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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: FE DELTA IRON PLACER

ALTERNATE NAMES:

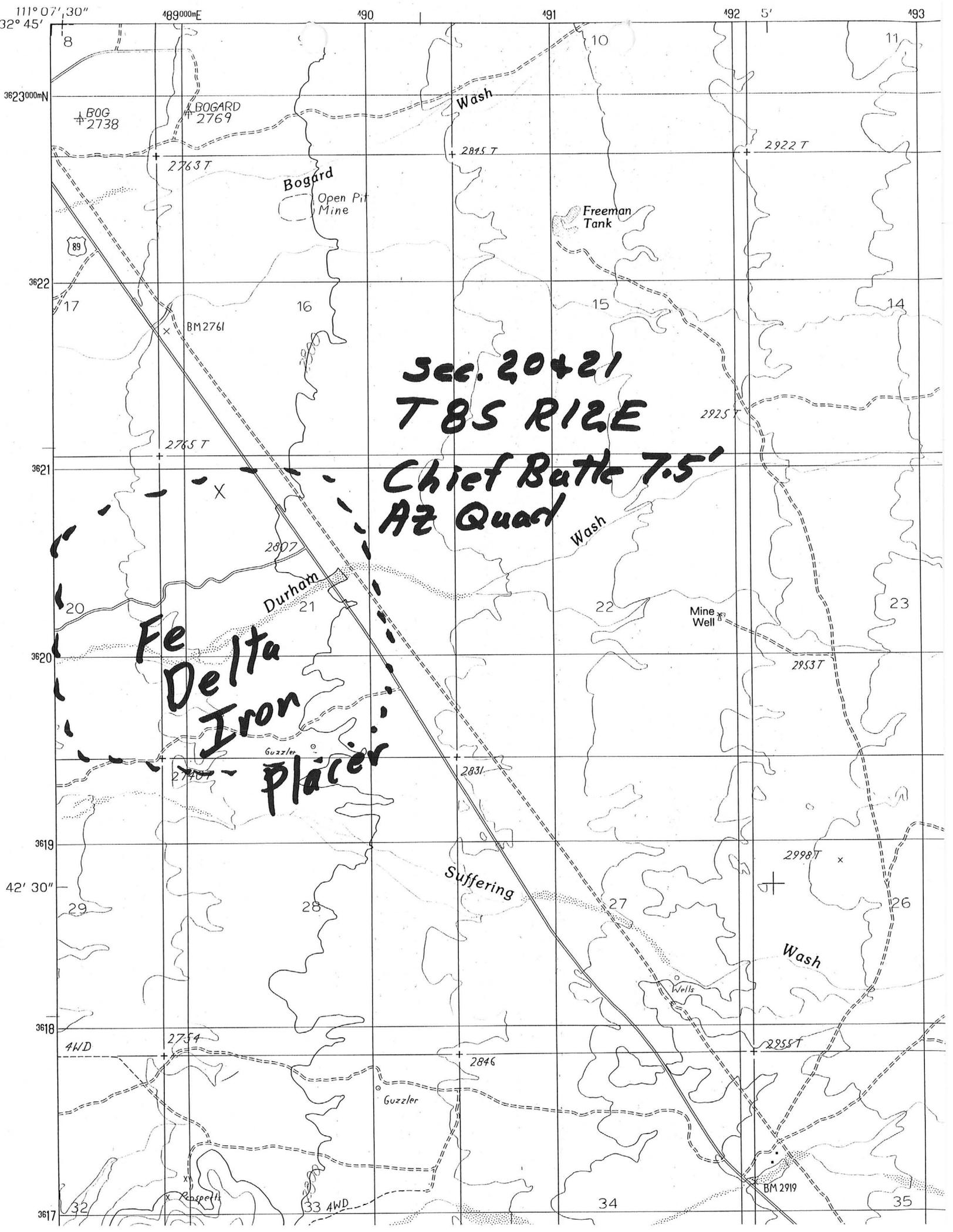
PINAL COUNTY MILS NUMBER: 774

LOCATION: TOWNSHIP 8 S RANGE 12 E SECTION 21 QUARTER NW  
LATITUDE: N 32DEG 43MIN 38SEC LONGITUDE: W 111DEG 6MIN 55SEC  
TOPO MAP NAME: CHIEF BUTTE 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:  
IRON PLACER

BIBLIOGRAPHY:  
ADMMR FE DELTA IRON PLACER FILE



**Sec. 20+21  
TBS R12E  
Chief Butte 7.5'  
AZ Quad**

**Fe Delta  
Iron  
placer**

**Bogard**  
Open Pit Mine

**Freeman Tank**

**Durham**

**Suffering**

89

BOG  
2738

BOGARD  
2769

2763 T

2815 T

2922 T

BM 2761

2765 T

2807

2740 T

2831

2953 T

2998 T

2754

2846

2958 T

32

33

34

35

Rossett

BM 2919

3623000mN

3622

3621

3620

3619

3618

3617

32° 45'

489000mE

490

491

492

493

8

17

20

29

32

16

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Fe Delta Placer Iron  
January 9, 2002  
By Ken A. Phillips

Pinal County

On January a meeting was held with Robert R. Wylie, 11 Orange Grove Road, #913, Tucson, Arizona 85704 and Lawrence "Larry" E. Major, 5773 N. Pontatoc Road, Tucson, Arizona 85718, phone 520-529-2434 and Cell phone 520-400-6222 regarding the Fe Delta iron placer mining claims in Pinal County.

Mr. Wylie explained that since our last information from him in the early 1990s he has separated from the Martins and is trying to develop his own group of association placer claims in Secs. 20 and 21 T8S R12E. He has acquired an association of miners to hold and develop the claims. Larry Major is a former product sales specialist for Magma Copper and the subsequent BHP Minerals at San Manuel.

Messrs Wylie and Major plan to evaluate the placer magnetite quality and quantity on the claim group. They hope to supply the cement manufacturing industry and iron chemical uses. Their initial target is located in the NW $\frac{1}{4}$ , Sec. 21. They report to have begun the plan of operation procedure with the BLM for initial bulk testing.

Previous promotion and marketing attempts were discussed. The need for future information and reports to address technical market data, mineral deposit evaluation, and mining development was emphasized.

Information related to the Fe Delta claims in this location has been removed from the Black Mountain Iron Placer mine file and a new file for the Fe Delta Iron Placer has been created.

The Treasure of "Fe Delta"

By: Robert R. Wylie

(file) BLACK MOUNTAIN IRON PROJECT

Fe Delta Enterprises, Inc.  
An Arizona Corporation

An Information Report

Fe Delta Enterprises, Inc.

A Prospectus

By: Robert R. Wylie

"The Treasure of Fe Delta", An Alluvial Iron Ore Deposit.

"Fe Delta" is the name, coined by the author, of the vast deposit of alluvial iron bearing desert black sand covering about 400 square miles west of Black Mountain, Pinal County, Arizona. It lies at a general elevation of about 2800 feet, sloping gently to the west at grade. It is crossed by Highway 89 about 40 miles north of Tucson. A continental gas main, high voltage power lines of Arizona Public Service Company, and the Southern Pacific Rail Road lies at approximately 15 miles, close to the western border of the deposit. The center of the deposit corresponds approximately to Section 16 in Township 8 South, Range 12 East. The area is about 15 miles from Red Rock Junction.

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Fe Delta Enterprises, Inc. has filed applications with the Arizona Land Department for Exploration Permits, which can be converted to mineral leases, on Sections 7, 8, and 16, Township 8 South, Range 12 East.

It is the opinion of several of the geologists who have examined this property, that the origin of these iron sands was from weathering of the Black Mountain Range, which filled the, then existant valleys to a depth of from 500 to 1,000 feet. It is of geologic interest to know that deep wells drilled in these sands report a reasonably uniform iron content of 3 to 5 percent Fe to depths as great as 900 feet

A total of about 7.4 million dollars has been spent by the groups who have investigated these properties. This report is based partially on the geologic and metallurgical data of the following reports, and the earlier operations of Sovereign Industries in sections 9 and 16 east of the highway. These operations include mining of some 600,000 tons of crude ore and dry cobbing to about 50,000 tons of a 52 to 59 percent Fe Concentrate, and the milling of about 10,000 tons of the magnetite to -325 mesh concentrate.

The Sundness and Dynamics exploration was the first truly scientific work performed on the deposit, with the holes drilled on a definite grid pattern. The Sundness program of some 57 cased auger drill holes, was drilled in 1957 on the quarter section corners (2650 feet apart) and covers to 15 square miles. The average depth of these initial exploration holes was from 25 to 30 feet deep.

Dr Sundness found 2.0 to 9.2 percent by weight of recoverable high grade magnetic (i.e. 1.45 to 6.7 percent average Fe content) was a fair average, and used same in his tonnage

calculations. He then postulated 130, 680 lbs of sand per acre to 25 feet depth. This is equal to 59,000 tons of raw sand and gravel per 25 feet deep/acre, and this should yield about 2950 tons of 70 percent concentrate, when the gravel and miscellaneous losses are rejected. One typical square mile, excavated to a depth of 25 feet would therefore yield about 1.88 million gross tons of 70 percent Fe concentrate and about 7.6 million tons of concentrate to a depth of 100 feet.

These basic findings were more than substantiated by earlier Sovereign mining operations of sand in Section 16, via dozer/scrapper techniques (in the same area investigated by Dynamics and Dr. Sundness) to a depth of 10 to 20 feet, having deposited that each ton (18 cubic feet) of alluvial deposit produces the following approximate yields:

- 200 lbs. of 58/59 percent Fe dry concentrate.
- 50 to 150 lbs of stone and gravel (estimate).
- 1800 to 1900 lbs of non-magnetic waste (sands).
- 90 lbs. of moisture (approximate).
- 2240 lbs of original sand.
- 1800 divided by 2248 equals 80 percent of precious metals bearing sand.

#### Importance of Depth - Section 16.

The Sundness and particularly the Dynamics reports for Section 16, indicate the first 15 - 20 feet represent about 6 percent of recoverable magnetite concentrate (4,3 percent Fe), then about 10 feet to a leaner, high slime zone containing only 2 percent magnetite concentrate. This 25-35 feet is underlain by 30 feet of exceptionally rich, easy digging sand at 11 percent concentrate at about 6.5/7 percent average content. This represents a weighted average of about 13 to 1 for the first 50-60 feet depth.

The gently sloping desert drains to the west from an Elevation of 2540 Ft. on the East side of the claims to 2340 Ft on the west side or about 80 ft. per mile., The Bogard wash forms the main drainage of the Claims.

The Magnetite occurs in Stratified thin layers and disseminated in sand silt and small gravel, cross bedding also occurs frequently. Size of the individual grains of Magnetite is from minus 10 mesh to plus 150 mesh generally . Other heavy minerals are associated also.

In the sampled areas Magnetite content varied from 3 to 11% Magnetite, by weight, down to a shallow sample depth of 13 ft. Concentrations of these heavy minerals has been known to depths of 250 ft. and more, with grades of 15 % Magnetite not uncommon .

Besides Magnetite, other Heavy Minerals occur, like Ilmenite, Garnet, Epidote-Zoisite, Hornblende, Apatite, Zircon and Hematite & Martite. The light fraction of these sands consists of Quartz, Feldspars, Muscovite, Carbonite-Caliche and Clay minerals.

These Alluvial Magnetite deposits are of a true Placer type, and in many ways similar to Gold Placer deposits in the South-West. The erosion of the Intrusive rocks and the transportation of erosional debris downhill caused the Alluvial deposition in the Valleys and lower plains mostly by water deposition.

Alluvial or sedimentary deposition was mostly coarse and shallow close to the source rocks, gradually getting finer and deeper towards the west where the claims are located.

**SAMPLING AND TESTING:** Sampling was done from pits dug by a Backhoe. Sampling the Pit walls was done from top to bottom by cutting a Channel sample of 13 ft deep. Two Pits were dug per claim, with sample weights from 20 to 28 Kilogram per Pit.

Each sample was split in two equal parts of 10 to 14 Kg. each. The samples were marked P-1 to P-20. One set of samples was taken to METCON RESEARCH INC. of Tucson, for testing and recovery of the Magnetic fraction. A report on the results of the testing and recovery of Magnetite is attached to this report and made part thereof.

The average Magnetite content of the 20 samples was 5.8% by weight. Diluting these values for screened off  $\frac{1}{2}$  inch material and lowering the recovery percentage to 95% of that obtained in the Laboratory, it appears that an average Recoverable Magnetite content of 5.34 % is a reasonable figure to base Recoverable Tonnages on.

The Tonnage figures that are given in this report will be based on an in place Bulk Density of 125 Lbs /Cu ft. or 16 Cu ft. per Short Ton. This is an average figure which has been used by others.

Reference is made to other Reports that may be made available by the owners or the Arizona Bureau of Mines in Files and Bulletins like the Bulletin # 180 on the Mineral and water resources of Arizona. Other reports by Dr. Gert Schroeder, by the DRAVO CO. and by the Colorado School of Mines on the drilling and sampling of these Magnetite Placer sands, for SOVEREIGN Resources and others.

**MAGNETITE PLACER SAND TONNAGE:**

Ten Mining claims of 160 acres each and down to a sample depth of 13 ft. calculate into 56,628,000 Million Short Tons of Placer sands. At 5.34 % Magnetite, recoverable from this material gives a figure of 3,023,935 Million Tons of Magnetite Concentrate of high purity.

The above Tonnages given are a conservative estimate, with the true potential reserves many times those given to a depth of only 13 ft. Further information on the Economic Geology and Feasibility Studies can be obtained from the MARTIN Group as owners of the Property.



RESPECTFULLY SUBMITTED BY:

*Dirk den Baars*

Dirk Den-Baars, Geologist.  
Tucson, November 5th, 1987

Information Pertaining to the Establishment  
of a  
Precious Metals and Magnetite Processing Facility.

Fe Delta Enterprises, Inc., hereinafter the "Company": which maintains offices at 11 E. Orange Grove Rd. #913 Tucson, Arizona 85704, was formed for the purpose of exploiting the large magnetite and precious metals deposit located 35 miles north of Tucson in Pinal County, Arizona. This deposit is also known as the Black Mountain deposits

Fe Delta Enterprises, Inc. is an Arizona Corporation with a capitalization of 10,000 shares of \$100 par value common stock for \$1,000,000 capital. The Company has filed for 20 year leases on 1742 acres of mining claims from the Arizona State Land Department. This lease will be entered into in exchange for a continuing royalty, the amount of which will be negotiated.

Three placer claims, to be known as Fe Delta Claims, are referred to as follows: Sections 7, 1/2 8 and 16. Township 8 South and Range 12 East, Pinal County, Arizona. It is the intention of the Company to mine the sand and gravel and process the magnetite and precious metal ores contained therein.

The Company has been granted 9 Reserved Metals Estates on Sections 20 and 21, Township 8 South, Range 12 East, Pinal County, Arizona. It is the intention of the Company to mine the sand and gravel deposits, recover the magnetite ore and consolidate other mineral deposits. The Estates were granted by the Department of the Interior, Bureau of Land Management.

The Company has been granted surface leases by the Arizona State Land Department on the 2 sections. They include a water well with enough capacity to service all processing operations.

#### The Operating Facility

It is proposed that an initial recovery plant for the production of 400 tons per day of high purity magnetite ore (iron oxide) be located at the mining site in Pinal County, Arizona. This processing facility will include a circuit for the extraction of the contained values of gold and silver. It will also process the silica sand which is the basic ore of the deposit.

Principal Reports Consulted:

Dr. O.A. Sundness	1959
Dirk denbaars and Associates	1962
Western-Knapp Company	1960
Dynamic Research, T. Slick	1960
Food Machinery Corp.	1963
Harshbarger Well Report	1964

In addition to the above principal reports, some reports by Lund, Williams, Battelle, Dolbear and Ramsayer and Miller et al, have been in recent years.

C-Iron Ore Reserve Summary:

The data in this document are a summary of the three principal explorations made to date, covering about 15 square miles at depths of 30 to 300 feet. The average of the recoverable magnetite crystals from this work is seen to be about 5.0 percent by weight, or indicated mining ratio of 20 to 1. One ton of 70 percent Fe magnetite will require about 20 tons of 4 percent crude sand and gravel at 3.5 percent of Fe content average.

The proven reserves as indicated by the 700 feet of drill holes, pits etc. and 600,000 tons of sand processed to date in the 15 square mile area is as follows:

15 Sq. Miles Explored	GT/Sq. Mile	G.T. Recoverable of 70% Fe Concentrate
To 25 feet deep	1.9 million	29.5 million
To 50 feet deep	3.8 million	59 million
To 100 feet deep	7.6 million	118 million

The total concession area of 89 square miles, is consistent with the area explored to date, indicates a projected probable reserve situation of about 250 million tons of 70 concentrate to 50 50 feet and over 500 million tons if excavated to 100 feet deep.

Many thousands of tons of the 59 percent cobbled concentrate natural sized at about 80 percent, minus 25 mesh, (and 97 percent plus (and 90 percent - 325 mesh, producing a very high iron concentrate with the following typical chemistry:

Typical Sovereign Concentrate:

Total Fe	70 to 70.65% (as Fe <sub>3</sub> O <sub>4</sub> )
TiO <sub>2</sub>	0.25 to 0.5%
Si O <sub>2</sub>	0.40 to 0.80%
Al <sub>2</sub> O <sub>3</sub>	0.10%
Mn Ox	0.15 to 0.20%
Phos	0.25 to 0.35 %
Sulfur	0.008%

Other metallic residuals - total about 0.010%

<b>Raw Feed Analysis - 6 mesh undersize (71.4% of total)</b>	
<b>Total Fe</b>	<b>7.54%</b>
<b>TiO<sub>2</sub></b>	<b>1.82%</b>
<b>Mn</b>	<b>0.14%</b>

The Sovereign black sands have demonstrated a natural advantage of achieving low residual refractory oxide, phosphorus and sulfur contents at good pellet grind, i.e. 80 to 90% minus 325 mesh, producing a magnetite concentrate averaging as follows:

<b>TYPICAL MAGNETITE CONCENTRATE</b>	
Total Fe	70%
TiO <sub>2</sub>	0.25 to .50%
SiO <sub>2</sub>	0.40 to .80% ~
Al <sub>2</sub> O <sub>3</sub>	0.10%
Mn <sub>2</sub> O <sub>3</sub>	0.20%
Phos	0.025 to 0.035%
Sulphur	0.008%,
L.O.I. + R <sub>2</sub> Ox	Balance

One 2240 lb. ton of this material when pelletized and heat hardened, will be essentially oxidized to hematite, and including a provision for (0 to 0.25%) bentonite, will produce 2313 lb. (1.035 T) of a low residual 1000 to 1200 lb. pellet of good tumbler, Linder and swelling properties at about 68% Fe content of the following typical analysis:

<b>HEMATITE PELLETT ANALYSIS</b>	
Total Fe	68-68.3%
TiO <sub>2</sub>	0.30 to .50%
SiO <sub>2</sub>	0.70%
Al <sub>2</sub> O <sub>3</sub>	0.30%
Phos	0.04%
Sulphur	0.01%,

If the economics of the low cost harvesting of the loose desert sands, milling the 70% Fe Concentrate and producing heat hardened pellets in an on-site pellet plant are attractive, the deposit could have great economic potential, particularly for Western U.S. and possibly Pacific iron operations.

This report will test the deposit on the basis of a 2,000,000 TPY pellet operation. All units are in the English system using the long dry ton - 2240 lb. - as the base, and all figures expressed in current<sup>5</sup> U. S. dollars. One long dry ton (LDT) unit represents 22.4 lbs. of contained iron (Fe).

<sup>5</sup> recall that all costs given in italics are on the original 1967 cost basis.

