



CONTACT INFORMATION

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

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Arizona Department of Mines and Mineral Resources Mining Collection

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12/09/85

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: FRISCO GOLD

ALTERNATE NAMES:

TRAGEDY GROUP
TRAGEDY CLAIMS
EQUATOR PROSPECT

MOHAVE COUNTY MILS NUMBER: 74A

LOCATION: TOWNSHIP 21 N RANGE 20 W SECTION 16 QTR. NE
LATITUDE: N 35DEG 12MIN 42SEC LONGITUDE: W 114DEG 24MIN 57SEC
TOPO MAP NAME: UNION PASS - 7.5 MIN

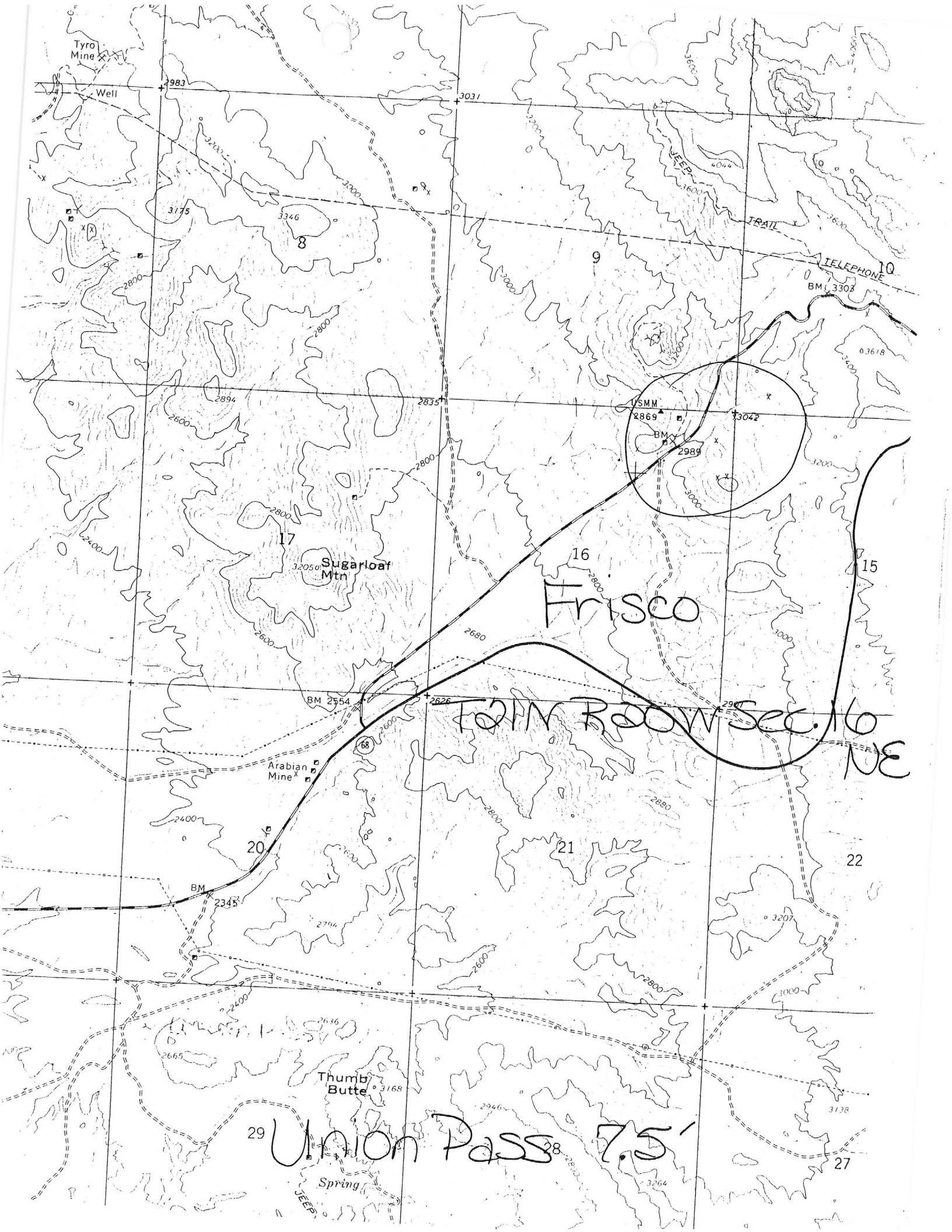
CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD-(M) LODE-PRIMARY
SILVER-COPRODUCT

BIBLIOGRAPHY:

ADMMR FRISCO GOLD FILE
ADMMR MOHAVE CUSTOM MILL PROJECT
SCHRADER, F.C. "MIN. DPSTS OF CRBT RNGE, BLCK
MTN, GRND WSH CLFS, AZ" USGS BULL 397, P 203,
MAP, 211
LONGWELL, C.R. "RECONN. GEOL. BETWEEN LK MEAD
& DAVIS DAM AZ, NV" USGS PP 374-E, P 43
WEEDT'S MINES HANDBOOK, VOL. XVI, P 310, 1925
WILSON, E.D. "AZ LODE GOLD MINES & MINING "
AZBM BULL 137, P 107; 1967
LAUSEN, C. "GEOL. & ORE DPSTS OF OATMAN & KAT
HERINE DIST, AZ" AZBM BULL 131, P. 121-123
ELSING, M.J. "AZ METAL PRODUCTION" AZBM BULL
140, P 96; 1936
AZ. MNG JNL, VOL. XI, NO. 14, 12-15-22, P 20
GARDNER, E.D. "GOLD MNG & MLLNG BLCK MTNS, W
MOH. CTY, AZ" USBM IC 6901, P. 8 (MAP), 47
AZ. STATE MINE INSP. 5TH ANL RPT, P 12
MALACH, R. "MOHAVE CTY PLACE NAMES" P 35
AZ GEOLOGICAL SOCIETY "1984 FALL FIELD TRIP
STRUCTURE & MINERALIZATION, KINGMAN, AZ" P 71
(ADMMR GEOLOGY FILE)



Tyro Mine

Well

Sugarloaf Mtn

Arabian Mine

Thumb Butte

Spring

Frisco

TOWN ROAD SEC. 16 NE

Union Pass 7.5'

Frisko Mine	21N	20W	16 aaa	C
Principal Minerals:	1:250,000 Quad		7.5' - 15' Quad	
Gold	Kingman		Union Pass	
Associated Minerals:	District		Principal Product	
Quartz, Calcite	San Francisco		Gold	
Type of Operation:	County	State	Type of Deposit	
Underground	Mohave	Ar.	Vein	
Ownership or Controlling Interest: Consult current USBLM mining claim records				
Access: From U.S. 93 and Route 68 proceed west on Route 68 for 16 miles. Mines are located .25 miles northwest of highway on topographic quadrangle (unnamed).				
Structural Control or Geological Association: "Small hill of Precambrian granite, intruded by rhyolite sill and capped by rhyolite tuff. Mineralization occurs in small quartz veins generally best developed in the brecciated and altered granite between the rhyolite sill and the capping tuffs. Also locally developed in and immediately below the rhyolite sill." ⁴				
Age of Mineralization:				
Production History		Geochemical Analyses		
1894-1914 ¹ 14,000 tons		(1914) ¹ ore value \$14.00 ton		
(1931) ⁵ total production at 44,000 tons average value of \$14.00 per ton		(1931) ⁵ "enriched ore carried \$3.00 per <u>pound</u> in gold"		
References				
1) Mallach (1977) p. 2) CETA map file Rack #21, geologic, underground and claim maps. 3) Gardner (1936) p. 47. 4) Liggett & Elliott (1979) field reconnaissance. 5) Lausen (1931) p. 121-123.				

12/09/85

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PRIMARY NAME: FRISCO GOLD

ALTERNATE NAMES:

TRAGEDY GROUP
TRAGEDY CLAIMS
EQUATOR PROSPECT

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LATITUDE: N 35DEG 12MIN 42SEC LONGITUDE: W 114DEG 24MIN 57SEC
TOPO MAP NAME: UNION PASS - 7.5 MIN

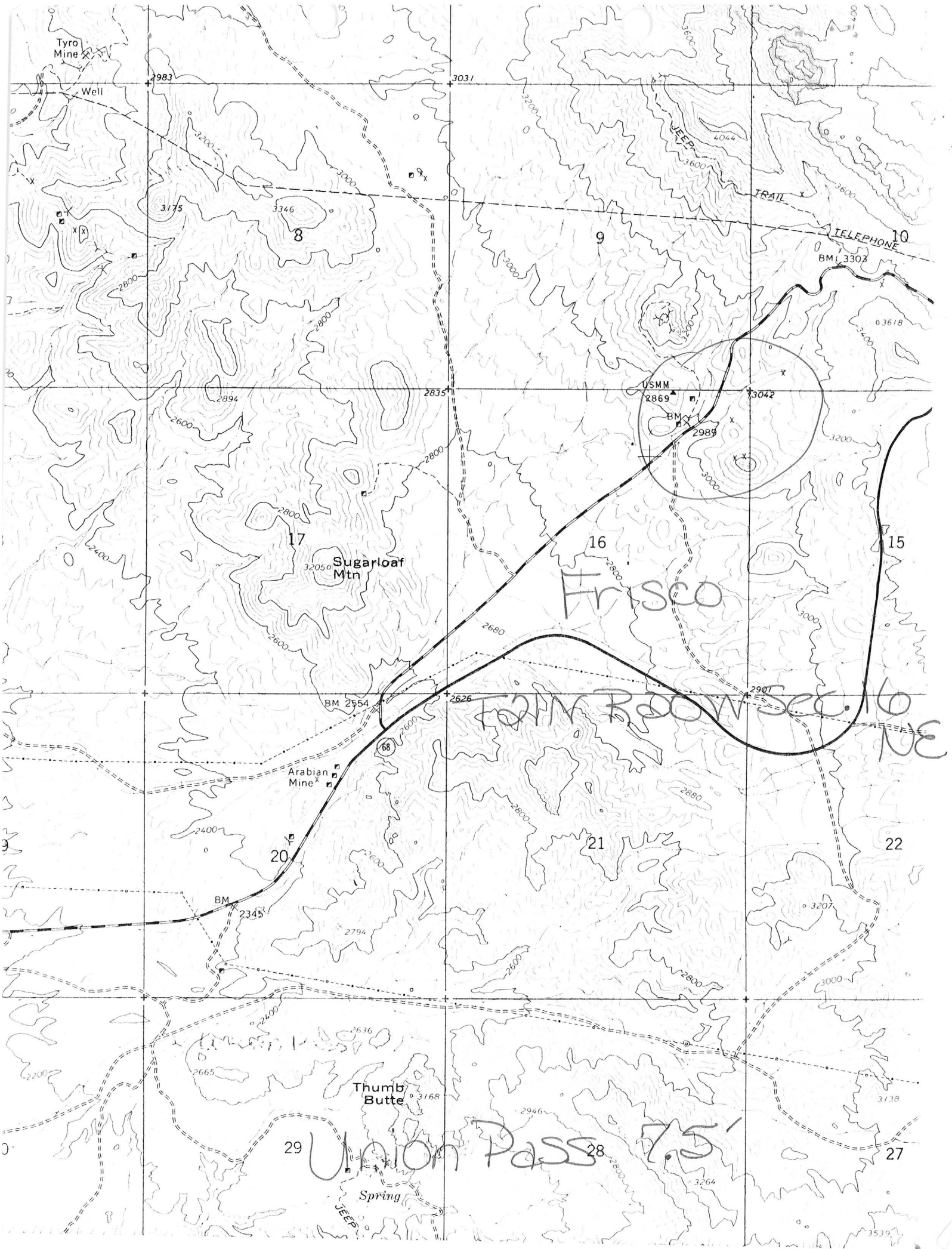
CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD-(M) LODE-PRIMARY
SILVER-COPRODUCT

BIBLIOGRAPHY:

ADMMR FRISCO GOLD FILE
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MTN, GRND WSH CLFS, AZ" USGS BULL 397, P 203,
MAP, 211
LONGWELL, C.R. "RECONN. GEOL. BETWEEN LK MEAD
& DAVIS DAM AZ, NV" USGS PP 374-E, P 43
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140, P 96; 1936
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GARDNER, E.D. "GOLD MNG & MLLNG BLCK MTNS, W
MOH. CTY, AZ" USBM IC 6901, P. 8 (MAP), 47
AZ. STATE MINE INSP. 5TH ANL RPT, P 12
MALACH, R. "MOHAVE CTY PLACE NAMES" P 35
AZ GEOLOGICAL SOCIETY "1984 FALL FIELD TRIP
STRUCTURE & MINERALIZATION, KINGMAN, AZ" P 71
(ADMMR GEOLOGY FILE)



Frisko Mine	21N	20W	16 aaa	C
Principal Minerals:	1:250,000 Quad		7.5' - 15' Quad	
Gold	Kingman		Union Pass	
Associated Minerals:	District		Principal Product	
Quartz, Calcite	San Francisco		Gold	
Type of Operation:	County	State	Type of Deposit	
Underground	Mohave	Ar.	Vein	
Ownership or Controlling Interest: Consult current USBLM mining claim records				
Access: From U.S. 93 and Route 68 proceed west on Route 68 for 16 miles. Mines are located .25 miles northwest of highway on topographic quadrangle (unnamed).				
Structural Control or Geological Association: "Small hill of Precambrian granite, intruded by rhyolite sill and capped by rhyolite tuff. Mineralization occurs in small quartz veins generally best developed in the brecciated and altered granite between the rhyolite sill and the capping tuffs. Also locally developed in and immediately below the rhyolite sill." ⁴				
Age of Mineralization:				
Production History		Geochemical Analyses		
1894-1914 ¹ 14,000 tons (1931) ⁵ total production at 44,000 tons average value of \$14.00 per ton		(1914) ¹ ore value \$14.00 ton (1931) ⁵ "enriched ore carried \$3.00 per <u>pound</u> in gold"		
References				
1) Mallach (1977) p. 2) CETA map file Rack #21, geologic, underground and claim maps. 3) Gardner (1936) p. 47. 4) Liggett & Elliott (1979) field reconnaissance. 5) Lausen (1931) p. 121-123.				

FRISCO GOLD

MOHAVE COUNTY

NJN WR 8/7/87: Ed Huskinson (card) reported that Gerle Minerals (card) is drilling at the Frisco (file) Mohave County and that they are encountering stacked detachment sheets hosting the mineralization.

