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To: Tony Budge

From: Ron Short

Date: 8-16-88

Re: Estimated Mining Cost and Economic Evaluation of U.V.X. Mine

Cost estimates and evaluation have been based on the mine producing 100 tons of ore per day. Two shifts per day required.

Manpower requirements:

Supervisors	2
Hoistmen	2
Skiptenders	2
Mechanics	2
Electricians	1
Trammermen	4
Miners	10
Geologist/Engineer	1
Total	24

All labor costs have been increased by 30% to reflect fringe benefits.

Estimated Mining Cost

1. Indirect Costs:

A. Hoisting:

Labor: Hoistmen (2)	$2.70/ton
Skiptenders (2)	2.39/ton
Hoist maintenance and repair	0.50/ton
Total Hoisting Cost	$5.59/ton

B. Surface Cost:

Labor: Mechanic (1)	$1.20/ton
Mechanic/Truck driver (1)	1.20/ton
Electrician (1)	1.24/ton
Compressor M&R	0.25/ton
Haulage truck M&R	0.33/ton
Electrical Cost, total mine	5.00/ton
Surface vehicle, operation cost	0.10/ton
Misc. surface cost	0.25/ton
Total Surface Cost	$9.57/ton

C. Tramming Cost:

Labor: trammermen (4)	$4.37/ton
Trammer & Ore cars M&R	0.30/ton
Total Tramming Cost	$4.67/ton

D. Salary Cost

Supervisors (2)	$3.84/ton
Geologist/Engineer (1)	1.79/ton
Total Salary Cost	$5.63/ton

Sub-Total Indirect Cost	$25.46/ton
Contingency (25%)	6.36/ton
Estimated Indirect Costs	$31.82/ton

2. Direct Stoping Costs:

Labor: 10 miners, 100 tpd	$13.00/ton
Materials:	
Bits & steel	0.91/ton
Drill M&R	1.35/ton
Explosives	4.37/ton
Rockbolting	3.50/ton
Misc.	1.00/ton
Sub-total Direct Stoping Costs	$24.13/ton
Contingency (25%)	6.03/ton
Estimated Direct Stoping Costs	$30.16/ton

Summary:

1. Indirect Costs	$31.82/ton
2. Direct Stoping Cost	$30.16/ton
Estimated Total Mining Costs	$61.98/ton

Mining Method Assumptions:

1. Stopes will not require filling
2. Miners produce an average of 10 tons per man shift.

Assumptions for Revenue Projections by Stoping Area:

1. Gold $450.00 per ounce
2. Silver $6.50 per ounce
3. Mining Cost $62.00 per ton
4. Material sold to Smelter as flux
5. Smelter settlement based on terms outlined in attached memo (P-D, Hidalgo)
6. Shipping cost $17.00 per ton ($13.00/ton rail haulage and $4.00/ton truck haulage).

800 Level

809 Stope Area

12,000 tons @ 0.41 oz/t Au, 1.6 oz/t Ag, 6% Fe

Gold value:
0.41 - 0.03 = 0.38 oz/t Au x $450.00 = $171.00
$171.00 - 10% ($17.10, treatment charge) = $153.90
$153.90 x 95% = $146.21 x 12,000 t. = $1,754,460

Silver value:
1.6 - 0.50 = 1.1 oz/t Ag x $6.50 = $7.15
$7.15 - 10% ($0.715) = $6.44
$6.43 x 95% = $6.11 x 12,000 t. = $73,359

Combined Value = $1,827,819

Mining Cost:
12,000 t. x $62.00 = $744,000
Shipping:
12,000 t. x $17.00 = $204,000

Total Cost = $948,000

Development Cost = $96,600

Estimated Return = $783,219

950 Level

Morgan Stope Area

53,000 tons @ 0.22 oz/t Au, 9.1 oz/t Ag, 7% Fe

Gold value
0.22 - 0.03 = 0.19 x $450.00 = $85.50
$85.50 - 10% ($8.55) = $76.95/ton
$76.95 x 95% = $73.10 x 53,000 t = $3,874,433

Silver value
9.1 - 0.5 = 8.6 x $6.50 = $55.90
$55.90 - 10% ($5.59) = $50.31
$53.31 x 95% = $47.79 x 53,000 t. = $2,533,109

Maximum Fe = 6%
Estimated Fe = 7%

$0.30 penalty for each 1% over 6%
$0.30 x 1 = $0.30/ton penalty
53,000 x $0.30 = ($15,900)

Combined value =	$6,391,641

Mining Cost:
53,000 t. x $62.00 = $3,286,000
Shipping Cost:
53,000 t. x $17.00 = $901,000

Total Cost =	$4,187,000
Development Cost =	$28,000
Estimated Return =	$2,176,641

905-S Stope above 950 level

7,000 tons x 40% above 950 level = 2,800 tons
2,800 tons @ 0.16 oz/t Au, 8.0 oz/t Ag, 3% Fe

Gold value
0.16 - 0.03 = 0.13 x $450.00 = $58.50
$58.50 - 10% ($5.85) = $52.65
$52.65 x 95% = $50.02 x 2,800 = $140,049

Silver value
8.0 - 0.5 = 7.5 x $6.50 = $48.75
$48.75 - 10% ($4.875) = $43.88
$43.88 x 95% = $41.68 x 2,800 = $116,708

No penalties for Fe content

Combined value = $256,757

Mining Cost:
2,800 t. x $62.00 = $173,600
Shipping Cost:
2,800 t. x $17.00 = $47,600

Total Cost = $221,200

Development Cost = $15,000

Estimated Return = $20,557

Hanging Wall Gold Stope above 950 level

6,000 tons x 40% = 2,400
2,400 tons @ 0.25 oz/t Au, 2.0 oz/t Ag, 5% Fe

Gold value
0.25 - 0.03 = 0.22 x $450.00 = $99.00
$99.00 - 10% ($9.90) = $89.10
$89.10 x 95% = $84.65 x 2,400 = $203,148

Silver value
2.0 - 0.5 = 1.5 x $6.50 = $9.75
$9.75 - 10% ($0.975) = $8.78
$8.78 x 95% = $8.34 x 2,400 = $20,007

No penalties for Fe content

Combined value = $223,155

Mining Cost:
2,400 t. x $62.00 = $148,800
Shipping Cost:
2,400 t. x $17.00 = 40,800

Total Cost = $189,600

Development Cost = $15,000

Estimated return = $18,555

1100 Level

911 Stope Area

8,000 tons @ 0.23 oz/t Au, 4.9 oz/t Ag

Gold value
0.23 - 0.03 = 0.20 x $450.00 = $90.00
$90.00 - 10% ($9.00) = $81.00
$81.00 x 95% = $76.95 x 8,000 = $615,600

Silver value
4.9 - 0.5 = 4.4 x $6.50 = $28.60
$28.60 - 10% ($2.86) = $25.74
$25.74 x 95% = $24.45 x 8,000 = $195,624

No penalty for Fe content

Combined value = $811,224

Mining Cost:
8,000 t. x $62.00 = $496,000
Shipping Cost:
8,000 t. x $17.00 = $136,000

Total Cost = $632,000

Development = $186,880

Estimated return = ($7,656)

905-S Stope

7,000 tons x 60% = 4,200 tons
4,200 tons @ 0.16 oz/t Au, 8.0 oz/t Ag, 3% Fe

Gold value
0.16 - 0.03 = 0.13 x $450.00 = $58.50
$58.50 - 10% ($5.85) = $52.65
$52.65 x 95% = $50.02 x 4,200 = $210,074

Silver value
8.0 - 0.5 = 7.5 x $6.50 = $48.75
$48.75 - 10% ($4.875) = $43.88
$43.88 x 95% = $41.68 x 4,200 = $175,068

No penalties for Fe content

Combined value = $385,135

Mining Cost:
4,200 t. x $62.00 = $260,400
Shipping Cost:
4,200 t. x $17.00 = $71,400

Total Cost = $331,800

Development Cost = $98,112

Estimated Return = ($44,777)

Hanging Wall Gold Stope

6,000 tons x 60% = 3,600 tons
3,600 tons @ 0.25 oz/t Au, 2.0 oz/t Ag, 5% Fe

Gold value
0.25 - 0.03 = 0.22 x $450.00 = $99.00
$99.00 - 10% ($9.90) = $89.10
$89.10 x 95% = $84.65 x 3,600 = $304,722

Silver value
2.0 - 0.5 = 1.5 x $6.50 = $9.75
$9.75 - 10% ($0.975) = $8.78
$8.78 x 95% = $8.34 x 3600 = $30,011

No penalties for Fe

Combined value =	$334,733

Mining Cost:
3,600 t. x $62.00 = $223,200
Shipping Cost:
3,600 t. x $17.00 = $61,200

Total Cost =	$284,400
Development Cost =	$72,275
Estimated return =	($21,943)

Royalty Payment Calculation:

Preproduction costs to date (estimated)	$4,000,000
Future development and additional capital cost (estimate)	$250,000
Total expenditures (estimated)	$4,250,000

70,200 tons of reserves @ 24,000 tons per year = 2.93 or 3 years

Royalty payments every 6 months = 6 payments

15% of net profits until recovery of preproduction costs
30% of net profits after recovery of preproduction costs

Estimated profits of approximately $3,000,000, or about $1,000,000 per year; 15% of $1,000,000 = $150,000; $75,000 semi-annually.

