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M E M O

TO: B.F.D. III and C.A.O'B.

FROM: D.C.W. and R.W.H.

DATE: November 2, 1985

SUBJECT: Summary at underground drill holes 1104-1, 1104-2 and 901-1 plus update of target definition: United Verde Extension gold project, Jerome, Arizona.

PREFACE:

This memorandum accompanies logs and updated cross sections for drill holes 1104-1 and 1104-2 drilled from the 1100 level and hole 901-1 drilled from the 900 level of the UVX workings. At writing, holes 1104-3 and 901-2 are drilling within the hanging wall of the target area. Data has been reviewed and compiled at the mine site on October 31 through November 2, 1985.

SUMMARY:

1. Holes 1104-1 and 1104-2 intersected the Florecia area and the lower part of the 1205 area (DCW and RWH memo of August 2, 1985 and Figure 1, this memo) returning the following:

Hole 1104-1, 15 feet of 0.11 oz Au and 0.5 oz Ag/ton

Hole 1104-2, 14 feet of 0.14 oz Au and 0.4 oz Ag/ton

These intersections compare to our preferred estimate of August 2 (Table 1 this memo) which was as follows:

August 2 estimate,12 feet of 0.15 oz Au and 0.6 oz Ag/ton

Phelps Dodge holes into Florencia area had the following:

Hole 1, 20 feet of 0.196 oz Au and 1.54 oz Ag/ton

Hole 2, 35 feet of 0.177 oz Au and 0.3 ox Ag/ton

Each of the drill holes noted also have short sections that are gold-bearing but which are not compounded into the above intervals.

Hence, the target dimensions of August 2 estimate remain essentially intact and indeed the preferred estimate of thickness of the Florencia area is exceeded in the drill results by 2 feet. Assayed grade however is about 0.01 oz Au/ton less than the preferred estimate.

2. Hole 901-1 aimed at the upper 1205 area and the Verde fault area was beset by mechanical problems and terminated short of both targets. It did however, intersect 6 feet of 0.15 oz Au and 0.6 oz Ag/ton in an area above, and hanging wall to, the Gold Stope. This grade is compatible with compiled assays for the fringe of the gold stope.

3. In brief, each of 3 drill holes, 5 holes if the Phelps Dodge drilling is included, has encountered gold and have not changed the dimensions of our August 2 preferred estimates arrived at through data compilation for the Florencia or 1205 areas. Grade however, in assays of core from the current drilling, is 0.125 oz Au/ton rather than the 0.15 oz Au/ton of that estimate.

However, from our compilation we anticipate that grade in hole 1104-3 will be greater than that in 1104-1 and 1104-2 as gold content appears to increase in chert breccia toward the copper ore body. Such an increase could bring the average grade of intercepts in the three 1104 holes on Section A-A' up to the estimate. If the assays from the two current 1104 holes are averaged with assays from the two Phelps Dodge holes, which are closer to the copper ore body, the result is 0.15 oz Au/ton.

Historically, gold occurrences are ~~in~~ non-homogeneous as to grade. true! Drilling to date at the UVX has suggested more homogeneity than usually encountered and has not eliminated the possibility of higher grade sections within this apparently persistent gold content. Only continued sampling can assess this potential. Results in the 0.11 to 0.14 oz Au/ton range to date encourage continued evaluation of what would be an economically acceptable grade assuming the dimensions and tons of the August 2 estimate. But we need to continually and realistically face the economic spectre of an average grade of about 0.13 oz Au/ton if we do not hit any hot spots.

RECOMMENDATIONS:

1. Holes 1104-3 and 901-2 should be completed as rapidly as possible. They probably can be finished by November 15. Sampling of 1217 and 806 drifts should be integrated with drill results.

2. Upon completion of 1104-3 and 901-2, the pneumatic drill now on 1104-3 should be moved to the 901 station and used to redrill 901-1 in order to test the 1205 area and the Verde fault area unreached as yet by the inadequate ? electric drill. The re-drill of 901-1 will take approximately two months

and will give the first data on the Verde Fault area.

3. Upon completion of hole 901-2 the electric LM-37 should be removed from the project as it is inadequate. (Don't agree)

4. As soon as possible a drill station should be prepared on the 800 level (Section D-D') and an electric Longyear-38 acquired to drill two holes from that station to the Verde fault area. Drift and drill station preparation will take one month and each hole will take one month to drill. Hence, if preparation begins in November then the two holes could be completed in February.

5. Paul Handverger has offered to have polished sections prepared of the auriferous chert breccia and examined to determine the nature of the gold occurrence. We should accept this offer and select the samples.

6. We should again evaluate the preferred estimates of tons and grade derived from the initial compilation and presented in the August 2 memorandum. Implicit in this re-evaluation is: i) a review of sample density at the end of the current drill program and the risk of missing a Gold Stope (Figure 2, 35,000 tons of 0.4 oz Au/ton) and ii) a consideration of the economic significance of an overall grade of 0.13 to 0.2 oz Au/ton.

7. Assay intervals in core should be kept short to assist in interpretation of in-homogeneity in grade. They can always be compounded to economically important widths.

OBSERVATIONS OF THE CORE:

1. Gold appears to be most abundant in clast-supported chert breccia. This is a close packed breccia with variable clast size but of uniform composition and traversed by fine quartz veinlets with indistinct margins. The preliminary interpretation is that gold is within these veinlets restricted to the clasts and that these are virtually contemporaneous with deposition of the chert. Brecciation is post-veinlet and probably tectonic. In matrix supported chert breccia there is a tendency toward a variety of rock types in clasts, and a substantial volume of matrix. The addition of rocks other than veined chert as clasts and the addition of matrix tends to dilute the grade.

2. The auriferous clast-supported chert breccia appears to be less oxidized than the matrix supported breccia. This may be somewhat of an overview because the matrix is invariably hematite and limonite but at this point in data

collection clasts in the matrix-supported breccia do, in general, appear more oxidized than those in clast-supported breccia.

3. Auriferous chert breccia has an immediate hanging wall of virtually barren chert breccia overlain by fine-grained pyroclastic and sedimentary rock in which feldspar grains are pseudomorphed by clay minerals, which in turn is overlain by a distant hanging wall of rhyolite which is chloritic and traversed by calcite stringers. This peripheral and discordant carbonate is common to many gold occurrences, is useful in defining areas of interest, and will be recorded in drill logs along with the nature of the breccia and the distribution of the clay minerals. All of this may reflect alteration associated with gold deposition.

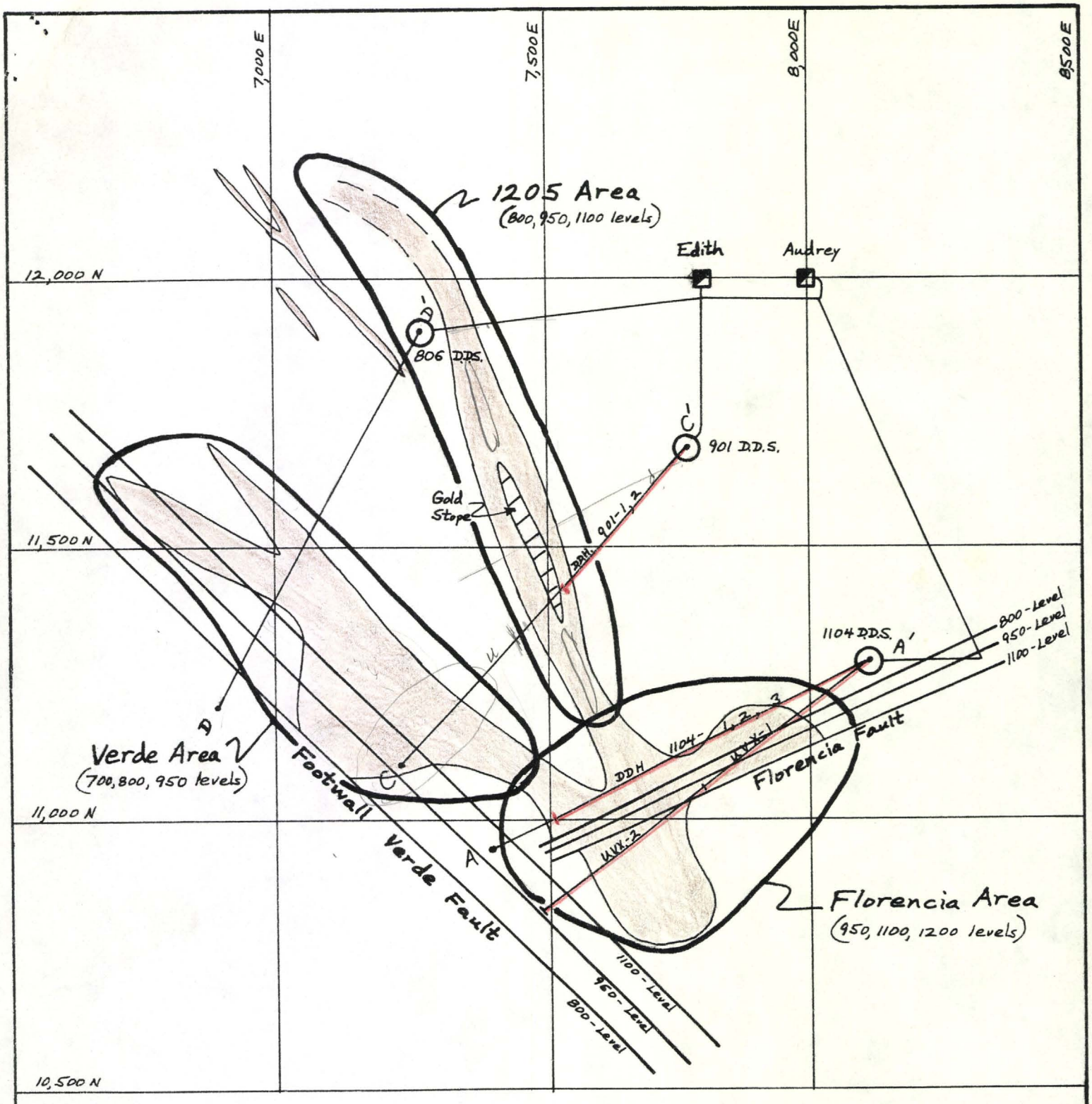
4. Within the above mentioned breccia the gold appears to be most abundant in areas of structural complexity such as the bend in the section near the Gold Stope, a thickened section of chert, proximity to the edge of the base metal massive sulphide body as in the Florencia area, and a lateral interdigitation of rock types (Figure 1). The current drill holes are aimed at coincidences of these features.

TABLE 1

To accompany Memo by DCW and RWH, November 2, 1985

Estimated size and grades in 4 areas proposed in Memo of August 2, 1985

	Length	Width	Height	Tons K	Grade oz Au/ton	Total oz Au K	Remarks
FLORENCIA AREA							
Preferred estimate of August 2, 1985	150	12	300	45	0.15	6.7	
		15			0.11		Hole 1104-1
		14			0.14		Hole 1104-2
		19			0.12		Hole 1104-3
1205 AREA							
Preferred estimate of August 2, 1985	500	15	350	219	0.12	26.2	
		6			0.15		Hole 901-1; intersection is only in hanging wall of target 901-3
GOLD STOPE							
Preferred estimate of August 2, 1985	---	---	---	20	0.30	6.0	
VERDE FAULT AREA							
Preferred estimate of August 2, 1985	500	20	350	292	0.12	35.0	As yet untested
TOTALS							
Preferred estimate of August 2, 1985				576	0.13	75.0	