NJN WR 9/11/87: Ed Huskinson (card) reported that Gerle Gold (card) will begin reverse rotary circulation drilling the Frisco (file) Mohave County.

NJN WR 12/11/87: Ed Huskinson (card) reported that Gerle gold's rotary drilling program continues on the Frisco Mine (file) Mohave County. Previous drilling has encountered some favorable intercepts.

NJN WR 2/12/88: Harold Linder (card) reported that the Vancouver Stockwatch ran an article on Gerle Gold (card) which reports they have been testing mineralized zones at the Frisco (file) Mohave County.

NJN WR 3/25/88: Ed Huskinson (card) reported that Gerle Gold Ltd (card) drilled about 100 holes, many of which were 75' deep and the deepest of which was 500' deep, on the Frisco Gold (file) Mohave County. Concerns over the State land royalty situation has made them abandon further work on State Section 16. Although all results are not available, the preliminary assessment indicates 20,000 - 30,000 oz of gold have been identified.

NJN WR 4/8/88: Ed Huskinson (card) reported that he estimates that Gerle Gold Ltd's (card) drilling at the Frisco Mine (file) Mohave County identified about 500,000 tons of .068 oz/ton Au, plus an additional 115,000 tons which needs milling for economic recovery. These estimates do not include 1 - 5 million tons which could be developed on State Land, Sec 16.

R/H

FRSICO MINE

MOHAVE COUNTY

NJN WR 10/3/86: It is estimated that at least 2,000 tons have been mined from the Bi-metal Mine (f) and the material trucked to the Frisco Mine to be leashed.

NJN WR 11/7/86: Doug Bonelli (c) Frisco Land and Mining (c) called and reported that during the summer his mine foreman at the Frisco Mine (file) Mohave County was killed in an automobile accident. Following this, some of the other mienrs quit. A decision was reached to close the mine rather than to have Mr. Bonelli move to Kingman. Western States Minerals (c) is currently reviewing the reserve data and considering a production lease. this could coincide nicely with the depletion of ore reserves at the Portland Mine (file) Mohave County.

NJN WR 11/28/86: Jim Woods, geologist with Western States Minerals (c), reported that they are evaluating the Frisco (f), Arabian (f), Roadside (f) and other properties in the Union Pass area of Mohave County for possible acquisition and/or production.

KAP WR 1/23/87: Learned from usually reliable sources that Western State Minerals is planning to take an 8,000 pound bulk sample from the Frisco Mine (file) Mohave County.

NJN WR 5/2/87: Ed Huskinson (card) reports that Western States Mineral Corp's (card) deal on the Frisco (file) Mohave County has not been completed but that a new company called Gerle Gold is now reviewing the property.

NJN WR 5/15/87: Ed Huskinson (card) reports that Gerle Gold Ltd, 904, 675 W. Hastings Street, Vancouver V6B 1N2 (604) 688-3584 has lease/purchased the claims covering the Frisco Mine (file) Mohave County and the State lease (Sec 16) from the Frisco Mining Company. They have started a surface and underground sampling program including establishment of a surface grid. Both core and rotary drilling are planned for the near future.

FRISCO GOLD

MOHAVE COUNTY

NJN WR 1/24/86: Benjamin Bonelli (c) owner of the Frisco Gold Mine (f) Mohave County reported that Doug Bonelli (c) and Perry Durning (c) recently found a barrel of old maps of L.L. "Ed" Edgerton (c) and Los Angeles mining engineer Oscar Hershey on the Frisco (f) and Katherine (f) Mine both in Mohave County. One of the maps on the Frisco had a drift shown off of the 270' deep shaft to the footwall of a 50' wide (vein?) zone. This zone will become a drill target in the near future.

NJN WR 2/28/86: Benjamin Bonelli (c) reported that he has signed a lease on the Bi-Metals (f) Mohave Co. My earlier report that the property had been leased was apparently in error. The Frisco Land and Mining Co. plans to truck the ore to the millsite at the Frisco Mine (f) and process it there. Mr. Bonelli estimates they will mine between 30,000 and 60,000 tons. The property will require some additional sampling and drilling to determine what will actually be mined.

NJN WR 2/28/86: Benjamin Bonelli (c) reported that they have not used the impact mill at the Frisco Mine (f) Mohave Co. on any ore for over a year. It was just used on the hard siliceous ore mined up on the hill. Ore mined down in the flats is simply crushed to -5/8 inch and heap leached. This typically results in a 70% recovery of the gold.

NJN WR 6/6/86: Bill Vanderwall (c) reported that Frisco Land and Mining Co has recently been open pit mining at the Bi-Metals Mine (f) Mohave County and shipping by truck to their leaching facilities at the Frisco Mine (f) Mohave County, but have now suspended mining. Apparently, the ore at the Bi-Metals Mine did not run .2 oz/ton au as indicated in our old file data, but a little less than .1 oz/ton au. Economics do not justify continuing operations on this grade of material.

NJN WR 10/3/86: The Frisco Mine (f) Mohave Co has been shut down since late summer. Western states Minerals is reviewing the property data and may take over the operation.

FRISCO GOLD MINE

MOHAVE COUNTY

RRB WR 1/20/84: Debby, Frisco Land and Mining Company, Kingman, AZ called to find a market for kaolinite. She reports that they are now getting into production at the Frisco Mine, 20 miles west of Kingman, Mohave County.

NJN WR 2/3/84: Joe Durek with Kaiser Aluminum in Oakland CA. called seeking information on the Frisco Mine, Mohave County. Apparently Kaiser is looking for Kaolinite and the Bonelli's have made a submittal. Perhaps some of the volcanic tuffs have been hydrothermally altered, and are a possible source of kaolin.

NJN WR 3/9/84: Bill Vanderwall reported that at the Frisco Mine (f) Mohave County preparation continues for production. An impact mill is being set up to reduce the ore to -20 mesh after which it will be agglomerated and leached. If their recovery is not too good he would like to run the material thru the Tyro mill.

NJN WR 5/4/84: Kaolinite clay samples from the Frisco Mine, Mohave County submitted to U.S. Bureau of Mines in Georgia for analysis.

NJN WR 11/23/84: At the Frisco Mine (f) Mohave County, Doug Bonelli reported they are developing a new pit west of the mill and pad site. This pit hosts 60,000 tons of .08 zo/ton Au using a .05 oz/ton Au cut off grade. (50,000 tons at .1 undiluted) Current dore recovery is 70% Au and 12% Ag.

NJN WR 10/11/85: Doug Bonelli (c) manager of Frisco Land and Mining Co. reported that they are trying to get options to mine some of the other deposits with reserves in the area of their Frisco Mine (f) Mohave County operation. Current reserves at Frisco are in excess of 100,000 tons. A local contact at the mine is James Gifford who can be reached in Kingman at 753-5061. All other contacts with the company should be at their new address: % Doug Bonelli, 4081 Kings Canyon Road., Carson City, Nevada 89701, phone (702) 883-4486.

FRISCO MINE

ENGINEERS COMMENTS

.MOHAVE

KAP WR 7/20/73 Mr. Chester F. Millar, of C. F. Millar Limited, 1758 W. 8th Ave., Vancouver 9, BC stated that his company has drilled one hole on the Frisco mine in the Katherine District. a 40' section ran 0.04 oz/ton in gold.

WR VBD 5/22/76 The Red Dog Mining Company, a Canadian company, has drilled the Frisco Mine in the Union Pass Mining District.

KAP WR 1/23/81 John Challinor reported that Chester F. Miller is drilling at the Frisco Mine in the Union Pass District, Mohave County. Drill work is being done with a track drill.

NJN WR 6/4/82 At the Frisco Mine, Mohave County, a sign stating it was the property of the Red Dog Mining Company was posted. Red Dog Mining's address is 2648 Via Country Club Manor, Kingman, Arizona 86401. Phone number is 758-2640.

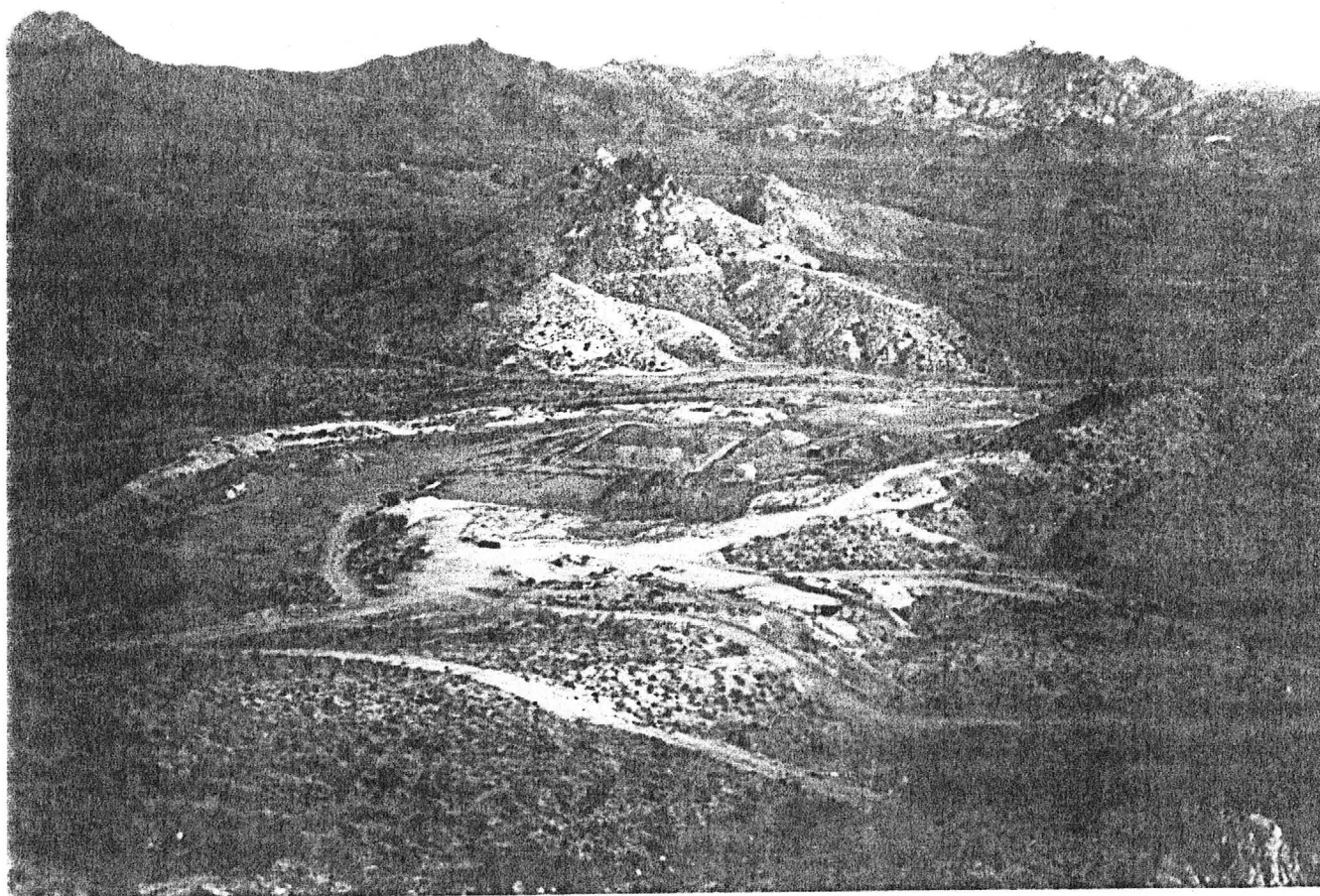
NJN WR 1/21/83: Doug Bonelli, Geologist, 925 Northwest 31 Street, Corvallis, Oregon 97336, called. He requested and was sent a Pertinent Data Sheet. He reported there may be a cyanide operation on his father's property, the Frisco mine in Mohave County next fall. Currently, a feasibility study and evaluation is being done.

RRB WR 5/27/83: Doug Bonelli, geologist, 925 NW 31st. St., Corvallis, Oregon 97336, reports that the Frisco Mine, Mohave County, has been drilled out and that he is tentatively planning a heap leaching operation for next fall.

NJN WR 11/4/83: Benjamin P. Bonelli, owner of the Frisco Mine, Mohave County, visited. He reported they have between 10,000 and 15,000 tons of ore grading about .25 oz Au/ton blocked out by drilling on 10' centers. They are currently mining and stockpiling that ore. By December they will have a crushing, grinding and agglomeration plant on site. The ore will be taken to -30 mesh, agglomerated and then put on a heap to be cyanide leached. They also have drilled 2 other deposits which contain gold on the Frisco, however, their grade is much lower. If the first operation is successful, these lower grade deposits may be tried. Mineralization in the second two is in a tuff and it is hoped grinding will not be required. Mr. Bonelli's son Doug, a geologist, is in charge of the project and is now living in Kingman. His phone number there is 757-7037.

NJN WR 11/25/83

The name of the Bonelli Co. operating at the Frisco Mine is Frisco Land and Mining Co., 355 Riata Valley Rd., Kingman, AZ 86401. Phone 602-757-7037. Douglas T. Bonelli will be the manager.



A-50-15

1989

Ann

255-373
3793

4310-32
0-00162

AZ-020-00-4212-12; AZA-25124

Exchange of Public Lands

Mohave County, Arizona

AGENCY: Bureau of Land Management - Interior

ACTION: Correction of Federal Register Publication

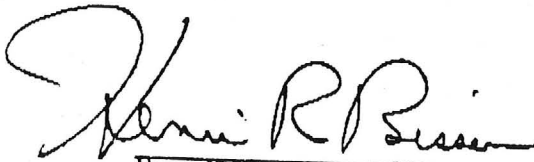
On May 22, 1991, a Notice of Realty Action was published in the Federal Register Volume 56, No. 99, Page 23593, describing public lands which are available for disposal by exchange and private lands for acquisition through exchange. The legal description for two of the parcels was in error and is hereby corrected to read as follows;

Gila and Salt River Meridian

AZA-25124

T. 16N., R. 20W.,
Sec. 3, Lots 1-5, SE $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$;

T. 21N., R. 20W.,
Sec. 11, NW $\frac{1}{4}$ (portion);


Henri Bisson

JUN 7 1991
Date

Arizona Department of Mines and Mineral Resources

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA
MOHAVE COUNTY
FRISCO MINE

MM K 849 Kaolinite
K 850 Kaolinite
K 851 Gold Ore (Pelletized)

T ~~19~~ NR 20 W S 26 NE 1/4
21 N 20 W Sec 16 NE

MILS # 74 A

3-AKA's

FRISCO Gold Mine (file)

GERLE GOLD LTD.