Capital Cost Estimates

(1) 7 jack-leg or stoper drills @ $2,250 each	$15,750
(2) 5 slushers with buckets @ $3,000 each	$15,000
(3) 5 tuggers for stopes @ $2,500 each	$12,500
(4) 2 motors for level haulage @ $10,000 each	$20,000
(5) 2 battery chargers @ $1,000 each	$2,000
(6) 4 muck cars for level haulage @ $1,000 each	$4,000
(7) secondary escapeway:	
1 hoist	$5,000
installation	$1,000
shaft rehabilitation	$5,000
Sub-total Capital Items	$80,250
Contingency (15%)	$12,038
Total Capital	$92,288

Mining Cut-off Grade Based on estimates

Mining cost (direct and indirect)	$62.00/ton
Shipping cost (to smelter)	$17.00/ton
Total cost	$79.00/ton

With overall smelter return of 78%, costs of $79.00/ton, the breakeven (cut-off) grade is $\frac{\$79}{.78} = \$101.28$

At $450.00/ounce, $101.28 = 0.225 oz/ton gold, or gold equivalent.

Based on my assumptions, any reserves with a gold or gold equivalent grade of less than 0.225 oz/ton cannot be mined.

Summary Sheet to Accompany
Memo dated 8-16-88 by R.R.S.

Stoping Area	Reserve Tons	Grade oz/ton gold	Grade oz/ton silver	Smelter Revenue for gold based on formula	Smelter Revenue for silver based on formula	Penalty for Iron	Total In-place Value	Mining Cost @ $62/ton	Shipping Cost @ $17/ton	Estimated Development Cost	Total Costs	Estimated Return
800 Level												
809 Area	12000	0.41	1.6	$1,754,460	$73,359		$1,827,819	$744,000	$204,000	$96,600	$1,044,600	$783,219
950 Level												
Morgan Area	53000	0.22	9.1	$3,874,433	$2,533,109	($15,900)	$6,391,641	$3,286,000	$901,000	$28,000	$4,215,000	$2,176,641
905-S Area	2800	0.16	8.0	$140,049	$116,708		$256,757	$173,600	$47,600	$15,000	$236,200	$20,557
HW Gold Stope	2400	0.25	2.0	$203,148	$20,007		$223,155	$148,800	$40,800	$15,000	$204,600	$18,555
Totals	70200	0.25	7.5	$5,972,090	$2,743,182	($15,900)	$8,699,372	$4,352,400	$1,193,400	$154,600	$5,700,400	$2,998,972

Estimated Capital Cost to Bring Mine into Production	($100,000)
Payment to Verde Exploration	($450,000)
Estimated Net Returns from Production	$2,448,972

This does not reflect any taxes or other costs not shown or estimated

Mining from the 1100 Level
is uneconomic based on current
assumptions.

1100 Level											
911 Area	8000	0.23	4.9	$615,600	$195,624	$811,224	$496,000	$136,000	$186,880	$818,880	($7,656)
905-S Area	4200	0.16	8.0	$210,074	$175,061	$385,135	$260,400	$71,400	$98,112	$429,912	($44,777)
HW Gold Stope	3600	0.25	2.0	$304,722	$30,011	$334,733	$223,200	$61,200	$72,275	$356,675	($21,943)

Development UVX Mine
809-Area

1. 809-Chute Raise to 7 Level will access area of DDH 809-4 which intersected 15' of ore averaging 1.1 Au/T and 4.1 Ag/T. This zone has a drill indicated reserve of 2000 tons.

2. 700 Level X-Cut will also help to access the area of DDH 809-4 and cross cut mineralized zone presently being developed at the 7 Level elevation. This rock will be stockpiled on 7 Level. Mineralized rock and waste will be segregated.

3. 700 Level Subdrift will drift down the strike of the mineralized zone drilled by DDH 809-4.

907 - Stope

1. Will clean out stope and prepare to start mining 1300 tons @ 0.20 Au/T & 7.08 Ag/T

2. Start drilling ore block in 907 end for backstope.

3. Continue drilling and blasting. Start slushing broken ore.

902 - Stope Block

1. Develope B Level at top of ore zone with subdrift. Total footage of subdrift is estimated based on diamond drill information.

PRODUCTION SCHEDULE - UVX MINE

JAN 3 - FEB 24 1989

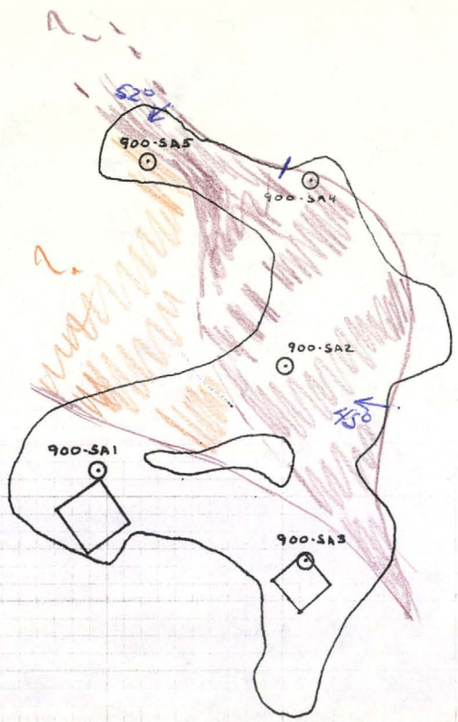
AREA	JAN 3-6	9-13	16-20	23-27	30-FEB 3	6-10	13-17	20-24
809-CHUTE RSE TO 7 LVL	20T	25T	4T					
700-LVL X-CUT	MUCK STOCKPILED ON 7 LEVEL							
700 LVL SUBDRIFT				60T	60T	60T	60T	
907 STOPE CLEANUP	50T							
907-DRILL BACKSTOPE		←				→		
907-SLUSHING			260T	260T	260T	260T	260T	
902-B LEVEL SUBDRIFT	50T	125T	125T	125T	125T	125T		
902-BREAKRAISE A TO B						30T	15T	
950 LEVEL DRAWPOINTS							WASTE →	
START MINING 902 STOPE BLOCK								→
TOTAL TONS	120T	150T	389T	445T	445T	475T	335T	

CORRECTED COORDINATES

7000E

7100E

11700N



900 STOPE SUBLEVEL A 11600N

1" = 20' TRACK 950 + 45'

UVX MINE - JEROME DEVELOPMENT FORECAST

BY - Ron Short
[illegible]

HEADING	SEPTEMBER 6 9	12 16	19 23	26 30	OCTOBER 3 7	10 14	17 21	24 28
209-1								
CHUTE RSE	12' 20 T.W.							
SUBLEVEL DRIFT		30 FT 80 T.W.	30 FT 80 T.O.				50 FT 125 T.O.	50 FT 125 T.O.
MANWAY RSE.				30 FT 50 T.W.	15 FT. 25 T.W.	PREP MW & CHUTE		
902-3 STOPE								
SUBLEVEL DRIFT	40' 100 TO	50 FT 125 T.O.	50 FT 125 T.O.	50 FT 125 TO	50 FT 125 TO.	50 FT 125 TO	50 FT 125 T.O.	50 FT 125 T.O.
907-1 STOPE								
TIMBER	SERVICES & TIMBER							
SUBLEVEL DRIFT		40 FT 100 TO.	50 FT 125 T.O.	50 FT 125 TO.	50 FT 125 T.O.	50 FT 125 TO.	50 FT 125 TO.	50 FT 125 T.O.
TOTALS								
TONS ORE	100	225	330	250	250	250	375	375
TONS WASTE	20	80	—	50	25	—	—	—
ADVANCES								
RAISES	12 FT	⊖	⊖	30 FT	15 FT	⊖	⊖	⊖
SUBLEVEL DRIFTS	40' FT	120 FT	130 FT	100 FT	100 FT	100 FT	150 FT	150 FT
106 t ore 118 t. waste 224	64 t. ore.	136 t. ore 122 t. waste 258	280 t. ore (=586)	612 × 1.5 = 918 t.				

