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#### PRINTED: 05/30/2002

## ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: PANDORA'S BOX

**ALTERNATE NAMES:** 

SECURITY MENDOTA CORONET YELLOW BIRD

LA PAZ COUNTY MILS NUMBER: 802

LOCATION: TOWNSHIP 5 N RANGE 14 W SECTION 6 QUARTER N2 LATITUDE: N 33DEG 48MIN 28SEC LONGITUDE: W 113DEG 45MIN 00SEC

TOPO MAP NAME: UTTING - 15 MIN

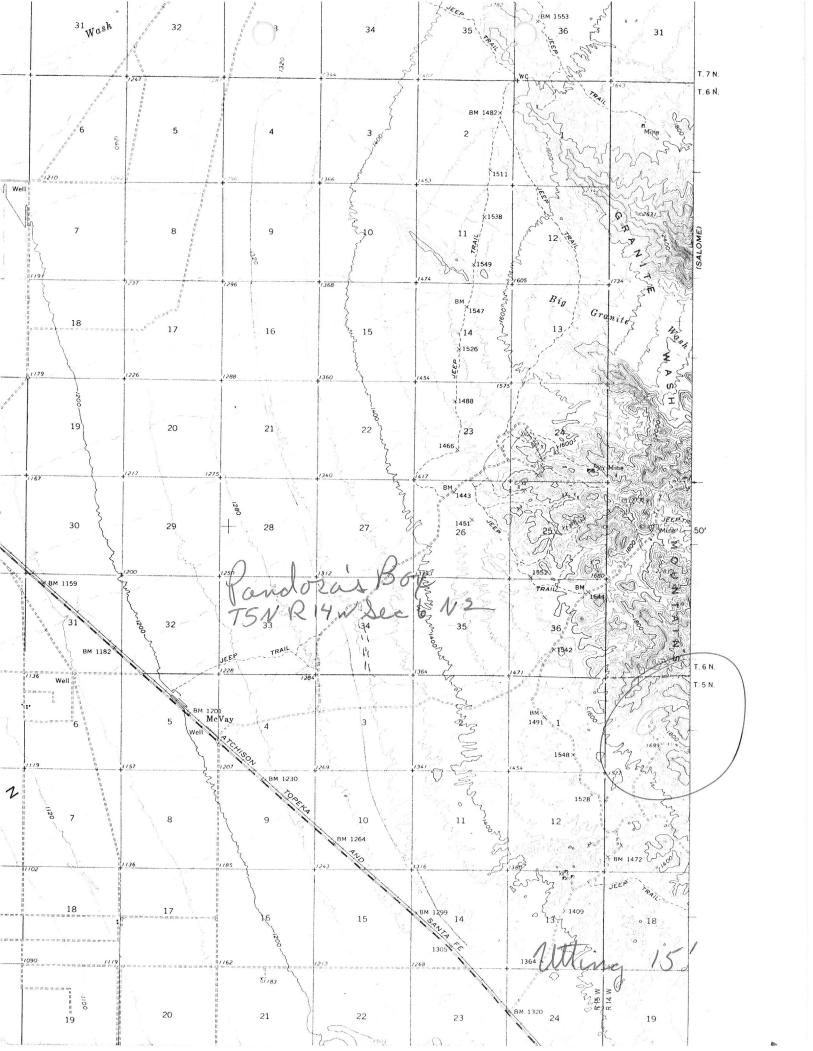
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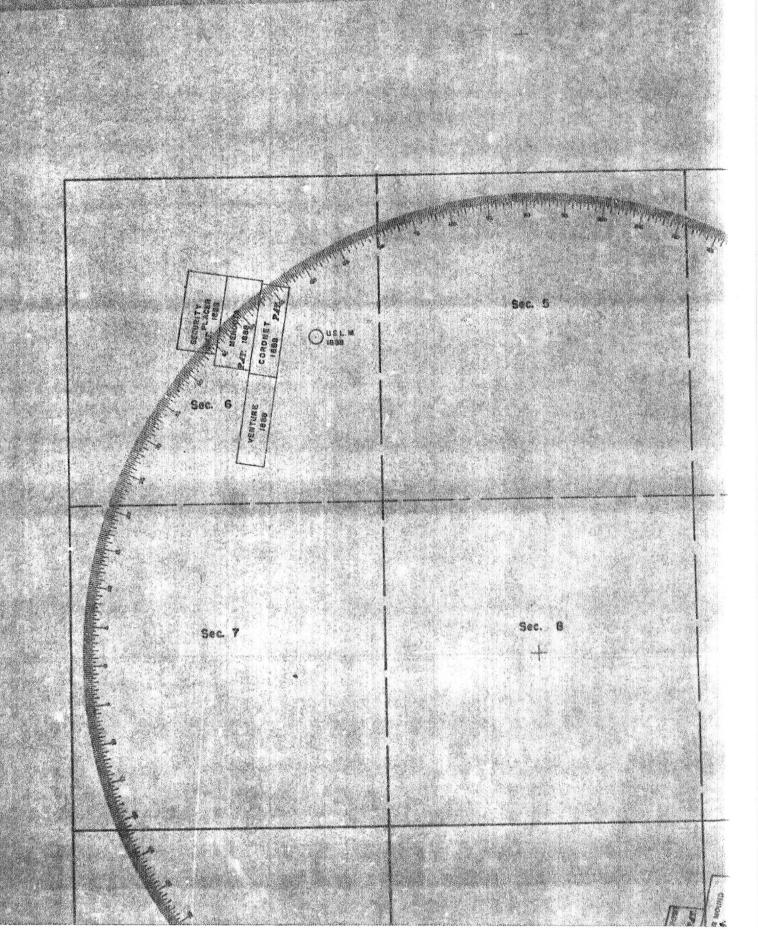
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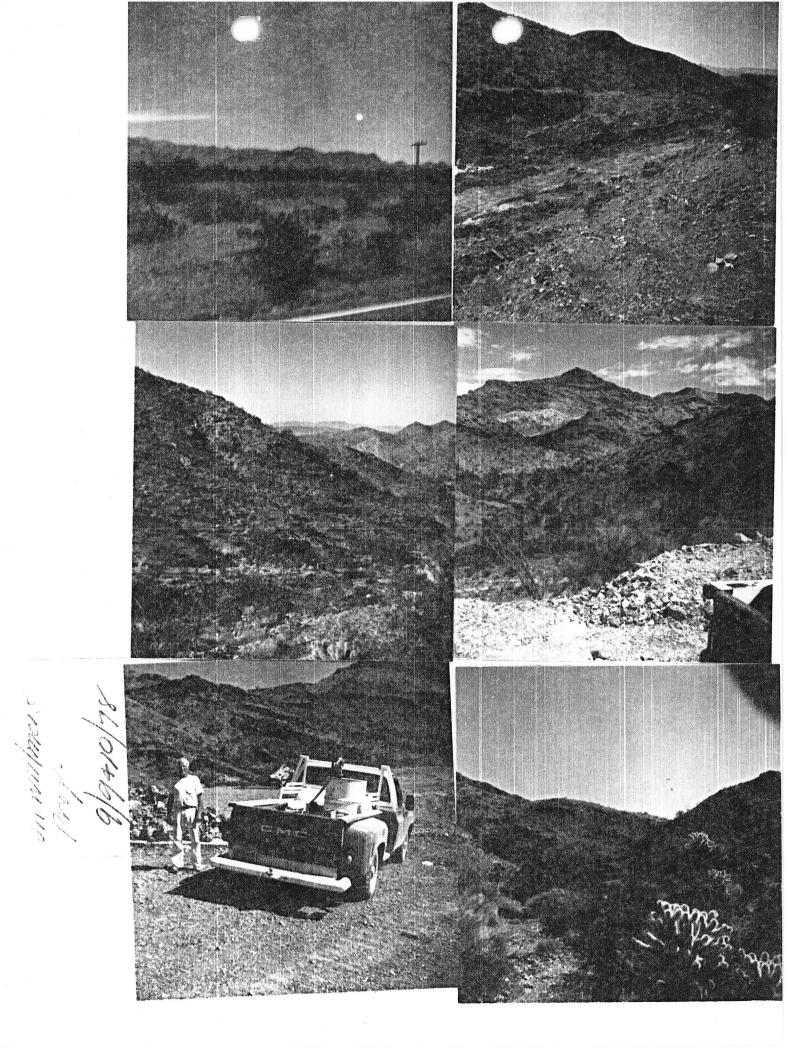
GOLD LODE SILVER COPPER LEAD

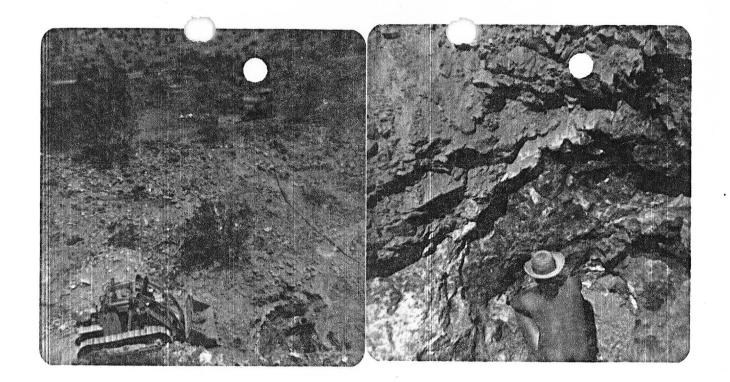
**BIBLIOGRAPHY:** 

ADMMR PANDORA'S BOX FILE







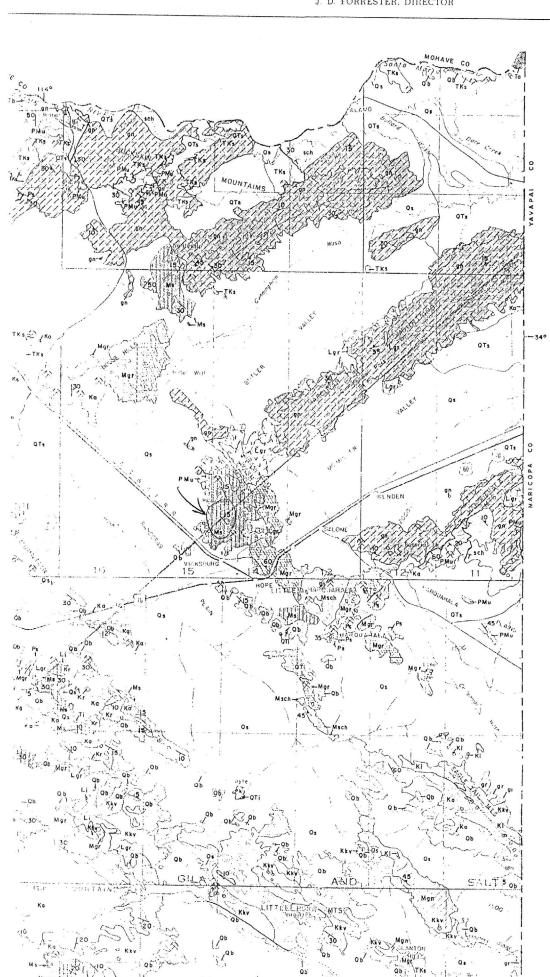


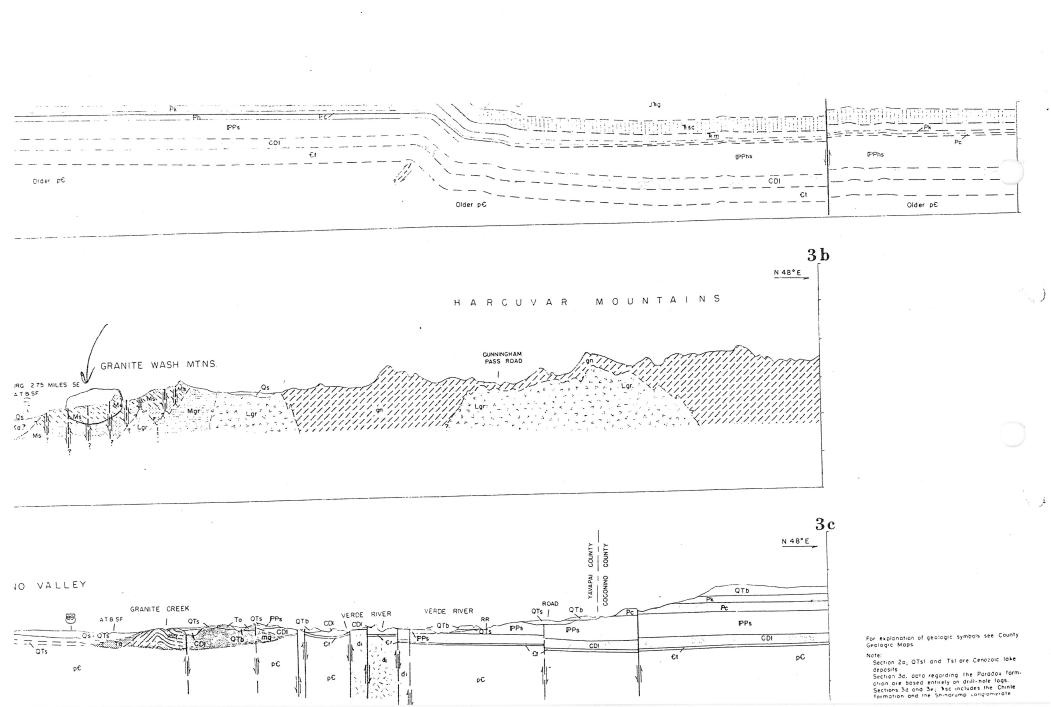
2/4-6/76? TW

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16N R14W

CROSS SECTION OF RIDGE THEU AA'

