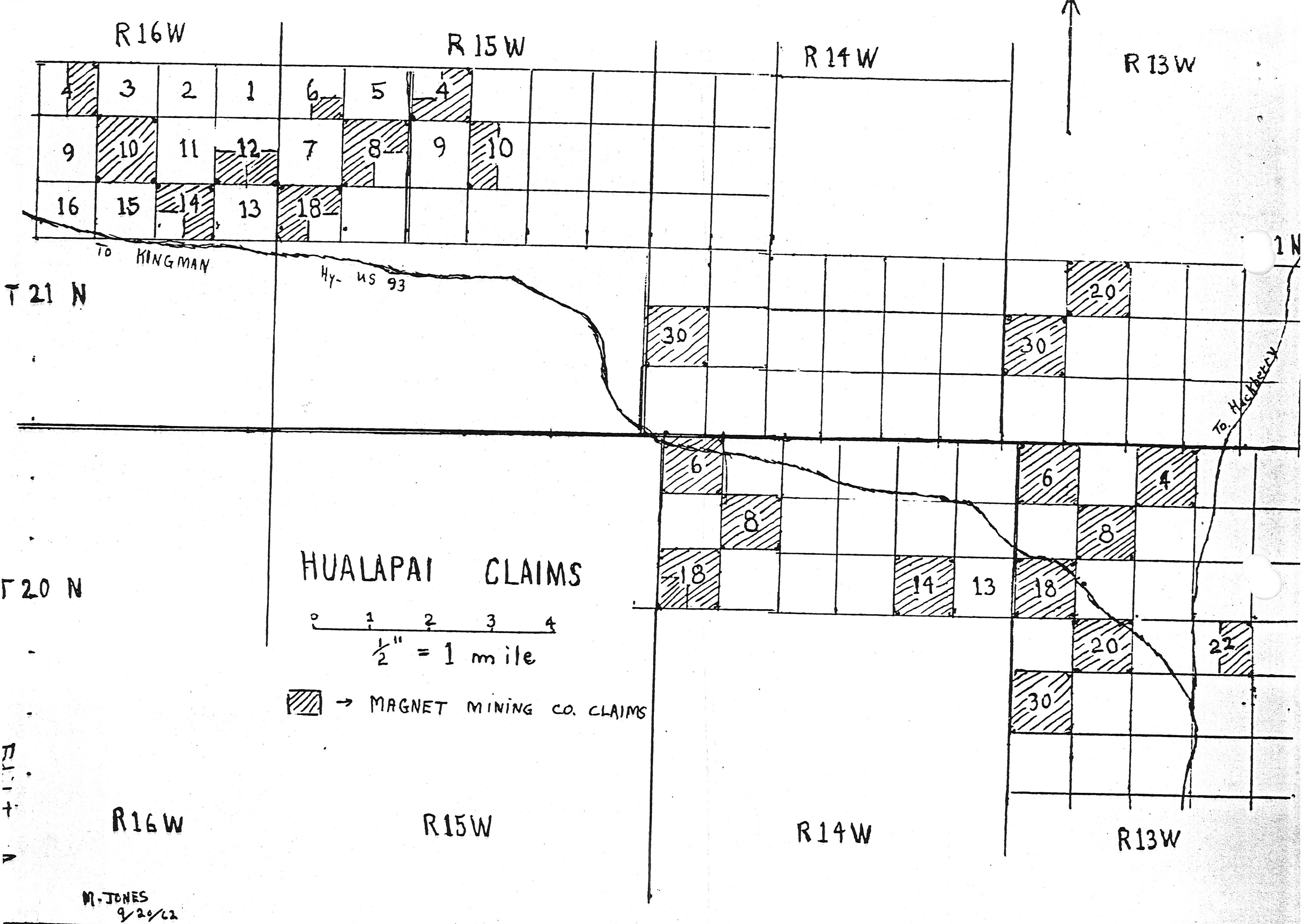
B. Separation of magnetics - Mason W. Rankin, Geologist.