Number of cars sampled	Sample No.	Area Sampled	Date	Gold oz/t	Silver oz/t
10	501	902-3	8/02/88	0.171	3.32
4	502	902-3	8/02/88	0.237	4.10
4	503	902-3	8/05/88	0.215	4.19
4	504	902-3	8/05/88	0.154	4.28
5	505	902-3	8/05/88	0.161	2.20
4	506	902-3	8/17/88	0.306	7.78
24	507	902-3	8/17/88	0.134	5.00
9	508	902-3	8/18/88	0.327	11.21
5	509	902-3	8/24/88	0.078	2.12
7	510	902-3	8/26/88	0.110	2.31
16	520	902-3	9/08/88	0.414	8.56
22	521	902-3	9/14/88	0.428	9.98
28	522	902-3	9/15/88	0.118	8.08
14	525	902-3	9/19/88	0.241	8.76
16	526	902-3	9/19/88	0.220	8.66
18	529	902-3	9/19/88	0.222	7.70
8	535	902-3	9/27/88	0.292	8.38
15	537	902-3	9/28/88	0.064	1.21
9	540	902-3	9/29/88	0.374	15.28
Average 902-3 Area		No. of cars	222	0.227	7.11
28	524	907-1	9/19/88	0.071	2.49
30	527	907-1	9/19/88	0.050	1.43
30	528	907-1	9/19/88	0.035	1.48
36	530	907-1	9/23/88	0.040	0.87
20	531	907-1	9/23/88	0.041	1.12
16	533	907-1	9/27/88	0.064	1.14
30	536	907-1	9/28/88	0.060	1.13
16	541	907-1	9/29/88	0.082	1.70
18	542	907-1	9/29/88	0.072	1.79
Average 907-1 Area		No. of cars	224	0.055	1.44
22	532	809-1	9/27/88	0.140	0.10
5	534	809-1	9/27/88	0.136	0.40
11	538	809-1	9/28/88	0.084	3.37
10	539	809-1	9/29/88	0.162	1.17
Average 809-1 Area		No. of cars	48	0.131	1.10

Recommended test work for UVX "run of mine" material.

30 - 50 pounds (5-gallon bucket) of material:

1 sample from 950 level; high iron
1 sample from 950 level; low iron
1 sample from 800 level.

Ship UPS to Dawson Metallurgical Laboratories
5217 Major Street
Murray, UT 84107

Telephone: (801) 262-0922

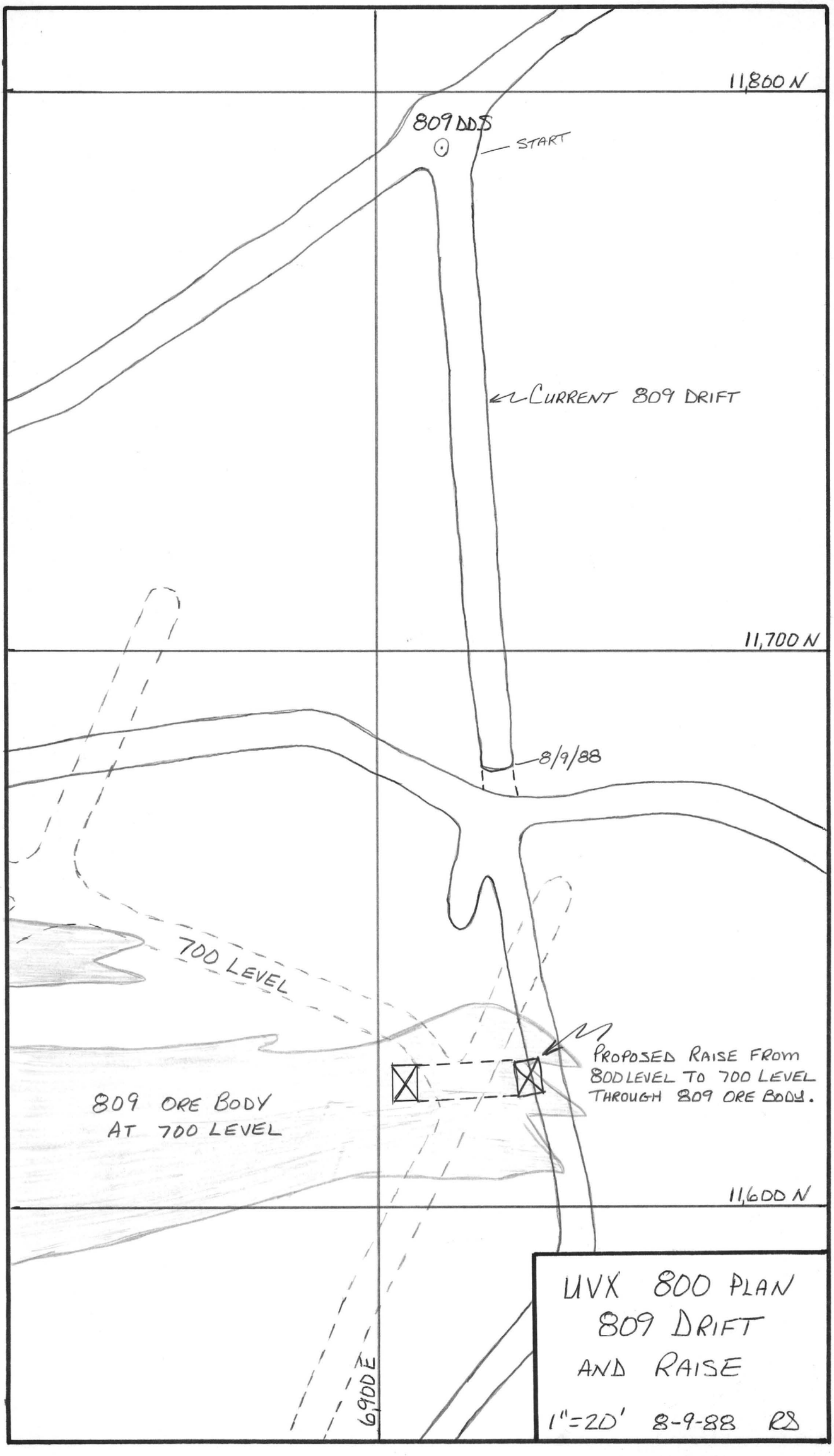
Tests:

A. 72-hour Bottle roll leach; maintain free NaCN above 5 lbs/ton; screen tails and assay fractions.

B. Ball mill grind to 80% -325 mesh; 72-hour Bottle roll leach; maintain free NaCN above 5 lbs/ton.

At the same time, take a 250 pound sample of each of the 3 "ore" types (about 1/2 to 3/4 of a 55-gallon drum) to be shipped to Dawson at a later date, if tests indicate the possibilities of a heap leach.

Number of cars sampled	Sample No.	Date	Gold oz/t	Silver oz/t
10	501	8/02/88	0.171	3.32
9	502	8/02/88	0.237	4.10
4	503	8/05/88	0.215	4.19
4	504	8/05/88	0.154	4.28
5	505	8/05/88	0.161	2.20
4	506	8/17/88	0.306	7.78
24	507	8/17/88	0.134	5.00
9	508	8/18/88	0.327	11.21
Average	69 cars		0.196	5.32
	509	missing		
1 sack	510	8/26/88	0.110	2.31
17	511	8/26/88	0.081	2.55
10	512	8/29/88	0.048	2.42
1	513	8/31/88	0.064	1.02
8	514	8/31/88	0.063	1.24
16	515	8/31/88	0.031	1.38
18	516	9/01/88	0.034	0.99
18	517	9/07/88	0.052	1.11
16	518	9/07/88	0.063	0.98
Average	104 cars		0.053	1.48
	173		0.110	3.01


11,800 N
809 DDS
START
CURRENT 809 DRIFT
11,700 N
8/9/88
700 LEVEL
PROPOSED RAISE FROM
800 LEVEL TO 700 LEVEL
THROUGH 809 ORE BODY.
809 ORE BODY
AT 700 LEVEL
11,600 N
6,900 E
UVX 800 PLAN
809 DRIFT
AND RAISE
1"=20' 8-9-88 RS

TO: TONY BUDGE
FROM: RON SHORT
DATE: 11-28-88
RE: PROGRESS REPORT FOR 11/20-23 - UNX MINE

902 SUBDRIFT NORTH
37 FT ADVANCE IN YELLOW SILICA GRIT.
13 FT MORE THAN FORECAST

907 SUBDRIFT SOUTH.
20 FT. FORECAST. ACTUAL Ø
DRIFT NOT STARTED. WILL BE SUBSTITUED BY
DRIFT TO NORTH WHICH WAS STARTED 11/28