F19 1







PANDORA'S BOX

YUMA COUNTY ELLSWORTH DISTRICT

NJN WR 3/23/84: Dave Laxton (c) reported that a new company, Yellow Bird Mine Corporation, has been formed. Principals in the company are Ted Wilmore and Joe Davis, both of 315 Stanford SE, Alburquerque, NM 87106 and himself. The company's main property is the Yellow Bird Pattented Group (Pandora's Box file), Yuma County, Arizona. Also included are some surrounding unpatented claims. Though the property is mostly undeveloped, some bulk samples have been taken during the last couple of years for metallurgical testing. Gravity concentration was tried with little success. Attemps to use cyanide were discouraging due to high cyanide consumption by the copper minerals present.

NJN WR 5/18/84: Dave Laxton (c) reported that his deal with Yellow Bird Mine Corp (Pandora's Box) in La Paz County has fallen through.

## DO NOT REPRODUCE THIS PAGE

T5N R14W Sec. W

PANDORAS BOX AIM GROUP (Yellow Bird)

**W**R GW 6/3/76 Went to Ted Willmore's 18 unpatented Pandora's Box claims in section 7, R5N, T14W about 2 1/2 miles NE of Vicksburg. Here Mr. Willmore has exposed two sizeable quartz veins in a 15 ft. deep cut 100 ft. long in the bottom of a wash. When asked how he knew where to doze he said he followed float for some 1,000 feet to the east. The larger of the two veins is about 8 feet thick and strikes N10W and dips steeply west in altered phyllite, the other isn't completely uncovered but appears to be 3 or 4 feet thick and strikes about N50°W. It is about 50 feet east of the larger vein, therefore, should intersect it about 20 feet in the north bank of the cut. About 1,000 feet east a side-hill dozer cut for about 200 feet reveals a flat-lying "bull" quartz vein in phyllite; it strikes about N10E and dips 15°E. The sampling of this vein hasn't been favorable, however, the 8 foot vein to the west has . 3 oz. Au and four to six oz. Ag/ton, it consists of vuggy quartz with considerable limonite in the voids. Across the ridge to the south considerable side-hill dozing has been done on a couple of 2 foot flat-lying quartz veins in phyllite. These veins are about 35 feet apart vertically and one smaple indicated .4 oz Au and 7 oz. Ag/ton from the lower ore. Mr. Willmore is a computer programmer from Albuquerque, however, he has prospected, as time would allow, for more than 10 years.

Barbara Carroll, geologist for Rosario Mining Company, came 6/28/76 WR GW in to discuss the Ted Whittmore Au prospect 2 1/2 miles NE of Vicksburg, saying Mr. Whittmore had presented the property to her company for sale. The information I gathered from an examination of the work on June 8, 1976 was given to her.

2/25/77 Charles Ellis, Phoenix, called regarding Ted Willmore's copper prospect 2 miles NE of Vicksburg. Chas. Hallman, Wickenburg, had spoken to Mr. Ellis about doing some dozing on the claims.

6/6/80 WR KAP David Laxton, 626 Walnut, Prescitt, Arizona 86301 reported he is planning on mining his Yellow Bird Mine, Yuma County but is having problems with ownership and other claims in the area.

Dave Laxton reported on activity at his Yellow Bird Claims in Sec. 6 WR KAP 3/ 13/81 T5N, R1WW, Ellsworth District, Yuma County. The property position includes three They have mined and stockpiled patented claims: Cornet, Venture and Mindota. approximately 100 tons of 0.45 Tr. oz/ton gold ore., They have installed a small mill consisting of jaw crusher, impacter, and table. The ore is believed to be free milling.

WR KAP 6/5/81 Dave Laxton reported he istrying to find underground maps on the Yellow Bird Mine, Yuma County. He has been running a pilot gold mining and milling operation on the property and plans to investigate the underground conditions of the mine. However, a significant part of the workings are not caved.

KAP WR 4/30/82 Ted Wilmore reported he has a scheelite (tungsten) occurrence of his Pandora's Box Mine.

# mountain states development corporation

division of Mountain States Mineral Enterprises, Inc. P. O. BOX 17960, INTERSTATE 10 & VAIL RD., TUCSON, ARIZONA 85731 (602) 792-280

January 15, 1976

Mr. Ted Willmore
315 Stanford SE
Albuquerque, IIM 87106 Salome, angonal

Dear Mr. Williame:

Just a note to remind you that we stand ready to serve you in evaluating the Yuma County Arizona property—according to the preliminary arrangements discussed earlier and at your convenience.

We approciate your continued interest in Mountain States and will look forward to hearing from you.

Sincerely yours,

1. 5 1 Jung. Car. C

T. E. Wayland Chief Geologist

TEW: ph

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ision of Mountain States Mineral Enterprises, Inc. P. O. BOX 17960, INTERSTATE 10 & VAIL RD., TUCSON, ARIZONA 85731 (602) 792-2800

September 19, 1978

Mr. Ted Willmore 315 Stanford Drive, S.E. Albuquerque, NM 87106

Dear Ted:

I enjoyed our visit to Pandora's Box on September 9 and 10 and thank you for all courtesies.

Enclosed is the certificate of assay showing the four samples we took. Note the silica assays and wish that the quartzite ran 0.2 Au and 7.0 Ag for direct shipping. My samples on New Harz and Quartzite were too skimpy but I expected a little better show of precious metals. However, I place no weight on these analyses in my judgement on your property.

I made time this past weekend to go over all the data available on Pandora's Box and surrounding area. It is not difficult for me to understand why explorationists rarely show persistent interest in the property. It has not been demonstrated that a large low-grade zonal type orebody should exist and there is dismay in trying to out-guess Mother Nature to spot any concentration of high-grade precious metal occurrences. If the latter statement was not somewhat true you would have produced some metal, I'm sure.

I have seldom been on a property where multiple veins have been so well exposed and where roads have been built to so many key locations. Your work with your bulldozer has been lavish and well conceived. You are to be commended for opening up the property to facilitate inspection and it is a shame all that effort has not produced a rich vein that would have abundantly rewarded you.

In spite of the exposures, I didn't have time to get a good understanding of the structural make-up of that highly disturbed piece of ground. It is more deformed than any of my experience and more extensively metamorphosed than most. A good geological mapping job should be done for non-geologists like me although I suppose the structural geologists have no trouble in interpretation.



The Pandora's Box is not the type of property Mountain States can be interested in for its account and not the kind it would refer to any of its clients at this time. However, if we are asked to name one or more precious metal prospects worthy of attention, yours would certainly be included. If you referred a party to me I would encourage a close look on the basis that an experienced engineer may recognize some meaningful features that the rest of us have missed.

Enclosed are a few pages from the "Kyanite and Related Minerals" from Bulletin 667 (1975) and the treatise from June 1977 Industrial Minerals titled "Sillimanite Minerals". I conclude your Kyanite deposit is not apt to be economically attractive for a long period, if ever.

Thanks again for your help and best of luck.

Jack C. Pierce

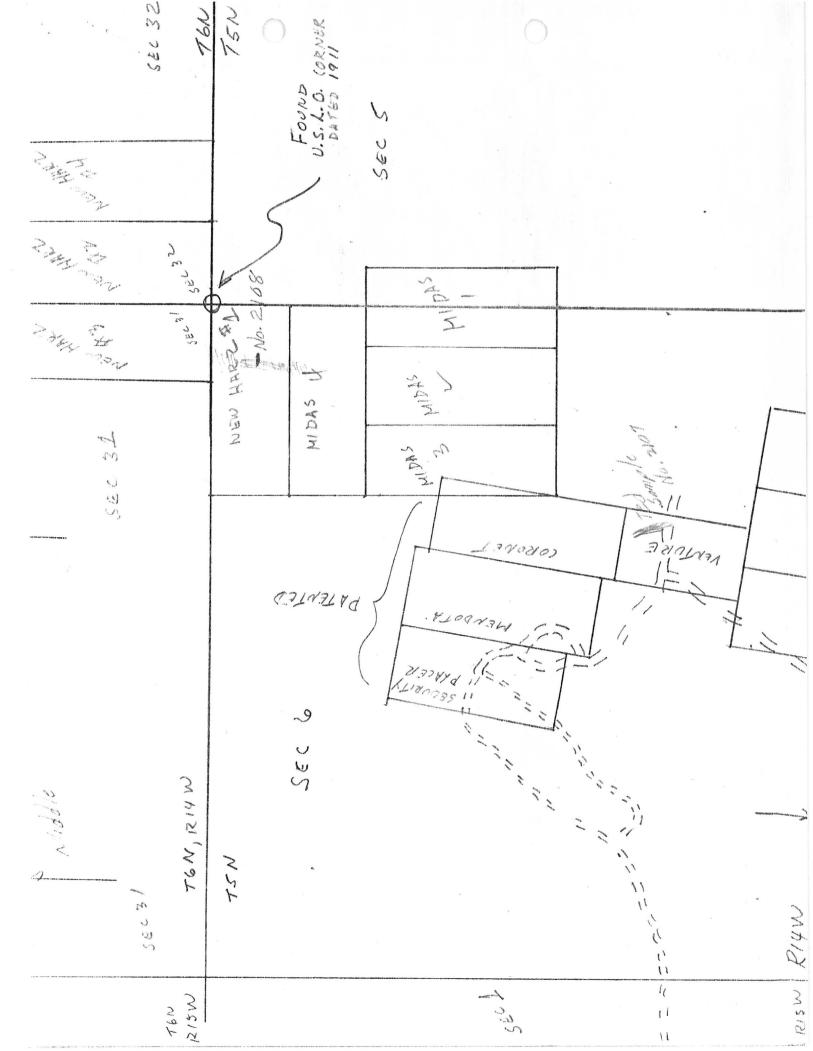
JCP/tk

Enclosure

## MOUNTAIN STATES RESEARCH & DEVELOPMENT

rtificate No.	527		CERT	FICATE (	OF ASSAY	•		,	
OJECT NO. O		2				DATE	9/1	4/78	**************************************
Sample No.				Cu %	Au	Ag		Bi O2	
293 - 2107	TED SA	1965			2004	0.04			
294-2108		i	11 27	,31	004	0.17		84.8	
295 - 2109	QUART2	ITE			002	0.07		87.1	
296 - 2110	PANDOR	1's Box	#4	.43	-264	1.72		62.4	
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CAN PERTY
JOB NO. WILLMORE PROPERTY
LOCATION PANDONOSBOX #4 DATE 9/1978
DESCRIPTION:
Grab Sample of loose Add
Will sign of sold to
Cut exposques of Vein
dipping northe t 25°
ASSAY FOR Au, Ag, Cu, SiOz
SAMPLE Nº 2110

LOCATION NEW Harg No. 1 Claim 9/9/78

DESCRIPTION:

Continuous Chip sample
of 15 ft, across a vein that
is ± 25' wide - Striking
± N25 E.

ASSAY FOR AH, Ag, Cu, SiOS

SAMPLE Nº 2108

JOB NO. WILLMORE PROPERTY

LOCATION JULFA NOG.344 DATE 9/10/78

DESCRIPTION:

Chip samples from quartzite

outcrop forming ridge some

1200' long.

