



CONTACT INFORMATION

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

HAZARDOUS WASTE COMPLAINTS, INCIDENTS, REFERRALS

FILE NUMBER: 96-126

PRIORITY: H

DATE: 1-30-96 TIME: 2:35

RECEIVED BY: Robert Mills INITIALED _____

NAME OF SITE/OPERATOR: Prospects Mine

4164

EPA ID NUMBER: Not Listed

ADDRESS: #T-7 North, R-4 East, Section 28 CITY: Cave Creek, 85331 PHONE:

X-STREETS: Topographic map attached

INFORMER'S NAME: Anonymous

JAN 31 1996

ADDRESS: CITY: PHONE: 956-6629

REFERRED BY: AGENCY: PHONE:

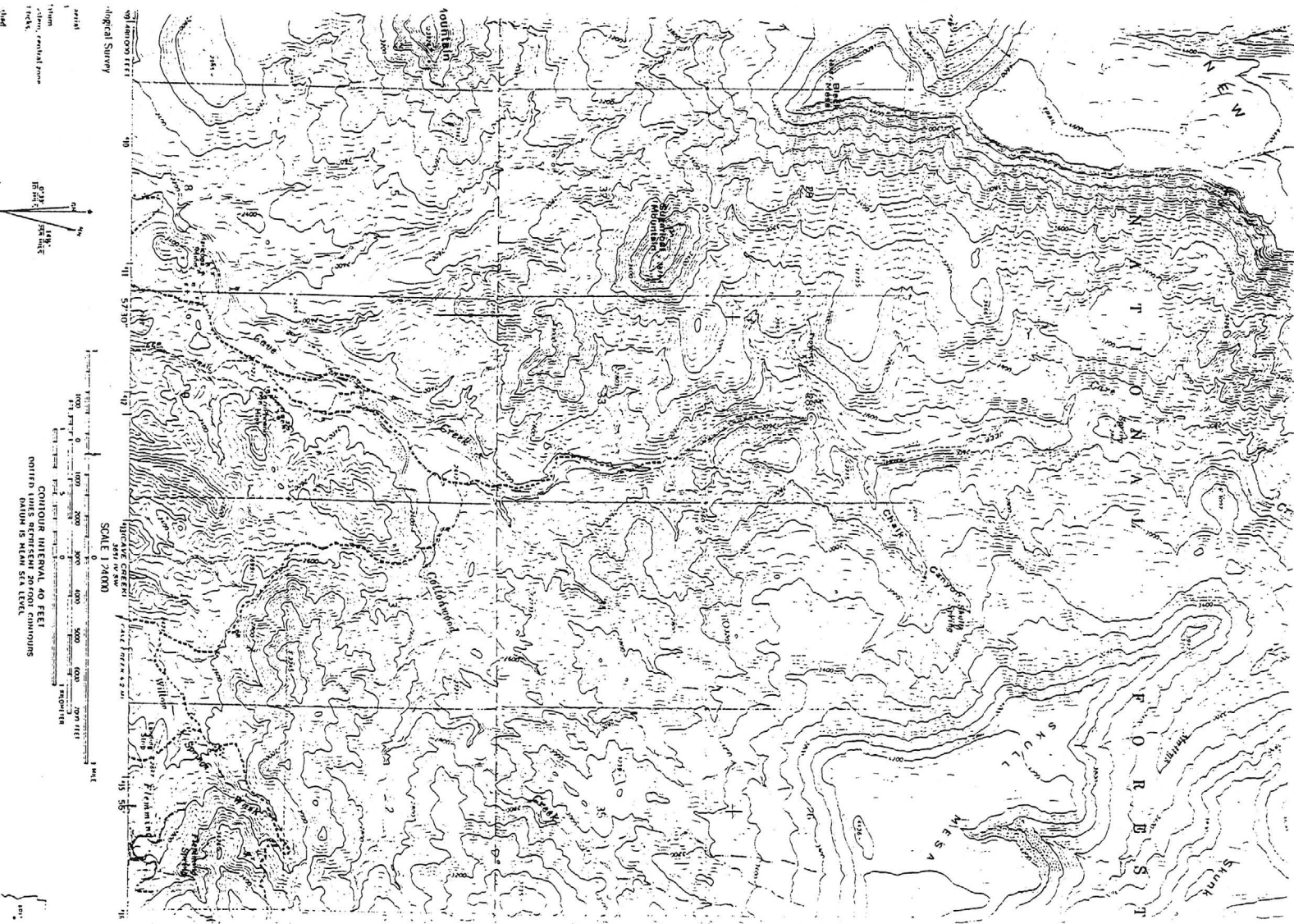
COMPLAINT: Informant stated that this is an abandoned cyanide mine from 1989. It is of great concern to his community. The mine has open leach pits and run-off is making its way to the ground water. When it rains the run-off flows directly into Cave Creek. The informant noticed that within the last two months much of this areas wildlife has perished.

He has called the County, State and Federal agencies in hopes to speed up the clean-up process. The informant contacted ADEQ Representative Chuck Ohr, Waste Water Projects, Field Engineer. Chuck Ohr and the Forestry Services attempted to inspect the area on January 26, 1996. Part of the area to be inspected was not accessible due to a locked gate. The informant has recently gained permission to enter from the land owner and has access to the gate.

Attached is a copy of the topographic map depicting the location of the former Prospects Mine.

DISPOSITION:**COMMENTS/OTHER:****COPY TO/DATE:** ADEQ/ERU - 1/31/96**REFERRED TO/DATE:** ADEQ/WQD/Chuck Ohr - 1/31/96

(Informant has already talked to Chuck Ohr. Chuck Ohr already has much of this information.)



New River Mesa, Ariz
 7th March 1964

CAHAVA RANCH

5201 E. Rockaway Hills Drive
P. O. Box 1850
Cave Creek, AZ 85331-1850

Bill and Gloria Bridge

Telephone 602-488-3313

Facsimile 602-488-4635

FACSIMILE TRANSMISSION

TO TELECOPIER NUMBER: 207-4467

PHONE: 207-4434

January 20, 1996

Charles E. Ohr
Arizona Department of Environmental Quality
3033 N. Central Ave.
Phoenix, AZ 85331

Dear Chuck:

I talked to Joe Bernier on Friday, after we returned from the mine site North of Cave Creek. Joe said he conducted a series of tests of water quality near that mine under a contract with ADEQ in 1991. There is a report on file at ADEQ which was prepared for that study. Samples were collected from Cave Creek at several locations both upstream and downstream from the mine. Samples were also collected at various locations on the mine site.

The name of the mine which is shown on the USGS quadrangle map as "Prospects" is actually "Silver Cross." The USGS map name is the "New River Mesa, Arizona" quadrangle. The mine is located in Maricopa County within:

The Northeast Quarter of the Southwest Quarter of Section 28
Township 7 North, Range 4 East
Gila and Salt River Base and Meridian.

If you have any difficulty in locating the report, you can phone Joe Bernier at 488-9231 for further reference information.

Joe is currently making a series of well soundings in the Cave Creek-Carefree Water Basin for Scottsdale, Carefree and Cave Creek, as a continuation of the groundwater studies he has conducted for many years. Joe has been certified by ADEQ for collecting water samples. If you would prefer to use him rather than your own staff, give him a call.

Best regards,

Bill Bridge

PS: I left out the Section number in the first transmission.

Cave Creek

Pg. 1 of 2

1/19/96. Met Chuck Ohr (ADEQ) at Abco parking lot at Cave Creek Rd & Bell 8:30 AM. Rode w/ Chuck to town of Cave Creek. There we met several interested persons from the Desert Foothills Land Trust, POB 4261 Cave Creek AZ 85331 602/488-6131. Margaret Stewart (Pres?), Mark Hazelton, Judith Hamman and William (Bill) H. Bridge. Also met Kevin Timothy who made the original complaint 956-6629 or 800 796-2967.

Four of us (Chuck Kevin Bill) drove in Chuska 4-wheel up Spur Crossing Rd to Cave Creek. Area is located on New River Mesa Quad map. At first point where road crosses ~~creek~~ we got out and observed creek for signs of aquatic life. Here we found leopard frog - 1, fish (probably longfin dace) and a few aquatic invertebrates including water striders and a giant water bug and water boatmen.

Birds seen below the mine: Gambel's Quail, Northern flicker, Kestrel, Cardinal

At the abandoned mine, marked as prospect on quad sheet, we found 2 large leach pads and at least 6 collections ponds. Plastic lining of leach ponds was badly deteriorated w/ large holes/tears. At least one area ~~site~~ where off-site migration of contaminants was possible was documented. I took numerous photos w/ Chuck's camera. There was two abandoned drums (110 gal?) on leach pad, one marked lime and the other marked cyanide. Bill located an explosives shed with a locked ~~door~~ iron door. Two other abandoned drums were located in the mine area above the leach pads. We saw tracks of a raccoon and Great blue heron on the black plastic of one leach pond. Birds seen on site: great-tailed grackle, warbler sp, and wren sp, woodpecker (Gila)

Cave Creek (cont)

1/19/96 (cont) We searched the stream above the mine for the presence of fish or aquatic invertebrate species that were not present below the mine. Above the mine we ~~we~~ observed longfin dace, ^{crayfish} and several species of aquatic invertebrates. In deep pools opposite the mine we saw several green sunfish. Kevin thought that the color of the stream bed moss was different below the mine than above. Upon close examination we agreed that there was little difference in moss color immediately above & below the mine. The moss color further down the stream may be slightly different, however.

My general impression was that the mine site was an eyesore that should be cleaned up. There is potential for contamination from the mine to the creek during heavy run-off events. Aquatic species ~~composition~~ composition above & below the mine was superficially similar. It would be beneficial to return in the warmer months & electroshock above & below the mine. Cursory sediment sampling above & below the mine should determine extent (if any) of stream contamination.

Later we met w/ high school teacher Adrian Gibson 488 9342(H), 488 9816 x 3882 off who has 2 years of aquatic chemistry & biology data from Seven Springs area downstream past the mine. Her data includes basic water chemistry & casual biocriteria observations.

Returned to PLY
approx 4:30 PM

WILLIAM H. BRIDGE

MACROINVERTEBRATE DATA - SPUR CROSS - CSHS

ATTACHMENT V
Pg 1062

A		B	C	D	E	F	G
1	Type of macro Sep		Oct	Nov	Dec	Jan	Feb
2	Alderfly larva	2	0	0	0		
3	Aquatic Worm	18	0	9	7		
4	Beetle larva	1	2	2	0		
5	Blackfly larva	0	0	16	6		
6	Caddisfly larva	0	1	1	0		
7	Clam	0	0	0	0		
8	Crane fly	0	0	0	0		
9	Crayfish	0	0	0	0		
10	Damselfly larva	1	0	5	6		
11	Dobsonfly	0	0	2	0		
12	Dragonfly	2	0	3	4		
13	Fishfly larva	1	1	0	3		
14	Giant Waterbug	0	0	0	0		
15	Gilled Snail	0	0	1	1		
16	Leech	3	0	0	12		
17	Mayfly	4	1	58	0		
18	Midgefly larva	4	0	41	0		
19	Other Snails	0	0	0	0		
20	Planarian	0	0	0	0		
21	Pouch Snail	3	0	1	1		
22	Riffle Beetle	5	0	5	0		
23	Ruby Spot	0	0	0	0		
24	Scud	1	0	2	0		
25	Sow Bug	0	0	0	0		
26	Stone Fly	3	0	20	0		
27	Waterpenny	16	0	8	2		
28	Waterscorpion	0	0	5	0		
29	Watersnipe Fly	3	1	0	0		
30	Egg sacks	0	0	0	0		
31	Unknown 1	11	2	0	many		
32	Shell	1	0	1	0		
33							
34							
35							

WATER QUALITY MEASUREMENTS - SPUR CROSS SITE - CSHS

	A	B	C	D	E	F	G	H	I	J	K	L
1	TEST/DATE	SEPT/93	OCT/93	NOV/93	DEC/93	JAN/94	FEB/94	MAR/94	APRIL/94	MAY/94	JUNE/94	JULY/94
2	Alkalinity (Mg/1)					0	0	0				
3	pH					8.5	8.8	8.5	8.6	8.2	8.3	8.3
4	Sulfate (Mg/1)						<50	>50ppm	750	<50	0	0
5	Nitrate Nitrogen (Mg/1)					0	0	0	7.25	<.25	0	0
6	Dissolved Oxygen (Mg/1)					14.4	12	11.8		9		
7	Hardness (Mg/1)					255	244	168	210	204		
8												
9												
10	TEST/DATE	SEPT/94	OCT/94	NOV/94	DEC/94	JAN/95	FEB/95	MAR/95	APRIL/95	MAY/95	JUNE/95	JULY/95
11	Alkalinity (Mg/1)								4.97	3		
12	pH		8.1	8.1	8.4	8.5	8.3		8.2			
13	Sulfate (Mg/1)		<50	<50	<50	98	0	0	<50	<50		
14	Nitrate Nitrogen (Mg/1)	0	0.5	0.25	0	0	0	0	0.05	0.05		
15	Dissolved Oxygen (Mg/1)		8	10		10	11	8	9	8		
16	Hardness (Mg/1)	296	240			200	240	240	280	260		
17												
18												
19	TEST/DATE	SEPT/95	OCT/95	NOV/95	DEC/95	JAN/96	FEB/96	MAR/96	APRIL/96	MAY/96	JUNE/96	JULY/96
20	Alkalinity (Mg/1)	100	265	187.1	180							
21	pH		7.51	7.91	8.79							
22	Sulfate (Mg/1)	31	23	0	5							
23	Nitrate Nitrogen (Mg/1)	0	7.92	0	5							
24	Dissolved Oxygen (Mg/1)	1	11	broken	8.8							
25	Hardness (Mg/1)	300	280	14.035	280							

ATTACHMENT IV
pg. 2 of 2

*Wilenchik & Bartness**A Professional Corporation*

*DENNIS I. WILENCHIK

+BECKY A. BARTNESS

+CRAIG T. IRISH

GEORGE H. FOSTER, JR.

CHARLES A. GRUBE

LINDA D. BACH

ANN A. SCOTT TIMMER

OF COUNSEL

ALLEN D. HARNISCH

>CHARLES T. DuMARS

*Counsellors at Law
2828 North Central Avenue
Thirteenth Floor
Phoenix, Arizona 85004*TELEPHONE
(602) 274-2828FACSIMILE
(602) 274-2822

January 22, 1996

JAN 23 1996

Mr. Chuck Ohr, Field Engineer
Arizona Department of Environmental Quality
Water Quality Division
3033 N. Central Avenue
Phoenix, Arizona 85012

Re: ADEQ Complaint No. 96-005

Dear Mr. Ohr:

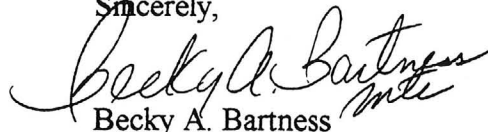
The Desert Foothills Land Trust, as owner and steward of properties lying within the Cave Creek Wash and the Cave Creek Wash area, and as an organization interested in preserving riparian habitats in Arizona, requests that it be provided copies of all reports, notices and other documents prepared or issued by the Arizona Department of Environmental Quality in connection with the above-referenced file.

The mailing address of the Land Trust is as follows:

Desert Foothills Land Trust
P.O. Box 4861
Cave Creek, Arizona 85331-4861

Thank you.

Sincerely,



Becky A. Bartness

Board Member

Desert Foothills Land Trust

BAB:mte

cc: Mr. Dennis Loveless, President of the Board
Ms. Kim Scott, Executive Director

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

NEWS MEDIA CONTACT

ATTACHMENT VIII

(602)

YOUR NAME Charles E. Chis PHONE NO. 207-4434
 PROGRAM/SECTION-UNIT Water Quality Div./Surface Water Section/Field
 DATE 1-23-96 TIME about 10 Am Silver
 CONTACTED BY Don Sorchuch PHONE (602) 488-2021 Unit
 AFFILIATION Sonoran News (Weekly, Cave Creek)
 SUBJECT Silver Cross Mine impacts on Cave Creek
Wash watershed, field investigation conducted
on 1/19/96 accompanied by complainant, rep of
Desert Foothills Land Trust, and N.S. Fish & Wildlife
along w/ me representing ADEQ. Refer to NW
complaint #96-005.

DEPARTMENT RESPONSE We were on site 1/19/96. However, I
did not enter the mine property because I had been un-
successful attempting to get permission to access from
the owner's representative - simply unable to make phone
contact. I made observations from off site and of
the water shed conditions approaching the mine site.
Photos and video have been made available to ADEQ

REMARKS My report should be completed by the end
of this week. It's too early to comment about it
except that I will recommend the Department
continue an investigation to include sampling on
the mine property crops.