904 - 675 WEST HASTINGS STREET, VANCOUVER, B.C. V6B 1N2

TELEPHONE 688-3584

PRESS RELEASE

June 1, 1987

Pursuant to a lease agreement with the owner, the Company, through its wholly owned U.S. subsidiary has acquired the right to explore, develop and mine a gold property in Mohave County, Arizona, U.S.A. known as the Frisco Mine (the "Property"). (†)

In order to maintain its rights under the agreement the Company is required to pay escalating quarterly rentals and advance royalties of up to \$30,000. Commencing with the third lease year the payments are recoverable out of the owners share of production. Apart from a royalty of \$0.50 per ton and \$2.00 per ton of aggregate material and specialty rock, respectively, sold from the Property and apart from a higher share (10%) for the first 10,000 of gold bullion produced and 6% for the next 15,000 troy ounces so produced, the owner is entitled to 5% for all gold bullion and 6% of all silver bullion produced from the Property.

The Property is located in Mohave County, Arizona, nine miles east of Bullhead. The Property has had limited past production, first as a high grade underground gold mine in the early 1900's and in 1984-86 a 66,000 ton test pad was successfully completed using heap leach technology with gold recoveries of 70% from material grading 0.058 ounces/ton gold.

During the past month a crew has been on site evaluating the Property and the potential for production appears excellent. Plans are to proceed as quickly as possible to gather the data required to initiate a feasibility study.

The Company, through its U.S. subsidiary, has also entered into an agreement to acquire rights to approximately 537 acres of a State Prospecting Permit adjoining the Property on terms and conditions similar to those governing the acquisition of the Property.

The Company and Mahogany Minerals Resources Ltd. have reached agreement in principle to joint venture the exploration and development of the Property and surrounding area on a 50:50 basis.

Mr. Ken Brooks of Desert Ventures Inc., after his own investigations, brought the Property to the Company's attention and introduced the owners of the Property and the State Permit to the Company. In consideration, the Company has agreed to issue to Desert Ventures Inc., by way of a finder's fee, 10,000 shares in the capital of the Company and a further 10,000 shares of the Company if either of the agreements remain in force and effect by May 28, 1988.

GERLE GOLD LTD.

Per: 

Raymond A. Hrkac,
President

This press release was prepared by Raymond A. Hrkac, President of Gerle Gold Ltd., who takes responsibility for its content. The Vancouver Stock Exchange has neither approved nor disapproved of the contents of this release.

MAHOGANY MINERALS RESOURCES INC.

#2470 - 609 Granville Street
Vancouver, B.C. V7Y 1G5
Telephone: (604) 685-9316
V.S.E. Symbol: MOY

GERLE GOLD LTD.

#904 - 675 West Hastings Street
Vancouver, B.C. V6B 1N2
Telephone: (604) 688-3584
V.S.E. Symbol: GGL

NEWS RELEASE

June 8, 1987

The joint venture is pleased to announce that they have received the first set of assays from the exploration program on their Frisco Mine property.

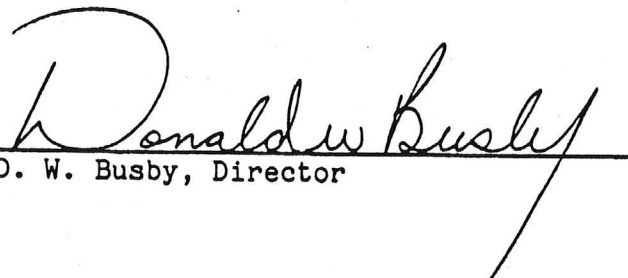
The Frisco Mine property, located near a major highway nine miles east of Bullhead, in Mohave County, Arizona, was acquired because it represented a large open pit heap leach operation with the potential to be in production in 1988. The project has the potential of 10 - 20 million tons of ore grade material. A pilot heap leach test was conducted in 1986 with ore having an average grade of .058 oz. of gold per ton. The results indicate a 70% recovery of gold from the pad.

There are three outcroppings of the mineralization spread over a distance of 5,000 feet, which are called the GOLD DOME, the GOLD CROWN and the GRANITE ZONE. All three zones have surface expressions of gold with the Gold Dome and the Gold Crown being geologically connected. The Gold Crown/Gold Dome mineralized structure appears to be approximately 600 feet wide by 40 feet thick by 2,000 feet long. Bulk samples of an exposed ore zone approximately 60 feet horizontal length by 5 feet high averaged .226 oz. of gold per ton.

The Granite Zone, which is a much larger mineralized area than the Gold Crown/Gold Dome zone, will be drilled within the next 60 days.

The significant results from this program have encouraged the joint venture to accelerate the proposed drilling budget and acquire all operating permits for starting a heap leach operation.

ON BEHALF OF THE DIRECTORS OF
MAHOGANY MINERALS RESOURCES INC.


D. W. Busby, Director

ON BEHALF OF THE DIRECTORS OF
GERLE GOLD LTD.


Ray Hrkac, Director

The Vancouver Stock Exchange has neither approved nor disapproved of the information contained herein.

GERLE GOLD LTD.

904 - 675 WEST HASTINGS STREET, VANCOUVER, B.C. V6B 1N2
TELEPHONE 688-0546

June 17, 1987

PRESS RELEASE

GERLE GOLD LTD. is pleased to announce they have received the second set of assays from the Gold Crown area on their Frisco Mine Property, Mohave County, Arizona, joint venture with MAHOGANY MINERALS RESOURCES INC.

On June 8th, the joint venture announced assays over 60 feet of an average grade of 0.226 oz of gold per ton. A second set of assays over 56 feet in an area northwest of the previous results averaged 0.212 oz of gold per ton. The exploration is directed to confirm mineralization over an area 600 feet by 2000 feet, that contains the Gold Crown and Gold Dome mineralization.

The Granite Zone, which has the largest tonnage potential on the property, will be drilled during the months of June and July.

GERLE GOLD LTD.

Per:



Raymond Hrkac
President

The Vancouver Stock Exchange has neither approved nor disapproved of the contents of this Release.

GERLE GOLD LTD.
#904 - 675 West Hastings Street
Vancouver, B.C. V6B 1N2
Telephone: 688-3584

June 26, 1987

VSE Symbol: GGL

NEWS RELEASE

Gerle Gold Ltd. is pleased to announce they have received the third set of assays from the Gold Crown area on their Frisco Mine property, Mohave County, Arizona, joint venture with Mahogany Minerals Resources Inc.

Sampling to date has confirmed a strike length of 900 feet. The following surfaces have been exposed and channel sampled in an area 250 feet in length by 150 feet in width. Areas 1 and 2 were previously reported:

<u>Area</u>	<u>Length</u>	<u>Oz. Au/ton</u>
1	60 ft.	0.226
2	56 ft.	0.212
3	100 ft.	0.264
4	20 ft.	0.135
5	20 ft.	0.151
6	20 ft.	0.145
7	20 ft.	0.175

This information continues to confirm the geological structure believed to be 600 feet by 2,000 feet by 40 feet thick.

ON BEHALF OF THE BOARD OF DIRECTORS



Ray Hrkao, Director

The Vancouver Stock Exchange has neither approved nor disapproved of the information contained herein.

PUT COPY IN FILE (P) KMB 3

Santa Fe Mining, Inc.

6200 Uptown Blvd. NE, Suite 400
Box 27019
Albuquerque, New Mexico 87125
505/881-3050

January 10, 1986

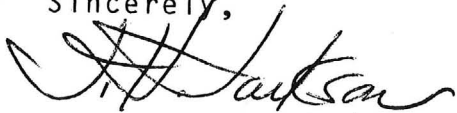
Mr. Nyal J. Niemuth
State of Arizona
Department of Mines
and Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Dear Nyal:

This past November Bob Nakaoka and I visited with you in your office and you were gracious enough to supply us with a sample from the Frisco Mine in Mohave County. I promised to send you a copy of the lab work done on this sample when it was completed. This information is enclosed.

I would like to thank you for your help.

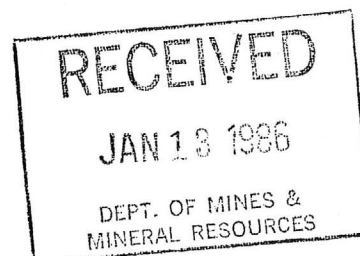
Sincerely,



J. H. Jackson
Senior Staff Geologist

JHJ:law

Enclosure



CSMRI-Analytica, Inc.

Table 2. Brightness Test Results

<u>Sample</u>	<u>Brightness</u>		<u>Amber</u>
	<u>Tri-green</u>	<u>Blue</u>	
1	91.5	89.0	92.0
2	91.5	87.5	92.0
→ 3	91.5	87.5	91.5

FRISCO MINE

KAOLINITE TUFF SAMPLE

Table 1.

XRF AND LOSS ON IGNITION (LOI) RESULTS GIVEN IN WEIGHT PERCENT

IDENT	Na2O	K2O	Al2O3	SiO2	P2O5	K2O	CaO	TiO2	MnO	Fe2O3	BaO	LOI
1	0.78	1.72	9.15	81.1	0.04	0.31	1.42	0.19	<0.01	0.05	0.04	6.4
2	0.24	4.99	9.52	82.0	0.03	0.12	4.46	0.10	<0.01	0.05	<0.01	5.6
→ 3	<u>0.16</u>	<u>1.38</u>	<u>17.6</u>	<u>67.2</u>	<u>0.03</u>	<u>1.52</u>	<u>1.07</u>	<u>0.08</u>	<u><0.01</u>	<u>0.02</u>	<u><0.01</u>	<u>12.2</u>
3-REPEAT	0.16	0.62	17.6	67.2	0.02	1.52	0.54	0.07	<0.01	<0.01	<0.01	12.2
GRM 10-XRF	0.28	0.53	1.31	7.09	0.04	0.17	50.4	0.06	0.02	0.52	<0.01	88.3
SPM 10-known	0.02?	0.42	1.30	6.84	0.04	0.28	50.2	0.07	0.02	0.55	?	29.9

→ Frisco Mine

KAOLINITE TUFF SAMPLE



Lo MINE FILE *Nyal*

United States Department of the Interior

BUREAU OF MINES

TUSCALOOSA RESEARCH CENTER
P.O. BOX L
UNIVERSITY, ALABAMA 35486

July 18, 1984

Mr. Nyal J. Niemuth
Arizona Department of Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Dear Mr. Niemuth:

Enclosed is the data sheet on the sample submitted with your letter of transmittal dated May 2, 1984 (Tuscaloosa series AZ-7). As shown by X-ray diffraction, this sample is a mixture of kaolinite and quartz; consequently, the briquettes formed for the slow-fire evaluation had very poor bond strength. The material was evaluated for refractoriness by pyrometric cone equivalency (PCE) and was equivalent to cone 29. According to ASTM C27, the sample can be classified as a medium-duty refractory.

If you have any further questions regarding this sample, please call.

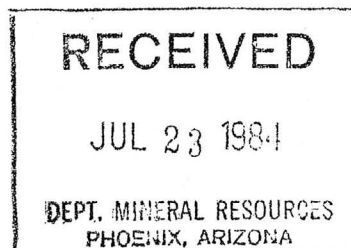
Sincerely yours,

Kenneth J. Liles
Research Chemist

Enclosure

cc: Karl Starch, Intermountain Field Operations Center, Denver

(KAOLIN)
CLAY OCCUR IN HYDROTHERMALLY ALTERED TUFFS



Tuscaloosa Research Center
Preliminary Ceramic Evaluation

Tuscaloosa Number AZ-7-1

Date received 05-07-84

Date reported 07-18-84

Sender's Name Arizona Department of Mineral Resources

Sender's Identification -- Type Material Altered tuff

Raw Properties:

Water of Plasticity, Percent 25.8 Working Properties Short

Color White Drying shrinkage, percent 0.0 Dry Strength Poor

Slow firing test:

Temp. ° C	Munsell Color	Moh's Hardness	Percent Linear Shk	Percent Abs.	Percent Appr. Por.	Bulk density gm/cc
1,000	-	-	No bond	-	-	-
1,050	-	-	-	-	-	-
1,100	-	-	-	-	-	-
1,150	-	-	-	-	-	-
1,200	-	-	-	-	-	-
1,250	-	-	-	-	-	-

pH 9.0 HCL Effervescence None Other tests PCE - 29

Preliminary Bloating Test: Negative

Temp. ° C	Percent absorption	Bulk Density gm/cc (lb/ft ³)	Remarks

Potential Use Medium-duty refractory.

The data presented in this report are based on laboratory tests that are preliminary in nature and will not suffice for plant or process design. It does not preclude the use of the material in mixes.