Raw Feed Analysis - Particle Size Distribution (PSD)

<u>size range</u>	<u>through mesh</u>	<u>on mesh</u>	<u>largest diam. mm</u>	<u>smallest diam. mm</u>	<u>wt frac</u>	<u>Cumulative weight R<sub>expermtl</sub></u>	<u>Cumulative weight R<sub>calc</sub></u>
1	4"	2"	101.600	50.800			0.00000
2	2"	1"	50.800	25.400			0.00000
3	1"	1/2"	25.400	12.700			0.00003
4	1/2"	1/4"	12.700	6.350			0.00535
5	1/4"	6	6.350	3.360			0.06322
6	6	10	3.360	2.000	0.22400	0.22400	0.19393
7	10	14	2.000	1.410	0.13200	0.35600	0.31512
8	14	20	1.410	0.841	0.11600	0.47200	0.50288
9	20	40	0.841	0.420	0.21600	0.68800	0.71009
10	40	80	0.420	0.177	0.19100	0.87900	0.86606
11	80	100	0.177	0.149	0.01500	0.89400	0.88606
12	100	200	0.149	0.074	0.05100	0.94500	0.94184
13	200	325	0.074	0.044	0.05500		0.96507
14	325	400	0.044	0.037			0.97056
15	400		0.037	0.000			1.00000

least-squares fit Rosin-Rammler parameters,  $R_{calc} = \exp(-bx^n)$

b = 0.8179

n = 1.0039

Typical Sovereign Concentrate

Total Fe	70 to 70.6% (as Fe <sub>3</sub> O <sub>4</sub> )
TiO <sub>2</sub>	0.25 to 0.50%
SiO <sub>2</sub>	0.40 to 0.80%
Al <sub>2</sub> O <sub>3</sub>	0.08 to 0.10%
CaO & MgO	0.10%
MnOx	0.15 to 0.20%
Phos	0.25 to .035%
Sulfur	0.008%
Other metallic residuals	
total about	0.010% (Section IV for details)

This is a reasonably pure concentrate with titania and phosphorus values generally acceptable to the blast furnace trade, since smelting even 100% pellets from such concentrate would produce a slag with about 0.5% TiO<sub>2</sub> content.

## Dry vs Wet Cobbing

52 % to 59 % of dry cob concentrate - 10,000 T of the dry cob concentrate have been wet-milled and concentrated to 8500 tons of 70% concentrate at the Coolidge ball-mill plant of Sovereign.

One typical square mile, excavated to a depth of 25 feet would therefore yield 1.88 million gross tons of 70 % concentrate and about 7.6 million tons of concentrate to a depth of 100 feet.

These basic findings have been more than substantiated by Sovereign mining operations where mining the 600,000 tons of sand in Section 16, via dozer-scraper techniques to a depth of 10 to 20 feet, have demonstrated that each ton (18 cubic feet of alluvial deposit produces the following yields:

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200 lbs of 58/59 % of dry concentrate.  
50-100 lbs. of stone and gravel (estimate).  
1800 to 1900 lbs. of nonmagnetic waste.  
2240 lbs of original sand at 5.25 % Fe.

Thus, about 11 tons of bank sand were processed via a 2-stage wet magnetic concentrator to produce about 1.0 T of dry 59 % concentrate. The 59 % concentrate can be ball-milled and 3-stage wet magnetic concentrated to about 80 % minus 325 mesh grind. At this point no precious metals have been concentrated or extracted.

It is obvious, however, that dry magnetic cobbing is not as efficient as wet would be, and that an appreciable quantity of clay, etc. is included in the prime concentrate.

Note: Precious metals could be recovered by Non-Magnetic separation of the magnetite concentrate.

### Magnetite

Magnetite ( $\text{Fe}_3\text{O}_4$  or  $\text{FeOFeO}_3$ ) sometimes referred to as ferrosferric oxide or magnetic iron oxide, is strongly magnetic and contains 72.4 percent iron and 27.6 percent oxygen when pure.

Iron ore concentrates used in the production of iron powder metalurgy are magnetic ores that have been magnetically concentrated to a very high iron content of 71 to 71.3 percent. These magnetic ores are considered to be very rich, specifically selected magnetite concentrates used to make a premium product containing about 97 percent iron with a very high level of magnetization which is used for making very high grade tool steels and iron powder for powder metalurgy.

"Fe Delta" includes six major washes known as Bogard, Durham,

Bunyon, Olson, Forman and Cadillac. Magnetic ore is highly concentrated in alluvium in the washes. The magnetic ore is also found stratified in almost pure layers from 1/4" to 1/8" at depths up to 50 feet. The magnetite is easily separated from the alluvium and other gangues by dry magnetic concentration without crushing or grinding. This method of recovery of magnetite is about 95 percent and can be increased to 99 % by processing in a ball-mill before separation by a wet magnetic process. "Fe Delta can be considered as having one of the richest magnetic deposits on this earth.

A wet primary magnetic recovery would increase the over-all yield by 5 to 7 percent and simplify the tailings disposal problems.

The dry system has several disadvantages, moreover, in that it cannot be operated in wet weather. Most important, it cannot handle the iron units that are locked in the not infrequent caliche or clay-like lenses in the deposit.

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Markets for Magnetite and Hematite which must dissolved in a solution:

1. Liquid ferric sulphate from a finely-divided ferric oxide (-325 mesh magnetite), sulphuric acid and water.
2. Both iron sulphate and ferrous sulphide are used in processes for treatment of wastes water by increasing settling velocities (coagulation), increasing solids dewatering rates, and acting as a nutrient for biological reactions. Another benefit is reduction in polymer usage rates that can be achieved when ferric sulphate is added to the waste stream.
3. One manufacturer of liquid ferric sulphate is Fini Enterprises in Celina, Texas. Their product is sold to municipalities for use in their sewage disposal plants. Purchasing is usually accomplished by soliciting bids on an annual basis.
4. They also produce iron sulphate products for use in water treatment plants.
5. They are currently purchasing products from Canada to supply their markets for 150,000 tons of ferric sulphate per year.
6. Another manufacturer is KIMIRON, located in Fontana, CA. Their current usage is 2,00 tons per month.
7. There are many other such manufacturers throughout the u.s.

It is anticipated that the largest sale of magnetite will require processing to -325 mesh for most sales. This can be accomplished by crushing or ball milling. The -325 mesh products for powder metal technology and fertilizers sells for over \$100 per ton.

Product value estimate: (a) Ferrous Metals: Metalurgically pure magnetite, (Fe<sub>3</sub>O<sub>4</sub>), used as heavy media - \$100/ton (FOB mine). (b) Silica: Silica containing groundup silicates and some precious metals sold as smelter flux - \$30/ton, FOB mine. (c) Precious Metals.

Other Markets:

(a) Cement Industry	\$32/ton
(b) Sewer and Water Treatment Plants	\$100/ton
(c) Heavy media for Coal Processing Plants.	\$100/ton
(d) Iron fertilizer - chelated iron, converted iron sulfate (in solution) for fertilizing the oceans to stimulate phytoplankton growth to remove CO <sub>2</sub> from the atmosphere	\$100/ton

Selling prices for Silica Sands:

(a) Land fills	\$5/ton
(b) Golf Courses - Sand Traps, etc.	\$10/ton
(c) Mortar and Plaster Sand	\$10/ton
(d) Flux for Copper Smelters	\$30/ton
(e) Decorative, crushed colored for landscaping	\$30/ton

SUMMARY

The market has been reviewed for fine ground magnetite concentrate from the Black Mountain Iron Project in Pinal County, Arizona in the coal industry in North America. It is estimated that over 600,000 tons of magnetite is presently being consumed in the coal preparation plants that employ heavy media in North America. Further the number of coal preparation plants and the use of magnetite as heavy media is expanding very rapidly.

Currently magnetite is supplied to the coal industry by Trading Companies that import most of the magnetite from foreign countries. Magnetite is sold by the Trading Companies at prices above \$100 per ton F.O.B. distribution points in the East of North America.

Magnetite now supplied by the Trading Companies to the coal industry contain about 60% to 62% Fe and 90% to 94% magnetic material. Magnetite concentrate from Black Mountain is of better quality; it will contain 70% Fe and more than 96% will be magnetic material.

It is estimated that the coal industry in North America can provide Black Mountain with a market for at least 500,000 tons per year of magnetite concentrate.

Markets for Magnetite and Hematite which must dissolved in a solution:

1. Liquid ferric sulphate from a finely-divided ferric oxide (-325 mesh magnetite), sulphuric acid and water.
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## Use of Magnetite in the Cement Industry

The Arizona Portland Cement Company's Plant located near Tucson, AZ produces 1.4 million tons of cement per year. It requires 2 million tons of production rock. Portland is in the process of installing a larger Raw Mill. This expansion will produce a 50 percent increase in product.

They are currently using 3,000 tons of magnetite per month which will be increased to 4,500 TPM. Their specifications must meet or exceed 54 percent Fe content. The magnetite that will be produced by Fe Delta will have 70 percent Fe content. This Fe content is iron oxide.

Portland now has 3 sources for magnetite and hematite. Their primary source is the Cobre Mine of Phelps-Dodge Company. Portland has found that their product is too high in moisture content. Their mine is located in Silver City. Transportation by rail has presented problems in delivery, and trucking the ore is too costly. Their second supplier is located in Mexico and their service has not been satisfactory.

During the year 2000, Portland expects to utilize 54,000 tons of magnetite per year. The cost averages \$30 per ton.

Materials used in the manufacture of Portland Cement must contain appropriate portions of calcium oxide, silica, alumina and iron oxide components. The magnetite is mixed with the other components and ground to a powder and blended. The chemical content of the magnetite is  $Fe_2O_3$  and fully meets the specification.

There are many more Portland Cement plants in Arizona and California which could be supplied with magnetite from Fe Delta. These plants have included iron oxide in their cement for at least 40 years.

## Sampling of Sand and Gravel at Section 21

Date: Nov 5<sup>th</sup>

A five site sampling program was effected on November 5<sup>th</sup>, on section 21 of the FE Delta holdings.

Present were Larry Majors, Bob Wyle, Bernardo Ruiz, Don Flynn and Nic Arrieta. The unit used was a Case 580 backhoe with a three cu. Ft. digging bucket and 13ft digging depth.

The machine was delivered to the site, by 8:30 and was on the first sample site by 9:00, rain started at 3:50pm, sampling completed at 4:00 pm.

Site 1. Northwest quarter section 489371 E, 3620822 N, El. 2826

The excavation started on alluvial and proceeded to a depth of six feet where a layer of cliché was encountered. The excavation continued to a depth of eight feet where the layer could not be penetrated. The site was abandoned and moved to a lower elevation ravine some 60 feet west. At the second site cliché was encountered at a four-foot depth, and could not be penetrated. The decision made to use one of the hand dug old sample pits that dot the section, this one located 150 ft to the northeast of the original site. The intent was to clean out the "fill" and scrape the sides for sample. The cleaning excavation proceeded to about eight feet, where the original digging ended. The hole was excavated to nine feet where a dirty sandy gravel was encountered, because of the terrain we could only excavate to 10ft. The elevation given are relative, due to DoD induced error on the GPS.

El. 2826-2817 – alluvial fill, same noted in wall of pit.

El. 2817-2816 – Old gravels, with associated clays, bottomed in gravels.

Site 2. Center of Section, 489336 E, 3620372 N, El. 2814

The second site was selected 60 ft. south of Durham wash.

El. 2814 -2809 recent gravels- well washed, good showing of magnetite

El. 2809 -2801 old gravels - dirty sandy gravels, some showing of magnetite, associated w/ reddish clay, bottomed in gravels.

Site 3. Southwest quarter of section 21, 488842 E, 3620180 N, El. 2805

The site was 70 ft north of the wash

El. 2805- 2799 recent well washed sands, good magnetite showings, bottomed in gravels

El. 2799-2792 – old sandy gravels, w/associated reddish clays, bottomed in gravels

Site 4. Northeast quarter of section 21,  
Original Location at 490042 E, 3620740 N, El. 2872

El 2872 – 2862 – Caliches – sampling halted, did not hit gravels.

Alternate site, on Durham wash, @ 490190 E, 3620626 N El. 2852

El. 2852- 2848 – well washed sand, very good magnetite showings

El. 2848- 2839 – old sandy gravels, w/ associated clays, bottomed in gravels.

Site 5. Southeast quarter of section 21

Original Location not sampled, assumed that at site elevation would intercept caliches,  
and to time constrains was moved to and “old hand dug” pit.

El. 2876 – 2868 bottom of old pit

El 2868 - 2863 alluvial , bottomed in alluvial fill, no gravels noted

Fe Delta

Sample Sieve Analysis

dta  
Nov. 11,01

Nominal Opening	New Sand		Older Sand	
	Grams	Percentage	Grams	Percentage
+1/2	25.3	3.0%	22.2	2.4%
+1/4	0	0.0%	51.9	5.6%
+1/8	155.3	18.5%	186.7	20.1%
+1/16	178.2	21.2%	253.1	27.3%
+008	442.5	52.6%	378.5	40.8%
-008	39.4	4.7%	36.1	3.9%
	<hr/>	<hr/>	<hr/>	<hr/>
	840.7	100%	928.5	100%
Magnetic Sands	27.0	3.2%	21.6	2.3%

FAX. (520) 622-3845



PH. (520) 622-0813

**Jacobs Assay Office**  
Registered Assayers, Estab. 1880

1435 S. 10th Ave. Tucson, AZ 85713  
jao@gci-net.com

LARRY MAJORS

DECEMBER 21, 2001

GRAVITY TEST RESULTS

SAMPLE ID #1 - 2'-7'

Head Assay from  
previous results - 0.009 oz/t Au  
0.10 oz/t Ag

1000 gram Head Sample

Conc. Assay - 0.019 oz/t Au  
(75.9 grams) 0.10 oz/t Ag

Conc. Ratio - 13.2:1

Tails Assay - 0.001 oz/t Au  
0.10 oz/t Ag

88.9% Rec. Au



FAX. (520) 622-3845



PH. (520) 622-0813

**Jacobs Assay Office**  
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jao@gci-net.com

LARRY MAJORS

DECEMBER 21, 2001

GRAVITY TEST RESULTS

SAMPLE ID #2 - 7'-12'

Head Assay from  
previous results - 0.010 oz/t Au  
0.10 oz/t Ag

GRAVITY RESULTS

Conc. Assay - 0.019 oz/t Au  
(40.66 grams) 0.10 oz/t Ag

Conc. Ratio - 24.6:1

Tails Assay - 0.001 oz/t Au  
0.10 oz/t Ag

90.0% Rec. Au .021

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REPORT OF ANALYSIS											JOB NUMBER XIF003				
FE DELTA ENTERPRISES, INC.											December 27, 2001				
Attn.: Mr. Nic Arrieta											PAGE 1 OF 8 PAGES				
2001 W. Rudasill Rd., #2102															
Tucson, AZ 85704															
REPORT 23496 CODE 1H INAA															
SAMPLE NUMBER	AU PPB	AG PPM	AS PPM	BA PPM	BR PPM	CA %	CO PPM	CR PPM	CS PPM	FE %	HF PPM	HG PPM	IR PPB	MO PPM	
#5 8-10	7	-5	7.7	950	-0.5	4	11	287	13	4.69	6	-1	-5	-1	
#6	4	-5	6.6	1300	-0.5	1	10	282	4	4.24	7	-1	-5	-1	
COMP #2 2-10	8	-5	4.7	900	-0.5	1	10	357	5	5.53	8	-1	-5	5	
COMP #3 0-13	5	-5	3.9	970	-0.5	1	12	313	3	6.94	9	-1	-5	-1	
COMP #4 0-10	9	-5	3.6	1000	-0.5	1	10	329	5	4.43	7	-1	-5	4	
<b>STANDARDS:</b>															
DMMAS-15-392	585	-5	2580	470	2.3	8	71	150	3	8.32	2	-1	-5	-2	
Accepted Value-DMMAS-15	517+-88		2400+-250	370+-120	3.0+-1.5	8+-1.6	65+-7	132+-22	1+-0.9	7.89+-0.87	2+-1				

REPORT OF ANALYSIS													JOB NUMBER XIF003		
FE DELTA ENTERPRISES, INC.													December 27, 2001		
Attn.: Mr. Nic Arrieta													PAGE 2 OF 8 PAGES		
2001 W. Rudasill Rd., #2102															
Tucson, AZ 85704															
REPORT 23496 CODE 1H INAA															
SAMPLE NUMBER	NA %	NI PPM	RB PPM	SB PPM	SC PPM	SE PPM	SN %	SR %	TA PPM	TH PPM	U PPM	W PPM	ZN PPM	LA PPM	CE PPM
#5 8-10	1.76	-22	177	2	9.3	-3	-0.01	-0.05	-0.5	10.9	3	-1	76	37.7	73
#6	1.7	-23	88	0.4	8.9	-3	-0.01	-0.05	2.3	25.2	3.5	-1	56	101	193
COMP #2 2-10	1.64	-23	103	0.6	10.2	-3	-0.01	-0.05	1.5	26	2.4	-1	-50	101	193
COMP #3 0-13	1.53	-24	93	0.5	10.4	-3	-0.01	-0.05	1.8	26.1	2.8	-1	-50	106	207
COMP #4 0-10	1.65	-23	124	0.5	10.6	-3	-0.01	-0.05	1.1	21.9	2.2	-1	-50	87.4	165
<b>STANDARDS:</b>															
DMMAS-15-392	0.79	221	47	7.9	20	-3	-0.03	-0.05	-0.5	1.1	-0.5	21	234	13	24
Accepted Value-DMMAS-15	0.75+-0.08		46+-20	8.3+-2.8	18+-2.0					1.1+-0.6		17+-4	210+-60	12+-1.5	20+-5

FE DELTA ENTERPRISES, INC.

