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Carde

An example of the cheapest possible on-site assay facility for any operation; U.V.X., Vulture, Cimarron, etc.
I believe a speedy turnaround/bulk discount arrangement with the existing lab is best when one is close enough (ie, U.V.X.).
Don.

PROPOSAL
FOR
ECHO BAY MINING COMPANY
TO
DESIGN, CONSTRUCT AND OPERATE
AN ASSAY LABORATORY
AT
THE CONGRESS, ARIZONA MINE SITE
by
JIM ROY WEATHERBY

Jim Roy Weatherby
P. O. Box 8
Humboldt, Arizona 86329
4 March 1988

TABLE OF CONTENTS

	Page
Summary	1
Laboratory Specifications	2
Laboratory Costs	4
Costs per Fire Assay	6
Items to be Furnished by Echo Bay	8
Financing	9
Modular Laboratory	10
Extract from Letter of Recommendation	11

SUMMARY

This is a proposal to furnish a fully operational assay laboratory at the Echo Bay Mining Company mine site near Congress, Arizona.

The laboratory will be capable of completing seventy-five (75) fire assays per day on an operating schedule of six (6) days per week. There is allowance and flexibility in the basic design to expand production to one hundred fifty (150) assays per day.

A period of six (6) weeks will be required to assemble the equipment and complete the construction. An additional two days will be required to set-up and check-out the laboratory at the site near Congress, Arizona.

All initial planning and costing envisions a contract with Echo Bay Mining to operate the laboratory for a minimum of three (3) years; with allowances for extension to five (5) years, and beyond, if/when that decision is made.

To construct, equip and place the laboratories in operation at Congress, Arizona will require an investment of \$55,021.20. See pages 4 and 5.

The total of all costs to operate the laboratory will be \$4,392.00 per week. See pages 6 and 7.

Based on the production figures (75 assays per day/450 assays per week) and an operating cost of \$4,392.00 per week, the average cost will be \$9.76 per assay.

Financing via a system of advances of funds from Echo Bay Mining Company is suggested as the most economical method to meet equipment, construction and start-up expenses. Repayment will be via an agreed credit to Echo Bay Mining on the weekly billings for laboratory services over the initial three years of the contract.

LABORATORY SPECIFICATIONS

1. The Laboratory

a. The laboratory will consist of two van-type enclosed trailers:

- (1) One trailer - 8' x 40'
- (2) One trailer - 8' x 42'

b. The laboratory will be fully equipped to prepare, process and assay ore samples from the Congress, Arizona mine.

- (1) Ore crushers
- (2) Ore grinders
- (3) Ore pulverizers
- (4) Drying ovens
- (5) Sample preparation counters
- (6) Drying ovens
- (7) Assay oven
- (8) Laboratory equipment (all other)
- (9) Storage areas
- (10) Office space
- (11) Office equipment
- (12) Sample splitter
- (13) Sample pans

2. Laboratory Capabilities

The laboratory is designed to process and assay seventy-five (75) ore samples per day. Turn-around time on ore samples will be thirty (30) hours.

3. Mode of Operation

It is expected that the laboratory will operate six (6) days per week. One (1) day each week will be set aside for clean-up, maintenance and repair activities.

4. Availability Date

It is estimated that construction of the laboratory will require six (6) weeks to complete. One (1) day will be required to transport the trailers from Humboldt to Congress, Arizona. One (1) day will be required to set-up the laboratory and its equipment on the mine site at Congress, Arizona.

5. Future Expansion of Capabilities

There is allowance in the basic design of the laboratory and arrangement of the work stations, so that the insertion of

two (2) additional items of equipment would increase production to one hundred fifty (150) assays per day.

LABORATORY COSTS

1.	Vans	
	8' x 40'	\$ 2,100.00
	8' x 42'	4,300.00
	State tax @ 6.7%	428.80
	Transportation - Phoenix to Humboldt	340.00
	Transportation - Humboldt to Congress	300.00
2.	Laboratory Equipment	
	Pulverizing Mill	3,180.00
	Bowls (2) @ \$1,095 each	2,190.00
	Freight (from Canada)	200.00
	Import fee (from Canada)	211.05
	Drying Ovens	2,000.00
	Fire assay furnace	3,000.00
	Molds	400.00
	Tongs	35.00
	Cupellation furnace	1,500.00
	Flux balance	825.00
	Rolls and feeder	1,200.00
	Little jaw crusher (to modify)	200.00
	Sample splitter	30.00
	Sample pans	400.00
	Top loading balance (Pulp)	850.00
	Hot plates (electric)	400.00
	Dust control fan and motor	1,000.00
	Fuel tank	1,000.00
	State tax (pulverizing mill excluded)	860.28
3.	Initial Stock of Reagents and Lab Supplies	
	2,500 sample sacks @ .09	225.00
	450 crucibles @ \$1.95	877.50
	200 lbs. Litharge @ 1.60/lb.	320.00
	200 lbs. soda ash @ .21/lb.	42.00
	200 lbs. Borax glass @ 1.05/lb.	210.00
	47 lbs. Nitric acid @ 1.02/lb.	47.94
	20 lbs. flour @ .19/lb.	3.80
	8 gals. of distilled demineralized water @ 1.50/gal.	12.00
	100 cupels (composite) @ .50/ea.	500.00
	State tax	149.96
4.	Construction Material	
	Lumber - all rough and finished lumber	1,200.00
	Plumbing - oil and water lines and waste lines	550.00
	Lt. fix, sus box and circuit breakers s/p	875.00
	Electrical - all wire, receptacles, etc. 3/p	2,000.00
	Hoods/duct work (estimated)	600.00
	Compressed 60' air lines, 50' hoses, 4 heads	480.00
	Counter tops - 38 linear ft. @ .20/ft.	760.00
	Cabinets - 3 storage @ \$185 ea.	555.00
	Paint - surface in and out, 8,300 sq.ft., 20 gal. @ \$15/gal.	300.00

	Structural steel	\$ 2,000.00
	State tax on construction materials	625.45
5.	Air conditioners	
	2 @ \$394.49 ea. + 2 @ \$307.49 + tax	1,498.03
6.	Air compressor	
	\$572.21 + tax	609.48
	Pressure Regulator	64.02
7.	Miscellaneous Items	
	2 sinks (stainless steel)	250.00
	1 wash basin	130.00
	1 commode	350.00
	Sewage facility (septic tank and leaching field)	N/C
	Trash barrels	80.00
	State tax	54.27
8.	Office Equipment	
	2 desks @ \$150 ea.	300.00
	2 chairs @ \$50 ea.	100.00
	1 typewriter	400.00
	1 reproduction machine	425.00
	2 filing cabinets @ \$200 ea.	400.00
	1 storage cabinet	100.00
	Supplies and forms	150.00
	State tax	124.62
9.	Labor	
	Welding - 110 hrs. @ \$18/hr.	1,980.00
	Plumbing	
	Water - 60 hrs. @ \$18/hr.	1,080.00
	Oil - 30 hrs. @ \$18/hr.	540.00
	Air - 30 hrs. @ \$18/hr.	540.00
	Carpentry - 140 hrs. @ \$16/hr.	2,240.00
	Electrical - 92 hrs. @ \$20/hr.	1,840.00
	Painting - 30 hrs. @ \$12/hr.	360.00
	Installing lab equipment - 24 hrs. @ \$18/hr.	432.00
	Equipment check-out and trial runs	
	(2 1/2 lab persons) 16 hrs. @ \$40/hr.	640.00
10.	Transportation and Expediting Costs	
	Vehicle and driver (go-for)	750.00
11.	Fire Fighting Equipment	
	4 fire extinguishers @ \$75/ea.	300.00
	1 stand pipe and hose (plumbing chg)	N/C
12.	Security	
	Security guard (Echo Bay)	N/C
	Total Cost of Laboratories	\$55,021.20

COSTS PER FIRE ASSAY

1.	Sample Preparation Lab		
	Labor (2 1/2 lab pers)	\$2.28	
	Utilities	.23	
	Equipment costs	.22	
	Overhead allocation (\$10,000/yr./ 23,400 assays)	.43	

	Total Sample Prep		\$ 3.16
2.	Fire Fusion		
	F/A Reagents (Na ₂ CO ₃ , PBO, Borax, Flour)	\$.38	
	Crucibles	1.95	
	Cupels	.50	
	Labor (1 1/4 men)	.72	
	Utilities (electric & oil heat)	.20	
	Sample sacks and identification tags	.12	
	Freight charges for reagents @ 10%	.39	
	Maintenance costs - assay and cupel furnaces	.39	

	Total Fire Fusion		\$4.65
3.	Sample Prep - Wet Lab		
	Reagents (HNO ₃ , HCL)	\$0.13	
	Labor (1 man)	.81	
	Utilities	.10	
	Maintenance and overhead @ 10% of incremental costs	.11	

	Total Wet Lab		\$1.15
4.	Miscellaneous Items (not included in other costs)		
	Workman's comp ins. @ \$1.77/\$100 of payroll	\$.06	
	Wage benefit package @ 20% of payroll	.67	
	Taxes (state property taxes)	.04	
	Recordkeeping/office services	.03	

	Total Miscellaneous Costs		\$.80
	Total Cost Per Assay		\$9.76

At the rate of 450 assays per week	
Total weekly cost of lab services	\$ 4,392.00
Repayment on advance per week for 3 years	\$ 352.00
Net cost of 450 assays per week	\$ 4,040.00

ITEMS TO BE FURNISHED BY ECHO BAY

1. Site for Laboratory at Congress, Arizona

Site should be in the immediate vicinity of the mine headquarters, and should be a level area approximately 50' x 60' with parking for four vehicles.

2. Electrical power from the feeder lines or generator set servicing the mining operation (100 Amps 440/480 3 phase).
3. Water from the sources available at the mine headquarters.
4. Sewage system hook-up to the existing sewer system at the site.
5. Liability insurance to include the laboratory by endorsement to the current Echo Bay liability policy. If additional premium costs are incurred, Echo Bay will be reimbursed.

FINANCING

1. Partial payments from Echo Bay via advances are requested to cover the cost of construction and equipment purchases. An advance of \$15,000.00 should be made on the date on which the contract is signed. Said advance will be used to purchase the two trailers, construction material and some long-lead items for the laboratory and to meet initial labor costs. Additional partial payments of \$15,000.00 should be made at the end of the third week of construction; \$10,000.090 at the end of the fifth week and the balance of the cost of construction and equipping the laboratory on the date the laboratory is set-up for operation at the Congress, Arizona site.
2. Financing by this system of advances appears to be the most economical method of providing funds for the costs involved with the construction of the laboratory. If commercial financing is utilized, it is estimated that approximately \$10,500.00 of interest expense will be involved. When prorated over a three year period, the additional cost per assay would approximate \$0.15. Prompt repayment is assured by the system of deductions from the weekly billing for laboratory services. The weekly deduction is recommended to be \$352.00 until the advances are repaid.
3. The financial planning envisions an assured flow of seventy-five assays per day, six days per week, i.e. four hundred fifty assays per week for a period of three years. Costs are based on the 450/week figure.
4. The contract for construction and operation of the laboratory should provide for "hold harmless clauses" should the mine be closed prior to the completion of three years of utilization of the laboratory, or should the operation of the mine be reduced to a point where it is not economical to continue operation of the laboratory.

MODULAR LABORATORY

The modular design of the laboratory was chosen because it provides a ready adaptability to all of the laboratory's operations.

In empty spaces provided in the basic sample processing lines, equipment may be added and the laboratory capabilities can be expanded to one hundred fifty (150) assays per day. A redesign is not necessary; the potential for increased capability is planned into the basic systems.

Also, the laboratory may be scaled up to provide an atomic absorption spectrographic analysis capability by the addition of one (1) similar trailer for which the design is already available. With the addition of the third module, a wet chemical analysis could be added to the laboratory, too. The wet chemical analysis would be a valuable tool for management personnel in the control of the quality of smelter shipments.

In summary, the van-type trailers were selected to house the laboratory because:

- They are more economical than conventional buildings,
- They are standard, ready-made modular units easily adapted to laboratory requirements;
- They may be obtained in a day or two on open markets, thus long construction delays are avoided;
- The activities of the laboratory are easily designed into an efficient production line to fit the length/width dimensions of the units;
- Expansion for additional capabilities can be accomplished by simply adding another unit.