MINE VISIT REPORT

Mine: Frisco

County: Mohave

Engineers: Nyal J. Niemuth and Richard R. Beard

Date: April 20, 1984

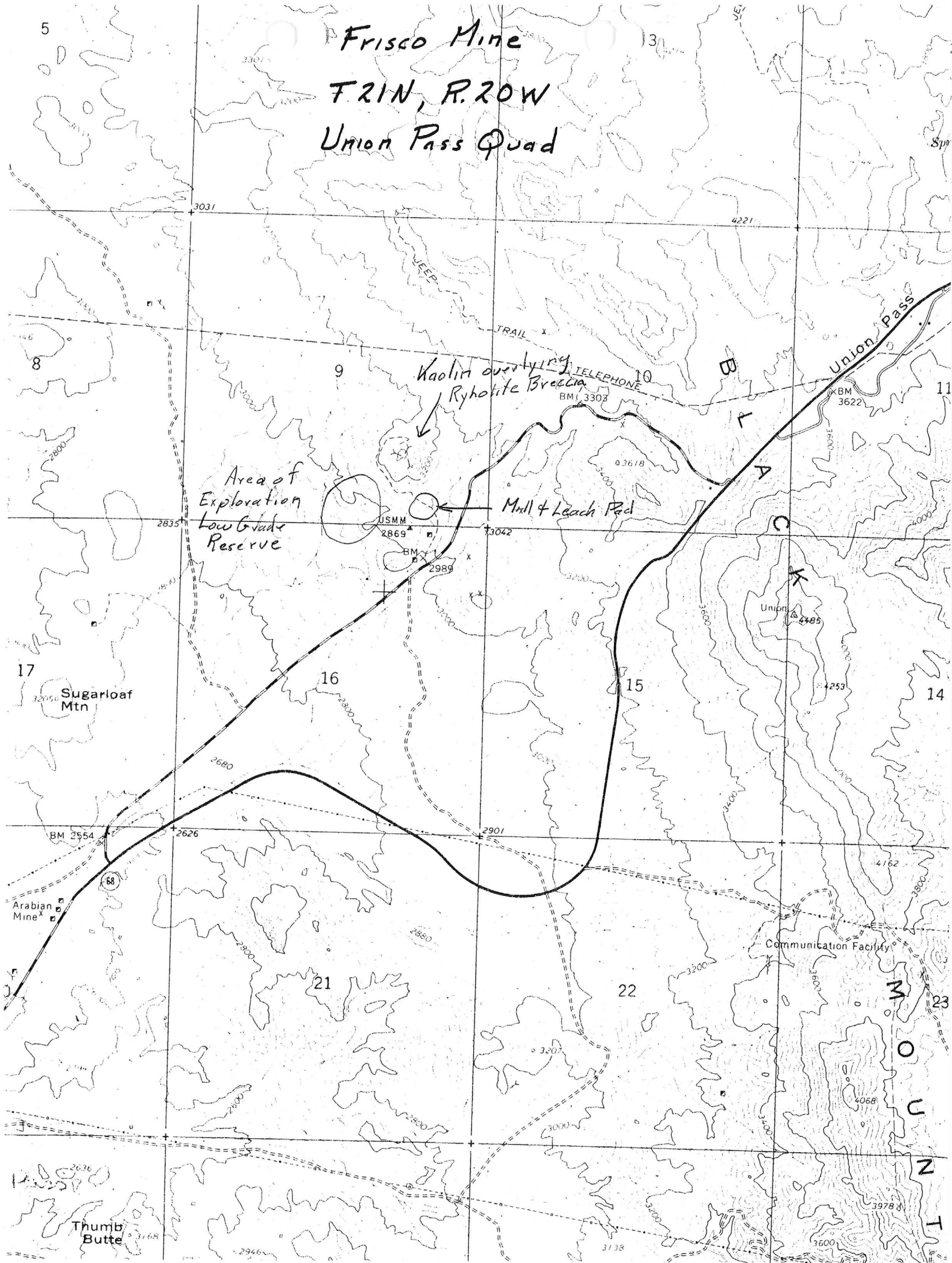
Information from: Doug Bonelli

Mr. Bonelli reports that they have 7000 tons at .2 oz/ton Au in rhyolite breccia and have drilled out a reserve of 230,000 tons at .02 oz/ton Au. They are now drilling to locate other high grade pods. Western Testing Laboratories in Reno is doing their assaying.

They are currently pulverizing the ore to -20 M in a Spokane Mill (Impact) then pelletizing using portland cement as a binder in a drum pelletizer. Pellets are firm and about $\frac{1}{2}$ " in diameter. They are being stacked about 10 feet high on the pad for leaching. The gold will be recovered by carbon adsorption and electrowinning.

Samples were taken of kaolin tuff and sent to U. S. Bureau of Mines, Clay Testing Center in Georgia. Mr. Bonelli reports that there is 50,000 to 150,000 tons of kaolin. Results from test will be added to file and reported to Mr. Bonelli when received.

Frisco Mine
T21N, R.20W
Union Pass Quad



Union Pass 7 1/2

NAME: FRISCO

TRA GEDY GRIND

COUNTY: MOHAVE

T 20N

R 20W

SEC. 16 NE 1/4

E 12990

DISTRICT: ~~KATHERINE~~

SAN FRANCISCO

UNION PASS

Mineralization: AV Be

Geology:

Type Operation: ^{material wat. on 200' level}
300' r 356' sh. A

Production: 44,000 T a ^{\$14} @ 20.

References: ADM 137 P 107 Mines Handbook 1926 P 260

ADM 131 P 121

8 miles E. of Katherine

Mohave County Card File

FRISCO MINE FILE



Notice of New Source Determination

by the

U.S. Environmental Protection Agency
Region 9 (M-5)
215 Fremont Street
San Francisco, CA 94105

(415) 974-7411

On Applicant for National Pollutant
Discharge Elimination System (NPDES)
Permit to Discharge Pollutants to
Waters of the United States

20 MAR 1984

The Environmental Protection Agency (EPA), Region 9, San Francisco, California, is issuing the following notice under the Clean Water Act (CWA).

The Environmental Protection Agency, Region 9, San Francisco, California, has received an application for a National Pollutant Discharge Elimination System (NPDES) permit and has prepared an initial determination regarding the applicant.

On the basis of preliminary review of the requirements of the Clean Water Act, as amended, and implementing regulations, the Regional Administrator, Region 9, Environmental Protection Agency, has determined that the following applicant is a new source subject to the environmental review requirements of the National Environmental Policy Act, at 40 CFR 6.600 et seq.

Public Notice No. A-84-4-W

Frisco Land and Mining Co.
56 Peninsula Road
Belvedere, CA 94920
NPDES Permit No. AZ0022365

The applicant proposes to operate a mining operation located approximately 32 kilometers (20 miles) west of Kingman, County of Mohave, State of Arizona. The Regional Administrator has determined that the applicant is a new source under 40 CFR §122.2 because construction of the mining facility commenced after final new source performance standards were promulgated for the mining industries at 40 CFR Part 440.

The proposed discharge will consist of overflow from containment facilities designed and maintained to contain process water and runoff from a 10 year, 24 hour precipitation event. The discharge, at latitude 35° 12' 30" N, longitude 114° 24' 25" W, will be to an unnamed wash tributary to the Colorado River. This portion of the Colorado River has protected uses of Full Body Contact,

Statement of Basis of New Source Determination for:
Frisco Land and Mining Co.
NPDES No: AZ0022365

The following regulation citations and facts were used in making the New Source Determination for the proposed Frisco Land and Mining Co. facility near Kingman, AZ.

- 1) 40 CFR§122.2 states in part:
New Source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:
a) after promulgation of standards of performance under section 306 of CWA which are applicable to such source.
- 2) Final New Source Performance Standards for dischargers in the gold mining subcategory of the Ore mining industries, who use a cyanide leaching process, were promulgated at 40 CFR Part 440, on December 3, 1982.
- 3) The Frisco Land and Mining Co. application, dated July 8, 1983 states that facility construction was scheduled to begin on October 15, 1983.
- 4) Since construction of the gold mining facility was scheduled to commence after applicable standards of performance for the industry were promulgated, the facility is a new source under 40 CFR§122.2.

After EPA makes an initial new source determination, EPA and the discharger have certain obligations under 40 CFR§122.29(c) and §122.21(r) including 40 CFR§122.21(r)(3) which states:

- 3) The Regional Administrator shall issue a public notice in accordance with §124.10 of the new source determination under paragraph (k)(2) of this section. If the Regional Administrator has determined that the facility is a new source, the notice shall state that the applicant must comply with the environmental review requirements of 40 CFR 6.600 et seq.
- 4) Any interested person may challenge the Regional Administrator's initial new source determination by requesting an evidentiary hearing under Subpart E of Part 124 within 30 days of issuance of the public notice of initial determination. The Regional Administrator may defer the evidentiary hearing on the determination until after a final permit decision is made, and consolidate the hearing on the determination with any hearing on the permit.



ARIZONA DEPARTMENT OF HEALTH SERVICES

Division of Environmental Health Services

BRUCE BABBITT, Governor
DONALD B. MATHIS, Director

JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region 9 [M-5]
215 Fremont Street
San Francisco, CA 94105

415/974-7410

On Application for National Pollutant
Discharge Elimination System (NPDES)
Permit to Discharge Pollutants to
Waters of the United States

The Environmental Protection Agency (EPA), Region 9, San Francisco, California, and the Arizona Department of Health Services (ADHS) are jointly issuing the following notice of proposed action under the Clean Water Act (CWA).

The Environmental Protection Agency, Region 9, San Francisco, California, has received a complete application for a National Pollutant Discharge Elimination System (NPDES) permit and has prepared tentative determinations regarding the permit.

On the basis of preliminary review of the requirements of the Clean Water Act, as amended, and implementing regulations, the Regional Administrator, Region 9, Environmental Protection Agency, proposes to issue an NPDES permit to discharge to the following applicant, subject to certain effluent limitations and special conditions.

Public Notice No. 2-84-AZ

February 6, 1984

Frisco Land and Mining Co.
56 Peninsula Road
Belvedere, CA 94920
NPDES Permit No. AZ0022365

The applicant operates a mining operation located approximately 32 kilometers (20 miles) west of Kingman, County of Mohave, State of Arizona. The proposed discharge will consist of overflow from containment facilities designed and maintained to contain process water and runoff from a 10 year, 24 hour precipitation event. The discharge, at latitude 35° 12' 30" N, longitude 114° 24' 25" W, will be to an unnamed wash tributary to the Colorado River. This portion of the Colorado River has protected uses of Full Body Contact, Aquatic and Wildlife, Domestic Water Source, Agriculture Irrigation and Agriculture Livestock Watering. This permit contains limitations on Total Suspended Solids, Cadmium, Copper, Cyanide, Lead, Mercury, Zinc and pH. This permit, as proposed will expire February 28, 1989.

The Department of Health Services is An Equal Opportunity Affirmative Action Employer. All qualified men and women, including the handicapped, are encouraged to participate.

State Health Building

1740 West Adams Street

Phoenix, Arizona 85007

RECEIVED

FEB 9 1984

State of Arizona
DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA
Department of Health Services
1740 West Adams Street - Room 200
Phoenix, AZ 85007

602/255-1277

On Application for Certification
for Compliance with Applicable
Effluent Limitations and
Appropriate Requirements of the
State of Arizona

The State of Arizona is considering a request to certify the discharge described above, pursuant to Section 401 of the Clean Water Act. The certification will set forth any limitations and monitoring requirements necessary to assure compliance with water quality standards under Section 303, areawide waste treatment management plans under Section 208(e), effluent limitations under Sections 301 and 302, standards of performance under Section 306, or prohibitions, effluent standards or pretreatment standards under Section 307 of the CWA, and any other appropriate requirement of State law.

The State may certify a draft permit and specify conditions which are more stringent than those in the original draft permit, where the State finds such conditions necessary to meet the requirements of the CWA. For each more stringent condition, the certifying State agency shall cite the CWA or State law references upon which that condition is based. Review of appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State.

The Administrative Record, which includes the application, draft permit conditions and other relevant documents, is available for public review Monday through Friday from 9:00 a.m. to 4:00 p.m. at the EPA address below. A copy of the draft permit and other pertinent documents may be obtained by calling or writing to the addresses below.

Persons wishing to comment upon or object to the proposed determinations or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or request in writing within thirty (30) days from the date of this notice, either in person or by mail to:

U.S. Environmental Protection Agency
Region 9 [M-5]
Attn: GPA Permits Clerk
215 Fremont Street
San Francisco, CA 94105

Telephone: 415/974-7410

State of Arizona
Department of Health Services
Attn: BWQC Permits Unit
1740 West Adams Street - Room 200
Phoenix, AZ 85007

Telephone: 602/255-1277

All comments or objections submitted within thirty (30) days from the date of this notice will be considered in the formulation of the final determinations regarding the application. If the response to this notice indicates a significant degree of public desire for a public hearing, the Regional Administrator shall hold one in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least thirty (30) days prior to the hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

The permit will become effective thirty-three (33) days following the date of mailing by the EPA of the final permit. If no comments requested a change in the draft permit, the permit will become effective three (3) days from the date of mailing.

A request for an evidentiary hearing may be submitted to the Grants and Permits Administration Clerk, [M-5], within thirty-three (33) days following the mailing of the final determination, in accordance with 40 CFR 124.74. If granted, applicable provisions of the permit will be stayed pending the hearing.

Please bring the foregoing notice to the attention of all persons you know would be interested in this matter.

FRISCO MINE FILE

STATE MINE INSPECTOR

SEP 20 1983

HAMMER

START

START

✓
ad

Frisco Land and Mining Co.
355 Riata Valley Rd.
Kingman, AZ 86401

(602) 757-7037

September 16, 1983

State Mine Inspector
705 West Wing
Capitol Building
Phoenix, AZ 85007

Frisco Land and Mining Co. will initiate mining operations at the Frisco Mine about October 1, 1983. The mine is located 20 miles west of Kingman, AZ. It will be a continuous operation with Douglas T. Bonelli as manager.

~~_____~~ If you have any further questions, feel free to contact me.

Sincerely,

Debra Meager

Debra Meager

MLD
9-20-83

The ore was loaded into trucks on contract at 20 cents per ton by a 1/4-cubic yard, full-revolving power shovel mounted on a tractor. The boom was 14 feet long and dipper stick 12 feet long. The contractor who owned the shovel came out from Kingman each day that ore from the open-cut was wanted at the mill. According to Banks, in December 1934, 100 tons was loaded on alternate days in 4 hours. The trucking cost was 40 cents per ton, which made a total direct cost of \$1.10 per ton before milling.

In March 1934 a reserve of several thousand tons was broken ahead of the shovel; in May 1935 the open-cut work had been discontinued.

Minnie-Sheeptrail-Boulevard mine. - The Sheeptrail and Boulevard were the earliest recorded locations in the Katherine district; they are credited with approximately 15,000 tons of ore that was hauled to a mill on the Colorado River prior to about 1906. The Gold Standards Mines Corporation acquired a lease on these two properties and a central one known as the Minnie in 1935. In May 1935 the Minnie was being prepared for production.

A crosscut was run to intersect several quartz-calcite veins that outcrop on the hillside near a granite-rhyolite contact.

In January 1936 lessees had begun shipping from the Sheeptrail to the Katherine mill.

Frisco. - The Frisco mine is about 10 miles by road from the Katherine mill. A small mill was formerly at the mine and operated intermittently from 1894 to 1914; about 14,000 tons of \$14 ore was treated. This mine was being operated by the Gold Standards Mine Corporation in the Spring of 1935. About 75 tons of 0.14 to 0.30 ounce gold was being produced daily with a crew of six men and was trucked to the Katherine mill.

The rock formation consists of a small granite hill capped by a rhyolite flow and rhyolite tuffs. Stringers of banded vuggy quartz occur at the contact to form a vein in previously shattered rhyolite; in some places the mineralization occurs in the underlying granite.