**REPORT OF ANALYSIS**

Attn.: Mr. Nic Arrieta  
2001 W. Rudasill Rd., #2102  
Tucson, AZ 85704

**Analysis of 3 Composites and 2 Rock Chip Samples**

**REPORT 23496 CODE 1H INAA**

SAMPLE NUMBER	ND PPM	SM PPM	EU PPM	TB PPM	YB PPM	LU PPM	Mass g
#5 8-10	29	6.4	1.5	1	3.5	0.53	26.51
#6	79	15.1	2.8	2.3	4.8	0.72	27.95
COMP #2 2-10	81	15.5	2.7	1.9	5.5	0.81	30.63
COMP #3 0-13	89	16.5	2.8	2.2	5.9	0.9	29.14
COMP #4 0-10	66	13.8	2.6	1.9	4.8	0.72	27.93
<b>STANDARDS:</b>							
DMMAS-15-392	12	4.1	1.3	0.9	3.8	0.56	25.05
Accepted Value-DMMAS-15	11+-4	3.5+-0.5	1.1+-0.2	0.7+-0.2	3.3+-1.0	0.49+-0.11	

REPORT OF ANALYSIS										JOB NUMBER XIF003	
FE DELTA ENTERPRISES, INC.										December 27, 2001	
Attn.: Mr. Nic Arrieta										PAGE 4 OF 8 PAGES	
2001 W. Rudasill Rd., #2102										Analysis of 3 Composites and 2 Rock Chip Samples	
Tucson, AZ 85704											
<b>REPORT 23496B TOTAL DIGESTION ICP</b>											
SAMPLE NUMBER	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	Be ppm	
#5 8-10	-0.3	-0.3	20	592	3	28	19	48	3.73	2	
#6	-0.3	-0.3	19	635	4	12	24	36	3.28	2	
COMP #2 2-10	-0.3	-0.3	23	879	4	14	21	42	3.86	2	
COMP #3 0-13	-0.3	-0.3	22	1102	2	14	16	44	3.01	2	
COMP #4 0-10	-0.3	-0.3	30	852	3	13	21	50	3.70	2	
<b>STANDARDS:</b>											
G-2 cert	<b>0.04</b>	<b>0.016</b>	<b>11</b>	<b>232</b>	<b>(1.1</b>	<b>(5</b>	<b>30</b>	<b>86</b>	<b>8.147</b>	<b>2.5</b>	
G-2	-0.3	-0.3	9	239	2	-1	28	77	4.54	2	
SDC-1 cert	<b>0.041</b>	<b>(.08</b>	<b>30</b>	<b>883</b>	<b>(.25</b>	<b>38</b>	<b>25</b>	<b>103</b>	<b>8.338</b>	<b>3.0</b>	
SDC-1	-0.3	-0.3	29	882	-1	34	22	94	5.39	3	
DNC-1 cert	<b>(.027</b>	<b>(.182</b>	<b>96</b>	<b>1154</b>	<b>(.7</b>	<b>247</b>	<b>6.3</b>	<b>66</b>	<b>9.687</b>	<b>1</b>	
DNC-1	-0.3	-0.3	95	1167	4	268	6	57	8.97	-1	
SCO-1 cert	<b>0.134</b>	<b>0.14</b>	<b>28.7</b>	<b>410</b>	<b>1.37</b>	<b>27</b>	<b>31</b>	<b>103</b>	<b>7.24</b>	<b>1.84</b>	
SCO-1	-0.3	-0.3	26	368	2	24	28	89	4.88	2	
GXR-6 cert	<b>1.3</b>	<b>(1</b>	<b>66</b>	<b>1008</b>	<b>2.4</b>	<b>27</b>	<b>101</b>	<b>118</b>	<b>17.68</b>	<b>1.4</b>	
GXR-6	0.4	-0.3	61	959	-1	22	92	115	7.76	1	
GXR-2 cert	<b>17</b>	<b>4.1</b>	<b>76</b>	<b>1008</b>	<b>(2.1</b>	<b>21</b>	<b>690</b>	<b>530</b>	<b>16.46</b>	<b>1.7</b>	
GXR-2	16.8	2.9	73	840	3	15	646	510	6.63	2	
GXR-1 cert	<b>31</b>	<b>3.3</b>	<b>1110</b>	<b>853</b>	<b>18</b>	<b>41</b>	<b>730</b>	<b>760</b>	<b>3.52</b>	<b>1.22</b>	
GXR-1	31.6	3.0	1187	967	13	41	782	751	1.81	1	
GXR-4 cert	<b>4</b>	<b>(.86</b>	<b>6520</b>	<b>155</b>	<b>310</b>	<b>42</b>	<b>52</b>	<b>73</b>	<b>7.20</b>	<b>1.9</b>	
GXR-4	3.3	-0.3	5983	149	299	38	42	66	4.08	2	



REPORT OF ANALYSIS										JOB NUMBER XIF003
FE DELTA ENTERPRISES, INC.										December 27, 2001
Attn.: Mr. Nic Arrieta										PAGE 6 OF 8 PAGES
2001 W. Rudasill Rd., #2102										
Tucson, AZ 85704										
Analysis of 3 Composites and 2 Rock Chip Samples										
REPORT 23496B TOTAL DIGESTION ICP										
SAMPLE NUMBER	Bi ppm	Ca %	K %	Mg %	P %	Sr ppm	Ti %	V ppm	Y ppm	S %
#5 8-10	2	4.05	3.01	0.62	0.055	227	0.44	95	12	-0.001
#6	-2	1.37	2.59	0.29	0.059	174	0.43	65	28	0.002
COMP #2 2-10	-2	1.33	2.65	0.27	0.069	169	0.58	82	35	0.003
COMP #3 0-13	-2	1.31	2.49	0.23	0.073	158	0.69	100	36	-0.001
COMP #4 0-10	-2	1.51	2.73	0.28	0.070	179	0.57	70	28	0.004
<b>STANDARDS:</b>										
G-2 cert	<u>0.037</u>	<u>1.401</u>	<u>3.718</u>	<u>0.452</u>	<u>0.061</u>	<u>478</u>	<u>0.288</u>	<u>36</u>	<u>11</u>	<u>(0.01</u>
G-2	-2	1.32	3.49	0.36	0.042	367	0.27	33	4	0.009
SDC-1 cert	<u>0.26</u>	<u>1.001</u>	<u>2.722</u>	<u>1.019</u>	<u>0.069</u>	<u>183</u>	<u>0.606</u>	<u>102</u>	<u>40</u>	<u>0.065</u>
SDC-1	-2	0.99	2.59	0.96	0.050	182	0.60	93	21	0.062
DNC-1 cert	<u>(.02</u>	<u>8.055</u>	<u>0.19</u>	<u>6.06</u>	<u>0.037</u>	<u>145</u>	<u>0.287</u>	<u>148</u>	<u>18</u>	<u>(0.039</u>
DNC-1	-2	8.09	0.18	6.85	0.025	160	0.30	145	17	0.064
SCO-1 cert	<u>0.37</u>	<u>1.87</u>	<u>2.30</u>	<u>1.64</u>	<u>0.090</u>	<u>174</u>	<u>0.38</u>	<u>131</u>	<u>26</u>	<u>0.063</u>
SCO-1	-2	1.79	2.11	1.62	0.069	159	0.34	122	15	0.070
GXR-6 cert	<u>(.29</u>	<u>0.179</u>	<u>1.87</u>	<u>0.61</u>	<u>0.035</u>	<u>35</u>	<u>0.498</u>	<u>186</u>	<u>14</u>	<u>0.016</u>
GXR-6	-2	0.18	1.57	0.46	0.053	39	0.50	178	5	0.011
GXR-2 cert	<u>(.69</u>	<u>0.929</u>	<u>1.37</u>	<u>0.85</u>	<u>0.105</u>	<u>160</u>	<u>0.3</u>	<u>52</u>	<u>17</u>	<u>0.031</u>
GXR-2	-2	0.67	1.32	0.85	0.053	143	0.28	48	10	0.024
GXR-1 cert	<u>1380</u>	<u>0.958</u>	<u>0.05</u>	<u>0.22</u>	<u>0.065</u>	<u>275</u>	<u>0.036</u>	<u>80</u>	<u>32</u>	<u>0.257</u>
GXR-1	1433	1.02	0.07	0.23	0.053	346	0.03	83	32	0.298
GXR-4 cert	<u>19</u>	<u>1.01</u>	<u>4.01</u>	<u>1.66</u>	<u>0.120</u>	<u>221</u>	<u>0.29</u>	<u>87</u>	<u>14</u>	<u>1.770</u>
GXR-4	19	1.00	3.83	1.69	0.108	208	0.25	81	10	1.942





# ACTLABS

# ACTLABS-SKYLINE

Magnetite - Pit Samples -  
 JOB NUMBER XIF002A  
 June 5, 2001  
 PAGE 1 OF 4 PAGES

DELTA ENTERPRISES, INC.  
 Attn.: Mr. Robert R. Wylie

EXPORT 21958 CODE 1H2-INAA

SAMPLE NUMBER

ORE

STANDARDS:

DMMAS-18-1065

Accepted Value-DMMAS-18

	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc
	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm
	5	-5	5.3	590	-0.5	2	18	240	2	17	18	-1	-5	-1	1.15	-25	54	0.9	12.9
										8.34	2	-1	-5	-1	0.74	150	45	12.6	19.9
	543	-5	2310	450	3.4	8	59	140	2	8.62+-0.60	3+-1				0.76+-0.05		40+-10	13.1+-4.11	20.6+-2.1
	590+-84		2368+-298	413+-144	3.9+-2.95	8+-2	69+-8	143+-29											

Nutnon

FE DELTA ENTERPRISES, INC.

Attn.: Mr. Robert R. Wylie

**REPORT 21958B CODE 1H2-TOTAL DIGESTION ICP**

SAMPLE NUMBER	Ag ppm	Cd ppm	Cu ppm	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm	Al %	Be ppm	Ca %	K %	Mg %	P %	Sr ppm	Ti %	V ppm	Y ppm	S %
ORE	-0.3	-0.3	31	2442	2	18	16	71	3.61	1	1.36	2.01	0.25	0.125	144	1.42	233	64	0.026
<b>STANDARDS:</b>																			
G-2 cert	<u>0.04</u>	<u>0.016</u>	<u>11</u>	<u>232</u>	<u>(1.1)</u>	<u>(5)</u>	<u>30</u>	<u>86</u>	<u>8.147</u>	<u>2.5</u>	<u>1.401</u>	<u>3.718</u>	<u>0.452</u>	<u>0.061</u>	<u>478</u>	<u>0.288</u>	<u>36</u>	<u>11</u>	<u>(0.01)</u>
G-2	-0.3	-0.3	9	244	-1	2	27	85	4.76	2	1.24	3.79	0.39	0.050	393	0.30	35	4	0.022
SDC-1 cert	<u>0.041</u>	<u>(.08)</u>	<u>30</u>	<u>883</u>	<u>(.25)</u>	<u>38</u>	<u>25</u>	<u>103</u>	<u>8.338</u>	<u>3.0</u>	<u>1.001</u>	<u>2.722</u>	<u>1.019</u>	<u>0.069</u>	<u>183</u>	<u>0.606</u>	<u>102</u>	<u>40</u>	<u>0.065</u>
SDC-1	-0.3	-0.3	28	850	-1	37	17	101	4.73	2	0.89	2.63	0.93	0.054	178	0.61	95	19	0.072
DNC-1 cert	<u>(.027)</u>	<u>(.182)</u>	<u>96</u>	<u>1154</u>	<u>(.7)</u>	<u>247</u>	<u>6.3</u>	<u>66</u>	<u>9.687</u>	<u>1</u>	<u>8.055</u>	<u>0.19</u>	<u>6.06</u>	<u>0.037</u>	<u>145</u>	<u>0.287</u>	<u>148</u>	<u>18</u>	<u>(0.039)</u>
DNC-1	-0.3	-0.3	91	1004	-1	259	-3	58	7.07	-1	7.43	0.17	6.27	0.025	141	0.29	137	12	0.052
SCO-1 cert	<u>0.134</u>	<u>0.14</u>	<u>28.7</u>	<u>410</u>	<u>1.37</u>	<u>27</u>	<u>31</u>	<u>103</u>	<u>7.24</u>	<u>1.84</u>	<u>1.87</u>	<u>2.30</u>	<u>1.64</u>	<u>0.090</u>	<u>174</u>	<u>0.38</u>	<u>131</u>	<u>26</u>	<u>0.063</u>
SCO-1	-0.3	-0.3	27	393	-1	29	24	102	5.73	1	1.84	2.43	1.83	0.081	181	0.36	131	16	0.081
GXR-6 cert	<u>1.3</u>	<u>(1)</u>	<u>66</u>	<u>1008</u>	<u>2.4</u>	<u>27</u>	<u>101</u>	<u>118</u>	<u>17.68</u>	<u>1.4</u>	<u>0.179</u>	<u>1.87</u>	<u>0.61</u>	<u>0.035</u>	<u>35</u>	<u>0.498</u>	<u>186</u>	<u>14</u>	<u>0.016</u>
GXR-6	0.4	-0.3	70	1090	1	27	107	132	11.70	-1	0.17	2.13	0.60	0.059	45	0.56	199	9	0.027
GXR-2 cert	<u>17</u>	<u>4.1</u>	<u>76</u>	<u>1008</u>	<u>(2.1)</u>	<u>21</u>	<u>690</u>	<u>530</u>	<u>16.46</u>	<u>1.7</u>	<u>0.929</u>	<u>1.37</u>	<u>0.85</u>	<u>0.105</u>	<u>160</u>	<u>0.3</u>	<u>52</u>	<u>17</u>	<u>0.031</u>
GXR-2	17.0	3.9	78	922	2	20	677	527	5.67	1	0.75	1.21	0.75	0.059	149	0.29	49	7	0.034
GXR-1 cert	<u>31</u>	<u>3.3</u>	<u>1110</u>	<u>853</u>	<u>18</u>	<u>41</u>	<u>730</u>	<u>760</u>	<u>3.52</u>	<u>1.22</u>	<u>0.958</u>	<u>0.05</u>	<u>0.22</u>	<u>0.065</u>	<u>275</u>	<u>0.036</u>	<u>80</u>	<u>32</u>	<u>0.257</u>
GXR-1	30.1	3.3	1113	874	17	43	713	695	1.11	-1	0.81	0.05	0.22	0.053	301	0.02	78	24	0.282
GXR-4 cert	<u>4</u>	<u>(.86)</u>	<u>6520</u>	<u>155</u>	<u>310</u>	<u>42</u>	<u>52</u>	<u>73</u>	<u>7.20</u>	<u>1.9</u>	<u>1.01</u>	<u>4.01</u>	<u>1.66</u>	<u>0.120</u>	<u>221</u>	<u>0.29</u>	<u>87</u>	<u>14</u>	<u>1.770</u>
GXR-4	3.3	-0.3	6465	147	302	43	51	73	5.21	2	1.20	4.33	1.98	0.128	252	0.26	87	11	1.940

Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "(" which are information values.  
 Barite, gahnite, chromite, cassiterite, zircon, sphene, and magnetite may not be totally dissolved.

Clients are advised to obtain assays for Ag>100 ppm and Pb>5000 ppm due to potential solubility problems.  
 Values for Cu, Ni, Zn, Mo greater than 1% should be assayed if accuracy better than +/-10-15% is required.  
 Values above 1% are for informational purposes only and should not be relied upon for promotional or ore reserve calculations. Assays are recommended for this purpose.  
 Sulphur will precipitate in samples containing massive sulphides.

Note: Negative values indicate less than the reporting limit.

Note: 99999 indicates greater than 10%.

# ACTLABS

# ACTLABS-SKYLINE

JOB NUMBER XIF002A

June 5, 2001

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FE DELTA ENTERPRISES, INC.

Attn.: Mr. Robert R. Wylie

REPORT 21958 CODE 1H2-INAA

SAMPLE NUMBER	Se ppm	Sn %	Sr %	Ta ppm	Th ppm	U ppm	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Mass g
ORE	-3	-0.02	-0.05	3.2	30.7	2.2	-1	-50	140	220	98	19.8	3.3	2.3	7.4	1.17	35.21
<b>STANDARDS:</b>																	
DMMAS-18-1065	-3	-0.03	-0.05	-0.5	1.1	-0.5	18	211	12.1	22	10	3.9	1.1	1.1	3.6	0.54	25.32
Accepted Value-DMMAS-18					1.1+-0.7		18+-3	242+-55	12.3+-1.3	21+-5	11+-10	3.7+-0.38	1.2+-0.27		3.7+-0.75	0.56+-0.09	

# ACTLABS

# ACTLABS-SKYLINE

JOB NUMBER XIF002A

June 5, 2001

PAGE 4 OF 4 PAGES

FE DELTA ENTERPRISES, INC.

Attn.: Mr. Robert R. Wylie

REPORT 21958RPT CODE 1H2-ICP/MS

Actlabs Pkg 1H2

Trace Element Values Are in Parts Per Million unless otherwise indicated. Negative Values Equal Not Detected at That Lower Limit.

Values = 999999 are greater than working range of instrument.

Element	Ge	Se	In	Sn	Te	Tl	Bi
ORE	0.6	1.4	-0.2	-1	-0.1	0.4	0.8
Control Material GXR-6	0.2	-0.7	-0.2	-1	0.1	2.0	0.1
Control Material GXR-2	0.2	0.3	-0.2	-1	0.8	0.9	0.2
Control Material GXR-1	0.5	16.4	0.4	13	15.0	0.5	1240
Control Material GXR-4	0.3	6.1	-0.2	3	1.0	3.6	16.2
Cert Data GXR-6	-	0.94	0.26	1.7	0.018	2.2	0.29
Cert Data GXR-2	-	0.61	0.252	1.7	0.69	1.03	0.69
Cert Data GXR-1	-	16.6	0.77	54	13	0.39	1,380
Cert Data GXR-4	-	5.6	0.27	5.6	0.97	3.2	19

Fe Delta Enterprises, Inc  
11 E. Orange Grove Rd #913  
Tucson, AZ 85704

A Prospectus for  
Ken A. Phillips

THE TREASURE OF FE DELTA

Author: Robert R. Wylie  
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Toltec City, Arizona 85231  
Phone [602] 466-4203

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The author first became aware of the large iron ore deposits of Fe Delta in 1973. It was his original intention to participate in the development of them at that time. These intentions were never carried out.

Over the years between 1973 and 1989 the author never ceased thinking about them and dreamed of ways to make this God-given asset useful to mankind. About November 1, 1989, he returned to the area and found that nothing of substance had been done to extract the valuable ore from the earth.

On February 1, 1990 he moved to Toltec City, Arizona, a short distance from Fe Delta. This book outlines his investigation of Fe Delta and a plan for its development. The plan is quite broad and includes not only mining ore, but also construction and operation of a smelter and fabricating plant for steel products, generation of electric energy, disposal and incineration of solid wastes and recycling of waste materials.

The plan is based on "discursive reasoning" which seeks to eliminate all negative factors which might affect or diminish the successful implementation of the plan.

Fe Delta is located on Highway 89 in Pinal County, Arizona. It is situated in the Fifth Congressional District and Arizona Mining District No. 22 known as Black Mountain and is shown at Index C-10 on the Map and Index of Arizona Mining Districts. The specific location is Range 12 East and Townships 8 South Sections 1-36 and 9South Sections 1-6. It is also designated on the Map of Known Metallic Mineral Occurances of Arizona. It is approximately 25 miles south of Florence and includes an an area between Brady and Durham Washes. The land is owned and managed by the State of Arizona State Land Department and the U.S. Bureau of Land Management. It is comprised of 42 Sections, which include 24,000 acres which cover 42 square miles.

## The Treasure of "Fe Delta"

By: Robert R. Wylie

In the spring of 1973 I received a telephone call from an old friend. He asked if I might be interested in becoming the CEO of a small conglomerate which was searching for a new Chief Executive Officer. I replied that I was always interested in a new challenge, especially if the price was right. He then enlightened me on the company, Sovereign Industries, whose stock was listed with NASDAC. It consisted of five divisions. Division A included the development and operation of oil field properties located in Texas and Louisiana. They had a number of operating wells and plans for future drilling. The wells produced a reasonable amount of return and this was the most profitable of any of the Divisions. The operation was almost autonomous and the person in charge wanted to divorce it from the other Divisions.

Division B was a relatively new operation which involved the "mining" of solid waste land-fills near the shores of Lake Michigan. The mountains of trash which had been covered with earth occupied very valuable properties on lake front sites.

When cleared, the land could be developed for industries, public housing and perhaps condominium apartments. The mining operation included the removal of the earthen cover and setting that material aside for re-use, the separation of glass and other solid materials, the magnetic separation of ferrous and non-ferrous metals and the residue of combustible materials. The metals were recycled and the glass was ground into an aggregate for manufacturing hollow building tiles. All combustible materials were incinerated and the ash residue placed in a new land-fill. The mining operation produced minimal revenues, but the reclaimed lands, which were owned by the City of Chicago, became very valuable.

Division C was a real estate development project which consisted of purchasing undeveloped land at primary intersections of Federal Interstate Highways at locations which included Albuquerque and Phoenix. The developments incorporated hotels and motels, restaurants, shopping centers and gas stations. This type of development requires a lot of capital and takes a long time to produce large returns on investment. They had reached a point of limited profitability.

Division D was a "dream project" which required a large amount of capital to develop. Sovereign has negotiated long term mineral rights leases on state and federal lands which included the largest known alluvial iron ore deposit in North America. They also contained undetermined deposits of copper, silver and gold. The iron ore deposits covered thousands of acres and their thickness ranged from five feet to twenty-five feet in depth. The deposits are located in Pinal County, Arizona about twenty-five miles south of the City of Florence. Pinal County has many copper, silver and gold mining operations. The iron ore is located in a "delta" formed by a number of washes, which is an alluvial tract of land at the mouth of a river or drainage path. This deposit had accumulated over thousands of years of storms and other acts

of nature. It had no particular name, so I decided to call it "Fe Delta". the fe is the symbol for iron, so the name means "Iron Delta".

The Fifth Division consisted of a chain of retail hardware stores which were alleged to be profitable. I never took the opportunity to visit or inspect them.