U.V.X. GOLD PROJECT

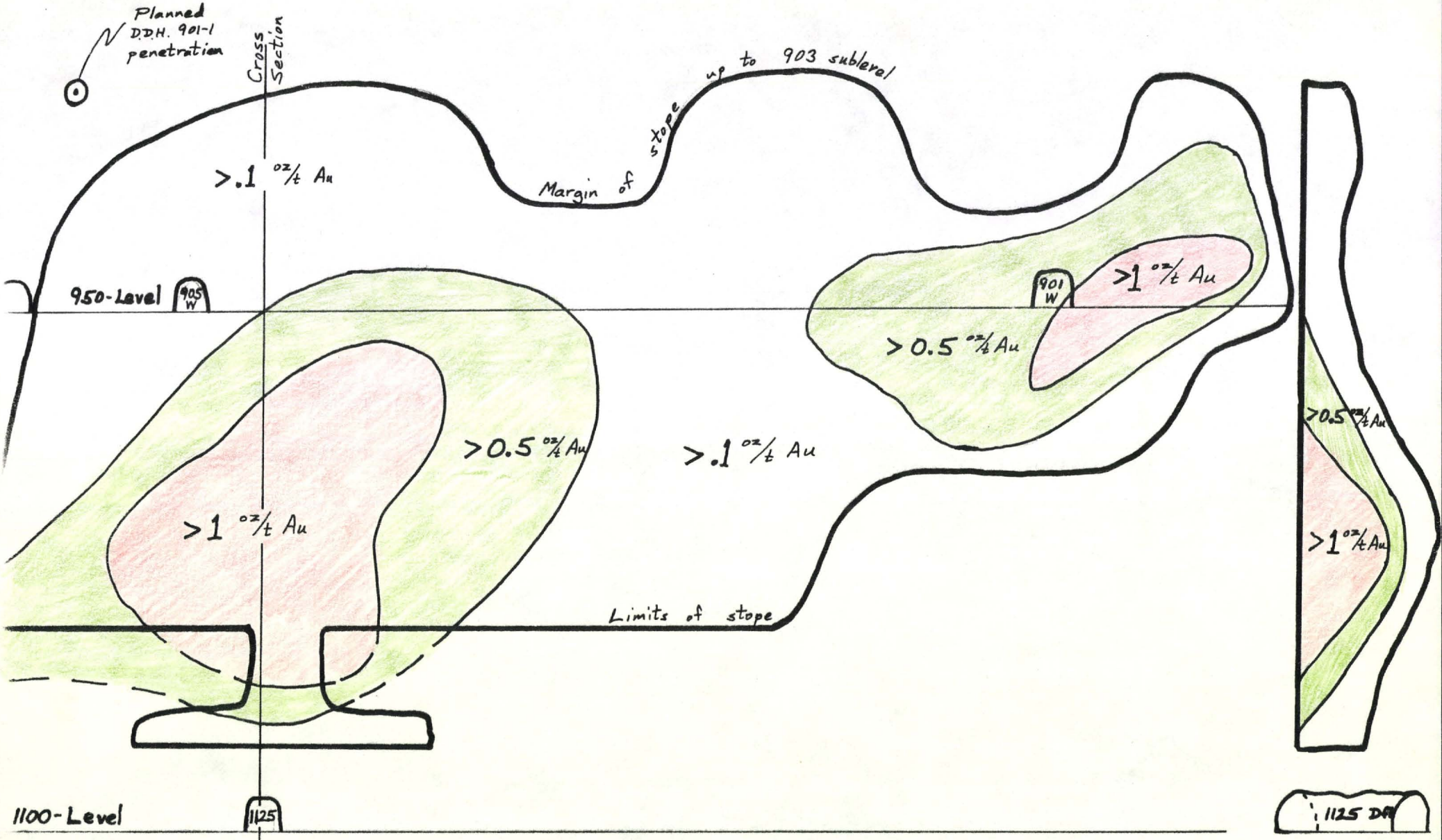
Sketch map showing:
chert bodies/target areas, key cross sections, diamond drill stations.

N

1" = 250'

Figure 1

D.C. White & R.W. Hodder - Nov. 1985



1" = 40'

Looking ~250°

U.V.X. GOLD PROJECT

GOLD STOPE

Sketch longitudinal + cross section showing dimensions, geometry, + gold grade distribution.

Figure 2

D.C. White + R.W. Hodder - Nov. 1985

Carole

Hole No. 911-10

Collar location: U.V.X. Mine – 950 Level, 911 D.D.S. ~4,177' Elev. Mine Grid 11,025 N 7,660 E

Inclination: Minus (–) 25° at collar

Azimuth: 250° (S70°W) at collar

Length: 106 feet

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

Core recovery: 65% overall (~80% in target zone)

Dates: March 3 through 7, 1988

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

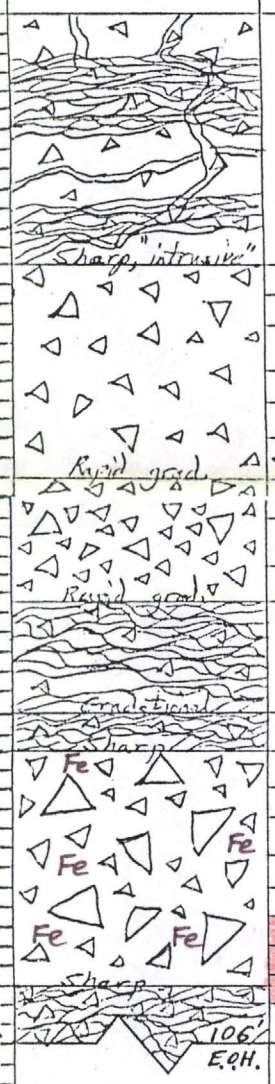
Logger: Don White, geologist

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

Overall drilling rate 17.7 feet/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	ϕ	10							Banded + massive si. bx.	ϕ-26' Biege-banded + purple-gray-massive silica with ~30% 1st + 2nd generation clasts. First gen. clasts are gray (ϕ-½", x̄=¼) within banded + massive matrix. Second gen. clasts are biege banded + purple-gray massive (ϕ-8", x̄=4") within red-brown, fracture-filling matrix. No vugs or open spaces. Exceedingly hard + broken.
	ϕ	20								
	30	50	Skeleton Box A							
	30	100								
	ϕ	40								
	ϕ	20								
	60	100		20						
	70	100								
	10	50			.002	.45			Dull brown massive si. bx.	26'-48' Dull yellow brown (not saccharoidal) very slightly porous matrix with ~30% lt. gr. + red-gr. clasts (ϕ-2", x̄=½")
	ϕ	30	Box 1		.001	.40				
	ϕ	50			.002	.42				
	10	60		40	.001	.52				
	20	95			.001	.47				
	10	60			<.001	.45				48'-61' Purple-gray-massive silica with ~50% relict gray clasts (ϕ-2", x̄=½").
All NQ core;	20	40	2		<.001	.57			Massive si. bx.	61'-72' Biege-banded silica with some minor purple-gray-massive zones, both containing ~20% lt. gray clasts (ϕ-1", x̄=¼")
	20	50		60	<.001	.72				
	ϕ	40			<.001	.67				
	10	70	3						Banded si. bx.	72'-76' Biege-banded silica with ~20% lt. gray clasts and some white, milky clasts (ϕ-1", x̄=½"). No vugs or porosity.
	ϕ	70								
	10	90								
	10	80	4		<.001	.89				76'-100' Red-brown + mustard yellow (blotchy + mottled, contorted, irregular coloration) very dense, very ferruginous (~20% Fe) slightly saccharoidal silica with ~40% heterogeneous gray, yellow, yellow-brown, + red-brown clasts (ϕ-4", x̄=1"). Both limonitic + hematitic. Abundantly fractured + healed. Vugs ≤5%, ≤½", plus some porosity.
	50	80		80	.035	2.74			Red + yellow, ferruginous, saccharoidal si bx	
					.039	1.93				
	30	60			.082	3.63				
	40	90	5		.035	4.10				
					.052	3.23				
	60	100			.387	4.59				
					.757	2.76				
	20	80	Box 6	100	.111	2.07				
	ϕ	50							Banded si. bx.	100'-106' Biege-banded and red-brown silica matrix with ~40% lt. gr., gray, + red clasts (ϕ-1", x̄=¼").
	10	90		106	.015	1.72				



93'-102' = 9' at .42/3.1

76'-102' = 26' at .18/2.6

Carole

Hole No. 911 - 9

Collar location: U.V.X. Mine - 950 Level, 911 DDS. ~4,177' Elev. Mine Grid 11,025 N 7,660 E

Inclination: Minus (-) 45° at collar

Azimuth: 125° (S55°E) at collar

Length: 183 feet

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

Core recovery: ~95% (excepting collar area, ϕ-30')

Dates: February 26 thru March 2, 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 21.5 ft./shift; 10-hr shifts, 2 shifts/day.

All drill steel removed from hole.

Core Size: NQ core; 1.875" diameter

RQD	Runs/recovery
ϕ	30
ϕ	20
ϕ	50
ϕ	~~70~~
10	80
ϕ	~~80~~
20	50
ϕ	30
40	100
60	100
40	100
80	100
80	100
90	100
40	95
20	95
30	60
60	95
ϕ	80
60	100
80	100
90	100
60	100
70	100
80	100
80	100
90	100
80	100
80	100
80	100
90	100
80	100
70	100
80	100
60	100
70	100
80	100
70	100
80	100
70	100
90	100
90	100
40	100
60	100

Core boxes: Skeleton Box A; Box 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; Box

Footage: 20, 40, 60, 80, 100, 120, 140, 160, 180, 183

Graphic log:

Au (oz/t)	Ag (oz/t)
.056	5.34
.051	6.63
.058	8.24
.028	8.72
.057	1.89
.069	2.54
.064	2.81
.066	4.02
.038	5.41
.026	6.06
.052	6.66
.034	4.07
.040	2.35
.064	5.76
.057	1.70
.112	4.68
.056	.57
.101	1.52
.079	1.08
.061	.70
.074	.87
.060	.74
.083	.97
.098	2.70
.089	1.83
.118	2.20
.107	2.04
.236	2.74
.077	3.89
.073	6.56
.083	6.99
.077	3.38
.100	2.63
.112	1.80
.091	2.12
.108	3.06
.098	1.94
.062	1.54
.048	4.45
.078	6.92
.064	8.02
.033	7.63
.063	4.81
.091	3.45

Overall saccharoidal intercept, 41'-165' = 124' at .076 oz/t Au, 3.74 oz/t Ag

Rock type	Lithology
Banded + massive si. bx.	ϕ-41' Biege-banded + purple-gray-massive silica bx with ~50% clasts (ϕ-2", x̄=¼") of light gray (small) and biege-banded (larger, more angular, 2nd generation bx) silica. Gray clasts are within biege-banded and purple-gray massive silica, Biege banded clasts are within red-brown, more porous silica. Some vugginess (≤10%, ≤½") where the 2nd gen. bx is incompletely healed.
Purple, red-brown, + yellow saccharoidal si bx	41'-44' Purple-gray, saccharoidal, slightly porous silica with ~20% lt. gr. + biege-banded clasts (ϕ-3", x̄=½"). 44'-55' Mustard yellow and red-brown, mottled, saccharoidal, porous silica bx with 2nd + 3rd gen. bx of heterogeneous types including ~70% gray, tan, + yell. br. clasts (ϕ-4", x̄=1").
Yellow to tan to white saccharoidal to gritty silica	55'-74' Tan to yellow-brown, slightly goethitic, very porous, silica grit with ~30% gray (hard) + tan (grit) clasts (ϕ-1", x̄=¼"). 74'-91' Mustard yellow to yell-br. + tan, "flow-banded" + mottled, porous, saccharoidal silica with ~40% mustard yellow, tan, + gray clasts (ϕ-2", x̄=½"). 91'-118' Tan to white, "flow-banded", porous, saccharoidal silica with ~30% white, tan, + gray clasts (ϕ-1", x̄=½") Trace hematite where locally red-brown.
Gray + red-brown + locally yellow-brown saccharoidal silica breccia	118'-137' Gray + red-brown, slightly porous, slightly vuggy, somewhat saccharoidal (less than above + below) silica with ~50% gray, light gray, tan, + red clasts (ϕ-4", x̄=½"). Clear displays of 2nd gen. bx. 137'-157' Yellow-brown + locally red-brown, slightly porous, saccharoidal silica with ~60% gray, light gray, red-brown, + tan clasts (ϕ-2", x̄=½"). 2nd gen. bx. 157'-165' Gray + red-brown, saccharoidal, slightly vuggy (≤3% ≤¼ vugs) silica with ~70% clasts (ϕ-2", x̄=½") of gray, yellow-brown, red-brown, and white silica. Much 2nd generation brecciation.
Biege-banded clasts in red brown silica	165'-183+ Dominantly biege-banded silica with its typical light gray, small, clasts and bands but in turn cut by the red-brown, slightly hematitic, porous silica. Banded clasts are at least 70% of rock and ≤8", x̄=2". Small biege banded clasts plucked and included above sharp contact at 165'.

Carole

Hole No. 911-8

Collar location: U.V.X. Mine – 950 Level, 911 D.D.S. ~4,177' Elev. Mine Grid 11,025 N 7,660 E

Inclination: Minus (–) 45° at collar

Azimuth: 230° (S 50° W) at collar

Length: 105 feet

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

Core recovery: Approx. 90 % overall

Dates: February 23 thru 25, 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 for entire hole.

Overall drilling rate 16.0 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
NQ core throughout; 1.875" diam.	ϕ 20 Box A Skeleton							Banded + massive silica breccia	ϕ–56' Beige-banded, purple-gray-massive, and red-brown and yellow-brown massive silica breccia with ~20% lt. gray "clasts" (ϕ-2", x̄-¼"). Smaller "clasts" may be porphyroblasts. No vugs or porosity. Exceedingly hard.
	ϕ 40								
	10 90								
	10 100								
	20 100								
	20 100								
	10 100								
	ϕ 70 Std. Box B								
	ϕ 70								
	20 80								
	10 100								
	30 100								
	80 100								
	40 100 Box 1								
	40 100		Sharp "intrusive" contact						56'–59' Red, saccharoidal to gritty silica matrix with ~40% mustard yellow (saccharoidal) and lt. gr. (hard) clasts (ϕ-2", x̄=½"). Hematite rich; ~10% Fe.
	60 100 2			.062	5.60			Saccharoidal to gritty heterogeneous clast-type silica breccia	59'–71' Mustard yellow to tan, saccharoidal to gritty, porous silica matrix with ~60% mustard, tan, lt. gr., and red-br. clasts (ϕ-2", x̄=1"). Low Fe.
	80 100			.100	7.28				
	80 100			.060	1.84				
	80 100			.044	2.16				
	100 100		Erosional contact	.044	2.43				
	100 100 3			.070	3.19				
	90 100		Gradational contact	.049	2.17				71'–74' Yell-br. saccharoidal silica with ~20% gray + tan clasts (ϕ-1", x̄=¼") Exhibits prominent banding, virtually planar and hence possibly bedding, at ~45° to core axis. Possible graded bedding + load casts of clast in fine grained beds.
	90 100 4			.045	4.55				74'–83' Yell-br. + red-br. saccharoidal to gritty, mottled + flow banded silica with ~60% gray, yellow, + red-br. clasts (ϕ-3", x̄=1")
	80 100			.044	2.43				83'–94' Red-brown, saccharoidal, mottled + flow-banded silica with ~40% lt. gr., gray, yellow + bleed red clasts (ϕ-6", x̄=½") Fine 2 ft. (72'–94') includes an increasing abundance of angular beige-banded clasts, also of increasing size clasts up to the sharp, virtually intrusive looking contact at 94'.
	80 100 5			.088	8.65				
	80 100			.102	3.33				
	80 100			.127	1.59				
	20 80		Sharp contact	.256	2.69				
	40 100 Box 6			.011	2.16			Beige-banded si. bx.	94'–105' Beige-banded silica with ~30% lt. gr. relict porphyroblasts (?) or clasts (ϕ-½", x̄=¼").
		105	105 EOH						

Ag: 5.60, 7.28, 1.84, 2.16, 2.43, 3.19, 2.17, 4.55, 2.43, 8.65, 3.33, 1.59, 2.69, 2.16 — x̄ = 44.35 / 13 = 3.41 oz/t

Carole

Hole No. 911-7

Collar location: U.V.X. Mine – 950 Level, 911 D.D.S. ~4,177' Elev. Mine Grid 11,025 N 7,660 E

Inclination: Minus (–)25° at collar

Azimuth: 205° (S5°W) at collar

Length: 104 feet

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

Core recovery: ~90% overall

Dates: February 17 thru 22, 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. All NQ core.