C. Assay certificate - Arizona Assay office.

D. Spectrographic certificate - Arizona Testing Laboratory.

E. Photos with description.

F. Picture of German bucket wheel excuvator.


R16W
R15W
R14W
R13W
T21N
T20N
TO KINGMAN
Hy- US 93
To Hackberry
HUALAPAI CLAIMS
0 1 2 3 4
1/2" = 1 mile
→ MAGNET MINING CO. CLAIMS
M. JONES
9/20/62

Samples taken on Hualapai mining group
from pits averaging 8'

Sample No.	location	Gross weight	Total magnetics		+14	-14
1.	E. side N. Gr (comp)	2313 gms	92.5 gms	4%	25.5gms	67 gms
2.	"	1939	144	7.42%	54	90
3.	"	2264	232	10.24%	56	176
4.	"	1705	84	4.93%	35	48
5.	"	2083	208	10.0 %	69	139
6.	"	1172	98	8.36%	34	64
7.	"	974	18.5	1.90%	3.5	15
				(average 6.3%)		
8.	W. side N. Gr (comp)	1841	49	2.66%	6	43
9.	"	953	20	2.10%	4	16
10.	"	1240	15	1.21%	3	12
11.	"	3098	13	.42%	3	10
12.	"	2255	44	1.95%	15	29
13.	"	2313	46	1.99%	17	29
14.	"	958	54	5.64%	16	38
15.	"	1977	98	4.95%	39	59
				(average 2.6%)		
20.	Central gr	1101	245	24.7%	44	201
21.	"	1367	160	11.70%	40	120
22.	"	1422	240	16.88%	47	193
23.	"	1142	125	10.95%	22	103
24.	"	2273	634	27.90%	84	550
25.	"	2103	171	8.13%	39	132
26.	"	2582	204	7.90%	49	155
27.	"	2409	154	6.39%	37	117
				(average 14.06%)		
30.	SE group	2581	112	4.34%	27	85
31.	"	2428	89	3.67%	19	70
32.	"	3299	116	3.55%	24	92
33.	"	1967	144	7.32%	41	103
34.	"	2538	165	6.50%	41	124
35.	"	1588	87	5.48%	18	69
				(average 5.14%)		

Mason W. Rankin

MASON W. RANKIN
Mining Geologist

C O F I D E N T I A L

Shop No. 5233 A ~~1336 MA~~
File No.

Date 18 SEPT 1962

VALUES
Latest Quotation

1 oz. Gold
1 oz. Silver
1 lb. Copper
1 lb. Lead
1 lb. Zinc

THIS CERTIFIES
Samples submitted for assay contain as follows:

CHAS. A. DIEHL
(Registered No. 682)

Arizona Assay Office

Phone ALpine 3-4001

815 North First Street
Phoenix, Arizona
P. O. Box 1148

MAGNET MINING CO
BOX 87
CONGRESS ARIZONA

Short Ton .... 2000 Lbs.
Short Ton Unit .... 20 Lbs.
Long Ton .... 2240 Lbs.
Long Ton Unit .... 22.4 Lbs.

MARKS	SILVER PER TON Ozs.	SILVER PER TON Tenths	VALUE PER TON	GOLD PER TON Ozs.	GOLD PER TON 100ths	VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE IRON				REMARKS
1	(samples 1-7			+ 14 mesh (mids))				5.20				
2	(samples 1-7			- 14 mesh				28.80				
3	(samples 8-15			+ 14 mesh (mids)				5.60				
4	(samples 8-15			- 14 mesh				13.40				
5	(samples 20-27			+ 14 Mesh (mids)				6.60				
6	(samples 20-27			- 14 mesh				30.20				
7	(samples 30-35			+ 14 mesh (mids)				5.00				
8	(samples 30-35			- 14 mesh				25.60				

Charges $ 24.00

Assayer Chas. A. Diehl Chas. A. Diehl
Reg. No. 682

ANDY CHUKA, PRINT

Exhibit C

ARIZONA TESTING LABORATORIES
PHOENIX • TUCSON
A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.
PHONE AL 3-6272 817 WEST MADISON ST. P. O. BOX 1888 PHOENIX
Chemists . . . Engineers