Three days later I attended a meeting in Chicago with the President, two directors and a major stockholder in Sovereign by the name of Marge Everett. She was a very wealthy woman and a major stockholder in the Arlington Downs Race Track. She was involved in Chicago politics and worked closely with Mayor Daley. Her name had often been mentioned in the press as a special friend of then Governor Otto Kerner, who was also well known to me. I learned that she had been influential in obtaining the contract for mining the land-fill dumps from the City of Chicago.

In my investigation of Sovereign Industries, I learned the name of the "market maker" for Sovereign stock and also met with the principals of Peate, Marwick and Mitchell who handled all financial accounting for the company. The stock was lightly traded and stock registration was handled by a bank in New York. Sovereign's home office was located in Mobile, Alabama.

After spending several days in Chicago learning all that I could about the trash mining operation, I proceeded to Phoenix and Albuquerque to inspect the Sovereign properties and developments in those locations. From there I went on to Scottsdale, Arizona to meet with a Sovereign Director. He was a large land holder and rancher in the Phoenix area. Having spent most of his life in Arizona he was most interested in Fe Delta

and had in fact brought it to the attention of Sovereign.

We drove to Coolidge, a small town of about 6500 people which was close to the ore deposits and ore processing equipment. Along the way he told me of carrying a large horseshoe magnet and having iron ore jumping out of the ground and attaching itself to the magnet. He also explained the use of earth-moving equipment to dig the ore and of the magnetic separation process used to separate the ore from the rock and dirt. We also visited a small ball mill outside of Coolidge which broke the ore particles into smaller units from which additional dirt was removed by the magnetic process.

The following day we discussed the financial aspects of the land leases, methods for mining the ore, separation of the iron from the dirt, compacting the magnetite particles into pellets and possible markets for the processed ore.

Because of the great distances from the mine site and existing steel furnaces for producing iron ingots, we discussed transportation for getting the ore to market. The mining process required the moving and handling of huge amounts of dirt and rock as well as the iron ore. The yield of magnetite ore to materials handled and processed was three to five percent of the total. The process of extraction was inexpensive compared to other types of ore deposits which had to be recovered by a different process.

Sovereign had engaged the Dravo Corporation of Pittsburgh to investigate the possibility of running a unit train to and from Los Angeles and Coolidge to bring solid waste from Los Angeles to the mine site, where materials for re-cycling would be separated and

the balance of the material would be incinerated and the residue returned to the land-fill created by the mining. Part of the investigation was to check the feasibility of using the combustible waste material as fuel for an electric generating plant. The empty railroad cars were to be used to transport either iron ore or pellets to the Port of Long Beach to be loaded on ore carrier vessels to be transported to steel mills in the U.S. or abroad.

Another contract had been given to Bechtel Corporation to investigate the possibility of constructing a dual pipe line from the mine site to Puerto Penasco, Mexico near the head of the Gulf of Baja California. Puerto Penasco has a deep water anchorage which could accommodate the largest ore carriers to transport the ore to Japan or other locations. Water conservation laws in Arizona forbade the use of fresh water to slurry ore, so the plan was to build a 14" salt water pipe line to the mine site from the Gulf and an 8" salt water pipe line back to the Gulf to carry the iron ore slurry back to Puerto Penasco. The raw iron ore would be loaded directly on ships. The distance to be covered by the pipe lines was approximately 175 miles and would require a huge storage basin at the mid point and an additional pumping station to boost the salt water to a storage basin at the mine site. A source of electric power would be required at the initial pumping station, as well as the booster station and the mine site. It was estimated, at that time, that the cost of the pipe lines and equipment would be thirty-two million dollars. The initial cost of operating the unit train would be considerably less.

After returning from Coolidge, I continued to investigate the financial history and the affairs of Sovereign Industries. Some very questionable stock transactions came to my attention and other improprieties by management came to light. It was also apparent that certain individuals involved in the oil field Division wanted to divorce themselves from the general operation and set-up their own company and operation.

I attended the Annual Meeting of the stockholders of Sovereign Industries in Mobile, Alabama shortly after my return from Arizona and was dismayed by their dis-satisfaction with the current management and general condition of the company. Prior to the submission of my name to be elected President and CEO, I withdrew my name rather than face the possibility of becoming involved with possible civil and/or criminal lawsuits and actions.

Within a year or so after the foregoing meeting the company was disbanded and all of the equipment in Pinal County was sold at auction with twenty-five thousand dollars of the proceeds being claimed by the County for unpaid taxes. It was reported that certain stockholders and suppliers were unable to collect monies due them. The leases were permitted to lapse.

Until the last week in October 1989, I had not revisited "Fe Delta" or the Coolidge area. During the intervening years between 1973 and 1989, I had much time to reflect on and analyze the prospects for success from our proposed iron ore mining operation. Following are some of my thoughts:

1. The alluvial iron ore deposits were placed there by God, the Creator of the Universe, as his gift to mankind to further their efforts toward survival and a better way of life.
2. Up to this point in time, man had not agreed upon the best method of utilizing this God-given asset?
3. What effect would the iron ore mining and processing operations have on the environment.
4. What effect would they have on the communities located close by the project?
5. What would be the market for the product produced by the mine such as iron ore and pelletized iron for additional processing?
6. What are the possibilities for locating a steel mill near the mine site?

7. What are the economics for the establishment of simple steel fabricating plants to produce bars, balls, nuts and bolts etc. which could be utilized in the general area?
8. What facilities are available for obtaining and training personnel for the various operations?
9. What is the possibility of using the land which has been mined for a solid waste land-fill operation?
10. What is the possibility for creation of a primary waste storage and processing operation to provide for the reclamation of ferrous and non-ferrous metals, glass, combustible materials for fueling an electric generating plant? Can the reclamation of aggregate materials be used for building materials? Can a special operation be set-up to dispose of hazardous liquid and hospital wastes?
11. How can the logistical problems associated with rail, highway, and other means of transportation of materials to and from the mine site be resolved? [Spur railroad lines and reinforcement and extension of highways to withstand the heavy weight of rolling equipment]
12. What is the availability of utilities such as electric power, gas and water near the mine site.
13. What will be the attitude of long-time residents of the area toward such a massive operation and how might it affect their life style?

During my visit to Arizona in 1989, it was my understanding that the State and Federal leases for the ore bearing properties formerly assigned to Sovereign Industries are now leased to Conoco, which is a part of a conglomerate controlled by the DuPont Company. I was very pleased to learn of their interest because they have great expertise in handling waste and hazardous materials. They also have unlimited financial resources and tremendous management capabilities within their organization. They would, of course, have to be a willing party to any development of "Fe Delta". [Note: The writer is now aware that the information given him regarding the leases on the iron ore properties is incorrect. Conoco owns mineral rights leases on other

lands located north of Florence which were confused with the iron ore deposits of Fe Delta.]

About two years ago, I had a golfing partner who had devoted his career to the iron and steel industry. He was retired, but still served as a consultant to the steel manufacturing industry in Mexico. He was employed for many years by the M.W. Keller Company which later became a part of the Pullman Company. The Pullman Company was subsequently acquired by Swindell-Dresser Corporation. My friend, who was a mining engineer, was sent by the Keller Company to the lands under lease by Sovereign, to observe and evaluate the mapping of deposits including core drilling and other operations. We had several discussions regarding the extent and quality of the ore. The iron deposits were magnetite and their depth ranged from five to twenty-five feet. The iron content was from three to five percent of the material being processed by magnetic separation and the resultant ore was about ninety-five percent magnetite.

During 1986 and 1987, I became acquainted with several top officials of Waste Management Corporation. During some of our conversations, I told them about the report prepared by Dravo Corporation for Sovereign Industries exploring the possibilities for shipping the solid waste from Los Angeles to a site near Coolidge, Arizona for processing and disposal.

Waste Management of Arizona, a subsidiary of Waste Management of North America has established an operation in Phoenix. About four hundred people are employed in the following divisions:

- [a] Waste Management of Tucson
- [b] Waste Management of Phoenix-North
- [c] Waste Management of Phoenix-South
- [d] Waste Management of Northern Arizona
- [e] Southwest Station
- [f] Sky Harbor Region and Re-cycling Station
- [g] Two Land-fill Operations

[h] Waste Management Services:

Modulaire, temporary office space and construction fencing supplier, and Port-O-Let which supplies portable rest rooms. The President of Waste Management of North America is William P. Hulligan and the Vice President for Operations of Waste Management Company - Arizona is James Teter. Waste Management is the largest solid waste company in the entire world. Waste Management, Inc. the parent company is based in Oak Brook, Illinois and employs more than 36,000 people in the U.S. and other countries. Waste Management of North America services more than 7.6 million households in over 1200 communities in the U.S. and Canada and over 500,000 commercial customers each year. Their principal function is hauling waste and it costs about \$3.25 per mile to transport a truck load of hazardous waste.

In late October of 1989 I re-visited the Coolidge/Florence area. I made many inquiries about Fe Delta and tried to determine what had happened to it since my earlier visit in 1973. Several people informed me that Coneco now controlled the leases on the mineral lands. They also stated that Coneco had sunk several shafts at spots where there was an outcropping of copper, some to a depth of 450 feet. They did not produce satisfactory results. Water was encountered at various depths which might impede mining operations. I did not take the opportunity to visit the properties at that time, but vowed to do it as soon as I moved to Arizona on a permanent basis.

On my visit to Coolidge, I visited a new plant of Proler International Corporation which processes tin plated steel cans to recover the tin plating for re-use. The iron and steel residual materials are compacted and sold to steel producers for re-melting. Proler is the leading processor of cans and the plant can be expanded to handle a much greater volume than at present. They are currently receiving cans from about twenty sources.

There is a ready market for non-ferrous materials such as aluminum for re-processing by aluminum mills. The reclamation of these materials saves huge amounts of electric energy and raw materials which help reduce the cost of the product.

During my visit to the Coolidge area I also visited the City of Casa Grande, where I had conversations with officials of the Chamber of Commerce and the Economic Development Council. This area is concerned with the need for a medical waste incinerator. The proposed plant site is near an historical battleground which is being developed as a tourist attraction. There has been much public opposition to its location for fear that it would detract from the tourist attraction. Recently it has been opposed for a new variety of reasons. The original design called for a single smoke stack which has since been increased to two stacks. Many groups and individuals fear that the discharge from the stacks will add new hazardous contamination to the atmosphere. The project is now "on hold".

I explored the labor situation in Pinal County and was informed that there were approximately 4500 persons who were unemployed or under-employed. This is due in part to the agricultural labor employed on a seasonal basis. There is a critical need in the county for more full time jobs. This includes the Indian population on the Reservations.

One of the many persons that I visited concerning Fe Delta in Pinal County was Jay Bateman. He had served from the early 1950's until 1986 as Pinal County Supervisor and County Administrator and was responsible for most of its operations. From 1986 to the present, Mr. Bateman has been in charge of the Special Services Division of Pinal County. I found him to be a charming and highly intelligent individual who has a wealth of experience

and has made great personal contributions to the County. He stated that he is now 78 years old and had been pleased when the County divided his administrative duties among well defined departments. He is now available to assist all of those in the new management administration as requested. As a County official and with 35 years of hands-on mining in Pinal County, Mr. Bateman is well acquainted with Fe Delta and was well acquainted with Sovereign Industry plans to develop the iron ore deposits and their plans for a possible solid waste disposal project. His knowledge is not limited to Pinal County and he has kept abreast of mining operations throughout Arizona and various plans which have been proposed for disposal of solid and other types of wastes. Over the years, Mr. Bateman has had many contacts with Waste Management Company regarding transportation of wastes to existing land-fills in the County.

In our three hour conversation, Mr. Bateman expressed his concern about the protection and maintenance of the environment of the State of Arizona as well as Pinal County. This included growth management in residential and industrial areas and the problems created by and associated with growth. He is especially concerned with water management and the dependence of all types of agriculture and ranching on such management. He is also concerned with recreational facilities and their impact on the environment. I personally look forward to future conversations with Mr. Bateman and the opportunity to learn from him based on his own knowledge and experiences.

During my 4 day visit to Pinal County, I spoke with many other persons, all of whom were most cordial and interested in an exchange of ideas and experiences. These persons included:

Charlotte Allen - Secretary of the Coolidge Chamber of Commerce and a member of Pinal County EDC

Wally Caddew - EDC Director for the Casa Grande Area

Phil Ogle - Coolidge Realtor and a member of EDC

Ken Haley - Plant Manager - Proler International Corporation - Coolidge Plant

In any future planning for Fe Delta, one must determine the owner of the mineral rights leases and their specific location and scope. It is presumed that Conoco owns all or a portion of the lands which were previously under lease to Sovereign Industries. The owners, without doubt, have a plan for the development of the mineral lands. After a public declaration of their plans EDC should determine how they might assist the lease holder and perhaps offer their own suggestions regarding the needs of the community.

God placed The Treasure of Fe Delta at man's disposal. It is up to him to use it wisely without desrtoying the environment as God created it.

On February 1, 1990, I established residence in Toltec City, Arizona.

Following is a list of tasks to be accomplished in the development of Fe Delta:

1. Define the geographical areas covered by mineral rights leases on State and Federal lands, if any.
2. Assemble all maps, charts, surveys, topographical surveys, aerial photographs etc. pertaining to the area.
3. Produce an historical revue of prior actions taken by others and plans made to recover the minerals from Fe Delta.
4. Produce a map or series of maps defining locations of iron, copper, silver, gold and other minerals. Prepare a map showing water resources in the area.

5. Obtain from any leaseholder his comprehensive plan for developing and exploiting the lands.
6. Investigate the environmental impact on the surrounding areas which might result from the establishment of a solid waste disposal facility.
7. Investigate the present and future requirements for the cities of Los Angeles, Phoenix and Tucson for disposal of toxic, solid, and liquid wastes including hospital wastes.
8. Investigate the needs of the Atomic Energy Commission for disposal and storage of nuclear wastes.
9. Investigate the facilities available for the transportation of all types of waste materials to the Fe Delta site.
10. Investigate the facilities required for the separation and re-cycling of the various materials which comprise solid waste including but not limited to the following:
  - [a] ferrous metals
  - [b] non-ferrous metals
  - [c] glass and ceramic materials
  - [d] combustible materials for incineration and use as fuel
11. Investigate the use of re-cycled combustible materials to fuel a power plant for the generation of electric energy.
12. Determine the market for electric energy regenerated.
13. Investigate the use of re-cycled and processed glass and ceramic waste as aggregate for building materials.
14. Investigate the use of residual ash and solid materials from incineration for building products.
15. Investigate the possibility of installing "on site" facilities for converting iron ore to ingots and/or pellets.
16. Investigate the possibility of locating a steel fabricating plant at or near the mine site to produce steel rods, bars, balls, nuts and bolts.
17. Investigate the labor market in Pinal County and surrounding areas to determine the availability of competent labor and

training facilities for training them for the specific tasks that would be required.

18. Investigate the creation of a marketing organization to market the end products of Fe Delta.

19. Investigate the environmental aspects of Fe Delta and the possible reaction to the projects involved in developing it.

Manufacturers of equipment used in processing solid and other waste materials:

#### Waste-to-Energy Companies

1. Foster Wheeler
2. Ogden Martin Systems, Inc.
3. Westinghouse
4. Jerris B. Webb Company
5. American Energy Corporation

#### Screening Equipment

1. Read Screen-All

#### Incineration Systems

1. Therm-All, inc.
2. Carborandum
3. Atlas Incinerators, Inc.

#### Shredders

1. MAC/SATURN Corporation
2. Lindemann
3. Shredding Systems, Inc.

#### Scrubbers

1. Flakt

#### Magnetic Separators

1. Ding's Magnetics Group
2. Engineered Magnets [permanent magnets]
3. Magnatech Engineering, Inc.

## Incineration - Kilns and Ovens

U.S. Kilm capacity 1990-1100 tons; 1991-1275 tons; 1992-1275 tons.

1. What are regulations?

Liquid waste incineration can be done in cement kilns.

3. Only kiln in current use in far west is General Portland [Syntech] in Los Robles, California. It is a cement kiln.

4. There are only nine commercially available incineration facilities in California and Arizona.

## Waste Collection and Hauling

1. Waste Management Company

2. Local Government waste collection operations

Several persons had informed me that Conoco, a subsidiary of the Dupont Company, now controlled all of the leases on the mineral properties. They also stated that Conoco had sunk several shafts at spots where there was an outcropping of copper, some to a depth of 450 feet. The drillings did not produce favorable results. These persons also advised that other groups prospected for gold and silver on the mineral lands.

It was my conclusion that, in planning for the future of Fe Delta, one must first contact the owner or owners of the mineral rights and leases on both State and Federal lands, which I presumed to be Conoco. I felt that they had their own plans for the development of the mineral lands. I did not attempt to visit and inspect the leased lands on this trip and relied on information supplied by third parties as being reliable. It was my conclusion that the Du Pont Company was eminently qualified for any mining operation as well as the transportation of and disposal of all types of waste materials. The financial resources of this company are so strong that they can assure the success through excellent management of any project they are disposed to enter into.

A few weeks after moving to Arizona, I drove to the Florence area where I attempted to locate Fe Delta as per the instructions that had been given to me for the location of the leased land and Conoco properties. I crossed the bridge over the Gila River and proceeded to Poston Butte. There, I found the Conoco buildings and equipment. They did not look at all familiar. It had been 17 years since I last visited Fe Delta and many changes had taken place in the countryside. I became positive that this was not the spot which I was searching for. I decided to see if Conoco had a telephone listing and was surprised to find one. It proved to be the residence of the manager of a 3000 acre farm which was sub-leased from Conoco, who had no resident representative in the area. The farm

manager gave me the name and number for the Conoco Consolidated Coal Company in Denver, Colorado, in whose name all of the land leases were held. I spoke with Randy Stockdale who was responsible for leased lands. He informed me that Conoco had surface leases on approximately 9700 acres north of Florence. Conoco had sub-leased 3000 acres of farm land to Peter Wilke who also had grazing rights leases on approximately 5200 acres. Another tenant had a sub-lease on 1500 acres of agricultural land located south of the Gila River. Mr Stockdale told me that Conoco was only interested in mining copper and had no knowledge of iron or any other mineral deposits in Arizona. In 1976 Conoco Consolidated Coal Company drilled two parallel shafts to a depth of approximately 750 feet into copper deposits. Much water was encountered but could be handled with pumps. The shaft openings have been closed and covered with steel plates. Conoco has no plans for mining the copper at this time.

The Treasure of Fe Delta - Continued.

After discovering that Coneco had not, in fact, taken over the leases on the iron ore properties, I decided to contact Jay Bateman for additional information.

He was most cordial and after listening to my account of the contacts with Coneco Officials, he assured me that the lands under lease to Coneco were not those which we had discussed earlier and volunteered to set me in the right direction. From his files, he brought out a Map of Pinal County showing the flood control districts. It also showed the Range and Township locations and the sections contained therein. From memory he marked the sections which were included in my earlier description of Fe Delta. Instead of being located across the Gila river to the north of Florence, it was located about 25 miles south of Florence on Highway 89 which continues to Tucson. The iron ore deposits were located on both sides of Highway 89 on a segment of the Highway designated as the Pinal County Parkway. The Arizona Public Service Company had a 115,000 volt power line on one side and the El Paso Natural Gas Line ran on the opposite side. Both crossed the Fe Delta property. Mr. Bateman also provided me with a map giving more details about the topography of the area. It showed seven washes, all of which had alluvial iron ore deposits right on the surface. He also provided me with a Map of Arizona Mining District No. 22, known as Black Mountain, Index C-10. The map showed the Index of Arizona Mining Districts. He gave me a fourth Map of Known Metallic Mineral Occurances of Arizona which clearly designated iron ore deposits in Fe Delta. I was now ready to visit Fe Delta after an absence of 17 years and was eager to get started. Mr Bateman's intimate knowledge of the area and his willingness to enlighten me has saved me many days of research and gave me assurances that the land was just as I had remembered it after 17 years.