Overall drilling rate 12.9 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" diameter	ϕ 40	Skeletonized Box A							Banded + massive silica breccia	ϕ-56' Biege-banded and purple-gray-massive silica with ~40% light gray "clasts" (ϕ-2", $\bar{x}$= 1/4") of which the smaller, more abundant "clasts" are very much like relict phenocrysts or "eyes". Very few vugs and zero permeability. Exceedingly hard as evidenced by bit wear. (~10' per bit)
	ϕ 80									
	20 60									
	20 90									
	20 90									
	10 80		20							
	30 100									
	60 100									
	60 100	Box B								
	50 80									
	20 100		40							
	50 100									
	50 80	Box 1								
	50 100			Rapid gradation						
NQ core throughout;	50 90			Rapid grad.	.063	1.71				
	90 100	Box 2		Sharp	.002	.96				
	10 50				Net	assayed			Non-porous si. bx.	
	40 90		60		.015	1.39				
	20 100			Gradational	.002	.83				
	50 100	Box 3		Sharp	.001	.81			Massive si. bx.	
	90 100			Gradational	.096	7.64			Saccharoidal, heterogeneous clast-type silica breccia	70'-102' Red-br. + yell-br. saccharoidal si matrix with ~60% clasts (ϕ-3", $\bar{x}$=1") which are mostly the biege-banded variety.
	90 100	Box 4			.087	4.79				
	90 100		80		.218	4.21				
	90 100				.074	3.28				
	100 100	Box 5			.048	4.64				
	80 100				.104	15.56				
	100 100	Box 6			.036	3.61				
	90 100		100	Sharp contact	.073	9.03				
					.078	11.63				
			104'	104 E.O.H.	.003	1.58			Biege banded	

70'-102' = 32' at $\frac{.09}{6.9}$ = 1/4 Au/Ag

Two-thin zones:

48'-49' and 50'-51' Red-brown, hematitic (~10% Fe) and saccharoidal matrix silica with ~60% gray and yellow-brown clasts (ϕ-4", $\bar{x}$=2"). Porous matrix.

56'-65' Yellow-br. si matrix with ~60% clasts (ϕ-3", $\bar{x}$=1/2") which are mostly milky white, some gray-yellow. Tight, low porosity, and not saccharoidal. Some 2nd generation bx.

65'-70' Same purple-gray massive si bx as 51'-56'.

70'-75' Red-br. + yell-br. saccharoidal si matrix with ~60% clasts (ϕ-3", $\bar{x}$=1") which are mostly the biege-banded variety.

75'-102' Yellow-brown + red-brown (patchy + blotchy) saccharoidal silica matrix with ~60% heterogeneous clasts (ϕ-3", $\bar{x}$=1/2"), including yell-br., gray, lt. gr., tan, red, and biege-banded. Some porosity. Vugs ≤5% ≤1" each. Some mottling + "flow-banding" of colors. Some 2nd generation breccias + "jigsaw puzzle" style breccias. ≤5% Fe.

102'-104' Biege-banded silica with ~40% lt. gray clasts (ϕ-2", $\bar{x}$=1/2"). No vugs or porosity. Hard!

Conde

Hole No. 911-6

Collar location: U.V.X. Mine – 950 Level, 911 DDS. ~4,177' Elev. Mine Grid 11,025N 7,660E

Inclination: Minus (–) 45° at collar

Azimuth: 150° (S30°E) at collar

Length: 182 feet

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

Core recovery: 75% overall

Dates: February 8 to 17, 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 for entire hole. Hole caved badly at 54'-17', requiring cementing, reaming, etc. Overall drilling rate 13.0 ft/shift; 10-hr. shifts, 2 shifts/day.

All steel removed from hole.

NQ core throughout; 1.875" diameter

Core Size: All NQ

RQD: ϕ, ϕ, 50, 30, ϕ, ϕ, 10, 10, 40, 50, 30, 60, 50, 60, 70, 80, 70, 20, 10, 10, 30, 100, 80, ϕ, ϕ, 10, ϕ, ϕ, ϕ, ϕ, ϕ, ϕ, ϕ, 30, 100, 40, 70, 20, ϕ, ϕ, ϕ

Runs/recovery: 10, 10, 80, 90, ϕ, 60, 70, 80, 100, 90, 100, 100, 100, 100, 100, 100, 100, 100, 100, 50, 20, 30, 70, 70, 70, 90, 90, 90, 100, 70, 100, 50, 100, 70, 50, ϕ, 60, ϕ

Core boxes: Box A skeletonized; Box 1; 2; 3; 4; 5; 6; 7; 8; Box 9; 10; 11; Box 12

Footage: 20, 40, 60, 80, 100, 120, 140, 160, 180, 182

Graphic log: Rapid gradation; Gradational; Rapid gradation; Gradational; Sharp; Gradational; No core; No core; 182' E.O.H.

Au (oz/t)	Ag (oz/t)	
.016	.94	
.060	2.89	
.044	.72	
.040	1.58	
.086	1.40	
.092	1.55	
.088	1.36	
.056	1.15	
.086	2.06	
.067	2.23	
.074	1.69	
.106	1.81	
.118	2.55	
.111	2.96	
.144	3.54	
.109	1.99	
.196	1.99	
.184	4.04	
.143	4.84	
.138	5.69	
.185	6.75	
.134	3.14	
.187	2.68	
.309	3.14	
.364	2.23	
.329	1.86	
.321	2.66	
.286	1.42	
.252	1.25	
.249	1.57	
.153	1.62	
.108	1.05	
.123	1.51	
.003	.71	
.106	.60	
.023	.92	
.014	.70	
.049	.92	
.054	1.05	
.241	1.29	
.012	1.03	
.004	.46	

64'-140' = 76' at .17/2.6 = ϕ/¼ Ag

60'-140' = 60' at .20/2.8

109'-140' = 31' at .25/2.0

Rock type	Lithology
Banded + massive si. bx.	ϕ-54' Beige-banded and purple-gray-massive silica with light gray quartz "eyes" (phenocrysts or clasts) ≤ ¼" included in both varieties. Very few vugs or open spaces.
	54'-65' Yellow-brown, saccharoidal silica with ~40% lt. gray + wt. clasts (ϕ-2", x̄ = ½"). Some vugs (≤5%, ≤ ½") and some porosity. Matrix color is swirly + "flow-banded."
Mustard yellow saccharoidal si. bx. to si. grit	65'-85' Mustard yellow (goethitic?), very porous, permeable, + friable silica grit with only ~5% small light gray clasts (ϕ-½", x̄ = 1/10").
	85'-87' Same as 54'-65' – Yellow, saccharoidal si. bx.
	87'-89' Same as 65'-85' – Mustard silica grit
	89'-92' Same as 54'-65' (Yellow, saccharoidal si. bx.) except that the yellowest portions are confined to cross-cutting, vein-like features or bands (x̄ = ¼" or ½") which may represent a feeder zone to the more ubiquitously/uniformly yellow zone above.
Gray-brown saccharoidal si. bx. with heterogeneous clasts	92'-109' Gray-brown silica matrix (with local tints of pink &/or yellow) with some color banding/mottling, saccharoidal texture, some porosity, and ~40% very heterogeneous clast types (ϕ-2", x̄ = ½"). Clasts are dk. gray, lt. gr., yell-br., brown, and white.
Tan silica grit	109'-137' Tan, porous, exceedingly friable silica grit of fine sand size. No clasts of any contrasting lithology. Possibly some tan grit clasts of no contrast to matrix. Very hard to obtain core; Grit hydraulics away ahead of bit.
	137'-140' Very similar to 54'-65'; yellow, saccharoidal si. bx.
Beige-banded clasts in red silica	140'-152' Brown and red-br., hematitic silica matrix with ~70% beige-banded silica clasts (ϕ-16", x̄=2") Clasts are angular. Vugs in matrix (≤10% of rock volume, ≤ ½")
	152'-167' Similar to 140'-152' above, but matrix weathered more red and more friable and vugs are subsided closed or filled with clays &/or SiO_2 by proximity to water courses in the Verde Fault.
Approximate contact: Siliceous qtz. phy.	167'-172' – No core return at all; probably shattered zone of Verde Fault.
	172'-177' Tan to white, less siliceous (= same hardness as steel nail) quartz porphyry.
	177'-182' (E.O.H.) – No core return at all; probably fine breccia in the Verde Fault zone.

Carole

Hole No. 911-5

Collar location: Mine Grid 11,025N 7,660E — U.V.X. Mine – 950 Level, 911 DDS. ~4,177' Elev.

Inclination: -25° at collar

Azimuth: 150° (S30°E) at collar

Length: 140 feet

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

Core recovery: 80% overall

Dates: February 3 thru 8, 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 for entire hole.

Overall drilling rate 17.5 ft/shift. 10-hr. shifts, 2 shifts/day.

All steel removed from hole.

All NQ core; 1.875" diameter.

Core Size RQD	Runs/recovery	Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type
NR			0				
ϕ	50						Banded & massive si. bx.
ϕ	80	Box 1					
ϕ	50						
10	90						
10	50		20				
10	50	2		Rapid gradation	.001	1.08	
70	90				.075	7.71	
80	100	3		Rapid grad.	.075	2.19	
90	100		40		.115	7.60	
80	100	4		Grad.	.088	.64	Mustard yellow, saccharoidal to gritty si. bx.
80	80				.053	.72	
70	100	5		Grad.	.031	1.17	
80	100		60		.042	.92	
10	100	6		Fe Grad. Fe	.050	1.71	
20	100				.045	1.31	
20	70			Grad.	.054	2.60	
20	100	7		Fe Fe	.051	.93	
40	100		80		.047	2.07	
40	100	8		Fe	.072	2.74	
10	20				.076	1.65	
20	80			Fe Fe	.088	3.64	
10	60	9	100	Grad.	.079	3.62	
60	100			Fe Fe	.066	2.87	
80	100	10			.111	2.41	
80	100			Grad.	.182	2.45	
80	100				.217	5.27	
80	100	11	120	Grad. Fine	.173	9.33	
40	100				.112	5.98	
40	100	Box 12			.190	6.96	
50	100			Grad. Fine	.060	2.76	
60	100	13	140	Grad. Fine	.039	1.27	
				140 EOH.	.041	2.27	
			145	5-foot void	.042	4.52	
					.042	7.47	
					.058	11.16	
					.097	6.08	
					.114	3.02	
					.156	1.65	

0'-140' = 140' @ .17/5.5 oz/t Au/Ag

62'-140' = 78' @ .11/1.3 oz/t Au/Ag

62'-145' = 83' @ .10/2.0 oz/t Au/Ag

Mustard yellow, saccharoidal to gritty si. bx.

Black to red-brown ferruginous, saccharoidal si. bx.

Yellow to tan silica grit to si. bx.

Yellow si. bx. Void. Ore pass beneath 906 stope

Lithology

Note: No clear sense-of orientation indicators in rock. Using plans + sections, hole should be about 60° to stratigraphy. Thus true thicknesses are about .87 times drill intercepts.

ϕ-28' Beige-banded and purple-gray-massive silicia with ~30% lt. gray clasts (and phenocrysts-?) (ϕ-1", $\bar{x}$=¼"). Virtually no vugs or open space. Exceedingly hard and broken for drilling.

28'-34' Mottled and "flow-banded", red-br, yell, + gray silica matrix with lt. gr., red br., + yel-br. clasts comprising ~50% of rock (ϕ-2", $\bar{x}$=½"). Clasts + matrix saccharoidal textured, slightly porous. Vugs ≤5%, ≤1".

34'-46' Mustard yellow color, saccharoidal and porous silica with ~40% clasts (ϕ-1", $\bar{x}$=¼"). Clasts are ~50% lt. gray and ~50% in mustard color.