For: Mr. Melvin Jones
Post Office Box 87
Congress, Arizona

Date: September 20, 1962

Lab. No.: 155362

Sample: Ore

Marked: Sample X

Received: September 17, 1962

Submitted by: Mr. Melvin Jones

Report of Laboratory Tests

REPORT OF SEMI-QUANTITATIVE SPECTROGRAPHIC EXAMINATION

Element	Approximate Percent
Silicon	Major Constituent
Aluminum	0.5
Manganese	0.06
Magnesium	0.05
Gallium	0.004
Iron	Intermediate Constituent
Copper	0.004
Sodium	0.8
Titanium	0.07

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Claude E. McLean

Claude E. McLean, Jr.

(Consolidation of Hualapai samples)

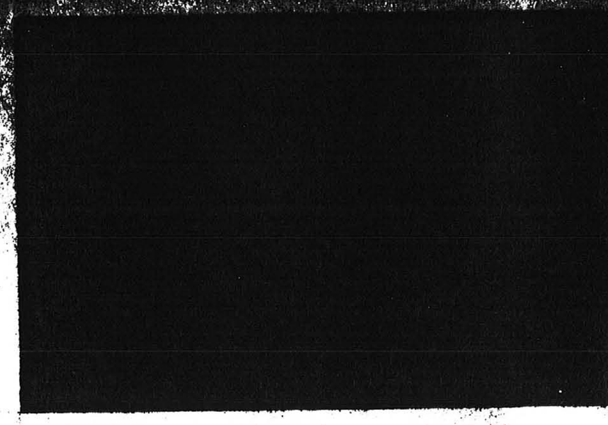
Exhibit D

MAGNET MINING CO., INC.

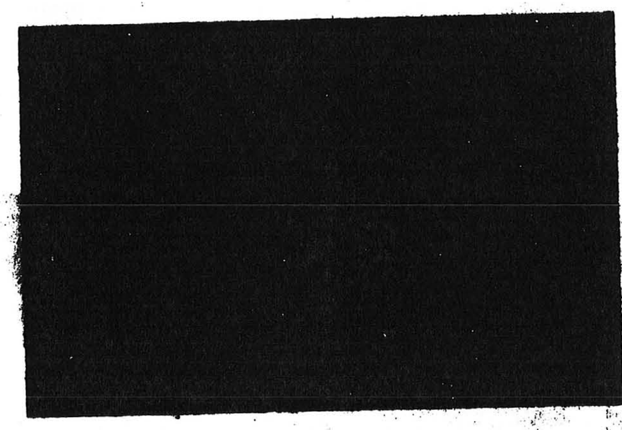
FIELD OFFICE, [redacted]EAD STATION

BOX 807 — [redacted], ARIZONA

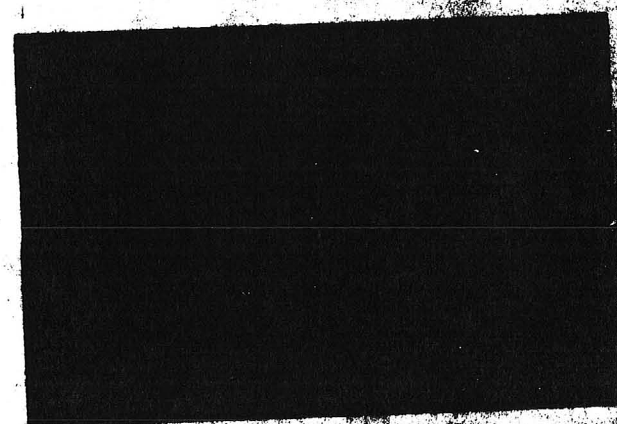
Typical view in South portion of the property.