I took many drives on week-ends. I was anxious to return to Fe Delta, so, the next Sunday, I drove down Highway 89 to look at the areas MARKED BY Mr. Bateman. To my delight I found the site where the magnetic separator and oven for processing steel balls was located. There were many concrete slabs where buildings had been located. All of the machinery had been removed, as had the buildings, with the exception of an oven where the steel was heated before forming it into balls. It was little more than a pile of rusted steel scrap. The overgrown roads were barely visible, but still there and new cactus plants had taken root alongside the roads. They were in bloom and a beautiful sight to behold. Needless to say, I was delighted and relieved to learn that the "Treasure of Fe Delta" was still there where I had last seen it 17 years earlier.

The following Sunday I decided to investigate a dirt road from Red Rock on Interstate 10 to Highway 89 designated as Park Link Drive. The only other access road which connects 89 and other access roads to Interstate 10 was a paved road from Coolidge to a point on Highway 89 about 10 miles south of Florence. After Park Link Drive there was no other road across the desert for 20 miles south. It turned out to be a beautiful adventure to drive the 20 miles from Red Rock to Highway 89. There were 2 ranches which accessed Park Link Drive and no bridges or culverts on the road. I saw a few cattle grazing along the road which had been bulldozed out of the desert and there were markings along the road which indicated places that flooded and were impassible after heavy rains.

It was springtime in the desert and the road was lined with exotic blooming cactus. I had never seen so many varieties or such gorgeous colors. The terrain became higher as we approached Highway 89 and the Tortolito mountains to the south provided a spectacular view. It was one of the most beautiful drives that I have ever taken. I passed only 2 vehicles in the 20 mile crossing. The road entered Highway 89 about 2 miles south of Fe Delta. The terrain of Fe Delta is also covered with cactus and is home for deer, quail, jackrabbits and a few rattle snakes.

The following week, I met again with Jay Bateman to discuss Fe Delta. I opened the conversation by telling him about my trip across the Park Link Drive and my impressions with the beauty of the road and the varieties of cactus which were in full bloom. He remarked "You have really made my day. I, too, think it is a beautiful spot and one that I have enjoyed for many years. In the late 1950's I realized that there were no connecting roads with Highway 89 for about 50 miles. I was also aware that the cattle drovers used a route which is now Park Link Drive to move their cattle to the nearest rail head, which was Red Rock. Over several weeks my sons and I used a 4 wheel drive vehicle trying to trace the route from Highway 89 to Red Rock. We staked out the route. Pinal County contributed 2 bulldozers to cut the first road through the area. Of course I had to clear the project with both the State of Arizona as well as the Bureau of Land Management of the U.S. Department of the Interior. In those days, both groups were more receptive to projects of this type than they would be today. Both the State and Federal Government owned parcels of land along the route we had layed out. The road was designed to cross the washes at right angles to provide better drainage. The route of Park Link Drive is essentially the same today as we had designed it. In the

course of planning the route, I became very familiar with the lands which you now refer to as Fe Delta."

Mr Bateman and I discussed various ways by which I could familiarize myself on what had been or what was being done with the lands on which Sovereign Industries had been granted mineral rights leases. He produced a Map of Pinal County, Arizona which showed the range and township of every section of land in the county. It also indicated whether the land was owned by the State or the Bureau of Land Management, Pinal County, Indian Reservations, Forest Land or Patent Lands. He explained that this 1979 Map was not absolutely correct and that the State and BLM had exchanged a number of sections. The Map was in the process of revision and until it was re-published, one had to contact one of the Bureaus to determine its current status. This, I proceeded to do and am now informed of the status of each section included in Fe Delta.

I still needed to learn more about the demise of Sovereign Industries and what had become of their leases and equipment. Mr. Bateman put me in touch with Eddie Haught, a farm and land specialist, who had been in charge of developing mining operations for Sovereign, up to the time that they ceased operations. Eddie's wife has been Clerk of the Superior Court of Pinal County for many years. Prior to joining Sovereign, Eddie had been employed for 15 years in Asarco's huge copper mining operation near Casa Grande. My next step was to contact Eddie Haught.

I phoned Eddie and made an appointment to visit with him. Neither of us had any remembrance of meeting during my trip in 1973. We confirmed this after seeing each other for the first time. He is a native Arizonian and a recent newspaper

article mentioned that his family had built the "Zane Grey Cabin", where the famous author spent much time writing. Eddie was much more familiar with Sovereign Industries and their personnel than I was and he filled me in on many details that were obscure to me. It became evident that certain Sovereign Officials had mis-managed the company and had squandered company funds to serve their personal whims. The President had a personal aircraft and pilots. He had a landing strip constructed near the mine site. Eddie also confirmed the suspicions that I had developed before withdrawing as a candidate for the CEO position. He assured me that Fe Delta was truly a huge alluvial iron deposit that would sustain a full time mining operation for at least 50 years. He volunteered to provide a 4 wheel drive vehicle and show me where mining and manufacturing operations had been conducted and point out some mistakes had been made. He is a most affable fellow and I was greatly impressed with his knowledge of mining and the solving of problems associated with it.

About a week later we met at his office in Florence at 6:00 A.M. to avoid the 100 plus degree weather of mid-day and drove to Fe Delta. We started at the site where the camp had been located, which was adjacent to the concrete pads and rusted machinery which I had seen earlier. We drove over the old trails and roads, which would not have been passable in any thing other than a 4 wheel drive vehicle or a tank. He pointed out a well which served the camp. They had found potable water at 75 feet, but the flow was small. He later showed me another well which was capped and fenced in which was much deeper and had a flow of 1500 gallons per minute. Later he showed me a site on a small mountain behind the camp that had contained a 50,000 gallon tank. The water could be pumped from the well to the tank, a distance of about one mile.

The tank was no longer there and had been dismantled and sold. The view from the tank site was spectacular and one could see over the entire Fe Delta area. Electric power facilities were in place at the fabrication and processing site and were served by the Arizona Public Service Company. The El Paso Natural Gas Line ran through the property at this point. Highway 89 is an excellent two laned road which connects Tucson and Phoenix passing through Florence and Apache Junction. About 10 miles south of Park Link Drive, the highway forks at a point called Oracle Junction with the west branch continuing to Tucson and the east branch leading to the town of Oracle, which has been for years, the home of Jay Bateman.

Eddie next took me to a place which I had not visited before. It was on the opposite of Highway 89 from the camp. It was referred to as "the pit". In fact it was a large open pit which covered several acres and was about 50 feet deep at its lowest spot. Most of the sides were vertical and the pit was the result of mining the ore in terraces. The vertical sides presented a graphic picture of the layers of magnetite which were sandwiched between earth and rock in seams. Most of the seams were almost 100% pure magnetite varied from a fraction of an inch in thickness to almost 5 inches. Eddie said that several thousand tons of magnetite had been mined and separated by magnetic extraction from the pit area. The ore material contained an average of 5% magnetite and after passing over the magnetic separator resulted in about 95% pure magnetite. The residual materials were stored around the edge of the pit. Some of the residual material consisted of sand and small gravel which could be sold to road builders to spread over newly tarred roads.

Eddie explained that a team from the Colorado School of Mines had made a survey of the iron ore deposits throughout Fe Delta.

Much of the survey consisted of taking core drilled samples to determine the frequency and amount of themagnetite content. In some of the washes, the ore had a very high magnetite content, but the overall depth of the seams was not very thick. In other places the magnetite was not visible on the surface, but the core samples revealed multiple seams to a depth ranging from 5 to 25 feet or more. The pit site had been selected as the primary mining area because of its high magnetite content and its accessability.

By this time, I was fully convinced that there was indeed "A Treasure of Fe Delta". I made some rough calculations which indicated in excess of 30,000,000 tons of magnetite within reasonable access. We returned to Florence where I received additional data from Eddie. One of my first chores was to contact the Colorado School of Mines in an attempt to locate copies of their survey, if they were still available. Eddie expressed great interest in joining me in the quest of "treasure".

## Fe Delta and the ecology

Since I was a boy, I have seen thousands of acres of land in Ohio, Indiana, Kentucky and West Virginia as well as other states which bear the scars of strip mining. Today, the ecologists are making great strides toward reclamation of some of the lands. On new strip mining operations there are strict regulations which require restoration of the damage caused by the removal of the coal and other minerals.

Alluvial ore mining, as well as placer, is similar to strip mining. One thing that caused me great concern in 1973, when I was contemplating becoming CEO of Sovereign Industries, was how to handle the environmental ecology. It is of even greater concern today, because at that time, I had never seen Park Link Drive, or cactus blooming in the springtime. There is a dual problem to be resolved, especially if a land-fill and mining operation is carried on simultaneously. In the magnetite mining operation, only about 5% of the volume of the ore is actually removed from the site. If solid waste is processed to remove the glass and metals and the balance of combustible material is incinerated, the mining operation should have no difficulty in receiving the residual ash. The cactus cover and other vegetation, including cats claw, iron wood and palo verde trees is relatively easy to replace if removed and handled carefully and properly. With care, the land will, in a few years, restore itself and return to its original beauty, to be enjoyed for generations to come. This will require careful planning and supervision and a sufficient allocation of monies to accomplish the objective of meeting totally, all environmental requirements. To my knowledge, the Sovereign plan did not fully take this into consideration.

When Eddie Haught and I were examining the Fe Delta lands, we discovered that someone was removing magnetite using portable equipment. It appeared to be a "high-grading operation". The ore being handled was mostly on or near the surface and relatively easy to process as well as having a high yield. There were bulldozer scars in a number of places where ore had been removed, apparently with no regard for the ecology. There had been no effort to restore the land or vegetation. I am certain that, if aware of the practice, responsible officials would not permit this typr of operation.

## The Treasure of Fe Delta

What is "The Treasure of Fe Delta"?

Is it the alluvial iron ore deposit in Pinal County which is reputed to be the largest alluvial iron ore deposit in North America?

Is it the intrinsic value of the estimated 60 to 90 million tons of magnetite ore?

It is both of those things. Man has been aware of the deposit for over a century. Various individuals and groups have made plans and/or attempts to mine the ore. None of these attempts have been commercially successful. Is it because the land will produce only 5 percent of magnetite in reference to the materials from which it must be separated and extracted? What problems exist in marketing the ore? Have these been fully assessed and evaluated? To date they have not. Why then, does the author describe these iron ore deposits as a treasure?

The author not only considers the magnetite deposits to be a product of great worth, but has applied the process of discursive reasoning to arrive at a logical conclusion that they can and will serve as a catalyst to develop other enterprises, which may be of greater monetary value than the value of the iron ore itself. Webster's describes "catalysis" as acceleration of a reaction produced by a substance, called the "catalyst", which may be recovered practically unchanged at the end of a reaction". Such acceleration is usually positive, but could be negative. In this instance it is totally positive.

Let us examine the process of catalysis by which the optimum "treasure of Fe Delta" can be realized:

1. Application to the State of Arizona for prospecting permits for specified sections of State Trust Lands.
2. Where warranted, prospecting permits will be converted to mineral rights leases.
3. Where lands are to be utilized for multiple purposes such as land-fills, solid waste disposal including incineration and re-cycling, steel mill operations, electric generating station, fertilizer manufacturing etc. as well as mining, make application to Arizona State Land Development Department, Department of Commerce, Land Sales Manager to purchase desired lands. Note: The State of Arizona will not issue permits for land-fill operations on Trust Lands. Present leases are being terminated. The State wants no operations on its land that might result in liabilities on such operations for the State.
4. To provide a ready market for the magnetite ore, select a steel manufacturing company which is willing to locate a mill near the mining operation. This would provide ore for the mill at a minimum cost per ton.
5. A steel mill and fabricating plant requires a tremendous amount of electric energy. This can be supplied by a cogenerating plant owned by Fe Delta and the steel company in agreement with the local electric utility company for the interconnection and the sale of power. Note: "PURPA" is the Public Utilities Regulatory Power Act of 1978, a federal law intended to promote the use of renewable resources in electric power production. PURPA, as implemented by Federal Energy Regulatory Commission [FERC] regulations, requires all electric utilities to buy this electricity at a rate that will encourage cogeneration on small power production [under 80 MW of generation]. The rate is most often based

on "avoided cost", that is, the cost the utility would otherwise have had to incur to obtain the power.

6. The electric generating plant will be fueled by thermal energy supplied by a solid waste incinerator which is an integral part of the generating plant. The solid waste is processed to remove cyclable materials and all incinerable waste incinerated and the residual ash placed in land-fills.

7. It is anticipated that other local industries will be created under the tenets that are being followed by Fe Delta.

8. A corporation, Fe Delta Enterprises, Inc., has been formed to create and follow a master plan to assure that the "God Given" resources of Fe Delta will be used for the benefit of the widest number of citizens possible. It is anticipated that the requirement of human resources for all of the planned enterprises will range from 800 to 1000 persons over the next 5 years. One of the enterprises will supervise all of the human resources required. Another division will be involved with the preservation and improvement of the ecology.

At this point in time, the author can see no negative reactions on any viable portion of the plan which might impede its implementation.

9. It is the firm belief of the author that these enterprises were conceived according to the "Will of God" as they were revealed to him. He has done his best to research all possible negatives and to recognize them and take steps to eliminate them. Once this has been accomplished through discursive reasoning, he will recognize that the "concurative logic" defined, is truly "The Will of God".

Fe Delta

The Mining Operation

Location:

Pinal County, Arizona

Range 12 East

Township 8 south - Sections 1-36

Township 9 South - Sections 1-6

Arizona Mining District No. 22 Black Mountain

Index C-10 - Map and Index of Arizona Mining Districts

Map of Known Metallic Metal Occurances of Arizona

Location - Approximately 25 miles south of Florence between  
Brady Wash and Durham Wash

Land Ownership:

State of Arizona - 25 Sections

U.S. Government - Bureau of Land Management - 17 Sections

Total Sections 42

Square Miles 42

Acreage 24,320

Ore - Magnetite

Raw Ore - Approximately 5% Magnetite

Prospecting Fee \$50 per Section

Renewal - 5 years

Exploration Fee - First Year \$10 per acre

Second, third, fourth and fifth year \$20 per acre

Premises Protection Bond - Approximately \$2,000

Magnetite:

Specific Gravity 7.86

Weight - 491 lbs./cubic foot

Melting Temperature - 1535 Degrees C. - 2795 Degrees F.

Average depth of deposits - 5 to 50 feet

Mining Process:

Open Pit

Magnetic Separation of Ore

Estimated Magnetite yield of deposits - 60 to 90 million tons

Electric Power - Available from Arizona Public Service Co.

Water - Existing Well - Flow approximately 1500 GPM

Transportation:

Highway 89 - Nearest Rail Heads - 25 miles at Coolidge or  
Florence

Option to construce new spur line to Red Rock

Labor:

Approximately 4,500 enemployed or under-employed in Pinal County

Fe Delta

Proposed Steel Manufacturing Facility

Birmingham Steel Corporation

Fe Delta, Arizona Plant

Production Capacity 500,000 tons

Operation - Electric Furnace

Power Requirement 60 to 70 MW

Operation - 7 days/week - 24 hours/day

Employment 250

Average Salary \$32,000

Cost \$100,000,000

Proposed - Electric Power Generating Station

Capacity 80 MW

Cost @ \$3.4 million per MW \$272,000,000

Fuel Sources - Combustible solid waste and natural gas

Amount of waste required 3,200 tons/day

Solid waste will produce approximately 600 kwh/ton

Combustible solid waste average 5,000 btu/lb.

Rubber waste - tires 14,000 btu/lb.

Plastic waste 8,000 btu/lb.

Value of KWH per ton @ \$.04/kwh \$24

Value of KWH per day \$76,800

Value of electricity generated per year \$23,827,200

Credit to Birmingham for elimination of APS demand charge

@ \$2 per KW \$1,920,000

Market selling price of electricity per year \$25,000,000

Fe Delta

Birmingham Steel Corporation - President, Jim Todd

Birmingham Alabama

Founded 1984

Operates - 6 mills across U.S.

Gross Revenues - 1989 \$443,000,000

New Arizona Plant

Production Capacity - Annually 500,000 tons

Products - steel billets, reinforcing bar, rolled steel, flats, balls etc.

Electric Furnace Operation

Operation - 7days per week - 24 hours per day.

Employment - Non Union - Average Salary \$32,000,000

250 Employees initially.

Cost - \$100,000,000

Negatives

Commissioners Marcia Weeks and Renz Jennings said they have "serious problems with low electricity rates offered by Arizona Public Service Company."

The Commissioners question whether such a big user of electricity would help cause an energy crunch and force APS to build more power plants to serve its customers. APS now has excessive capacity, but that situation will not continue forever.

Weeks questioned whether the special rate is fair to the utility's other large industrial customers.

Jennings said he fears the mill will eat up APS reserves too quickly.

Birmingham Steel has told APS that construction of the plant is contingent upon its ability to obtain Commission approval for a special electric rate.

Positives

The Birmingham Steel Plant would bring 250 new jobs to the valley.

The Mill would be able to dump most of its power load immediately in case of an APS shortage of power emergency.

Birmingham would agree to pay what it costs APS to buy power on the open market if the utility cannot provide the power needed by Birmingham on its own.

The Plant would operate on a steady load 24 hours per day, 7 days a week. The result would be the use of off-peak power a large portion of the time.

The Plant would produce large tax revenues for the State and County.

The Plant would re-cycle steel recovered by waste processing facilities.

The Plant would also use iron ore from Arizona mines, in addition to scrap steel.

Fe Delta Enterprises, Inc.  
4110 Cibola Circle  
Toltec City, Arizona 85231

July 18, 1990

Mr. James Todd, President  
Birmingham Steel Corporation  
Birmingham, Alabama

Reference: Relocation of Barbary Coast Steel subsidiary to  
Arizona.

Dear Mr. Todd:

I have read several articles that appeared in the Arizona Republic with reference to plans to move your Barbary Coast Steel subsidiary from northern California to a site about 50 miles west of Phoenix near the Palo Verde Nuclear Generating Station.

One article indicated that there have been a number of negative expressions by Public Utility Commissioners regarding the move. Commissioners Marcia Weeks and Renz Jennings said they have "serious problems with low electricity rates offered by Arizona Public Service Company".

The Commissioners question whether such a big user of electricity would cause an energy crunch and force APS to build more power plants to serve its customers. APS now has excessive capacity, but that situation will not continue forever. APS has indicated that power requirements for the plant will run from 60 to 70 MW.

Weeks questioned whether the special rate is fair to the utility's other large industrial customers.

Jennings said he fears the mill will eat up APS reserves too quickly.

Birmingham steel has told APS that construction of the plant is contingent upon its ability to obtain Commission approval for a special electric rate.

The purpose of this letter is to propose an alternate location for your facility, an alternate electric power source, a much lower cost for the electricity consumed, an almost unlimited supply of magnetite ore at the plant site at the lowest possible cost.

I am taking the liberty of enclosing a copy of a book which I have authored, which describes in great detail how this can be accomplished. I trust that you will give your personal attention to this document and share it with your associates.

I shall look forward to discussing this proposal, in detail with you at your earliest convenience.

Cordially yours,

Robert R. Wylie

Enclosure

Telephone [602] 466 4203

Fe Delta

### Economics of Re-Cycling Waste Materials

Many communities and groups, as well as individuals have established programs to collect and segregate certain items from common solid wastes. In addition to the revenue obtained from the sale of such items, the programs are also aimed at cleaning up and maintaining the environment. Materials being collected for re-cycling include:

- [a] Aluminum cans
- [b] Ferrous metal cans and other metal products
- [c] Newsprint
- [d] Glass and ceramics
- [e] Cardboard and plastics

The revenues recovered from the sale of products to be re-cycled varies from community to community, but the following represent average prices:

[a] Aluminum cans	\$42.00 per ton
[b] Ferrous metal cans	\$50.00 per ton
[c] Newsprint	\$10.00 per ton
[d] Glass	\$20.00 per ton
[e] Cardboard	\$42.00 per ton

In certain places it is difficult to find a buyer for materials to be re-cycled.