46'-60' Mustard yellow to tan and locally red-br. silica, saccharoidal, to gritty, porous, with ~50% clasts, (ϕ-2", $\bar{x}$=½"). Clasts are mostly tan + wh.+ yellow grit, but include some lt. gray, hard clasts.

60'-65' Yellow-brown, red-br, + locally black saccharoidal to dense ferruginous silica (~15%? Fe overall) with ~50% gray, red-br., + yell. br. clasts (ϕ-2", $\bar{x}$=½")

65'-102' Black, gray, + red-br., locally yell-br., mixed but generally Fe-rich (hematite dominated) silica with ~50% clasts of very heterogeneous sorts (lt. gr, yell-br., brown, + red-br.) (ϕ-4", $\bar{x}$=1"). Locally saccharoidal. About 15% (?) Fe overall.

102'-108' Saccharoidal, "flow-banded," multi-colored silica (mainly red-br. + yell-br.) with ~70% red-br., yell. br., + gray clasts (ϕ-2", $\bar{x}$=1") exhibiting 2nd + 3rd generation brecciation. Locally porous. ~10%(?) Fe.

108'-120' Yellow-brown to gray-br., saccharoidal + porous, flow-banded silica with ~50% tan, yellow, + gray clasts (ϕ-½", $\bar{x}$=¼").

120'-137' Tan + red-tan, "flow-banded" very porous, friable, silica grit with ~50% gray, tan, + wh. clasts (ϕ-1", $\bar{x}$=½").

137'-140' Yellow-brown, saccharoid and porous but hard silica with ~60% lt. gray clasts (ϕ-4", $\bar{x}$=1").

140'-145' 5-foot void across ore pass from 906 stope (950-level) to 1100-level haulage. Opted not to bridge it because the angle of rake on the far wall was likely bad plus the expectation that the Verde Fault is not more than 10-15 ft beyond the void.

Carole

Hole No. 911-4

Collar location: Mine Grid U.V.X. Mine – 950 Level D.D.S. ~ Elev.

Inclination: – 25° (at collar)

Azimuth: 230° (S50°W) at collar

Length: 122 feet

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

Core recovery: 80% overall

Dates: Jan. 29 thru Feb. 2, 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. Entire hole drilled NQ.

Overall drilling rate 24.4 ft/shift, 10 hr. shifts, 2 shifts per day.

All steel removed from hole.

Core Size: 1.875" diameter; Entire hole NQ core; RQD; Runs/recovery; Core boxes; Footage; Graphic log; Au (oz/t); Ag (oz/t); Rock type; Lithology

Note: No clear sense-of-orientation indicators in core. Using plans + sections, hole about 30° from normal to stratigraphy. Thus true thicknesses are approx. .87 times drill intercepts.

RQD	Runs/recovery	Core boxes	Footage	Au (oz/t)	Ag (oz/t)	Rock type
ϕ	50	Box 1				Banded + massive si. bx.
10	50					
ϕ	~~90~~					
10	50					
10	80	2	20			
ϕ	40					
30	80					
ϕ	70	3				
40	~~90~~					
10	80		40			
ϕ	80					
ϕ	30			.006	1.82	
ϕ	30	4				
ϕ	10			.035	7.34	Mosaic si. bx.
60	100		60	.061	4.42	
60	100	5		.050	2.79	
60	90			.062	3.07	
20	80	6		.065	3.03	
60	100			.062	2.52	
90	100	7	80	.084	7.45	Saccharoidal to gritty flow-banded silica
90	100			.055	9.13	
10	95	8		.640	9.35	
10	95		100	.417	9.04	
40	100	9		.356	4.54	
40	100			.246	5.89	
40	100	Box 10		.195	4.82	
50	100	11	120	.404	7.50	
			122	.040	2.62	Massive silica with qtz phenos.
				.006	1.99	
				.001	.41	Foliated qtz pphy
				.001	.28	

Rapid V gradation; Rapid gradation; Fe; Fe; Rapid gradation; Sharp contact; Gradational; Grad.; Grad.; Grad.; 122 E.O.H.

78'-92' = 14' (~12' true) at .38 oz/t Au / 7.0 oz/t Ag

71'-92' = 21' (~18' true) at .28 oz/t Au / 7.5 oz/t Ag

ϕ-52' Biege-banded and purple-gray-massive silica with large light gray silica clasts (~50%, ϕ-8", $\bar{x}$=2"). Very few vugs or open space.

52'-57' Saccharoidal clasts + matrix. Approx. 50% clasts of heterogeneous clast type (red-br., yell-br., + gray, ϕ-1", $\bar{x}$=½") in mottled, flow-patterned red-br + yellow brown silica matrix. Somewhat porous.

57'-71' "Mosaic" silica bx of ~30% clasts (~50% lt. gray, ~30% yellow, ~10% white, ~10% biege-banded) (ϕ-6", $\bar{x}$=½") in red-br. (hematite stained) slightly vuggy matrix.

71'-92' Saccharoidal to gritty thruout (clasts + matrix) mottled and flow-banded coloration. About 30% yell-br. + gray clasts (ϕ-3", $\bar{x}$=½") in mustard yellow silica matrix with local maroon patches. Generally goethitic + porous.

92'-100' Greenish gray, fairly massive silica with relict qtz phenocrysts (?) which are lt. gray, ϕ-½", $\bar{x}$=¼" and compose ~30% by volume. No vugs or porosity. Some former fractures are headed by biege-banded silica.

100'-104' Biege-banded silica filling interstices in otherwise massive white/tan silica (~70% of rock) which then looks like clasts (ϕ-3", $\bar{x}$=2").

104'-112' Biege-banded silica with ~10% small (ϕ-½, $\bar{x}$=¼") light gray relict qtz eyes (?).

112'-114' Red-gray, silicified rock in transition zone from very siliceous rock above to much less silicon below. Relict foliation still visible here.

114'-122'+ Tan, softer (than steel) foliated (~60° to C.A.) rock with quartz phenocrysts ($\bar{x}$=¼"). Possible Clegatra or other quartz porphyry.

Note gradation from quartz porphyry at end of hole to silicified rock with relict quartz phenocrysts ± biege banded silica as fracture filling, to saccharoidal and gritty silica, to coarse heterogeneous clast-type si bx and ultimately biege-banded and purple-gray-massive silica breccia.

Carole

Hole No. 911-3

Collar location: Mine Grid — U.V.X. Mine – 950 Level DDS. ~ Elev.

Inclination: +20° (at collar)

Azimuth: 230° (S50°W) at collar

Length: 180 feet

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

Core recovery: 70% overall

Dates: January 14 thru 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 to 133 ft. BQ core from 133 to 180 ft. (EOH). Overall drilling rate 16.4 ft/shift (10-hr. shifts, 2 shift/day). All casing & steel removed from hole.

Core Size RQD	Runs/recovery Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type	Lithology
							Note: No clear sense-of-orientation indicators in rock. Using plan + sections, hole should be about 45° to stratigraphy. Thus true thicknesses are about .70 times drill intercepts.
NQ core	10 50 Box 1					Banded & massive silica breccia	ϕ-58' Beige-banded and purple-gray-massive silica with small gray "eyes" (fragments or porphyroblasts) from 1/16" to 1/2" (x̄ = 1/4") comprising ~30% of rock and reasonably evenly distributed. Almost no vugs or porosity. Exceedingly hard.
	10 50						
	ϕ 40						
	20 80						
	10 90 2	20					
	10 70			.002	.82		
	20 100						
	30 80						
	ϕ 60 3						
	40 100	40					
	10 100 4			<.001	.59		
	ϕ 100						58'-77' Clast-supported silica breccia of ~80% light gray clasts (ϕ-3", x̄ = 1") in yellow brown and red brown, slightly saccharoidal silica matrix. Vugs up to 5% of volume, ≤1".
	ϕ 60						
	10 95		Rapid gradation	.002	.60		
	5	60		.051	2.30	Silica breccia of gray clasts in sugary silica matrix	
	30 80			.018	.87		
	20 80			.020	1.13		
	60 90 6			.047	1.68		
	50 95		Grad.	.050	3.65		
	10 60 7	80		.070	1.60		
	40 70			.027	1.24		
	20 90			.056	.46		
	30 60 8			.102	1.56		
	70 100			.038	.88		
	ϕ 80	100	Grad.	.034	1.34		100'-115' Red brown, saccharoidal to gritty matrix with ~70% light gray clasts (ϕ-4", x̄ = 1"). Up to 5% vugs (up to "each) plus porosity associated with gritty matrix.
	10 80 9			.038	1.74		
	ϕ 80			.026	1.61		
	10 70		Grad.	.026	1.31		
	10			.019	1.22		
	30 90 11	120		.032	1.05		
	ϕ 90		Fe Fe	.022	1.51		
	10 80			.019	1.47		
	30 95		Fe	.059	1.32	Ferruginous silica breccia	115'-160' Red brown, ferruginous (x̄ ≈ 20% Fe) silica with ~50% heterogeneous clast types (ϕ-4", x̄ = 1/2"). Dominant clasts are smaller, light gray type. Exotics are larger, beige-banded and milky white clasts.
	ϕ 50			.045	1.59		
	ϕ 90 12		Fe Fe	.047	1.97		
	10 70	140		.037	1.65		
	20 95		Fe Fe	.087	1.73		
	ϕ 70 13			.045	1.90		
	ϕ 70		Fe Fe	.035	1.60		
	10 90		Fe Gradational	.047	1.26		
	ϕ 90 14	160		.013	.82		
	ϕ 90			.015	1.12	Gradation to foliated, less silicified qtz. porphyry	160'-169' Red-gray grading to purple-gray silica with ~30% light gray porphyroblast-like "eyes" or clasts (1/16"-1/2", x̄ = 1/4"). Grades less siliceous with depth and into foliated, unsilicified Cleopatra q.p. (?)
	20 100			.035	1.16		
	40 100 15		Gradational	.003	.27		169'-180' White to tan Cleopatra (?) quartz porphyry with lt. gray qtz porphyroblasts (1/16"-1/4", x̄ = 1/8") constituting ~10% of rock. Grades less siliceous from top to bottom (i.e., least siliceous at 180'/EOH). Foliation ~60° to core axis.
	20 100 Box			.001	.27		
		180	180' E.O.H.	.002	.12		

NQ core; 1.875" diam.

BQ core; 1.432" diam.

Carole

Hole No. 911-2

Collar location: Mine Grid — U.V.X. Mine – 950 Level, 911 area. ~ Elev.

Inclination: +25° (at collar)

Azimuth: 180° (due S) at collar

Length: 130 feet

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

Core recovery: ~95 % (other than first few runs)

Dates: January 4 thru 13, 1988

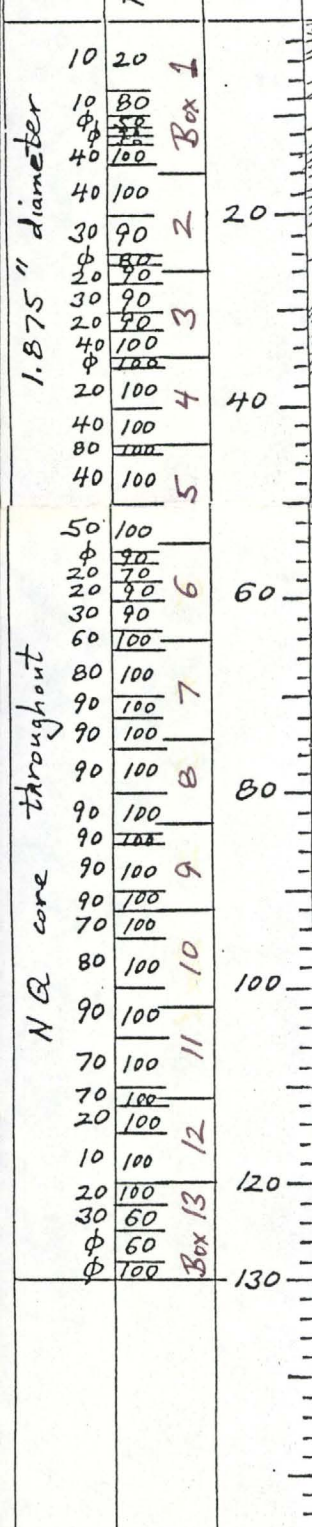
Assayer: Iron King Assay, Inc. - Humboldt, AZ — Using fire assay, one assay ton, and AA followup for low grades.

Logger: Don White, geologist

Remarks: Drilled with Longyear 34, pneumatic rig. NQ core for entire hole

Overall average 8.7 feet per shift drilled. (Mostly 10-hr. shifts, 2 shifts/day)

All steel removed from hole.



Note: No clear sense-of-orientation indicators in rock. In plan + section, hole should be about normal to stratigraphy. Thus drill intercepts are true thicknesses.

ϕ-63' Purple-gray massive and beige-banded, intensely hornfelsed, exceedingly hard, silica with about 50% light gray, translucent, subrounded silica clasts (look like eyes or phenocrysts locally). No vugs or porosity. Clasts are typically small, ϕ-1", $\bar{x}$ = 1/4".

63'-66' Clast-supported si. bx. of ~80% steel gray, red-brown, + pink saccharoidal clasts (ϕ-6", $\bar{x}$=3") in beige, banded slightly vuggy (more clear + gaseous than vugs) matrix.

66'-72' Saccharoidal clasts and matrix. About 70% clasts, white, gray, red, & yellow, ϕ-2", $\bar{x}$=1", in red + yellow, slightly vuggy (≤5%, $\bar{x}$=1/4") matrix. Abundantly fractured and silica healed.