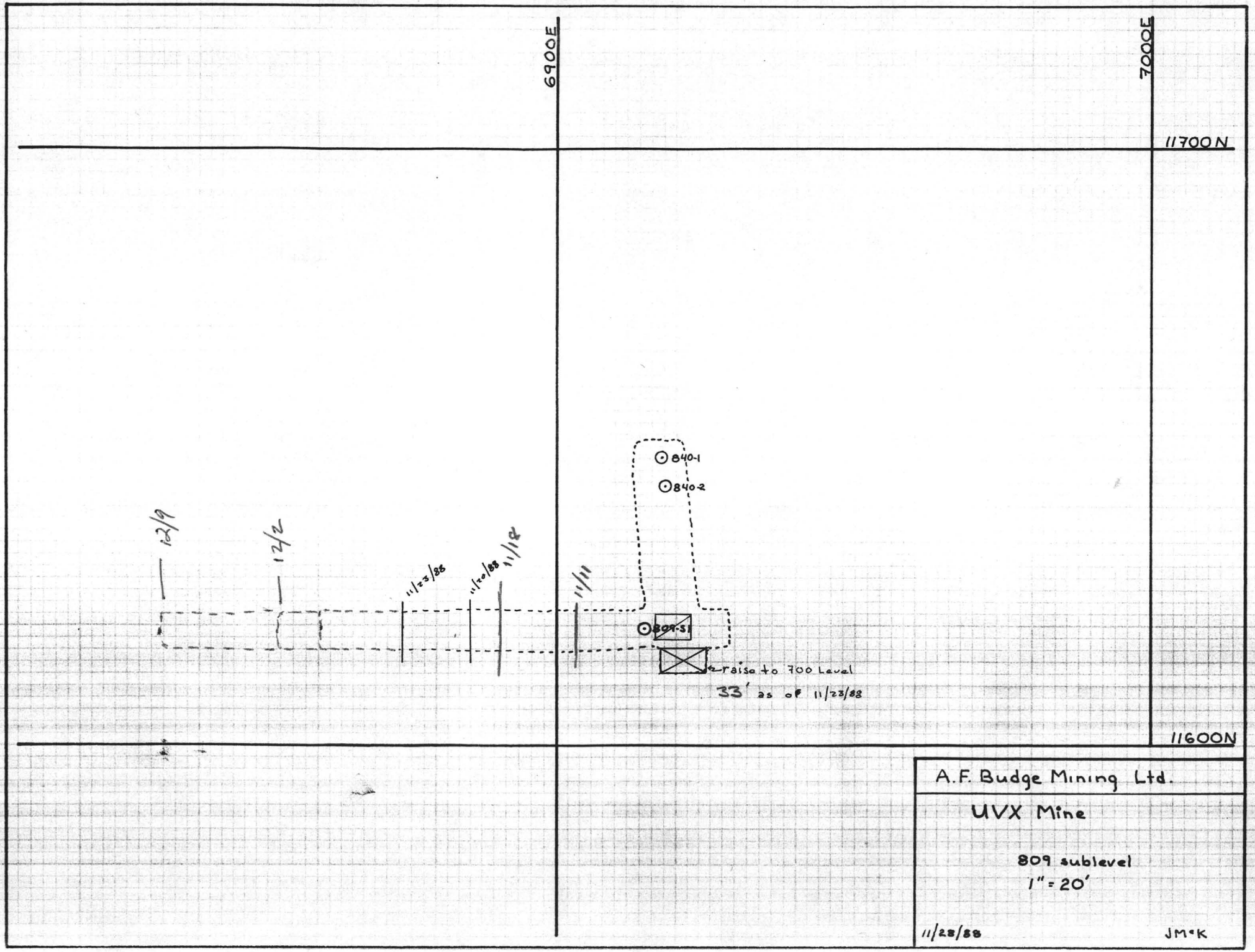
907 - RAISE #1
FORECAST 24' ACTUAL 24'

809 - SUBDRIFT NORTH
FORECAST 20' ACTUAL 16'

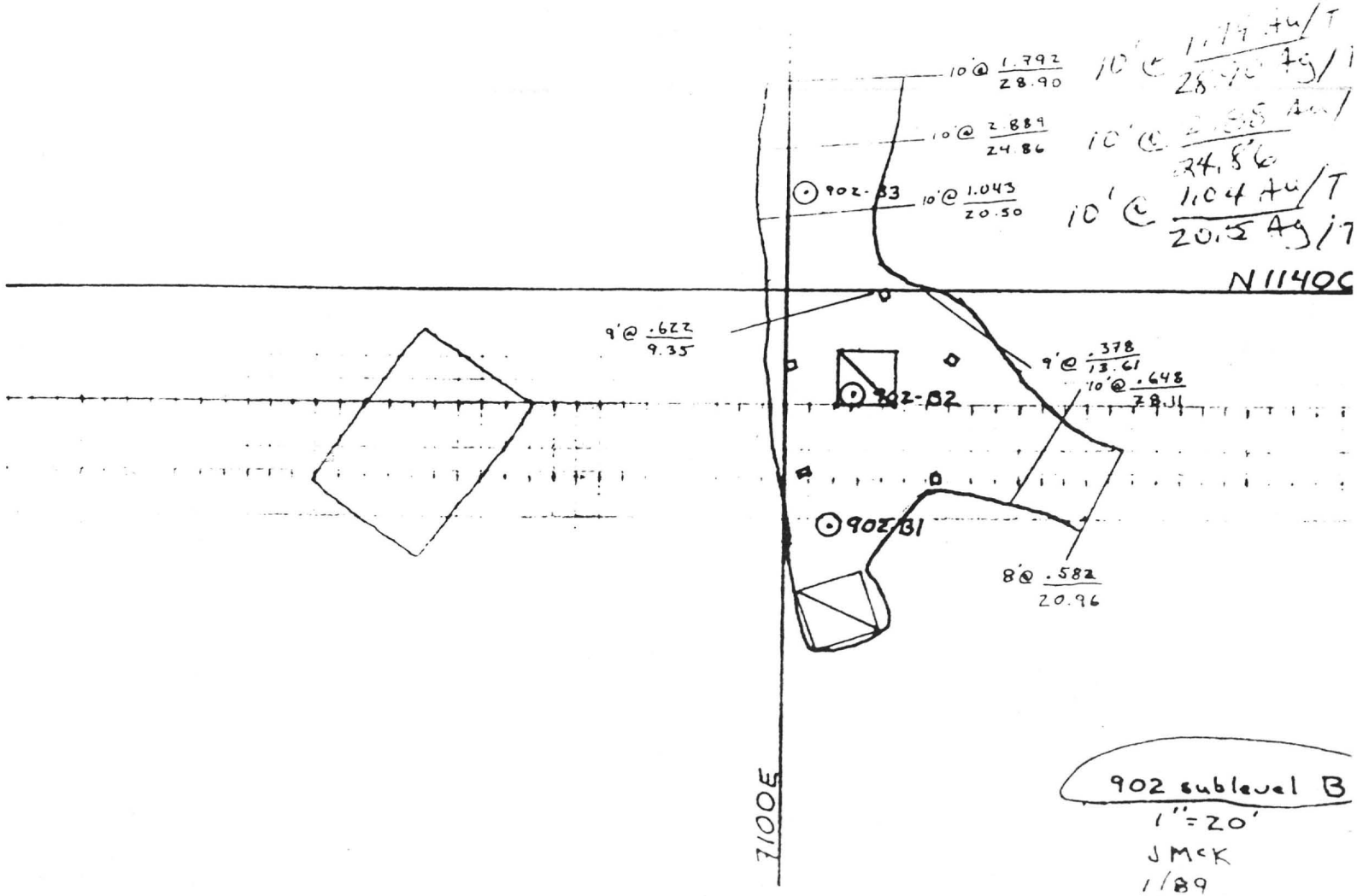
809 - RAISE TO 7 LEVEL
FORECAST 24' ACTUAL 21'
NO LONG HOLE HAVE BEEN DRILLED IN THE
809 STOPE.

DRILLED 70' OF LONG HOLES IN 902 & 907 STOPES
TO DETERMINE LIMITS OF STOPE.

TONS ORE ACTUAL 374 FORECAST 259


6900E
7000E
11700N
11600N
840-1
840-2
809-S1
raise to 700 Level
33' as of 11/23/88
12/9
12/2
11/23/88
11/20/88
11/18
11/11
A.F. Budge Mining Ltd.
UVX Mine
809 sublevel
1" = 20'
11/28/88
JMcK

H-8-13
H-8-11
H-8-9
H-8-10
H-8-7
H-8-6
H-8-8
H-1
6' @ .293 / .79
6' @ .064 / 1.23
6' @ .077 / 1.12
6' @ .088 / 1.22
6' @ .215 / .79
6' @ .316 / .86
6' @ .157 / 1.27
6' @ .159 / 1.38
6' @ .117 / 1.59
6' @ .242 / 1.30
6' @ .114 / 2.42
6' @ .098 / 1.26
6' @ <.001 / .75
5' @ .073 / .73
5' @ .144 / 1.04
6' @ .158 / .82
6' @ .291 / 1.48
6' @ .160 / .72
5' @ .102 / 1.41
5' @ .108 / 1.7
5' @ .101