The average cost of collection of unsegregated solid waste and landfill is \$9.50 per ton.

Today - only about 16% of solid wastes are re-cycled.

The average content of materials constituting solid wastes are as follows:

[a] paper and paperboard	40%
[b] metals	9%
[c] glass	8%
[d] plastics and other combustibles	43%

The combustible materials can be incinerated and used as fuel for powering electric generating stations. This includes paper and cardboard. In a dry condition, these combustible wastes have about one-half the btu ratings and energy values of coal. This valuable energy source is lost forever by placing it in a landfill as well as occupying valuable land space. The residual ash from burning solid wastes finds some uses as an aggregate for manufacturing building products.

There are control devices available today to remove hazardous emissions from incinerator stacks and provide protection to the public as well as the environment. There are monitoring devices to insure that emissions are controlled at prescribed safe levels.

Fe Delta Enterprises, Inc.

Directors:

Robert R. Wylie

Eddie Haught

Enterprises:

Birmingham Steel Company - Steel Mill and Fabricating Plant

Fe Delta Mining Company

Fe Delta Power Company

Fe Delta Solid Waste Disposal and Re-cycling Company

Fertizona - Iron Fertilizer Company

Fe Delta Building Products Company

Human Resources Group

Ecology Preservation and Restoration Group

Headquarters:

Florence, Arizona - Conoco Pilot Plant Facility

Around 1972 Conoco had extensive plans to develop copper and precious metal deposits on 9500 acres of land adjacent to Poston Butte on the north side of the Gila River near Florence. As mentioned earlier, Conoco drilled 2 shafts to a depth of 750 feet, but failed to locate adequate copper deposits to sustain a mining operation. During that time, they set aside 50 acres of land for the "Conoco Pilot Plant". It was located on Hunt Road which connects with Highway 89. There is a railroad siding within a mile of the plant. The Pilot Plant was a complex of buildings and equipment for processing ore. It had its own deep well with 12" and 6" connections available. The complex contained its own sanitary sewer disposal plant. The ore was received at a crushing mill from where it was carried by overhead conveyor to a secondary crushing operation and other processing equipment.

It would take 6 people to operate the Pilot Plant. These include a good assay chemist and a good metallurgist.

Copper Basin Rail Road head quartered in Hayden, Arizona, is the Railway near by. There is an unloading site approximately one mile from the Plant. There is a good possibility of obtaining a spur at the Plant.

The Plant is available for purchase at a cost of approximately \$1,800,000 with the sales commission to be paid by the buyer.

It is my opinion that all of this equipment could be fully utilized by Fe Delta Enterprises.

This equipment is still in place. The complex also contains earth moving and other mining equipment.

The Conoco Pilot Plant consists of:

A Laboratory and office building of approximately 100x150. There are 17 offices, Lab and Engineering Department. There is approximately  $\frac{1}{2}$  million dollary inventory in the Lab.

The Shop Building is approximately 40x100. Shop inventory is estimated to be approximately \$150,000.

The Floatation section of the Plant can handle 100 tons a day, also depending on the ore.

The agitation Leach can handle 12 to 15 tons a day, also depending on the ore.

The Vat Leaching consists of 10 vats, each holding 110 tons.

One Electro Uli Cell powered by a 30 ampere Rectifier. Plant is set up to where more Electro Uli Cells could be added if needed to handle more gold and silver.

The estimated cost to process the ore is \$20.00 per ton, Total expense including labor.

It is estimated to take 5 to 6 weeks to put the plant in top running condition.

The estimated dollar amount to put the plant in top running condition in 1987 was approximately \$120,000, at today's prices between \$200,000 to \$300,000.

The Lab does not have an AA, DPC or IPC machine.

Fe Delta

## Indians - Forgotten People

Many of the following opinions were excerpted from and/or paraphrased from the syndicated column by James J. Kilpatrick which is published in the Arizona Republic and other leading newspapers. "Out of sight, they say, is out of mind. The aphorism applies with single accuracy to the nation's 900,000 native Indians. Almost no one speaks for the Indian tribes. I ran into Arizona's Senator John McCain in the Capitol a few days ago and we fell to talking about the status of Indians in contemporary society. Their status, said McCain is just about nil: "Nobody cares deeply about the Indians. Congress doesn't care. The states don't care. Over the past 15 years, every part of the federal budget has **increased** in constant dollars - every part but one. That is the budget for Indian Affairs".

The relationship between the American people and the Indian Tribes is perhaps the strangest legacy in our history. It is not edifying to read the chronicle of grand theft, brazen swindling and sheer brutality imposed upon Indian Tribes by the white man

In 1983 President Reagan established a policy of permitting strong tribal governments with broad powers of self government. In theory the policy still exists, but a study last year by a Senate investigating committee found that the old paternalism has not really greatly diminished. The committee found "fraud, corruption and mis-management pervading the institutions that are supposed to serve American Indians". The Bureau of Indian Affairs [BIA] had done virtually nothing to expose sham companies operating as Indian-owned enterprises. Among the BIA's responsibilities is economic development, but "45 percent of all reservation Indians live below the poverty line, almost

half of all Indian adults are unemployed, and the majority of those who do work earn less than \$7,000 per year. I asked Senator McCain if this devastating report had produced a galvanic effect at the BIA and he just shook his head. This correspondent covers the Supreme Court closely, but do I brief the Indian cases? No way. I mean, who cares? Who really cares?"

In October of 1989, when I visited the Florence, Coolidge and Casa Grande areas to explore the possible development of Fe Delta, I discussed the labor situation in Pinal County with many persons. On several occasions I mentioned the possible employment of Indians from the nearby reservations. I was not even able to ascertain whether Indians are included in the unemployment statistics. The opinion, most generally expressed, was that few persons concerned themselves with the Indians who lived on the reservations. These people were under the impression that all Indians received subsistence checks from the Federal Government.

After we moved to Arizona about the first of February, 1990, I continued to try and determine how the Indian population fitted into the current Pinal County labor market and also determine what plans, if any, were being made to improve employment opportunities for the Indians who reside on the reservations. Once again, I found few people who were concerned about Indian unemployment. Once again, I was told that the Indians received regular subsistence checks from the government to cover their basic needs.

I was not satisfied with this response and tried to determine what the true facts were regarding the Indian's situation. It was during this period of time that I came across the article by James J. Kilpatrick which was published in the Arizona Republic. I was greatly impressed by the detailed information

provided in the article and decided to try and verify it "first hand".

I contacted the headquarters of the Gila River Indian Community, located in Sacaton, Arizona, and made an appointment to meet with the Community Governor, Thomas White. He proved to be a most interesting and impressive official. He is a tall handsome man with iron grey hair. I would guess that he is about 60 years of age. He is a brilliant conversationalist with an outstanding vocabulary.

I explained the purpose of my visit and repeated to him some of the impressions expressed to me regarding the relationship of the Indian population to the Federal Government. He listened very attentively to everything I had to say. His initial comment was that I had been grossly misinformed, possibly due to ignorance on the subject, of the persons who made the comments. He stated that an Indian is a U.S. citizen, who received only the rights and privileges of all U.S. citizens, regardless of race or color. They are included in the Social Security System and are entitled to the same Medicare benefits as are all other persons. This would also apply to State employment and other services available from local governments. The reservations are self-governing with their own elected or appointed officials.

Governor White revealed that he had served in the U.S. Armed Forces in the Army. We discussed the Central Arizona College Training Center, which is located on the reservation in Sacaton. Their curriculum has varied from time to time in accordance with the immediate needs of the community. He indicated that instruction had been given in heavy equipment operation and maintenance. Various business courses were also offered on a more or less regular basis.

I outlined to the Governor my hopes and plans for the development of Fe Delta. These included an iron ore mining operation. a steel smelting and fabricating mill, an electric power generating plant, an iron fertilizer manufacturing plant and programs for the preservation and maintenance of the land, plant and animal life. The overall project would also include much construction and road building and perhaps a railroad spur line. I told him that it was my intention to give every person who wanted employment an equal opportunity, including the Indian Communities. We also discussed job training programs and the logistics involved in transporting workers to and from the job sites from the many Pinal County communities.

His closing remarks to me was an expression that the Indian Community be given the same opportunities. At no time did he mention any type of improper treatment of his people and repeated that all the Indians were seeking was an equal opportunity as U.S. citizens.

## God's Gift of Reason

God's special gift to man is reason. Man is the only species of God's creatures to receive this gift. Other species have received special gifts from the creator such as a bird's ability to fly, the ability of a fish to live without air and other creatures to exist without sight or hearing. Man's reason allows him to conceive of his species as a species, and to recognize the danger that excessive growth poses to it and to feel something for the other species which man threatens.

Part of man's reason that drives his intelligence allows him to master DNA or build big power plants to produce energy to serve man. Man's reason could also keep him from following blindly, biological imperatives toward endless growth in numbers and territory. Should man choose to do so, he could exercise his reason to do what no other species or animal can do: he could limit himself voluntarily to choose to remain as one of God's creatures, instead of making himself into a God. What a significant achievement that would be, so much more impressive than building a huge dam - because beavers can build dams- according to their own needs. Man's restraint, not genetic engineering or planetary management, is man's real challenge. If man now, today, begins to limit his numbers and his desires and ambitions, God through nature, as he created it, could someday let nature resume its independent working. The temperature of earth would someday adjust itself down to its own setting as God established it and let the rain fall pure and clean of its own accord. Normal rainfall has a pH of 5.6. Acid rainfall, from contamination by man, has a pH of 4.6 to 4.2 which is from to fourteen times as acid as God intended as normal.

Scientists have predicted that there will be a rise of 0.8 degrees Celsius in the earth's temperature between now and the year 2000. They have also predicted a 90 centimetre rise in sea level.

In the past, some scientists concluded that the oceans, which hold much more carbon dioxide than the atmosphere, would soak up any excess CO<sub>2</sub> that man generated. Today, scientists have determined that the foregoing conventional wisdom was wrong: that the upper layer of the oceans where the air and sea meet and conduct the transfer of CO<sub>2</sub> from the air to the water, would absorb less than half of the excess CO<sub>2</sub> produced by man. As a result the CO<sub>2</sub> being discharged into the atmosphere by furnaces, smokestacks and combustion engine exhausts would remain in the air, where presumably it would gradually contribute toward the warming of the planet. This has led to the recognition by man that God and nature are intertwined and that man must pay at least lip service to the idea that man must assume the "stewardship" of the land. If those of us who believe that there is a God, also believe that he wants us to take good care of the planet which he created. Man must realize that all nature is not his to subdue. Nature has provided a way for man to recognize God, and to speak freely about who God is and to understand "The Will of God". If man destroys nature as God created it and man has known it, what will be the effect on man's understanding of God and his relationship to man.

Man as a species of God's creatures has proved to be much stronger than he suspected - much stronger. In a sense man has turned out to be God's equal, or at least his rival and able to destroy God's creation. As such, man becomes less and less capable of seeing himself as small within God's creation, because man sees himself as becoming a creator.

Each day new problems are being created by man due to the inertia of his affluence, the push and extension of poverty and the soaring world population. Man can recognize them, and through discursive reasoning deal with them toward the end that someday he can overcome them. Man has the capability, and must establish the will to do something to overcome these problems with regard to the entire planet.

Man is a witness to his destruction of nature in many areas of the earth. The passing of nature will prevent man from returning to the world that he previously knew and also make any of the fundamental changes unlikely as they might have been in easier times. As man's familiar world around him starts to change, every threatened instinct will have man scrambling to preserve at least his familiar style of life. Man can - man may well - make the adjustments necessary for his own survival.

When nature loses its separateness, nature also loses the special power bestowed on it by God, its creator. Instead of being a category like God - something placed beyond man's control, nature is now in a category like the defense budget or the minimum wage. It is a problem that man must work out and resolve.

Man's defiance of the laws of nature may bring him temporary prosperity and an appearance of security - that more hydropower will mean less CO2 on the atmosphere - that genetic energy will cure the sick and that much more progress can still be made in the alleviation of human misery.

Portions of the foregoing were inspired by and/or paraphrased from an article titled "Reflections (the end of nature)" by Bill McKibben which appeared in the September 11, 1989 issue of the New Yorker.

Fe Delta

### Establishing High-Tech Research Priorities

The author, throughout his business career, has been very fortunate to have been involved with a wide variety of projects affecting both national security and research involving mankind.

In 1938, while employed by the Appalachian Electric Power Company, he was able to observe one of the early efforts to remove certain materials from the emissions of a coal fired electric generating station at Cabin Creek, West Virginia. The plant was located on the Kanawha River near Charleston, West Virginia. It had one of the tallest stacks in existence at that time. Prior to its design and construction, it had been a usual occurrence to have emission of contaminants, consisting of fly ash and other materials into the atmosphere where they covered the surrounding countryside. The stacks also belched forth large quantities of carbon dioxide.

The plant design engineers included a precipitator in the stack to remove some of the fly ash which was precipitated into water and slurried into catch basins near the edge of the river. After the ash slurry dried, it was loaded into trucks and transported to cinder block manufacturing plants, where it was used as an aggregate for building blocks.

At the same time, traps were installed in the stack to trap and divert carbon dioxide to a compressor station which compressed the gas into "dry ice". There was an excellent market for this product to preserve food products including meats on their way to market.

In the middle 1960's, the author served on the Board of Directors and Board of Governors of the National Electrical Manufacturers Association as the representative of the Power Capacitor Group, consisting of five companies. Most capacitor products used by the

electric utility companies as well as industry were manufactured to standards established by the engineering societies and industry groups.

At that time the most widely used dielectric liquid was manufactured by Monsanto Chemical Company which owned the patent rights. It was one of a family of chlorinated bi or diphenols. As well as being an excellent electrical insulator, it was also non-biodegradable. The material was a toxic liquid and required great care in handling and the disposition of damaged units incorporating the substance. One of the primary uses in the domestic market was to provide the insulation for ballasts which are a mandatory component for fluorescent lighting units. All manufacturers used an almost identical formula in their products, which was available only from Monsanto.

During this period, one of the major manufacturer of ballasts received a shipment of the dielectric liquid from Monsanto, which was manufactured into the product. A short time later, failures from ruptured ballasts permitted the escaping liquid to cause great damage to ceilings, walls, carpets, clothing of personnel and some skin irritation. The manufacturer promptly notified all users and appropriate authorities of the problem and all products affected were recalled.

One of the problems still facing the industry was proper disposition of damaged product of any nature using chlorinated biphenol. The electric utilities had thousands of power capacitors of various sizes scattered over their systems. The manufacturers' trade association [NEMA] which provided a proper forum for resolving such problems worked with the Monsanto Chemical Company and all users and local authorities to dispose of failed or damaged equipment. It was decided to dispose

of the junked equipment in depleted limestone quarries in Pennsylvania. Within a short period of time it was discovered that the quarries had flaws in the rock which permitted leaching of the chlorinated bi-phenol into water systems, streams etc. The disposition process was stopped immediately and was replaced by using special railroad cars to collect the waste materials and return them to the manufacturer, Momsanto Chemical Company for incineration and disposal of residual materials.

This incident did much to make everyone aware of the problems associated with the disposal of all toxic wastes. This was only one example of the kind of problems that might arise with the use of any toxic products. Note: There are still hundreds of thousands of capacitors on utility lines and installed in other electrical systems. Fortunately, field failures have been rare, and many units have been replaced with new designs using safer dielectric liquids.

Over the years, our government has appropriated huge sums of money for research on many projects which would, if successful, be of benefit to only a special few of mankind. The writer was involved in several of them.

One group involved the compression of gases into a new form of matter referred to as "plasma". It was hoped that this substance could provide a fuel for interplanetary travel in the solar system. Energy would be released on a controlled basis as required by a space vehicle.

Princeton University received large grants to pursue its "stellerator program". To provide huge amounts of electric energy, they designed a diesel electric generator with a massive flywheel that would provide large amounts of power on a continuous basis without deterioration when a load was applied.

They also developed energy discharge capacitor banks where the units were designed with exotic types of dielectric materials, such as a combination of irithane, samica and castor oil under pressure.

The next major attempt in producing higher and higher voltages was the Stanford Linear Accelerator which was installed at Palo Alto, California. Its path was a straight line down a hill. It had power supplies made up of energy storage capacitors designed and supplied by Sangamo Electric Company. I provided liason for this project.

Today, plans have been completed for a "Super Collider", which will accelerate particles over a 50 mile path. It will be located in Texas and will cost \$9 Billion. The U.S. is attempting to induce Japan to share some of the cost and the resultant technology.

The writer has watched many of these projects come to a successful conclusion and the proving of the feasibility thereof of the technology developed. At this time, he does not see how they have or ever will be of significant benefit to mankind.

It is his opinion that "fertilizing the oceans" offers much greater possibility of creating a technology that will be of benefit to all mankind. It would help restore some of the damage done to the atmospheric ecology by the folly of man in his greed to exploit the "God Given" resources which were placed at man's disposal to serve all of mankind and to provide for the generations to come.

Fe Delta

## Fertilizing the Oceans

'Geritol Solution' to battle the "Greenhouse Effect" and slow the increase in atmospheric carbon dioxide.

### Method:

Dumping hundreds of thousands of tons of iron fertilizer into the ocean to create giant blooms of marine algae that could soak up much of the excess carbon dioxide believed to be responsible for global warming.

The proposal to dump iron based fertilizer into the oceans has been given quiet endorsement by a special panel of the National Research Council, an arm of the National Academies of Sciences and Engineering, which is chartered by Congress to advise the Government on scientific and technical issues.

### Conclusions:

"It is conceptually feasible to slow the increase in atmospheric carbon dioxide" by fertilizing the oceans with iron, the lack of which, many scientists now believe, is what limits the growth of marine algae in many environments.

In a report that has not been publicly released, the group recommended that, after "appropriate preliminary experiments" a large international "iron enrichment experiment" be implemented at a cost of \$50 million to \$150 million.

Researchers have suggested that the first tests be done off Antarctica or Alaska.

Scientists are unsure, however, about the effects of such a massive program. Marine algae are the foundation of the ocean food web and feed the shrimplike krill that, in turn, are eaten by the ocean's fish, seals, penguins and whales. Disruption of the food chain in any way could have unknown ecological effects.

Based on new findings published by Dr. John Martin of Moss Landing Marine Laboratories in California and his colleagues, many ocean scientists, believe many of the tiny marine algae called phytoplankten are held in check only by a lack of iron, which the plants need to convert nutrients such as nitrogen into amino acids, the building blocks of protein.

If iron fertilizer could be sprayed upon the otherwise nutrient rich seas, perhaps in the form of powder or slow-release pellets, the marine plants should undergo tremendous growth.

Carbon dioxide is the gas most responsible for predictions that earth will warm an average by about three degrees Fahrenheit by the year 2020.

The marine plants remove carbon dioxide from the water. The water, in turn, interacts with the atmosphere to replenish the sea with carbon. The more the marine plants grow, the more carbon dioxide is absorbed from the atmosphere.

The idea of fertilizing the ocean to rescue the planet from overheating is attracting serious attention in the scientific community.

" I think it is a good idea", said Dr. Roger Revelle, the former director of the Scripps Institution of Oceanography and recognized as a father of global atmospheric studies. "I see no reason why it shouldn't work.

Note:

The writer contacted Dr. John Martin at Moss Landing Marine Laboratories to learn more about the progress being made on this massive project. He expressed the opinion that there is great interest on this undertaking. Like any such project it requires a significant investment in exploring the many tasks involved. He estimated that it would take about five years time at the present rate to prepare for the tests and studies of possible adverse effects it might have on the marine ecology.

The writer also attempted to contact Dr. Roger Revelle of the Scripps Institution of Oceanography, which is now a part of the University, but was not able to because of recent medical treatments which made him unavailable. I did speak with Mark Wells who is Laboratory Chief under Dr. Edward Goldberg who is also working on the project. Mr wells stated that he was privy to the documents exchanging information between the various laborories researching the project and agreed that adequate funding was a problem and that support was needed from persons in high echelons of government to initiate the allocation of the monies required.