Chips over lower + 800' of

Said ridge - on Sulfa No.3

ASSAY FOR Ay, Ag, Sio.

SAMPLE Nº 2109

JOB NO. WILLIMORE PROPERTY
LOCATION DATE 9-9-78

DESCRIPTION: TED SAMPLE

Grab

ASSAY FOR A4A9

SAMPLE Nº



## THE UNIVERSITY OF ARIZONA TUCSON, ARIZONA 85721

ARIZONA BUREAU OF MINES

TEL. (602) 884-2733

August 22, 1975

Mr. Ted Willmore 315 Stanford Drive S.E. Albequerque, New Mexico 87106

Dear Mr. Willmore:

This will acknowledge the receipt last July of approximately 50 pounds of ore in a paper sack marked "H-W Light Weight - Castable 30" with the note on the sack that you would phone me later. As of this date I have not heard from you, but the results of assays of a representative sample are:

Gold 7.20 ounces per ton; Silver 6.5 ounces

The one appears to be a partially rusty weathered vain quarta with some open box-work and no evident mineralization.

A preliminary panning test of a pulverized portion of the our resulted in a significant showing of very fine free gold. In addition, spectroscopic analysis of the heavy fraction revealed, traces of barium and lead; probably as carbonates or sulpheres. There were no other apparent mineral values. One approach to the determination of a treatment method is to attempt a simple shaking table test and che k the recoveries of the gold and silver. As finely divided as the gold appears to be, I don't anticipate a high (80 or .0 per carat) recovery but we might try it.

From the appearance of this sample I believe cycnidation would be most effective, but I shall wait for work from you before proceeding. Expenses thus far are less than ten dollars (\$10.00) and a cyanidation test plus additional assays would bring the total amount to about \$45.00. Please let me know what you wish.

NOTE: This sample appears to be relatively high grade compared to your other samples and could stand the more expensive leaching treatment if there is sufficient tonnage in sight. Mr. Ted Willr e . August 22, 1975 Page Two

If there are questions, please let me know. Otherwise, I shall look forward to seeing you when you are next in Tucson.

Very truly yours,

David D. Rabb

cc: W. H. Dresher

SKYLINE LABS, INC.

Hawley & Hawley, Assayers and Chemists Division 1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703

## CERTIFICATE OF ANALYSIS

Charles E. Thom Arizona Registered Assav

William L. Lehn

10 W. Grant Na., F.O. Box 50100, 100300, 100300							Arizona Registered
2) 622-4836	GOLD	SILVER	COPPER	LEAD	ZINC	МО	
SAMPLE IDENTIFICATION	oz/ton	oz/ton	90	્ર			
		37					
Float #1 Pandoras Box	0.640	5.86	1.31	10.7		4: X	
Float #2 Pardoras Eox	1.530	-2.07	0.24		·	,	
		1					
					/		9125 WILLIAM L
Mr Ted Willmore		REM	ARKS:		CENTIFIED	NY X	and to

Mr. Ted Willmore
315 Stanford S.E.
Albuquerque, New Mexico 87106

Single analysis .

ANALYSIS S

DATE HEC'D: DATE COMPL.: ASS NUMBERS

O. BOX 17960, INTERSTATE 10 AND VAIL ROAD, TUCSON, ARIZONA 85731

(602) 792-2800

April 14, 1975

Mr. Ted Willmore
315 Stanford SE
Albuquerque, New Mexico 87106

Dear Mr. Willmore:

This refers to our telephone conversation of April 11 relative to the mineral property you are interested in near Salome in Yuma County, Arizona. We understand you want a geological interpretation and preliminary evaluation made by a qualified person and ask for our capability and charges for such work.

Enclosed is a brochure briefly describing Mountain States' qualifications. We would send Tom Wayland, resume in the brochure, to work with you on this project.

We understand you would arrange to be at the property during the examination and this will considerably expedite the work. We would plan on Mr. Wayland spending two days on the property and his office time would be controlled by the nature of the written report you dictate.

Our fee for Wayland's services are \$250 per day including his travel time to and from the property which would consume one half day each way. Travel expenses are billed at cost and in-house services such as typing, duplicating, assaying are done at cost plus overhead.

Because Mountain States is a multiservice engineering company with a large talent bank, our clients have benefit of back-up talent at no extra cost if such back-up work is of minor time consequence and contributes to the overall fulfillment of the job being performed.

We would appreciate the opportunity to work with you on your Salome project.

Yours very truly,

LACK C. (

Sack C. Pierce Vice President, Mineral Development

JCP/msp





## THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

402-884-1943

ARIZONA BUREAU OF MINES

November 6, 1974

Ted Willmore 315 Stanford Drive S.E. Albuquerque, New Mexico 87106

Dear Mr. Willmore:

First may I apologize for the delay in reporting these ore test results. I have been hoping you would visit Tucson in the interim, as you indicated last August you would. You may wish to discuss the results of these tests. If so, please let me know.

As previously reported in my letters of July 11 and August 2, the 87-1b. sample of ore you delivered to me from Yuma County assayed 0.44 ounces of gold per ton, 5.5 ounces of silver, 1.75 per cent copper and (later results) 1.3 per cent lead.

A simple panning test of a pulverized sample of the ore showed the presence of free gold. In addition, a spectroscopic analysis of the panned concentrate indicated the presence of barium and lead presumably as the sulphates, barite and anglesite, or as carbonates, though acid tests were not conformatory. Neither of these minerals are expected to concentrate by flotation.

As agreed, we proceeded with standard laboratory flotation tests; in fact, three tests were run in order to compare results of different reagents and concentration ratios. Results are as tabulated on the enclosed test-data sheet.

As shown in tests 1 and 2, over 70 per cent of the gold and 60 per cent of the silver can be recovered in a relatively small weight of high-grade concentrate. If excess collector and frother is added, the concentration ratio drops from 40:1 to 10:1 and the recovery as well as grade suffers (note Test 3). Some collector 208 seems beneficial (Test 1 vs. Test 2) but additional collector and frother only lower the grade of concentrate and also the recovery.

No accounting was made of either copper or lead because these metals would not increase the salable value of the concentrate.

The grind was relatively fine, i.e., less than 1 per cent plus 65 mesh, but it is felt that recovery and grade would suffer if the grind were coarser, say 2-3 per cent plus 65 mesh.

In spite of the presence of almost 2 per cent copper in the ore, a

cyanide leach feasibility test was performed which indicated cyanide consumption was quite high, approximately 6.5 lbs. per ton of ore.

Less than 10 per cent of the gold reported with the leach solution.

## Table 1--Cyanide leach test results

				OZ.	per ton
			*	Au	Ag
		Heads		0.44	5.5
+65	mesh	Tails		0.38	2.8
		Tails		0.42	6.8

Lime requirements were minimal but the high cyanide loss plus low gold recovery were about as expected from an ore of this type. The silver recovery was also only 10 per cent of the material in the heads. Cyanidation is therefore not recommended.

An amalgamation test on another sample of the ore recovered 7 per cent of the available gold, so amalgamation is not recommended.

These results clearly indicate flotation appears to be the most reasonable beneficiation process. Further testing may discover an optimum grind, conditioning time, and choice of reagents, but it is believed the recovery of the gold and silver will not improve appreciably beyond the 75 and 60 percentage marks attained in these tests. No further tests are recommended at this time on this ore.

If there are questions, I hope you will stop by when you next come to Tucson. Please let me know if and when you are coming so I can be sure to be available.

The total charges to date have been paid by your pre-payment check last August. Thank you. It was a pleasure to be of service.

Very truly yours,

David D. Rabb Metallurgist

DDR:jg

CC: Dr. Dresher

Enc.

The Yellow Bird Mine, which was purchased February, 1977, is now part of the Pandoras Box Prospect and is contiguous to it. It is about a mile north of the ridge previously described. The Yellow Bird Mine has been so called for years because the U.S. Patent of July 13, 1916 (No. 537882) was issued to the then existing Yellow Bird Mining Company. It consists of the Mendota Lode, Coronet Lode, and Security Placer claims totaling 56.369 acres.

The field notes of mineral survey No. 1888 conducted June 24-28, 1904 describe the discovery shaft of the Mendota claim as follows:

"The discovery shaft No. 1 which bears from north end center S 90 40' W 750 feet and is 250 feet deep in rock, with drifts at 125 feet that run N 10 E 138 feet and S 10 W 60 feet. Also drifts at 200 feet that run N 10 E 294 feet and S 10 W 80 feet. Also drifts at bottom of shaft that run S 80 E 88 feet N 10 E 50 feet, N 80 W 60 feet and N 10 E 80 feet."

A second shaft on the Mendota is not mentioned in the above description apparently because it was dug subsequent to the time of the survey. This second shaft is believed to intercept the drifts emanating from shaft No. 1 so as to provide ventilation.

The shaft on Security Placer claim is described as:

"Shaft No. 1 that bears from corner No. 4 S 49 50' W
680 feet and is 7 x 5 feet by 47 feet in gravel."

This shaft has been deepened at some time subsequent to the above survey description, as it can now be seen to have standing water at about the sixty five foot level in hard rock.

The present condition of these vertical shafts, due to collapse of timbers near the surface, is such, that they cannot be entered, without a cleanup and repair job. No mining records have been found pertaining to the Yellow Bird Operation.

The Mendota Shaft No. 1 vertically penetrates a narrow quartz vein which cuts through a fairly fresh greenish porphyritic andesite (?). The mine dump consists almost entirely of the host rock. A few fragments of quartz containing visible gold were found scattered about the top of the dump. A small vein sample taken near the shaft was assayed (A.A.) by Skyline Labs, Tucson, (their Job No. 770051, February 4, 1977): it indicated 19 ppm gold, 4.4 ppm silver, 1300 ppm copper, 460 ppm lead, and 225 ppm zinc. A nearby small tailing pile was also sampled and assayed 3.9 ppm gold, 4.4 ppm silver, 2500 ppm copper, 450 ppm lead, and 300 ppm zinc.

A few hundred feet to the east of the Mendota Shaft the terrain rises to crest about 600 feet above the surrounding terrain. Numerous quartz outcrops occur on both the western and eastern slopes of this hill. Some of the veins are nearly vertical and strike N 30 - 40 W, others crossing these veins strike N 15 - 20 E. Free gold occurring in iron oxides is easily found in a number of these veins. One quartz

sample weighing about eight pounds yielded nearly a quarter ounce of gold after being crushed and panned. A sample taken by Freeport Exploration across one of the larger veins assayed 454/1000 ounce gold per ton sample No. 14516 June 13, 1977). The hill is a complex of phyllitic shales and schists together with limestone and andesite.

It is about one mile from the Yellow Bird, southward, to the first described gold bearing east-west ridge and wash. A large portion of the intervening area is littered with quartz lag, much of it indicating mineralization. Topographically the area ranges from nearly flat to low undulating hills. Detritus covers a large portion of the area with andesite and phyllitic shales emerging here and there through the detritus. Except for location work, little has been done to investigate this area. Quartz veins are to be seen crossing the bottom of the washs draining the area.

Most samples of <u>Pandoras Box</u> taken by the owners have weighed at least 50 pounds. Sampling is hard manual labor and there is always the temptation to settle for small samples. Experience on this property has proved small samples to be virtually useless. Samples taken by Freeport probably averaged 25 pounds, those by Newmont Exploration probably 15 pounds.

"The collection of an adequate sample constitutes the first step for any analysis of geologic material. To be meaningful, the sample must accurately represent a larger entity-a deposit or some portion of a deposit. A sample too small to be representative of this entity is without value. The problem of sample size is particularly acute

in the analysis for gold, which occurs significantly in trace amounts, parts per million, commonly represented by only a few particles per sample."

The difficulty of obtaining adequate and meaningful samples in itself constitues a major problem but the problem does not end there if the assayer does not also utilize a representative sample of the field sample delivered to him.

"The problem is further complicated by the size of the laboratory specimen ultimately analyzed; it may be much small-

er than the initial field sample.