Mobility is also a prime underlying consideration in the choice of these units. The whole laboratory can be removed to another location with a minimum of effort, expense and interruption in the operation.

JIM ROY WEATHERBY
EXTRACT FROM LETTER OF RECOMMENDATION

Jim Roy Weatherby is one of the few outstanding professionals in the mining business in Arizona that I know...

His interest in physics and chemistry dates back 43 years to his boyhood in Texas...

He obtained his license as a registered assayer in Arizona, license #15583, in 1982, but has done assaying for at least 12 years for mining operation, bullion dealers, and gold and silver extraction operations...

I consider him to be the best assayer now available in Arizona. Even though my company had a laboratory with six (6) technicians available, I sent my company's samples to Jim Weatherby to be assayed. You can rely on the accuracy of his assays and base production decisions on the ore's contents...

Jim has an uncanny ability to test and predict the chemical behavior of ores during processing; especially the very complex and unstable ores. He has made valuable suggestions to improve efficiency and effectiveness of my company's processing procedures...

Any mining manager who can hire Jim Weatherby should do so without hesitation. To pass up the opportunity to obtain the services of such an outstanding professional would be an error of profound proportions...

s/ John B. DuCote
January 1988

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*Underlined +
marginal notes
by Don White*

Card

THE

Central Arizona

MINING COMPANY.

*Incorporated December 16, 1878, under the General Laws of the
State of New York.*

100,000 Shares---Par Value, \$100.

SHARES UNASSESSABLE.

NEW YORK:

EVENING POST STEAM PRESSES, 208 BROADWAY, COR. FULTON STREET.

1879.

FOR THE PURPOSES OF THE PROPERTY NUMBERS

THE
Central Arizona Mining Company.

President,
WILLIAM BOND.

Vice-President and Treasurer,
JAMES M. SEYMOUR.

Executive Committee of Board of Trustees.
JAMES M. SEYMOUR, Chicago.
HARMON SPRUANCE, "
WILLIAM BOND, New York.
ROBERT H. PARKS, "
JAMES A. HUNT, Wickenburg, Arizona.

Registrar and Transfer Agent,
UNION TRUST COMPANY, NEW YORK.

General Manager in Arizona,
JAMES A. HUNT.

Principal Office of the Company,
30 BROAD STREET (Room 92), NEW YORK.

THE

Central Arizona Mining Company.

This company has been organized for the purpose of working, with increased capital and facilities, one of the most extraordinary lodes of gold-bearing quartz in this country.

The property, which has recently been acquired by purchase, has been widely known as the Vulture Mine, and is situated in Maricopa County, Arizona Territory, about thirty miles north of the Gila River and fourteen miles from the town of Wickenburg.

The lode was discovered in 1863. Since that time, although worked only in a very inadequate manner and under circumstances of great difficulty, it has produced nearly \$2,500,000 in gold bullion. This product has been extracted from about 400 feet in length on the lode, and from workings not extending below a depth of about 300 feet.

It is estimated that there is now practically in sight upwards of 200,000 tons of ore.

200,000 \$3 mil. An
could (1 mil) \$20.67/oz
with An \$.8 oz/t and
grade was recovery 90% by
stamp mills

At the average of the ore already produced, this will yield over three millions of dollars.

With the proposed increased facilities, it is believed that this ore can be mined and reduced at a cost not exceeding five dollars per ton.

During the past twelve years upwards of 140,000 tons of ore, averaging a yield of over seventeen dollars per ton, have been taken from the lode and transported to reduction mills situated at a distance of about fourteen miles from the mine.

The mill belonging to the company which is in operation is located at a distance of nine miles from the mine.

It is now proposed to convey water to the mine, and to erect at that point facilities for the reduction of the ore upon a scale commensurate with the magnitude and value of the lode.

It is further intended to open and work the mine to an adequate depth.

The former workings have been carried on mainly by a system of open cuts and quarrying. Yet the product realized has reached upwards of \$2,500,000.

A peculiar feature of this property, and that which distinguishes it from most other mining enterprises, consists in the large quantity of reserve ore now available in the existing openings of the mine. This is estimated as sufficient to supply a one hundred stamp mill constantly for nearly four years.

1866-1878
140,000 \$1.85
to Hassayampa
stamp mills

The mining location embraced in the property of the company is 1,000 feet in length by 600 feet in width, and contains five parallel quartz veins, distinct and of the following dimensions:

5 parallel
qtz. veins

First—The front vein, which is next to the hanging wall, and is from eight to ten feet in width.

Second—The middle vein, from three to five feet wide.

Third—The blue vein, from two to four feet wide.

Fourth—The black vein, from one to three feet in width.

Fifth—A small vein, still further south, twelve inches wide.

These veins are separated from each other by a layer of talcose slate, more or less intercolated with small veins of auriferous quartz, which in the workings have been found to contain sufficient gold to pay well for milling. In fact, the entire belt containing these quartz veins is gold bearing.

Below the 165 foot level these veins apparently unite, and at the depth of 240 feet a single massive vein is presented of the thickness of 47 feet.

The quantity of ore that such a vein will yield, when the mine shall be opened to the depth of 1,000 feet or more, cannot readily be exaggerated in any estimate that may now be made.

The company have recently erected and are now running a twenty stamp mill (with capacity for an additional twenty stamps), at Seymour, on the Hassayampa

DEPARTMENT OF MINES
BUREAU OF GEOLOGICAL SURVEY
WASHINGTON, D. C.

river, nine miles distant from the mine. They have taken out about \$40,000 in gold bullion, and notwithstanding the disadvantage of hauling ore that distance, a fair profit has been made. With reduction mills at the mine, a saving of the present cost of hauling, which is \$3.50 per ton, will be effected. In addition, all the ore as it comes from the mine can then be milled, and at a minimum cost for handling and other expenses. The saving of the cost of hauling alone will amount to a paying milling profit.

Surveys and estimates have recently been made for conveying water from the Hassayampa river to the mine, a distance of nine miles, in sufficient quantity to supply one hundred to two hundred stamps, and it is proposed to erect a large mill at the mine at an early day.

It can be safely estimated that a 100-stamp mill at the mine, will yield a profit of not less than \$500,000 per annum. The yield can be increased by increasing the number of stamps.

Mr. J. Hitchins, a well-known English mining engineer, who made an examination of the property, makes the following statement in reference to it, in a printed report of his professional trip and investigations in Arizona :

"The three principal veins converge in depth and form two at the 115-foot level, constituting a very good field for working, capable of yielding large quantities of

ore, I may say millions of tons of workable quartz, thus insuring a very great return for many years to come ; moreover, judging from analogy and the appearances observed, I think there is evidence to show that in depth these lodes will become not only more compact and defined, but also more productive of gold."

Gen. R. S. Ripley, of London, who visited this property while making an examination of certain mines in Eastern Arizona, in behalf of an English company, reports as follows in relation to it :

"This great development has already produced many thousand tons of ore, and there is enough in sight in the present workings to last a mill of one hundred stamps for many years. It is all rich, and from prospects which I saw made from samples taken at various depths, from the outcroppings to the lowest point yet attained, 240 feet, it will undoubtedly average over \$20 ^{> 1 oz/ft} per ton. The lowest depths, as might be supposed, yield the best ore. Water being brought to the mine, there is nothing to prevent as large a number of stamps being set in operation as may be desired, and the yield of gold may be increased indefinitely for many years.

"I believe that when water is taken to the mine, and the present mill is removed thither and increased to one hundred stamps, the mine will easily turn out £20,000 sterling (\$100,000) per month, yielding £15,000 profit, or about £180,000 sterling, say \$900,000 per annum.

"There is absolutely no danger of the ore giving out ;

Famous
last
words

but, on the contrary, every indication of increase, both in quantity and richness. Water once at the mine, there would be no necessity of limiting the mill to one hundred stamps, and the production of gold would only be limited by the capacity of the works."

The Governor of Arizona, in an address to the Legislative Assembly of that Territory, in 1868, referred to this property in the following words :

"The Vulture Lode, the 'Comstock' of Arizona, now has a wide and merited fame. It is one of the richest, most extensive, and remarkable deposits of gold quartz upon the continent, and its returns, up to this time, are believed to be but an earnest of what may be expected from it in the future."

In a reliable and very valuable report upon the mineral resources of Arizona, prepared by Prof. A. Eilers, and published in the official report for the year 1870 of the United States Commissioner of Mining Statistics, Prof. R. W. Raymond, the following statements with regard to the Vulture mine are made :

"WICKENBURG DISTRICT.—This is by far the most important district in Arizona, at the present time, and yields alone about one-half of the yearly gold product of the Territory.

"It is at the same time a single mine which supplies all this gold, in spite of the most serious drawbacks

which, outside of the mine itself, can embarrass a mining enterprise.

"This mine is the Vulture. The lode was discovered by Henry Wickenburg, a German, who, with a few companions, prospected in this neighborhood in the fall of 1863.

"The distance from the vein to the Hassayampa is fourteen miles, and there is no water in its vicinity. The party had been without water for some time, and were well-nigh discouraged; so that when this monstrous hill of quartz was discovered, the weary prospectors did not even care to go to the trouble of examining it. Mr. Wickenburg, however, did so, and posted his notice at once. * * *

"The Vulture is located fourteen miles southwest of Wickenburg and of Vulture City, the place where the company's reduction works have been erected. The country, for a great distance, in all directions around the mine, is entirely underlain by quartzites, which are evidently all metamorphosed sandstones. They are mostly very highly colored by oxide of iron, dense, hard, and exhibit little trace of stratification in most localities, while at others it is quite plain, the rocks running north-east and south-west.

"The immediate zone, however, in which the Vulture lode lies, is one of talcose slate, which is four hundred yards wide.

"The body, or bodies, of gold quartz lie in about the middle of this belt, and strike and dip parallel to the

stratification of the slates, which runs a little north of west, and dips north-northeast 45° . In the lowest levels, however, the veins show a tendency to assume a steeper dip.

"The croppings of this remarkable lode rise 80 feet above the level of the mesa, at their foot, and form quite a hill for themselves. The hill on which they occur is 450 feet long on the line of the strike of the vein, and 250 feet across its base.

"Eighty-five feet in width of this is vein matter, which lies between well-defined walls, showing clay selvages in places.

"These become more distinct in depth, when, at the lowest level, a seam of grayish black clay, ten inches thick, overlies the vein,

"These croppings at the surface show gold everywhere; but there are here four distinct quartz layers which are richer than the remainder, and the ore from which is now transported to the company's mill, while the rest, which does not bear the high cost of transportation, is laid aside and piled up at the mine for future use.

"Of this latter ore there are outside of and in sight in the mine at least 160,000 tons, all of which may be safely called twelve-dollar ore. The richer portions mentioned above have the following widths:

The "Red" or "Front Vein,"	12 feet.
The "Middle Vein,"	6 "
The "Blue Vein,"	9 "
The "Black Vein,"	5 "
	—	
Total width of rich ore in the croppings,		32 "

"These are not mined, but quarried, all above the level of the mouth of the main shaft being taken down together.

"Even in the talc-slate horses, between the pay-quartz, is gold, as I have satisfied myself by panning when on the spot.

"This slate is in many places full of square cavities, partly filled with soft brown hydrated oxide of iron, evidently the result of decomposition of crystalized iron pyrites.

"But there are also numerous small quartz seams, from an inch to one foot thick, both in the horses and even outside of what are considered the walls of the lode, at the surface, which contain much gold.

"A short distance below the level of the mesa there is suddenly a fault in the vein, or rather in the four splits of the vein, as appearing on top; the part above this line being thrown a considerable distance to the south. The "Black vein" runs into the "Blue vein" before this fault is reached; the "Middle vein" loses itself in the "Front vein," between the 70-foot and 165-foot levels, and the "Blue" and "Front veins" approach close to,

and finally run into each other, a short distance below the 165-foot level.

"Here the dip of the vein becomes somewhat steeper, the distance between the walls is diminished, and at the 240-foot level the thickness of the vein is 47 feet. The richest ore lies here nearest to the walls.