Form-PIO 7/23/91

CC: ASSISTANT DIRECTOR
 IMMEDIATE SUPERVISOR
 PUBLIC INFORMATION OFFICE

Kim MacEachern
 Harley Hiett
 Tim Matthews

**NATIVE FISHES OF SYCAMORE, CAVE, AND SILVER CREEKS,
TONTON NATIONAL FOREST, ARIZONA**

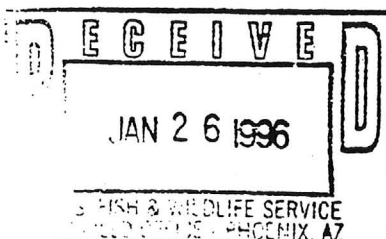
by

Kirk L. Young and Robert H. Bettaso
Native Fish Biologists
Nongame Branch, Wildlife Management Division

JAN 30 1996

Final Report
Nongame and Endangered Wildlife Program
Program Manager: Terry B. Johnson
Arizona Game and Fish Department
2221 West Greenway Road
Phoenix, Arizona 85023-4312

June 1994



all the stream flow seeps into the alluvium below the point where the stream leaves the upper bedrock area, except during large floods (Thomsen and Schumann 1968).

Low flow summer-autumn discharge averages $0.01\text{--}0.05\text{ m}^3\text{ s}^{-1}$ (0.35–1.76 cfs) while the winter-spring discharge is usually higher ($0.1\text{--}0.5\text{ m}^3\text{ s}^{-1}$ /3.5–17.6 cfs)(Grimm 1988). Fig. 2 shows the monthly mean and maximum discharge for Water Years 1991 and 1992.

According to Troxel et al. (1965), the Sycamore Creek watershed contains five major vegetation types including chaparral, semidesert shrub, conifer chaparral, grassland, and riparian. The species composition along the slopes is predominately oak (*Quercus turbinella* and *Q. emoryi*), manzanita (*Arctostaphylos pringlei* and *A. pungens*), mountain-laurel (*Rhus ovata*), desert ceanothus (*Ceanothus greggii*), deerbrush (*Ceanothus integerrimus*), and skunkbush (*Rhus trilobata*).

The riparian vegetation includes the following: sycamore (*Platanus wrightii*), cottonwood (*Populus fremontii*), seepwillow (*Baccharis* sp.), and burrobrush (*Hymanocles monogyra*). According to a 1964 survey by C.J. Campbell (as cited in Troxel et al. 1965) of the Rocky Mountain Forest and Range Experiment Station, Tempe, Arizona, the most common species up to 1,200 m (4,000 feet) elevation were mesquite (*Prosopis juliflora*), seepwillow, burrobrush, catclaw (*Acacia greggii*) and desert hackberry (*Celtis pallida*). Ranging from 600–1,800 m (2,000 to 6,000 feet) were sycamore, walnut (*Juglans major*), ash (*Fraxinus velutina*), and netleaf hackberry (*Celtis reticulata*). In the upper reaches and tributaries, buckthorns (*Rhamnus* sp.), Arizona oak (*Quercus arizonica*), Emory oak, ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga mansiessi*) were most common (Troxel et al. 1965).

CAVE CREEK

Cave Creek, Maricopa County, Arizona is a small, semi-permanent stream approximately 48 kilometers (30 miles) north of Phoenix, that lies within the Upper Sonoran life-zone (Fig. 3). The creek runs a length of 16.9 km (10.5 miles) and has a slope gradient of approximately 1.8 percent. A total of 2.4 km (1.5 miles) of the creek passes through private land, with the remainder running through the Tonto National Forest. Historically, Cave Creek emptied into the Salt River drainage, but today its flow terminates at the Arizona Canal. Elevations along Cave Creek range from 1,021 m (3,350 feet) at Seven Springs Campground to 713 m (2,340 feet) at the Forest Service boundary. From the confluence of Cave Creek and Seven Springs Wash, the stream flows through a canyon for approximately 6.4 km (4 miles). This canyon is bordered by the New River Mesa to the west and by Skull Mesa on the east. The geology of the area is composed primarily of volcanic agglomerate (Stout et al. 1970).

The area of Cave Creek has hot summers and cool winters, with a temperature range of 8 C to greater than 35 C. The mean annual precipitation in the Seven Springs area is approximately 50.8 cm (20 inches) and this average decreases progressively downstream (Stout, et al. 1970). The Cave Creek gaging station is located 8 km (5 miles) southwest of the town of Cave Creek.

about 32 km (20 miles) from Ashdale. The annual peak discharge ranged from 0 to $350 \text{ m}^3 \text{ s}^{-1}$ (12,400 cfs) between the years of 1958 to 1989 (USGS 1992 as cited in Stefferud 1992). Monthly mean and maximum discharge for Water Years 1991 and 1992 are shown in Fig. 4.

According to Stout, et al. (1970), vegetation along most of the stream is sycamore, ash, willow (*Salix* spp.), and smaller plants including watercress (*Nasturtium officinale*) and tamarisk (*Tamarix pentandra*).

SILVER CREEK

A literature search failed to produce published information on Silver Creek, Yavapai County, Arizona. Unpublished agency documents describe Silver Creek as a perennial stream, with its headwaters near the Verde Rim from which it flows in a westerly direction roughly 19 km (12 miles) until its confluence with the Agua Fria River (Fig. 6). The final 3.2 km (2 miles) of the stream is subsurface at base flow. The creek's elevation at the confluence with the Agua Fria is about 945 m (3,100 feet) and it rises to an elevation of approximately 1,646 m (5,400 feet) at its source. There are no USGS flow gages on Silver Creek.

Silver Creek originates on the Prescott National Forest and then flows through the Tonto National Forest. The lower reach of Silver Creek occurs on BLM land within the Horseshoe grazing allotment. The stream is interspersed with an often dense overstory canopy of ash, cottonwood, goodings willow, Arizona sycamore, and open sunlit areas. The common understory species include red brome grass (*Bromus rubens*), bulrush (*Scirpus* spp.), seep willow, and Bermuda grass (*Cynodon dactylon*).

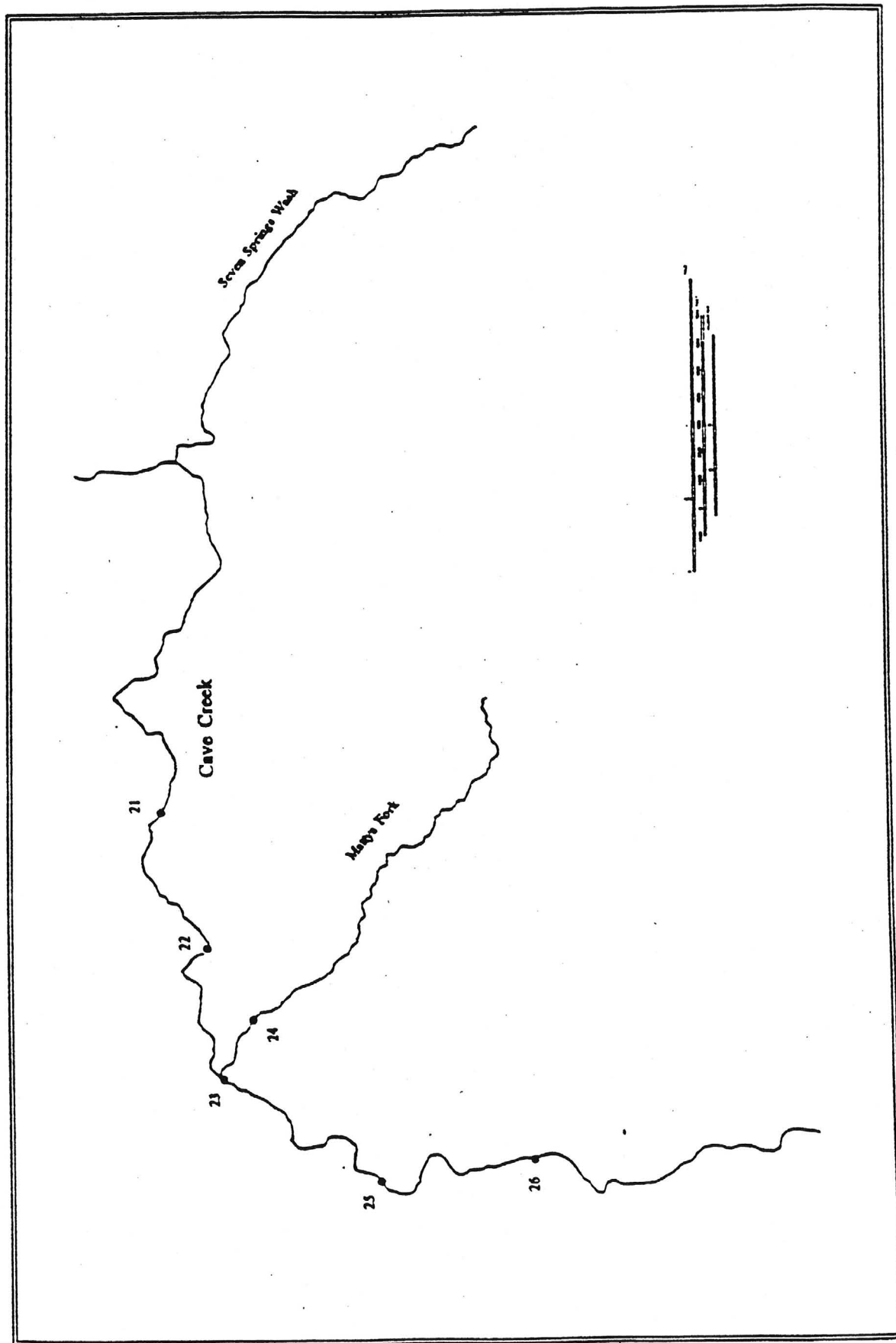


Figure 3. Sketch map of Cave Creek, Maricopa County, Arizona, showing sampling sites and major tributaries.

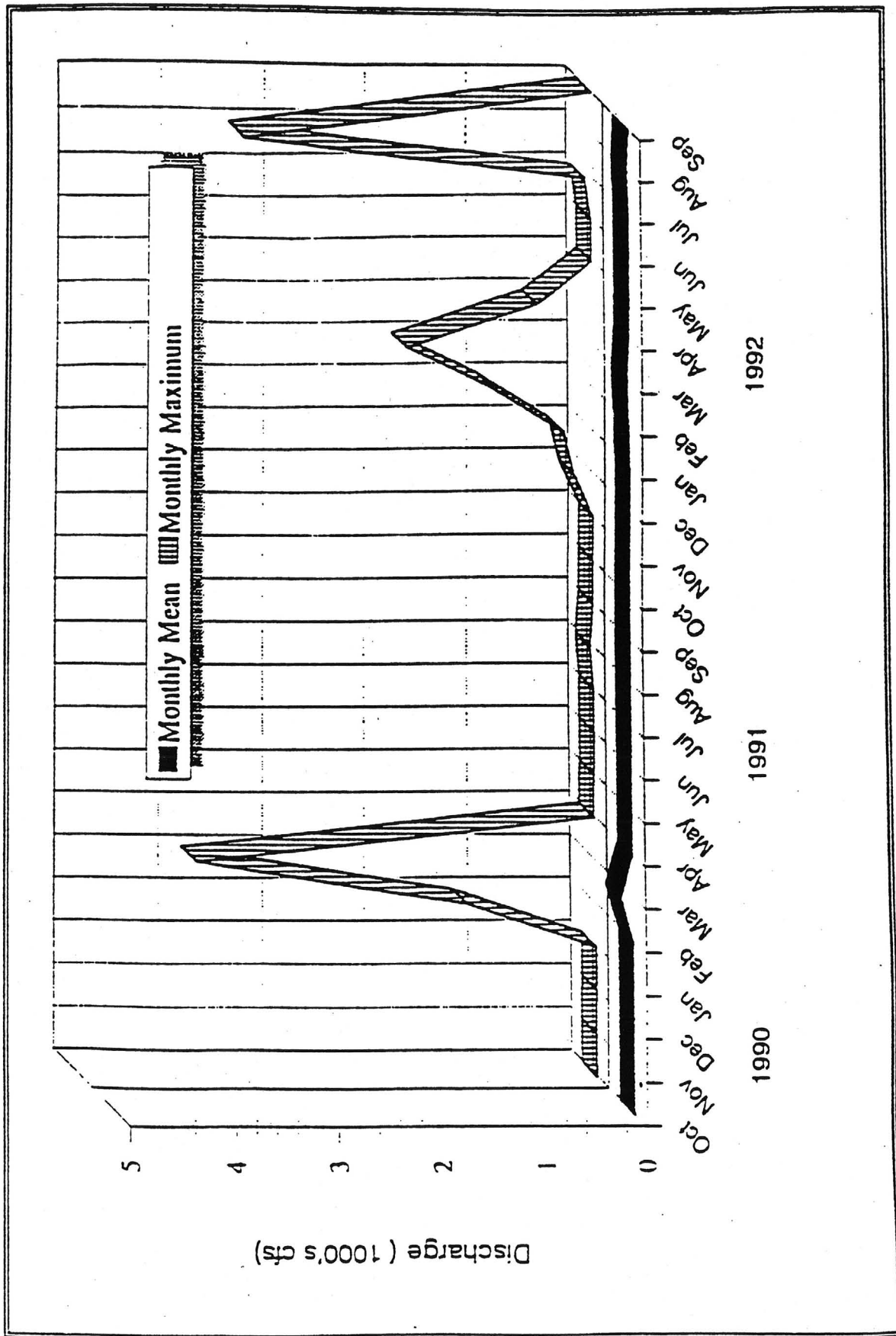


Figure 4. Monthly mean and maximum discharge for Water Years 1991-1992, Cave Creek, Arizona.

CAVE CREEK

The September 1992 fish survey of Cave Creek yielded two native and two nonnative species (Table 5). Native species included longfin dace and Gila topminnow, while nonnative species included fathead minnow and green sunfish.

Overall, longfin dace was the most abundant fish, comprising 83.5 percent of the total fish caught. Longfin dace were recorded at all 6 of the survey sites, and were the most abundant fish at each of the sites, except at site 23, where adult green sunfish predominated (65.1 percent).

Nonnative species were the second and third most abundant species, with fathead minnow comprising 8.4 percent of the total catch and green sunfish 7.8 percent. The endangered Gila topminnow composed 0.4 percent of the total catch and was reported only from a backwater pool and a shallow pool at sites 21 and 22, respectively.

Throughout Cave Creek, adult and juvenile age classes were recorded for all four species and several large schools of unidentified fry were observed. However, reproductive conditions (coloration, tubercles, gametes) were not noted for any of the four species encountered.

There were no discernible trends in overall fish abundance or in species diversity along the study reach. Among the six sites sampled, longfin dace were found predominately in riffles, while fathead minnow and green sunfish were caught predominately in pools (Table 6).

Federally listed species encountered include the Gila topminnow (endangered) and lowland leopard frog (category 2). Lowland leopard frogs were observed at sites 21 and 25, while topminnows were recorded at the two uppermost stream sites. Gila topminnows have been stocked into Seven Springs Wash and Cave Creek several times since the mid 1960s, but floods or other natural events have prevented them from becoming established (Minckley 1969; Minckley and Brooks 1985; Bagley et al. 1991). Surveys conducted as recently as April and August 1991, failed to report Gila topminnow in Cave Creek, although the investigators did not sample below the confluence of Cave Creek and Seven Springs Wash. During these surveys, however, Gila topminnow were found in the springhead and first 20 m (65 feet) of canal at Seven Springs Wash (Brown and Abarca 1992).

As with Sycamore Creek, five museums were queried for historical records of fish caught in Cave Creek. Only ASU, however, had collection records for Cave Creek (Appendix 2). Longfin and speckled dace both appear in the collection records, as do the Gila and roundtail chub (*Gila robusta*). The latter species is interesting since the fisheries literature fails to mention roundtail chub as a species occurring in Cave Creek, and it is likely that this record is an error. Records from the AGFD Nongame Native Fish Database show mosquitofish, in addition to the species encountered during our survey, as occurring in Cave Creek. Mosquitofish were caught during AGFD fish surveys in 1989 and 1990 (Bagley et al. 1991).

Historic fish collections in Cave Creek indicate that only two species were present in the drainage prior to 1971: Gila chub (*Gila intermedia*) and speckled dace. It is possible, although the data are inconclusive, that longfin dace and Gila topminnow, though not reported by early collectors, also inhabited the drainage as they do today (Rinne 1975; Stout 1970). Speckled dace and Gila chub were inadvertently extirpated from the drainage in 1970 and 1971 following a fish renovation of Seven Springs Wash (Stefferd 1992; Rinne 1975).

In summary, the longfin dace is abundant in Cave Creek while the reintroduced Gila topminnow persists in both Cave Creek and Seven Springs Wash. Fishes introduced to Cave Creek include the following: fathead minnow, green sunfish, mosquitofish, and channel catfish (*Ictalurus punctatus*) in Seven Springs Wash (Stefferd 1992). Other than the presence of the green sunfish at the lower end, and the topminnow on the upper, there was little information of note collected during our Cave Creek fish survey.

Habitat and subhabitat data are found in Tables 7 and 8. Within the Cave Creek study site, there were 12 pool subhabitats (85.1 percent of total site volume), 5 riffle subhabitats (3.1 percent), 3 run subhabitats (2.5 percent), 3 hybrid riffle-cascade subhabitats (0.3 percent), and one each of the following hybrid subhabitats: pool-riffle (3.2 percent), pool-run (4.0 percent), and pool-cascade (1.8 percent).