For example, atomic-absorption techniques, currently used by the U.S. Geological Survey for routine analysis for gold (Lakin and Nakagawa, 1965), utilize only 10 g (gram) of material. If the field sample contains relatively few gold particles, random selection of the analytical portion may not provide a portion that is representative of the field sample. In such cases, the gold in the initial sample must be concentrated into the analytical portion (Clifton and others, 1967) or the sample must be reduced by grinding to produce a greater number of gold particles; otherwise, the most careful field sampling may prove futile."1

"For example, assume that a 2-kg sample of gold containing 20 particles of gold averageing 0.1 mg (milligram) each is brought from the field. The sample has a gold concentration of 1.0 ppm (parts per million). It is to be analyzed by an atomic-absorption process that utilizes a 10-g analyticial portion. The hypothetical sample can be divided into 200 analytical portions but contains only 20 particles of gold; the chances are only about 1 in 10 that any randomly split analytical portion will contain 1 or more gold particles. If a particle did occur in the sample, the analysis would indicate a misleading 10.0 ppm.

Such a problem results from the particle-sparsity effect (Clifton and others, 1967,), whereby the analysis for a component such as gold, based on a split of unprocessed sample, depends more upon the chance occurence of particles in the analytical portion than upon the actual concentration with-

in the sample." 1

Shorter Contributions to Economic Geology, Sample Size and Meaningtul Gold Analysis, by H. Edward Clifton, Ralph E. Hunter, Frederick J. Swanson, and R. Lawrence Phillips, Geological Survey Professional Paper, 625-C.

The silver content of the gold bearing veins of Pandoras Box has been consistently high, as is borne out by the assays of samples. Even the shales and other host rocks in the area have consistently indicated anomalous silver values.

"The crustal abundance of silver estimated to be 0.07 ppm (parts per million) (Vinogradov, 1962). It is most abundant in basalt (0.1 ppm) and igneous rocks of intermediate composition (andesite and diorite, 0.07 ppm)." 2

Although it is certainly true that the occurrance of andesitic flows does not always point to ore deposits, it is not tenuous to mention that nearly all of the discovered "bonanza" gold and silver deposits of the world have been associated with andesitic flows.

"The rich epithermal silver deposits such as Tonopah and Comstock in Nevada are associated with andesite flows and shallow intrusives." 2

"They generally occur in igeneous flow rocks and also cut the underlying or adjacent formations. They constitute the source of a large part of the worlds production of gold, silver and quicksilver, and they contain the spectacular bonanzas of the cordilleran region, of which examples are found at Tuscarora, Virginia City, Goldfield, Cripple creek, Pachuca, Guanajuato and many other districts."

<sup>&</sup>lt;sup>2</sup>United States Mineral Resources, United States Geological Survey Professional Paper 820, 1973.

<sup>3</sup>W. Lindgren and F.L. Ransome, Professional Paper No. 54 United States Geological Survey 1906.

The range of gold values so far determined to be present in the <u>Pandoras Box veins</u>, without taking into account silver values or those of base metals, lie well above the minimum value necessary to support profitable mining.

"Bedrock deposits of gold that have been mined profitably have contained gold in amounts ranging from 0.05 to 1 ounce or more per ton, but the average gold content appears to be in the range of 0.3-0.5 ounce per ton. Ore being mined at present at the three largest gold mines in the United States (Homestake, S. Dak.; Carlin and Cortez, Nev.) averages about 0.3 ounce per ton, or about 10 ppm."

Since one part per million is one gram per metric ton and one ounce of gold contains 34.1 grams, it takes only 9 parts per million to constitute a economic concentration, if other conditions are favorable.

On the basis of work done to date, the gold and silver values revealed by assays of the various samples taken, the general geologic setting, the initimate proximity of andesitic flows, the width and length of outcrops, the presence of base metals as well as considerable barium and lesser amounts of arsenic and molybdenum whose presence is generally considered to be favorable indicators, it is believed that Pandoras Box must be considered a very favorable prospect for mining.

A sensible course of action, especially where limited capital is available, would be to follow one or more of these outcropping ore shoots and to refrain from getting involved in sinking shafts or running cross-cuts until the ore body has been proven to be of considerable extent and regularity. several of the outcrippings appear to be ideally suited, as regards strike and dip, to pursue this line of attack.

"It should be stated at the outset that it is utterly impossible to accurately value any mine, owing to the
many speculative factors involved. The best that can be
done is to state that the value lies between certain limits,
and that various stages above the minimun given represent
various degrees of risk. Any value assessed must be a
matter of judgment, and this judgment based on geological
evidence. Geology is not a mathematical science, and to
attach a money equivalence to forecasts based on such evidence is the most difficult task set for the mining engineer.
Moreover, no mine starts at the surface with a large amount
of ore in sight. Yet as a general rule this is the period
when its extension is most valuable, for when the deposit
is exhausted to 2000 feet, it is not likely to have such
extension in depth as when opened one hundred feet, no matter what the ore-reserves may be." 4

<sup>4</sup>McGraw-Hill Publishing Co., Herbert C. Hoover, Mining Engineer, 1910, Principles of Mining.

## SUMMARY

- 1. The <u>Pandoras Box</u> Claim Group comprises over 400 acres, 56.36 acres of which is deeded (patented) land.
- 2. Surface exploration by removal of thick accumulation of detritus and side-hill cuts has revealed a network of quartz veins containing gold and silver as well as copper, lead, moly and in places scheelite. High grade gold has been determined over a distance of a mile. No digging into veins has been more than 8 feet deep to date.
- 3. Vein samples taken assay high grade values of gold and silver together with base metals. Assays of some shales have not shown anomalous amounts of gold, with one exception. Where zeolitic (Zeolites) alteration of shale has occured silver and lead values are to be found.
- 4. Much of the free gold is quite coarse. Thus to be effective relatively large samples must be taken. Visible gold is to be found isolated in quartz with no apparant other mineralization. But it is more often found together with iron oxides and manganese dendrites. Much of it occurs in chalco pyrite and galena.
- 5. On the basis of work done to date the veins so far revealed without undue extrapolation will support a small mining operation of perhaps 200 tons per day.
- 6. Large mining companies looking for a Carlin type gold mine which would produce several thousand tons per day of low grade product from open pits operations do not feel that this type of mine has been substantiated here.

315 Stanford, S.E. Albuquerque, New Mexico 87106 Phone (505) 255-7362

## PANDORAS BOX MINING CLAIM GROUP

The general region of Northern Yuma County presents a series of roughly parallel mountains, most of which trend from east - west to northeast - southwest. These ranges are separated by gently sloping arid valleys which drain into the Colorado River. The annual rainfall is from 3 to 5 inches. Wells drilled in the area have usually succeeded in developing water before reaching 350 feet. The climate in winter is ideal but during the summer the heat is excessive and the prosecution of surface mining becomes a hardship.

The Pandoras Box Group of unpatented mining (16) claims, as well as the adjacent patented claims, known as the Yellow Bird Mining Camp (56.34 acres), lie in the Granite Wash Mountains. The claims are located contiguously in sections 6, 7, and 8, T5N, R14W Yuma County, Arizona; which is about 14 miles (by road) from Salome. Most of the 14 miles is state maintained black top. The last 3½ miles is a dirt and gravel road which requires little maintenance due to the lack of rainfall. The area is unsurveyed but is shown on the Salome and Utting topographic quadrangles of the U.S.G.S. A Santa Fe railroad line is 3½ miles from the claims and runs northwest to California. The Central Arizona Project Canal, now under construction, is about 3 miles from the claim group.

The most recently published Geology of the area is found in U.S.G.S. Bulletin 451 by Howland Bancroft dated 1911.

The Pandoras Box Claim Group includes both the Yellow Bird Camp (patented claims) and <u>Dutch Henry's Claims</u>, which are briefly mentioned in the 1911 Bancroft Reconnaissance. The Harqua Hala Mine, long since worked out, lies 12 airline miles to the southeast. This mine produced 120, 560 ounces of gold, most of it in the space of three years (1891-94). Scheelite is currently mined from limestone 2½ airline miles to the north of Pandoras Box Group.

Within the Pandoras Box Group gold, silver, and base metal sulphides, occur in and near quartz veins which outcrop through andesite flows, phyllitic shales and dolomitic limestone. Many of the largest of these veins strike N 30° - 40 W, roughly parallel with the trend of the mountain range, with dips from near vertical to about 25 southwest and to about 10 northeast. It is possible that the metallic values are concentrated at intersections of the quartz veins with NE - SW trending faults that are expressed as topographic lows.

The area around the Pandoras Box Group was initially prospected by the author in the late sixties and early seventies. The first claims were established in June of 1973. At this time several samples were taken containing visible free gold. After removing the visible gold these samples were assayed by John Husler, chemist, Department of Geology, University of New Mexico. These early analysis by atomic absorption confirmed the presence of appreciable quantities of gold and silver.

In June of 1974 a composite sample was taken from a small dump, probably the dump of the <u>Dutch Henry</u> workings mentioned by Bancroft. This 87 pound sample was sent to the Bureau of Mines, University of Arizona, Tucson for assay. Their report in a letter dated July 11, 1974 is exhibit 1. Further tests of this same sample are reported in their letter of November 6, 1974, (exhibit 2). The assay indicated 44/100 ounce of gold, 5.5 ounces of silver, 1.75 per cent copper and 1.3 per cent lead per ton.

Throughout 1974 a John Deere crawler loader was used to aid prospecting. In July 1975 an Allis-Chalmers HD-21 was employed to remove detritus from the bottom of a small wash located in sections 7 and 8 of the claims. Previous prospecting had revealed the presence of float containing visible gold distributed over a length of about 1500 feet This float consists of partially decomposed of this wash. quartz, which contains hematite and limonite. Much of the float turned up by the bulldozer was gathered into a pile of several tons, approximately 250 pounds of which was taken to the Bureau of Mines in Tucson where it was crushed to about 3/8 inch maximum. It was thoroughly mixed and split into a analytical fraction through a Jones-Type sample splitter to insure a high degree of homogeneity of gold distribution within the sample. The end product weighing about 50 pounds was left with the Bureau for Analysis and their letter of August 22, 1975, (exhibit 3) reported 7.2 ounces of gold and 6.5 ounces of silver per ton in the sample.

A number of quartz veins were uncovered by the removal of detritus in the wash. One of these was dug into, and after the removal of about three feet of quartz vein material that appeared to be decomposed and leached, the quartz became richer in iron and black manganese oxides. Occasional visible gold was to be seen in this ore, together with copper and lead carbonates as well as wulfenite crystals. Several tons of this ore was removed and about 135 pounds of the lot was sent to the Bureau Mines for assay. Their letter of September 22, 1975, (exhibit 4), reported 37/100 ounce of gold and 3.7 ounces of silver per ton. Meanwhile two other float samples gathered from the wash were assayed by Skyline Labs, Inc., Tucson, to contain 1.53 ounces of gold, 2.89 ounces of silver and 64/100 ounce of gold and 5.86 ounce of silver (exhibit 5). In April of 1976 about twenty tons of ore were removed from this same quartz vein. Upon examination with an ultraviolet lamp, the ore revealed an appreciable amount of scheelite. A representative sample of the ore was assayed by Skyline Labs, Inc., May 3, 1976, whose report showed 80/100 ounces of gold and 2.74 ounces of silver, per ton, 0.71% copper, 0.91% lead and 0.023% molybdenum (exhibit 6).

The quartz veins uncovered in the wash are essentially parallel to each other and average over 10 feet in width.

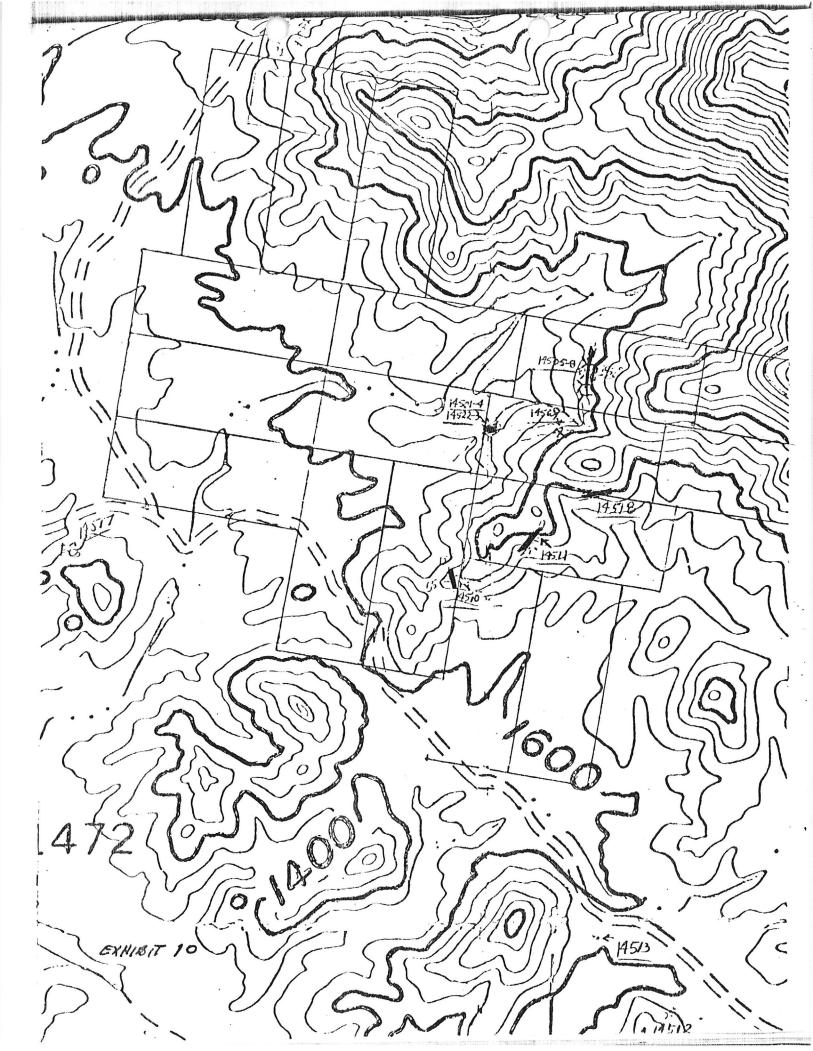
They are separated by schist, phyllites, and andesite altered to a dull green-grayish color.