"The reserves in the upper levels are not as rich as the ore taken out heretofore; still, an immense amount of fifteen-dollar ore may be taken from them with some assorting.

"The vein contracts at the eastern line of the claim now worked, and widens out towards the western line; but here the quartz becomes nearly barren.

"The Vulture Company owns 500 feet on the original location, but the present mining works are altogether located within 300 feet on the course of the vein.

"When the present company took hold of the mine it was in a very bad condition, not even the most common rules of mining engineering having been followed in the planning and execution of the work, and only during the last year or two have the works underground been systematized and laid out with a view to permanent prosecution of the work. Whims are still employed to raise the ore from the lower levels, and the absence of water has rendered the introduction of pumps unnecessary.

"At the time of my visit the lowest level reached was 245 feet, and the ore was here as 'free' from sulphurets as it had been near the surface; *i. e.*, it contained from 1 to 1½ per cent.

"The ore sent to the mill is not permitted to contain less than \$25 per ton, and much of it yields over \$30. A great deal of this is taken from the quarry on top, but the richest ore has lately been struck in the lowest levels, where assays of ore from the incline below the 240-foot level yield over \$90 per ton.

"Mr. Peter Taylor, the mining captain, writes in a late communication: "Since you were here, I drove the lower incline and struck a fine body of ore, which belongs to the 'Front vein'; it is very much decomposed and much easier extracted than the quartz above. I have drifted east on the body, and am now in fifty feet, at which point there is still fine ore in the face of the drift. The streak of this rich pay ore lies between two perpendicular seams, and is 13 feet wide. I have extracted and shipped to the mill, unassorted, 400 tons, which have given fine results. I am now sinking a winze on this body, and it is still improving." Some very showy specimens have been extracted from the body referred to in the above, and the latest developments in the winze show extraordinary richness of the quartz throughout.

"Seventy tons of quartz are forwarded daily by mule teams from the mine to the mill, fourteen miles, at a cost of \$8 per ton by contract. The Hassayampa is the only stream in the vicinity, and not even a spring is nearer to the mine. An enormous cost of transportation is thus forced upon the enterprise, and the bulk of the ore is at present entirely useless. It is proposed, there-

Mill ore
1.2-1.5
0.94

~4.5024

fore, to bring the water from the Hassayampa to the mill in pipes. There are no natural difficulties in the way of accomplishing this, but it will require a heavy outlay for the dam and the pipes, and will probably not cost less than \$180,000. Still, even at this figure, the saving on transportation alone will repay the outlay in a little over a year, not to mention the vastly increased amount of quartz which will then be available. It is also proposed to enlarge the forty stamp mill, after its removal to the mine, by the addition of sixty stamps, all of which can undoubtedly be easily supplied with ore."

Since the time when the foregoing report was written, the vicissitudes which have attended all mining enterprises in Arizona, on account of Indian and other difficulties, have prevented the realization of the plans then entertained.

But, at last, the long period during which the lack of security and means of transportation paralyzed and thwarted the best directed and most earnest efforts towards the development of the vast mineral wealth of that Territory has finally passed. Easy communication by railroad has now been established, and with this, and through other means, security prevails and is guaranteed. The development of the Territory is now progressing with wonderful rapidity, and from this time forward will undoubtedly be stable and very profitable.

The recent formation of the present company and acquisition of the Vulture mining property has been

with the view of its thorough and systematic working with all the facilities that its importance demands. These will be applied as rapidly and to such extent as shall be found to be desirable.

Prior to the purchase of the property, the parties interested had a careful examination made of the present condition of the mine, by Professor James Cherry, Geologist and Mining Engineer, of Chicago.

From his report, dated May 17, 1879, the following extracts are taken :

"The mineral lode is situated in an isolated butte, several miles in length, and less than half a mile in width, which traverses the upland mesa, lying west of the Hassayampa river, in a general northeasterly and southwesterly direction. This butte varies in height from fifty to one hundred and fifty feet, and the mineral lode shows itself in bold and ragged masses of quartz and slate along the apex of the butte. At some points, however, the mineral outcrop is considerably disintegrated, and the hill slopes on either side of the lode were originally strewn with fragments of quartz from the croppings, many of which were gathered and milled for the gold they contained. The croppings also, which originally rose five to twenty feet above the general surface level of the butte, have been, in places, quarried and taken to mill, yielding a good percentage of gold, while the lode has been "open cut" or quarried into extensively from the surface.

"The formations encasing this lode are pre-eminently favorable to the existence of gold in any mineral lode traversing them, the hanging wall being porphyry and the foot wall talcose slate. In contact with these rocks have been found, in all countries, the most valuable and permanent gold-producing deposits. The course of the lode is northeasterly and southwesterly, and its pitch is very uniform, being 43° to the northeast, thus agreeing in "strike" and "pitch" with the law governing reliable mineral occurrences. The fact of the lode being a contact one, *i. e.*, encased between walls of different formation, and of the vein matter having its clearly marked characteristics and the encasing formations being boldly defined, establish beyond cavil that this lode is a true fissure, and hence that it possesses permanency and reliability as a source of mineral wealth.

"This fact is further proven by the developments made upon the lode, which show, as in all true fissure veins, an increase of width in the mineral stratum, and an increase also in percentage of mineral from the surface downward as the vein matter is penetrated.

"The lode, as exposed in the various slopes and levels to a depth of about 240 feet from the surface croppings, to which point my investigations were carried, is composed of fine strata of quartz, separated by interleaved talcose slate, highly silicized and containing gold, especially on its laminated surfaces. Cutting across these bodies of slate, from quartz seam to quartz seam, are

numberless stringers or feeders of quartz that are usually very rich in gold. * * *

"The vein matter bears, in general, a ferruginous appearance, and is more or less decomposed in places, owing to the chemical change that has taken place in the hydrate of iron accompanying it. It is emphatically a free milling gold ore, being free from any minerals that would prevent amalgamation.

"Gold visible to the eye occurs so abundantly throughout the vein matter that it is not difficult to select beautiful specimens from almost any portion of the workings, or even from the piles of so-called "waste" about the workings. In this particular, *i. e.*, in the uniform distribution of free gold throughout the vein matter, and in the extent, quantity and reliability of its mineral deposits, this lode surpasses any that I have seen on the American continent, or elsewhere.

"In these respects it is unquestionably a phenomenal occurrence. * * *

"To determine the value of the vein matter throughout, I made a series of assays and horn spoon tests from ores taken personally from various parts of the lode, each distinct sample being in all cases composed of portions of the vein matter taken promiscuously at different points across the face of the vein or stratum from wall to wall, or gathered promiscuously from the piles of so-called "waste." Each of these samples was reduced to a powder and well mixed before the portion to be subjected to test was selected, and in this manner a fair average test was secured.

"Average of two-horn spoon tests and three chemical assays of *each* of the following:

As then
20.67/oz.

Sampled from so-called "waste"			
on surface	\$23.15	per ton.	
Sampled from so-called "waste"			
in Gallery No. 1	15.32	"	
Sampled from so-called "waste"			
in Gallery No. 2	21.20	"	
Sampled from so-called "waste"			
in Gallery No. 3	21.56	"	
Sampled from so-called "waste"			
in Gallery No. 4	12.82	"	
Sampled from so-called "waste"			
in other workings	13.92	"	
Sampled from ore in sight above			
Gallery No. 1	29.36	"	
Sampled from ore in sight above			
Gallery No. 2	26.12	"	
Sampled from ore in sight above			
Gallery No. 3	25.45	"	
Sampled from ore in sight above			
Gallery No. 4	31.60	"	
Sampled from ore in sight above			
70 foot level	33.02	"	
Sampled from ore in sight above			
240 foot level	38.55	"	
Sampled from ore in pillars	28.75	"	

"The above results give an average yield of \$17.99 per ton from the so-called "waste" ores on the surface and in the workings, and an average yield of \$30.68 per ton from the ores in sight above the 240-foot level."

The ore "in sight" is estimated by Professor Cherry at over 200,000 tons.

He also says: "If the ore is to be milled at the river, a narrow gauge railroad should be laid from the mine to the mill, which may be done at a cost not exceeding \$5,000 per mile; but if desired, the water from the Has-sayampa river may be brought direct to the mine by a system of piping and pumping, at a cost, I estimate, of \$75,000."

"I earnestly advocate the conveying of the water to the mine and erection of a mill there, as it will save its cost in a year's time."

The situation of this mine is favorable for working at all seasons of the year. The climate is excellent and very healthy. The elevation is about 1,400 feet above the level of the sea. Means of access are ample and easy. The stage road and telegraph line from Maricopa, on the Southern Pacific Railroad, to Prescott, the capital of the Territory, passes through Seymour, where the company's mill is now located. The distance from the railroad, seventy miles, which is over an excellent natural road, is made by stage in one night and day.

The Southern Pacific Railroad is now completed from San Francisco to Yuma, on the Colorado river, a distance of 731 miles, and thence eastwardly through the Territory of Arizona a further distance of 156 miles to Maricopa, and thence south-eastwardly 26 miles to Casa Grande. The remaining portion, 63 miles, of the distance to Tucson will be completed by the end of the present year, and from that point it is expected the road will be rapidly carried forward to the Rio Grande.

An eastern connection into Arizona by railroad will thus probably be effected within the coming eighteen months.

A projected branch railroad from Maricopa northward to Prescott, the capital of the Territory, will pass within a short distance of the company's property.

This great mining property, with its productive history in the past, with its existing certainty of reserved and exposed ores now at command, and with its prospects and guarantees of permanence in the future, will, it is confidently asserted, when contemplated improvements are upon the ground and in operation, yield as large net earnings to its owners as any other gold mining property in this country.

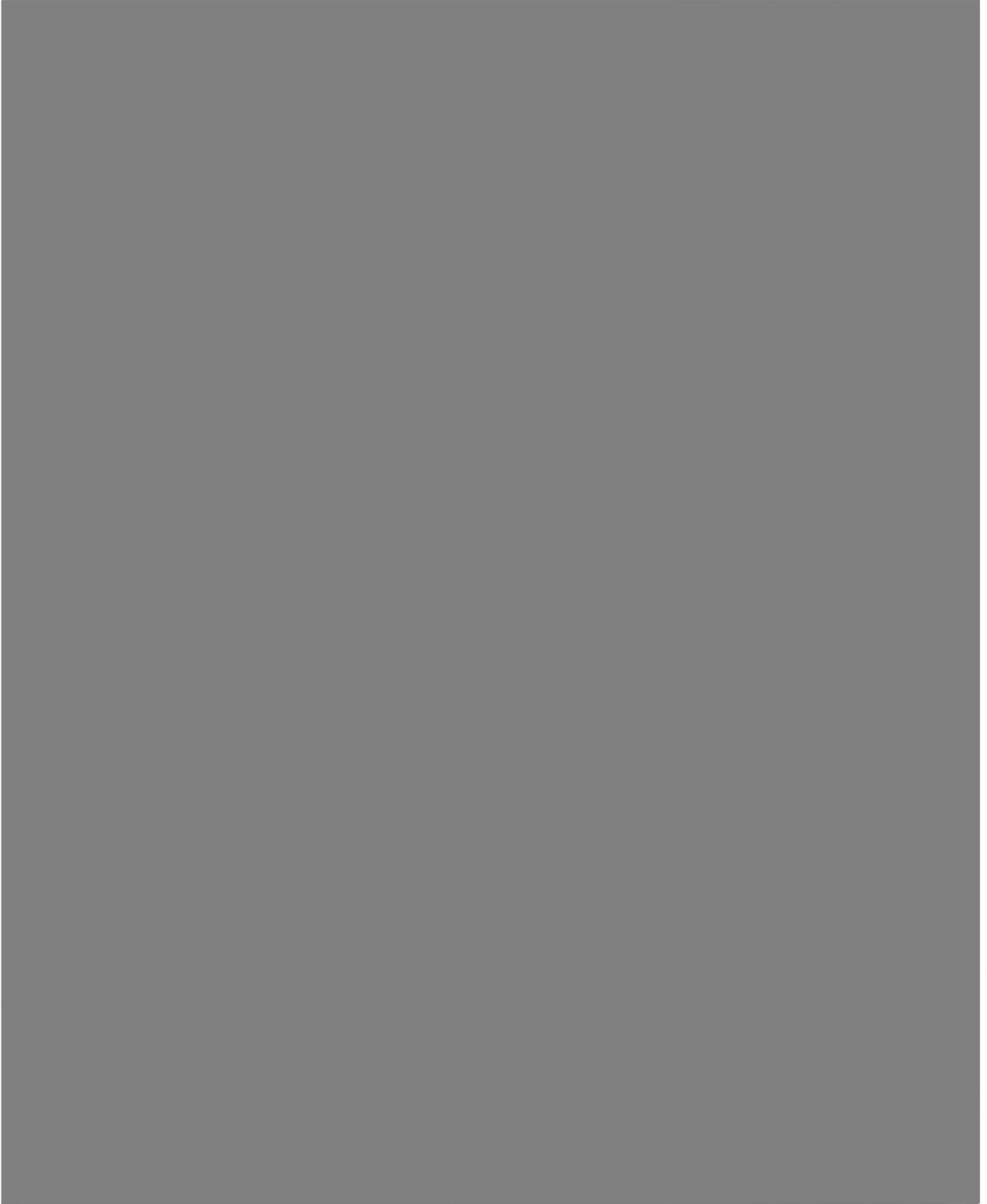
The direct net income to be derived from mining and milling ores now in sight, as previously estimated, will,

it is believed, exceed the sum of two million dollars; while future revenues from the property will be limited only by the capacity of the mechanical appliances used in connection with the practically unlimited quantity of gold-bearing ores to be found at a greater depth.