Scientists have estimated that the burning of fossil fuels plus the destruction of tropical forests add about 6 billion tons of carbon to the atmosphere each year. About 3 billion tons stays in the air, where the gas acts like a blanket and traps heat that otherwise would radiate into space. The other 3 billion tons of carbon is absorbed by the oceans, soil organisms and growing plants.

The proponents of iron fertilization believe that about 300,000 tons of high grade iron fertilizer, dispersed each year in slow-release floatable pellets, could remove, at least in theory, an average of 2 billion tons of carbon dioxide from the atmo-

sphere each year over a 50 year period. Dr. Martin opined that a single large tanker today easily could carry that much iron fertilizer.

Note: Much of the foregoing was exerpted from an article by William Booth, published in the Washington Post.

Fe Delta

Proposed solution for global warming due to excess CO2 in the atmosphere.

In a recent article by Columnist and TV Commentator Tom Wicker which was published in the New York Times, Tom Wicker stated as follows: "The President is virtually isolated in his reluctance to do anything about global warming". He praised the President's decision to help poor countries stop using chemicals destructive to Earth's vital ozone shield. He stated that cheers will be due when Mr. Bush decides to take action now against global warming, the so-called "greenhouse effect". Under counseling from his Chief of Staff, John Sununu, Mr. Bush is so far willing only to call for more study. Last week, Mr Bush reversed himself. This position relates to chlorofluorocarbons which are used in refrigeration equipment. Offering a substitute product for chlorofluorocarbons will open a huge new market to U.S. manufacturers of the substitutes. According to Mr. Wicker, President Bush is still reluctant to do anything about global warming. The White House has insisted on awaiting an exhaustive study on the climate by more than 300 experts brought together by the United Nations.

Last month, however, an "executive summary" of the U.N. Survey was published in London - and it largely discredited the Sununu-Bush do-nothing policy.

With only a few dissenters, the panel concluded that if world wide "business as usual" continues, the Earth's global mean temperature could increase by 5.4 degrees Fahrenheit by the end of the next century. That would produce a global mean sea level rise of 25 to 26 inches, with significant regional variations. This was the most authoritative conclusion yet reached by a credible scientific body. It caused Prime Minister

Margaret Thatcher of England to announce her decision to reduce the projected growth of Britain's carbon dioxide emissions, stabilizing them at 1990 levels by the year 2005.

The U.N. report called for a 60 percent immediate reduction in current green-house emissions, just to stabilize concentrations of those gasses already in the atmosphere.

Note: It is the opinion of the author that the control of these emissions is part of an ultimate solution to the problem. It is also his opinion that it is imperative to give top priority attention to the proposed "Geratol Solution" which calls for "Fertilizing the Oceans" to battle the green-house effect caused by the emissions. This action could provide a method for reducing the CO<sub>2</sub> now in the atmosphere as well as neutralizing future and on-going emissions.

The product in the form of iron ore which is found in abundance in Fe Delta can play a vital part in the creation of new soluble iron fertilizers which can be applied to the oceans.

## Fe Delta

During recent weeks, the author has contacted several scientists who have been involved with ocean fertilization, including phytoplankten. Over the years, much research has been done on this subject. It is quite evident that no specific formulation has been agreed upon by the scientific community with regard to the shortage of iron in the make-up of the arctic and antarctic waters. Most seem to agree with Dr. John Martin of Moss Landing Marine Laboratories and his colleagues that, after "appropriate preliminary experiments" a large international "iron enrichment experiment" be implemented.

It has been reported that cultures using hydrated ferric chloride [ $\text{Fe Cl}_3 \cdot 6\text{H}_2\text{O}$ ] are being experimented with to increase growth of planktons. This substance has a weight of 270 grams per mole. Its iron content is 55 grams per mole [gram molecule]. This represents an iron content of approximately 20%. If 300,000 tons of this fertilizer was required for the experiment, this would represent 60,000 tons of iron.

Some of the scientists expressed the opinion that the "iron enrichment experiment" may show that other ingredients such as manganese, phosphorous and nitrogen should be included in the fertilizer to obtain optimum growth of the algae and phytoplankten.

Fe Delta

The Ensco Hazardous-Waste Facility

The following documentation illustrates some of the public's reaction to establishing a waste disposal facility in Pinal County. This is not common to only this County, but also applies to all parts of the country. Objections must be anticipated and all negatives either reconciled or eliminated.

Ensco Hazardous-Waste Facility

Butterfield Station - Location 5 miles from Mobile, Maricopa  
County, Arizona - State Route 238

Site area - 640 acres - expected life - 50 years

Plant area 83 acres

Plant capacity - 79,000 tons annually

Plant facilities:

- [a] Three incinerators
- [b] Land-fill - 7 cells

Waste materials to be processed:

- [a] Toxic
- [b] Corrosive
- [c] Reactive [such as solvents]
- [d] heavy metals
- [e] Polychlorinated biphenals and industrial sludge.

Waste materials to be prohibited:

- [a] Radioactive Waste
- [b] Explosives
- [c] Medical Waste
- [d] Dioxins or precursors to dioxins

Safety Measures for Monitoring:

- [a] Continious air monitoring:
- [b] Ten monitoring wells around site to be checked twice a year  
for groundwater quality

Maximum Emissions from plant annually:

- [a] 182 tons of carbon monoxide
- [b] 125 tons of sulphur dioxide from incinerator stacks
- [c] 5 tons of lead

Land-fill Construction

- [a] Double-lined with leak detection system
- [b] Disposal of liquids would be prohibited
- [c] Rainfall would be collected in a retention basin and used for steam generation in the incinerators.

Invested Capital in Facilities:

- [a] Ensco [to date] \$30 million dollars
- [b] Arizona [to date] \$5 million dollars - to buy and install utilities at plant site.

Non-Hazardous Waste Capacity:

- [a] 5000 tons per day
- [b] Current use - 1,000 tons per day
- [c] Transportation - 50 to 60 trucks

Areas Served

- [a] Arizona [30 percent]
- [b] Out of State [70 percent]

Incinerator Capacity - 30,000 to 40,000 tons annually

Landfill Capacity - 50,000 tons annually

Tipping Fees - \$7.50 per ton

State of Arizona Revenue:

Annual Rental - \$150,000 annually

2 percent of gross revenues - \$195,000

Total income to Arizona           \$345,000

Ensco - Total annual revenue from "tipping"

Note: It is the opinion of the author that this facility presents little or no hazard to the environment or the personal who are employed by it or residing in the vicinity.

Robert R. Wylie  
4110 Cibola Circle  
Toltec City, AZ 85231

June 3, 1990

The Editor:  
The Arizona Republic  
The Casa Grande Dispatch

Waste Management and "The Will of God"

Gentlemen:

The "Will of God" is much more than a positive declaration by a sincere person or group of persons. It must meet the test of reason, which is God's special gift to man. Reason must meet the test of logic and must recognize the negatives involved, but not necessarily accept them.

The State of Arizona, through its elected representatives, has recognized and accepted the need for handling and neutralizing all types of toxic wastes, which represent a threat to the health and welfare of all of its citizens and to the environment.

In an attempt to resolve this problem, the legislature approved a contract with Environmental Systems Company [Enco] to design, construct and operate a "state of the art" facility near Mobile, Maricopa County, Arizona. Salient facts are as follows:

Cost - To Enco and Arizona - \$50,000,000.00

Plant Capacity - 90,000 tons/annually

Facilities include 3 incinerators and 7 landfill cells

Waste materials to be processed include toxic, corrosive, reactive [such as solvents], heavy metals, polychlorinated biphenals and industrial sludge wastes.

Life of facility - 50 years

The facility must meet or exceed all Municipal, County, State and Federal Regulations.

It was estimated that Arizona would require 30 percent of the plant capacity initially, and that "out of State" clients would utilize 70 percent. Those ratios could be adjusted as the Arizona requirements increased and it was estimated that by the year 2019 that Arizona would require 80 percent.

To make this facility economically feasible, all parties recognized that full utilization of the plant was imperative and was possible only if it was shared by Arizona and its "out of state" clients.

Since the facility was conceived and construction started, many groups, organizations and individuals have objected to its proposed operations for a variety of reasons. None of them include specific objections to the concept of a Hazardous Waste Disposal Facility. None of them deal with the maximum emissions from the stacks of the incinerators which include 182 tons of carbon monoxide, 125 tons of sulphur dioxide and 5 tons of lead and their possible damage to the environmental ecology close to the plant and the employees and residents in the area. They have indicated no acceptance of the plant operating at only 30 percent of capacity to serve only Arizona. I refer to only one incinerator instead of three.

The legislature is considering a bill to create a 10 member investigative committee that would be empowered to "review the history of the establishment, development and regulation" of the site and to "evaluate the feasibility of modifying, re-negotiating or terminating" the contract under which the ENSCO Facility is being built, makes no reference to any hazards

created by the plant, which is the primary subject causing "fears" of an undefined nature on the part of the objectors.

It is the opinion of the writer that it was and is the "Will of God" to create this facility based on the original concept and contract. It represents an intelligent approach to resolving toxic waste hazards created by man, which affect both man and nature as God created them. Any contract is subject to change and revision whenever, by the process of reasoning and logic, it proves to be imperfect and a better solution to the problem of waste management is advanced. To cause more delays or do nothing at this time, is contrary to the "Will of God" and the authority which created the Ensco Facility.

Respectfully yours,

*Robert R. Wylie*

Robert R. Wylie

Enesco Waste Facility - Mobile, Arizona

Excerpts from Newspaper Articles - Casa Grande Dispatch - The Arizona Republic

1981 - Arizona Department of Environmental Quality agreed that 70% of the material processed at Mobile, would initially come from "out of state" as per Norm Weiss.

1990 - Francesca Segretti, of the Arizona Coalition for the Environment says 98% will come from "out of state", including 30,000 tons of ash from the Enesco Plant at Eldorado, Arkansas.

1990 - Eldorado, Arkansas Mayor Larry Combs is convinced that their Enesco Plant offers no harm to his 25,000 member community.

1990 - Norm Weiss - By 2009, 37% will come from "out of state" which will be reduced to 20% by 2019.

1990 - The Enesco Company maintains that it is not economically feasible to operate Mobile without "out of state material".

1990 - Bob Toloso, Enesco Plant Manager stated " Enesco has no plans to import any ash from 'out of state'. Economically it doesn't make sense to transport a truck load of hazardous waste ash. It costs \$3.25 per mile to transport a load of hazardous waste".

1990 - State Senator Alan Stephens made the following comments: " A bill to tax imported wastes at \$25.00 per ton is running into trouble. It may breach the original contract with Enesco. ADEQ, Arizona Department of Environmental Quality is a partner in the plant. The State will receive \$100,000 per year, plus

2% of gross profits amounting to \$1,000,000 each year. [To accomplish this revenue to the State, Ensco would have to earn a profit of \$45,000,000.]

1990 - Casa Grande Officials say the landfill will reach capacity by 2006.

1990 - The Mobile Facility will cost \$50,000,000. It must be large enough to earn a profit on this investment.

1990 - State Officials say the Mobile Project could begin accepting materials from Arizona and other states by the end of the year.

1990 - The original approval was for one incinerator and a re-cycling facility. The Facility is being constructed for three incinerators, but no re-cycling. The plans have been changed to burn and bury hazardous wastes. The Legislature has approved a \$.50 per ton fee on hazardous waste imports. Arizona will receive \$150,000 per year plus 2% of gross revenues.

1990 - Michael Gregors, Conservation Chairman, Grand Canyon Chapter, The Sierra Club believes the 1983 environmental impact statement is inadequate. It included one incinerator - not three planned and failed to account for increased plant capacity.

1990 - Norm Weiss stated " THE State did what was required by the Federal Government as a condition for buying the land from the Bureau of Land Management. Arizona does not require an Environmental Impact Statement.

1990 - The Arizona Legislature has a bill to create a 10 member investigative committee to " review the history of the establishment, development and regulation" of the site and to "evaluate the feasibility of terminating" the contract under which the Ensco Facility is being built. The bill sets a \$5.00 per ton fee for Arizona wastes buried in the site's landfill, \$10.00 a ton for incineration of Arizona wastes. The fee for "out of states" would be \$25.00 per ton for burial and \$30.00 per ton for incineration.

1990 - Ensco has invested \$30,000,000 in the facility.

Note: It is little wonder that the general public is thoroughly confused as to the merits and/or hazards of the Mobile Facility as shown by the many contradictions that have appeared in the media.

City of Detroit - Detroit Resources Recovery Facility

Constructed by Combustion Engineering, Inc. in 1986

Cost - \$438,000,000

Financed by: Construction Bonds - Standard and Poors Corporation

BBB - rating on bonds

The City of Detroit is contemplating the sale of the incinerator for \$65,000,000 and lease it back.

The Michigan Pollution Control Commission, on April 17, 1990, ordered the incinerator shut down after State inspectors found excessive levels of mercury during tests of smoke stack emissions from the plant.

To reopen it, one or more of the following actions must be taken:

[a] Reduce by ten percent or more the amount of garbage burned [resulting in sending more garbage to landfills].

[b] Adding additional pollution control equipment at a cost of \$15,000,000 and another \$10,000,000 in annual operating expenses.

[c] Burn less garbage to reduce mercury emissions. [This would result in reducing the revenue it intends to generate through the sale of electric energy to Detroit Edison Company].

[d] Raising garbage tipping fees to generate \$100,000,000 in capital revenues and \$4,000,000 in annual operating fees.

Other problems facing the Commission include:

[a] Protests from environmentalists

[b] Operating permit delays

[c] Lawsuits with design engineers and constructors to determine who is responsible for meeting mercury emission standards

[d] Who is responsible for retrofit costs?

[e] Whose standards apply to operation of the facility?

[f] Which governmental body has the authority to shut down the plant?

Note: These are the same types of problems facing the Maricopa County, Arizona - Mobile Facility.

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Toltec City, Az 85231  
Phone [602] 466-4203

Resume: Robert R. Wylie

Birth: Ames, Iowa  
December 13, 1917

Education: Ohio State University  
Miami University  
McKinley - Roosevelt Graduate College  
Alexander Hamilton Institute  
R.C.A. Institute  
American Management Association Courses

Degrees: B. Sc. Electrical Engineering  
Bachelor - Commercial Law

Registered Professional Engineer - Virginia, Delaware  
Member for Life - Institute of Electrical and Electronic  
Engineers

Member - National Society of Professional Engineers

5 years - Member - Executive Committee, Parts Division,  
Electronic Industries Association

Chairman (2 terms) Power Equipment Division, National  
Electrical Manufacturers Association, (NEMA)

Director- 9 years- Power Equipment Division, NEMA

2 years - Board of Governors, NEMA

Member - Investment, Budget, Officers Committees, NEMA

Military Service - Lt. U.S. Navy - Deck and Engineering

Author: Various papers on Power Capacitor Application and Control.

Electric Utility Rate-Making.

Buying and Selling of Electric Energy.

Seminars on Time of Day Metering and Load Management.

Member: Export Advisory Committee- Export Expansion Council,  
U.S. Department of Commerce

Served as consultant to following companies and organizations in the field of Electrical Load Management and Control:

1. Federal Energy Administration
2. Schlumberger, Ltd.
3. Allis-Chalmers Co. - Siemens
4. Duncan Electric Company

Prepared and conducted Seminars on Electricity Load Management and Control for Southeastern Electric Exchange and Public Service Commission of Georgia.

Negotiated agreements and established manufacturing licensees in:

Argentina - Power and Electronic Capacitors

Brazil - Electric Meters

Mexico - Electric Meters

Power Capacitors

Japan - Sonar Equipment

Computer Input Devices

Netherlands - Computer Input Devices

Australia - Electric Meters

Business Experience:

4 years - Distribution Engineer - American Electric Power

1 year - Chief Operating Engineer - Venezuelan Power Company

12 years - Sales Engineering and Marketing - Rumsey Electric Co.

15 years - Sangamo Electric Company

Marketing Manager

Vice President - Electronic Systems (Sonar)

Vice President - General Sales Manager

Vice President - Director of Corporate Marketing

Vice President - Director of International Operations

3 years - President IDM Corporation (Consulting)

6 years - President - Owner Gulf Glass and Aluminum, Inc.

4 years - President - Mars Signal Light Company

Established World-Wide Marketing Organization to handle sales of products manufactured by Sangamo Group Companies in 58 countries and developed "piggy-back" marketing arrangements with 8 U.S. Companies to handle sales of their products overseas, by Sangamo International, Inc.

Have "Q Clearance" U.S. Atomic Energy Commission

Have "Top Secret Clearance" U.S. Department of Defense.

Memorandum  
July 18, 1990

From: Robert R. Wylie  
To: Jay Bateman  
Eddie Haught

Reference: Creation of "Fe Delta Enterprises, Inc."

The purposes of this meeting are as follows.

1. To incorporate a new business enterprise known as "Fe Delta Enterprises, Inc."
2. To file for "Prospecting Permits" on lands under the control of the State of Arizona and the U.S. Bureau of Land Management.
3. To file for mineral rights leases on the same lands.
4. To define the various enterprises to be created by "Fe Delta".
5. To discuss a possible business relationship with the Birmingham Steel Corporation.
6. To discuss the creation of a landfill and solid waste facility
7. To discuss the construction of an electric power generating station.
8. To create an iron ore mining operation.

Fe Delta - Continued

On August 1, 1990 the author decided to put in print the documentation which he had assembled since becoming a resident of Arizona. At this point in time only 3 persons are fully aware of the scope of Fe Delta. They are Jay Bateman, Eddie Haught and himself. All are agreed that the assembled data are as correct and true as we have been able to assemble them.

Recent events in Arizona and Pinal County indicate that there are many persons and groups who oppose facilities for any type of waste disposition if they are located in their proximity or even within the state. Most of this opposition is based on a lack of knowledge on the subject and an unfounded fear of that which they know little about.

The development of Fe Delta includes a facility for the incineration of certain solid waste materials and the placing in land-fills of non-incinerable and other waste materials such as construction waste and discarded metal appliances as well as residual ash. The proposed facility will be designed and constructed to be in full compliance with all Federal, State, County and Municipal regulations.

Meanwhile, the plans to construct an incinerator for disposing of hospital wastes near Casa Grande have been placed on hold.

The construction of the Enco Hazardous Waste Disposal Facility at Mobile is also on hold.

Minus these projects, the waste materials which would be processed by these facilities continues to be disposed of in a haphazard manner, which might present a hazard to health and the ecology, compared to the treatment they would receive at the above facilities.

In an earlier part of this document, examples were shown that much misinformation was given to the press and reported to the general public.

In order to avoid a similar situation concerning plans for the development of the various enterprises of Fe Delta, the author has made available to the editors and publishers of the Casa Grande, Florence, Coolidge and Eloy newspapers a copy of this document, prior to presenting it to the Pinal County Commission and the Pinal County Economic Development Council. Pertinent questions and answers are contained in this document. If any information contained herein is proved to be incorrect or incomplete, it will be so acknowledged and corrected.

This project is of great importance to Pinal County and the State of Arizona and deserves the thoughtful consideration of all concerned and involved. It is based on reason and recognition of the needs of mankind and not dreams of grandeur.

The author will continue to record all reactions of individuals and groups to this project, whether positive or negative, and make them available to all concerned.

On August 3, 1990 I met with Bob Mackel, Editor of the Casa Grande Dispatch. He was given a copy of the document describing the Fe Delta project. The contents of the document were described to him and the purpose in releasing the document to the press. He was reminded that the document has been copyrighted and that its contents had not yet been released for publication. This will occur after the Pinal County Commissioners and the Economic Development Group have had an opportunity to discuss it. I have scheduled a meeting with William "Bill" Mathieson, member of the Commission on August 5, 1990 and will provide documents to him at that time.