The wash is paralleled on the south by a ridge that gradually rises about 200 feet. The ridge runs northeast - southwest. About 2500 feet west of the wash the ridge is intercepted by a cone-shaped hill of dark dense trap rock (basalt?). ning southward from the ridge is a propylitized andesite. ridge itself is composed mainly of altered phyllites and shales penetrated by mineralized quartz veins. At its base the ridge is about 1200 feet wide. A number of gold and silver bearing veins outcrop throughout the north and south slopes of the ridge. These outcrops which generally strike northeast-southwest are separated by altered shales. Zeolitic zones occur in the shales between veins. In several places the veins rest against propylitized The only sizeable side-hill cut (other than road cuts) andesite. bulldozed into these veins exposes 14 feet of a vein measured from top to bottom (see Figures 1 and 2). It strikes northeast-southwest and dips  $25^{\circ}-30^{\circ}$  northwest. A 10 pound localized sample taken from this vein assayed 9/100 ounce of gold and 28 ounces of silver (Exhibit 7, Skyline Labs, Tucson). An emission spectrograph of this same sample (Exhibit 8) indicated lead, strontium, barium, silver, arsenic, copper and zinc with lesser amounts of antimony, bismuth and chromium. Above the vein occur several more veins, again, separated from each other by a few feet of shale. It is planned to bench the slope of the ridge by bulldozing into these veins. A representative sample taken of one of these veins assayed 245/1000 ounce of gold and 5.95 ounces of silver (Item No. 3, Exhibit 6, Skyline Labs). A surface grab sample taken by Freeport near the top of the ridge and about 600 feet to the south assayed 784/1000 ounce of gold and 2.34 ounces of silver (Sample No. 14510, Exhibit 10). The only evident mineralization here is iron oxides, mainly limonite.

315 Stanford, S.E. Albequerque, New Mexico 87106 Phone (see ) 255 / 262

It appears feasible that a mining operation into the side of the ridge might be conducted as a 'glory hole' type of open pit, undercutting about 20 feet of overburden. This would be a low cost operation. It would require periodic caving and removal of the overburden.

Most of the samples taken by Freeport Exploration were of country rock, consisting of shales. Their target was to find and develop another Carlin or Cortez type of disseminated gold deposit. Assay results of shale samples taken by Freeport did not indicate anomalous gold or silver, although the sampling was very limited.



Paroona's Box Groco

Cross Section

FIGURE 3



## THE U IVERSITY OF ARI JNA

TUCSON, ARIZONA 85721

ARIZONA BUREAU OF MINES

TEL. (602) 884-2733

August 22, 1975

Mr. Ted Willmore 315 Stanford Drive S.E. Albuquerque, New Mexico 87106

Dear Mr. Willmore:

This will acknowledge the receipt last July of approximately 50 pounds of ore in a paper sack marked "H-W Light Weight Castable 30" with the note on the sack that you would phone me later. As of this date I have not heard from you, but the results of assays of a representative sample are:

Gold 7.20 ounces per ton; Silver 6.5 ounces

The ore appears to be a partially rusty weathered vein quartz with some open box-work and no evident mineralization.

A preliminary panning test of a pulverized portion of the ore resulted in a significant showing of very fine free gold. In addition, spectroscopic analysis of the heavy fraction revealed traces of barium and lead; probably as carbonates or sulphates. There were no other apparent mineral values. One approach to the determination of a treatment method is to attempt a simple shaking table test and check the recoveries of the gold and silver. As finely divided as the gold appears to be, I don't anticipate a high (80 or 90 per carat) recovery but we might try it.

From the appearance of this sample I believe cyanidation would be most effective, but I shall wait for work from you before proceeding. Expenses thus far are less than ten dollars (\$10.00) and a cyanidation test plus additional assays would bring the total amount to about \$45.00. Please let me know what you wish.

NOTE: This sample appears to be relatively high grade compared to your other samples and could stand the more expensive leaching treatment if there is sufficient tonnage in sight. Mr. Ted Willmore August 22, 1975 Page Two

If there are questions, please let me know. Otherwise, I shall look forward to seeing you when you are next in Tucson.

Very truly yours,

David D. Rabb

cc: W. H. Dresher

## THE U.IVERSITY OF ARIZINA

## ARIZONA BUREAU OF MINES

MINERAL TECHNOLOGY BRANCH TUCSON, ARIZONA 85721

TEL. (602) 884-1943

May 21, 1976

Mr. Ted Willmore 315 Stanford Drive SE Albuquerque, New Mexico 87106

Dear Mr. Willmore:

This will acknowledge the receipt of your check and assure you that your account is paid in full.

I am still holding the sample of ore received last September via Continental Trailways, a rusty, weathered quartz which assayed an average value of 0.37 ounces of gold per ton and 3.7 ounces of silver. These numbers were reported to you in my letter of September 22, 1975. I shall look forward to seeing you again if you come to Tucson.

Thank you.

Sincerely,

David D. Rabb Metallurgist

cc: W. H. Dresher

Director



## THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

ARIZONA BUREAU OF MINES

TEL. (602) 884-2733

September 22, 1975

Ted Willmore 315 Stanford Drive SE Albuquerque, New Mexico 87106

Dear Mr. Willmore:

Your most recent shipment of ore, the 135-1b sample in a can, was received from Continental Trailways on September 10, 1975. The material was principally a rusty weathered quartz, and panning a pulverized sample of the material did not reveal any visible free gold. Further, there were no other evident minerals of value except for a trace of white heavy fines. A spectroscopic test of this white material indicated the presence of lead and barium, but in very minor concentrations.

Results of assays of duplicate representative samples were as follows:

		ounces	pe	r. con
		gold		silver
Sample	1	0.36	٠,٠	3.8
Sample		0.38		3.6

Though the assay results are not in exact agreement, I believe re-assays are not necessary. This particular ore might be amenable to treatment by cyanidation but only if there is a sufficiently large tonnage to warrant the expenses of sampling, shipment, and treatment. Judging from the wide disparity between the values of the three ore samples you sent us in the past year, I imagine the deposits are typical surface-weathering enrichment of relatively small tonnages, erratic in values. Mining should probably be accompanied by frequent sampling and should be selective, taking only the higher-grade ores.

I shall wait until I hear from you but at this moment I do not feel further testing is worthwhile. Please let me know what you want.

Total charges for work thus far, including assays and examination of the 7.2 ounce gold sample last August, amount to fourteen dollars (\$14.00). Please remit payment to the Arizona Bureau of Mines. An invoice is enclosed for your convenience. Thank you.

Very truly yours

David D. Rabb

Metallurgist

DDR: jg

CC: W.H. Dresher

EXHIBIT 4

Charles E. Thompson SKYLINE LABS, INC. Arizona Registered Assayer No. 9427 Hawley & Hawley, Assayers and Chemists Division CERTIFICATE OF ANALYSIS William L. Lehmbeck 1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703 Arizona Registered Assayer No. 9425 (602) 622-4336 SILVER COPPER LEAD GOLD SAMPLE IDENTIFICATION oz/ton oz/ton çò ક 0.540 5.83 1.31 10.7 Float #1 Pardoras Box 1.530- 2.37 0.24 Float #2 Pandoras Box Date. CERTIFIED BY: RMARKS: Mr. Ted Willmore 315 Stanford S.E. Single analysis CHARGES: Albuquerque, New Lexico 87106 PREPARATION S ANALYSIS \$ 27.25 DATE COMPL.: JOB NUMBER: D.TE REC'D: 6/10/75 6/17/75 751236 . 27.25Pai

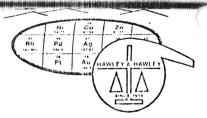




## CERTIFICATE OF ANALYSIS

SAMPLE IDENTIFICATION	Au oz/tor	Ag oz/ton	Au *	Ag * oz/ton	Cu *	РЬ <b>*</b> %	Mo *	
Cap Average Hillside Garbage Backroad #1 Backroad #2	0.095	0.41	0.245 <0.005 <0.005 <0.005	5.95 <0.01 <0.01 <0.01	0.71	0.91	0.023	
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	Cap Average Hillside Garbage Backroad #1 Backroad #2  Ted Willmore ndoras Box x 61 lome, Arizona 85348  : Charles Willmore	Cap Average Hillside Garbage Backroad #1 Backroad #2  Ted Willmore ndoras Box x 61 lome, Arizona 85348  : Charles Willmore	Cap Average Hillside Garbage Backroad #1 Backroad #2  Ted Willmore ndoras Box x 61 lome, Arizona 85348  Charles Willmore	Cap	Cap Average Hillside Garbage Backroad #1 Backroad #2  Ted Willmore Indoras Box x 61 lome, Arizona 85348  Cap Average Hillside Garbage Backroad #2  O.295 (O.005 (O.005 (O.001 (O.005 (O.005 (O.001 (O.005 (O.001 (O.005 (O.001 (O.005 (O.001 (O.005 (O.005 (O.001 (O.	Cap	Cap	Cap

Charles E. Thompson SKYLINE LABS, INC. Arizona Registered Assayer No. 9427 Hawley & Hawley, Assayers and Chemists Division CERTIFICATE OF ANALYSIS William L. Lehmbeck 1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703 Arizona Registered Assayer No. 9425 (602) 622-4836 Emission GOLD SILVER COPPER ZINC MO Spectrographic oz/ton oz/ton SAMPLE IDENTIFICATION Analysis \*\* 28.07 0.090 Upper Bench WILLIAM L CERTIFIED BY: REMARKS: Mr. Ted Willmore Single analysis by A.A PANDORA'S BOX \*\* To follow 315 Stanford, S.E. MATION S 1.25 Check #1264 Albuquerque, New Mexico 87106 ANALYSIS \$ 4.25 DATE REC'D: DATE COMPL.: JOB NUMBER: 16.50 PAID 3/2/77 770332 2/10/77



KYLINE LABS, INC.
Idawley & Hawley, Assayers and Chemists Division
P.O. Box 50106 • 1700 West Grant Road Tucson, Arizona 85703 (602) 622-4836

## REPORT OF SPECTROGRAPHIC ANALYSIS

Job No. 122626 H&H No. 770332 February 26, 1977

Mr. Ted Willmore Pandoras Box 315 Stanford S.E. Albuquerque, New Mexico 87106

Values reported in parts per million, except where noted otherwise, to the nearest number in the series 1, 1.5, 2, 3, 5, 7 etc.