Carole

Arizona's Trail of Gold

By JAMES M. BARNEY



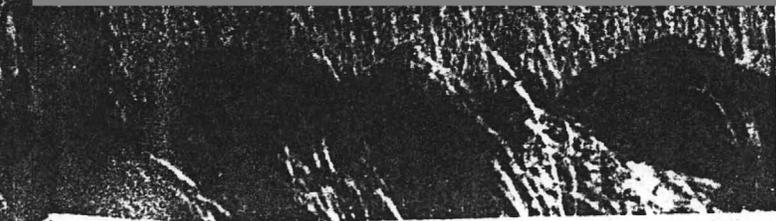
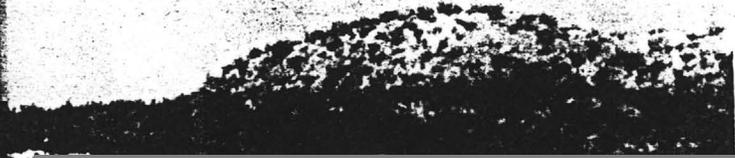




Carde

Beware! Some "bogus"
information herein

GHOST TOWN TREASURES



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FIRST EDITION

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VULTURE CITY, ARIZONA



MARTIN MONROE ELDERS

TESTIMONY CONCERNING THE CLAIM OF GUILLERMO
ARRICLA AND OTHERS V. UNITED STATES. WICKENBURG.
ARIZONA, MARICOPA COUNTY. DOCKET NO. 902 AMOUNT
88,000 PESOS ... THE CASE OF THE ARIZONA
CRE TRAIN ROBBERY, SEPT. 1869

Ariz.

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AZ Dept. of Library & Archives (Phoenix)

K

C O P Y

WICKENBURG, ARIZONA.

MARICOPA COUNTY

Claim of GUILLERMO ARRIOLA AND OTHERS V. UNITED STATES.

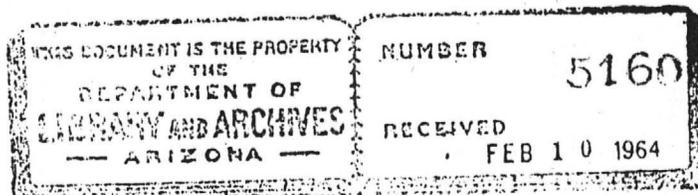
Docket No. 902

Amount: 88,000 Pesos.

STATE OF ARIZONA,)
County of Maricopa) ss.

MARTIN MONROE ELDERS, being first duly sworn, on oath, deposes and says:

That he is a citizen of the United States of America, having been born in the State of Georgia on the 1st day of December, 1850; that he resides at 1634 North Eleventh Street, Phoenix, Arizona; that he came to the Territory of Arizona, now State of Arizona, in the year 1868; that on or about the 20th day of October, 1868, he secured employment with the Vulture Mining Company, near the Town of Wickenburg, in said Territory of Arizona, now State of Arizona, being employed as scout and escort for the ore and supply trains and parties coming to and departing from the Vulture Mining Camp; that the Superintendent of the Vulture Mining Company, at the Vulture Mine, at the time of the employment of affiant on or about the 20th day of October, 1868, was Jim Cushenberry, the first Superintendent of said Vulture Mining Company; that thereafter this affiant worked for the said Vulture Mining Company and for subsequent companies organized to operate said Vulture Mine, at intervals, for a great many years; that affiant worked for several superintendents of the different companies that operated the Vulture Mine; that during the month of September, 1869, affiant was so employed as scout and escort at the Vulture Mine; that he was personally acquainted with Espiritu Arriola, who, at that time had a contract for hauling ore from the Vulture Mine to the Town of Wickenburg; that the outfit that the said Arriola was running consisted of about ten wagons and not to exceed twelve wagons,



together with mules and harness, there being either ten or twelve mules to the wagon; that the wagons belonging to the said Arriola were Mexican wagons and not nearly so well made as the American wagons; that the value of the wagons owned and operated by the said Arriola was about two hundred dollars each in money of the United States of America and the mules owned by the said Arriola and used in the operation of said wagons were of the value of from twenty to thirty dollars apiece in money of the United States of America; that affiant knows of his own knowledge that there was only one attack by Apache Indians, or any other tribe of Indians, on the wagon train of the said Espiritu Arriola, and that said attack occurred in the month of September, 1869; that on the day of said attack, affiant was escorting an empty bull ore train, owned by the company operating the Vulture Mine, from Wickenburg to the Vulture Mine, and that approximately a mile ahead of the bull ore train escorted by this affiant, was a wagon train owned and operated by various Americans who had contracts for the transportation of ore from the Vulture Mine; that at the time of the attack upon the Arriola train by the Apache Indians of the Tonto Tribe, the said American train, followed by the train escorted by this affiant, was on one side of a ridge and the Arriola train on the other, being out of sight of each other; that the first thing the American train knew of the attack was when the mules of the Arriola train, driven by the Indians, after their capture by them, came over the ridge, on the road, towards the Americans, whereupon the Americans attacked the Indians and recaptured the Arriola mules from the Indians, intact, and the Arriola train was thereafter taken to Wickenburg by the Mexicans in charge of it at the time of the attack, and its cargo of ore delivered to its destination in the same wagons with the same mules. The Arriola train had been attacked by the Indians and two Mexicans killed and the other Mexicans of the train abandoned the train, in order to save themselves.

The Indians had taken possession of the mules without knowing of the presence of the American train and drove the mules into the view of the American train before knowing of the presence of the Americans. This affiant knows of his own knowledge that the Arriola train, with the loads of ore was delivered in Wickenburg, in the same wagons, without material damage. Affiant further states that the said Arriola met with difficulties in the fulfillment of his contract with the company, in fact, was not able to carry out his contract, and that was the reason why the Americans trains hereinbefore referred to were transporting ore at the time of the attack by the Indians on the Arriola train. Affiant further states that of his own knowledge that some time after the attack on the Arriola train by the Indians, a part of the Arriola train, consisting of about five or six wagons, together with the mules and harness, were in the possession of one Charles Trumble Hayden, the father of Carl Hayden, United States Senator from Arizona, and that this possession was held by the said Charles Trumble Hayden either by attachment or by purchase, and affiant states that his belief is that the train was taken to satisfy a debt owned by the said Espiritu Arriola to the said Charles Trumble Hayden; that the said Charles Trumble Hayden was at that time running a store at Wickenburg and had furnished supplies to the said Arriola and his men; that the said Arriola train was used for a number of years after this by the said Hayden, in freighting activities, and was known generally as "Hayden's Rawhide Outfit". Affiant further states that he knows of his own knowledge that Espiritu Arriola never did have at Wickenburg twenty-four wagons with ten mules and harness to each wagon, and that the most he ever had at Wickenburg was ten or twelve wagons with mules and equipment, and known of his own knowledge that the said Espiritu Arriola did not lose any wagons,

mules and equipment, or any of them, through an Apache raid or any other raid upon his train anywhere in the vicinity of Wickenburg or the Vulture Mine.

Further affiant sayeth not.

(Signed) Martin Monroe Elders

Subscribed and sworn to before me this 10th day of December, 1934.

(Signed) M. L. Ollerton
Notary Public

My Commission Expires:

September 2nd, 1936.

C O P Y

Don White
521 E. Willis St.
Prescott, AZ 86301

April 12, 1988

Mr. Paul A. Lindberg
R.R. #4
205 Paramount Drive
Sedona, AZ 86336

Dear Paul,

I have viewed your S.E.G. video on the Jerome volcanogenic massive sulfides and find it exceptional. While on loan to me it was also viewed by Carole A. O'Brien, mining coordinator for A.F. Budge (Mining) Ltd. on the U.V.X. project. She concurs that S.E.G. has Budge's clearance to use the video in any way they see fit and that nothing concerning the U.V.X. is any way restricted on Budge's part.

We do caution you, however, that Paul A. Handverger, as representative of our lessor, Verde Exploration, Ltd., has an interest in reviewing such matters. It is my understanding that he has seen the video, and has passed on his comments and approval to you.

My compliments on a superb job. Many a student, I am sure, is going to learn a lot as a result of the time and effort you devoted to making the video so effective.

Best Regards,



Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien ✓

Don White
521 E. Willis St.
Prescott, AZ 86301

April 12, 1988

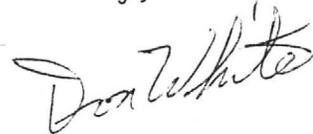
Paul A. Handverger
VERDE EXPLORATION, LTD.
2160 Old Jerome Hwy.
Clarkdale, AZ 86324

Dear Paul,

Accompanying are U.V.X. data available now that diamond drilling has terminated. It includes:

- 1) Drill logs for 911-7 thru 10 and 907-1 thru 5, with assays. These were the final holes drilled for that phase of exploration.
- 2) Charts of drill hole summary data, corrected to the latest surveys, including drill station locations, hole azimuths, inclinations, and so forth for each drill station and hole since the start of Budge's program.

Sincerely,



Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien ✓
A.F. Budge

Carde

U. S. Geological Survey
Branch of Geochemistry
Box 25046, MS 973
Denver, CO 80225

March 18, 1988

Mr. Don White
521 East Willis St.
Prescott, AZ 86301

Dear Don,

The thin sections of the UVX rocks finally came back from the lab this week so I've been able to take a first look at their textures and mineralogy. I had hope for a miracle, but the rocks are not any simpler in thin section than they are in hand specimen! You are dealing with some very messed up rocks--which is no news to you.

A few might match the description of altered diorite, although there is essentially no trace of an igneous texture in my sections. The "diorite" is probably best represented by 906-15 and 902-7, with the best evidence ghosts and streaks of iron and titanium oxide minerals. There is hope that chemical results for supposedly resistant elements like Ti might be able to survive the intense alteration and permit identification of original composition. If these were diorites, they've been badly sheared as well as altered.

Many samples have textures that might have been sandy tuff prior to shear and silicification. These have abundant coarse quartz (200-500 microns) "floating" in what might have been a clay or glassy matrix. The matrix now is fine silica or rock flour. Micas or clays are rare to absent in these metatuffs, although very fine low birefringent kaolinite might escape detection.

There is evidence for silicification in every sample, probably several types and ages. I was most impressed by the pervasive fine silica rocks such as 906-5 and 902-3 to 902-6. This quartz is unstrained, much of it fills open-spaces, and has relicts of a tabular form of possible carbonate or sulfate mineral (now replaced by quartz) and often rimmed by hematite. If I was handed one of these sections with no explanation or source I would think that they were from a Tertiary hot springs or epithermal system in Nevada. In these siliceous samples I have no idea of what the precursor rock might have been prior to total replacement.