902 sublevel B
1" = 20'
JMcK
1/89

DEVELOPMENT SCHEDULE - UVX MINE
JAN 3 - FEB 24 1989

AREA	JAN 3-6	9-13	16-20	23-27	30-FEB 3	6-10	13-17	20-24
809 - CHUTE RSE TO 7LVL	20 FT	25 FT	4 FT					
700 LVL X-CUT	20 FT	25 FT	25 FT					
700 LVL SUBDRIFT				25 FT	25 FT	25 FT	25 FT	
907 STOPE - CLEAN UP	←	→						
907 - DRILLING BACKSTOPE		←	→					
907 - DRILLING, BLASTING								
& SLUSHING			260 TONS	260 TONS	260 TON	260 TONS	260 TONS	
902 - B LEVEL SUBDRIFT	12 FT	30 FT	30 FT	30 FT	30 FT	30 FT		
902 - BREAKRAISE A TO B LEVEL						30 FT	15 FT	
950 LEVEL DRAWPOINTS							→	
DRILLING BLAST HOLES								→
IN 902 STOPE								

DEVELOPMENT SCHEDULE - UVX MINE
JAN 3 - FEB 24 1989

AREA	JAN 3-6	9-13	16-20	23-27	30-FEB 3	6-10	13-17	20-24
809 - CHUTE RISE TO 7LVL	20 FT	25 FT	4 FT					
700 LVL X-CUT	20 FT	25 FT	25 FT					
700 LVL SUBDRIFT				25 FT	25 FT	25 FT	25 FT	
907 STOPE - CLEAN UP	←	→						
907 - DRILLING BACKSTOPE		←	→					
907 - DRILLING, BLASTING								
& SLUSHING			260 TONS	260 TONS	260 TON	260 TONS	260 TONS	
902 - B LEVEL SUBDRIFT	12 FT	30 FT	30 FT	30 FT	30 FT	30 FT		
902 - BREAKRAISE A TO B LEVEL						30 FT	15 FT	
950 LEVEL DRAWPOINTS							→	
DRILLING BLAST HOLES								→
" 902 STOPE								

Development UVX Mine
809-Area

1. 809-Chute Raise To 7 Level Will Access Area of DDH 809-4 which intersected 15' of ore averaging 1.1 Au/T and 4.1 Ag/T. This zone has a drill indicated reserve of 2000 tons.

2. 700 Level X-Cut will also help to access the area of DDH 809-4 and cross cut mineralized zone presently being developed at the 7 level elevation. This rock will be stockpiled on 7 level. Mineralized rock and waste will be segregated.

3. 700 Level Subdrift will drift down the strike of the mineralized zone drilled by DDH 809-4.

907 - Stope

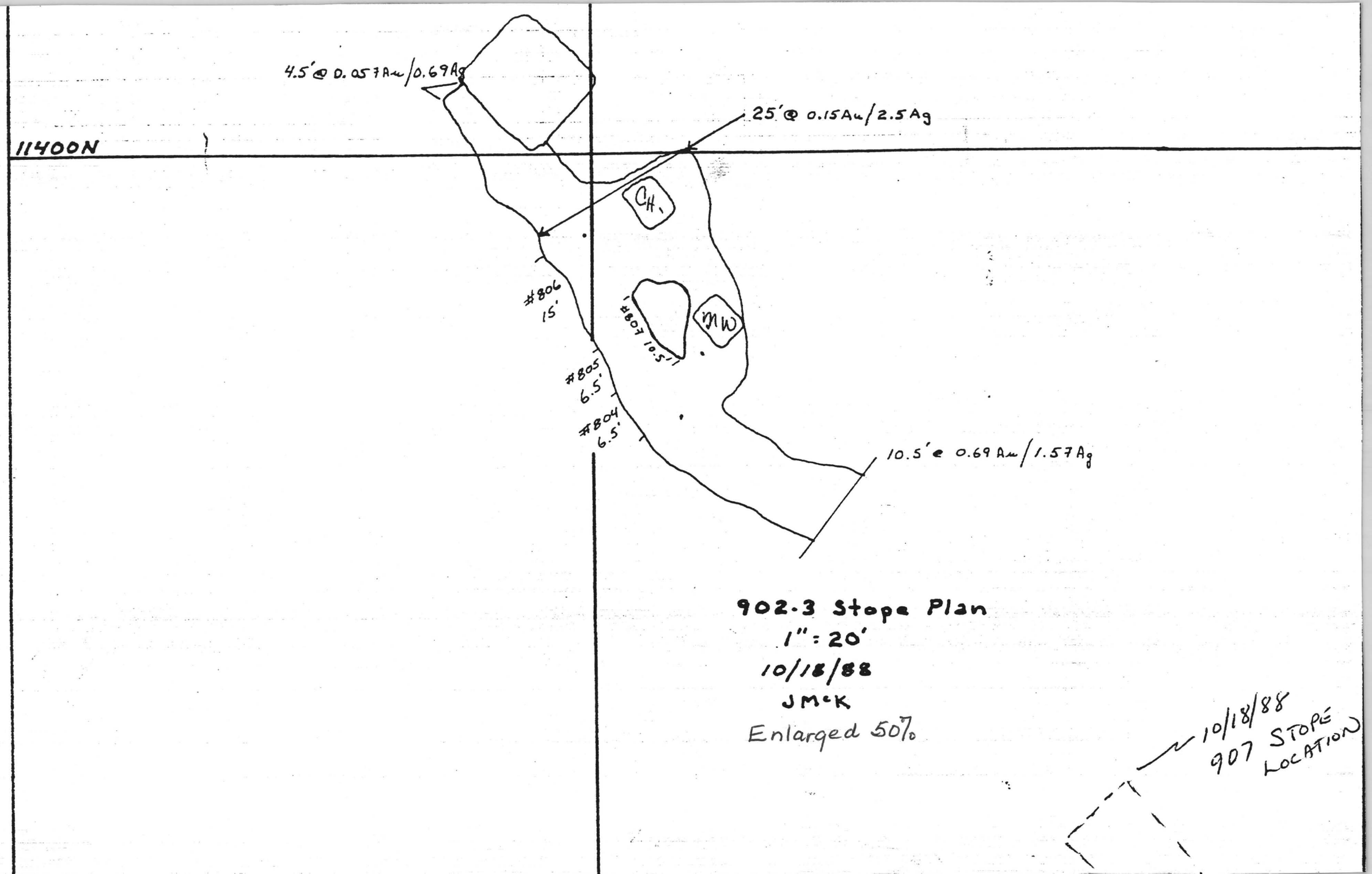
1. Will clean out stope and prepare to start mining 1300 tons @ 0.20 Au/T & 7.08 Ag/T

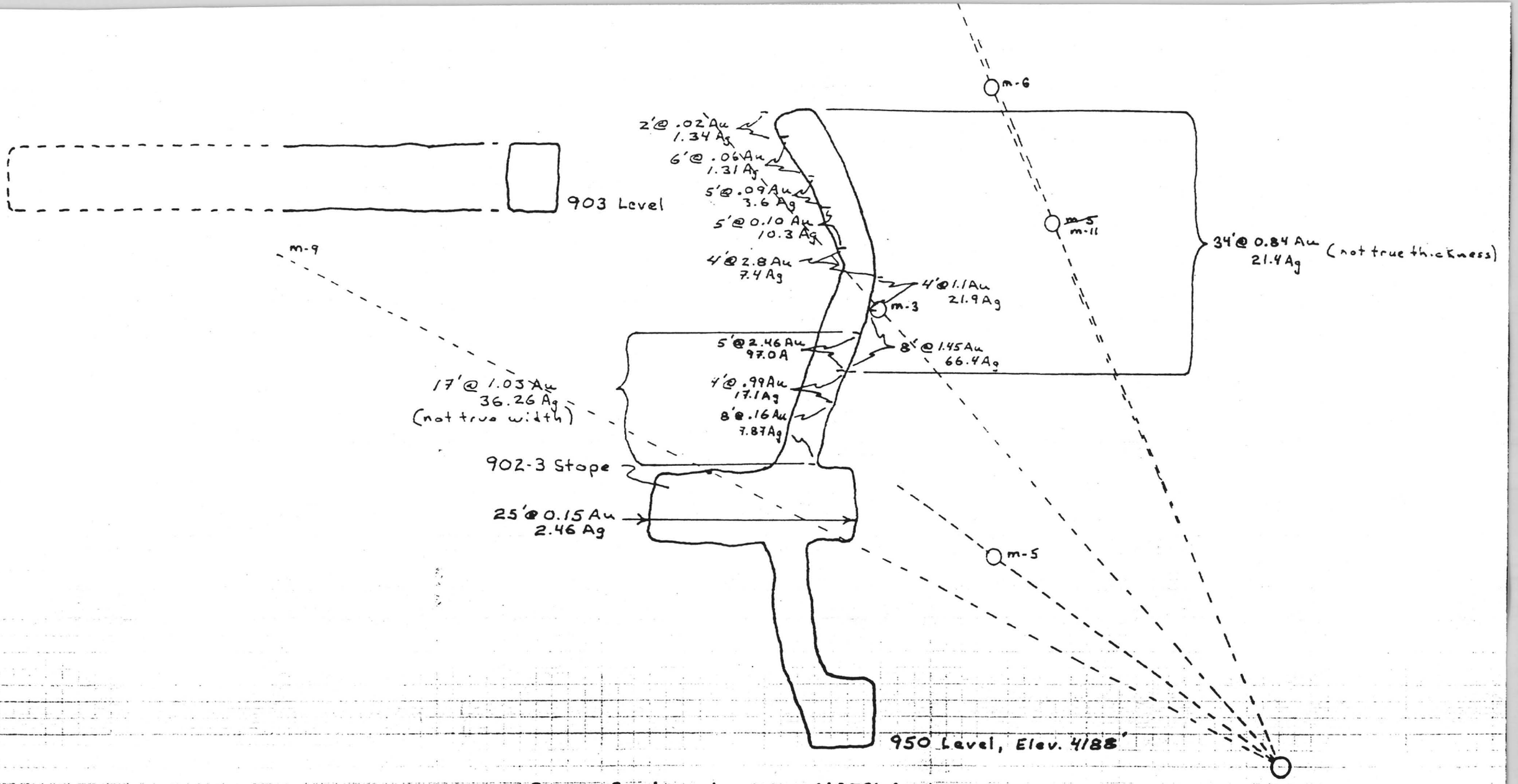
2. Start drilling ore block in 907 end for backstope