Cave Creek's 6 sample sites averaged a linear distance of 164.5 meters (range: 150-195 m). The dominant riparian vegetation consisted of juniper, mesquite, ash, willow, seep willow, sycamore, and tamarisk. Canopy cover over all 6 sites averaged approximately 22.5 percent thalweg occlusion (range: 5-40 percent). Green algae and instream cover were found throughout the reach and signs of the August flood were apparent along the channel. Water quality parameters were as follows: water temperature range (taken at the beginning of each site): 19-28 C; D.O. range: 1.7-8.5 ppm; and pH range: 7.8-9.1. Throughout the study site macroinvertebrates, crayfish, and mud turtles (*Kinosternon sonoriense*) were abundant. Both lowland leopard and canyon tree frogs (*Hyla arenicolor*) were present.

Human impacts in the area include recreation, grazing, and mining. There are several campgrounds near the Cave Creek-Seven Springs Wash confluence, and roads have been developed by the Forest Service and by public users. There is extensive cattle grazing in the watershed and an irrigation canal at the headspring of Seven Springs Wash diverts roughly 0.05 m³ s⁻¹ (1.8 cfs) to ponds and a private pasture at the Cartwright Ranch along Bronco Creek, a tributary to Cave Creek (Stefferd 1992). During our survey, cattle and cattle sign (track, dung, and clipped vegetation) were locally abundant. Hikers and/or signs of recreation use were frequently encountered. A recreation trail parallels Cave Creek from Seven Springs Wash to Mattys Fork.

This survey was part of a larger study conducted by Tonto National Forest to assess the effects of the Quien Sabe proscribed burn on the Cave Creek Ranger District. However, the winter floods of 1993, which occurred in the interval between the Cave Creek fish surveys, may

complicate the analysis of the Quien Sabe burn on Cave Creek fishes. The burn commenced on June 9-10, 1993 but was terminated due to other large wildfires in the Central Arizona Zone. Surveys of Cave Creek near Ashdale and Seven Springs Wash on May 30, September 29, and October 6, 1993 have failed to yield Gila topminnow (Stefferd, pers. comm.).

Table 5. Cave Creek fish length data (collected between Sept. 9-16, 1992). AGCH = *Agosia chrysogaster*, PIPR = *Pimephales promelas*, POOCOC = *Poeciliopsis o. occidentalis*, LECY = *Lepomis cyanellus*.

Site No.	Species	Total No. (No. > 100mm)	Mean TL* (mm)	Range TL* (mm)	Total Fish Caught
21	PIPR	40	N/A	N/A	269
	AGCH	227	N/A	N/A	
	POOCOC	2	N/A	N/A	
22	AGCH	308	N/A	N/A	323
	PIPR	12	N/A	N/A	
	POOCOC	3	N/A	N/A	
23	AGCH	17	N/A	N/A	64
	LECY	40(9)	151.6	125-190	
	PIPR	7	N/A	N/A	
24	LECY	20(3)	148.3	135-155	60
	AGCH	40	N/A	N/A	
25	LECY	13(3)	127.3	119-141	128
	AGCH	90	N/A	N/A	
	PIPR	25	N/A	N/A	
26	AGCH	445	N/A	N/A	506
	LECY	32(4)	114.7	110-122	
	PIPR	29	N/A	N/A	

* = Total length means and ranges were calculated only for fish greater than 100mm;
 N/A = Not Applicable

Table 6. Cave Creek fish catch data. AGCH = *Agosia chrysogaster*, PIPR = *Pimephales promelas*, POOCOC = *Poeciliopsis o. occidentalis*, LECY = *Lepomis cyanellus*.

Site No.	Species	Total Caught			% of Total	CPUE ⁺
		Run	Riffle	Pool		
21	PIPR	N/A	4	36	14.9	4.0
	AGCH	N/A	126	101	84.4	22.9
	POOCOC	N/A	N/A	2*	0.7	0.2
22	AGCH	N/A	240	68	95.4	48.9
	PIPR	N/A	5	7	3.7	1.9
	POOCOC	N/A	N/A	3	0.9	0.5
23	LECY	27	8	8	65.1	5.4
	PIPR	0	5	1	9.1	0.8
	AGCH	2	15	0	25.8	2.1
24	AGCH	N/A	N/A	40	66.7	6.6
	LECY	N/A	N/A	20	33.3	3.3
25	LECY	7	0	6	10.2	1.0
	AGCH	31	27	32	70.3	7.1
	PIPR	7	1	17	19.5	2.0
26	AGCH	268	135	42	88.8	48.4
	LECY	4	1	27	6.4	3.5
	PIPR	2	4	18	4.8	2.6

N/A = Not Applicable; * = backwater pool; + = fish per minute shocking time

Native Fishes of Sycamore, Cave, and Silver Creeks
Arizona Game and Fish Department Report

June 1994
Page 32

Table 7. Cave Ck. habitat data (collected between Sept. 9-16, 1992).

Site No.	Location	Date ddmmyy Time	Site Length (m)	Active Channel Width (m)	Avg. Wetted Width (m)	Water Temp. (C)	D.O. (ppm)	pH	Cond. (uS)	Dominant Riparian Vegetation	Canopy Cover (%)	Notes
21	7N 4E S12 NW4	110992 1000	162	N/D	9.8	19	7.8	9.1	N/D	JU, ME AS, WI	35	Crayfish & macroinverts abundant, leopard frogs present, algae in pools
22	7N 4E S11 SW4	110992 1155	150	N/D	4.4	22	8.2	9.0	N/D	WI	5	Cattle signs common, crayfish abundant, canyon tree frogs present
23	7N 4E S10 SW4	090992 1605	150	8.5	4.0	28	6.5	8.8	N/D	ME, BA	< 10	Clear water, high (7m) cliffs along stream, signs of recent high water flows
24	7N 4E S15 NW4	090992 1520	150	1.0	1.0	23	1.7	7.9	N/D	WI, SY JU	40	Crayfish & macroinverts common, Sonoran mudturtle, cattle signs (tracks/dung) abundant
25	7N 4E S21 NE4	160992 1330	195	N/D	2.7	27	5.2	7.8	N/D	WI, TA	N/D	Leopard frog
26	7N 4E S28 NE4	160992 1045	180	N/D	4	28	8.5	8.4	N/D	TA, WI ME	N/D	Green algae & emergent vegetation

SY=SYCAMORE, OA=OAK, AS=ASH, JU=JUNIPER, GR=GRASS, CO=COTTONWOOD, TA=TAMARISK, WI=WILLOW, AL=ALDER, PH=PHRAGMITES, ME=MESQUITE, BA=BACCHARIS; N/A=NOT APPLICABLE; N/D=NOT DETERMINED

September 21, 1989

Francene Kokaska
1851 E. Ocotillo Rd.
Phoenix, AZ 85016

Dear Fran:

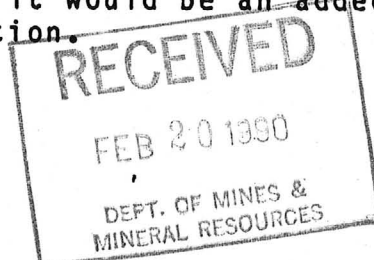
In addition to the work that Fred Johnson did on your claims for his report, my geologist, Kent Miller, and I spent considerable time on the property reviewing his work and trying to add some additional information.

In our reconnaissance, we found the quartzite dike that occurs at the spring projects eastward almost to the creek bottom. This dike shows a fair amount of pyrite and probably should be sampled. The dike does not show in the pit itself.

The original mineralized zone contained a considerable amount of earthy, hematitic schist. We found an earthy schist zone on the southeast side of Cave Creek. However, we have not established any relationship.

Fred cut several samples, the best of which shows 0.368 ounces of gold per ton in the bottom of the pit. This area should be examined further. The location of this sample is approximately 25 feet below the old adit level and about 100 feet east of the portal. The andesite dike in the north wall of the pit should be examined further. The assay of this sample was interesting with 0.045 ounces of gold per ton.

I am in agreement with Fred Johnson about the possibility of developing additional ore on the property. However, if it could be shown that the tailings still contained a considerable amount of gold it would be an added inducement for a company to do some exploration.



Francene Kokaska
Page -2-
September 21, 1989

Thank you for asking us to assist on this project. If you have any questions, please call me.

My statement is enclosed.

Sincerely,

Harvey W. Smith, E.M.
President

HS/hm
Enclosure

GEOLOGICAL INVESTIGATION
Francene Kokaska Property
Silver Cross Mine
Maricopa County, Arizona

Fred M. Johnson
Geologist

August 21, 1989

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Location Map

Introduction

Conclusions and Recommendations

Property, Location and Access

Geology

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Past Production and Potential

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Geologic Map Pit Area

INTRODUCTION

During the months of July and August 1989, a geological investigation was made of the Francene Kokaska Mining Property-Silver Cross Mine, located in Cave Creek, Cave Creek Mining District, Maricopa County, Arizona. The purpose of the investigation was to outline exploration targets which, if pursued, will hopefully lead to the discovery of economic, low grade-bulk tonnage, lode gold mineralization. The investigation was performed at the request of Del Tierra Engineering, Scottsdale, Arizona.

CONCLUSIONS AND RECOMMENDATIONS

- 1) It appears that the Francene Kokaska property has potential for the discovery of economic, low-grade, bulk-tonnage, gold mineralization.
- 2) It is recommended that the mineralized zone in the south wall of the pit be mapped in detail on a scale of 1"=20' to determine width and southern limits of the zone.
- 3) It is recommended that 4 vertical rotary drill holes of 360' each be drilled 50' south of the mineralized zone and spaced 100' apart. If results are positive, this can be the basis for detailed drilling to prove reserves.

PROPERTY, LOCATION AND ACCESS

The Francene Kokaska property consists of one patented and 99 unpatented mining claims held by Ms. Francene Kokaska. The claims are located in portions of Sections 20,21,22,27,28,29, 31,32 and 33, T7N, R4E, G.&S.R.P.M., Cave Creek Mining District,

Maricopa County, Arizona. The claims lie along Cave Creek, approximately 6 miles north of the Town of Cave Creek and are accessible via 3½ miles of improved road and 2½ miles of unimproved dirt road.

GEOLOGY

The oldest rocks exposed in the area of investigation are metasedimentary and metavolcanic schists of Precambrian age. The schists outcropped at lower elevations along Cave Creek. Foliation generally strikes NE-SW to ENE-WSW and varies in dip from 82°SE to 80°NW.

The schists are capped at higher elevations by basaltic flows of Quaternary age. The basalts are dark gray, weathering to black, and are generally vesicular.

Quaternary alluvium fills the Cave Creek Valley floor as well as the tributary drainages. Quaternary colluvium covers much of the gentler slopes, obscuring contacts and the extensions of structures exposed in past mining. See Geologic Map.

Structure:

Numerous subparallel quartz veinlets and stringers, spaced 10' to 15' apart, occur in the schist, on the central portion of the claim group along the south wall of the pit. These form a zone more than 40' wide which strikes approximately N50°E and dips 67° to 86°SE. These structures vary in width from less than 0.1' to 0.6' and are interspersed in hematite stained schist. The zone is exposed for more than 400'.

An andesite dike, approximately 2.5' in width, outcrops

in the north wall of the pit, strikes N80°E and dips 84°SE. See Geologic Map Pit Area.

Mineralization:

Observed mineralization consists of quartz filling in the zone along the south pit wall, hematite coating on the schist foliation and in thin stringers, and minor blue copper oxides in the andesitic dike.

The quartz, which is limonite stained and varies from opaque to white, does not appear to carry the anomalous gold values. Separate quartz samples did not yield anomalous assays. No gold was observed and it is reported that gold is micron-size. It is possible that gold is associated with hematite.

PAST PRODUCTION AND POTENTIAL

Amca Resources (Canada) operated the Silver Cross property as a surface mining operation from 1986-1988(?), producing from a surface pit and leaching by cyanide from a crushed mine product. Heads were reported at .14 ounces Au per ton. Production records were not available. Leach recovery was reported to be 70%-80%.

It appears at first observation that the pit was started at the surface outcrop of the mineralized zone which now appears in the south pit wall. As mining progressed downward, mineralization dipped southeasterly away from the pit, possibly leaving the pit in low-grade or barren rock. The lower part of the pit was filled with mud and water at the time of investigation and could not be sampled.

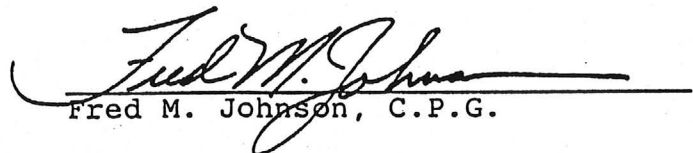
It appears that there is potential for the discovery of

economic, low-grade, bulk tonnage gold mineralization south of the present pit.

PROPOSED EXPLORATION

- 1) It is proposed that the mineralized zone along the south wall of the pit be mapped in detail (1"=20") to determine the southern limit of mineralization.
- 2) It is proposed that 4 vertical rotary (reverse circulation) holes of 360' each be drilled in a line parallel to and 50' south of the mineralized zone. Holes should be spaced 100' apart and will intersect the mineralized zone approximately 200' down dip.
- 3) If results of drilling are positive, an indicated block of 480,000 tons will have been established which can be the basis for detailed drilling to prove reserves.
- 4) It is recommended that if such reserves be proved, that bulk sampling and metallurgical testing be performed. It is further recommended that any pit design or mining method be done by a professional mining engineer.

See Geologic Map Pit Area and Section-proposed drilling for proposed hole locations.

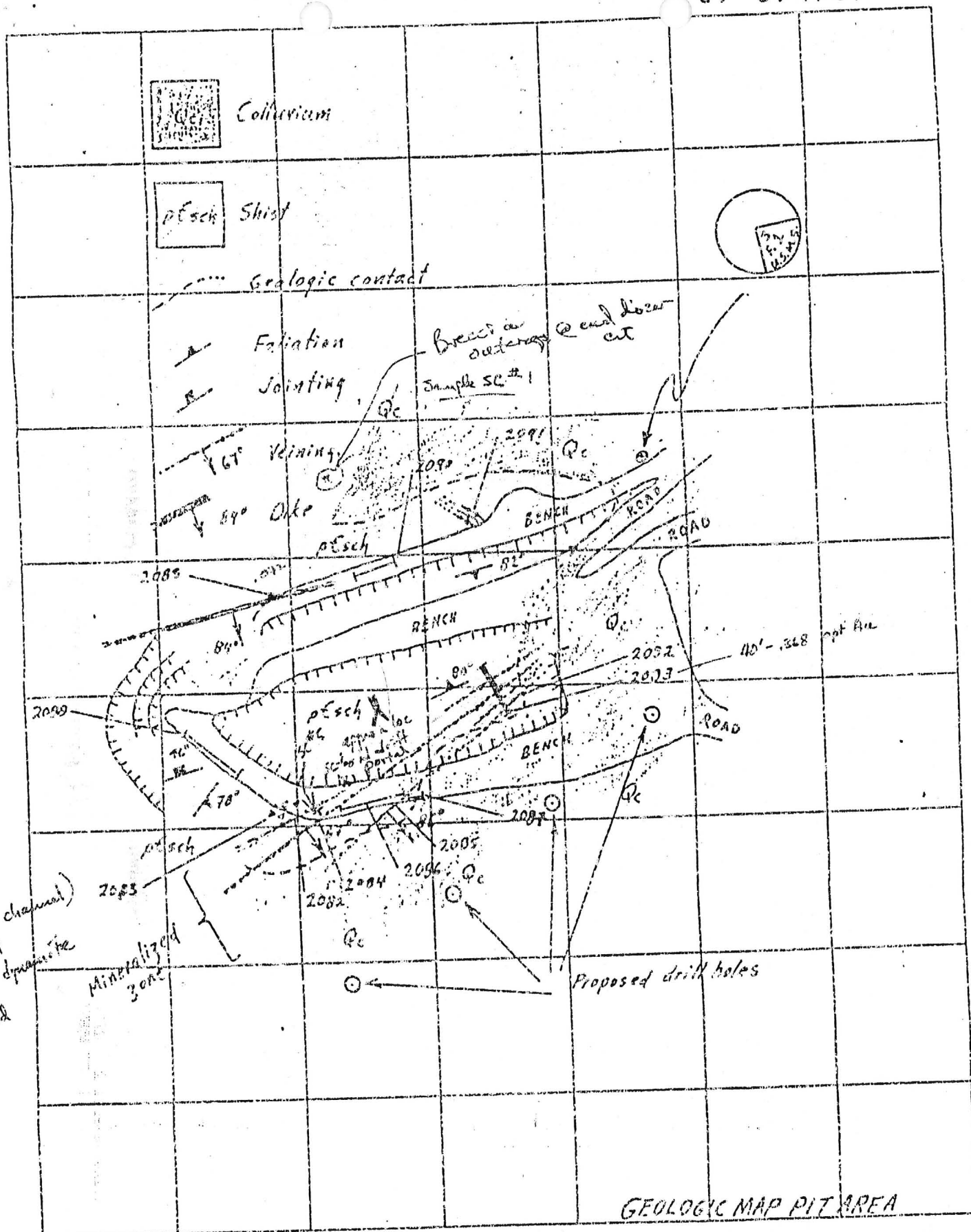

Fred M. Johnson, C.P.G.