I was looking for laminated siliceous rocks but saw no convincing evidence for original layering that could attest

to a chemical sediment. The closest I could find was some fragments of fine-grained stuff that can be called chert, but I can't call any of these 21 samples metachert. I have not studied a lot of metacherts, but some that I've seen do retain good lamination despite moderate metamorphism and some deformation. I suspect that laminated textures could survive under the metamorphism and deformation in the Jerome area, especially in areas outside most severe deformation or alteration. What I've seen so far on this first quick look does not support the idea that you have chert horizons in the gold zone.

I'm disappointed that the rocks are so highly oxidized and transformed. This is not news to you, but it makes research on the gold very difficult and may make efforts to get at earliest stages of possible gold deposition virtually meaningless. If it is difficult to impossible to be sure of the original character of the host rocks because of many stages of deformation, metamorphism, and alteration, then comments on the history of the gold in those rocks will be moot.

I'll do more work on the petrography and try to feed the results from chemistry into those studies to see if I can unravel the history of these complex rocks a bit better than I can now. I'll get back to you when I have some more information to share.

Sincerely,

J. T. Nash

Tm

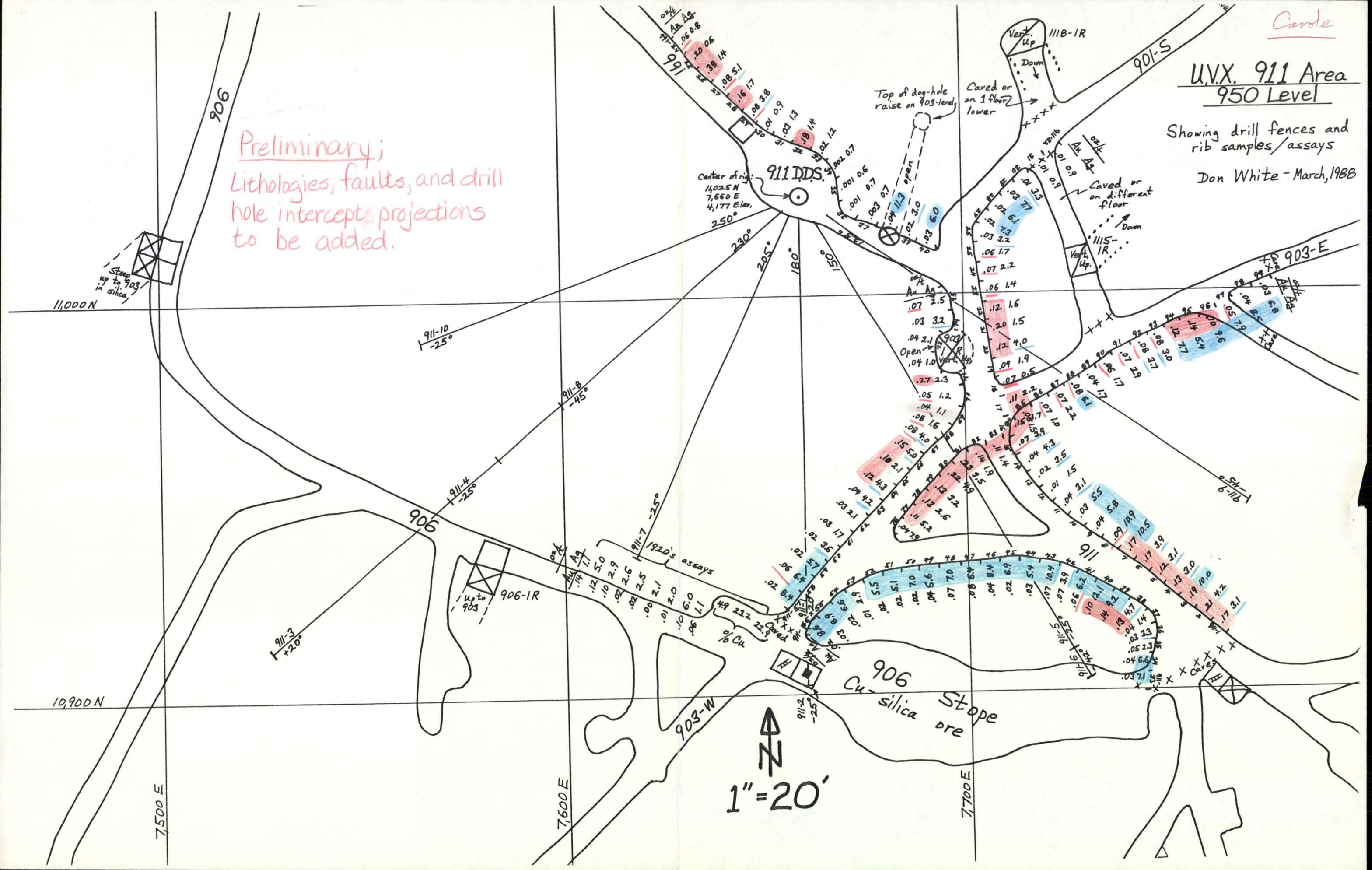
J. Thomas Nash

Cardle

U.V.X. 911 Area 950 Level

Showing drill fences and
rib samples/assays
Don White - March, 1988

Preliminary;
Lithologies, faults, and drill
hole intercept projections
to be added.



11,000 N

10,900 N

7,500 E

7,600 E

7,700 E

1" = 20'



906

906

903-W

906
Cu-silica
Stope

901-S

903-E

911 DDS

Center of drift:
11,025 N
7,660 E
4,177 Elev.
250°

911-10
-25°

911-8
-45°

911-4
-25°

911-7
-25°

911-3
+20°

911-2
-25°

906-1R
Up to
903

1920's assays
Au Ag
.12 5.0
.10 2.9
.07 2.6
.02 2.5
.00 2.0
.10 6.0
.06 1.1

% Cu
4.9 23.2
22.9

Top of dog-hole
raise on 903-level

Caved or
on 1 floor
lower

Caved or
on different
floor

Dam

St-1
6-116

Stope 903
in silica

Vert. Up
Down

1118-1R

1115-1R

Vert. Up

St-1
6-116

4-7-88

Carde,

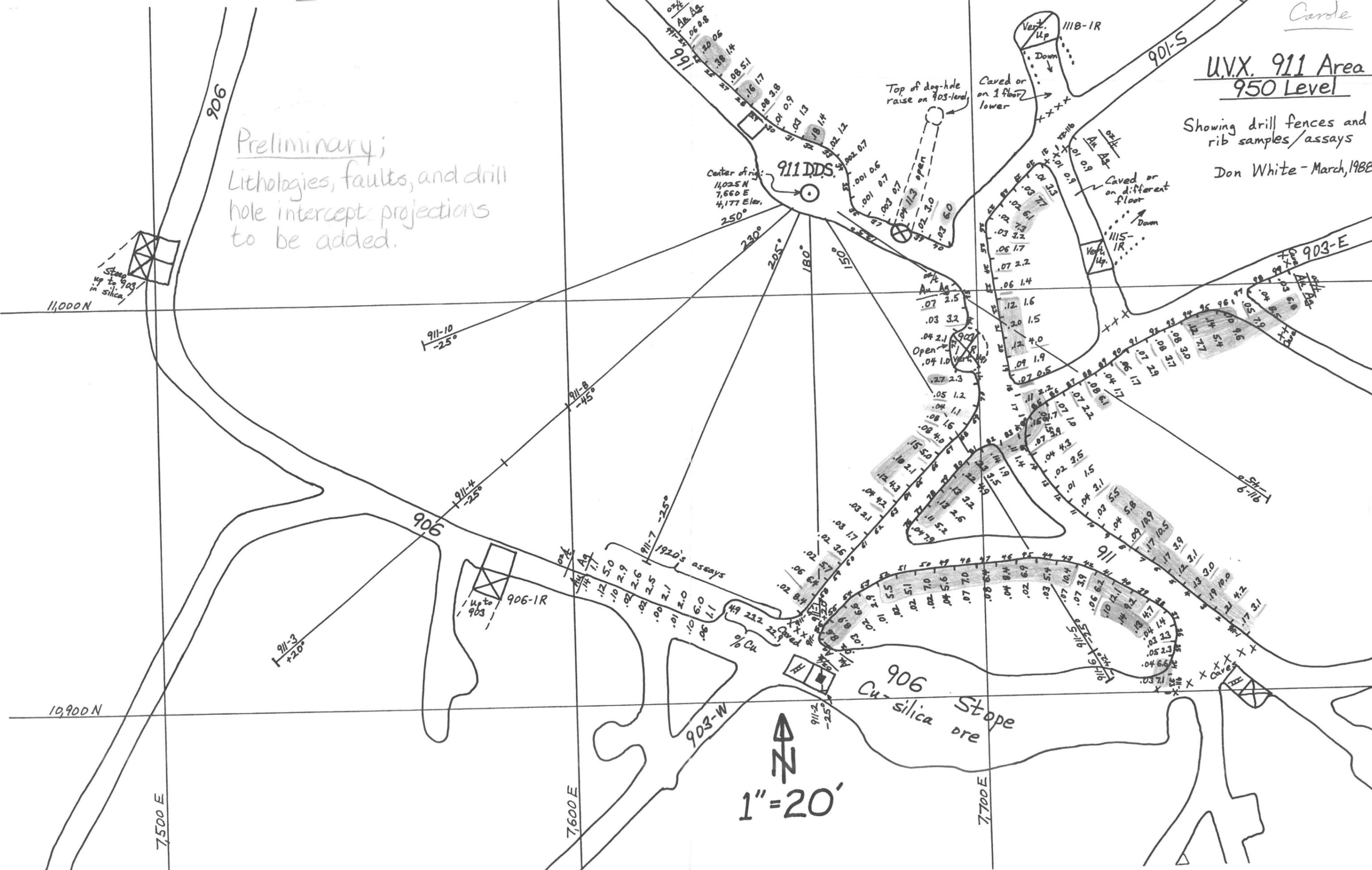
This assay plan for you; all
the drill sections enclosed are

Tony's set (902, 907, & 911
drill sections). I'll have your
set & updated 907 sections as
soon as other assays are in. Don

U.V.X. 911 Area 950 Level

Showing drill fences and
rib samples/assays
Don White - March, 1988

Preliminary;
Lithologies, faults, and drill
hole intercept projections
to be added.



Steep
up to 903
in silica

11,000 N

911-10
-25°

911-8
-45°

911-4
-25°

911-7
-25°

911-3
+20°

10,900 N

7,500 E

7,600 E

7,700 E

1" = 20'



920's assays

% Cu

906
Cu-silica
Stope

903-W

903-E

901-S

1118-1R

1115-1R

911 DDS

Center of rig:
11025 N
7660 E
4,177 Elev.
250°

Top of dog-hole
raise on 903-level

Caved or
on 1 floor
lower

Caved or
on different
floor

Open

Caved

Caved

Vert. Up

Down

Down

Vert. Up

911-6-116

911-5

911-4

911-3

911-2

911-1

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911-9

911-8

911-7

911-6

911-5

911-4

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February 20, 1987

Assumptions: \$400.00/ounce gold
\$ 5.50/ounce silver

Inspiration will pay:

gold - 85% less \$4/ounce
silver - 85% less \$0.35/ounce
silica - \$7.50/ton plus \$0.50/unit above 75%
(unit = 1%)

Hole 806-1: 13 ft. 0.236 oz/t Au and 2.24 oz/t Ag
M-1: 16 ft. 0.235 " " 1.52 " "

Based on Inspiration's quotes (*)

Gold: 0.23 oz/t x .85 x \$400 - \$4 = \$ 74.20
Silver: 1.75 oz/t x .85 x \$5.50 - \$0.35 = 7.83
Silica: (90% - 75%) x \$0.50 + \$7.50 15.00

@450 + #6
83.98
8.58
15.00

107.56

"Net" \$ 97.03/ton

(*) Note: Inspiration did not specifically quote \$0.50/unit over 75% silica; however, they intimated at this on phone.

If they only pay \$7.50/ton, irregardless of silica content over 75%, our "Net" above becomes \$89.53/ton.

Note: Jerome to Vulture
134 miles.