72'-84' Mustard yellow-gold saccharoidal to gritty silica matrix with ~30% lt. gray silica clasts (ϕ-3", $\bar{x}$=1/4") exhibiting reaction rims. Gritty at 80'-81'.

84'-102' Yellow-gray + red-gray saccharoidal silica matrix with ~60% yellow-gray, red-gr, + lt. gr, rounded si clasts (ϕ-2", $\bar{x}$=1/2"). Clasts too are saccharoidal. Clast rounding + reaction rims seem to indicate assimilation by some fluid permeating matrix.

102'-123' Second-generation silica bx. Lt. gray (ϕ-1", $\bar{x}$=1/4") clasts within beige-banded, angular clasts (ϕ-6", $\bar{x}$=3") in turn within red-gray, massive matrix. All hard + tight; only vugs are "slices" + gashes (≤5%, $\bar{x}$=1").

123'-130' Patchy + blotchy, white, pale yellow-brown, pink, totally kaolinized, mylonitized (?) material so soft it was split with a pocket knife. May be tectonic, fault generated (Verde Fault) or intense hydrothermal argillization related to upper-dip silica ores of 90° - slope. Sharpness of the contact suggests tectonic most likely.

Hole No. 911-2

Collar location: Mine Grid — U.V.X. Mine – 950 Level; 911 D.D.S. ~ Elev.

Inclination: +25° (at collar)

Azimuth: 180° (due S) at collar

Length: 130 feet

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

Core recovery: ~95 % (other than first few runs)

Dates: January 4 thru 13, 1988

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

Logger: Don White, geologist

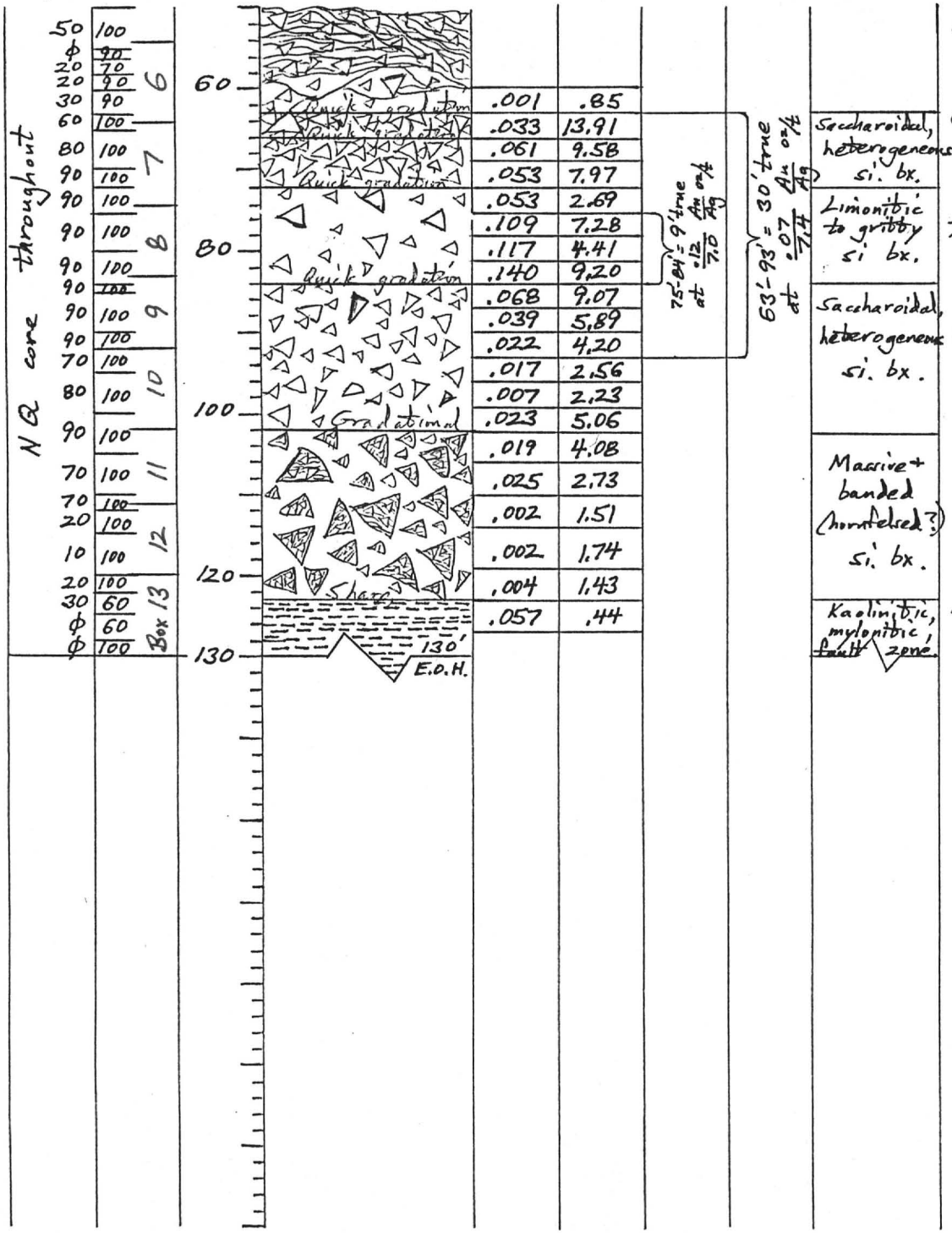
Remarks: Drilled with Longyear 34, pneumatic rig. NQ core for entire hole

Overall average 8.7 ~~feet~~ per shift drilled. (Mostly 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 10 ϕ 40 40 30 ϕ 20 30 20 40 ϕ 20 40 80 40	20 80 ϕ 100 100 90 ϕ 90 90 90 100 ϕ 100 100 100 100	Box 1 2 3 4 5 20 40		<.001 <.001	.52 .71	Massive + banded (hornfelsed) silica	ϕ-63' Purple-gray massive and beige-banded, intensely hornfelsed, exceedingly hard, silica with about 50% light gray, translucent, subrounded silica clasts (look like eyes or phenocrysts locally). No vugs or porosity. Clasts are typically small, ϕ-1", x̄ = 1/4".

Note: No clear sense-of-orientation indicators in rock. In plan + section, hole should be about normal to stratigraphy. Thus drill intercepts are true thicknesses.



63'-66' Clast-supported si. bx. of ~80% steel gray, red-brown, + pink saccharoidal clasts (ϕ-6", $\bar{x}$=3") in beige, banded slightly vuggy (more slices + gashes than vugs) matrix.

66'-72' Saccharoidal clasts and matrix. About 70% clasts, white, gray, red, + yellow, ϕ-2", $\bar{x}$=1", in red + yellow, slightly vuggy (≤5%, $\bar{x}$=¼") matrix. Abundantly fractured and silica healed.

72'-84' Mustard yellow-gold saccharoidal to gritty silica matrix with ~30% lt. gray silica clasts (ϕ-3", $\bar{x}$=¼") exhibiting reaction rims. Grittiest at 80'-81'.

84-102' Yellow-gray + red-gray saccharoidal silica matrix with ~60% yellow-gray, red-gr, + lt. gr, rounded si clasts (ϕ-2", $\bar{x}$=½"). Clasts too are saccharoidal. Clast rounding + reaction rims seem to indicate assimilation by some fluid permeating matrix.

102'-123' Second-generation silica bx. Lt. gray (ϕ-1", $\bar{x}$=¼") clasts within beige-banded, angular clasts (ϕ-6", $\bar{x}$=3") in turn within red-gray, massive matrix. All hard + tight; only vugs are "slices" + gashes (≤5%, $\bar{x}$=1").

123'-130' Patchy + blotchy, white, pale yellow-brown, pink, totally kaolinized, mylonitized (?) material so soft it was split with a pocket knife. May be tectonic, fault generated (Verde Fault) or intense hydrothermal argillization related to up-dip silica ore of 90° - slope. Sharpness of the contact suggests tectonic most likely.

Corde

Hole No. 902-7

Collar location: U.V.X. Mine – 950 Level, 902 DDS. ~4,180' Elev. Mine Grid 11,405 N – 7,215 E

Inclination: +45° at collar

Azimuth: 230° (S50°W) at collar

Length: 160 feet

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

Core recovery: ~95% in diorite, ~90% in chert

Dates: Nov. 30 to Dec. 8, 1987

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. HQ core thru 66', then cased down to NQ thru 160', end of hole. Overall drilling rate = 13.3 ft/shift, 10 hr. shifts, 2 shifts/day. All casing + steel removed from hole.

Core Size: HQ core; 2.5" diameter; NQ core; 1.875" diameter; Csg. 66'

RQD / Runs / recovery / Core boxes: Skeleton Box A; Box 1; Box 2; Box 3; Box 4; Box 5; Box 6; Box 7; Box 8; Box 9; Box 10; Box 11; Box 12

Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type	Lithology
0				Argillic-alt'd diorite	**0-37' Diorite**; as follows:
					0-20' Red-gray argillic altered diorite with red, hematite-lined fractures. So-called "red blocky schist" on old plans
				Silicic-alt'd diorite	20'-35' Silver-gray & purple-gray silicic-alt'd diorite. Crudely foliated and possibly flow-banded.
20	Gradational contact				35'-37' Intrusive breccia of silicic-alt'd (silver-gray to wh) clasts (~70%, ϕ-2", x̄=½") & dk in red-br. dk matrix.
	Gradational				**37'-159' Chert**; as follows:
	Sharp, intrusive contact	.003	.18	Massive & banded (hornfelsed) silica bx.	37'-56' Intimate mixture of beige banded si clasts and purple-gray massive si clasts in red-brown si and stringers of red-br. dk. Clasts (hornfelsed) are ϕ-5", x̄=2" overall ~60%. Few (≤1%) vugs. Considerable 2nd generation bx in evidence.
40		.002	.38		
		.002	.31		
		.001	.46		
	Gradational	.028	.60		
	Fe Fe Fe Fe Grad.	.052	1.88	Mixed, ferruginous & banded si bx	56'-64' Red-br., very ferruginous (~30% Fe) silica matrix with ~20% blotches of yellow si (goethitic-?) and ~20% lt. gr. si clasts (ϕ-½", x̄=¼"). ~3% vugs (≤½")
60		.074	3.28		
		.035	3.51		
	Grad. Fe Fe Fe	.014	.93		64'-67' Red-br. & beige-banded si matrix with ~70% beige-banded & lt. gr. si clasts (ϕ-3", x̄=1"). ≤1% vugs (≤¼").
	Grad.	.022	1.63		
		.058	1.40		
	Grad.	.064	1.57		67'-72' Red-br., very ferruginous (~30% Fe) gritty & porous silica matrix with ~40% beige banded clasts (ϕ-6", x̄=2").
		.025	1.18		
80	Au Ag	.232	8.01	Saccharoidal to gritty silica	72'-78' Beige, banded si with ~50% lt. gr. clasts (ϕ-½", x̄=¼")
		.230	7.84		78'-89' Saccharoidal to gritty, very porous silica of mottled red-br., yell-br., mustard, and dk. gr. colors. Also ~20% lt. gr. si clasts (ϕ-½", x̄=¼"). Banding contorted ϕ-90° to CA.
		.300	10.97		
		.335	6.26		
	Grad.	.361	8.49		
		.433	3.78		
	Fe Fe	.036	2.40	Ferruginous silica breccia	89'-118' Yellow-brown, dk br, & red-br. limonitic + hematitic, (very ferruginous; Fe ~20% overall, but variable) with ~40% gray & red-br. hem. si clasts (ϕ-1", x̄=½"). Up to 15% vugs (≤1") Grades from more limonite at 90' to more hem at 117'. Overall "limonitic + vuggy".
		.049	1.77		
		.034	2.18		
100	Fe	.040	1.62		
		.044	1.22		
		.020	.96		
		.020	1.93		
		.020	1.76		
	Fe Fe	.020	1.44		
	Grad.	.023	1.57		118'-120' Red-br & br. si matrix with ~80% clasts supported (maybe just 2 large clasts) gray & yellow-gr. saccharoidal si clasts (ϕ-18", x̄=6").
120	Grad.	.062	.74		
		.032	1.18		
	Fe Grad. Fe	.073	1.86		120'-125' Dark red-br., very hematitic (~10% Fe) si matrix with ~50% gray & red-gr. clasts (ϕ-2", x̄=1"). ≤5% vugs (≤½"). Clast alignment ~45° to core axis
		.022	.99		
		.020	.67		
	Fe Fe	.035	.27		
	Fe	.041	.75		125'-129' Tan & red-br, hematitic (~5% Fe) silica with ~50% gray & red-gr. clasts (ϕ-4", x̄=1").
140	Fe Fe	.024	.84		
		.002	.75		129'-140' Dark red-br., very ferruginous si with ~40% gray & red gr. clasts (ϕ-2", x̄=½") Up to 6% vugs (≤½") Banding or foliation ~50°-60° to core axis.
		.002	.58		
		.007	.87		
		.005	1.26		140'-159' Red-brown, hematitic si with ~60% gray, red-gr. & beige-banded, angular clasts (ϕ-4", x̄=1"). Clast alignment ~40°-50° to CA. Some $CuCO_3$ within chert (not only in fracs but diss. throughout) 157'-159'.
	Cu Sharp	.063	1.00		
160	E.O.H. 160'	.024	.70	Tcgl stope fill	159' Edge of stope, midway between 900 & 800 levels, presumably "silicia ore" for Cu-Au-Ag SiO_2. Gob-filled with Tertiary debris including well-rounded pebbles from Tcgl. above.
	Old Stope				

78'-90' = 12' (~8' true) at .31 oz/t Au, 7.5 oz/t Ag

Hole No. 902-2

Collar location: U.V.X. Mine - 950 Level, 902 DDS. Elev. ~4,180' Mine grid: 11,405N - 7,215E

Inclination: +14° at collar

Azimuth: 200° (S20°W) at collar

Length: 194 feet (193 ft. on driller's rept.)