An adit enters the ore on the west side of the hill but passes 35 feet under the ore on the east side due to a fault. Mining formerly was done by a room-and-pillar method with a maximum room height of 18 feet. In the spring of 1935 the stope height had been increased to a maximum of 40 feet in some places by taking out roof and floor pillars. The old pillars were being removed by a retreating system. The ore above the upper adit was transferred through a chute raise to a lower level 120 feet below, along which it is trammed to a truck bin at the surface. The tramway was done on a bonus system.

The faulted part of the vein above the upper level was tapped by a series of short raises from laterals on that level. Ore on the east was mostly drawn off through this chute while that on the west was shoveled. Compressed air was supplied by a small portable one-machine compressor.

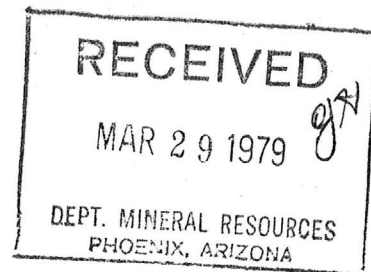
The direct mining cost^{34/} was about 60 cents. The minimum grade of ore mined was \$3 per ton.

34/ Banks, Leon M., Gold Mines at Katherine: Explosives Eng., May 1935, p. 147.

a/c
90

BENJAMIN P. BONELLI
ATTORNEY AT LAW
511 SIR FRANCIS DRAKE BLVD.
GREENBRAE, CALIFORNIA 94904
(415) 461-3800

March 24, 1979



Mr. John H. Jett
Department of Mineral Resources
Fairgrounds
Phoenix, Arizona 85007

Re: Frisco Gold Mine, Mohave County, Arizona

Dear Mr. Jett:

Enclosed are several documents regarding the Frisco Gold Mine which should help you start a file on it. They are:

1. 1920 Geological Report by Oscar H. Hershey.
2. 1964 Appraisal Report by E. Ross Householder.
3. 1974 Geological Report by W.M. Sharp.
4. 1966 Report on the white volcanic tuff which is a cap rock.

The white rock has some very unusual properties. I also have the assay reports on the drill holes drilled by Chester Millar for the Red Dog Mining Company.

Very truly yours,

Benjamin P. Bonelli

Benjamin P. Bonelli

April 30, 1979

Mr. Benjamin P. Bonelli
Attorney at Law
511 Sir Francis Drake Blvd.
Greenbrae, California 94904

Dear Mr. Bonelli:

We received the report on the Frisco Gold Mines Company. We very much appreciate your generosity and courtesy in providing us with the data. As you know, we depend on people like you to provide us with files. Any additional data will be most welcome.

I noticed in the report that the Frisco Mine Group was originally known as the Tragedy Group. I have enclosed a short article on the Tragedy Group. I have not as yet tried to clarify the puzzle.

Thanks again for you thinking of us.

Very truly yours,

JHJ:at

John H. Jett
Director

STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA 85007



February 28, 1968

C
O
P
Y

C. A. Buckley
White House Inn of America, Inc.
26121 Michigan Avenue
Inkster, Michigan 48141

Dear Mr. Buckley:

Herewith, in response to your request of February 24th, are photocopied pages from bulletins of the Arizona Bureau of Mines which cover the Arabian and Frisco mines of the Katherine (Union Pass) district.

The Bureau's Bulletin No. 140 lists production of the two mines as follows:

Arabian 1917-1933	\$20,000 in gold
Frisco 1893-1933	\$ 400,000 in gold

If you get to Phoenix, we would be pleased to show you our file on the Arabian mine which includes a copy of a report on the "Arabia Philadelphia Group of Mines", with assay maps, signed by G. Cleveland Taylor and dated November 18th, 1932. It gives an ore shoot cut by the P.H.2, R.2 and R.A. shafts 30,000 tons at \$11.50 (20% below sample average of \$14.65 per ton) and an additional orebody on the Rising Fawn claim of the Arabian Group indicated by 36 feet up along surface outcrop of vein cross-section.

In September, 1965 the three patented claims of the Arabian (Or Arabia) were owned by Thomas F. Mulherin, 102 Glen Nor Ave., Glenolden, Pennsylvania. The Water claim of the Philadelphia was owned by John Cunningham of Kingman. We have no information on owners of other claims of the groups, nor did the County Assessor, since the above report states that the three Philadelphia claims were unpatented.

Very truly yours,

FRANK P. KNIGHT,
Director.

FK:p
Encs.

FRISCO GOLD

MOHAVE COUNTY

NJN WR 8/7/87: Ed Huskinson (card) reported that Gerle Minerals (card) is drilling at the Frisco (file) Mohave County and that they are encountering stacked detachment sheets hosting the mineralization.

NJN WR 9/11/87: Ed Huskinson (card) reported that Gerle Gold (card) will begin reverse rotary circulation drilling the Frisco (file) Mohave County.

NJN WR 12/11/87: Ed Huskinson (card) reported that Gerle gold's rotary drilling program continues on the Frisco Mine (file) Mohave County. Previous drilling has encountered some favorable intercepts.

NJN WR 2/12/88: Harold Linder (card) reported that the Vancouver Stockwatch ran an article on Gerle Gold (card) which reports they have been testing mineralized zones at the Frisco (file) Mohave County.

NJN WR 3/25/88: Ed Huskinson (card) reported that Gerle Gold Ltd (card) drilled about 100 holes, many of which were 75' deep and the deepest of which was 500' deep, on the Frisco Gold (file) Mohave County. Concerns over the State land royalty situation has made them abandon further work on State Section 16. Although all results are not available, the preliminary assessment indicates 20,000 - 30,000 oz of gold have been identified.

NJN WR 4/8/88: Ed Huskinson (card) reported that he estimates that Gerle Gold Ltd's (card) drilling at the Frisco Mine (file) Mohave County identified about 500,000 tons of .068 oz/ton Au, plus an additional 115,000 tons which needs milling for economic recovery. These estimates do not include 1 - 5 million tons which could be developed on State Land, Sec 16.

FRSICO MINE

MOHAVE COUNTY

NJN WR 10/3/86: It is estimated that at least 2,000 tons have been mined from the Bi-metal Mine (f) and the material trucked to the Frisco Mine to be leashed.

NJN WR 11/7/86: Doug Bonelli (c) Frisco Land and Mining (c) called and reported that during the summer his mine foreman at the Frisco Mine (file) Mohave County was killed in an automobile accident. Following this, some of the other mienrs quit. A decision was reached to close the mine rather than to have Mr. Bonelli move to Kingman. Western States Minerals (c) is currently reviewing the reserve data and considering a production lease. this could coincide nicely with the depletion of ore reserves at the Portland Mine (file) Mohave County.

NJN WR 11/28/86: Jim Woods, geologist with Western States Minerals (c), reported that they are evaluating the Frisco (f), Arabian (f), Roadside (f) and other properties in the Union Pass area of Mohave County for possible acquisition and/or production.

KAP WR 1/23/87: Learned from usually reliable sources that Western State Minerals is planning to take an 8,000 pound bulk sample from the Frisco Mine (file) Mohave County.

NJN WR 5/2/87: Ed Huskinson (card) reports that Western States Mineral Corp's (card) deal on the Frisco (file) Mohave County has not been completed but that a new company called Gerle Gold is now reviewing the property.

NJN WR 5/15/87: Ed Huskinson (card) reports that Gerle Gold Ltd, 904, 675 W. Hastings Street, Vancouver V6B 1N2 (604) 688-3584 has lease/purchased the claims covering the Frisco Mine (file) Mohave County and the State lease (Sec 16) from the Frisco Mining Company. They have started a surface and underground sampling program including establishment of a surface grid. Both core and rotary drilling are planned for the near future.

FRISCO GOLD

MOHAVE COUNTY

NJN WR 1/24/86: Benjamin Bonelli (c) owner of the Frisco Gold Mine (f) Mohave County reported that Doug Bonelli (c) and Perry Durning (c) recently found a barrel of old maps of L.L. "Ed" Edgerton (c) and Los Angeles mining engineer Oscar Hershey on the Frisco (f) and Katherine (f) Mine both in Mohave County. One of the maps on the Frisco had a drift shown off of the 270' deep shaft to the footwall of a 50' wide (vein?) zone. This zone will become a drill target in the near future.

NJN WR 2/28/86: Benjamin Bonelli (c) reported that he has signed a lease on the Bi-Metals (f) Mohave Co. My earlier report that the property had been leased was apparently in error. The Frisco Land and Mining Co. plans to truck the ore to the millsite at the Frisco Mine (f) and process it there. Mr. Bonelli estimates they will mine between 30,000 and 60,000 tons. The property will require some additional sampling and drilling to determine what will actually be mined.

NJN WR 2/28/86: Benjamin Bonelli (c) reported that they have not used the impact mill at the Frisco Mine (f) Mohave Co. on any ore for over a year. It was just used on the hard siliceous ore mined up on the hill. Ore mined down in the flats is simply crushed to -5/8 inch and heap leached. This typically results in a 70% recovery of the gold.

NJN WR 6/6/86: Bill Vanderwall (c) reported that Frisco Land and Mining Co has recently been open pit mining at the Bi-Metals Mine (f) Mohave County and shipping by truck to their leaching facilities at the Frisco Mine (f) Mohave County, but have now suspended mining. Apparently, the ore at the Bi-Metals Mine did not run .2 oz/ton au as indicated in our old file data, but a little less than .1 oz/ton au. Economics do not justify continuing operations on this grade of material.

NJN WR 10/3/86: The Frisco Mine (f) Mohave Co has been shut down since late summer. Western states Minerals is reviewing the property data and may take over the operation.

FRISCO GOLD MINE

MOHAVE COUNTY

RRB WR 1/20/84: Debby, Frisco Land and Mining Company, Kingman, AZ called to find a market for kaolinite. She reports that they are now getting into production at the Frisco Mine, 20 miles west of Kingman, Mohave County.

NJN WR 2/3/84: Joe Durek with Kaiser Aluminum in Oakland CA. called seeking information on the Frisco Mine, Mohave County. Apparently Kaiser is looking for Kaolinite and the Bonelli's have made a submittal. Perhaps some of the volcanic tuffs have been hydrothermally altered, and are a possible source of kaolin.

NJN WR 3/9/84: Bill Vanderwall reported that at the Frisco Mine (f) Mohave County preparation continues for production. An impact mill is being set up to reduce the ore to -20 mesh after which it will be agglomerated and leached. If their recovery is not too good he would like to run the material thru the Tyro mill.

NJN WR 5/4/84: Kaolinite clay samples from the Frisco Mine, Mohave County submitted to U.S. Bureau of Mines in Georgia for analysis.

NJN WR 11/23/84: At the Frisco Mine (f) Mohave County, Doug Bonelli reported they are developing a new pit west of the mill and pad site. This pit hosts 60,000 tons of .08 oz/ton Au using a .05 oz/ton Au cut off grade. (50,000 tons at .1 undiluted) Current dore recovery is 70% Au and 12% Ag.

NJN WR 10/11/85: Doug Bonelli (c) manager of Frisco Land and Mining Co. reported that they are trying to get options to mine some of the other deposits with reserves in the area of their Frisco Mine (f) Mohave County operation. Current reserves at Frisco are in excess of 100,000 tons. A local contact at the mine is James Gifford who can be reached in Kingman at 753-5061. All other contacts with the company should be at their new address: % Doug Bonelli, 4081 Kings Canyon Road., Carson City, Nevada 89701, phone (702) 883-4486.

FRISCO MINE

ENGINEERS COMMENTS

MOHAVE

KAP WR 7/20/73 Mr. Chester F. Millar, of C. F. Millar Limited, 1758 W. 8th Ave., Vancouver 9, BC stated that his company has drilled one hole on the Frisco mine in the Katherine District. a 40' section ran 0.04 oz/ton in gold.

WR VBD 5/22/76 The Red Dog Mining Company, a Canadian company, has drilled the Frisco Mine in the Union Pass Mining District.

KAP WR 1/23/81 John Challinor reported that Chester F. Miller is drilling at the Frisco Mine in the Union Pass District, Mohave County. Drill work is being done with a track drill.

NJN WR 6/4/82 At the Frisco Mine, Mohave County, a sign stating it was the property of the Red Dog Mining Company was posted. Red Dog Mining's address is 2648 Via Country Club Manor, Kingman, Arizona 86401. Phone number is 758-2640.

NJN WR 1/21/83: Doug Bonelli, Geologist, 925 Northwest 31 Street, Corvallis, Oregon 97336, called. He requested and was sent a Pertinent Data Sheet. He reported there may be a cyanide operation on his father's property, the Frisco mine in Mohave County next fall. Currently, a feasibility study and evaluation is being done.

RRB WR 5/27/83: Doug Bonelli, geologist, 925 NW 31st. St., Corvallis, Oregon 97336, reports that the Frisco Mine, Mohave County, has been drilled out and that he is tentatively planning a heap leaching operation for next fall.