ASSAYS*

<u>no.</u>	<u>wd.</u>	<u>Au</u>	<u>Ag</u>	<u>Description**</u>
2082	0.6'	.001	<.05	quartz
2083	5.0'	Tr	<.05	schist breccia
2084	1.6'	Tr	<.05	fault
2085	0.2'	Tr	<.05	schist
2086	50.0'	Tr	<.05	schist
2087	17.0'	.001	<.05	schist
2088	50.0'	.001	<.05	schist
2089	2.5'	.042	<.05	dike
2090	30.0'	Tr	<.05	schist
2091	7.5'	.002	<.05	schist, hematite
2092	0.6'	Tr	<.05	quartz
2093	40.0'	.368	.20	schist, hem., qtz.
2094	0.5'	.001	.10	quartz

* troy ounces per short ton.

** see Geologic Map Pit Area



Silver Cross
MINE Francisco Kokasho Claims LOCATION Maricopa County, Arizona LEVEL Surface ELEV. _____
GEOLOGY BY F.M.J. SURVEY Tape and Brunton SCALE 1"=100' DATE Aug. 1929

Consulting Consultant

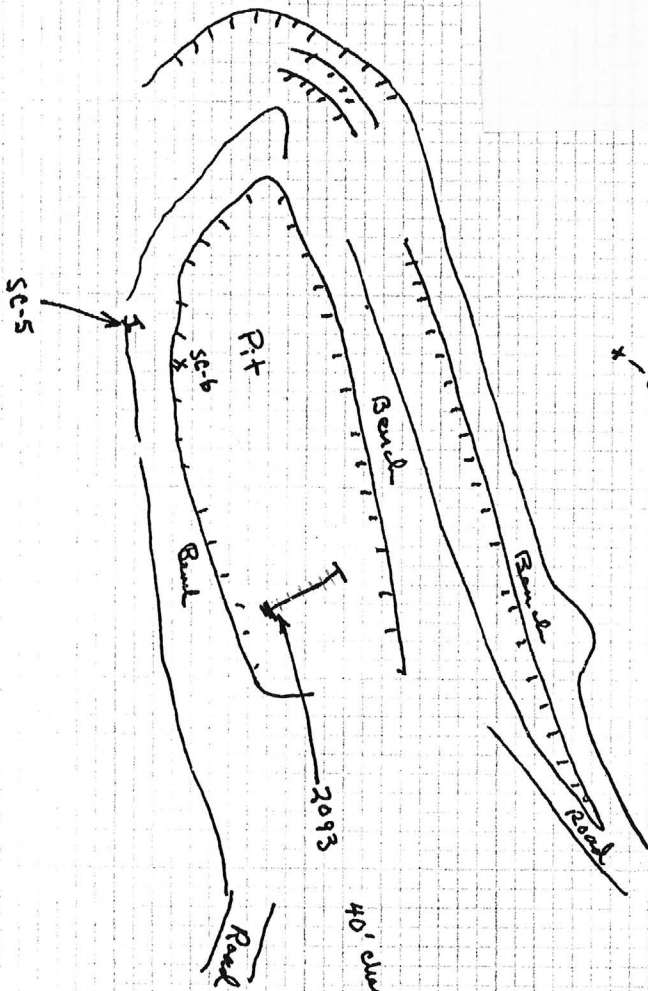
2/16/90

Nyal-

The samples which we collected on this prospect were totally blank for Au. The 7 taken on 2093 were checked at Bondar Clegg and confirmed the Cone Lab results.

I look forward to a visit soon.

Best regards,
Milt



* SC-1

* SC-1

SC-2

SC-4
SC-3
x
x

40' diameter - 368 opt Au (Johnson)
(m.c.)
Bench

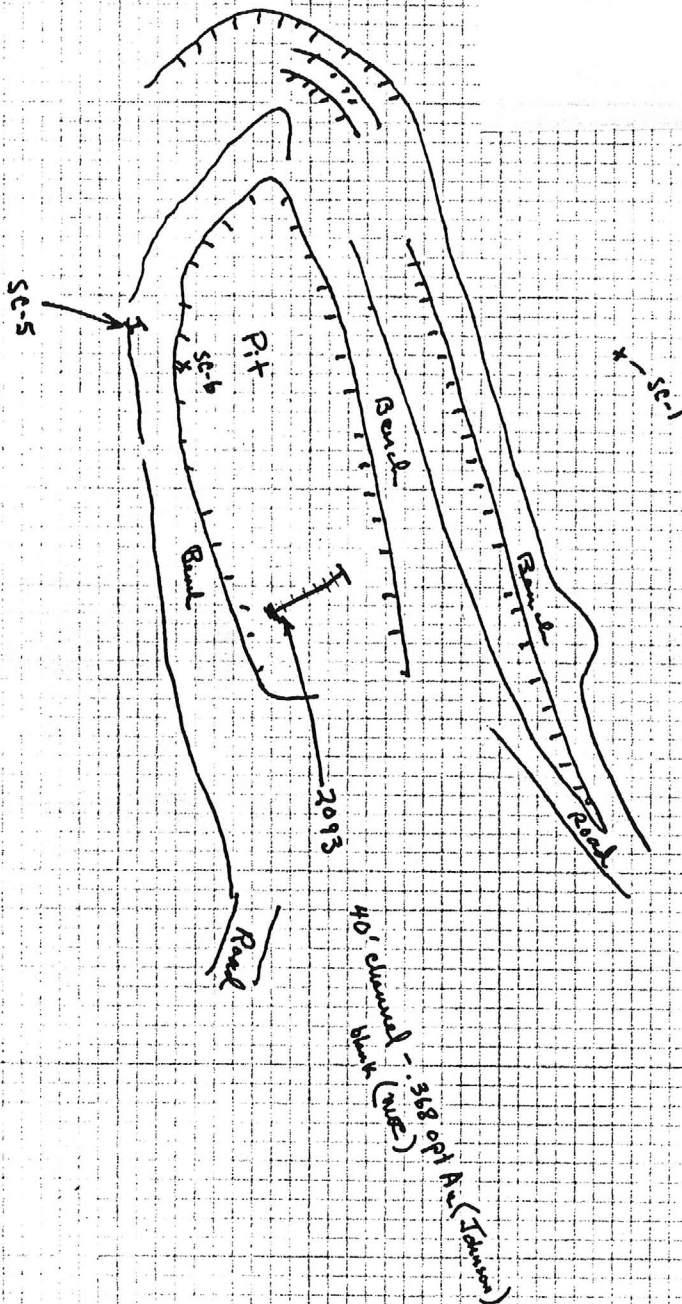
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Best regards,
Mitt



Milton O. Childers
Consulting Geologist

1621 18th Street - Suite 470
Denver, Colo. 80202
(303) 298-8902

SC-2

SC-4
SC-3

Silver Cross Property
Cave Creek area Az
**FIRE ASSAY
 REPORT**

Job 90-0063
 25-Jan-90
 Page 1

Milton O. Childers
 Nova Natural Resources Grp.
 1621 18th St., Ste. 470
 Denver, CO 80202

PO #
 PROJECT

SAMPLE NUMBER	OZ/TON GOLD	OZ/TON SILVER
SC-1	<.005	<.05
SC-2	<.005	<.05
SC-3	<.005	<.05
SC-4	<.005	<.05
SC-5	<.005	<.05
SC-6	<.005	<.05
SC-7	<.005	<.05
2093- 5	<.005	0.50
2093-10	<.005	0.06
2093-15	<.005	<.05
2093-20	<.005	<.05
2093-25	<.005	<.05
2093-30	<.005	<.05
2093-35	<.005	0.08

5' channel samples taken on
 the 2093 zone by M.R.

METHOD

1 AT 1 AT

Steve Cone
 Steve Cone, General Manager

SILVER CROSS
F.I.E



THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

Form 12

Securities Act

Date Accepted
For Filing May 10, 1979

SUPERINTENDENT OF BROKERS
AND
VANCOUVER STOCK EXCHANGE
VANCOUVER CURB EXCHANGE

STATEMENT OF MATERIAL FACTS

VANCOUVER CURB EXCHANGE

Name of Exchange

AMCA INDUSTRIES LTD.

Name of Issuer

105 Fell Avenue, North Vancouver, B.C.

Address of Head Office of Issuer

1620-701 West Georgia Street, Vancouver, B.C.

Address of Registered Office of Issuer

1620-701 West Georgia Street, Vancouver, B.C.

Address of Records Office (Section 38 -- Companies Act)
GUARANTY TRUST COMPANY OF CANADA
800 West Pender Street
Vancouver, B.C.

Name & address of Registrar & Transfer Agent
for Issuer's shares in British Columbia.

Neither the Superintendent of Brokers nor the Vancouver Stock Exchange/Vancouver Curb Exchange has in any way passed upon the merits of the securities offered hereunder and any representation to the contrary is an offence.

ITEM 1 - DETAILS OF THE CIRCUMSTANCES RELATING TO THE OFFERING OF SECURITIES

Amca Industries Ltd. (hereinafter referred to as the "Issuer") has entered into an Underwriting Agreement dated March 21, 1979 with West Coast Securities Ltd., of 511-837 West Hastings Street, Vancouver, British Columbia (hereinafter referred to as the "Underwriter") pursuant to which the Underwriter agreed to purchase 200,000 shares at 50¢ per share payable within five (5) business days of acceptance of the said agreement and Statement of Material Facts by the Vancouver Curb Exchange and the Superintendent of Brokers (hereinafter referred to as the "Effective Date"). In consideration of the purchase of the aforementioned shares, the Issuer has granted the Underwriter an option to purchase 100,000 shares at 60¢ per share, exercisable within 90 days from the Effective Date. The net proceeds from the firm portion of the underwriting will be \$100,000. If the option is exercised, then the net proceeds of the offering will be \$160,000.00. The shares underwritten and acquired under option will be distributed to the public through the facilities of the Vancouver Curb Exchange at market prices from time to time prevailing. There are no sub-underwriting agreements. To the knowledge of the signatories hereto, only the contracting underwriter has any interest, direct or indirect, in the underwritten and optioned shares.

The Directors and Insiders of the Issuer may purchase shares from this offering.

The Underwriter may be considered the market maker of the shares of the Issuer during the period of primary distribution, of the shares offered pursuant to this Statement of Material Facts

and may, subject to the by-laws of the Vancouver Stock Exchange, make purchases and sales of the shares of the Issuer for the purpose of maintaining an orderly market for the shares of the Issuer for assisting in the distribution of the offered shares. The Underwriter controls no shares of the Issuer other than those offered hereunder. To the knowledge of the signatories hereto, there is no other market maker.

The beneficial shareholders of West Coast Securities Ltd holding more than 5% of the issued shares are:

<u>Name & Address</u>	<u>Number & Class</u>	<u>Percentage Held</u>
James D. Thomas 511-837 W. Hastings Vancouver, B.C.	849 Common	84.9%
Robert Devente 511-837 W. Hastings Vancouver, B.C.	100 Common	10%

The range of the market price of the shares of the Issuer and the volume of sales for each of the four weeks immediately preceding the date of acceptance of this Statement of Material Facts on the Vancouver Curb Exchange, the only exchange on which the shares of the Issuer trade, is as follows:

<u>Week</u>	<u>Market Range</u>	<u>Volume</u>
April 9 - 12, 1979	54¢ - 51¢	16,000
Apr. 16 - 20, 1979	55¢ - 53¢	13,500
Apr. 23 - 27, 1979	54¢ - 53¢	8,000
Apr. 30 - May 4, 1979	54¢ - 51¢	7,000

The closing bid price for the shares of the Issuer on the last trading day prior to the date of the acceptance of this Statement of Material Facts was 52¢ per share and therefore, the underwritten shares are being purchased at a discount of 2¢ per share from that price.

The promoters, directors, officers and other insiders of the Issuer beneficially own as a group, directly and indirectly, 74,500 shares of the Issuer, representing 4.6 % of the presently issued shares of the Issuer.

ITEM 2 - PARTICULARS CONTRIBUTING TO THE SPECULATIVE NATURE OF
THE SECURITIES BEING OFFERED

The shares of the Issuer must be considered speculative securities, as the Issuer's property is without a known body of commercial ore, and the proposed program is an exploratory search for ore. The Issuer's mineral claims have not been surveyed; therefore, in accordance with the mining laws of the jurisdiction in which they are situate, their existence and area could be in doubt.

ITEM 3 - DETAILS OF ANY MATERIAL CHANGES OR PROPOSED MATERIAL
CHANGES IN THE AFFAIRS OF THE ISSUER

There have been no material changes in the affairs of the Issuer since the filing of the Issuer's Filing Statement dated January 12, 1979.

ITEM 4 - PROCEEDS DERIVED FROM THE SALE OF THE SHARES OFFERED
HEREUNDER

The proceeds of the firm underwriting will be used, in the order of priority, as follows:

1. Payment of accounts payable	\$10,789.00
2. Program of exploration on the Silver Cross Property as recommended by Dr. W. D. Groves, P. Eng., in his report dated March 6, 1979, a copy of which is attached hereto and forms part of this Statement of Material Facts	\$70,000.00
3. General corporate purposes and administration	\$19,211.00
<hr/>	
TOTAL:	\$100,000.00

None of the proceeds derived from the sale of the optioned shares will be spent on the acquisition or development of any properties without filing with the Vancouver Curb Exchange a full and up-to-date engineer's report recommending such work or acquisition acceptable to the Vancouver Curb Exchange.

ITEM 5 - THE FULL NAME, HOME ADDRESS AND CHIEF OCCUPATION, THE NUMBER OF SHARES OF THE ISSUER BENEFICIALLY OWNED, DIRECTLY OR INDIRECTLY, BY EACH SENIOR OFFICER OR DIRECTOR OF THE ISSUER AND IF EMPLOYED DURING THE PAST FIVE YEARS, THE NAME OF EACH EMPLOYER

<u>Name & Address</u>	<u>Chief Occupation</u>	<u>Number of Shares of Issuer Beneficially Owned</u>
Constantine Dean Dricos 3827 Bayridge West Vancouver, B.C. <u>President & Director</u>	Branch Manager of Pitt Steel (B.C.) Limited, 1031 Cliveden Ave., Annacis Industrial Estates, New Westminster, B.C.	22,000

<u>Name & Address</u>	<u>Chief Occupation</u>	<u>Number of Shares of Issuer Bene- ficially Owned</u>
Demetrios John Babalos 1211 Silverwood Cresc. N. Vancouver, B.C. <u>Director & Secretary/ Treasurer</u>	Construction manage- ment, Ikor Construction Ltd., North Vancouver, Jan. 2, 1979 to present; July, 1977 to Jan. 1, 1979, Managing Director, Sonitrol Security (B.C.) Ltd., Vancouver, B.C.	19,000
Kenneth Arthur Robinson 1457 Moody Avenue N. Vancouver, B.C. <u>Director</u>	Purchasing Agent for Inlet Metal & Machining Company Limited, 105 Fell Ave., N. Vancouver, B.C.	29,500
Frederick August McGonigle 307-6340 Buswell Richmond, B.C. <u>Director</u>	Independent Mining Engineer	4,000

ITEM 6 - PARTICULARS OF THE CORPORATE STANDING OF THE ISSUER

The Issuer was incorporated in British Columbia by Memorandum of Association as a specially-limited company under the name Glenlyon Mines Ltd. (Non-Personal Liability) on Feb. 24, 1966. The Issuer converted from a specially limited company to a limited company and changed its name to Amca Industries Ltd. on January 18, 1974. The last annual report was filed with the Registrar of Companies on February 24th , 1978.

All filings required to be made by the Issuer under the Securities Act and the Companies Act of British Columbia are up to date.

The latest audited financial statements placed before the last annual general meeting of shareholders of the Issuer held Dec. 21st, 1978 were prepared as of August 31, 1978.

The Issuer is primarily engaged in the business of acquiring and developing natural resource properties.

ITEM 7 - THE AUTHORIZED AND ISSUED SHARE CAPITAL OF THE ISSUER

The authorized capital of the Issuer consists of 9,881,000 shares without par value, of which 1,634,933 shares have been issued as fully paid. There are no conversion rights, no special liquidation rights, no pre-emptory rights, nor subscription rights attached to the shares of the Issuer.

The shares of the Issuer were consolidated 1:5 on Jan. 18, 1974. The Issuer's Registrar and Transfer Agent holds 286,014 shares of Glenlyon Mines Ltd. (Non-Personal Liability) pending exchange.