	Sample Number
Element	Upper Bench
Fe	3%
Ca	.2%
Mg	.07%
Ag	500 ~
As	<500 ~
B	15
Ba	500
Be	<2
Bi	100
Cd	<50
Co	<5
Cr	200 ~
Cu	1,500 ~
Ga	<10
Ge	<20
La	30
Mn	20
Mo	50
Nb	<20
Ni	5
Pb Sb Sc Sn Sr	>10,000 \( \times \) 200 \( \times \) <10 <10 5,000
Ti	500 V
V	50
W	<50
Y	10
Zn	500 V
Zr	50

William L. Lehmbeck Manager

EXHIBIT 8

Charles E. Thompson Arizona Registered Assayer No. 9427 William L. Lehmbeck



### FREEPORT EXPLORATION COMPANY

SUITE 121 / 655 NORTH ALVERNON WAY TUCSON, ARIZONA 85711 PHONE: (602) 881-8070

June 27, 1977

Mr. Ted Wilmore 315 Stanford S.E. Albuquerque, New Mexico

Dear Ted:

All of the assays covering the samples I took on the Pandora's Box claims are in. As we discussed on the phone, the high grade gold values appear to be confined to small shoots within the larger quartz veins. Unfortunately, the wall rock assays were disappointingly low. The potential tonnage is far too small for Freeport and, therefore, we have no more interest in the claims at this time. However, because of the near surface exposure and high grade, a small mining operation might be tenable, providing of course, sufficient tonnage could be proven.

Included are assays and sample descriptions for all sampling on or adjacent to your claims. Thank you for contacting Freeport and giving us the opportunity to examine and evaluate your claims.

Sincerely,

Joseph A. Kantor Senior Geologist

JAK/bjm Enclosures

# AMERICAN ANALYTICAL and RESEARCH L. BORATORIES

ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85714

			xploration	Company		DAT	E June 13,	1977
SAMPLE SUF	MITTED BY.	Accaus	xpioración	COMPACT			A.A.	PPM
	FIRE-	ASSAUS -	PER CENT	PERCENT	PERCENT	PERCENT MOLYBOENUM	PPM As	Sb
THE MARKED	GOLD OZ./TON	OZ./YON	COPPER	LEAD	ZING	MOCTBOCKOM		
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14506	.006	0.54	11	\\		· · · · · · · · · · · · · · · · · · ·	19	< 5
14507	.003	0.36	channel			. `	10	6
14508	.228_	3.91	mixed hig	rude -VIS. 9	old remove	<u>{</u>	106	10
14509	.004	0.21	channel	hale (15)	)		34	8
14510	.784	2.34	Small VE	in above	adit.		92	< 5
14511	.027	4.19	channel)	8',			60 -	14
14512	.001	0.06	Red sho	Ve.			34	< 5
14513	.002	0.09	11 11				17	< 5
The second secon	.003	0.17	Laxton d	u m D			34	< 5
14514	.005	0.16	"	′•			40	<.5
	.454	0.83	CAXION VEIN	orterop			. 1.9	< 5
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## THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

ARIZONA BUREAU OF MINES

TEL. (602) 884-2733

July 11, 1974

Ted Willmore 315 Stanford Dr. SE Albuquerque, N. M. 87106

Dear Mr. Willmore:

The 87-1b. sample of ore you delivered to me from Yuma County assayed 0.44 ounces of gold per ton. The material is principally a weathered alteraquartz schist with oxidized copper showings. No determination was made of the copper content (which is evidently a percent or so) nor of the silver (which is improbable).

A panning test of a pulverized sample of the ore revealed a small quantity of free gold. Consequently, a simple amalgamation test was performed, results of which indicated less than 25 percent of the total gold present was recovered. Amalgamation does not appear to be a favorable approach to beneficiation of this ore.

Since the ore evidently contains appreciable copper, cyamidation is not recommended as a method to recover the gold. Too expensive. Copper consumes expensive cyamide rapidly.

An alternative may be flotation, if sufficient ore reserves warrant a mill and if water is available. If you wish we could run some flotation tests on the remaining sample we have on hand to determine if the gold can be concentrated by this method and to what extent.

The cost to you would be approximately \$50.00 for tests, assays and report. I recommend this additional testing only if you know there are several thousand tons of ore proven or probable and if you have a usable mill site with water near by.

In the meantime, the total charges to date for assays and the ore examination is \$15.00. Please remit payment to the Arizona Bureau of Mines.

If there are questions or if we can be of further service please let me know.

Very truly yours,

David D. R.H.

Mining Engineer

DDR:nb

cc: Dr. Dresher



# THE UNIVERSITY OF ARIZONA TUCSON, ARIZONA 85721

ARIZONA BUREAU OF MINES

November 6, 1974

Ted Willmore 315 Stanford Drive S.E. Albuquerque, New Mexico 87106

Dear Mr. Willmore:

First may I apologize for the delay in reporting these ore test results. I have been hoping you would visit Tucson in the interim, as you indicated last August you would. You may wish to discuss the results of these tests. If so, please let me know.

As previously reported in my letters of July 11 and August 2, the 87-1b. sample of ore you delivered to me from Yuma County assayed 0.44 ounces of gold per ton, 5.5 ounces of silver, 1.75 per cent copper and (later results) 1.3 per cent lead.

A simple panning test of a pulverized sample of the ore showed the presence of free gold. In addition, a spectroscopic analysis of the panned concentrate indicated the presence of barium and lead presumably as the sulphates, barite and anglesite, or as carbonates, though acid tests were not conformatory. Neither of these minerals are expected to concentrate by flotation.

As agreed, we proceeded with standard laboratory flotation tests; in fact, three tests were run in order to compare results of different reagents and concentration ratios. Results are as tabulated on the enclosed test-data sheet.

As shown in tests 1 and 2, over 70 per cent of the gold and 60 per cent of the silver can be recovered in a relatively small weight of high-grade concentrate. If excess collector and frother is added, the concentration ratio drops from 40:1 to 10:1 and the recovery as well as grade suffers (note Test 3). Some collector 208 seems beneficial (Test 1 vs. Test 2) but additional collector and frother only lower the grade of concentrate and also the recovery.

No accounting was made of either copper or lead because these metals would not increase the salable value of the concentrate.

The grind was relatively fine, i.e., less than 1 per cent plus 65 mesh, but it is felt that recovery and grade would suffer if the grind were coarser, say 2-3 per cent plus 65 mesh.

In spite of the presence of almost 2 per cent copper in the ore, a

cyanide leach feasibility test was performed which indicated cyanide consumption was quite high, approximately 6.5 lbs. per ton of ore.

Less than 10 per cent of the gold reported with the leach solution.

### Table 1--Cyanide leach test results

	OZ.	per ton
	Au	Ag
Heads	0.44	5.5
+65 mesh Tails	0.38	2.8
-65 mesh Tails	0.42	6.8

Lime requirements were minimal but the high cyanide loss plus low gold recovery were about as expected from an ore of this type. The silver recovery was also only 10 per cent of the material in the heads. Cyanidation is therefore not recommended.

An amalgamation test on another sample of the ore recovered 7 per cent of the available gold, so amalgamation is not recommended.

These results clearly indicate flotation appears to be the most reasonable beneficiation process. Further testing may discover an optimum grind, conditioning time, and choice of reagents, but it is believed the recovery of the gold and silver will not improve appreciably beyond the 75 and 60 percentage marks attained in these tests. No further tests are recommended at this time on this ore.

If there are questions, I hope you will stop by when you next come to Tucson. Please let me know if and when you are coming so I can be sure to be available.

The total charges to date have been paid by your pre-payment check last Thank you. It was a pleasure to be of service.

Very truly yours,

David D. Rabb

Metallurgist

DDR: jg

CC: Dr. Dresher

Enc.

# UNIVERSITY OF ARIZONA ARIZONA BUREAU OF MINES ORE TESTING BERVICE

Ore No...2239

Test Nos. 1. 2, and 3

### Conditions and Rengents

Point of	(	Condition	ıs		THEFT AT A TILL	ALL DESCRIPTION OF THE PARTY OF	Rea	gents Po	unds Per	Ton			
Addition	Time Mins.	.% Solids	pН	P.O.	208	301	15	:F0FE.******			:		er-
Ball Mill	14	60	7.5	0.05						trade again to be all granders.		·· <del>·····</del>	
Float	_10	23	7.5		0.1					er er <del>dannert er flysta flysta flysta flysta</del>			
							<u> </u>						
Ball Mill	14	60	7.5	0.05	0.2				**** *				
Float	10	23	7.5			0.1							
Ball Mill	14	60	7.5	0.3	0.1								
TO CHARLES AND AND LIFE EVEN AND AND AND AND AND AND AND AND AND AN	10	23	7.5		J	0.1	0.1						

Remarks:

### Metallurgical Products

						THE PERSON AND THE PE		*CT#FUFFICES	PER DEPARTMENT AND AND ADDRESS.		NEW ATTENTION
P (EL) TOCOL (SERVICE AND ASSESSMENT CONTROL OF THE SERVICE ASSESSMENT ASSESS	Tonsin	oz. per ton Assays						% of Total			
Product	100 Tons Feed	Au	Ag	Cu,%	Pb,%	concentration ratio	Au	Ag	Cu	Pb	
Conc.	2.5	12.75	136.34	ND	ND	40:1	74	62			
Tails	97.5	0.12	2.1	60 Cd	ND		26.	38			
Conc.	2.5	12.70	131.72	500 W-0	1.4	40 1	73	60	su so		
Tails	97.5.	0.12	2.1	eq #18	1.3		27	40			
Conc.	10.0	3.02	37.7	2.1	1.4	10:1	59,	66	5	3	
Tails	90.0	0.21	2.0	1.5	1.3		41	34	95	97	
llead	100.0	0.44	5.0	1.75	1.3						

Remarks:

P.O. = Pine Oil

208 = Aeroflot Reagent `208 collector

301 =

301 collector

15 =

15 frother

EXHIBIT 2

### NEWMONT EXPLORATION LIMITED

A SUBSIDIARY OF NEWMONT MINING CORPORATION

200 WEST DESERT SKY ROAD

TUCSON, ARIZONA 85704

May 9, 1977

Mr. Ted Wilmar 315 Stanford Street Albuquerque, New Mexico 87106

Re: File No. 2492

Ted Wilmar Gold Property Yuma County, Arizona

Dear Mr. Wilmar:

Enclosed are assays of the samples that were taken from your property on March 18th by Mr. Enright. Only the samples from the large silver vein were assayed. I have converted the assays from ppm to oz/ton and noted the values on the enclosed sheets.

We did not feel that it was necessary to assay the sample taken from your gold vein as the vein did not appear to be large enough to meet Newmont's requirements. The sample we have does contain visible free gold.

I regret to inform you that Newmont has decided not to proceed with the investigation of your property. We believe that the veins, even though high grade, are too small to meet our requirements. This does not imply that the mineralization cannot be mined profitably on a smaller scale.

Even though Newmont has decided not to proceed with the investigation of your property, I would like to thank you for favoring Newmont with your submittal.

Sincerely yours,

Franco Cusencol

John F. Arseneau

JFA:mk Enclosures



TUCSON, ARIZONA 85716

## Certificate of Analysis

Date:

March. 25, 1977

Client:

Newmont Exploration 200 Desert Sky Rd.

Tucson, Arizona

RMGC Numbers:

Local Job No.:77-41-9TP

Foreign Job No.:....

Invoice No.: T 6813

Client Order No.:

Report On:

3 samples

Submitted by:

M. Enright

Date Received:

Mar. 22, 1977

Analysis:

Gold, Silver

Analytical Methods:

Determined by atomic absorption.

Remarks:

Spec. result to follow.

Aq fire-assay on sample 7135 to follow from SLC.

Enc.

RMGC: SLC

file

PDW/sl

Sample No.	ppm) Gold	08/ Ton	ppm Silver	03/2m
7134	5.9	.17	. 11	.32
7135	6.5	.18	+100	See second
				sheet for fire assay

Parry D. Willard

EXHIBIT 9

All values are reported in parts per million unless specified otherwise. A minus sign (---) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission. ND == None Detected 1 ppm == 0.0001% 1 Troy oz./10n == 34.286 ppm 1 ppm == 0.0292 Troy oz./ton



## Certificate of Analysis

Date:

April 13, 1977

Client:

Newmont Exploration

200 West Desert Sky Road

Tucson, Arizona

RMGC Numbers:

Local Job No.: 77-41-27-51

Foreign Job No.: 77-41-9T

Invoice No.: M 90412

Client Order No.:

none

Report On:

1 Sample

Submitted by:

M. A. Enright

Date Received:

3/30/77

Analysis:

Silver

Analytical Methods:

Determined by fire assay.

Remarks:

cc:

enc.

file (2)

Sample No.