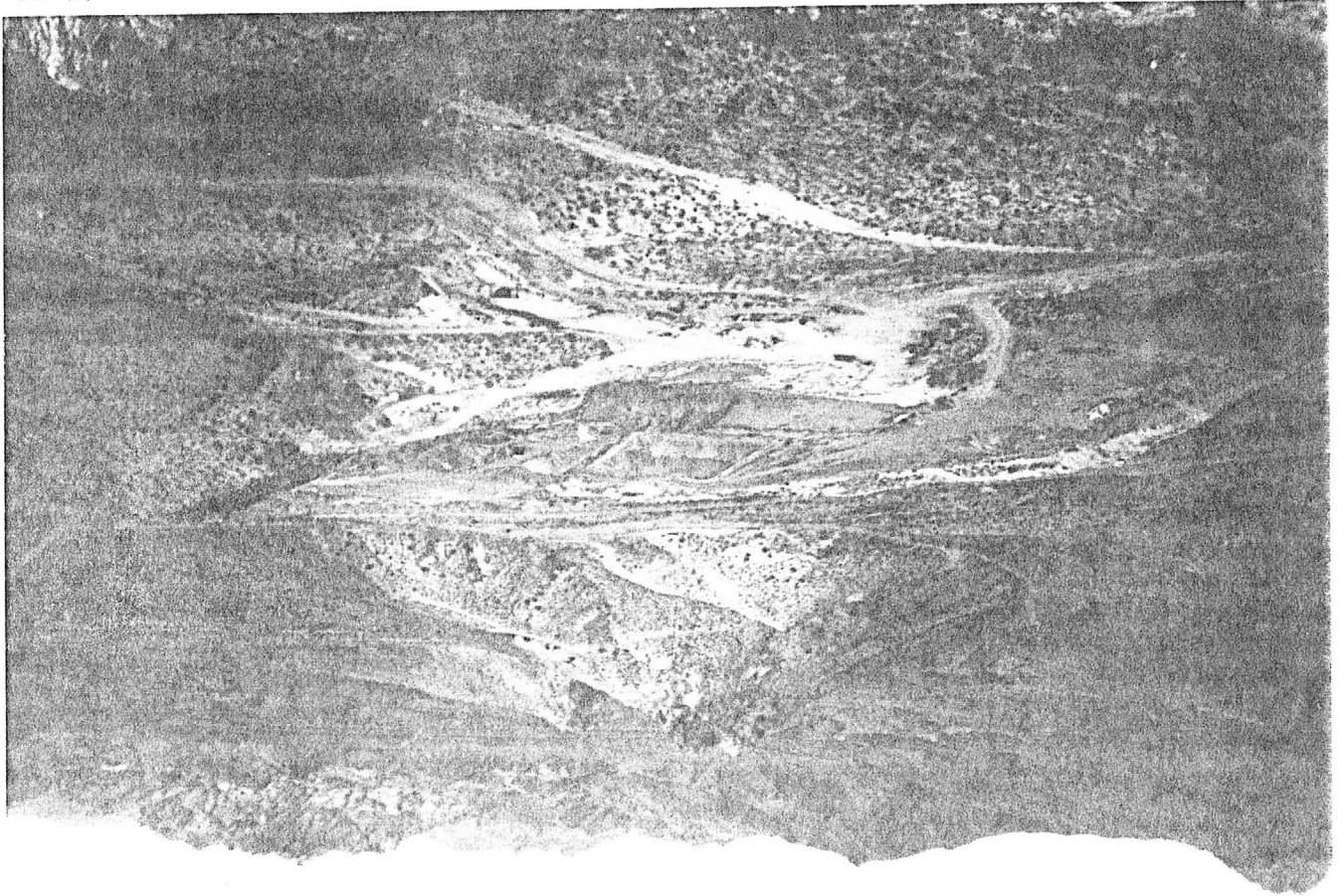
NJN WR 11/4/83: Benjamin P. Bonelli, owner of the Frisco Mine, Mohave County, visited. He reported they have between 10,000 and 15,000 tons of ore grading about .25 oz Au/ton blocked out by drilling on 10' centers. They are currently mining and stockpiling that ore. By December they will have a crushing, grinding and agglomeration plant on site. The ore will be taken to -30 mesh, agglomerated and then put on a heap to be cyanide leached. They also have drilled 2 other deposits which contain gold on the Frisco, however, their grade is much lower. If the first operation is successful, these lower grade deposits may be tried. Mineralization in the second two is in a tuff and it is hoped grinding will not be required. Mr. Bonelli's son Doug, a geologist, is in charge of the project and is now living in Kingman. His phone number there is 757-7037.

NJN WR 11/25/83

The name of the Bonelli Co. operating at the Frisco Mine is Frisco Land and Mining Co., 355 Riata Valley Rd., Kingman, AZ 86401. Phone 602-757-7037. Douglas T. Bonelli will be the manager.

6861

19-50-15



2

52

Ann

255-587
3793

4310-32
0-00162

AZ-020-00-4212-12; AZA-25124

Exchange of Public Lands

Mohave County, Arizona

AGENCY: Bureau of Land Management - Interior

ACTION: Correction of Federal Register Publication

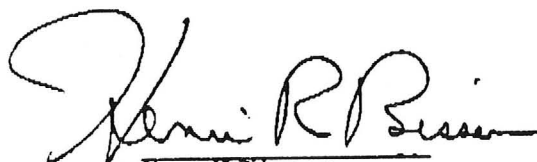
On May 22, 1991, a Notice of Realty Action was published in the Federal Register Volume 56, No. 99, Page 23593, describing public lands which are available for disposal by exchange and private lands for acquisition through exchange. The legal description for two of the parcels was in error and is hereby corrected to read as follows:

Gila and Salt River Meridian

AZA-25124

T. 16N., R. 20W.,
Sec. 3, Lots 1-5, SE $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$;

T. 21N., R. 20W.,
Sec. 11, NW $\frac{1}{4}$ (portion);


Henri Bisson

JUN 7 1991

Date

Arizona Department of Mines and Mineral Resources

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA
MOHAVE COUNTY
FRISCO MINE

MM K 849 Kaolinite
K 850 Kaolinite
K 851 Gold Ore (Pelletized)

T 19 NR 20 W S 26 NE 1/4
21 N 20 W Sec. 16 NE

MILS # 74 A

3-AKA's

FRISCO Gold Mine (file)

GERLE GOLD LTD.

904 - 675 WEST HASTINGS STREET, VANCOUVER, B.C. V6B 1N2

TELEPHONE 688-3584

PRESS RELEASE

June 1, 1987

Pursuant to a lease agreement with the owner, the Company, through its wholly owned U.S. subsidiary has acquired the right to explore, develop and mine a gold property in Mohave County, Arizona, U.S.A. known as the Frisco Mine (the "Property").

In order to maintain its rights under the agreement the Company is required to pay escalating quarterly rentals and advance royalties of up to \$30,000. Commencing with the third lease year the payments are recoverable out of the owners share of production. Apart from a royalty of \$0.50 per ton and \$2.00 per ton of aggregate material and specialty rock, respectively, sold from the Property and apart from a higher share (10%) for the first 10,000 of gold bullion produced and 6% for the next 15,000 troy ounces so produced, the owner is entitled to 5% for all gold bullion and 6% of all silver bullion produced from the Property.

The Property is located in Mohave County, Arizona, nine miles east of Bullhead. The Property has had limited past production, first as a high grade underground gold mine in the early 1900's and in 1984-86 a 66,000 ton test pad was successfully completed using heap leach technology with gold recoveries of 70% from material grading 0.058 ounces/ton gold.

During the past month a crew has been on site evaluating the Property and the potential for production appears excellent. Plans are to proceed as quickly as possible to gather the data required to initiate a feasibility study.

The Company, through its U.S. subsidiary, has also entered into an agreement to acquire rights to approximately 537 acres of a State Prospecting Permit adjoining the Property on terms and conditions similar to those governing the acquisition of the Property.

The Company and Mahogany Minerals Resources Ltd. have reached agreement in principle to joint venture the exploration and development of the Property and surrounding area on a 50:50 basis.

Mr. Ken Brooks of Desert Ventures Inc., after his own investigations, brought the Property to the Company's attention and introduced the owners of the Property and the State Permit to the Company. In consideration, the Company has agreed to issue to Desert Ventures Inc., by way of a finder's fee, 10,000 shares in the capital of the Company and a further 10,000 shares of the Company if either of the agreements remain in force and effect by May 28, 1988.

GERLE GOLD LTD.

Per:



Raymond A. Hrkac,
President

This press release was prepared by Raymond A. Hrkac, President of Gerle Gold Ltd., who takes responsibility for its content. The Vancouver Stock Exchange has neither approved nor disapproved of the contents of this release.

MAHOGANY MINERALS 1 OURCES INC.

#2470 - 609 Granville Street

Vancouver, B.C. V7Y 1G5

Telephone: (604) 685-9316

V.S.E. Symbol: MOY

LE GOLD LTD.

#904 - 675 West Hastings Street

Vancouver, B.C. V6B 1N2

Telephone: (604) 688-3584

V.S.E. Symbol: GGL

N E W S R E L E A S E

June 8, 1987

The joint venture is pleased to announce that they have received the first set of assays from the exploration program on their Frisco Mine property.

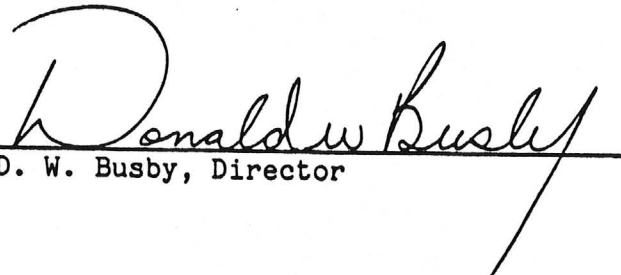
The Frisco Mine property, located near a major highway nine miles east of Bullhead, in Mohave County, Arizona, was acquired because it represented a large open pit heap leach operation with the potential to be in production in 1988. The project has the potential of 10 - 20 million tons of ore grade material. A pilot heap leach test was conducted in 1986 with ore having an average grade of .058 oz. of gold per ton. The results indicate a 70% recovery of gold from the pad.

There are three outcroppings of the mineralization spread over a distance of 5,000 feet, which are called the GOLD DOME, the GOLD CROWN and the GRANITE ZONE. All three zones have surface expressions of gold with the Gold Dome and the Gold Crown being geologically connected. The Gold Crown/Gold Dome mineralized structure appears to be approximately 600 feet wide by 40 feet thick by 2,000 feet long. Bulk samples of an exposed ore zone approximately 60 feet horizontal length by 5 feet high averaged .226 oz. of gold per ton.


The Granite Zone, which is a much larger mineralized area than the Gold Crown/Gold Dome zone, will be drilled within the next 60 days.

The significant results from this program have encouraged the joint venture to accelerate the proposed drilling budget and acquire all operating permits for starting a heap leach operation.

ON BEHALF OF THE DIRECTORS OF
MAHOGANY MINERALS RESOURCES INC.


D. W. Busby, Director

ON BEHALF OF THE DIRECTORS OF
GERLE GOLD LTD.


Ray Hrkac, Director

The Vancouver Stock Exchange has neither approved nor disapproved of the information contained herein.

GERLE GOLD LTD.

904 - 675 WEST HASTINGS STREET, VANCOUVER, B.C. V6B 1N2

TELEPHONE 688-0546

June 17, 1987

PRESS RELEASE

GERLE GOLD LTD. is pleased to announce they have received the second set of assays from the Gold Crown area on their Frisco Mine Property, Mohave County, Arizona, joint venture with MAHOGANY MINERALS RESOURCES INC.

On June 8th, the joint venture announced assays over 60 feet of an average grade of 0.226 oz of gold per ton. A second set of assays over 56 feet in an area northwest of the previous results averaged 0.212 oz of gold per ton. The exploration is directed to confirm mineralization over an area 600 feet by 2000 feet, that contains the Gold Crown and Gold Dome mineralization.

The Granite Zone, which has the largest tonnage potential on the property, will be drilled during the months of June and July.

GERLE GOLD LTD.

Per:



Raymond Hrkac
President

The Vancouver Stock Exchange has neither approved nor disapproved of the contents of this Release.

GERLE GOLD LTD.
#904 - 675 West Hastings Street
Vancouver, B.C. V6B 1N2
Telephone: 688-3584

June 26, 1987

VSE Symbol: GGL

NEWS RELEASE

Gerle Gold Ltd. is pleased to announce they have received the third set of assays from the Gold Crown area on their Frisco Mine property, Mohave County, Arizona, joint venture with Mahogany Minerals Resources Inc.

Sampling to date has confirmed a strike length of 900 feet. The following surfaces have been exposed and channel sampled in an area 250 feet in length by 150 feet in width. Areas 1 and 2 were previously reported:

<u>Area</u>	<u>Length</u>	<u>Oz. Au/ton</u>
1	60 ft.	0.226
2	56 ft.	0.212
3	100 ft.	0.264
4	20 ft.	0.135
5	20 ft.	0.151
6	20 ft.	0.145
7	20 ft.	0.175

This information continues to confirm the geological structure believed to be 600 feet by 2,000 feet by 40 feet thick.

ON BEHALF OF THE BOARD OF DIRECTORS



Ray Hrkao, Director

The Vancouver Stock Exchange has neither approved nor disapproved of the information contained herein.

Santa Fe Mining, Inc.

6200 Uptown Blvd. NE, Suite 400
Box 27019
Albuquerque, New Mexico 87125
505/881-3050

January 10, 1986

Mr. Nyal J. Niemuth
State of Arizona
Department of Mines
and Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Dear Nyal:

This past November Bob Nakaoka and I visited with you in your office and you were gracious enough to supply us with a sample from the Frisco Mine in Mohave County. I promised to send you a copy of the lab work done on this sample when it was completed. This information is enclosed.

I would like to thank you for your help.

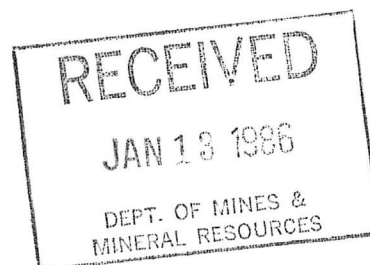
Sincerely,



J. H. Jackson
Senior Staff Geologist

JHJ:law

Enclosure



CSMRI-Analytica, Inc.

Table 2. Brightness Test Results

<u>Sample</u>	<u>Brightness</u>		<u>Amber</u>
	<u>Tri-green</u>	<u>Blue</u>	
1	91.5	89.0	92.0
2	91.5	87.5	92.0
→ 3	91.5	87.5	91.5

FRISCO MINE

KAOLINITE TUFF SAMPLE

Table 1.

XRF AND LOSS ON IGNITION (LOI) RESULTS GIVEN IN WEIGHT PERCENT

IDENT	Na2O	K2O	Al2O3	SiO2	P2O5	K2O	CaO	TiO2	MnO	Fe2O3	BaO	LOI
1	0.78	1.72	9.15	81.1	0.04	0.31	1.42	0.19	<0.01	0.05	0.04	6.4
2	0.24	4.99	9.52	82.0	0.03	0.12	4.43	0.10	<0.01	0.05	<0.01	5.6
→ 3	<u>0.16</u>	<u>1.38</u>	<u>17.6</u>	<u>67.2</u>	<u>0.03</u>	<u>1.52</u>	<u>1.07</u>	<u>0.06</u>	<u><0.01</u>	<u>0.02</u>	<u><0.01</u>	<u>12.2</u>
3-REPEAT	0.16	0.62	17.6	67.2	0.02	1.52	0.54	0.07	<0.01	<0.01	<0.01	12.2
SRM 10-XRF	0.08	0.53	1.21	7.09	0.04	0.17	50.4	0.03	0.02	0.52	<0.01	28.3
SRM 10-known	0.027	0.42	1.30	6.84	0.04	0.28	50.2	0.07	0.02	0.55	?	29.9

→ FRISCO Mine

KABULINITE TUFF SAMPLE



Rego MINE FILE *Nyal*
United States Department of the Interior

BUREAU OF MINES

TUSCALOOSA RESEARCH CENTER
P.O. BOX L
UNIVERSITY, ALABAMA 35486

July 18, 1984

Mr. Nyal J. Niemuth
Arizona Department of Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Dear Mr. Niemuth:

Enclosed is the data sheet on the sample submitted with your letter of transmittal dated May 2, 1984 (Tuscaloosa series AZ-7). As shown by X-ray diffraction, this sample is a mixture of kaolinite and quartz; consequently, the briquettes formed for the slow-fire evaluation had very poor bond strength. The material was evaluated for refractoriness by pyrometric cone equivalency (PCE) and was equivalent to cone 29. According to ASTM C27, the sample can be classified as a medium-duty refractory.