ITEM 8 - THE PRICES AT WHICH SECURITIES OF THE ISSUER HAVE
BEEN ISSUED DURING THE PAST YEAR

During the past year, the following shares were issued:

- a) 130,000 shares were sold to the public for net cash proceeds of \$119,427.87 in August and September, 1978;
- b) On Dec. 28, 1978, C. Dean Dricos, Kenneth A. Robinson and Demetrios Babalos each exercised their options pursuant to agreements dated Jan. 26, 1978 to purchase 12,000 shares in the capital of the Company at 35¢ per share;
- c) On Jan. 12, 1979, 25,000 shares in the capital of the Company were issued to Mustang Ventures Ltd. of 503-509 Richard St., Vancouver, B.C. at a deemed consideration of 51¢ per share pursuant to an agreement dated Nov. 8, 1978 for the acquisition of an interest in the Silver Cross Property;
- d) 37,500 shares were issued on May 25, 1978 at a deemed consideration of 80¢ per share to Albert W. Applegath, of 59 Marowyne Dr., Willowdale, Ontario (as to 75%) and Dr. William Samis, of 1849 Yonge St., Toronto, Ontario (as to 25%) as part consideration for acquisition of the Judy group of mineral claims;
- e) The second instalment of 37,500 shares were issued on Feb. 8, 1979 at a deemed consideration of 45¢ per share to Albert Applegath (as to 75%) and Dr. William Samis (as to 25%) with respect to the acquisition of the Judy group of mineral claims.

ITEM 9 - PARTICULARS OF ANY BONDS, DEBENTURES, NOTES, MORTGAGES,
CHARGES, LIENS OR HYPOTHECATIONS OF THE ISSUER

There are no bonds, debentures, notes, mortgages, charges, liens or hypothecations outstanding against the Issuer.

ITEM 10 - PARTICULARS OF IMPORTANT PROPERTIES PRESENTLY OWNED,
LEASED, HELD UNDER OPTION, OR OPERATED BY THE ISSUER
OR ANY SUBSIDIARY THEREOF OR PROPOSED TO BE OWNED,
LEASED, HELD UNDER OPTION OR OPERATED BY THE ISSUER
OR ANY SUBSIDIARY THEREOF

SILVER CROSS PROPERTY, MARICOPA COUNTY, ARIZONA

Pursuant to an agreement dated Nov. 8, 1978 between the Issuer and Mustang Ventures Ltd. ("Mustang"), the Issuer acquired an option to acquire all the interest of Mustang in

an option agreement dated Oct. 20, 1978 between Weaco Exploration Co. ("Weaco") which in turn granted an option to acquire a further option agreement dated Aug. 18, 1978 (as amended by an agreement dated Aug. 28, 1978) between Francene Kokaska as Owner and Weaco as Lessee.

During the past year, the Issuer spent \$27,366.00 on geological mapping and advances for diamond drilling on the property. The Issuer has not received any assay results from the property.

The Issuer plans to carry out the recommendations of Dr. William D. Groves, P. Eng. in his report dated March 6, 1979, a copy of which is attached hereto and forms part of this Statement of Material Facts.

ITEM 11 - PARTICULARS OF THE COST OF PROPERTIES ACQUIRED BY THE ISSUER OR ANY SUBSIDIARY THEREOF WITHIN THE PAST THREE YEARS OR PORPOSED TO BE ACQUIRED BY THE ISSUER OR ANY SUBSIDIARY THEREOF

SILVER CROSS PROPERTY, MARICOPA COUNTY, ARIZONA

Pursuant to an agreement dated Nov. 8, 1978, between the Issuer and Mustang Ventures Ltd. ("Mustang") of 503, 509 Richards St., Vancouver, B.C. (hereinafter called the "Mustang Option"), the Issuer acquired an option to acquire all the interest of Mustang in an option agreement dated Oct. 20, 1978 between Weaco Exploration Co., of 34 West Monroe, Suite 513, Phoenix, Arizona (hereinafter called the "Weaco Option") which in turn granted an option to acquire a further option agreement dated Aug. 18, 1978 (as amended by an agreement dated Aug. 28, 1978) between Francene Kokaska, ("Kokaska") of 6801 North 18th

Place, Phoenix, Arizona, as Owner, and Weaco as Lessee (hereinafter called the "Kokaska Option").

Pursuant to the Mustang Option, the Company agreed to issue 100,000 shares of its capital to Mustang, with 25,000 of such shares to be issued on acceptance of the agreement by the Vancouver Stock Exchange (these shares have been issued), and the balance of 75,000 shares to be issued in three equal instalments every 90 days, subject to the prior filing of satisfactory engineering reports with the Vancouver Curb Exchange.

In addition, the Company has paid \$20,000 to Mustang, which will be paid by Mustang to Weaco, pursuant to the Weaco Option.

Pursuant to these options, Kokaska is to receive a 5% royalty on the gross values of all the minerals extracted and sold from the property on the first \$1,000,000 gross income. On any gross income in excess of \$1,000,000, a 5% royalty will be paid on the net smelter and net bullion returns until a total of \$1,500,000 in royalties has been paid to Kokaska. Advance royalties to Kokaska are as follows:

- a) \$10,000 on Nov. 10, 1978 (which is to be paid by Weaco from the \$20,000 received by it) (this sum has been paid);
- b) \$10,000 by August 15, 1979;
- c) \$50,000 by August 15, 1980;
- d) \$100,000 by August 15, 1981;
- e) \$100,000 by August 15, 1983;
- f) \$100,000 by August 15, 1985;

Weaco shall receive a royalty of 2% of all production from the Silver Cross property until Kokaska is paid out (a total of \$1,500,000), so total royalties on the first \$1,500,000 paid out to Kokaska and Weaco are 7%. After the Kokaska option has been paid out, Weaco is to receive a 5% royalty until it has received a total of \$3,500,000. so total royalties on the next \$3,500,000 are a total of 5%.

Advance royalties to Weaco are: \$10,000 on Nov. 5, 1978 (which has been paid), and \$500.00 a month commencing Jan. 30, 1979.

The Issuer is responsible for all payments pursuant to the Kokaska and Weaco options.

The option is exercisable up to Sept. 1, 1978.

The direct cost to Mustang of the property was \$5,000.00.
The greater than 10% shareholders of Weaco and Mustang are as follows:

Weaco: Gerald Weathers, 3928 Meadowbrooke Ave., Phoenix, Arizona
Steve Radvak, 3161 Westmount Pl., W. Vancouver, B.C.
Archie Bell, 1050 Davie St., Vancouver, B.C.
Bernard O. Brynelsen, 1962 Knox St., Vancouver, B.C.

Each of these individuals owns 25% of the shares of Weaco.

Mustang:

Charles Martin, 503, 509 Richards St., Vancouver, B.C. is the sole shareholder of Mustang.

JUDY 1 - 24 CLAIMS, LINCOLN COUNTY, NEVADA

By an agreement (hereinafter called the "Assignment Agreement") dated January 16, 1978 between Albert W. Applegath of 59 Marowyn Drive, Willowdale, Ontario and Dr. William Samis of 1849 Yonge St., Toronto, Ontario as Assignors and the Issuer as Assignee, the Issuer acquired an assignment of the Assignors' right to acquire a 100% interest in those unpatented lode

mining claims known as Judy 1-24, situate in Lincoln County, Nevada, 130 miles north of Las Vegas, as contained in an agreement (hereinafter called the "Meyers Agreement") dated Aug. 30, 1977 between Karl F. Meyers of 4008 Carlisle Blvd. N.E., Albuquerque, New Mexico as owner and Albert Applegath.

Pursuant to the Meyers Agreement, the Issuer was to make the following payments to Karl F. Meyers to maintain its option to acquire the Judy claims in good standing:

- a) \$10,000 on execution (which was paid); and
- b) \$10,000 on the 30th days of September, 1978, 1979 and 1980; and
- c) 5% of value of the yellow cake (U_3O_8) in concentrate) produced from the claims; and
- d) 10% of the value of any other ores produced from the claims.

The Issuer was also to do all assessment work on the claims so long as it maintained the agreement in good standing.

Pursuant to the Assignment Agreement, the Issuer was to make the following payments and issue the following shares to Albert W. Applegath as to 75% and to Dr. William Samis as to 25%:

- a) \$5,000 upon acceptance for filing of the Issuer's Statement of Material Facts dated Jan. 26, 1978 (which was paid);
- b) issue of 150,000 shares of the Issuer in equal quarterly instalments, the first instalment to be issued within 90 days of the acceptance for filing of the above Statement of Material Facts (which instalment was issued), and the remaining instalments to be issued every 90 days thereafter subject always

to the prior filing of satisfactory engineers' reports with the Vancouver Curb Exchange and the Superintendent of Brokers. (The second instalment of shares was issued on Feb. 8, 1979). If the Issuer failed to issue any of the quarterly instalments, its right to the claims would revert to Messrs. Applegath and Samis; and

c) 2% of the value of the yellow cake produced from the claims.

The cost of acquisition of the property to Karl F. Meyers was \$2,900.00

During the past year, the Issuer spent approximately \$73,796.00 on percussion drilling and mapping on the Judy claims, the results of which resulted in the Issuer's decision to terminate the January 16, 1978 agreement.

ITEM 12 - THE NAME AND ADDRESS OF ANY PERSON OR COMPANY WHO OR THAT IS OR HAS BEEN A PROMOTER OF THE ISSUER WITHIN THE PRECEDING TWO YEARS AND THE NATURE AND AMOUNT OF ANYTHING OF VALUE RECEIVED OR TO BE RECEIVED FROM THE ISSUER

The directors of the Issuer - Constantine Dean Dricos, of 3827 Bayridge St., West Vancouver, B.C.; Demetrios John Babalos, of 1121 Silverwood Crescent, N. Vancouver, B.C.; Kenneth Arthur Robinson, of 1457 Moody Ave., N. Vancouver, B.C.; and Frederick August McGonigle, of 307-6340 Buswell St., Richmond, B.C. - may be considered the Issuer's promoters. During the past year, Constantine Dean Dricos, Demetrios John Babalos and Kenneth Arthur Robinson were each granted an option to purchase 12,000 shares

in the capital of the Issuer at a price of 35¢ per share, which was exercisable at any time from January 1, 1978 to Dec. 31, 1978. All of these options were exercised. Frederick August McGonigle and William Turecki, a former director of the Issuer, were each granted an option to purchase 12,000 shares of the capital of the Issuer at a price of 80¢ per share, exercisable at any time from May 1, 1978 to Feb. 28, 1979. Mr. Turecki ceased to be a director of the Issuer before expiration of the option; Mr. McGonigle did not exercise his option.

Pursuant to agreements dated the 29th day of December, 1978, Constantine Dean Dricos, Demetrios John Babalos, and Kenneth Arthur Robinson were granted options to purchase 18,000 shares each in the capital of the Issuer at a price of 55¢ per share, exercisable at any time from Jan. 1, 1979 to Dec. 31, 1979.

Pursuant to an agreement dated March 1, 1979, Frederick August McGonigle was granted an option to purchase 18,000 shares in the capital of the Issuer at a price of 50¢ per share, exercisable at any time from March 1, 1979 to Feb. 29, 1980. This option is subject to the approval of the Vancouver Curb Exchange and the issuance of a Determination pursuant to Section 56 of the Securities Act of B.C. by the Superintendent of Brokers.

ITEM 13 - THE NUMBER OF THE SHARES OF THE ISSUER HELD IN ESCROW
OR IN POOL AND A BRIEF STATEMENT OF THE TERMS OF THE
ESCROW OR POOLING AGREEMENTS

There are no shares held in escrow or in pool.

ITEM 14 - THE NUMBER OF EQUITY SHARES OF THE ISSUER OWNED BENEFICIALLY, DIRECTLY OR INDIRECTLY, BY EACH PERSON OR COMPANY WHO OWNS, OR IS KNOWN BY THE SIGNATORIES HERETO TO OWN BENEFICIALLY, DIRECTLY OR INDIRECTLY, MORE THAN 10% OF THE EQUITY SHARES OF THE ISSUER

To the knowledge of the signatories hereto, there are no persons or companies who beneficially own, directly or indirectly, more than 10% of the equity shares of the Issuer as at March 21st , 1979.

ITEM 15 - BRIEF STATEMENT OF ANY MATERIAL LEGAL PROCEEDINGS TO WHICH THE ISSUER OR ANY OF ITS SUBSIDIARIES IS A PARTY OR WHOSE PROPERTY IS THE SUBJECT TO SUCH PROCEEDINGS

Maxicrop Ltd. has a claim against the Issuer for \$3,786.26 plus interest. The directors of the Issuer believe that the Issuer is not liable for this sum and intend to defend the action.

A Writ was filed on Aug. 10, 1978 in the Supreme Court of British Columbia against the Issuer, Reindeer Organic Company Ltd. and Reindeer Schuitema by Mrs. Lorraine Busfield, in which she claims damages for breach of an agreement made on or about Dec. 28, 1973 for the purchase of 7,000 shares of the Issuer for the price of \$1,750.00. The Issuer intends to defend this action.

The Issuer is named as a Defendant in claims brought in the Small Debts Court in Victoria, B.C. on Feb.22,1979 against the Issuer, Intel International Inc., Norman D. Wise, John C. L. Black and Wilhelmus G. Kocken by Alfred Miller and Thomas Leslie. Messrs. Miller and Leslie are claiming damages against the Issuer for negligent misrepresentation and breach of fiduciary duty. The Issuer intends to defend this action.

No other proceedings are known to be contemplated against the Issuer.

ITEM 16 - THE AGGREGATE, DIRECT OR INDIRECT, REMUNERATION PAID OR PAYABLE BY THE ISSUER AND ITS SUBSIDIARIES DURING THE PAST YEAR TO INSIDERS OF THE ISSUER

No remuneration was paid or is payable by the Issuer during the past year to insiders of the Issuer.

ITEM 17 - BRIEF PARTICULARS OF ALL OPTIONS TO PURCHASE SECURITIES OF THE ISSUER UNLESS OTHERWISE DISCLOSED HEREIN

There are no options to purchase securities of the Issuer, except those referred to in Items 1 and 12 hereof.

ITEM 18 - THE DATES OF AND PARTIES TO AND THE GENERAL NATURE OF EVERY MATERIAL CONTRACT ENTERED INTO BY THE ISSUER WITHIN THE PRECEDING TWO YEARS WHICH IS STILL IN EFFECT AND NOT PREVIOUSLY DISCLOSED HEREIN

There are no material contracts which have been entered into by the Issuer or any of its subsidiaries within the preceding two years which are still in effect and not disclosed herein.

AMCA INDUSTRIES LTD.

FINANCIAL STATEMENTS

AS AT

FEBRUARY 28, 1979

STEPHEN D. JEWETT

Chartered Accountant

104 - 1670 WEST 8th AVENUE
VANCOUVER, B.C. V6J 1V4
TELEPHONE: 734-2244

ACCOUNTANT'S COMMENTS

I have prepared the accompanying balance sheet as at February 28, 1979 and the statements of loss, deficit, changes in financial position and schedule of deferred development costs for the six months then ended from the records of Amca Industries Ltd. and from other information supplied to me by the company. In order to prepare these financial statements I made a review, consisting primarily of enquiry, comparison and discussion, of such information. However, in accordance with the terms of my engagement, I have not performed an audit and consequently do not express an opinion on these statements.

Vancouver, B.C.

March 15, 1979



Chartered Accountant

AMCA INDUSTRIES LTD.

BALANCE SHEET AS AT FEBRUARY 28, 1979

ASSETS

Current	
Cash on hand	\$ 37,459
Deferred development costs - Schedule 1, note 1	27,366
Property costs - note 3	<u>36,601</u>
	<u>\$101,426</u>

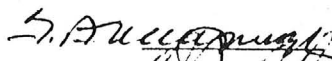
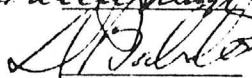
LIABILITIES

Current	
Accounts payable	\$ 48,247

SHAREHOLDER'S EQUITY

Share capital - note 2	\$ 1,082,015
Deficit, per attached	<u>1,028,836</u> <u>53,179</u>
	<u>\$101,426</u>

APPROVED BY THE BOARD

 Director
 Director

UNAUDITED

AMCA INDUSTRIES LTD.

STATEMENT OF LOSS AND DEFICIT

FOR THE SIX MONTHS ENDED FEBRUARY 28, 1979

Interest income		\$ 2,154
Expenses		
Deferred development costs written off-		
Schedule 1	\$ 170,944	
Property costs written off	62,545	
Audit and legal	5,009	
Bank charges	4	
Office rent	1,250	
Sundry	476	
Telephone	2,124	
Underwriting and transfer agent fees	<u>3,002</u>	<u>245,354</u>
Loss for the period		243,200
Deficit, opening		<u>785,636</u>
Deficit, closing, to Balance Sheet		<u><u>\$1,028,836</u></u>

UNAUDITED

AMCA INDUSTRIES LTD.

STATEMENT OF CHANGES IN FINANCIAL POSITION
FOR THE SIX MONTHS ENDED FEBRUARY 28, 1979

Working capital was increased by:	
Issue of share capital	\$111,653

Working capital was decreased by:	
Loss for the period, net of deferred development costs and property costs written off	\$ 9,711
Expenditures on deferred development	106,508
Acquisition of mining claims	<u>36,601</u> <u>152,820</u>

Net decrease in working capital	41,167
---------------------------------	--------

Working capital, opening	<u>30,379</u>
--------------------------	---------------

Working capital deficiency, closing	<u>\$ 10,788</u>
-------------------------------------	------------------

UNAUDITED

AMCA INDUSTRIES LTD.