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

Core recovery: ~95% in diorite. ~95% in chert + grit zone. ~30% in faulted chert zone.

Dates: October 21-29, 1987

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

Logger: Don White, geologist

Remarks: Drilled with Longyear 34 pneumatic rig. HQ core thru 120 feet. NQ core for balance (120'-194'). Overall drilling rate 13.8 ft./shift (10 hr. shifts, 2 shifts/day). Hole aborted in tectonically shattered chert of Verde Fault zone when final five feet (189'-194') destroyed 3 drill bits, with no sign of abating. All casing + steel removed from hole.

Core Size	RQD	Runs/recovery	Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)			Rock type	Lithology
HQ core, Ø-120'	Ø	60	Skeleton Box A							Argillic-altered diorite (Red blocky schist)	
	10	80									
	20	95									
	Ø	95									
	10	70		20							
	Ø	30								Silicic-altered diorite	
	Ø	90									
	20	90									
	Ø	70	Box 1		Sharp						
	Ø	80		40	Gradational	.004	.47				
	Ø	90									
	Ø	80									

Note: Sense-of-orientation indicators poor but crudely indicate ~60° ∡ bedding to core axis. Therefore true thickness ≈ .87 (intercept)

Ø-39' Diorite; variously altered as follows:

Ø-20' Red-gray, fine grained, crudely foliated (~60° to Core Axis) argillic-altered diorite with red hematite-filled fractures. So-called "red blocky schist" on old plans.

20'-39' Silvery gray + pale purple-gray, crudely foliated (~60° to C.A.) very fine grained silicic-altered diorite.

39'-107' Chert or silica, variously massive, banded, brecciated, gritty, ± Fe, as follows:

39'-42' Pale purple-gray, massive, exceedingly hard, hornfelsed silica breccia (relict clasts still discernable).

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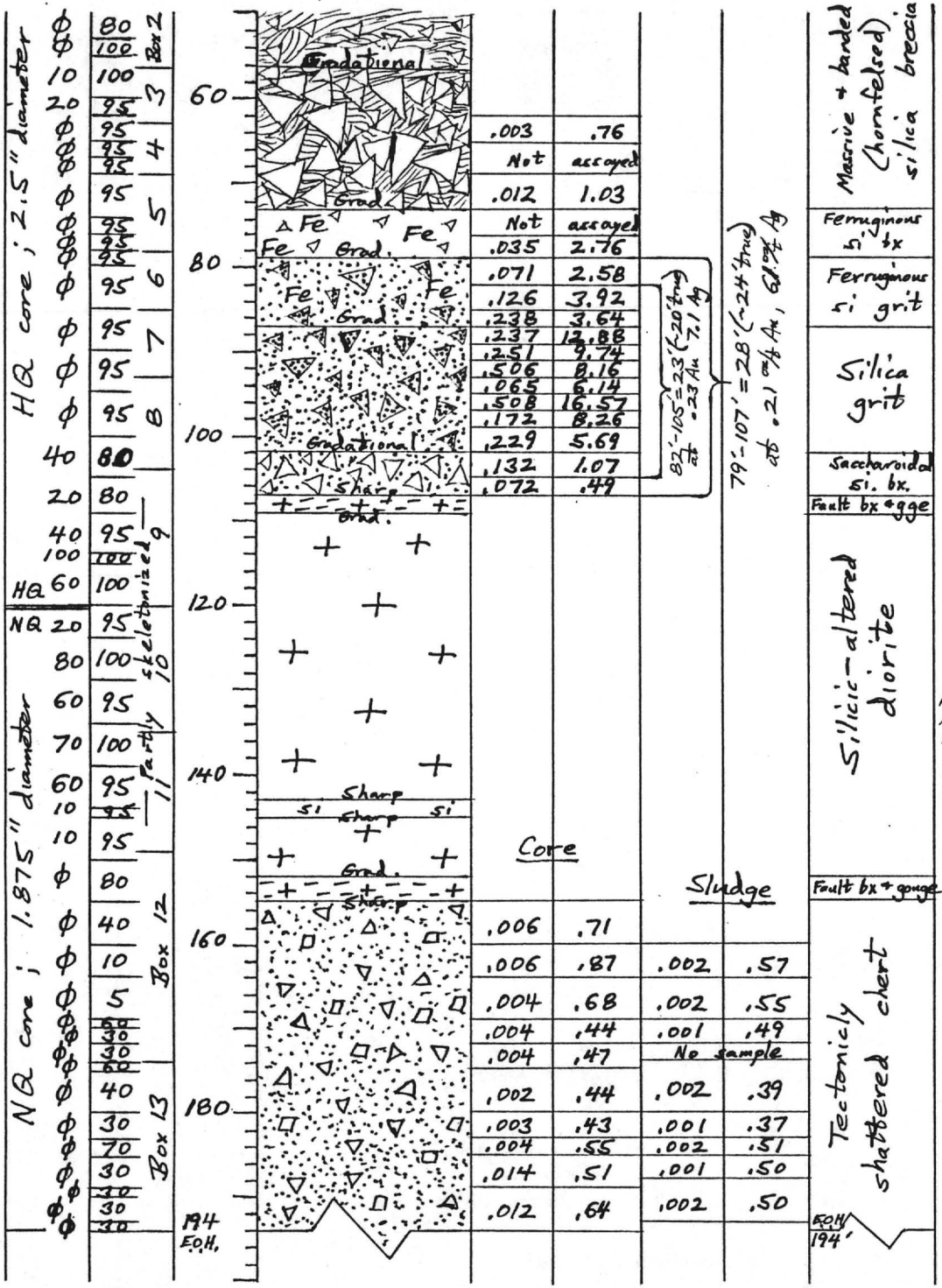


42'-56' Biege, tan, + brown, banded, hornfelsed silica breccia with relict clasts (1/10"-2", $\bar{x}$ = 1/2") forming about 60% of rock. No vugs remaining.

56'-73' Biege, banded silica bx with ~80% clast-supported clasts including smaller gray clasts and much larger blood red clasts (overall gray + red 1/10"-8", $\bar{x}$ = 2") and ~2% small (≤ 1/4") vugs despite banding + hornfelsing.

73'-79' Dark brown + yellow-brown, very dense, very ferruginous (~20% Fe) massive silica with about 20% gray + brown silica clasts (1/10"-1/2", $\bar{x}$ = 1/4") and very few vugs (≤ 1/10, ≤ 1/10").

79'-87' Red-brown + yellow brown, very ferruginous, porous silica grit with ~30% red-br. + gray silica grit clasts (1/10"-2", $\bar{x}$ = 1/2").

87'-102' Red, yellow (mustard) + tan grit with ~40% red, yellow, + tan grit clasts (1/10"-2", $\bar{x}$ = 1/2"). Very porous and friable. Color patterns include swirls, bands, and blotches.

102'-107' Red-br. + yell-br., hard but saccharoidal textured, silica bx with ~40% gray, tan, + white, hard si clasts (1/10"-2", $\bar{x}$ = 1/2"). May be a better cemented version of the silica grit above.

107'-109' Diorite fault breccia and gouge. Clearly tectonic. Probably a splay of the Verde Fault.

109'-152' Diorite, light biege and tan, very fine grained, foliated (~60° to core axis) silicic-altered. Bounded on both sides by tectonicly faulted diorite breccia and gouge (angular diorite clast in red-brown, clayey gouge) and hence interpreted as a fault sliver.

Note: 143'-145' = Massive purple gray hornfelsed silica clast (intrus. bx?)

152'-155' Diorite fault breccia + gouge, very likely another major strand of the Verde Fault.

155'-194' Tectonicly shattered version of the silica breccia lithology intersected 56'-73'. Red + red brown, slightly hematitic matrix with ~30% gray + lt. gray silica clasts (1/10"-2", $\bar{x}$ = 1/2"). "Core" is only broken marble- and golf-ball-sized fragments but each 2-3 feet of drilling yields a 5-gal. bucket of fine-medium grained, angular silica sand interpreted as tectonic bx product (rather than "grit" as above).

Hole aborted at 194' when 3 bits consumed/destroyed to penetrate last 5 feet drilled; no sign of abatement of difficult drilling conditions ahead.

Hole No. 902-3

Collar location: U.V.X. Mine - 950 Level, 902 D.D.S. ~4,180' Elev. Mine grid: 11,405 N - 7,215 E

Inclination: +25° at collar

Azimuth: 230° (S50°W) at collar

Length: 120 feet

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

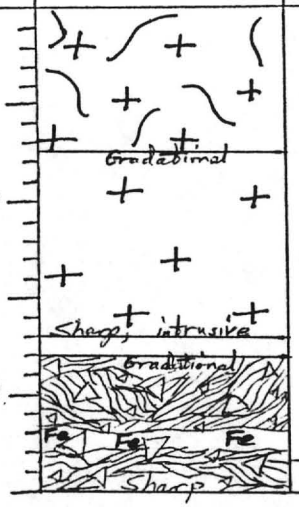
Core recovery: ~95% in diorite, ~80% in chert (mostly grit).

Dates: Oct. 30 thru Nov. 4 1987

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

Logger: Don White, geologist

Remarks: Drilled with Longyear 34, pneumatic rig. HQ core thru 112 ft. NQ core 112'-120' (E.O.H.) Overall drilling rate 15.0 ft/shift (10-hr shifts, 2 shifts/day). All rods + casing successfully removed from hole.

Core Size RQD	Runs/recovery Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type	Lithology
HQ core; 2.5" diameter	10 60	0		Core		Argillic-altered diorite	Note: Sense-of-orientation indicators poor but crudely indicative of ~60° angle of bedding to core axis. Therefore true thicknesses ~.87 times drill intercept thicknesses.
	10 95						
	10 95						
	10 95						
	10 95						
	10 95						
	ϕ 95						
	ϕ 95						
	10 95						
	ϕ 95						
	ϕ 95						
	ϕ 95						
	ϕ 95			.021	.78	Silicic-altered diorite	
						Massive + banded (hornfelsed) silica	

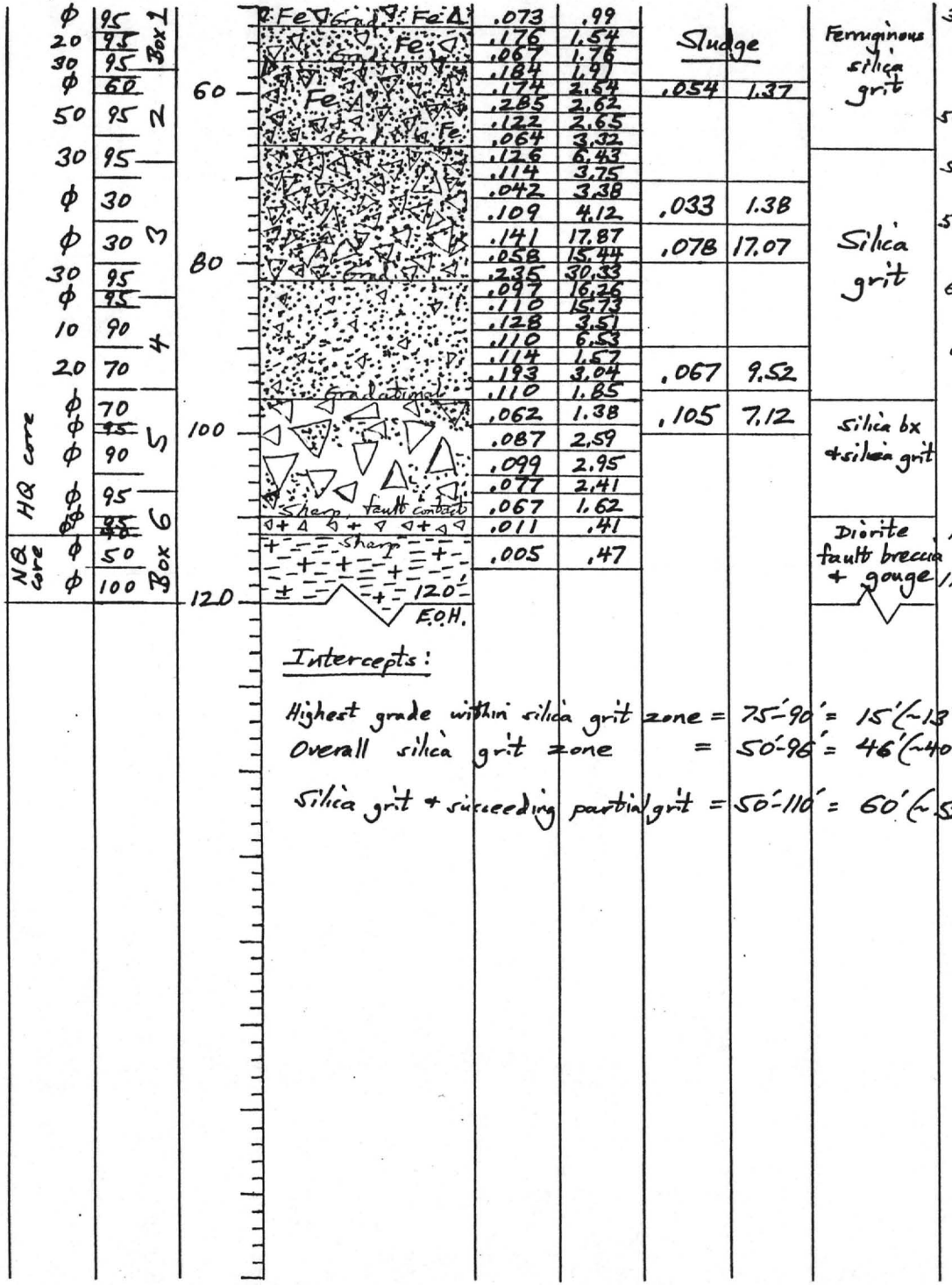
ϕ-34' Diorite, variously altered as follows:

ϕ-15' Red-gray, crudely foliated (~ °to core axis) argillic-altered diorite with red hematite-lined fractures. So-called "red blocky schist" on old plans.