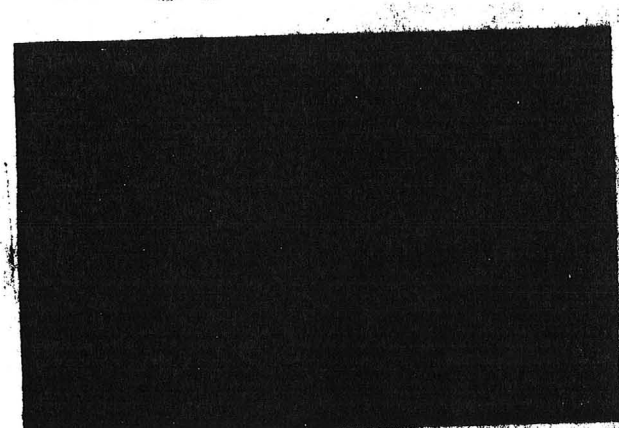
Desert view of sands in North area of the property.



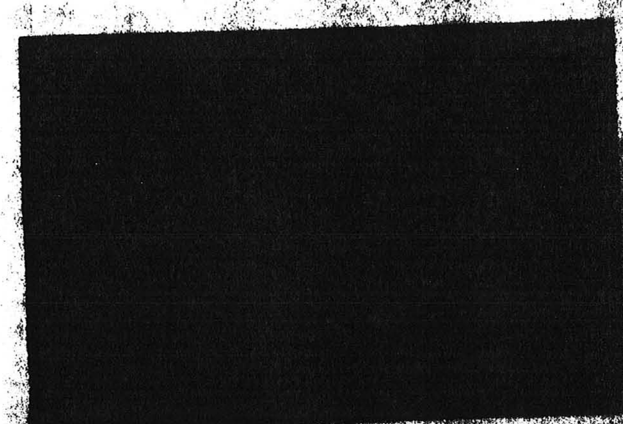
Pit dug with bulldozer similiar to the many from which samples were taken.



Central portion of claims showing Hualpai range in background.



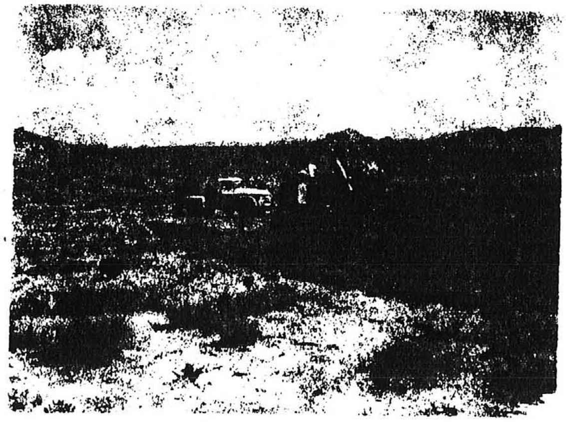
Stream bed showing black magnetite on surface.



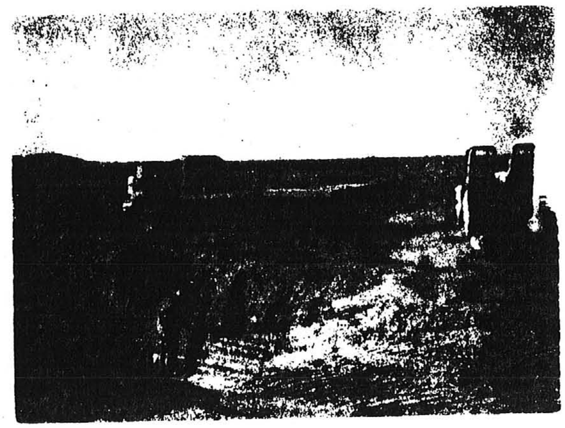
View from central area looking East showing Junipers.

Exhibit E (1)

MAGNET MINING CO., INC.

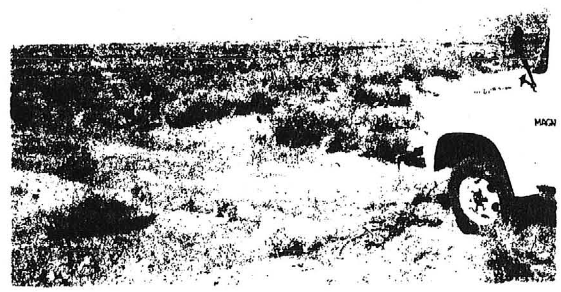


View of pit digging. Mr. Frank Miller "Cat" operator.