SCHEDULE OF DEFERRED DEVELOPMENT COSTS

FOR THE SIX MONTHS ENDED FEBRUARY 28, 1979

Opening balance		\$ 108,677	
Exploration and development			
Judy claims			
Inspection	\$ 4,493		
Contractual payment	28,691		
Geophysical costs	<u>45,958</u>	79,142	
Silver Cross claims			
Inspection	4,131		
Geology	6,145		
Drilling	15,000		
Engineering	600		
Lease	1,205		
Assaying	<u>285</u>	<u>27,366</u>	
			215,185
Less costs written off relating to the Judy claims, now abandoned			<u>187,819</u>
Closing balance, to Balance Sheet		\$ <u>27,366</u>	

See note 1

UNAUDITED

AMCA INDUSTRIES LTD.

NOTES TO FINANCIAL STATEMENTS

AS AT FEBRUARY 28, 1979

Note 1 - Significant Accounting Policy

The company has adopted the policy of deferring expenditures relating to exploration and development of properties until commencement of production or abandonment of claims, whichever is earlier.

Note 2 - Share Capital

The authorized share capital is 9,881,000 common shares without par value.

Share capital transaction during the period
August 31, 1978 to February 28, 1979

	<u>Number of shares</u>	<u>Valuation</u>
Opening balance	1,464,433	\$ 970,362
Issued for cash	72,000	69,428
Options exercised by directors	36,000	12,600
Compensation for Judy claims	37,500	16,875
Option on Silver Cross claims	25,000	12,750
	<u>1,634,933</u>	<u>\$1,082,015</u>

Options

Outstanding at August 31, 1978	36,000 shares @ \$.35
	24,000 " @ .80
Granted during the period	54,000 " @ .55
Exercised	(36,000) " @ .35
Expired	(24,000) " @ .80
Outstanding at February 28, 1979 (exercisable until December 31, 1979)	<u>54,000 " @ \$.55</u>

UNAUDITED

AMCA INDUSTRIES LTD.

NOTES TO FINANCIAL STATEMENTS

AS AT FEBRUARY 28, 1979

Note 2 - Share Capital (continued)

The company has agreed to pay 100,000 shares to Mustang Ventures Ltd. for the option on the Silver Cross properties now being worked. 25,000 shares have now been issued.

Note 3 - Property

The company paid \$20,000U.S. for the option on the Silver Cross properties and will issue 75,000 shares in the next year as per Note 2 for this property.

UNAUDITED

Material contracts of the Issuer may be inspected at the Records Office, at Suite 1620, 701 West Georgia St., Vancouver, B.C. during normal business hours during primary distribution of the securities offered hereby and for 30 days after completion of primary distribution.

ITEM 19 - PARTICULARS OF ANY OTHER MATERIAL FACTS RELATING TO
THE SECURITIES BEING OFFERED AND NOT DISCLOSED UNDER
ANY OTHER ITEM

There are no material facts relating to the securities being offered which have not been disclosed under any other item of this Statement of Material Facts.

20. STATUTORY RIGHTS OF RESCISSION

Sections 61 and 62 of the Securities Act (British Columbia) provides in effect, that where a security is offered to the public in the course of primary distribution:

- (a) A purchaser has a right to rescind a contract for the purchase of a security, while still the owner thereof, if a copy of the last Statement of Material Facts, together with financial statements and a summary of engineering reports as filed with the Vancouver Stock Exchange, was not delivered to him or his agent prior to delivery to either of them of the written confirmation of the sale of the securities. Written notice of intention to commence an action for rescission must be served on the person who contracted to sell within 60 days of the date of delivery of the written confirmation, but no action shall be commenced after the expiration of three months from the date of service of such notice.
- (b) A purchaser has the right to rescind a contract for the purchase of such security, while still the owner thereof, if the Statement of Material Facts or any amended Statement of Material Facts offering such security contains an untrue statement of material fact or omits to state a material fact necessary in order to make any statement therein not misleading in the light of the circumstances in which it was made, but no action to enforce this right can be commenced by a purchaser after expiration of 90 days from the later of the date of such contract or the date on which such Statement of Material Facts or amended Statement of Material Facts is received or is deemed to be received by him or his agent.

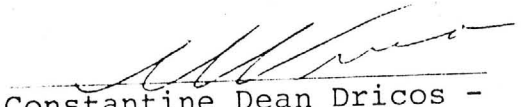
Reference is made to the said Act for the complete text of the provisions under which the foregoing rights are conferred.

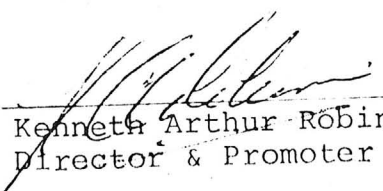
21. CERTIFICATE OF THE DIRECTORS AND PROMOTERS OF THE ISSUER:

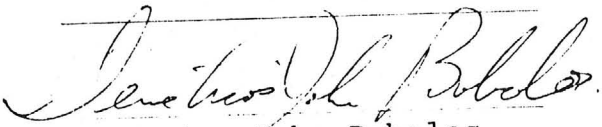
The foregoing constitutes full, true, and plain disclosure of all material facts relating to the securities offered by this Statement of Material Facts.

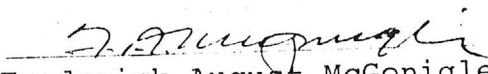
AMCA INDUSTRIES LTD.

March 30, 1979
(Date)


Constantine Dean Dricos -
President, Director & Promoter


Kenneth Arthur Robinson
Director & Promoter


Demetrios John Babalos,
Sec./Treasurer, Director &
Promoter


Frederick August McGonigle
Director & Promoter

CERTIFICATE OF THE UNDERWRITER(S):

To the best of our knowledge, information, and belief, the foregoing constitutes full, true, and plain disclosure of all material facts relating to the securities offered by this Statement of Material Facts.

WEST COAST SECURITIES LTD.

March 30, 1979
(Date)

SILVER CROSS PROPERTY (Au , Ag)

CAVE CREEK, ARIZONA

by Dr. W.D. Groves, P.Eng.

to AMCA Industries Ltd., Vancouver

March 6, 1979

WDG

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LIST OF ASSAY SHEETS

1. Bondar Clegg Report 29-16 Jan. 15, 1979
2. Bondar Clegg Report 29-24 Jan. 17, 1979
3. Bondar Clegg Report 29-19 Jan. 12, 1979
4. Skyline Labs Inc. Project SX78-1 1978 TED 005,005-A (3 pp total)

SILVER CROSS PROPERTY

SUMMARY

The following is a brief report on the Silver Cross Gold-Silver Property, Cave Creek, Arizona, 30 miles NNE of Phoenix. An exhaustive 1976 study showed 17,000 tons of ore, averaging .285 oz./T gold and 1.072 oz./T silver, amenable to pad leaching, in the top of 45 ft. of an ore zone open at both ends and at the bottom.

Visits were made by the present author December 14, 1978, February 5, 1979, to lay out drill set-ups, and the property was flown at low altitude and colour photographs made February 6, 1979. Samples were taken December 14, 1978, and assays confirm interesting amounts of Au and Ag mineralization in the proposed leaching zone. Reference is made to exhaustive reports by other Professional Engineers (References 1, 2 & 3) on the Silver Cross #1 claim, on which stripping and an adit are in evidence (see Photo 2), which have been carefully sampled and the results reported in the reports referred to. Additional visits to the property by the author were made on March 3/79 to look at a leach heap site on the Silver Cross #2 claim, and on March 4 & 5/79 to do additional geology.

A program is proposed in this work for \$70,000 (\$ Can.), chiefly for drilling another 75,000 tons of the formation below adit level. This program is expanded from the program suggested in the 1976 and 1978 work, in view of both increased operating costs and much higher current gold and silver prices.

LOCATION

One hundred 20-acre claims - in a block laid out approximately 10 x 10, long axis of 1/8 x 1/4 mile claims NE-SW, with the discovery claims, the SX #1-#2, in the middle. The latter are on Silver Cross Creek, 500 feet west of its junction with Cave Creek. The latter flows into the Salt River at Phoenix. Property is 30 miles NNE of Phoenix (see Map 1 and Map 2). Adits on Silver Cross #1 (discovery) and #9 are marked "prospects" on New River Mesa 7-1/2 minute quadrangle, Maricopa County, Arizona, at lat. 33° 55' 30" and longitude 111° 57' 30".

STATUS

Under option by owner, Ms. Francine Kokaska of Phoenix to AMCA Industries Ltd. of Vancouver, B.C. Claims are currently in good standing. An application to patent the Silver Cross #1 claim is in process by Ms. Kokaska.

ACCESS

By highroad 25 miles from Phoenix up the Cave Creek Road, and last 5 miles from Cave Creek post office by 4-wheel drive up a road constructed by Noranda when they held the property, which fords Cave Creek itself 5 times. In occasional floods, as those of December 1978, this temporarily isolates the property for a short period of time.

ECONOMIC GEOLOGY

The Silver Cross gold-silver zone which has been opened on the N.W. end of the SX#1 claim by stripping and an adit with two side drifts (see Photo #2) lies in a sheared zone in the Yavapai Schist formation of folded andesites and rhyolites of Archaean age, showing strong NE-SW striking tectonic and/or shear cleavages with rather steep dips. Topographic ridges on the old Archaean erosion surface, now largely covered at higher elevations by younger flat-lying section, also follow this strike trend. A 50' NW cross-cutting adit (see portal, Photo #2) on the SX#1 claim cuts a 33' width of gold mineralization in a more or less highly cleaved zone in the schist (see Map 4). Within this 33', the richest section is a limonitic manganiferous ochre jasperite zone, striking about E-W and dipping about 70° S. Intense hydrothermal alteration and minor fault movement and brecciation are evident in this zone. An irregular 2' porphyritic andesite dyke in this zone has been intensely brecciated and altered. The surface trace of this E-W striking zone trends westward up across the small hillside above the adit (see Photo #2), for about 150', where the zone finally pinches off at the surface. The west drift follows this zone underground for 110'. About 40' to the east of the adit, the surface trace of this same zone is pinched or dislocated: a small fault movement (E. side to the S.) may be involved. This part of the zone is followed by the E drift (see Map 4). A small NW fault may offset the ochre zone (E side to N) in the adit by a few feet.

Two other faults with slickensided fault planes are evident at the N and S edges of the 33' zone. One of these forms the face on the N. side of the Silver Cross Creek gully in the adit area (see Photo #2). It is a strike-slip fault with a curved fault plane striking about NE-SW on the average, and dipping 75° S, and has a movement down on the N side. 25' to the N of this, geologist Weathers (see Map 4)

found an E-W fault dipping 42° S, also strike-slip, with movement down on the S side of the fault. A 2' NE striking band of "conglomerate" just to the NW of the ore zone noted on Noranda's Section map (Map 6) may also be an old fault locus in which a quartz vein has been completely augened by fault movement into marble sized rounded pieces in a partly re-silicified gouge matrix. To the W of the adit, what may be the westward extension of the strike-slip fault locus facing the gully at the adit is marked by up to 2' of more angular ochre-mineralized breccia.

Another major fault in the area, striking N 10° E and dipping 70° W is exposed on the face of a 75' cliff on the E bank of Cave Creek on the SC X #11 claim. The fault cross-cuts the volcanics whose blocky cleavage runs in the regional N 35° E, 50° NW dipping direction. This fault contains 2' of ochry gouge and a 6' wide breccia zone W of this on the W side of the fault. This fault is marked by a gully trending NNE across the SC X #11 and #12 claims, and is filled by a red inter-formational conglomerate. This fault may offset the whole section somewhat. Mechanical erosion by Cave Creek itself has been severe enough to down-cut in the formation to fresh rock, at least part of which is a blocky-jointed greenish-grey rhyolite containing abundant 1/10" spherical quartz "fisheyes".

In the ore zone at the adit, both fault and tectonic cleavage directions have been followed by mineralizing solutions, but the main access route for mineralization has evidently been the E-W fault. The presently proposed drilling and mapping program is designed to try to elucidate detailed structure in the ore zone outlined above as well as to outline ore tonnage. A 2" drill hole, striking N 35° W inclined at -30° NW was found on the upper road above the adit.

It should intersect the W end of the W shear zone observed on the surface, at a point about 140' W of the adit. So far no drill logs, core or assays from this hole have come to light.

Resistant ribs of a marker bed in the schists are also visible forming small hill top just above the portal on SX #1 (top of Photo 2) and the hillside of SX #9 1,000 ft. to the NE.

Just to the SW of the portal region, a "diorite porphyry" - small granitic intrusion is uncovered intruding the schists, part of which is on SX #2 claim (see Claim Map #2). A serrated contact against the schists is visible in Silver Cross Creek bed. Zinc and molybdenum and copper mineralization encountered may derive from this intrusion. The intruded schists are unconformably overlain by a 2,000 ft. thickness of tuffs, capped conformably by Tertiary basalt, the whole later section unrelated to the ore.

The ore zone around the portal evaluated so far is summarized by Smith (1976), as follows:

"Summary

An extensive geologic mapping and sampling program has revealed the Silver Cross Mine to be a potentially good gold and silver producer. Samples taken by different investigators indicate an ore zone approximately 110 feet long, 33 feet wide, and averaging 45 feet high above the present workings. Approximately 17,000 tons are in this zone, which have an estimated value of \$47 per ton, or \$799,000. Exploration work undoubtedly will expand the foregoing figures. Further work should be done on this property."

Three separate laboratory-scale leaching tests showed good recovery in the order of 90%, but it would be expected to do an optimization of particle size (crushed or whole) versus recovery to further bear out this work, and funds for a modest preliminary test program are included in the present proposal for immediate work.

Smith¹ showed 17,000 tons averaging .285 oz/T gold and 1.072 oz./T silver, and .215% copper, in the top 45 ft. of the 110 ft. x 33 ft. ore zone probed by surface and adit sampling reported in 1976, at prices of gold \$150 / oz. U.S., silver \$3.75/oz., averaging at \$47/T in gold and silver. In the Feb. 22, 1979 Northern Miner, gold closed at \$250.60/oz. U.S. and silver at \$7.64/oz. U.S., giving the 17,000 tons of ore a value of \$80.25/ton U.S. or in Canadian funds quoted at the Feb. 22, 1979 exchange rate of \$1.00 U.S. = \$1.95 Canadian, a value of \$91/ton Canadian, or the 17,000 tons a value in gold and silver of \$1,550,000 Canadian.

Proposed drilling (see Map 6) in this report should give information to about 200 ft. depth in the same formation, or another 75,000 tons of the same 33 ft. x 110 ft. block. This would be about maximum depth to which the formation could be open-pitted.

In 1978, Noranda drilled a 2", 697 foot - 55°N hole (the SX-78-1 hole) which crossed the sulfide-oxide interface in the adit area at about 350 foot depth (see Map 6). The 200 foot maximum depth of the proposed drilling would thus quite possibly bottom in the sulfide zone in the formation, which would mark the limit of readily leachable ore in any case. Geochemical assay of the SX-78-1 core showed less than .02 ppm Au and .2 ppm Ag, a high zinc (21,000 ppm) horizon in the Schists near the contact of the diorite intrusion in which the

hole was collared, and elsewhere zinc and copper values in the 100 ppm range throughout. In the downward projection of the surface Au-Ag zone near the adit, 6 assays from 468-527 depth in the SX-78-1 hole, about 300-400 feet below surface, copper ran 40 - 140 ppm, average 93.5 ppm, and zinc 45 - 165 ppm, average 103.5 ppm. This would suggest the presence of zinc values in the Au-Ag zone where Smith's work showed the average .215% Cu assay. The Noranda assay sheets for the SX-78-1 hole are enclosed.

Assays from the December 14, 1978 1-day visit to the property from samples from surface and from the adit by the author are quoted on Assay Sheet 1 (enclosed). While not purporting to be anything like as comprehensive a sampling job as was the 1976 study, values (from .005 to .94, averaging .387) oz./ton gold range, (from .06 to 1.85, averaging .87) oz./ton silver confirm the presence of gold and silver mineralization reported in the comprehensive 1976 work of Smith and Weathers.

The property consists of 97 twenty-acre claims and 3 fractions, a total of 100 claims. Of these, apart from aerial reconnaissance, Feb. 6, 1979, only 6 claims, the Silver Cross #1 (workings), SX #2 (the diorite), SX #9 (second trench along strike from workings), SCX 1 and 3 and SCX II (fault in Cave Creek's E bank), have been walked over by the author. (see Map 2). The Noranda staking (sic.) encompassed a very much larger NE-SW band of the strike of the schists, including where these were under thick younger cover rocks. Preliminary indications of zinc, molybdenum and copper assays in the 1976 and December 14, 1978 samples, indicate that a look at regional geology of the claim block is warranted, and to this end, a small geological reconnaissance and sampling program

was suggested both to extend the gold-silver zone along strike and map a larger area for structural features (for example : faults). The study will be greatly aided by low level colour obliques flown February 6, 1979, for tracing beds and rusty zones. Budget for the proposed 1979 program is set out in Table 1, in Canadian funds, for a total of \$70,000 and 3 months. This program has been somewhat expanded from the \$50,00 proposed after the December 14, 1978 visit (Northern Miner, Jan. 18, 1979, page A-4, enclosed), mostly in an expansion of the proposed drilling footage, in view of continuing increase in price of gold and silver, which tend to make a deeper ultimate open pit economic. Some delays and expenses were incurred as a result of the late December 1978 floods in Cave Creek which washed out the creek fords which now must be rebuilt.