204 miles from Jerome to Claypool

\$90.00 "Net" pay from smelter
- 45.00 Mining costs (this may be on high side)
- 22.44 Transportation at 10¢ t/mi plus 10%
- 2.56 Crushing, loading

\$20.00/ton "Profit" not considering taxes

To recover a total of \$1.5 mm (not all yet spent)
would need 75,000 tons

If we assume a 100-ft. continuous zone between 806-1 and M-1, with a vertical height of 100 ft. and a width of 14 feet, we have approx. 11,500 tons defined at average grade of 0.23 oz/t gold and 1.75 oz/t silver.

Don thinks this is a reasonable assumption.

If a zone 500 ft. long, 200 ft. high and 14 ft. wide could be identified (approx. 115,000 tons), with similar grades, a considerable profit could be realized.

Notes:

According to the Agreement we only recoup our "Preproduction Costs" and "Net Operating Losses" from 85% of the excess, if any, "Annual Cash Flow". The remaining 15% shall be distributed to Verde.

The figures on the previous page for mining costs, transportation, etc. are conservative, almost approaching the worst case scenario. We could probably realize a profit of \$30.00/ton, with lower mining costs, premium pay on silica, etc.

All is speculation until we can identify a minimum of 50,000 tons containing at least 10,000 ounces.

Garou A. O'Brien

HOIST CAPACITY CALCULATIONS

APR. 88

DESCRIPTION	HOISTING FROM 950 LEVEL						HOISTING FROM 1,100 LEVEL					
	2	3	2	3	2	3	2	3	2	3	2	3
Skip Load (Tons)												
Hoist Speed (Ft/min)	300	300	450	450	600	600	300	300	450	450	600	600
Hoist Dist. (Ft.)	850	850	850	850	850	850	1000	1000	1000	1000	1000	1000
* MOTOR SIZE (HP)	92	116	143	169	187	245	99	124	156	192	215	264
Max. Rope Pull (#)	7100	9100	7100	9100	7100	9100	7700	9700	7700	9700	7700	9700
Cycle Time (Min)	6.1	6.1	4.4	4.4	3.7	3.7	7.0	7.0	5.8	5.8	4.2	4.2
Tons Per Hour	19.7	29.5	27.3	40.9	32.4	48.6	17.1	25.7	26.7	31.0	28.6	42.9
Tons Per 4 Hr Shift	78.8	118.0	109.2	163.8	129.6	194.4	68.4	102.8	82.8	124.0	114.4	171.6
Tons Per 5 Hr Shift	98.5	147.5	136.5	209.5	162.00	243.0	85.5	128.5	103.5	155.0	143.0	214.5
Tons Per 6 Hr shift	118.2	177.0	163.8	245.4	194.4	291.6	102.6	154.2	124.2	186.0	171.6	257.4

WIRE ROPE DATA - $\frac{7}{8}$ " ϕ - 6X26 Warrington Seale, Independent Wire Rope Core (IWRC), Min. Breaking Strength 39.8 Tons (79,600#)
 SAFETY FACTORS - 501 to 1,000 ft = 7 to 1, Max Allowable Load = 11,371#
 1001 to 2,000 ft = 6 to 1, Max Allowable Load = 13,267#

* Formula to accelerate load $H.P. = \frac{TSL \times V^2}{32.2 \times T_a \times 550}$

TSL = FEW (Page 15-47 SME Hdbk) + Skip Load + (2x rope load + Wt skip & Cage)
 For 2 Ton Load TSL = 22,000 + 4,000 + 2(7700 - 4,000) = 33,400
 For 3 Ton Load TSL = 22,000 + 6,000 + 2(3700) = 35,400
 T_a = Time of Acceleration = 2 sec. creep & 4 seconds accelerate = 6 sec.
 V = Ft/sec. $V = 300 \text{ ft/min} = 5.0 \text{ ft/sec}$ 450 = 7.5 600 = 10

* H.P. Determination

1 For direct rope pull	65	83	97	124	129	165	70	88	105	132	140	176
2 Adj. for pf @ 0.9	6	8	9	11	12	15	6	8	10	12	13	16
S.T.	71	91	106	135	141	180	76	96	115	144	153	192
3 Mech. Eff. @ 80%	14	18	21	17	18	36	15	19	23	29	31	39
S.T.	85	109	127	152	159	216	91	115	138	173	184	231
* H.P. to Accelerate Load	7	7	16	17	28	29	8	9	18	19	31	33
Tot. H.P.	92	116	143	169	187	245	99	124	156	192	215	264

WORK SCHEDULE ~ 8 HRS/SHIFT , 2 SHIFTS/DAY , 5 DAYS/WEEK , 240 DAYS/YEAR

APR. 88

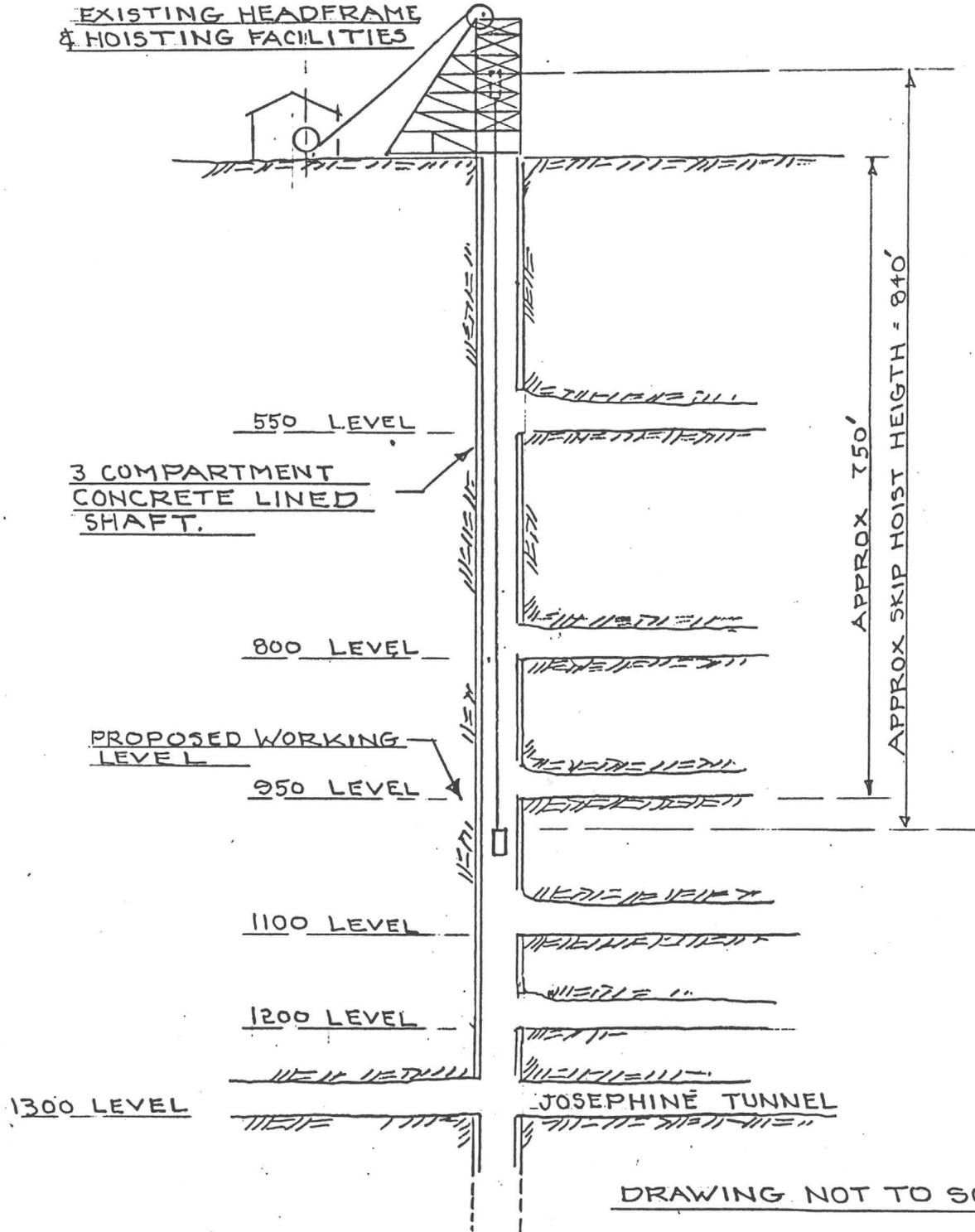
MAX. HOIST RATE (TPH)	OPR'N EFF. (%)	HOIST PROD. RATE (TPH)	DAILY WORKING HOURS	HOISTING HOURS			TONS/DAY			TONS/WEEK			TONS/YEAR		
				ORE	WASTE	OTHER	ORE	WASTE	TOTAL	ORE	WASTE	TOTAL	ORE	WASTE	TOTAL
20	80	16	16	6	4	6	96	64	160	480	320	800	23040	15360	38400
"	"	"	"	7	4	5	112	64	176	560	320	880	26880	15360	42240
"	"	"	"	8	4	4	128	64	192	640	320	960	30720	15360	46080
"	"	"	"	9	3	4	144	48	192	720	240	960	34560	11520	46080
"	"	"	"	10	3	3	160	48	208	800	240	1040	38400	11520	49920
"	"	"	"	12	2	2	192	32	224	960	160	1120	46080	7680	53760
"	"	"	"	14	1	1	224	16	240	1120	80	1200	53760	3840	57600
30	80	24	16	4	5	8	96	120	216	480	600	1080	23040	28800	51120
"	"	"	"	5	4	7	120	96	216	600	480	1080	28800	23040	51120
"	"	"	"	6	4	6	144	96	240	720	480	1200	34560	23040	57600
"	"	"	"	7	4	5	168	96	264	840	480	1320	40320	23040	63360
"	"	"	"	8	3	5	192	72	264	960	360	1320	46080	17280	63360
"	"	"	"	9	2	5	216	48	264	1080	240	1320	51840	11520	63360
"	"	"	"	10	2	4	240	48	288	1200	240	1440	57600	11520	69120
"	"	"	"	11	2	3	264	48	312	1320	240	1560	63360	11520	74880
"	"	"	"	12	2	2	288	48	336	1440	240	1680	69120	11520	80640
"	"	"	"	13	2	1	312	48	360	1560	240	1800	74880	11520	86400
"	"	"	"	14	1	1	336	24	360	1680	120	1800	80640	5760	86400

SCHEMATIC SHAFT DETAIL

UVX PROJECT - JEROME, AZ

H.G. KING
JUNE 198

NOTE: SHAFT LEVEL DATA TAKEN FROM A UNITED STATES BUREAU OF MINES INFORMATION CIRCULAR PUBLISHED FEBRUARY 1930.
EXISTING LOADING POCKETS, ORE CHUTES AND OTHER DETAILS INTENTIONALLY OMITTED FROM THIS DRAWING.



DRAWING NOT TO SCALE

Carole

Don White
521 E. Willis St.
Prescott, AZ 86301
602/778-3140

April 12, 1988

Holly L.D. Huyck
Economic Geology Professor
University of Cincinnati
Dept. of Geology - Mail Loc. 13
Cincinnati, Ohio 45221

Dear Holly,

I enjoyed seeing you again at G.S.A. and even more the fortuitous meeting in Jerome with the chance to give your graduate students a spiel on the U.V.X. I only wish you and they had more time to see the rocks in more detail.

As you no doubt gathered, I believe the U.V.X. is a fascinating, though complex exhibit of intense siliceous alteration post base-metal volcanogenic massive sulfide mineralization. The confounding effects of plutonism, metamorphism, and structural deformation must also be dealt with. But the sampling thoroughness enabled by diamond drill holes, crosscuts, and new raises into the ore zones allows such coverage as to unravel the geologic events and likely figure out what created high-grade precious metal mineralization.

Issues of timing, fluid chemistry and mechanics, structural geology, and alteration studies are all begging for more attention. As I offered when you were in Jerome, I would be happy to work with any student you feel worthy, on a project related to the U.V.X. I could help with orientation, provision of samples, and likely the allowance of a few hundred dollars from A.F. Budge (Mining) Ltd. toward analytical expenses.