15'-34' Silvery-gray, crudely foliated (~ °to CA) silicic-altered diorite

34'-110' Chert or silica; variously massive, banded, ferruginous, gritty, and brecciated as follows:

34'-36' Pale purple-gray, massive, hornfelsed chert. Only some relicts of gray breccia clasts remain. No vugs or porosity.



ϕ	95		.073	.99		
20	95		.176	1.54		
30	95		.067	1.76		
ϕ	60		.184	1.91		
50	95		.174	2.54	.054	1.37
			.285	2.62		
			.122	2.65		
30	95		.064	3.32		
			.126	6.43		
ϕ	30		.114	3.75		
			.042	3.38		
ϕ	30		.109	4.12	.033	1.38
			.141	17.87		
ϕ	30		.058	15.44	.078	17.07
30	95		.235	30.33		
ϕ	95		.097	16.26		
10	90		.110	15.73		
			.128	3.51		
			.110	6.53		
20	70		.114	1.57		
			.193	3.04	.067	9.52
ϕ	70		.110	1.85		
ϕ	95		.062	1.38	.105	7.12
ϕ	90		.087	2.59		
			.099	2.95		
ϕ	95		.077	2.41		
ϕ	95		.067	1.62		
			.011	.41		
ϕ	50		.005	.47		
ϕ	100					

Sludge

Ferruginous silica grit

Silica grit

Silica bx + silica grit

Diorite fault breccia + gouge

36'-50' Biege + tan, banded (horizontal-ish) silica breccia with ~30% gray + white clasts (⅛-2", $\bar{x}$=½") No vugs. (except 44'-46' is very ferruginous, ~20% Fe, red brown matrix with 1"-2" white ss clasts).

50'-52' Red brown, hematite rich matrix (overall ~20% Fe) with ~5% white clasts (⅛ - ¼, $\bar{x}$=⅛"). Porous, gritty

52'-56' Blotchy red + yellow ferruginous (~10% Fe as hem. + goethite) gritty matrix with ~5% gray + wt clasts (⅛-2", $\bar{x}$=1").

56'-66' Red, yellow, + tan silica grit with about 60% clasts of same silica grit color/composition. Clasts are ⅛"-4", $\bar{x}$=1", Iron ~10% both as hem + lim/goethite. Very porous.

66'-82' Mustard yellow, goethitic (2.5% Fe) silica grit with ~60% silica grit clasts (red, yellow, gray, $\bar{x}$=½").

82'-96' Mustard yellow, goethitic (≤5% Fe) very porous, silica grit with ~5% gray + yell-br. clasts (≤¼"). Also some lt. tan, non-goethitic grit bands + blobches.

96'-110' Patchy red-br + yell br. complex of silica grit and hard gray silica, perhaps 70% gray, red-br + yell. br. clasts (⅛-2", $\bar{x}$=1"). Locally porous. Hard portions exhibit incipient biege banding (horizontal-ish) of matrix.

110'-112' Fault breccia dominated by diorite clasts and diorite gouge matrix. Gray green with red stain.

112'-120'+ (E.O.H.) Diorite fault gouge; gray-green, clayey, can be cut in half with a knife.

Intercepts:

Highest grade within silica grit zone = 75'-90' = 15' (~13' true) at $\frac{.14}{16.4}$ oz/t $\frac{Au}{Ag}$

Overall silica grit zone = 50'-96' = 46' (~40' true) at $\frac{.13}{7.3}$

Silica grit + succeeding partial grit = 50'-110' = 60' (~52' true) at $\frac{.12}{6.1}$

Hole No. 902-6

Collar location: U.V.X. Mine – 950 Level, 902 D.D.S. ~4,180' Elev. Mine Grid 11,405 N, 7,215 E

Inclination: +45° at collar

Azimuth: 250° (S70°W) at collar

Length: 146 feet

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

Core recovery: ~95% in diorite, ~90% in chert

Dates: November 19 thru 30, 1987

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. HQ core thru 82 ft; then cased down and drilled NQ core thru 143 ft (E.O.H. for charging purposes) to stope. Pushed rods 3 ft further however, to sample the stope fill. Overall drilling rate 14.3 ft./shift. (10 hr. shifts, 2 shifts/day). All casing + rods removed from hole.

HQ core; 2.5" diameter

Skeleton Box A

Core Size RQD	Runs/recovery Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)	Rock type	Lithology
10	80						Note: Bedding crudely indicated to average ~45° to core axis. Thus true thickness are ~.70 times drill intercepts.
10	80						
10	95						
10	95						
ϕ	95	20				Argillic-altered diorite	ϕ-49' – Diorite; variously altered as follows:
10	95						ϕ-34 Red-gray, crudely foliated (~60° to core axis) argillic alt'd diorite with red, hematite-lined fractures. So-called "red, blocky schist" on old plans.
20	100						34-49 Silver-gray and purple gray, silicic-alt'd diorite with ~5% wt to ft. gray silica clasts (intrusive bx) exhibiting assimilated margins. Foliation ~40°-60° to core axis.
30	100		Gradational				
30	100	40				Silicic-altered diorite	
20	95						49'-143' Chert or silica; variously massive, banded, saccharoidal, ferruginous, etc., as follows:
20	95		Sharp, intrusive Fe				

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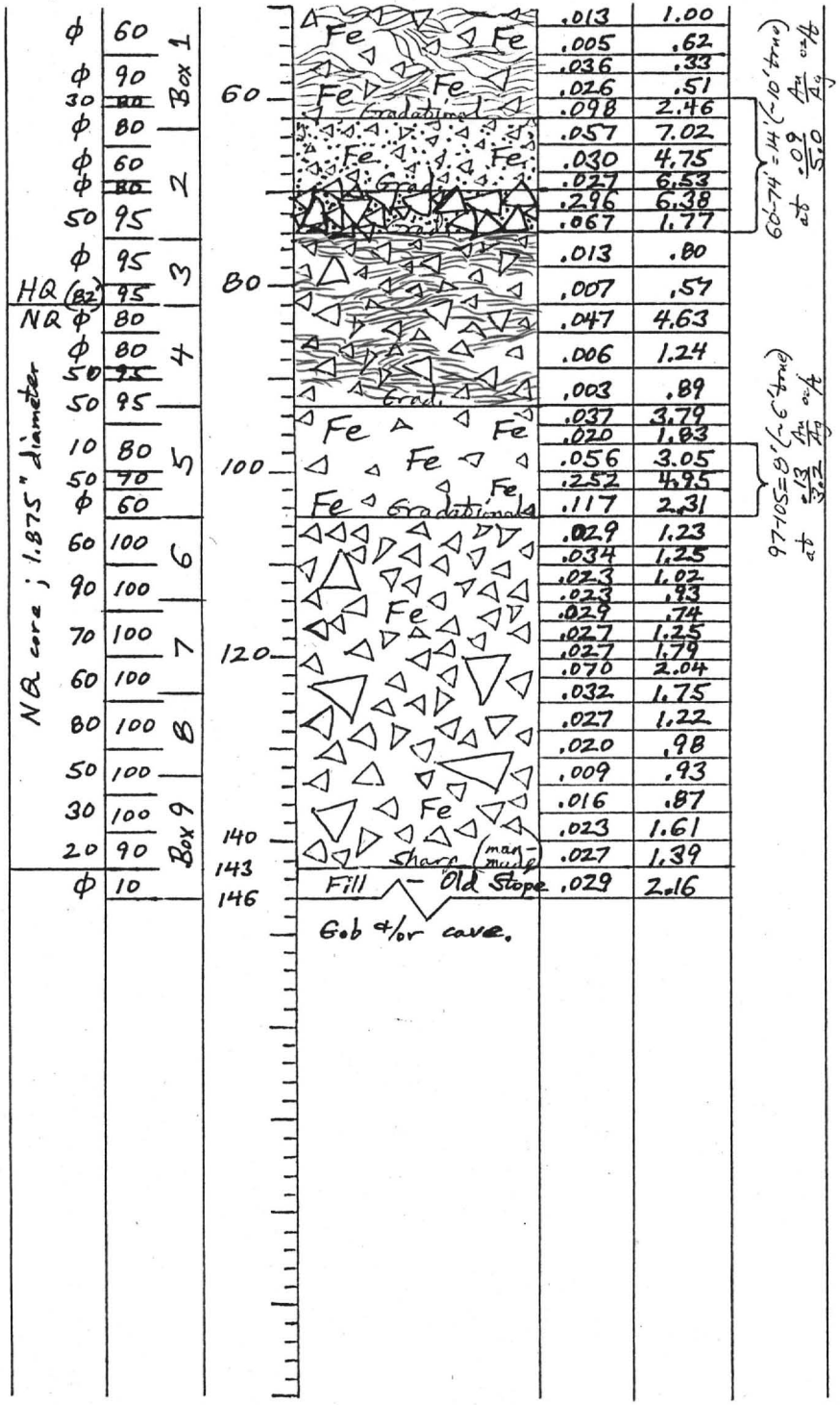


Ferruginous & tan-banded hornfelsed si. bx.

Earthy & saccharoidal si. bx.

Red & gray clasts & hornfelsed matrix

Ferruginous si. bx.

Limonitic, slightly vuggy silica breccia

Old Stope

Gob-filled &/or caved

49'-62' Red-br. & tan-banded hematitic (very ferruginous ~40% Fe) matrix with ~30% lt. gry. clasts (ϕ-2", $\bar{x}$=½"). Very dense, hard siliceous hematite. Probably hornfelsed.

62'-70' Red-br & yell. br. gritty to earthy, poorly cemented matrix (~15% Fe) with ~40% gray-brown clasts (ϕ-½", $\bar{x}$=¼"). Porous.

70'-74' Clast-supported si bx of ~80% lt. gry & red-gry. clasts, saccharoidal (ϕ-3", $\bar{x}$=1") in red-br & yell. br, mottled, & flow banded hem. & lim. silica matrix, ~5% vugs (≤½")

74'-93' Tan, banded & red-br. si matrix with ~40% clasts (ϕ-2", $\bar{x}$=½") of which most larger ones are blood red, most smaller are lt. gray. This is a notoriously barren lithology wherever it occurs.

93'-105' Black-brown & yell. br very ferruginous (~30% Fe) silica with ~20% gray & yell-br. clasts (ϕ-1", $\bar{x}$=½"). Fe occurs as both specular (but fine gr.) hem. & goethite.

105'-143' Brown & yellow-brown, slightly limonitic & hematitic, (~7% Fe overall, variable locally) with ~60% matrix-supported clasts (lt. gray, ϕ-6", $\bar{x}$=1"). ≤5% vugs, ≤½" each, some silica-healed fractures. Locally banded colors/facies of Fe, sinuous and flowing, but averaging ~45° to core axis. Long axes of vugs & alignment of clasts also ~45° to core axis.

143' — Edge of old stope midway between 903 and 800 levels. Probably mined for "silica ore" (Cu, Au, Ag, SiO_2). Rods pushed thru gob &/or cave material, quite loose, to firm stop at 146'.

143'-146' — Small sample returned was dk br. & yell br. silica with ~40% lt. gr. si clasts (ϕ-½", $\bar{x}$=¼").

Hole No. 902-7

Collar location: U.V.X. Mine – 950 Level, 902 D.D.S. ~4,180' Elev. Mine Grid 11,405 N – 7,215 E

Inclination: + 45° at collar

Azimuth: 230° (S50°W) at collar

Length: 160 feet

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

Core recovery: ~95% in diorite; ~90% in chert

Dates: Nov. 30 to Dec. 8, 1987

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. HQ core thru 66', then cased down to NQ thru 160', end of hole.

Overall drilling rate = 13.3 ft/shift, 10 hr. shifts, 2 shifts/day. All casing + steel removed from hole.