In leaching studies on test batches of ore (3 of these are already reported by Smith), it is proposed to follow the guidelines set out by Kappes (EMJ Jan. 1979 enclosed) and Heinen (Ref. 6).

The presence of zinc and copper can be expected to raise cyanide consumption in leaching tests. At about 1 lb. of cyanide consumption per pound of copper, the $.215\% = 4.3 \text{ lb./ton}$ copper tenure of the ore, and the 4 - 5 lb./ton cyanide consumption reported by Smith, are in agreement with this.

TABLE 1COSTS - PROPOSED PROGRAM

(Update re: Smith 1976)

Drill 1500'	\$ 36,000	Canadian
Road Repair/Construction	5,000	
Preparation of Drill Sites	3,000	
Assay Costs (Au, Ag, Base Metal, Mo)	<u>4,000</u>	
	48,000	
Geological Mapping (Zpne and Area)	3,500	
Check and Analysis of Noranda Geochemical Data	1,000	
Project Engineering and Supervision	10,000	
Preliminary Design, Heap Leach Set-Up	<u>1,000</u>	
	64,000	
Contingency - 10%	<u>6,000</u>	
 TOTAL PROGRAM	 \$ <u>70,000</u>	

BREAKDOWN of DRILL PROPOSAL

1,500 ft. (tests 75,000 tons of favourable formation below adit level)	
4 @ - 40°, 100' holes	400'
4 @ - 60°, 225' holes	<u>900'</u>
	1,300'
200' fill-in	<u>200</u>
 TOTAL	 <u>1,500'</u>



Portal Area Silver Cross Property, Colour Photo from Air about 2,000 ft. above Property,
 Looking Westward into Silver Cross Creek at 45°.

Portal (1), Trench near Cave Creek (2).
 Benched Area on SX #1 Claim, Access Road, Clearly Visible on Photo.
 Claims SX #1, #2, #9, #11, and #13 marked. North Arrow Marked for Orientation.
 Claims are 660 x 1,320 ft., 20-acre Size.
 Claim Lines Run approx. NE. and NW

Photo 1

REFERENCES

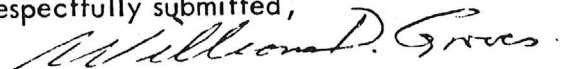
1. The Silver Cross Mine, "A Potential Gold Producer"
Harvey W. Smith - December 31, 1976.
2. The Silver Cross Mine "An Update", Harvey W. Smith -
December 31, 1978; incl. drill map of 697 ft. hole
3. Arizona Dept. of Mineral Resources, "Heck Claims",
Lewis A. Smith. (documents: 1 page)
4. Northern Miner, January 18, 1979, page A4 "Amca Plans Drilling" (encl)
5. E/MJ, January 1979, page 45 - UNITAR
Conference: " Leaching Small Gold and Silver Deposits",
Daniel W. Kappes, University of Nevada (encl)
6. USBM Information Circular #8770 "Processing Gold Ores Using Heap
Leach - Carbon Adsorption Methods" -
H.J. Heinen, D.G. Peterson and R.E. Lindstrom, 1978.
7. 1978 Drill Hole Plot and Assays of Noranda Drill Hole SX-78-1 (enclosed).

CERTIFICATE

I, WILLIAM D. GROVES, do hereby certify that:

1. I, WILLIAM D. GROVES, am a consulting geological engineer residing at 707 - 1480 Davie Street, Vancouver, B.C.
2. I am a graduate of the University of British Columbia, BSc in Geological Engineering, 1960; graduate of the University of Alberta, BSc. in Chemical Engineering, 1962 and a graduate of the University of British Columbia with a PhD in Chemical Engineering 1971.
3. I am a Registered Professional Engineer of the Province of British Columbia No. 8082.
4. I have practiced my profession since 1960.
5. I examined the Silver Cross property on December 14, 1978, February 5, 1979, March 3 to 5, 1979, and took aerial photographs of the property February 6, 1979; and reviewed previous reports of Weathers, Smith et al (see list of References attached), and Noranda drill and geophysical data on the property.
6. I have not received, directly nor indirectly, nor do I expect to receive any interest, direct or indirect, in the property of AMCA Industries Ltd., or of any affiliates thereof, nor do I beneficially own, directly or indirectly, any securities of AMCA Industries Ltd. or any affiliate thereof.
7. I hereby consent to the use of this report in a Prospectus or Statement of Material Facts to be filed with the Vancouver Stock Exchange and Superintendent of Brokers for British Columbia.

Respectfully submitted,



William D. Groves, PhD. P.Eng.



Photo 4

From Air. At Mesa Top Level. Looking NW onto Portal Area of (red arrow) Silver X Property. Lower Levels (reddish) Old Schists; Higher Elevation: Unconformably Overlying Sediments, topped by cap of Tertiary Basalt (Mesa Top - former) Silver X Creek runs E across photo. Cave Creek visible in Extreme Bottom Right of Photo.

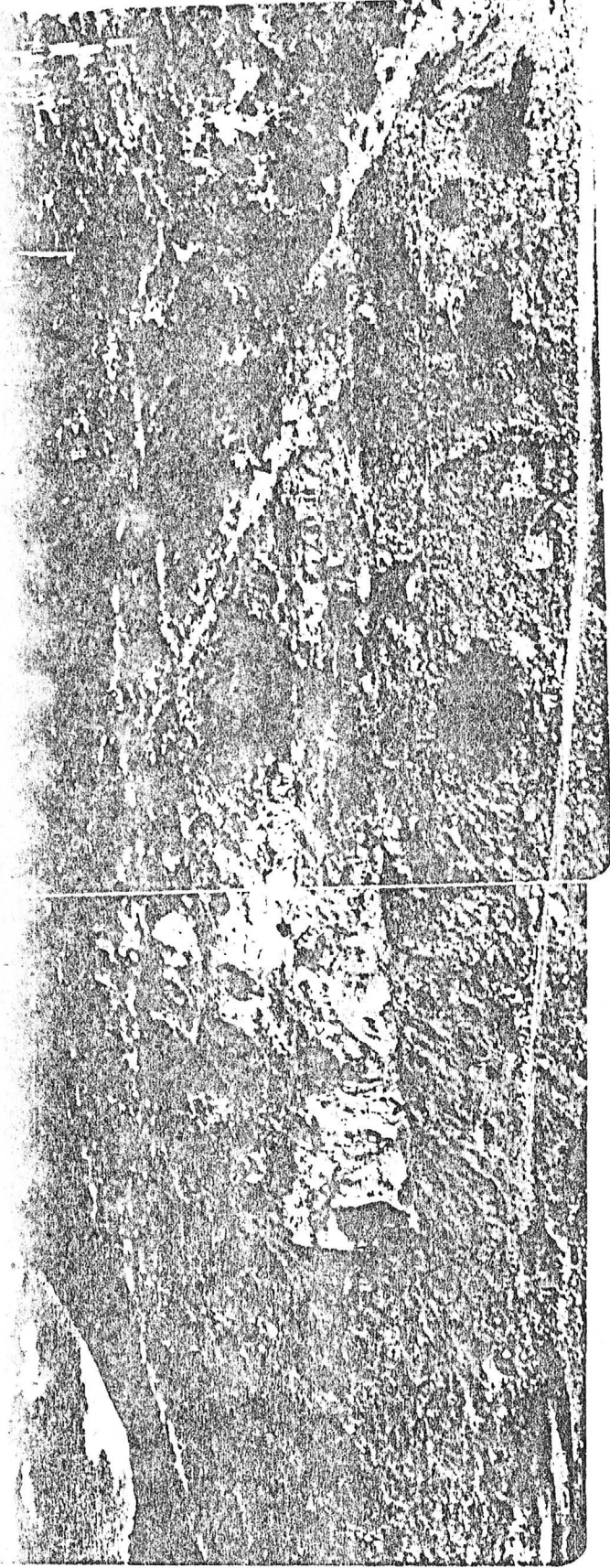


Photo 2

2-Photo Panorama of Portal and Benched Area on SX #1 Claim, Silver Cross Property. Looking NW onto Portal from Road on S Side of Silver Cross Creek. See Photo 1, Claim Map 2. Proposed Drill Sitings Marked Red (x). Dashed Lines (1) and (2) Mark approx. Surface Traces of West Drift (1), and East Drift (2) off Adit [Portal (5)] of 50 ft. Cross-cut. (3)- 1-1/2 Jasperite Vein on Ochre Zone (1). (4)- Exposure of Conglomerate.

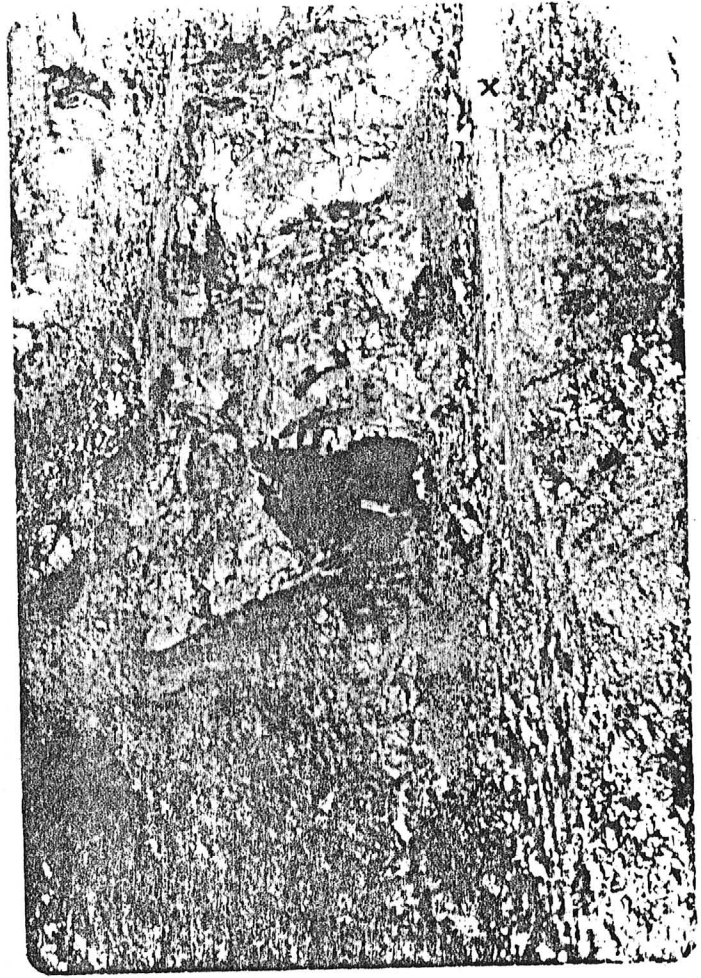
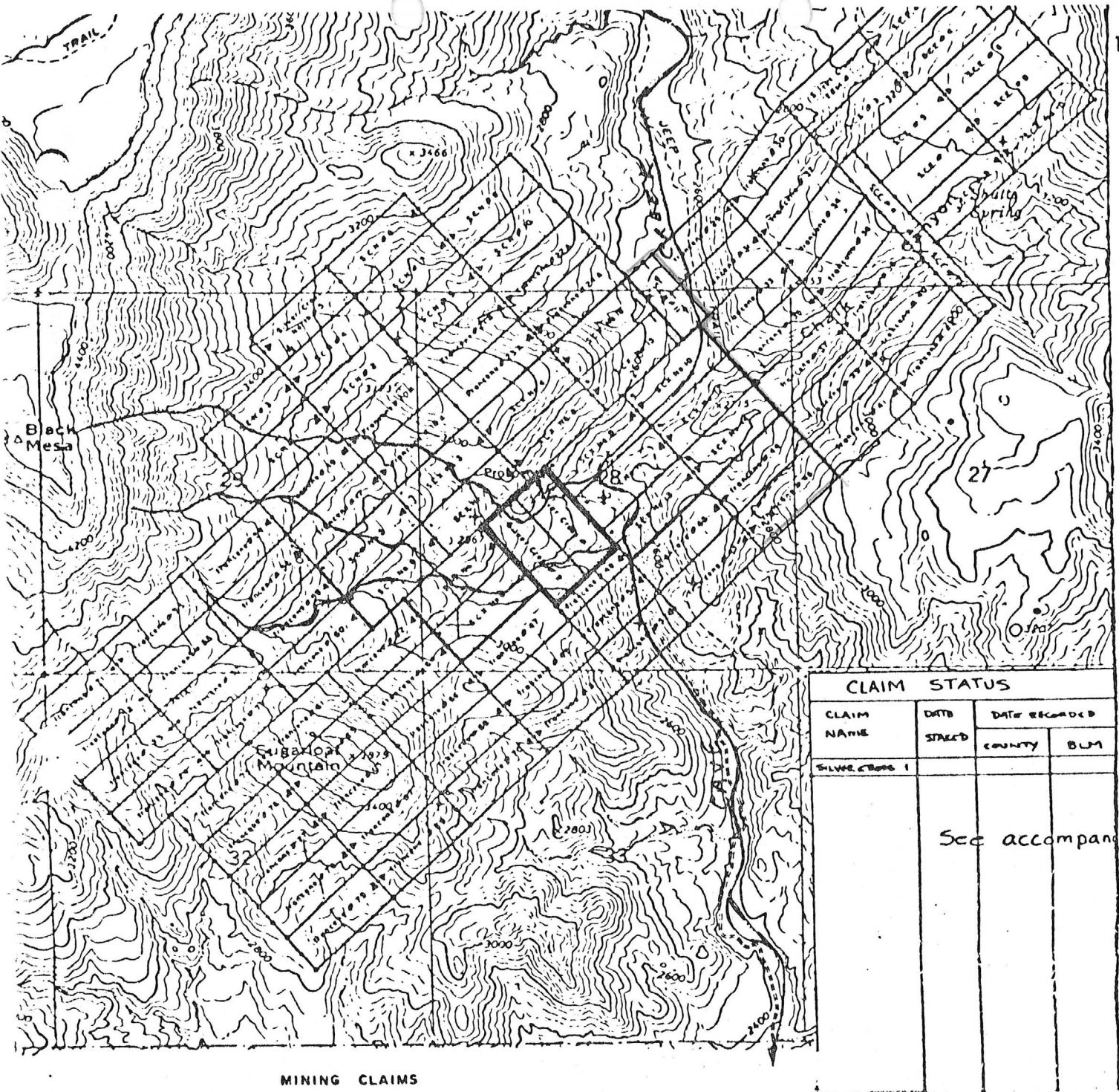


Photo 3 Close-up of Portal, Looking NW across Silver Cross Creek Gulley from 200 ft. away. One Proposed Drill Set-up Mark



MINING CLAIMS

FRANCENE KOKASKA

Francene #s 17, 19, 29-79, Francene
#s 18A, 20A-24A, Silver Cross #s
182, Silver Cross East #s 1-12,
Silver Cross North #s 1-11, SCX
Nos. 1-16 LODES.

Cave Creek Mining District

Blocks 20, 21, 22, 27, 28, 29, 32 & 33, 77N, R4E, S8SW
Maricopa County Arizona
Scale 1"=1000' Oct. 29, 1977
A Branton Compass and Chain Survey By:

Harvey W. Smith, E.M.
Registered Mining Engineer
U.S. Mineral Surveyor
Del Tierra Engineering & Mining Corp.