3. Continue drilling and blasting. Start slushing broken ore.

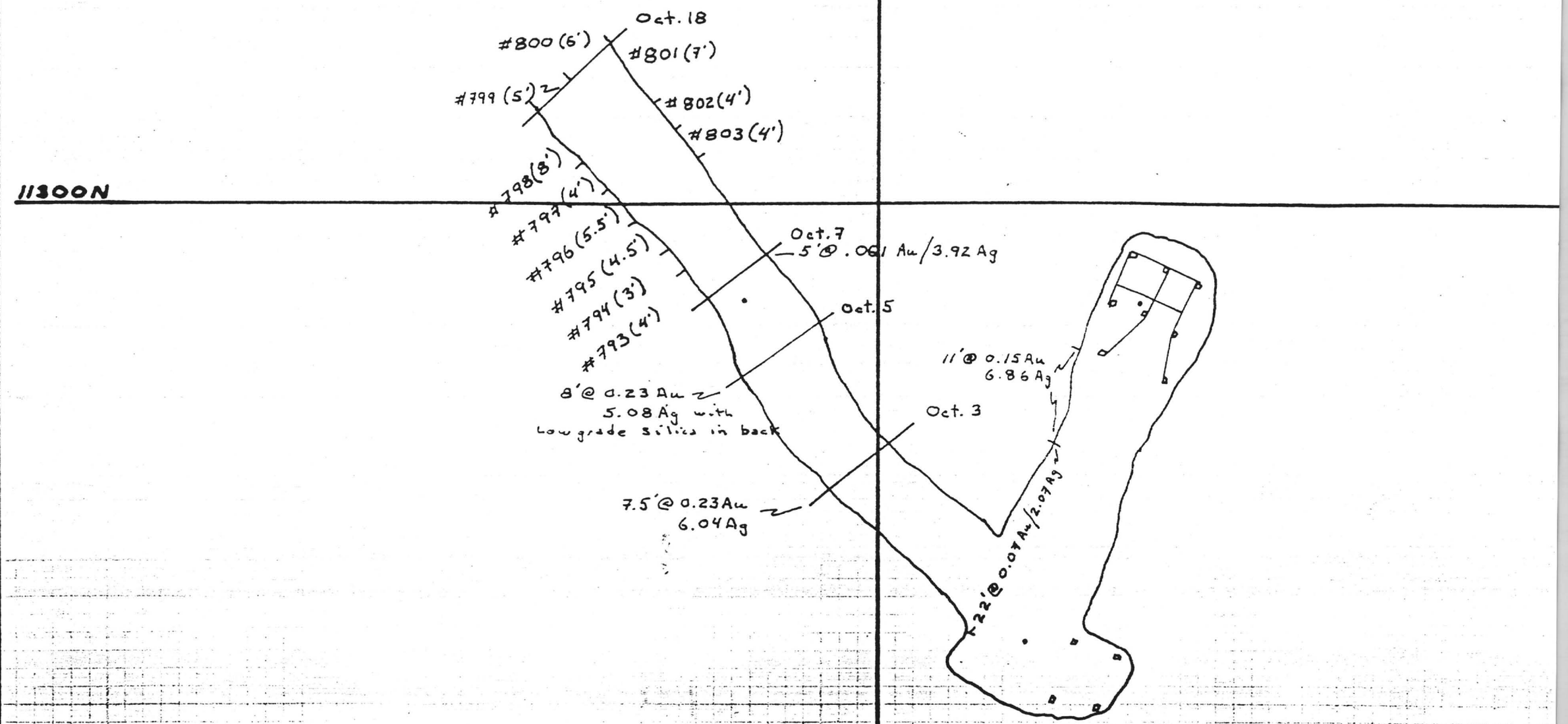
902 - Stope Block

1. Develope B level at top of ore zone with subdrift. Total footage of subdrift is estimated based on diamond drill information.


4.5' @ 0.057 Au/0.69 Ag
25' @ 0.15 Au/2.5 Ag
11400N
CH.
MW
#806
15'
#807 10.5'
#805
6.5'
#804
6.5'
10.5' @ 0.69 Au/1.57 Ag
902-3 Stope Plan
1" = 20'
10/18/88
JMcK
Enlarged 50%
10/18/88
907 STOPE
LOCATION



Cross Section Looking N35°W
thru 902-3 Stope & raise area
1" = 20'
Enlarged 50%



907 Stope Plan
1" = 20'
10/18/88
JMcK

(Enlarged 50%)

Number of cars sampled	Sample No.	Area Sampled	Date	Gold oz/t	Silver oz/t
10	501	902-3	8/02/88	0.171	3.32
4	502	902-3	8/02/88	0.237	4.10
4	503	902-3	8/05/88	0.215	4.19
4	504	902-3	8/05/88	0.154	4.28
5	505	902-3	8/05/88	0.161	2.20
4	506	902-3	8/17/88	0.306	7.78
24	507	902-3	8/17/88	0.134	5.00
9	508	902-3	8/18/88	0.327	11.21
5	509	902-3	8/24/88	0.078	2.12
7	510	902-3	8/26/88	0.110	2.31
17	511	902-3	8/26/88	0.081	2.55
10	512	902-3	8/29/88	0.048	2.42
8	514	902-3	8/31/88	0.063	1.24
16	515	902-3	8/31/88	0.031	1.38
18	516	902-3	9/01/88	0.034	0.99
18	517	902-3	9/07/88	0.052	1.11
16	518	902-3	9/07/88	0.063	0.98
15	519	902-3	9/08/88	0.067	1.00
16	520	902-3	9/08/88	0.414	8.56
22	521	902-3	9/14/88	0.428	9.98
28	522	902-3	9/15/88	0.118	8.08
14	525	902-3	9/19/88	0.241	8.76
16	526	902-3	9/19/88	0.220	8.66
18	529	902-3	9/19/88	0.222	7.70
8	535	902-3	9/27/88	0.292	8.38
15	537	902-3	9/28/88	0.064	1.21
9	540	902-3	9/29/88	0.374	15.28
16	545	902-3	10/04/88	2.532	43.57
14	546	902-3	10/05/88	0.578	14.8
26	548	902-3	10/06/88	1.071	12.06
15	551	902-3	10/07/88	0.392	9.69
16	553	902-3	10/10/88	0.204	6.16
8	554	902-3	10/11/88	0.238	7.44
8	557	902-3	10/13/88	0.334	7.49
8	558	902-3	10/14/88	0.114	2.05
8	561	902-3	10/17/88	0.138	2.14
Average 902-3 Area		No. of cars	459	0.325	7.32
28	524	907-1	9/19/88	0.071	2.49
30	527	907-1	9/19/88	0.050	1.43
30	528	907-1	9/19/88	0.035	1.48
36	530	907-1	9/23/88	0.040	0.87
20	531	907-1	9/23/88	0.041	1.12
16	533	907-1	9/27/88	0.064	1.14
30	536	907-1	9/28/88	0.060	1.13
16	541	907-1	9/29/88	0.082	1.70
18	542	907-1	9/29/88	0.072	1.79
24	544	907-1	10/04/88	0.070	2.31
16	547	907-1	10/05/88	0.210	5.79
16	549	907-1	10/06/88	0.168	5.43

38	552	907-1	10/10/88	0.150	4.40
4	555	907-1	10/11/88	0.148	4.71
32	556	907-1	10/13/88	0.100	4.24
14	559	907-1	10/14/88	0.112	4.18
18	560	907-1	10/17/88	0.101	2.83
Average 907-1 Area		No. of cars	386	0.085	2.56