If you have either an undergraduate or graduate student in need of a project and care to take on something from the U.V.X., let me know. I am sure we can find a study to match virtually any student's interest.

Best Regards,



Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien (A.F. Budge (Mining) Ltd.) ✓

Don White
521 E. Willis St.
Prescott, AZ 86301

April 12, 1988

J. Thomas Nash
Research Geologist
U.S. Geological Survey
Branch of Geochemistry
Box 25046 M.S. 973
Denver Federal Center
Denver, CO 80225

Dear Tom,

Thank you for your letter of March 18 with some initial impressions of the U.V.X. thin sections.

We see megascopic evidence for virtually every observation you make in thin section, so I think your first impressions are on the mark. I hope you won't be intimidated by the multiple generations of silicification, the intense shearing, the obfuscation by iron oxides, and the regional and contact metamorphic alteration. Chances are that each of those processes has played some role in concentrating the gold and thus deserves all the attention we can give it.

Your observation of unstrained quartz filling open spaces and perhaps pseudomorphing carbonate and/or sulfate is most curious. I hope you have some method available to you for verification of that. If any photographs could come out of that I'd appreciate being able to get ahold of them for reports.

Indeed, we too are trying to drop the term "chert" and stick to "silica" as the preponderance of evidence is that it's not so much a chemical precipitate as it is silicification of some precursor rock.

The underground exposures are becoming more numerous all the time. I have enclosed two photo-memos. One shows the 902-W crosscut from which one of your sample sequences comes. The other is a series of shots across the same silica body less than 100 feet further north along strike (905-12-X-cut). There is a dramatic change over that little distance. You'll note that one goes from high iron ($\bar{x} \approx 20$ wt. % Fe) in the 902-W to very low Fe (estimated $\leq 2\%$) in the 905-12-X-cut. The gold and silver climb dramatically as one grades more gritty, more friable, less iron.

I have enclosed some analytical results for base metals and iron for the same samples you have in case they can help you.

Please do keep a visit in the works as I believe it would help you immensely in the interpretation of what you see in thin section. April and May will be awfully busy with section and plan compilations and reserve calculations now that drilling has been completed, but June would be swell for a couple days of careful scrutiny underground and in core. Then you could stay as long as you wished for any mapping, sampling, or otherwise. You're welcome any time.

Best Regards,



Don White
Geologist, C.P.G.

Enclosures
cc: Carole A. O'Brien ✓

Don White
521 E. Willis St.
Prescott, AZ 86301
602/778-3140

April 12, 1988

Allen O. Krause
LONGYEAR COMPANY
7773 West Seldon Lane
Peoria, AZ 85345

Dear Allen,

Having newly completed an approximately \$600,000 drilling program with Longyear at the U.V.X. Mine in Jerome, I wish to pass on one plaudit directly and the offer for constructive criticism of your management and Longyear's performance if you care to have it.

All things considered, including very difficult rock conditions (exceedingly hard, sheared, faulted, blocky, and caveprone) your lead driller Bert Hansen, and night shift driller, Dennis Sager, did a remarkable job. They got the job done as well as they knew how or had the equipment to do. Both of them have long reputations and records with Longyear so you probably know them well and don't need my praise to trust their work.

I wish you to know what I think of Russ Schoon, long a driller's helper at U.V.X. until the final week when Bert had to be away and Russ became driller. I believe Russ has the makings of a top notch driller. His enthusiasm to learn and to be given the opportunity to prove himself are quite clear. He was frustrated in his few days as driller because he had some miserable rock, a tough, steep-angle hole, and an inexperienced helper (loaned from Budge's mining crew). So don't judge him by footage those days but rather by my observation that he kept things going in spite of all. I believe he deserves the chance to be a regular driller on his next job and that he'll do well by you.

My only criticisms of Longyear's performance at U.V.X. have to do with supplies, planning, maintenance, administration, and communication, the kinds of things the drillers control little but by which they are much affected. My observations on these things would seem to be very valuable to you as manager. I offer them in all candidness for your good and Longyear's if you want to talk about them any time. Chances are a chat over a beer in Jerome or Prescott would be best. Give me a call if you are travelling there and want to meet.

Thanks for all the help to me, Carole O'Brien, and A.F. Budge in getting the drilling phase of the project completed. It looks to me like core drilling has delineated enough to make a small mine of the U.V.X.

Sincerely,



Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien ✓

Carole

MUX Assay Shipments (cont.)

Don White

<u>MUX. Batch #</u>	<u>Date Shipped</u>	<u># Boxes</u>	<u># Samples</u>	<u>Carrier</u>	<u>Lab</u>	<u>Job #</u>	<u>Date Receipt</u>	<u>Puffs + Rejects</u>	<u>Assay Turnaround</u>	<u>Remarks</u>
91	11-19-87	2	16	Personal delivery	IK	AFB 2068	11-25		5	902-5, 51'-98' + 2 studs
92	11-19	2	18	"	"	2068	11-25		5	991 drift samples
93	11-25	2	28	"	"		12-4	FA only	9	902-6, 49'-122'
94	11-30	1	8	"	"	2081	12-7		7	902-6, 122'-146'
95	12-4 (Fri. note)	1	22	"	"		12-8 (Tues. am)		3 (2 working days)	902-7, 38'-98'
96	12-7	1	12	"	"		12-11		4	902-7, 98'-131'
97	12-8	3	21	"	"		12-11		3	902-7, 131'-160' 902-1 thru
98	12-17	4	17	"	"		12-23		6	902 Assay 911-1, ϕ -36 Ca + 902-2/5 pulp for Zn
99	12-22	1	29	"	"		12-29		7	911-1-36'-110'
100	1-7 (98)	2	32 pulp	"	"		1-22		14	906 + 902 X-cut pulp for Zn, Pb, Cu, Fe
101	1-13	1	16	"	"		1-22		8	911-2, 25'-102'
102	1-14	1	6	"	"		1-22		7	911-2, 102'-127'
103	2-1	7	85	"	"		2-9		8	911-3, 25'-178' 905-1 thru 911-1 thru
104	2-3	1	19	"	"		2-10		6	911-4, 47'-120'
105	2-5	4	49	"	"		2-11 (2-11)		5 (3)	903-33 thru 81
106	2-8	2	42	"	"		2-17		8	911-5, 22'-132'
107	2-10	2	29	"	"		2-17		6	911-5, 132'-140'; 905-1-2
108	2-12	4	41	"	"		2-19		6	905-27-39; 911-19-56
109	2-15	1	17	"	"		2-19		3	911-6, 51'-95'
110	2-15	2	34	"	"		2-23		6	911-6, 95'-152', 911-52-7
111	2-17	1	3	"	"		2-23		5	911-6, 152'-177'
112	2-23	1	15	"	"		2-26		3	911-7, 50'-104'
113	2-25	1	16	"	"		3-1		4 (2 wkly days)	911-8, 56-97 + 2 odd 911-6 int
114	3-1	1	16	"	"		3-3		2	911-9, 41'-83'
115	3-3	4	58	"	"		3-9		5	911-9, 83'-170'; 911-71-9
116	3-8	1	19	"	"		3-14		5	911-10, 25'-106'
117	3-10	1	6	"	"		3-14		4 (2 wkly days)	905-30 thru 35
118	3-16	1	22	"	"		3-22		5	907-1, 75'-165'
119	3-18	1	18	"	"		3-22		3	907-2, 22'-81'
120	3-21	2	12	"	"		3-29		7	907-2, 81'-105' + 905- Raise con
121	3-23	1	36	"	"		3-30		6	907-3, 15-100 + 3 stud
122	3-29	1	28	"	"		4-6		7	907-4, 12'-121'
123	3-31	1	15	"	"		4-8		6	907-5, 15'-75'
124	4-4	1	8	"	"		4-12		6	905-38-45

Carde

Date: April 4, 1988 (~ 10pm)

Don White
521 East Willis St.
Prescott, AZ 86301

Robert Crook / Jim Weatherby
Iron King Assay, Inc.
P.O. Box 56
Humboldt, AZ 86329
(632-7410)

778-3140

UVX Batch # 124

Hello Bob + Jim + Kati ;

Accompanying are eight (8) samples for one assay ton gold and silver fire assay with AA following as appropriate. The samples are numbered :

- 1 905-38
 - 2 905-39
 - 3 905-40
 - 4 41
 - 5 42
 - 6 43
 - 7 44
 - 8 905-45
- ↓

Please save all pulps + rejects for my pickup.
Please send a copy of the results + billing to Carde (below)

C.C. Carde A. O'Brien
A.F. Budge (Mining) Ltd.
7340 East Shoeman Ln.
Suite III-B-E
Scottsdale, AZ 85251

Thanks,
Don
Don White
Geologist, C.P.G.

Carde —
New cover
sheet for last
photo-memo;
905 rather than 902

U.V.X. GOLD PROJECT
GEOLOGY PHOTOS

DISPLAYING POSSIBLE CHEMICAL BRECCIA
TEXTURES AND DIORITE/SILICA CONTACT
RELATIONSHIPS IN THE 905-12 CROSSCUT,
GOLD STOPE AREA, 950 LEVEL

DON WHITE
MARCH 31, 1988

U.V.X. GOLD PROJECT
GEOLOGY PHOTOS

DISPLAYING POSSIBLE CHEMICAL BRECCIA
TEXTURES AND DIORITE/SILICA CONTACT
RELATIONSHIPS IN THE 905-12 CROSSCUT,
GOLD STOPE AREA, 950 LEVEL

DON WHITE
MARCH 31, 1988

Hole No. 907-4

U.V.X. Mine - 950 Level
 907 DDS. ~4,180 Elev.
 Collar location: Mine Grid 11,261 N 7,307 E

Inclination: +60° (at collar)

Azimuth: 240° (S60°W) at collar

Length: 121 feet

Driller: Bert Hansen + Dennis Sager, drillers.
 Longyear Co., Phoenix, AZ

Core recovery: ~75% overall

Dates: March 23 to 29, 1988

Assayer: Iron King Assay, Inc. - Humboldt, AZ
 Using fire assay, one assay ton, and AA followup for low grades.

Logger: Don White, geologist

Remarks: Drilled with Longyear 34, pneumatic rig. NQ core throughout.

Overall drilling rate 15.1 ft./shift;
 10-hr. shifts, 2 shifts/day.

All steel removed from hole.

Core Size	RQD	Runs/recovery	Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type	Lithology
1.875" diameter	10	40	Box 1	20	+ - + - +			Silicic- altered diorite	φ-11' Mottled purple-gray and tan/white, foliated, with silicic-altered diorite, with ~5% H. gr. + wt. si clasts as intrusive breccia fragments.
	20	60			+ - + - +				
	30	95			+ - + - +				
	30	95	Sharp intrusives						
	10	100	2		Fe Fe Fe	.043	12.30		
	20	50			sharp	.003	.70		
	10	40	3		Evolutional	.004	.75		
	10	30			Grad.	.004	.72		
	10	40	3		Grad.	.002	.39		
	10	40				.002	.45		
φ	20	3		.013	.86				
50	90			.167	3.01				
20	40	4		.210	6.05				
20	40			.446	6.46				
10	90	4		.208	5.59				
20	90			.041	.96				
10	80	5		.027	.40				
10	90			.020	1.72				
10	50	5		.021	1.13				
30	100			.012	.97				
30	100	6		.022	.91				
30	100			.009	.63				
20	100	6		.020	.94				
10	90			.064	.84				
φ	90	7		.018	.78				
10	90			.020	.75				
10	95	7		.012	.76				
30	100			.021	.97				
30	100	8		.011	.82				
40	100			.010	1.21				
20	100	8		.686	2.61				
10	90			.042	.85				
φ	40	Box 9							
				121'	ERH.				

41'-52' = 11' at $\frac{24}{51}$ $\frac{oz Au}{t Ag}$

112'-117' = 5' at $\frac{69}{2.6}$

Limonitic + wuggy si. bx

Saccharoidal heterogeneous si. bx

Ferruginous saccharoidal si. bx.

Dull-color + beige-banded si. bx.