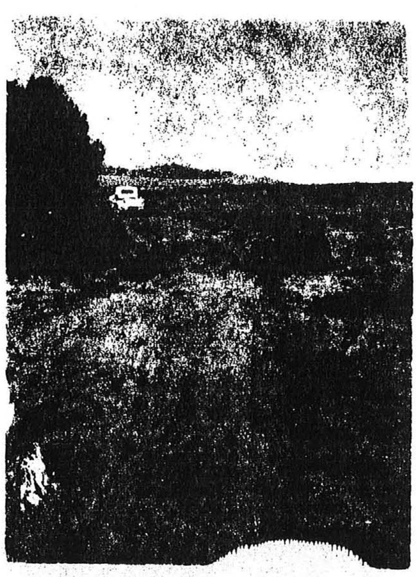


Mr. Daniel C Jacobs pointing to channel cut where ore sample was taken.

Another pit being dug.



Road made with bulldozer. About 20 miles of new road was constructed.

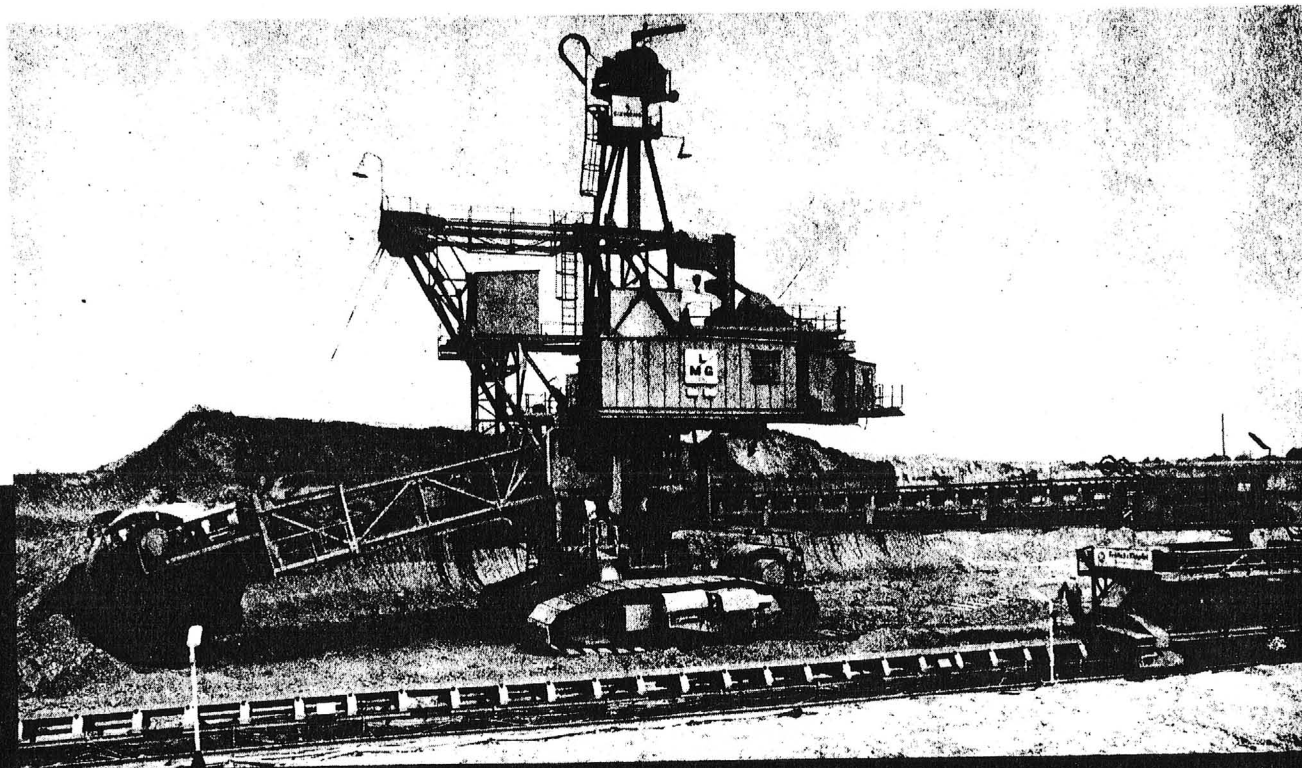


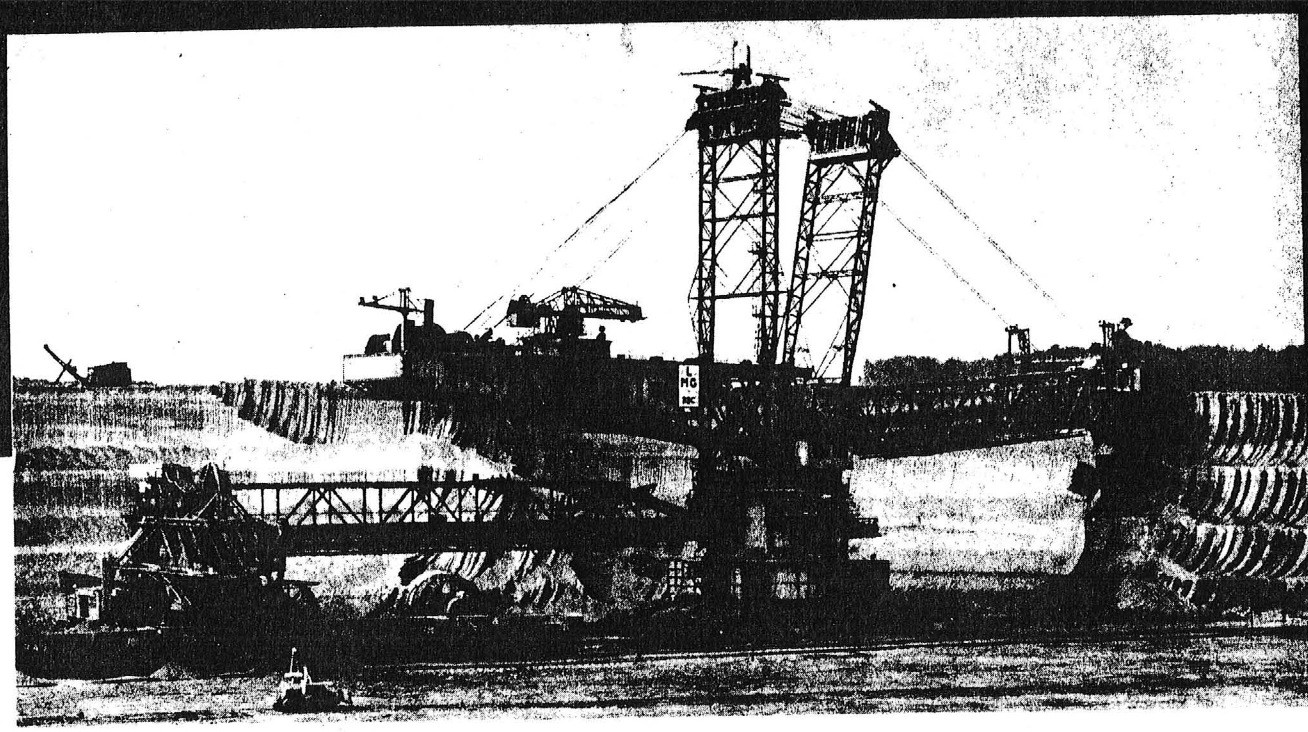
Truck on new road.

Photographs showing digging of pits and building of roads on the Hualapai claims during the accomplishment of annual assessment work. Photos taken August 25, 1962.

Exhibit E. (2)

Serves various types of transportation





Delivers to railroad cars or trucks This gigantic excavator delivers up to 13,000 cu. yd./hr. of overburden to trains of 180-metric ton railroad cars. Photo 42167.

Exhibit F.