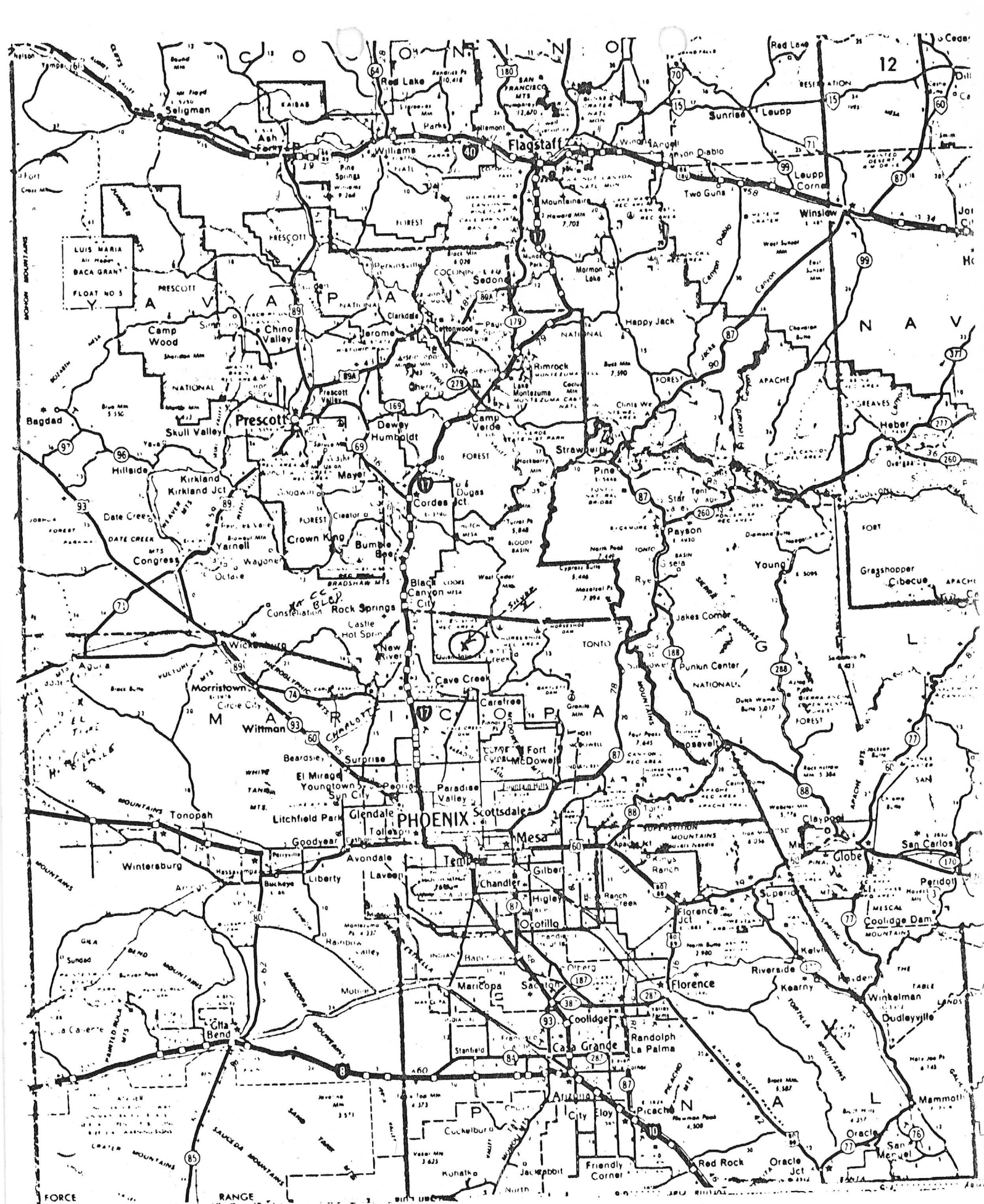
Note: A Location Marker

• Claim corners

+ Validation dr. H. Data location

Map 2

100 - 20-acre claims plus fractions
Silver Cross Property.
Claims shown on 1,000 ft. = 1 in.
20 ft. contour topog. map.
Creeks in red lines SX #1 and
SX #2 claims.
Claims are 660 x 1320 ft. size



Map 1 Area Map 1" = 20 miles, Showing Phoenix and Silver Cross Property 30 miles N NW of Phoenix

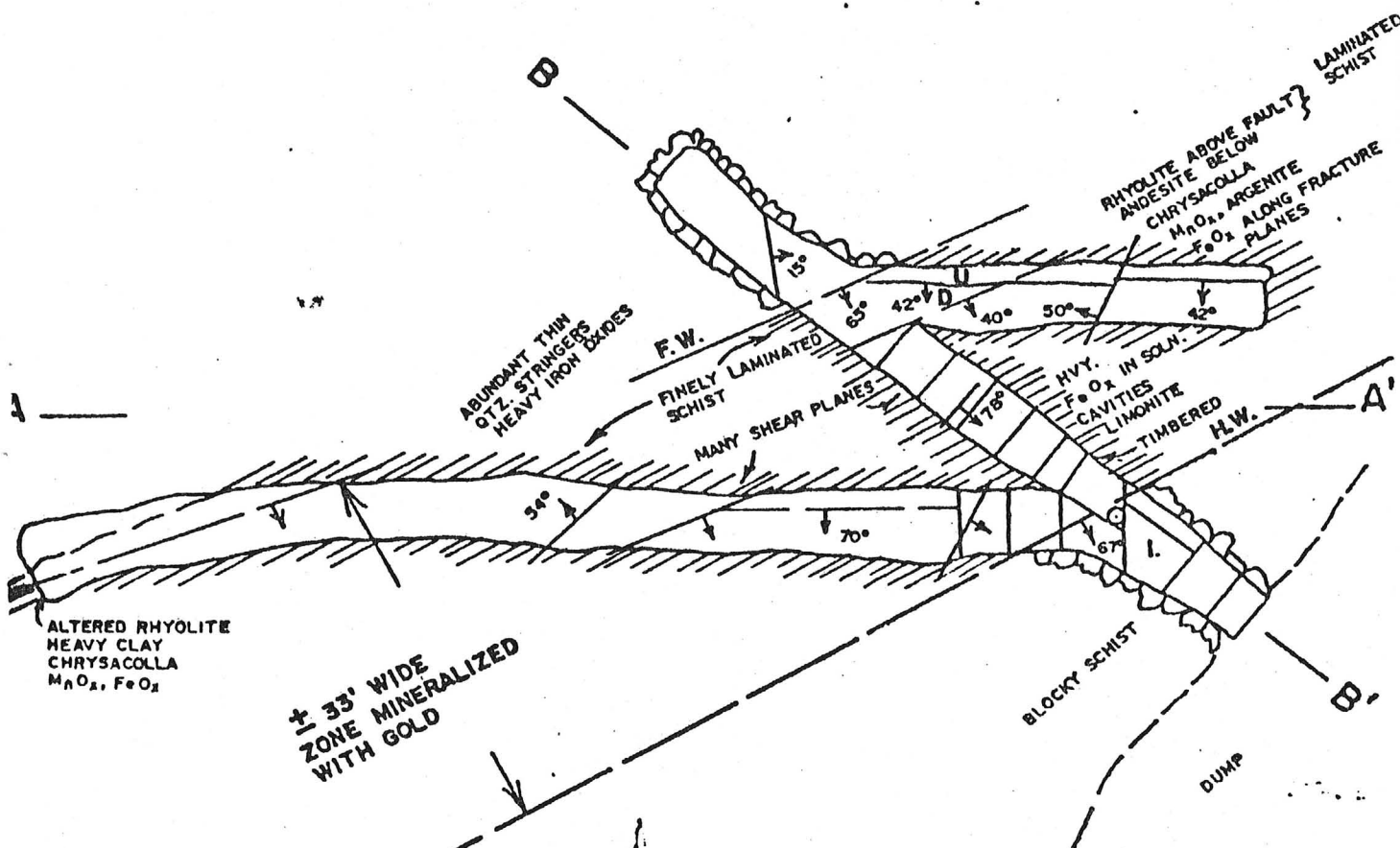
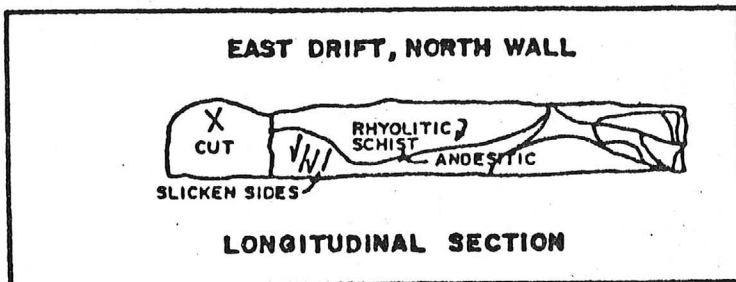


Map 3

State (ARIS) Air Photo Mosaic, Showing Property
2,000 ft. = 1 in. Confirming to Claim Sheet

Map 4

Silver Cross Adit Plan (SX #1 Claim) at 1" = 20 ft.
Reproduced from Smith's 1974 Report.
Geology and Sampling by Weathers.



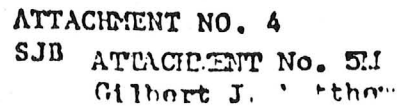
**SILVER CROSS MINE
GEOLOGIC PLAN MAP
Underground Workings**

Scale 1" = 20' 8/3/74

Geology By: Gerald Weathers

MAP NO. 4

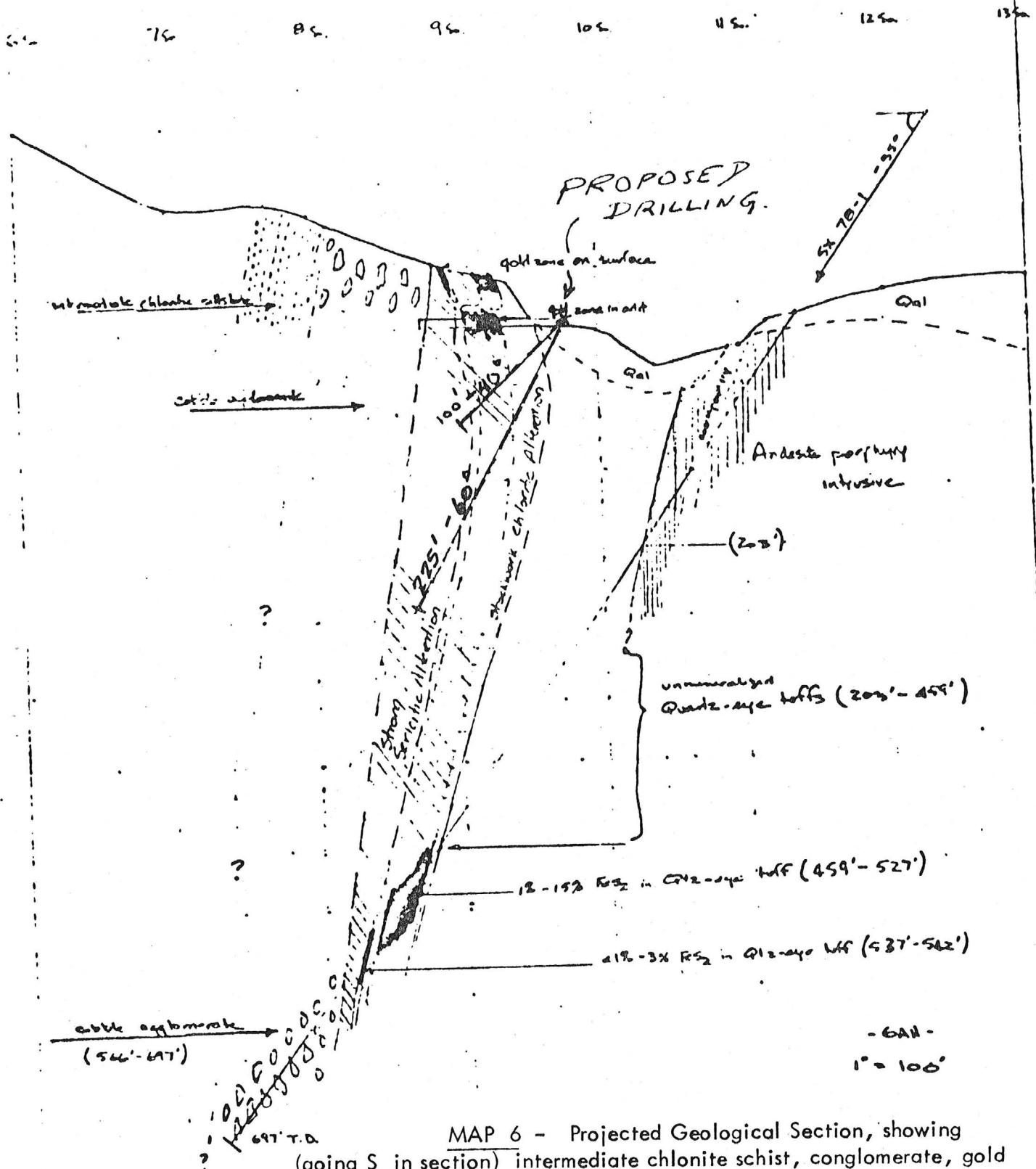
Reproduced from Smiths' 1974 report.



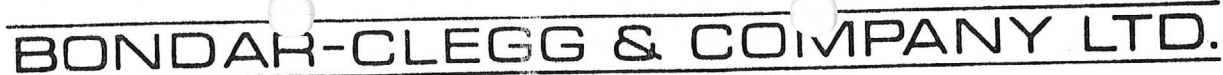
GEOLOGIC CROSS SECTION (Looking East) 20.

SX 78-1

SILVER CROSS OPTION



MAP 6 - Projected Geological Section, showing (going S in section) intermediate chlonite schist, conglomerate, gold bearing zone, andante porphyry intrusions, Noranda's 697' - 55 deg. N.W. direction 1978 drill hole or SX #1 claim. Assay results not marked. Side 100' = 1". Looking N.E. along strike of schist. Silver X creek gulley, at center of profile. Proposed drilling shown 4 settings, 2 holes per setup, dashed lines on figure.



Geochemical Lab Report

Report No. 29 - 19 PROJECT: Silver Cross

From Amca Resources

Date January 12 19 79

[illegible]

To: Amc. Ltd.

PAGE No. 1

503 - 509 Richards Street
Vancouver, B.C.

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

REPORT No. (29 - 16)

DATE: January 15, 1979

Samples submitted: January 10, 197
Results completed: January 10, 197
PROJECT: Silver Cross

I hereby certify that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER		Cu		Percent	Percent	Percent	Percent	Percent	TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Silver Cross 1 2 3 4	0.94		1.85	0.16								
	0.49		1.24	0.36								
	0.11		0.32	0.16								
	0.005		0.06	0.10								

To: Amco Ltd.

PAGE No. 1

503 - 509 Richards Street
Vancouver, B.C. V6B 2Z6

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

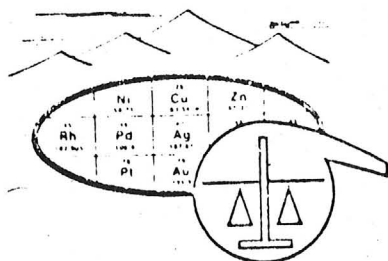
REPORT No. 19 - 24

DATE: January 17, 1979

Samples submitted: January 15, 1979
Results completed: January 17, 1979

I hereby certify that the following are the results of assays made by us upon the herein described **pulp** **samples.**

MARKED	GOLD		SILVER	Zn		Percent	Percent	Percent	Percent	Percent	Percent	TOTAL VALUE PER TON (2000 LBS.)	
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent		
					4.40								



SKYLINE LABS, INC.
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

RECEIVED

MAY 1 A.M.

TUCSON

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

James A. Martin
Arizona Registered Assayer No. 11122

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Zn ppm					
	<u>Project SX 78-1</u>									
1	65-75	<0.02	<0.2	15	280					
2	90-100	<0.02	<0.2	10	170					
3	100-110	<0.02	<0.2	15	310					
4	148-154	<0.02	3.0	105	550					
5	179-189			85	295					
6	208-218	<0.02		25	190					
7	286-296	<0.02	<0.2	95	21000					
8	373-383	<0.02		35	100					
9	383-388	<0.02		15	205					
10	458-468	<0.02		40	30					
11	- 468-478			110	165					
12	478-488			55	45					
13	488-498			130	80					
14	502-507	<0.02	0.2	140	110					
15	507-517	<0.02	<0.2	40	100					
16	- 517-527	<0.02	0.2	85	120					
17	527-537	<0.02	<0.2	55	100					
18	537-542	<0.02		40	60					
19	542-552	<0.02	<0.2	25	110					
20	552-557	<0.02	<0.2	20	180					
21	557-567	<0.02	<0.2	15	130					
22	612-620	<0.02		220	135					
23	643-653	<0.02		65	100					
24	669-679	<0.02		5	80					
25	679-689	<0.02		250	80					

TO: NORANDA EXPLORATION, INC.
P. O. Box 50326
Tucson, Arizona 85703
Attn.: Greg Hahn

REMARKS:

Trace analysis
Shipment: 297

CERTIFIED BY:

William L. Lehmbeck
WILLIAM L. LEHMBECK
ARIZONA REGISTERED ASSAYER NO. 9425
APR 28 1978
TUCSON, ARIZONA

DATE REC'D:

4/13/78

DATE COMPL.:

4/28/78

JOB NUMBER:

TED 005

SKYLINE LABS, INC.
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4656

Charles E. Thompson
Arizona Registered Assayer No. 6427

William L. Lemmbeck
Arizona Registered Assayer No. 6425

James A. Martin
Arizona Registered Assayer No. 11122

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm			
2	SX 75-1 281-286 296-301			90 30		2200 820			

SKYLINE LABS, INC.
P.O. Box 50108 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

RECEIVED

MAY 31 P.M.


TUCSON

CERTIFICATE OF ANALYSIS

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9426

James A. Martin
Arizona Registered Assayer No. 11122

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm								
11	SX 78-1 468-478	<0.02								
12	SX 78-1 478-488	<0.02								
13	SX 78-1 488-498	<0.02								
TO: NORANDA EXPLORATION, INC. P. O. Box 50326 Tucson, Arizona 85703 Attn.: Greg Hahn			REMARKS: Trace analysis Shipment: 301			CERTIFIED BY: 				
DATE REC'D: 5/15/78			DATE COMPL.: 5/29/78			JOB NUMBER: TED 005-A				