Core Size	RQD	Runs/recovery	Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)			Rock type
Core; 2.5" diameter	φ	50	Skeleton Box A							Argillic-alt'd diorite
	φ	30								
	10	100								
	20	100								
	10	100		20	Gradational contact					
	20	100								Silicic-alt'd diorite
	50	100								
	30	100			Gradational					
	50	100			Sharp, intrusive contact					
	φ	40	Box 1	40		.003	.18			Massive + banded (hornfelsed) silica bx.
	10	70				.002	.38			
	φ	80				.002	.31			
	φ	90								

Note: Sense of orientation indicators are erratic and contorted. Best evidence is ~45° to core axis (conservative estimate). Thus true thicknesses are ~.70 times drill intercepts.

Lithology

φ-37' Diorite; as follows:

φ-20' Red-gray argillic altered diorite with red, hematite-lined fractures. So-called "red blocky schist" on old plans

20'-35' Silver-gray + purple gray silicic-alt'd diorite. Crudely foliated and possibly flow-banded.

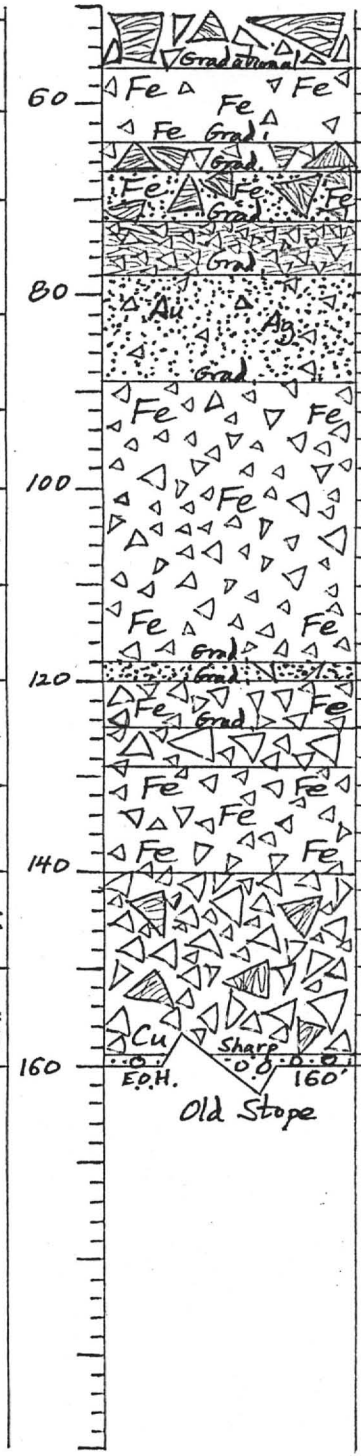
35'-37' Intrusive breccia of silicic-alt'd (silver-gray to wt) clasts (~70%, φ-2", $\bar{x}$=½") of dt in red-br. dt matrix.

37'-159' Chert; as follows:

37'-56' Intimate mixture of biege banded si clasts and purple-gray massive si clasts in red-brown si and stringers of red-br. dt. Clasts (hornfelsed) are φ-6", $\bar{x}$=2", overall ~60%. Few (≤1%) vugs.

Core	Depth	Sample	Box
HQ	φ	~~95~~	Box 2
	φ	~~95~~	
	10	90	
	40	95	3
Casing 66'	φ	~~95~~	
	φ	~~95~~	
	10	70	
	φ	70	4
	10	95	
	40	80	
	80	95	5
	60	95	
	φ	95	6
	φ	~~95~~	
	φ	95	
	40	100	7
	10	80	
	20	95	8
	40	95	
	20	90	9
	φ	40	
	30	90	
	30	100	
	70	100	10
	60	100	
	60	100	11
	50	100	
	20	95	
	10	90	Box 12
	20	90	

NQ core; 1.875" diameter



Depth	Sample	Au	Ag
		.001	.46
		.028	.60
		.052	1.88
		.074	3.28
		.035	3.51
		.014	.93
		.022	1.63
		.058	1.40
		.064	1.57
		.025	1.18
		.232	8.01
		.230	7.84
		.300	10.97
		.335	6.26
		.361	8.49
		.433	3.78
		.036	2.40
		.049	1.77
		.034	2.18
		.040	1.62
		.044	1.22
		.020	.96
		.020	1.93
		.020	1.76
		.020	1.44
		.023	1.57
		.062	.74
		.032	1.18
		.073	1.86
		.022	.99
		.020	.67
		.035	.27
		.041	.75
		.024	.84
		.002	.75
		.002	.58
		.007	.87
		.005	1.26
		.063	1.00
		.024	.70

78'-90' = 12' (~8' true) at $\frac{.31}{7.5}$ oz/t $\frac{Au}{Ag}$

Mixed ferruginous + banded si bx

Saccharoidal to gritty silica

Ferruginous silica breccia

Tcgl stope fill

Considerable 2nd generation bx in evidence.

56'-64' Red-br., very ferruginous (~30% Fe) silica matrix with ~20% blotches of yellow si (goethitic-?) and ~20% lt. gr. si clasts (φ-½", $\bar{x}$=¼"). ~3% vugs (≤½")

64'-67' Red-br. + biege-banded si matrix with ~70% biege-banded + lt. gr. si clasts (φ-3", $\bar{x}$=1"). ≤1% vugs (≤¼").

67'-72' Red-br., very ferruginous (~30% Fe) gritty + porous silica matrix with ~40% biege banded clasts (φ-6", $\bar{x}$=2").

72'-78' Biege, banded si with ~50% lt. gr. clasts (φ-½", $\bar{x}$=¼")

78'-89' Saccharoidal to gritty, very porous silica of mottled red-br., yell-br., mustard, and dk. gr. colors. Also ~20% lt. gr. si clasts (φ-½", $\bar{x}$=¼"). Banding contorted φ-90° to CA.

89'-118' Yellow-brown, dk br, + red-br. limonitic + hematitic, (very ferruginous; Fe ~20% overall, but variable) with ~40% gray + red-br. hem. si clasts (φ-1", $\bar{x}$=½"). Up to 15% vugs (≤1") Grades from more limonite at 90' to more hem at 117'. Overall "limonitic + vuggy".

118'-120' Red-br + br. si matrix with ~80% clast supported (maybe just 2 large clasts) gray + yellow-gr. saccharoidal si clasts (φ-18", $\bar{x}$=6").

120'-125' Dark red-br., very hematitic (~10% Fe) si matrix with ~50% gray + red-gr. clasts (φ-2", $\bar{x}$=1"). ≤5% vugs (≤½"). Clast alignment ~45° to core axis

125'-129' Tan + red-br, hematitic (~5% Fe) silica with ~50% gray + red-gr. clasts (φ-4", $\bar{x}$=1").

129'-140' Dark red-br., very ferruginous si with ~40% gray + red gr. clasts (φ-2", $\bar{x}$=½") Up to 6% vugs (≤½") Banding or foliation ~50°-60° to core axis.

140'-159' Red-brown, hematitic si with ~60% gray, red-gr. + biege-banded, angular clasts (φ-4", $\bar{x}$=1"). Clast alignment ~40°-50° to CA. Some $CuCO_3$ within chert (not only on frax but diss. thruout) 157'-159'.

159' Edge of stope, midway between 903 + 800 levels, presumably "silica ore" for Cu-Au-Ag-SiO_2. Gob-filled with Tertiary debris including well-rounded pebbles from Tcgl. above.

Hole No. 902-5

Collar location: U.V.X. Mine – 950 Level, 902 D.D.S. ~4,180' Elev. Mine Grid: 11,405 N – 7,215 E

Inclination: +25° at collar

Azimuth: 250° (S70°W) at collar

Length: 98 feet

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

Core recovery: ~95% in diorite; Avg – 90% in chert

Dates: November 12 thru 18, 1987

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

Logger: Don White, geologist

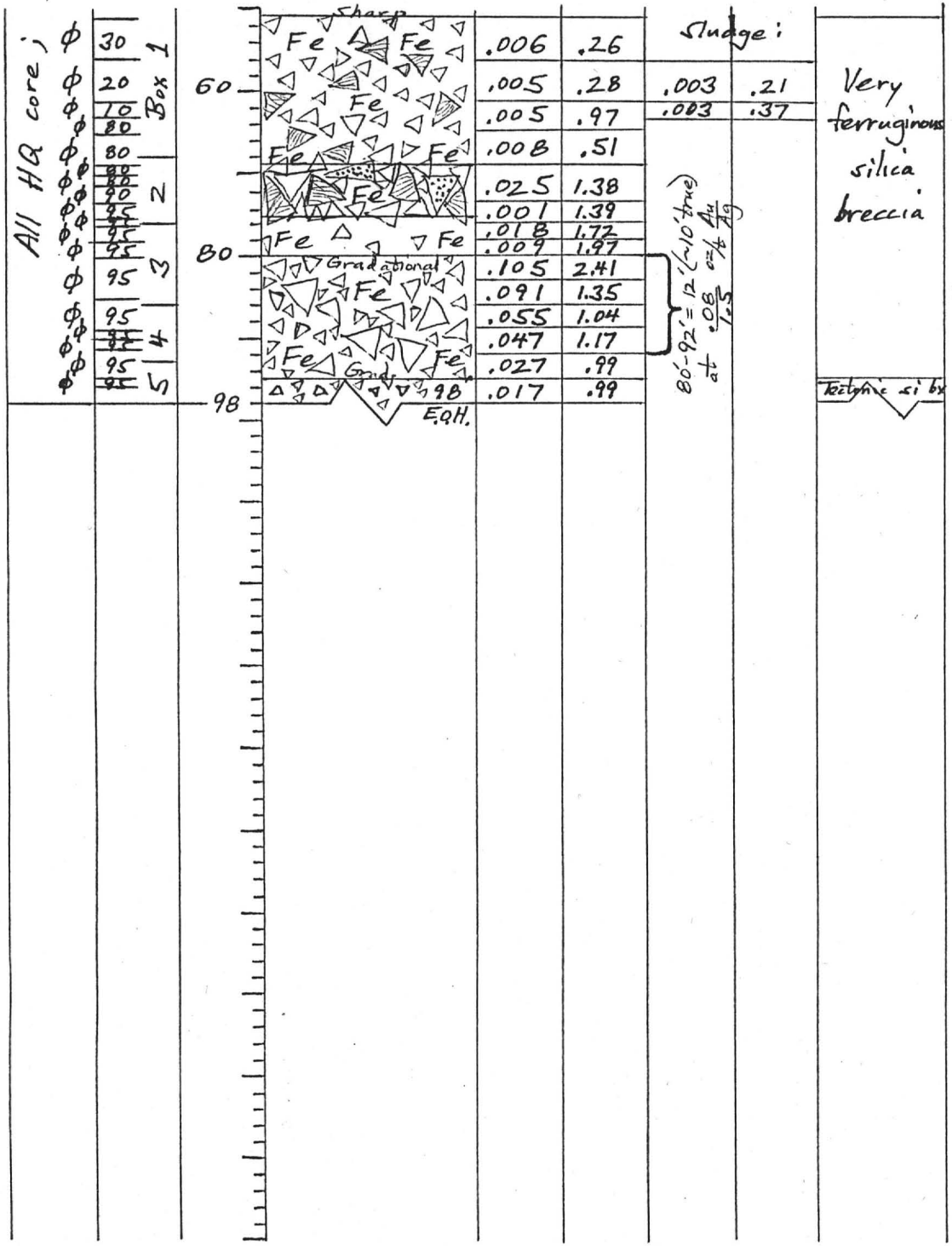
Remarks: Drilled with Longyear 34, pneumatic rig. HQ for entire hole.

Overall drilling rate = 12.3 ft/shift, 10 hr. shifts, 2 shifts/day.

All rods removed from hole.

Core Size RQD	Runs/recovery Core boxes	Footage	Graphic log	Au (oz/t)	Ag (oz/t)			Rock type	Lithology
2.5" diameter ϕ ϕ 20 30 20 20 ϕ ϕ ϕ 20 10 10 40 20	Skeleton Box A 60 30 95 95 95 95 80 80 95 95 95 100 100 95	20 40						Argillic-altered diorite Silicic-altered diorite	Note: Sense-of-orientation indicators crudely indicate bedding ~60° to core axis. Therefore true thicknesses are about .87 times drill intercepts. ϕ-51' Diorite; variously altered as follows: ϕ-20' Red-gray, argillic-altered diorite with red, hematite-lined fractures. 20'-51' Silver gray + purple gray silicic-altered diorite with crude foliation and banding ~60° to core axis.

Carole's reproduceable



51'-98'+ Chert or silica; variously ferruginous and brecciated as follows:

51'-69' Dark red-brown, very ferruginous (up to 40% Fe, locally) silica matrix with ~50% lt. gr., wt, + biege "jigsaw puzzle" type clasts (ϕ-2", $\bar{x}$=1½").

69'-75' Dk red br., hematite-rich si bx (~15% Fe) with ~70% clast-supported biege-banded + some yellow gritty clasts (ϕ-4", $\bar{x}$=1").

75'-80' Red-br. ferruginous si bx (~30% Fe) with ~20% red-br, yell-br, + gray clasts (ϕ-2", $\bar{x}$=½").

80'-95' Red-br, ferruginous (~20% Fe) silbx. with ~70% matrix-supported yell. br. (gritty), red-br., red, gray, + dk. gray heterogeous clast types (ϕ-4", $\bar{x}$=1½"). Yellow gritty clasts no doubt carry the Au reported. Fe locally up to 40%.

95-98'+ (EOH) Same as 80-95' but tectonically shattered to split-pea size fragments by a hanging wall splay of the Verde Fault.