On August 5th I met with Mr. Mathieson and narrated the events leading up to the present time regarding the development of Fe Delta. He resides in Mammoth, Arizona and has driven Highway 89 between Oracle Junction and Florence countless times. He was aware that there were some kind

of black iron deposits in the area, but entirely unaware of the magnitude of the magnetite deposits or any efforts that had been made to mine them. He was intrigued with the plan which I outlined to him for developing Fe Delta Enterprises. When I explained to him the plan to use solid waste as the fuel source for the generating station he commented "I hope the waste material is not going to be imported from out of state". I assured him that it was not.

I suggested that the Pinal County Commission could play an important role in attracting the Birmingham Steel Corporation to Pinal County by endorsing the project and inviting the steel company to locate their plant in Pinal County. I also suggested that after the Commission had a chance to discuss Fe Delta that the Pinal County Development Group be made aware of it and lend their support in attracting this important industry to the County. He supplied me with names of the persons to contact and I agreed to wait until the Commission was more familiar with the project before contacting them. I gave him a copy of the document to read and make available to the other two Commissioners.

In the afternoon of August 5th, I spoke with Mr. James Teter, Vice President of Operations for Waste Management Company of Arizona. His headquarters are in Phoenix. The Company has many operations in Arizona which were described earlier in this book. I reviewed the plan for developing Fe Delta and informed him that it was imperative to locate sources to provide the 5000 tons of solid waste per day to fuel the generating station. He replied that this was indeed a large order. I suggested the use of waste being generated in the Tucson area, which Waste Management serves and he informed me that the area produced about 2000 tons per day. We then discussed Pinal County which generates less than 200 tons per day. These two sources could account for about 2200 gross tons per day of the 5000 tons of solid waste which would yield about 3400 tons of incinerable waste.

I then inquired about obtaining the balance of 2800 tons from the Phoenix area. He replied that Waste Management Company had created 2 land-fills to serve the greater Phoenix area which had capacity to accept the waste for over 50 years. We agreed to meet later to discuss our situation.

Waste Management Company provides huge quantities of incinerable waste to cogenerating electric power stations in many parts of the U.S. I am confident that Waste Management could make arrangements to provide the proposed Fe Delta plant with "renewable fuel sources" as required in the Public Utilities Regulatory Power Act of 1978" to operate a cogeneration plant. This act requires all electric utilities to purchase this electricity at a rate that will encourage cogeneration on small power production [under 80 MW of generation].

About 2 months ago, Birmingham Steel Corporation announced plans to relocate and expand its Barbary Coast Steel Subsidiary from northern California to a site about 50 miles west of Phoenix near the Palo Verde Nuclear Generating Station. The plant would use huge amounts of electricity from Arizona Public Service Company to fire its electric furnaces. The move hinges in part on the Arizona Corporation Commission approving a 10 year contract for special electric rates for the plant.

Since that announcement, the plan to move the plant has run into a number of snags. Several Arizona Corporation Commission members said they have "serious problems" with low electricity rates being offered by APS to Birmingham Steel Corporation for the proposed mill. Another issue with the Commissioners is whether such a big user of electricity would help cause an energy crunch and force APS to build more power plants to serve its customers. Also questioned was whether the low special rate is fair to the utility's other large industrial customers. One Commissioner said he fears the mill will eat up APS reserves too quickly and may best be located somewhere else.

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The developers of Fe Delta Enterprises, Inc. are well aware of the foregoing facts. After much research and consideration, they have devised a plan that would permit Birmingham Steel Corporation to relocate and expand their Barbary Coast Plant to Arizona, which should overcome all of the objections of the Arizona Corporation Commissioners.

1. Utilize the pits created by the mining operation as receptacles for non-incinerable solid waste and residual ash.
2. Construct an 80 MW electricity generating plant.
3. In conjunction with the generating plant, construct a solid waste incinerator. The thermal energy generated by the incinerator will be used to power the electric turbines of the generating plant.
4. The electric generators will be connected to the high voltage lines of Arizona Public Service Company so that power can flow into the APS system when excess electricity is being generated in reference to the energy requirements of Birmingham Steel Corporation. When the Fe Delta plant is out of service for maintenance or other reasons, APS will supply the energy required by Birmingham. By mutual agreement, in the event of an emergency on the APS system, Birmingham will reduce its energy demands and permit the energy being generated by the Fe Delta plant to flow into the APS lines to help relieve the emergency situation. The capacity of the Fe Delta Plant will be considered as reserve capacity by APS.

This arrangement should remove any and all of the Commission's objections to locating the Birmingham Steel Corporation plant in Pinal County.

6. The Southwest Gas Corporation can provide natural gas to the Fe Delta and Birmingham plants as required from the El Paso Natural Gas Transmission Line located adjacent to the power plant and steel fabricating plants. These plants will become excellent customers of Southwest Gas Corporation.

Fe Delta - Continued

On August 20, 1990 I met with Stan Griffis, Pinal County Manager. He has been in his present position for about 8 months. He was a career military officer with the rank of Major in the Air Force. Much of his service involved accounting and logistics. He obtained a Masters Degree in Business Administration. This should provide an excellent background for his duties as County Manager.

He was very attentive as I outlined the plan for the development of a mining operation to recover the magnetite ore of Fe Delta, the moving of the Birmingham Steel Plant from California to the mine site, the construction of a cogeneration electric facility using solid waste as fuel, a land-fill operation and other enterprises. Being so new in the area, he was not aware of the huge iron ore deposit in the county.

He was greatly interested in bringing major new industries to the area. He suggested that I contact Phil Hogue who is in charge of Planning and Development Services for the county. He arranged for me to meet with Mr. Hogue following our meeting. Earlier, I had given him a copy of the document outlining a plan for development of Fe Delta, which he had read in part before our meeting. I also informed him that I had made the document available to the Publisher of the local newspapers so that there would be complete understanding by all concerned with the project. I discussed with him my meeting with Commissioner "Bill" Mathieson.

I suggested to him that an invitation be issued to the President of Birmingham Steel Corporation to relocate their plant at Barbary Coast California to the mine site in Pinal County. I explained that I felt that proper protocol dictated that , as Chief Executive Officer of the County, that the invitation should come from him with the endorsement of the County Commissioners and the Planning and Development Services Department. I explained that the invitation should be extended at an early date because more and more people are becoming aware of the project, which is probably the largest industrial development ever proposed for Pinal County.

On August 20, 1990 I met with Phil Hogue, who is in charge of Planning and Development Services. At an earlier time, Jay Bateman had given me a little background information on Mr. Hogue. We had an excellent meeting where I outlined for him the same information which I had discussed with Mr. Mathieson and Mr. Griffis. I also gave him a copy of the document. He was very enthusiastic about pursuing the project and promised his full cooperation.

On August 24, 1990, as I was servicing my automobile at a station in Eloy, I observed an Arizona vehicle with the designation D.O.A. on the door. I inquired of the driver, who was standing outside, if these letters stood for the Department of Agriculture. He replied that they stood for the Department of Administration, which administered all state-owned vehicles. He explained that he worked for the Department of Commerce. I remarked that I had a meeting several weeks ago with the Manager of Trust Land Sales for the Commerce Department regarding the iron ore deposit lands. He was not familiar with the deposits. He inquired if the plans contained a small steel manufacturing operation. I replied that they included a large operation. We then introduced ourselves to each other. His name was Thomas C. Reyes, Senior National Marketing Representative for Business Development of the State of Arizona. I mentioned the Birmingham Steel Corporation and he said "we plan to locate them west of Phoenix". I told him that it was my impression that the relocation plans were "on hold". He replied that certain Corporation Commission Members had questioned certain aspects of the move, which they hoped to resolve. I mentioned to him our interest in relocating the plant to Pinal County and building a cogeneration power plant fired by solid waste to serve the steel manufacturing operation.

He invited me to contact him at his office to have a further discussion of this project. This I propose to do, after discussing this chance meeting with Phil Hogue. It is possible that Mr. Reyes is known to Mr. Hogue and if so, that association might enhance our plans.

On August 27, 1990, I had a lengthy telephone conversation with Thomas C. Reyes, senior National Marketing Representative for Business Development, State of Arizona. I outlined to him the plan which is being developed for mining the magnetite ore deposits, which are now referred to as "Fe Delta". I explained to him the reasearch which has been done to try and determine why earlier efforts to mine the ore had not produced a successful mining operation. Mining operations to date have shown that the percentage of magnetite recovered is about 5% of the materials which must be processed. The location of the mine is currently remote from rail transportation and due to the absence of significant steel manufacturing operations in Arizona and the estimated costs of marketing the product are excessive in relation to profitability.

The philosophy of creating a huge profit center which combines mining, smelting and steel fabrication, generation of electric power using a renewable fuel source, consisting of solid waste as fuel, plus a recycling of materials which are a by-product obtained from the raw solid waste, makes it an excellent operation which would produce profits far in excess of single plant operations.

In the case of the Birmingham Steel Corporation, the cost of electric power would be far less than the cost of obtaining it from a public utility at its most favorable rate. The cost of the magnetite ore to be utilized in the steel making process would be much lower than purchasing scrap metal and basic iron ingots from other sources. This should result in a return on assets far greater than normal or what is considered to be an acceptable return on assets.

The locating of the steel plant in Pinal County under the foregoing scenario should remove any and all reservations expressed by Arizona Corporation Commissioners Marcia Weeks and Renz Jennings about locating the steel plant near Palo Verde and serving it's electric power requirements from the Arizona Public Dervice Company System.

Mr. Reyes informed me that Birmingham Steel had made a public announcement of it's intention to relocate their Barbary Coast Subsidiary to the Palo Verde site and had an option to purchase land for the plant site. Birmingham Steel has informed APS and the Commission that its plan for relocating the plant is contingent upon its ability to obtain Commission approval for a special electric rate. To date that approval has not been forthcoming. I believe that it is now entirely proper for Pinal County to extend an invitation to Birmingham Steel to relocate and expand it's plant to the Fe Delta site. The site offers easy access to a 115 KV transmission line of APS, from which electric power could be purchased, if and when required and also a site for injecting excess electricity from the cogeneration plant into the APS System. There is also easy access to the EL Paso Natural Gas Transmission Line for gas to be purchased at a very low rate to be used in part by the generating plant and steel fabrication plant. Proven water wells in the area indicate that a sufficient quantity of water is available for the various operations.

Mr. Reyes inquired whether we had contacted APS regarding the proposed cogeneration plant and a tie into the APS system. I replied that this contact had been made earlier with the Rate Department of APS who supplied us with the following documents:

1. Interconnection Requirements for Cogenerators and Small Power Producers.
2. Cogeneration/Small Power Production - A Non-Technical View.
3. Electric Rates - Optional Electric Service for Qualified Cogeneration and Small Power Production Facilities over 100 KW.
4. Agreement for the Interconnection and the Sale of Power Between Arizona Public Service Company and Cogenerating Company.
5. APS also informed us that the anticipated power requirements of the Birmingham Steel Plant would range from 60MW to 70Mw. Note: The capacity of the proposed cogeneration facility would be 80MW.

Mr. Reyes suggested that I contact Ben Warren of the Economic Development Department of APS and discuss with him our proposed enterprise. He indicated that it might be too late for Birmingham Steel to consider

an alternate site for their plant. He expressed the opinion that Birmingham would probably not be receptive to a new proposal. He asked what incentive would there be for reconsidering a new site. I replied "When any corporation is offered a proposal to install a facility which indicates that it will earn a return of about 35% on invested assets, it is bound to be given proper consideration".

It is my opinion that a contact, at this time, with Mr Warren of APS might prove embarrassing to him and perhaps create a conflict of interest with persons seeking to locate the plant at Palo Verde, since he has handled negotiations between APS and Birmingham. He will be made privy to all announcements regarding "Fe Delta".

Fe Delta - Continued

The City of Phoenix is establishing a "Solid Waste Management Facility", costing approximately \$15 million at 24th Avenue and Salt River in Phoenix. The following information was obtained from Mssrs. M.N. Bjeldanes, Gerald Neeley, Richard Reeves and Keith Connor of the Civil Division Of Black and Veatch, Engineers who are responsible for the design of the facility: The press has referred to the facility as "The Phoenix Recycling Plant". The design engineers refer to it as a transfer station, owned by the City of Phoenix. It has a capacity of 4500 tons of solid waste per day. The recycling portion of the plant will handle about 200 tons per day.

The product of the transfer station will be disposed of in the Maricopa County land-fill located about 40 miles west of Phoenix. This land-fill is almost exhausted for space and will need to be replaced in a few years. The tipping fee is reported to be \$25.00 per ton. In an earlier conversation with Mr. James Teter, Vice President for Operations of Waste Management Corporation - Arizona, he stated that the company has 2 new land-fills in the Phoenix area with a capacity in excess of 50 years. This was also reported in the press.

The Black and Veatch Group are unaware of any contract between the City of Phoenix and Waste Management Corporation to land-fill the waste of the new transfer facility in the new land-fills. These land-fills are supposed to be adequate for the needs of Phoenix for the next 50 years.

As reported earlier in this document, I had contacted Mr. Teter to determine if 5000 tons of raw solid waste could be made available as fuel for the proposed Fe Delta cogeneration plant. This amount of raw waste should produce 3400 tons of combustible fuel after the separation of recyclable and non-combustible materials. It is my understanding that that the residual materials from the recycling operation would be placed in a land-fill. Most of this residue contains combustible materials which could be burned or incinerated and produce energy at the rate of 5000 btu's per lb. This fuel could produce approximately 600 kwh of

electricity per ton which would have a sales value of about \$24.00 per ton. What a waste of valuable and badly needed fuel would result from placing this valuable asset in a land-fill to be lost forever, instead of utilizing it, as is being accomplished by cogeneration plants in Philadelphia, Detroit and many other cities. The residual dry ash from the incineration process would result in a 5-10 % of the volume and 25-30 % of the weight of as-received waste to be placed in a land fill. Thus, the existing land-fills would have an extended life.

In a project of the magnitude of the development of Fe Delta, one must have a contingent plan for each operation, should the original concept prove to be impractical or unfeasible for a variety of reasons. With this in mind, we have come up with another plan for generating the electric energy which will be required for the steel making operations. A gas fired electric generating station could be used instead of a cogeneration plant using solid waste as fuel. At the site proposed for the generating plant there is abundant gas available from the El Paso Natural Gas Transmission line at a very low cost compared to other fuel sources. A huge amount of gas will be required for the steel making operations and this combined load would make Fe Delta one of the largest gas customers in the state. The cost of the generating station itself is estimated to be about \$700,000 per MW as compared to the cogeneration plant of \$3.4 million. There are many other considerations to be made in choosing the best way to obtain the electric energy for the project. I have had many conversations with the engineers of Westinghouse Electric Corporation and Black and Veatch and am convinced that either power source is readily available.

The decision that must ultimately be reached depends on "What is best for mankind?" What will proper disposal of solid waste do for the ecology? What benefits will accrue to the adjacent communities? How will the increase of the tax base of the County help resolve some of the fiscal problems anticipated in future years? What will be the overall effect on the unemployment situation in the County?

Only by making the public aware of the possibilities for the development of Fe Delta and obtaining their input will a comprehensive plan be developed. This is a once in a lifetime opportunity, given to us through the grace of God. It is up to us to make certain that we do not waste it.

Robert R. Wylie  
4110 Cibola Circle  
Toltec City, Az 85231

September 6, 1990

Mr. Stan Griffis, County Manager  
Pinal County Courthouse  
P.O. Box 827  
Florence, AZ 85232

Reference: The Development of "Fe Delta"

Dear Mr. Griffis:

Three weeks have passed since our conversations in your office and my meetings with Commissioner "Bill" Mathieson and Phil Hogue. By this time, each of you should have had time to read and discuss the document, "The Treasure of Fe Delta" which I provided.

During this time I have had numerous conversations with persons who might be involved in many of the proposed operations. So far as I am to ascertain, the Arizona Corporation Commissioners have not resolved their objections with regard to the Birmingham Steel Corporation's proposal to relocate one of their steel plants to Maricopa County. This lack of action presents a perfect opportunity for Pinal County to extend an invitation to Birmingham to locate its plant in the County. Under the proposed plan, Birmingham would have eliminated all of the objections considered by the Commission.

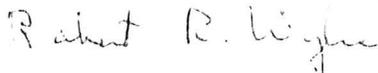
The comprehensive plan for the development of "FE Delta" will involve many departments of the County Government. Over the past seven months, I have been in contact with many individuals from whom I have been able to assemble a store of information. These include officials in the State

Land and Commerce Departments. Without doubt, the one individual who has been most helpful and cooperative is Jay Bateman. His years of experience in County Government, mining enterprises, ranching etc. have provided him with a fund of information on a wide variety of subjects. His outgoing personality and courtesy of manner, would, in my opinion, qualify him as the person most able to provide liason for the many facets of the development of Fe Delta.

His current position as Assistant County Manager for Special Services, under your direct supervision, would place him in a situation where he could coordinate the efforts of the developers and State and County officials as and when required.

I feel that complete cooperation between the County and developers is essential to the success of this project. I am available at all times to assist in any way possible.

Very truly yours,



Robert R. Wylie

P.S. After writing this letter, but before posting it, I had a telephone conversation with Phil Hogue. He informed me of your decision not to have any County Officials participate in our efforts to bring new industries into the County. He stated that all of your efforts are being placed on resolving the many serious problems facing the County at this time. While I do not concur in your decision, I will respect it and your right to make it.

As I stated to you during our meeting in your office, I hoped that you would lend support to our efforts; if it was not forthcoming, we would proceed on our own initiative to carry out the plans set forth in the

copyrighted document which I supplied to you, Commissioner Mathieson and Phil Hogue. This document provides a continuing record of our efforts and communications and this letter will be included in it.

I wish to thank you and your staff for the courtesies extended to me during my presentations to them and to offer my support in any way to help resolve current problems. This letter is being delivered "by hand"

R.R.W.

*R.R.W.*

Robert R. Wylie  
4110 Cibola Circle  
Toltec City, AZ 85231

September 9, 1990

Mr. James A Todd, Jr., President  
Birmingham Steel Corporation  
O.O. Box 1208  
Birmingham, AL 35201

Reference: Relocation of Barbary Coast Steel Subsidiary to Pinal  
County, Arizona.

Dear Mr. Todd:

I have read several articles that appeared in the Arizona Republic with reference to plans to move your Barbary Coast Steel Subsidiary from Northern California to a site about 50 miles west of Phoenix near the Palo Verde Nuclear Generating Station.

One article indicated that there have been a number of negative expressions by Public Utility Commissioners regarding the move. Commissioners Marcia Weeks and Renz Jennings said they have "serious problems with low electricity rates offered by Arizona Public Service Company".

The Commissioners question whether such a big user of electricity would cause an energy crunch and force APS to build more power plants to serve its customers. APS now has excessive capacity, but that situation will not continue forever. APS has indicated that power requirements for the steel plant will run from 60 to 70 MW.

Weeks questioned whether the special rate is fair to the utility's other large industrial customers.

Jennings said he fears the mill will eat up APS reserves too quickly.

Birmingham has told APS that construction of the plant is contingent upon its ability to obtain Commission approval for a special electric rate.

The purpose of this letter is to propose an alternate location for your facility, an alternate electric power source, a much lower cost for the electricity consumed, an almost unlimited supply of magnetite ore at the mine and plant site at the lowest possible cost.

I am taking the liberty of enclosing a copy of a book which I have authored, which describes in great detail how this can be accomplished. I trust that you will give your personal attention to this document and share it with your associates. Also enclosed is a shorter document which contains excerpts from the book and maps which designate the location of the ore deposits and proposed plant site. To give you a picture of the communities located near the site, I am including brochures describing what the region has to offer.

I shall look forward to discussing this proposal with you and extend an invitation to come to Pinal County to view the facilities in person.

Cordially yours,

Robert R. Wylie

Enclosures

Telephone [602] 466 4203