RMGC - Reno report:

LRR/lw

oz/ton

Silver

7135

5.21

EXHIBIT 9

All values are reported in parts per million unless specified otherwise. A minus sign (--) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission. 1 ppm = = 0.0292 Troy oz./lon 1 ppm ... 0.0001% 1 Troy oz./Ion = 34,286 ppm . Hone Detected

		70	. ilc	
176	11:117	1.6	. 170	-
71	34			
, ,				

(+155)	
Hajor	
Aluminum	
Iron	
Silicon	

(	.01%	to	10)	
•	<u> 115</u>	1101	-	

(less than .01%) Trace

Calcium Copper Lead

Manganese Nickel Silver Zinc

~ Hagnesium Potassi.un

· Titanium

Sample No. 7135

Major Aluminum Calcium Iron Silicon

Hinor

Copper(high) Lead Magnesium Manganese Potassium Titanium Zinc

Trace Barium Cobalt Nickel Silver

Resulto of qualitative spectrographic analysis

O. G. reland Parry D. Willard

LECT LASCIMENTED BOLD LOCAL COTA

PYNINIT 9

## PANDORAS BOX MINE CAPITAL REQUIREMENTS

To mine Pandoras Box, it is neccesary, among other things, to provide space for one trailer. Living accommodations are essentially non-existent in the area. This is due to the nearby Central Arizona Water Project. This waterway will run a few miles to the west of Pandoras Box Mine. Construction workers have taken over virtually all accommodations in the area and the housing situation will remain critical at least until completion of the waterway in 1984.

Trailer hookup facilities will be provided initially for one trailer on the 56 acres of deeded land which is a part of the Pandora's Box claim group. Here also a shop building will be erected for equipment storage and maintenance. The existing water well is to be used for domestic purposes and a 3-phase 65 kva diesel driven generator installed, together with a 6 kw single phase generator for backup. Another water well at the mine site (3/4 mile south) will provide water to the mine for drilling.

It will take 6 to 8 weeks to implement the erection of a concrete shop building and provide electrical and water facilities. A breakdown of the estimated costs follows:

1.	Concrete Block & Stone Building	3,000
	Foundation and walkways	1,000
	Swamp cooler (used)	300
	Electrical	400
	Plumbing	300 \$ 5,000
.2.	Water Well Pump and accessories Concrete, water pressure system	On Hand 650
3.	Electrical 3-phase generator (65 kva used) panel and distribution	5,000 750 \$ 6,400

4.	Plumbing Trailer spaces Septic tank	600 700
5.	Fuel	300
6.	House trailer	4,000
7.	Labor (including self)	2,350
		\$ 7,950

A large amount of equipment is already on hand. This equipment will be sold to the mining operation for \_\_\_\_\_, which is considerably below its market value. Following is a list of this equipment:

## Capital Equipment Equipment Listed Below

1.	D7 caterpillar (3T/1/57SPG) Joy caterpillar air compressor (959558) Michigan Crane TM-6 (serial 526) 22' dual axle steel trailer Cedar Rapids vibrating screen 10,000 steel water tank Universal jaw crusher 60' bucket elevator 15 HP explosion proof 3-phase motor 40 HP explosion proff 3-phase motor Welding torches, gauges, oxygen acetylene bottles, lines, etc. Ore Bin steel Air hose 300 feet new	On hand
	200 feet used Air tools: Thor rock drill Ingersoll-Rand rock drill Tools: 3/4" drive and socket set 1/2" drive and socket set 1/4" drill and socket set Miscellaneous wrenches, elect.	On hand On hand On hand On hand On hand
	drills, skilsaw, etc. Electrical: 150 ft. 00 gauge, 3-wire copper and neoprene cable General Electric circuit breaker load center, battery charger.	On hand
	Reda 4" submergible pump (3-phase) Water well pipe and fittings and wiring Diesel handpump, six 55-gal. drums	On hand On hand On hand

Pandoras Box claim group has a number of vein outcroppings which can be mined with good expectations. One of these which has been selected to begin operations assays .78 oz. of gold at the surface. It is exposed by a sidehill cut. Three days of bulldozer work and cleanup will be required to precede mining. Another vein which has assayed variously from .81 oz. to 1.3 oz. gold will require a week of deadwork at the surface prior to actual mining. At the entry point some steel reinforced concrete will be placed for safety reasons. These veins are of sufficient width to develop a full ore face while advancing a 6' x 7' tunnel.

In addition to equipment already on hand, procurement of the following equipment is essential:

Laboratory small crusher	250
disc pulverizer	350 500
Jones-type splitter	150
	1,000
Mining Equipment	·**
Front end loader (used)	7,500
Rock drill (I-R JR300A or equal)	1,000
72" telescopic feed leg Knock off bits and 11 <sup>°</sup> taper steel	400 800
Sump Pump (or diaphram pump) PDa20	600
	ture - deliberation -
	10,300
Small Tools pipe cutter, cable cutter, pipe threaders, etc.	500
Electrical	
Generator	600
Conduit, wiring, boxes	1,300
Ball Mill	3,000
Shaking Tables (2)	1,200
Blasting equipment	800
Concrete and steel	600

Water Pump and accessories Pvc pipe and fittings	900 400 \$ 1,300
Truck Heavy dump (used)	3,500
To be Purchased	\$43,950

## 3 Months Mining

A 6' x 7' tunnel will be advanced six feet per day for a single shift employing one experienced miner and a helper. The two miners will drill, load, shoot and receive help from a third man, the roustabout, in mucking out the round, whether by use of a loader or a slusher or both. Actual ore production is assumed to vary from 16 tons to 20 tons per day, depending on rock conditions. During a 3-month period ore will be produced on 50 to 65 working days, again depending on conditions. Worst case assumed 16 tons per day for 50 days or a total production of 800 tons. Best case assumed 20 tons per day for 64 days or a total of 1300 tons.

The following expense budget assumes 65 days of mining activity for a single shift of 8 hours

Assays Sample sacks	600 50
Explosives Anfo (ammonium nitrate, fuel oil) Primer, caps, etc. Misc.	800 300 250 \$ 1,350
Fuel No. 2 diesel @ 75¢/gal Gas L.P. Oil	3,200 500 100 100 \$ 3,900

Insurance	\$ 1,000
Clerical	200
Parts and maintenance	2,000
<pre>Labor   1 miner 10.00/hr, 8 hr/day x 65 days =   1 helper 6.00/hr, 8 hr/day x 65 days =   1 roustabout 5.00/hr, 8/h4/day x 65 days =   Supervisor, 300/wk</pre>	5,200 3,120 2,600 3,900 \$14,820
3 Month Total Expense	\$23,920

### Value of Product - 3 Months

Assays have indicated a fairly consistent silver content of about 5 oz/ton. All of the following estimates assume 4 oz/ton at a value of 6.50 per ounce, or 26.00 per ton of silver.

Table 1 indicates the total ore tonnage which would be attained over  $\frac{1}{3}$  months.

TABLE 1

Tons Per day	50 days	55 days	60 days	65 days
16	800	880	960	1040
17	850	935	1020	1105
18	900	990	1080	1170
19	950	1045	1140	1235
20	1000	1100	1200	1300

Table 2 indicates the money value of the various tonnages taken from Table 1 calculated over a range of the indicated hundredths of an ounce of gold. Gold is assumed to be valued at \$200 per ounce and the silver content to be a constant at 4 ounces per ton and \$6.50 per ounce.

The worst case shown is \$76,800 which would result from mining 16 tons per day for 50 days of ore grading .35 oz. per ton.

TABLE 2 Gold at \$200/oz. and Silver at \$6.50/oz.

Tons 3-Months Period	.35 oz	.40 oz	,50 oz	.60 oz	.70 oz
800	76,800	84,800	100,800	116,800	132,800
850	81,600	90,100	107,100	124,100	141,100
900	86,400	95,400	113,400	131,400	149,400
950	91,200	100,700	119,700	138,700	157,700
1,000	96,000	106,000	126,000	146,000	166,000
1,045	100,320	110,770	131,670	152,570	173,470
1,100	105,600	116,600	138,600	160,600	182,600
1,140	109,440	120,840	143,640	166,440	189,240
1,200	115,200	127,200	151,200	175,200	199,200
1,300	124,800	137,800	163,800	189,800	215,800

Silver @ 6.50/oz. x 4 oz./ton = \$26.00/ton Gold .35 oz./ton @ \$200/ton = \$70.00 + 26 = \$96 .40 oz./ton @ \$200/ton = \$80.00 + 26 = \$106 .50 oz./ton @ \$200/ton = \$100.00 + 26 = \$126 .60 oz./ton @ \$200/ton = \$120.00 + 26 = \$146 .70 oz./ton @ \$200/ton = \$140.00 + 26 = \$166

After 3 months of mining Pandoras Box, some 350 to 400 feet of underground workings will have been created. During mining operations samples will be taken and submitted to the Arizona Bureau of Mines in Tucson to determine optimum metallurgical recovery procedures. At this time, more information will be available as to the nature of the structure, grade and extent of ore.

Trailer, shop, waterwell and electrical	\$ 19,350
Additional equipment	24,600
3-months mining expense	23,920
TOTAL	\$ 67,870
Product value-estimation 3-months mining	110.000
Capital required	70,000

# MILSWORT, DISTRICT MID 5 N., REN 14W.

Expenditure of five HUNDRED DOLLARS:

I certify that the value of labor and improvements upon this claim, placed thereon by the claimants and its grantors is not less than five hundred dollars, and that said improvements consist of:

1.	
	MENDOTA LODE.
1	The discovery shaft No.1, which bears from north end con.
	center S.99 40'W. 750 ft. and is 250 ft.deep in rock,
	with drifts at 125 that run N. 10°E., 138 ft. land S.10°
V	V. 60 ft. Also drifts at 200ft. that run N. 10°E. 294ft.
	and S. 10°W. 80ft. Also drifts at bottom of shaft that
2	run S. 80° E.,88ft. N. 10°E. 50ft., N. 80°W. 60ft. and
	N. 10°E. 80ft.
ğ	otal value of shaft and drifts\$11000.
	A shaft No.2, that bears from Cor. No. 2 of Mendota
I	ode N. 81 ° 15'E. 80FT. and is 6x4ft. by loft. deep
1	Value\$ 100.
	Total value improvements\$11100.
	CORONET LODE.
	Discovery shaft No.1 that bears from north end center of
	ode S. 9° \$0' W. 750ft, and is 6x4ft by loft. deep
Ā	alue
	Venture Lode.
	Discovery shaft No.1 that bears from north end center of 1
	ode S. 9° 30'W. 10ft. and is 6x4ft. by 10ft. deep
	Value \$ 100.
10	200.

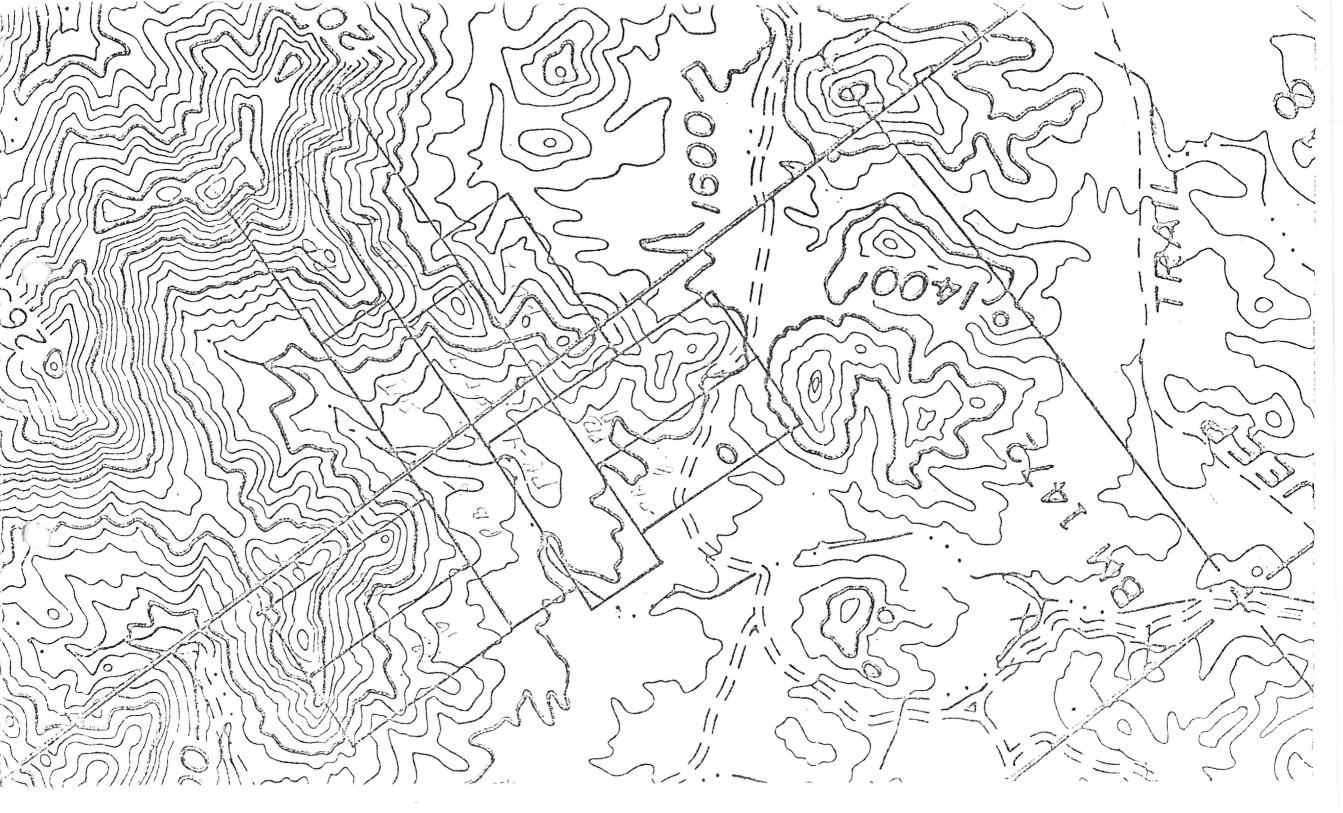
SECURITY PLACER.