UVX MINE

MINING OPERATION

Labour: Lead Miner at $14.00 per hour 5 others at $12.50 per hour Hours worked - 40 regular; 8 overtime	$3,978.00
Payroll Taxes and fringes (based on married group premium)	$1,136.00
	$5,114.00
Timber, etc.	$400.00
Explosives	$750.00
Drill Steel & Bits	$225.00
Repair & Maintenance	$150.00
Mucker	$625.00
Miscellaneous	$300.00
	$7,564.00

Production: 500 tons per week
$15.13 per ton

OTHER OPERATIONS

Hoistman - Rate $13.00 per hour Driver/Mechanic - Rate $11.50 per hour Skiptender - Rate $11.50 per hour 2 Trammermen - Rate $11.50 per hour Hours worked - 40 regular; 8 overtime	$3,068.00
Payroll Taxes and fringes (based on married group premium)	$914.00
	$3,982.00
APS - Electric	$2,500.00
Compressor	$650.00
Lubricants	$40.00
Propane (for Dry)	$40.00
Cable - Misc.	$50.00
Repair & Maintenance	$50.00
Misc. Supplies	$100.00
Production: 500 tons per week $14.82 per ton	$7,412.00

OVERHEAD

Manager - Salary	$1,154.00
Superintendent - Salary	$738.00
Geologist - Salary	$669.00
	$2,561.00
Payroll Taxes and fringes (based on married group premium)	$643.00
Expenses	$150.00
Vehicle expenses	$100.00
Assays & Analyses	$150.00
Telephone	$60.00
Repair & Maintenance	$25.00
Miscellaneous	$75.00
	$3,764.00

Production: 500 tons per week
$7.53 per ton

TOTAL COSTS $37.48 per ton

Notes:

1. Although we may have 10% dilution, all costs have to taken over the 500 tons produced. Dilution will only effect overall grade.

VULTURE MINE

TAILINGS PILE

Labour: Rate $18.50 per hour Hours worked - 70 (This will probably decrease as we go to full production mode).	$1,295.00
Paroll Taxes and fringes	$180.00
	$1,475.00
Equipment: Average 55 hours per week @ $80	$4,400.00
	$5,875.00
Production: 5,000 tons per week at $1.175 per ton	

AGGLOMERATOR

Labour: Rate $9.00 per hour Hours worked - 40 regular; 10 overtime	$495.00
Payroll Taxes and fringes (based on married group premium)	$169.00
	$664.00
Materials: Lime - current usage at 8.6 pounds per ton @ $0.04 per pound	$1,720.00
Cement - 10.5 pounds @ $0.04	$2,100.00
	$4,484.00
Production: 5,000 tons per week at $0.90 per ton	

HEAP/PONDS

Labour: Rate $9.00 per hour Hours worked - 40 regular; 10 overtime	$495.00
Payroll Taxes and fringes (based on single group premium)	$122.00
	$617.00
Materials: Cyanide - 0.6 pounds per ton @ $0.90 per pound	$2,700.00
Millsperse - $0.03 per ton	$150.00
	$3,467.00

Note: Materials are added to 5,000 tons per week

Production: 5,000 tons at $0.69 per ton

PLANT/FURNACE

Labour: Rate $11.00 and $9.00 per hour Hours worked - 40 regular; 10 overtime	$1,100.00
Payroll Taxes and fringes (based on single group premium)	$260.00
	$1,360.00
Materials:	
Zinc Dust $1.12 per pound (used 600 pounds for 80 ounces)	$945.00
Lead Nitrate $1.90 per pound (used 44 pounds for 80 ounces)	$118.00
Fluxes $1.50 per pound (used 150 pounds for 80 ounces)	$300.00
Precipitate Treatment	$150.00
Propane	$200.00
Filer Cloth & Paper	$200.00
	$3,273.00

Production: 3,750 tons producing 0.03 oz/t
= 112.5 ounces $29.09 per ounce

OTHER COSTS

Generators: (1) New Lease @ $2,000/month For conveyors, agglomerator, plant	$500.00
(2) Well generator, New lease	$175.00
	$675.00
Fuel: (1) 600 gallons per week @ $0.78	$468.00
(2) 250 gallons per week @ $0.78	$195.00
	$1,338.00
Repairs - Conveyors	$150.00
- Other	$350.00
	$500.00
Overheads: Manager - Salary	$1,058.00
Payroll taxes and fringes	$245.00

	$1,303.00
Expenses	$65.00
Vehicle expenses	$60.00
Consultant	$750.00
Assays & analyses	$150.00
Refining charges	$250.00
Telephone	$100.00
Toilet	$15.00
Miscellaneous	$25.00
	$2,718.00

VULTURE MINE

ESTIMATED MINING COST OF PROJECT

			Week	Cummulative
Running Cost incurred to date				$216,650
Less Stock of Material				$10,800
				$205,850
Cost to Completion: -				
Tailings Pile -	Gross Tonnage	225,000		
	Completed	35,000		
	Remaining	190,000	$5,875	$223,250
Agglomerator -			$4,484	$170,392
Heap/Pond -	Gross Tonnage	225,000		
	Completed	35,000		
	Remaining	190,000	$3,467	$131,746
Plant/Furance -	Gross Production	6,750		
	Completed	80		
	Remaining	6,670	$3,273	$194,030
Generators		65 weeks	$1,338	$86,970
Repairs -	Conveyors, etc.	38 weeks	$150	$5,700
	Other	65 weeks	$350	$22,750
Overheads		65 weeks	$2,718	$176,670
Royalty			$1,154	$75,010
Reclamation				$20,000

TOTAL COST	$22,809	$1,106,518
Production - Gold 225,000 tons @ 0.03 6,750 oz. @ $412	$46,350	$2,781,000
- Silver 225,000 tons @ 0.12 27,000 oz. @ $6.35	$2,858	$171,450
	$49,208	$2,952,450
CONTRIBUTION	$26,399	$1,845,932

Notes:

1. Cyanide and Chemicals are added to leach pile not at the leaching rate of 3,750 per week, but at 5,000 per week.
2. Costs reflect $1.00 increase in wages and subsequent changes in taxes, etc.
3. Have assumed all employees are covered under payroll and group medical.
4. Have added additional costs to plant; and added $250 per week for refining charges.

United Verde Extension

Mining Costs based on August and September Expenditures

Costs per week

Surface: Overheads

Manager - Salary	$1,154
Payroll taxes & Fringes	$254
Superintendent - Salary	$738
Payroll taxes & Fringes	$200
Geologist - Salary	$669
Payroll taxes & Fringes	$190
Expenses	$150
Vehicle Expenses	$100
Assays and Analyses	$150
Telephone	$60
Repairs & Maintenance	$25
Miscellaneous	$75
	$3,765
Cost per ton (250 tpw)	$15

Surface: Hoisting

Hoistman - Wages	$676
Payroll taxes & fringes	$191
Driver/Mechanic - Wages	$650
Payroll taxes & fringes	$188
Skiptender - Wages	$598
Payroll taxes & fringes	$181
Other - Wages	$598
Payroll taxes & fringes	$181
APS -Electric	$1,750
Compressor	$650
Propane (Dry)	$40
Lubricants	$40
Cable, misc.	$50
Repair & Maintenance	$50
Misc. supplies	$100
	$5,943
Cost per ton (250 tpw)	$24

Underground: 950 level

Lead Miner - Wages	$728
Payroll taxes & fringes	$198
Miner -Wages	$650
Payroll taxes & fringes	$188
Miner -Wages	$650
Payroll taxes & fringes	$188
Miner -Wages	$650
Payroll taxes & fringes	$188
Timber, etc.	$275
Explosives	$500
Drill steel & bits	$150
Mucker	$625
Repair & Maintenance	$100
Miscellaneous	$200
	$5,290
Cost per ton (250 tpw)	$21

Underground: 800 level

Miner -Wages	$650
Payroll taxes & fringes	$188
Miner -Wages	$650
Payroll taxes & fringes	$188
Timber, etc.	$125
Explosives	$250
Drill steel & bits	$75
Repair & Maintenance	$50
Miscellaneous	$100
	$2,276
Cost per ton (250 tpw)	$9

Total costs based on production of 250 tons per week $69

Production from area:

902-3 (August and September)	340 cars	510 tons
907-1 (August and September)	224 cars	336 tons
809-1 (August & September)	48 cars	72 tons

918 tons of ore hoisted and sampled
1082 tons of waste, assuming total production of 2,000 tons

UVX MINE - JEROME DEVELOPMENT FORECAST

BY - Ron Short
CE 77 [illegible]