If you have any further questions regarding this sample, please call.

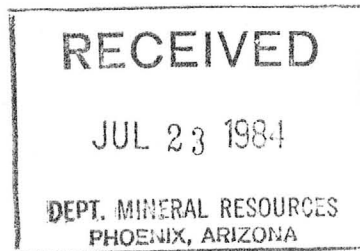
Sincerely yours,

Kenneth J. Liles
Research Chemist

Enclosure

cc: Karl Starch, Intermountain Field Operations Center, Denver

(KAOLIN)
CLAY OCCUR IN HYDROTHERMALLY ALTERED TUFFS



Preliminary Ceramic Evaluation

Tuscaloosa Number AZ-7-1

Date received 05-07-84

Date reported 07-18-84

Sender's Name Arizona Department of Mineral Resources

Sender's Identification -- Type Material Altered tuff

Raw Properties:

Water of Plasticity, Percent 25.8 Working Properties Short

Color White Drying shrinkage, percent 0.0 Dry Strength Poor

Slow firing test:

Temp. ° C	Munsell Color	Moh's Hardness	Percent Linear Shk	Percent Abs.	Percent Appr. Por.	Bulk density gm/cc
1,000	-	-	No bond	-	-	-
1,050	-	-	-	-	-	-
1,100	-	-	-	-	-	-
1,150	-	-	-	-	-	-
1,200	-	-	-	-	-	-
1,250	-	-	-	-	-	-

pH 9.0 HCL Effervescence None Other tests PCE - 29

Preliminary Bloating Test: Negative

Temp. ° C	Percent absorption	Bulk Density gm/cc (lb/ft ³)	Remarks

Potential Use Medium-duty refractory.

The data presented in this report are based on laboratory tests that are preliminary in nature and will not suffice for plant or process design. It does not preclude the use of the material in mixes.

MINE VISIT REPORT

Mine: Frisco

County: Mohave

Engineers: Nyal J. Niemuth and Richard R. Beard

Date: April 20, 1984

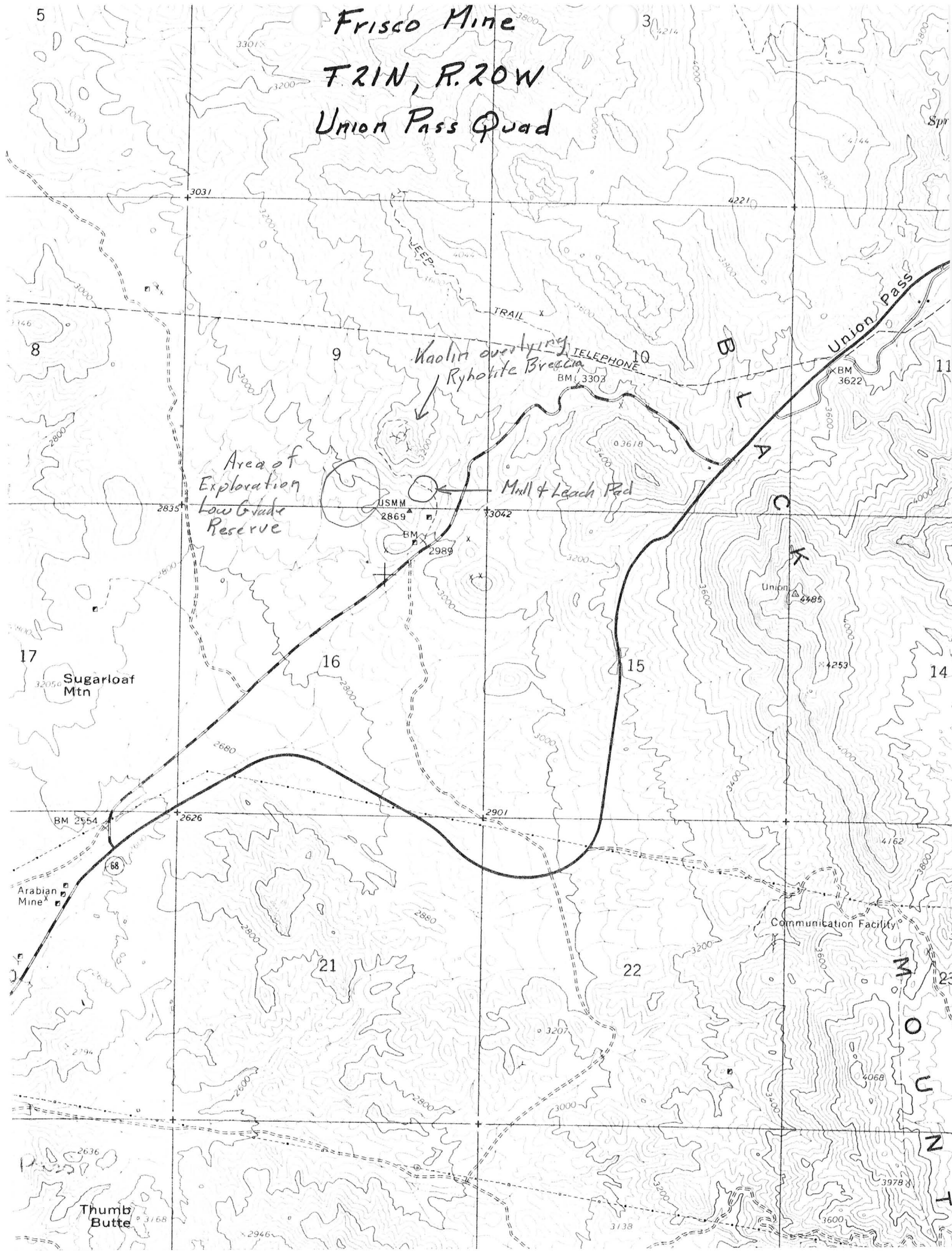
Information from: Doug Bonelli

Mr. Bonelli reports that they have 7000 tons at .2 oz/ton Au in rhyolite breccia and have drilled out a reserve of 230,000 tons at .02 oz/ton Au. They are now drilling to locate other high grade pods. Western Testing Laboratories in Reno is doing their assaying.

They are currently pulverizing the ore to -20 M in a Spokane Mill (Impact) then pelletizing using portland cement as a binder in a drum pelletizer. Pellets are firm and about $\frac{1}{2}$ " in diameter. They are being stacked about 10 feet high on the pad for leaching. The gold will be recovered by carbon adsorption and electrowinning.

Samples were taken of kaolin tuff and sent to U. S. Bureau of Mines, Clay Testing Center in Georgia. Mr. Bonelli reports that there is 50,000 to 150,000 tons of kaolin. Results from test will be added to file and reported to Mr. Bonelli when received.

*Frisco Mine
T.21N, R.20W
Union Pass Quad*



*Area of
Exploration
Low Grade
Reserve*

*Kaolin overlying
Ryholite Breccia*

Mull & Leach Pad

Union Pass

Communication Facility

*Thumb
Butte*

*Sugarloaf
Mtn*

*Arabion
Mine*

joint venture with Fischer-Watt Mining.

Return to vehicles and head back south along the dirt road to Highway 163.

- 70.4 Turn east on Highway 163 and continue back toward Davis Dam.
- 74.4 Crossing the E side of Davis Dam.
- 74.6 Upper-plate megacrystic granites in roadcuts to left and right. Now on Arizona State Highway 68. Continue E toward Union Pass and Kingman.
- 81.2 On the left is the turnoff leading to the Roadside Mine (approx 2.5 miles NW along dirt road).
- 81.4 Optional Stop 5 North-trending fault contact dipping $40-45^{\circ}$ east. Hanging wall rocks are rhyolite flows exhibiting well-developed auto breccias. In the area near the Roadside Mine, rhyolite air-fall tuffs dips 50° to the east above this structure. The footwall rocks are locally well brecciated Precambrian granitoid gneisses with numerous rhyolite dikes. Faults such as this rotating Tertiary strata appear to be truncated by low-angle normal faults in the area 2.5 miles to the north at the Roadside Mine.
- 82.2 Crossing host structure for gold mineralization at the Arabian Mine. The Arabian fault zone strikes $N25 - 35^{\circ}E$ and dips about $65^{\circ}SE$. Hanging wall rocks consist of rhyolite welded tuffs while the footwall is Precambrian megacrystic granite. Mineralization along the Arabian structure consists of numerous quartz and calcite veins within a brecciated rhyolite porphyry intruded along the Arabian structure. Drilling by Meridian Land and Mineral in a joint venture with Crown-Sutton Resources indicates a reserve of 500,000 tons grading .06 O/T Au at the Arabian with higher tonnage potential for material grading about .04 O/T Au.
- 82.9 Turn left on the old highway. As you cross the cattle guard you are again approaching the NE-trending Arabian structure.
- 83.0 Crossing the Arabian structure.
- 84.2 Dead ahead are two small hills capped by rhyolite tuffs on either side of the road. The base of both hills is Precambrian granite. The rhyolite/granite contact on both hills is dipping toward the old highway.
- 84.4 Stop 6 Turn left on dirt road leading to Frisko Mine. Here low-dipping zones of Au quartz mineralization are being mined by the Bonelli family. Ore at the Frisko Mine is being treated by crushing and pulverizing followed by cyanide heap leach techniques. See hand out for Frisko Mine.

After tour of the Frisko Mine, turn left on old highway leading up to Union Pass.

a.g.s. 1984 Fall Field Trip, p. 71

DTB, 10/84

Frisco Mine

Frisco Land and Mining Company
355 Riata Valley Rd.
Kingman, Arizona 86401
Doug Bonelli

Introduction:

The Frisco mine is an open-pit, heap-leach gold operation located in northwestern Arizona in the Union Pass mining district. Frisco Land and Mining Company (FLAM Co.), a private corporation, owns the 9 patented claims that comprise the property. One body of ore has been mined and is presently being leached, and development of another orebody is underway.

History:

Mineralization at the Frisco was first discovered about 1893, and the property was mined intermittently between 1893 and 1933 with a recorded production of less than 2,000 ounces. A Canadian individual leased the property in 1971, and drilled reserves adjacent to two stopes. In 1981 he made initial steps toward production, but abandoned the project because of small reserves.

FLAM Co. initiated feasibility work in December of 1982 and test drilled one of the two known orebodies in April of 1983. Development work commenced in September and the first gold was shipped 11 months later.

Geology at the Mine:

A basement consisting of granite, schist, and gneiss of preCambrian age is overlain by rhyolite and tuff of Miocene (?) age. The rhyolite varies from about twenty to sixty feet in thickness, and may be either a flow or a sill. The thickness of the overlying tuff is unknown, but varies from zero to 60 feet at the mine site.

The mine area lies within a series of northwest-trending normal faults. Contact relations with rocks in surrounding hills suggest that the displacement along some of these may exceed 1000 feet. Folding (warping) occurred along a northeast-trending axis resulting in the formation of a synformal basin in the center of the property with both flanks dipping up to 15 degrees.

Mineralization:

The mineralization at the Frisco occurs as shallow-dipping, kidney shaped sheets within the rhyolite. These are up to fifty feet in thickness and exceed 200 feet in their longest known dimension. The ore is a breccia cemented with quartz and chalcedony with locally abundant gypsum and hematite. The gold is contained within the chalcedony and is microscopic. Selected drill intercepts exceed one ounce of gold per ton of rock.

as of 1984 Fall Field Trip, p. 73

Hydrothermal alteration is present beneath and above the ore. Feldspars in the underlying granite are altered to clay and/or sericite, and the rock is stained red with hematite. These altered basement rocks contain up to .03 oz/ton gold. The overlying tuff is altered to almost pure quartz and kaolinite, and locally contains opaline streaks. It is not known to contain gold.

Structural relations and geochemical sampling suggest that hydrothermal solutions migrated up channels in faulted basement rock, entered brecciated rhyolite, and precipitated gold and the gangue minerals. The tuff may have served as an impervious cap (figure 1). Brecciation of the rhyolite host with resultant formation of open spaces may be the result of low angle faulting in the rhyolite.

Potential exists for the discovery of additional reserves at the property. These are believed to be concealed beneath the tuff, and are located on the basis of silicification, hydrolytic alteration, and the presence of sulfate minerals in the tuff.

Mining and Engineering:

Ore is drilled, blasted, and hauled (if necessary) to the primary crushing site. The material is crushed to minus one inch in two stages of crushing and stacked onto a stockpile at a rate of 130 TPH. This material is fed into the secondary crushing circuit where it is crushed to minus ten mesh at a rate of 30 TPH. This fine material is then fed into the agglomerating circuit where it is rolled in a drum with lime and a cyanide solution prior to loading onto a pad.

Two leach pads are used, each capable of holding four to six thousand tons of material. One pad is loaded and leached while the other is flushed with fresh water and stripped.

Pregnant solutions are collected in a pond and then pumped through a series of four carbon columns to collect the gold. This barren solution is collected in another pond prior to re-application to the heap. The carbon columns are periodically removed from the circuit and the carbon is stripped of the gold it contains.

Union Pass 7 1/2

NAME: FRISCO

TRAGEDY GRIND

COUNTY: MOHAVE

T 20 N

R 20 W

SEC. 16 NE 1/4

E 12990

DISTRICT: ~~KATHERINE~~

SAN FRANCISCO

UNION PASS

Mineralization: AU Be

Geology:

Type Operation: 300' lateral wat. on 200' level
356' shaft

Production: 44,000 T @ 14 @ 20.

References: ABM 137 P 107 Miner. Handbook 1926 P 260

ABM 131 P 121

8 miles E. of Katherine

Mohave County Card File

FRISCO MINE FILE

RECEIVED
MAR 15 1984
DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA

Notice of New Source Determination

by the

U.S. Environmental Protection Agency
Region 9 (M-5)
215 Fremont Street
San Francisco, CA 94105

(415) 974-7411

On Applicant for National Pollutant
Discharge Elimination System (NPDES)
Permit to Discharge Pollutants to
Waters of the United States

20 MAR 1984

The Environmental Protection Agency (EPA), Region 9, San Francisco, California, is issuing the following notice under the Clean Water Act (CWA).