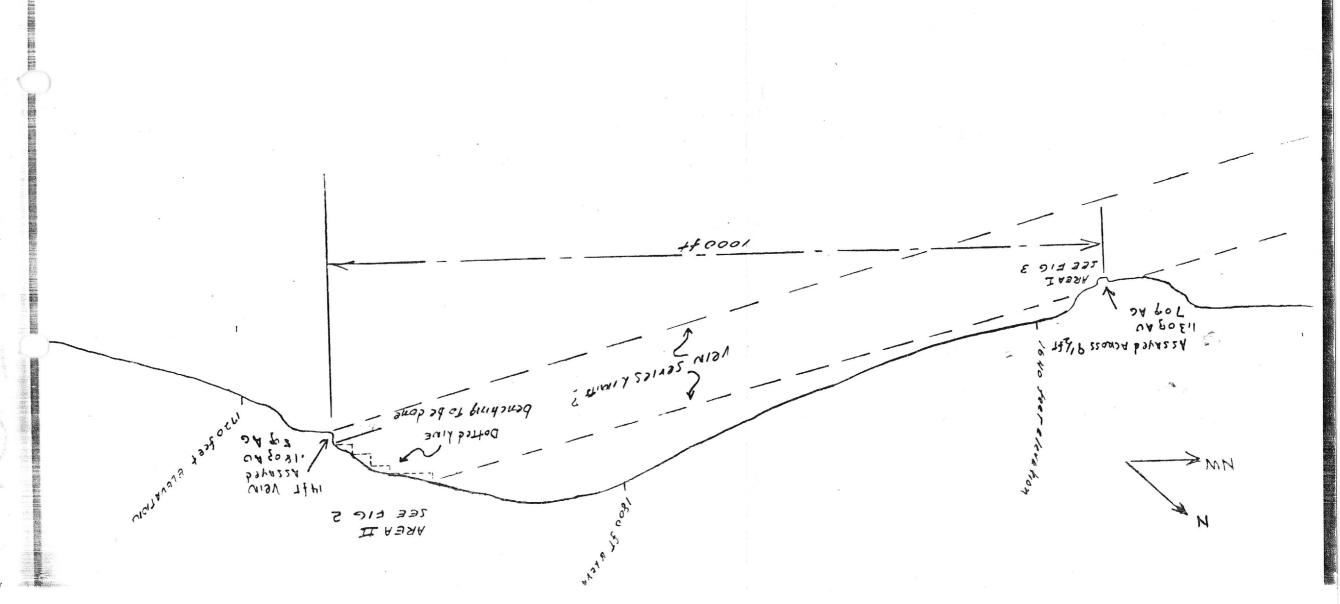
Shaft No.1 that bears from Cor. No.4 S. 49° 50'W. 680ft. and is 7x5ft. by 47. ft. in gravel

Value .....\$400

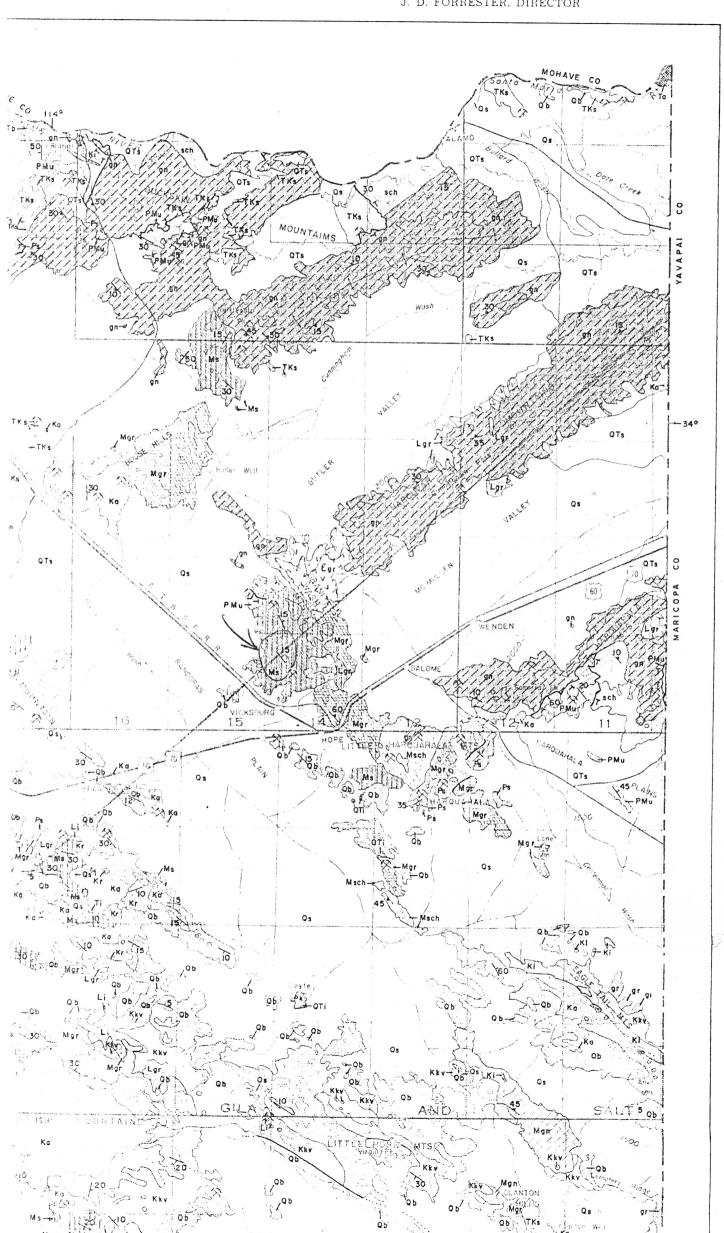
JAN 31, 1977 OWNER CHARLES WILLMORE 315 STANFORD S.E. PLBQ, N.M. 87106

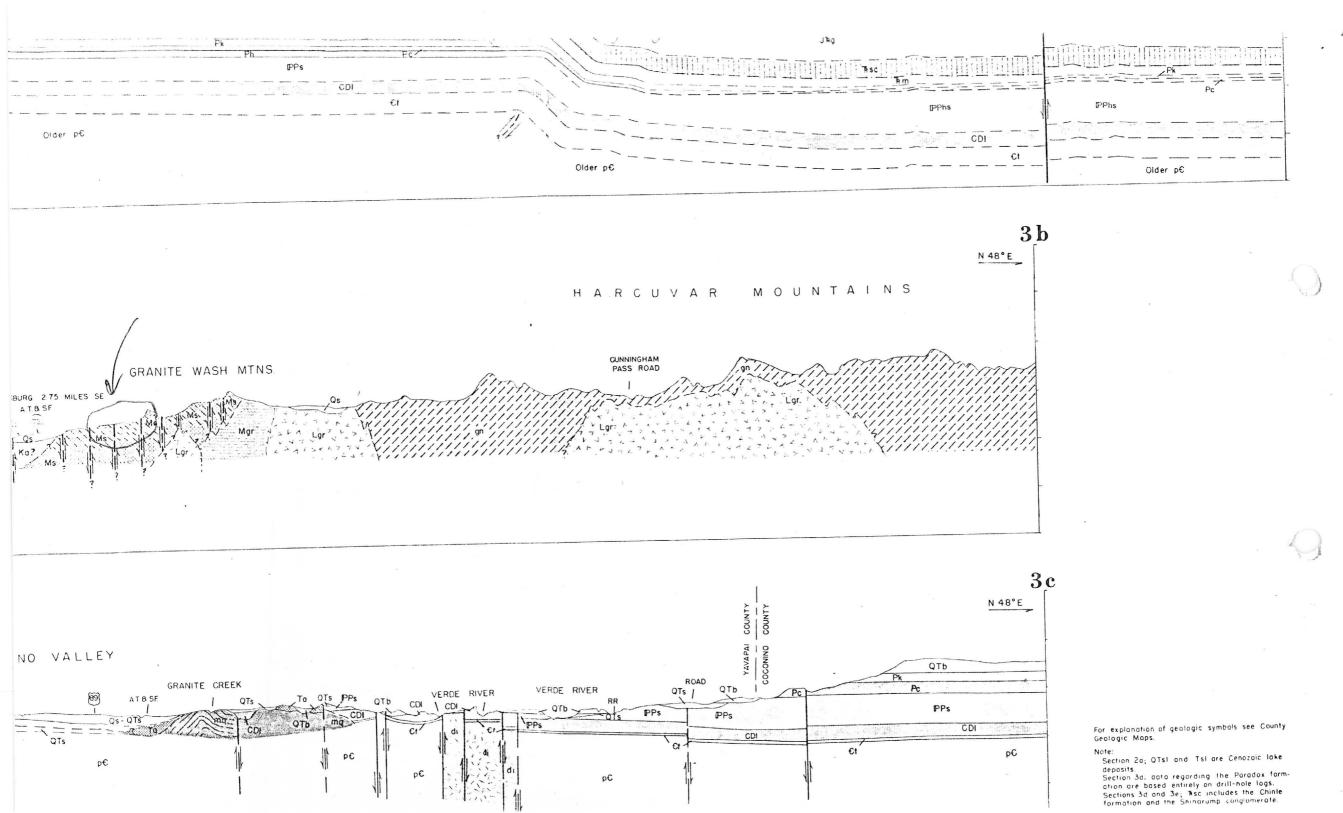
605-255-7362





CROSS SECTION OF RIGGE THRU AA'





ELLSWORT. DISTRICT TWP 5 N., REN 14W.

Exerp from patent server

EXPENDITURE OF FIVE HUNDRED DDLLARS\$

I certify that the value of labor and improvements upon this claim, placed thereon by the claimants and its grantors is not less than five hundred dollars, and that said improvements consist of:

## MENDOTA LODE.

The discovery shaft No.1, which bears from north end center center 8.9° 40'W. 750 ft. and is 250 ft.deep in rock, with drifts at 125 that run N. 10°E., 138 ft.land S.10°W. 60 ft. Also drifts at 200ft. that run N. 10°E. 294ft. and S. 10°W. 80ft. Also drifts at bottom of shaft that run S. 80°E.,88ft. N. 10°E. 50ft., N. 80°W. 60ft. and N. 10°E. 80ft.

Fotal value of shaft and drifts .....\$11000.

A shaft No.2, that bears from Cor. No. 2 of Mendota.

Lode N. 81 ° 15'E. 80FT. and is 6x4ft. by 10ft. deep

Value .....\$ 100.

Total value improvements .....\$11100.

## CORONET LODE.

Discovery shaft No.1 that bears from north end center of lode S. 9° %0' W. 750ft, and is 6x4ft by loft. deep

Value ......\$100.

## Venture Lode.

## SECURITY PLACER.

Shaft No.1 that bears from Cor. No.4 S. 49° 50'W. 680ft. and is 7x5ft. by 47.% ft. in gravel

JAN 31, 1977
OWNER

CHARLES WILLMORE

315 STANFORD S.E.

ALBQ, N.M. 87106

505-255-7362

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