Carole

U. S. Geological Survey
Branch of Geochemistry
Box 25046, MS 973
Denver, CO 80225

March 18, 1988

Mr. Don White
521 East Willis St.
Prescott, AZ 86301

Dear Don,

The thin sections of the UVX rocks finally came back from the lab this week so I've been able to take a first look at their textures and mineralogy. I had hope for a miracle, but the rocks are not any simpler in thin section than they are in hand specimen! You are dealing with some very messed up rocks--which is no news to you.

Yes, both at
edge of si
in 902 + 906
X-Cuts

A few might match the description of altered diorite, although there is essentially no trace of an igneous texture in my sections. The "diorite" is probably best represented by 906-15 and 902-7, with the best evidence ghosts and streaks of iron and titanium oxide minerals. There is hope that chemical results for supposedly resistant elements like Ti might be able to survive the intense alteration and permit identification of original composition. If these were diorites, they've been badly sheared as well as altered.

Many samples have textures that might have been sandy tuff prior to shear and silicification. These have abundant coarse quartz (200-500 microns) "floating" in what might have been a clay or glassy matrix. The matrix now is fine silica or rock flour. Micas or clays are rare to absent in these metatuffs, although very fine low birefringent kaolinite might escape detection. || *

There is evidence for silicification in every sample, probably several types and ages. I was most impressed by the pervasive fine silica rocks such as 906-5 and 902-3 to 902-6. This quartz is unstrained, much of it fills open-spaces, and has relicts of a tabular form of possible carbonate or sulfate mineral (now replaced by quartz) and often rimmed by hematite. If I was handed one of these sections with no explanation or source I would think that they were from a Tertiary hot springs or epithermal system in Nevada. In these siliceous samples I have no idea of what the precursor rock might have been prior to total replacement. || *

I was looking for laminated siliceous rocks but saw no convincing evidence for original layering that could attest

to a chemical sediment. The closest I could find was some fragments of fine-grained stuff that can be called chert, but I can't call any of these 21 samples metachert. I have not studied a lot of metacherts, but some that I've seen do retain good lamination despite moderate metamorphism and some deformation. I suspect that laminated textures could survive under the metamorphism and deformation in the Jerome area, especially in areas outside most severe deformation or alteration. What I've seen so far on this first quick look does not support the idea that you have chert horizons in the gold zone.

I'm disappointed that the rocks are so highly oxidized and transformed. This is not news to you, but it makes research on the gold very difficult and may make efforts to get at earliest stages of possible gold deposition virtually meaningless. If it is difficult to impossible to be sure of the original character of the host rocks because of many stages of deformation, metamorphism, and alteration, then comments on the history of the gold in those rocks will be moot.

I'll do more work on the petrography and try to feed the results from chemistry into those studies to see if I can unravel the history of these complex rocks a bit better than I can now. I'll get back to you when I have some more information to share.

Sincerely,

J. T. Nash

Tm

J. Thomas Nash

Hole No. 907-5

Page 1 of 2

Candle

U.V.X. Mine - 950 Level
907 DDS. ~ 4,180 Elev.
Collar location: Mine Grid 11,261 N - 7309 E

Inclination: +30° (at collar)

Azimuth: 210° (S 30° W) at collar

Length: 85 feet

Driller: Bert Hansen + Dennis Sager, drillers.
Longyear Co., Phoenix, AZ

Core recovery: ~90% in silica.

Dates: March 29-31, 1988

Assayer: Iron King Assay, Inc. - Humboldt, AZ
Using fire assay, one assay ton,
and AA followup for low grades.

Logger: Don White, geologist

Remarks: Drilled with Longyear 34,
pneumatic rig. NQ core throughout.

Overall drilling rate 18.9 ft./shift;
10-hr shifts, 2 shifts/day.

All steel removed from hole.

Core Size	RQD	Runs/recovery	Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type	Lithology	
1.875" diam.	10	60	Box 1	20		<p style="text-align: center;">+ - + - - + + - - + - + + - - + - + + - - + - + + - - + - +</p>	<p style="text-align: center;">.109 1.48 .065 1.31 .081 1.65</p>	<p style="text-align: center;">15'-23' = 8' at 11.5</p>	<p>Silicic-altered diorite</p> <p>Beige-banded + locally ferruginous si. bx.</p>	<p>φ-11' Mottled purple-gray and white/tan, silicic-altered diorite with ~10% wt. + th. gr. silica clasts as intrusive bedrock.</p> <p>11'-15' Beige-banded silica with ~30% th. gr. clasts (φ-1/2", X=1/4").</p> <p>15'-23' Dark red-brown, very ferruginous (~20% Fe overall) locally porous silica with ~40% gray clasts (φ-1", X=1/2").</p>
	10	95								
	φ	50								
	20	95								
	φ	95								
	20	100								
	10	100								
	10	100								
	φ	90								
	φ	90								
All NQ core;	40	95	Box 2	40		<p style="text-align: center;">.175 4.09 .119 3.27 .253 4.28 .226 3.79 .072 .47 .064 .62 .052 .98 .100 .88 .107 1.01 .121 1.04 .045 .71 .038 1.18</p>	<p style="text-align: center;">47'-57' = 10' at 3.9</p>	<p>Yellow si grit + saccharoidal si. bx.</p> <p>Saccharoidal ferruginous si. bx.</p> <p>Beige-banded.</p>	<p>23'-47' Beige-banded silica as matrix to ~50% light gray clasts (φ-3", X=1"). Tight, in porous.</p> <p>47'-67' Mustard yellow (goethitic) and locally yell-br. + red-br. saccharoidal and gritty silica with only ~10% clasts (φ-2", X=1/2). Hard clasts are th. gr. Gritty clasts are wt. yell-br. + red-br. + iron. friable. (66-67' = Lone white saccharoidal silica clast-?)</p> <p>67'-75' Red-brown, saccharoidal, porous, ferruginous (perhaps ~5% Fe) silica with ~20% light gray clasts (φ-1", X=1/4").</p> <p>75'-85+ Beige-banded silica with ~30% light gray clasts (φ-1", X=1/2). Tight, in porous, hard.</p>	
	10	100								
	φ	90								
	φ	90								
	40	95								
	20	80								
	50	100								
	50	95								
	60	100								
	40	95								
30	95									
φ	20									
φ	90									
			Box 7	80		<p style="text-align: center;">.038 1.18</p>	<p style="text-align: center;">47'-69' = 22' at 14.2</p>	<p>Beige-banded.</p>	<p>85' E.P.H.</p>	
			Box 1	85						

800

903

950

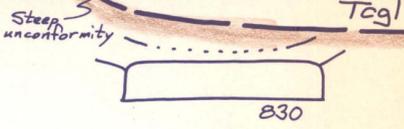
1100

819 Stope

906-1 Stope

Cu-silica ore

Approx. limit of steeping



U.V.X. 911 DRILL SECTION-230°

Looking N40°W - Drilling S50°W (230°)

In vertical plane of drill holes 911-3, 911-4, 911-8

1" = 20'

Compiled by Don White, March, 1988

QP

Verde Fault Zone

Footwall trace of Verde Fault

QP

Hanging wall trace of Verde Fault

Si

Florescia Fault

QP

dt

Si

dt

rhy

901-S

Si

Si

Si

"sch", presumed altered diorite

dt

Si

Si

Si

Si

Si

120' QP
Graded
limb
siliceous

Fe-stained
Si, br.

Gray clasts in sericoloidal matrix
More greathitic, X=0.5
1.5

breccia

silica
MASSIVE

banded

40' at 20
Sand + silt + clay

21' at 20
Mass + banded

30' at 20
Sand + silt + clay

11' at 20
Banded

Center of rig:
11,025 N
7,660 E
4,177 Elev.

911-3 +20°

911-4 -25°

911-8 -45°

911 D.D.S.

Rib samples:
01-05 Au
04-39 Ag
with 10' foot
Open

10' forward

10' forward

10' forward

10' forward

1118-1R
~15' forward

1118-1R
~5' forward

1118-1R
~10' forward

1118-1R
~20' forward

Splay fault

Splay fault

1117

"Fe-stained QP"

1118

1119

1102

1108-S

1108

800

903

950

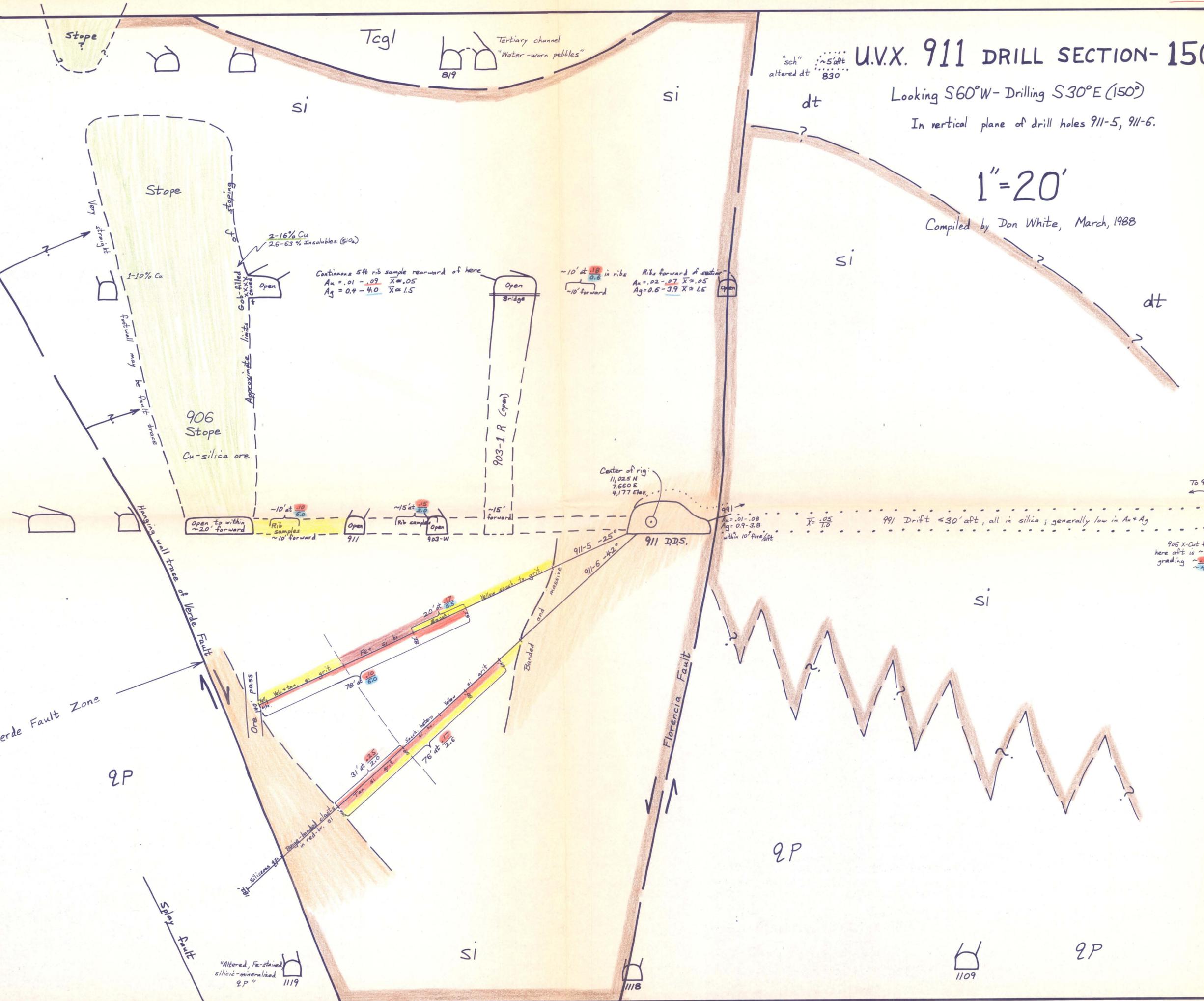
1100

U.V.X. 911 DRILL SECTION- 150°

Looking S60°W- Drilling S30°E (150°)
In vertical plane of drill holes 911-5, 911-6.

1" = 20'

Compiled by Don White, March, 1988



U.V.X. 911 DRILL SECTION- 125°

Looking S35°W- Drilling S55°E (125°)

In vertical plane of drill hole 911-9

1" = 20'

Compiled by Don White, March, 1988