The Environmental Protection Agency, Region 9, San Francisco, California, has received an application for a National Pollutant Discharge Elimination System (NPDES) permit and has prepared an initial determination regarding the applicant.

On the basis of preliminary review of the requirements of the Clean Water Act, as amended, and implementing regulations, the Regional Administrator, Region 9, Environmental Protection Agency, has determined that the following applicant is a new source subject to the environmental review requirements of the National Environmental Policy Act, at 40 CFR 6.600 et seq.

Public Notice No. A-84-4-W

Frisco Land and Mining Co.
56 Peninsula Road
Belvedere, CA 94920
NPDES Permit No. AZ0022365

The applicant proposes to operate a mining operation located approximately 32 kilometers (20 miles) west of Kingman, County of Mohave, State of Arizona. The Regional Administrator has determined that the applicant is a new source under 40 CFR §122.2 because construction of the mining facility commenced after final new source performance standards were promulgated for the mining industries at 40 CFR Part 440.

The proposed discharge will consist of overflow from containment facilities designed and maintained to contain process water and runoff from a 10 year, 24 hour precipitation event. The discharge, at latitude 35° 12' 30" N, longitude 114° 24' 25" W, will be to an unnamed wash tributary to the Colorado River. This portion of the Colorado River has protected uses of Full Body Contact,

Statement of Basis of New Source Determination for:
Frisco Land and Mining Co.
NPDES No: AZ0022365

The following regulation citations and facts were used in making the New Source Determination for the proposed Frisco Land and Mining Co. facility near Kingman, AZ.

- 1) 40 CFR§122.2 states in part:
New Source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:
 - a) after promulgation of standards of performance under section 306 of CWA which are applicable to such source.
- 2) Final New Source Performance Standards for dischargers in the gold mining subcategory of the Ore mining industries, who use a cyanide leaching process, were promulgated at 40 CFR Part 440, on December 3, 1982.
- 3) The Frisco Land and Mining Co. application, dated July 8, 1983 states that facility construction was scheduled to begin on October 15, 1983.
- 4) Since construction of the gold mining facility was scheduled to commence after applicable standards of performance for the industry were promulgated, the facility is a new source under 40 CFR§122.2.

After EPA makes an initial new source determination, EPA and the discharger have certain obligations under 40 CFR§122.29(c) and §122.21(r) including 40 CFR§122.21(r)(3) which states:

- 3) The Regional Administrator shall issue a public notice in accordance with §124.10 of the new source determination under paragraph (k)(2) of this section. If the Regional Administrator has determined that the facility is a new source, the notice shall state that the applicant must comply with the environmental review requirements of 40 CFR 6.600 et seq.
- 4) Any interested person may challenge the Regional Administrator's initial new source determination by requesting an evidentiary hearing under Subpart E of Part 124 within 30 days of issuance of the public notice of initial determination. The Regional Administrator may defer the evidentiary hearing on the determination until after a final permit decision is made, and consolidate the hearing on the determination with any hearing on the permit.



ARIZONA DEPARTMENT OF HEALTH SERVICES

Division of Environmental Health Services

BRUCE BABBITT, Governor
DONALD B. MATHIS, Director

JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region 9 [M-5]
215 Fremont Street
San Francisco, CA 94105

415/974-7410

On Application for National Pollutant
Discharge Elimination System (NPDES)
Permit to Discharge Pollutants to
Waters of the United States

State of Arizona
Department of Health Services
1740 West Adams Street - Room 200
Phoenix, AZ 85007

602/255-1277

On Application for Certification
for Compliance with Applicable
Effluent Limitations and
Appropriate Requirements of the
State of Arizona

The Environmental Protection Agency (EPA), Region 9, San Francisco, California, and the Arizona Department of Health Services (ADHS) are jointly issuing the following notice of proposed action under the Clean Water Act (CWA).

The Environmental Protection Agency, Region 9, San Francisco, California, has received a complete application for a National Pollutant Discharge Elimination System (NPDES) permit and has prepared tentative determinations regarding the permit.

On the basis of preliminary review of the requirements of the Clean Water Act, as amended, and implementing regulations, the Regional Administrator, Region 9, Environmental Protection Agency, proposes to issue an NPDES permit to discharge to the following applicant, subject to certain effluent limitations and special conditions.

Public Notice No. 2-84-AZ

February 6, 1984

Frisco Land and Mining Co.
56 Peninsula Road
Belvedere, CA 94920
NPDES Permit No. AZ0022365

The applicant operates a mining operation located approximately 32 kilometers (20 miles) west of Kingman, County of Mohave, State of Arizona. The proposed discharge will consist of overflow from containment facilities designed and maintained to contain process water and runoff from a 10 year, 24 hour precipitation event. The discharge, at latitude 35° 12' 30" N, longitude 114° 24' 25" W, will be to an unnamed wash tributary to the Colorado River. This portion of the Colorado River has protected uses of Full Body Contact, Aquatic and Wildlife, Domestic Water Source, Agriculture Irrigation and Agriculture Livestock Watering. This permit contains limitations on Total Suspended Solids, Cadmium, Copper, Cyanide, Lead, Mercury, Zinc and pH. This permit, as proposed will expire February 28, 1989.

The Department of Health Services is An Equal Opportunity Affirmative Action Employer. All qualified men and women, including the handicapped, are encouraged to participate.

The State of Arizona is considering a request to certify the discharge described above, pursuant to Section 401 of the Clean Water Act. The certification will set forth any limitations and monitoring requirements necessary to assure compliance with water quality standards under Section 303, areawide waste treatment management plans under Section 208(e), effluent limitations under Sections 301 and 302, standards of performance under Section 306, or prohibitions, effluent standards or pretreatment standards under Section 307 of the CWA, and any other appropriate requirement of State law.

The State may certify a draft permit and specify conditions which are more stringent than those in the original draft permit, where the State finds such conditions necessary to meet the requirements of the CWA. For each more stringent condition, the certifying State agency shall cite the CWA or State law references upon which that condition is based. Review of appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State.

The Administrative Record, which includes the application, draft permit conditions and other relevant documents, is available for public review Monday through Friday from 9:00 a.m. to 4:00 p.m. at the EPA address below. A copy of the draft permit and other pertinent documents may be obtained by calling or writing to the addresses below.

Persons wishing to comment upon or object to the proposed determinations or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or request in writing within thirty (30) days from the date of this notice, either in person or by mail to:

U.S. Environmental Protection Agency
Region 9 [M-5]
Attn: GPA Permits Clerk
215 Fremont Street
San Francisco, CA 94105

State of Arizona
Department of Health Services
Attn: BWQC Permits Unit
1740 West Adams Street - Room 200
Phoenix, AZ 85007

Telephone: 415/974-7410

Telephone: 602/255-1277

All comments or objections submitted within thirty (30) days from the date of this notice will be considered in the formulation of the final determinations regarding the application. If the response to this notice indicates a significant degree of public desire for a public hearing, the Regional Administrator shall hold one in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least thirty (30) days prior to the hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

The permit will become effective thirty-three (33) days following the date of mailing by the EPA of the final permit. If no comments requested a change in the draft permit, the permit will become effective three (3) days from the date of mailing.

A request for an evidentiary hearing may be submitted to the Grants and Permits Administration Clerk, [M-5], within thirty-three (33) days following the mailing of the final determination, in accordance with 40 CFR 124.74. If granted, applicable provisions of the permit will be stayed pending the hearing.

Please bring the foregoing notice to the attention of all persons you know would be interested in this matter.

FRISCO MINE

STATE MINE INSPECTOR

SEP 20 1983

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Frisco Land and Mining Co.
355 Riata Valley Rd.
Kingman, AZ 86401

(602) 757-7037

September 16, 1983

State Mine Inspector
705 West Wing
Capitol Building
Phoenix, AZ 85007

Frisco Land and Mining Co. will initiate mining operations at the Frisco Mine about October 1, 1983. The mine is located 20 miles west of Kingman, AZ. It will be a continuous operation with Douglas T. Bonelli as manager.

~~_____~~ If
you have any further questions, feel free to contact me.

Sincerely,

Debra Meager

Debra Meager

MLD
9-20-83

The ore was loaded into trucks on contract at 20 cents per ton by a 1/4-cubic yard, full-revolving power shovel mounted on a tractor. The boom was 14 feet long and dipper stick 12 feet long. The contractor who owned the shovel came out from Kingman each day that ore from the open-cut was wanted at the mill. According to Banks, in December 1934, 100 tons was loaded on alternate days in 4 hours. The trucking cost was 40 cents per ton, which made a total direct cost of \$1.10 per ton before milling.

In March 1934 a reserve of several thousand tons was broken ahead of the shovel; in May 1935 the open-cut work had been discontinued.

Minnie-Sheeptrail-Boulevard mine. -- The Sheeptrail and Boulevard were the earliest recorded locations in the Katherine district; they are credited with approximately 15,000 tons of ore that was hauled to a mill on the Colorado River prior to about 1906. The Gold Standards Mines Corporation acquired a lease on these two properties and a central one known as the Minnie in 1935. In May 1935 the Minnie was being prepared for production.

A crosscut was run to intersect several quartz-calcite veins that outcrop on the hillside near a granite-rhyolite contact.

In January 1936 lessees had begun shipping from the Sheeptrail to the Katherine mill.

Frisco. -- The Frisco mine is about 10 miles by road from the Katherine mill. A small mill was formerly at the mine and operated intermittently from 1894 to 1914; about 14,000 tons of \$14 ore was treated. This mine was being operated by the Gold Standards Mine Corporation in the Spring of 1935. About 75 tons of 0.14 to 0.30 ounce gold was being produced daily with a crew of six men and was trucked to the Katherine mill.

The rock formation consists of a small granite hill capped by a rhyolite flow and rhyolite tuffs. Stringers of banded vuggy quartz occur at the contact to form a vein in previously shattered rhyolite; in some places the mineralization occurs in the underlying granite.

An adit enters the ore on the west side of the hill but passes 35 feet under the ore on the east side due to a fault. Mining formerly was done by a room-and-pillar method with a maximum room height of 18 feet. In the spring of 1935 the stope height had been increased to a maximum of 40 feet in some places by taking out roof and floor pillars. The old pillars were being removed by a retreating system. The ore above the upper adit was transferred through a chute raise to a lower level 120 feet below, along which it is trammed to a truck bin at the surface. The tramway was done on a bonus system.

The faulted part of the vein above the upper level was tapped by a series of short raises from laterals on that level. Ore on the east was mostly drawn off through this chute while that on the west was shoveled. Compressed air was supplied by a small portable one-machine compressor.

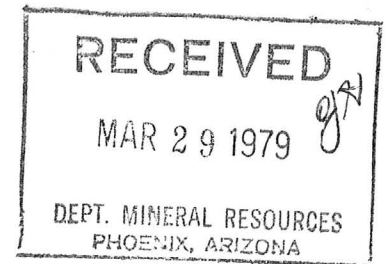
The direct mining cost ³⁴/₁₀₀ was about 60 cents. The minimum grade of ore mined was \$3 per ton.

Banks, Leon M., Gold Mines at Katherine: Explosives Eng., May 1935, p. 147.

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BENJAMIN P. BONELLI
ATTORNEY AT LAW
511 SIR FRANCIS DRAKE BLVD.
GREENBRAE, CALIFORNIA 94904
(415) 461-3800

March 24, 1979



Mr. John H. Jett
Department of Mineral Resources
Fairgrounds
Phoenix, Arizona 85007

Re: Frisco Gold Mine, Mohave County, Arizona

Dear Mr. Jett:

Enclosed are several documents regarding the Frisco Gold Mine which should help you start a file on it. They are:

1. 1920 Geological Report by Oscar H. Hershey.
2. 1964 Appraisal Report by E. Ross Householder.
3. 1974 Geological Report by W.M. Sharp.
4. 1966 Report on the white volcanic tuff which is a cap rock.

The white rock has some very unusual properties. I also have the assay reports on the drill holes drilled by Chester Millar for the Red Dog Mining Company.

Very truly yours,

Benjamin P. Bonelli

April 30, 1979

Mr. Benjamin P. Bonelli
Attorney at Law
511 Sir Francis Drake Blvd.
Greenbrae, California 94904

Dear Mr. Bonelli:

We received the report on the Frisco Gold Mines Company. We very much appreciate your generosity and courtesy in providing us with the data. As you know, we depend on people like you to provide us with files. Any additional data will be most welcome.

I noticed in the report that the Frisco Mine Group was originally known as the Tragedy Group. I have enclosed a short article on the Tragedy Group. I have not as yet tried to clarify the puzzle.

Thanks again for you thinking of us.

Very truly yours,

John H. Jett
Director

JHJ:at

STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA 85007



February 28, 1968

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P
Y

C. A. Buckley
White House Inn of America, Inc.
26121 Michigan Avenue
Inkster, Michigan 48141

Dear Mr. Buckley:

Herewith, in response to your request of February 24th, are photocopied pages from bulletins of the Arizona Bureau of Mines which cover the Arabian and Frisco mines of the Katherine (Union Pass) district.

The Bureau's Bulletin No. 140 lists production of the two mines as follows:

Arabian 1917-1933	\$20,000 in gold
Frisco 1893-1933	\$ 400,000 in gold

If you get to Phoenix, we would be pleased to show you our file on the Arabian mine which includes a copy of a report on the "Arabia Philadelphia Group of Mines", with assay maps, signed by G. Cleveland Taylor and dated November 18th, 1932. It gives an ore shoot cut by the P.H.2, R.2 and R.A. shafts 30,000 tons at \$11.50 (20% below sample average of \$14.65 per ton) and an additional orebody on the Rising Fawn claim of the Arabian Group indicated by 36 feet up along surface outcrop of vein cross-section.

In September, 1965 the three patented claims of the Arabian (Or Arabia) were owned by Thomas F. Mulherin, 102 Glen Nor Ave., Glenolden, Pennsylvania. The Water claim of the Philadelphia was owned by John Cunningham of Kingman. We have no information on owners of other claims of the groups, nor did the County Assessor, since the above report states that the three Philadelphia claims were unpatented.

Very truly yours,

FRANK P. KNIGHT,
Director.

FK:p
Encs.