HEADING	SEPTEMBER				OCTOBER			
	6 9	12 16	19 23	26 30	3 7	10 14	17 21	24 28
809-1								
CHUTE RSE	12' 20 T.W.							
SUBLEVEL DRIFT		30 FT 80 T.W.	30 FT 80 T.O.				50 FT 125 T.O.	50 FT 125 T.O.
MANWAY RSE.				30 FT 50 T.W.	15 FT. 25 T.W.	PREP MW & CHUTE		
902-3 STOPE								
SUBLEVEL DRIFT	40' 100 TO	50 FT 125 T.O.	50 FT 125 T.O.	50 FT 125 TO	50 FT 125 TO.	50 FT 125 TO	50 FT 125 T.O.	50 FT 125 T.O.
907-1 STOPE								
TIMBER	SERVICES & TIMBER							
SUBLEVEL DRIFT		40 FT 100 TO.	50 FT 125 T.O.	50 FT 125 T.O.	50 FT 125 T.O.	50 FT 125 T.O.	50 FT 125 TO.	50 FT 125 T.O.
TOTALS								
TONS ORE	100	225	330	250	250	250	375	375
TONS WASTE	20	80	—	50	25	—	—	—
ADVANCES								
RAISES	12 FT	⊖	⊖	30 FT	15 FT	⊖	⊖	⊖
SUBLEVEL DRIFTS	40' FT	120 FT	130 FT	100 FT	100 FT	100 FT	150 FT	150 FT

Morgan Area Reserves: 53,000 tons - (510 + 336)tons = 52,154 tons

809 Area Reserves: 12,000 tons - 72 tons = 11,928 tons

FORECAST - UVX MINE
TONNAGE BY HEADING

NOV. 14 - JAN. 6

RD

HEADING	NOV. (5) 14-18	(4) 20-23	(5) 28-2	DEC. (5) 5-9	(5) 12-16	(5) 19-23	(4) 27-30	JAN (4) 3-6
902 - SUBDRIFT - NORTH	130 T	100 T	130 T	86 T				
907 - SUBDRIFT - SOUTH	45 T	45 T	60 T	60 T	60 T	12 T		
902 - RAISE #1	24 T							
907 - RAISE #1		24 T						
902 - RAISE #2					25 T	25 T		
902 - MANWAY RSE.			30 T.	30 T.				
902 - SUBDRIFT B				86 T		86 T	100 T	100 T
907 - BACKSTOPE						150 T	120 T	120 T
809 - SUBDRIFT - NORTH	60 T	60 T	75 T	75 T	30 T			
809 - RAISE TO 7 LVL.	15 T	30 T	23 T					
700 - LVL CONNECTION				24 T				
809 - MW TO 7 LVL.						WASTE 40 T	WASTE 32 T	WASTE 32 T
TOTAL ORE	274	259	318	361	115	273	220	220
TOTAL WASTE	—	—	—	—	—	40	32	32

TO: TONY BUDGE
FROM: RON SHORT
DATE: NOVEMBER 22, 1988
RE: UVX DEVELOPMENT RESULTS NOV. 14-18.

902 NORTH SUBDRIFT
BUDGETED 30 FT - ACTUAL 24 FT
DIFFERENCE DUE TO ADDITIONAL WORK ON CONVECTION BETWEEN 902 & 907

902 - RAISE #1
SCHEDULED 24 FT - ACTUAL 12 FT.
RAISE WAS STOPPED, RAN OUT OF SILICA GRIT.

809 - NORTH SUBDRIFT
SCHEDULED 20 FT - ACTUAL 20 FT

809 - RAISE TO 7 LEVEL
SCHEDULED 12 FT - ACTUAL 12 FT

TONNAGE
ORE HOISTED 376 TONS
FORECASTED 274 TONS
VARIANCE DUE TO TONS CLEANED OUT OF 907 STOPE.

FORECAST – UVX MINE NOV. 14 – JAN. 6 RD

FOOTAGE ADVANCE BY HEADING

HEADING	NOV. 14-18	20-23	28-2	DEC. 5-9	12-16	19-23	27-30	JAN 3-6
902-SUBDRIFT NORTH	30 FT	24 FT.	30 FT.	20 FT				
907-SUBDRIFT SOUTH		20 FT	25 FT	25 FT.	25 FT	5 FT		
902-RAISE #1	24 FT							
902-RAISE #2					25 FT	25 FT		
907-RAISE #1		24 FT						
902-RAISE MANWAY			20 FT	20 FT				
902-SUBLEVEL B				20 FT		20 FT	24 FT	24 FT
RECEIVE 310 MUCKER					MOVE MUCKER INTO 902-B			
907-BACKSTOPE						→ TIMING & METHOD DEPENDENT ON RAISE RESULT		
809-NORTH SUBDRIFT	20 FT	20 FT	25 FT	25 FT	10 FT			
809 RAISE TO 7 LEVEL	12 FT	24 FT	18 FT					
700 LEVEL CONNECTION				12 FT				
809 LONGHOLES		48 FT	48 FT	48 FT	48 FT			
809 MANWAY TO 7 LVL.						20 FT	16 FT	16 FT

To: Tony Budge

From: Ron Short

Date: December 13, 1988

Re: UVX Mine, Development Results, December 5 - 9.

Mine production for the week totalled 490 tons compared to a forecast of 361 tons. The additional tons came from the work on the 902 B sub-level and the headings are larger than originally planned.

902 Sub-drift North - This heading was advanced 10 feet compared to a forecast of 20 feet. This heading was slowed down due to work on the 902 B sub-level and 902 manway raise to the B level. The mucker was tied up moving this muck.

907 Sub-drift North - This heading was advanced 6 feet and shut down because of poor ground conditions in the pillar. Plans are under way to start mining 2 select higher grade zones within the 907 stope block.

902 Manway Raise - This raise was completed during the previous week. The raise was equipped with ladders and a slide.

902 B Sub-level - This heading was advanced 26 feet compared to a forecast of 20 feet. Timber support will be needed in the immediate area of the chute raise.

809 Sub-drift North - This heading was advanced 20 feet compared to a forecast of 25 feet. The rock is extremely hard in this area.

700 Level - The connection was advanced 6 feet and completed.

809 Longholes - 86 feet of longhole drilling was completed to test for gold mineralization beyond the limits of the sub-drift.

To date, our development efforts have resulted in the following:

A. The 907 area in total is low grade (0.10 oz/ton gold), but there are two smaller areas within this block which may be mined. The most southerly block contains 1500 tons with an average grade, based on channel samples, of 0.22 oz/ton gold and 7.52 oz/ton silver. The more centrally located block contains 4000 tons of 0.122 oz/ton gold and 6.9 oz/ton silver.

B. The 902 area is the higher grade of all areas under development. A weighted average of channel samples taken to date from the immediate area of the A sub-level and the 2 raises

indicate an average of 0.471 oz/ton gold and 10.19 oz/ton silver. A mineable block on the A sub-level in this area contains 10,000 tons. Additional drill-indicated reserves are located above the A sub-level drift and the 903 intermediate level. Continuing development on the B sub-level will help to better define total tons and grade of this block.

C. The 809 area samples have indicated only marginal grades. The only encouraging results have been in the raise from the sub-level drift to the 700 level. This raise intersected a zone of 16.5 vertical feet which averaged 0.43 oz/ton gold and 0.79 oz/ton silver. This corresponds to the results from DDH 809-2 which was found by the raise and averaged 0.33 oz/ton gold and 1.4 oz/ton silver over a interval of 27 feet. The total extent of this higher grade zone needs to be determined. This will be done by drifting within the zone and longhole drilling.

To: Tony Budge

From: Ron Short

Date: 9-23-88

Re: UVX Mine - To Date Results & Immediate Plans

To date, 430 cars of muck have been hauled from the stopes at the UVX Mine. These cars have been sampled and samples sent for assay. So far, we have received results from only 173 of the 430 cars hoisted, dating from 8/02 to 9/07. The average grade for these 173 cars is 0.11 oz/t gold and 3.01 oz/t silver. These cars would have been shipped from the 902-3 stoping area. Based on the ore reserve estimates from diamond drill results, the grade of this ore was estimated to average 0.22 oz/t gold and 1.8 oz/t silver.

The remaining 257 cars of stope muck dating from 9/08 to 9/23 came from all three stoping areas, e.g. 902-3, 907-1 and 807-1. The majority of the cars are from the 950 level stopes.

The plan for the next four weeks is to continue the sub-level drifts in the stoping areas, exposing as much of the mineralized zone as possible. In addition to this, we will run a raise from the sub-level drift in the 902-3 stoping area, up 25 feet to an area which has a drill indicated grade of 0.57 oz/t gold and 20.3 oz/t silver. The results of the next four weeks or work along with the assay results from the 257 cars outstanding, should indicate if we want to continue with the development work, or to stop and reassess our position at the UVX Mine.

Summary Sheet to Accompany
Memo dated 8-16-88 by R.R.S.

Stoping Area	Reserve Tons	Grade oz/ton gold	Grade oz/ton silver	Smelter Revenue for gold based on formula	Smelter Revenue for silver based on formula	Penalty for Iron	Total In-place Value	Mining Cost @ $62/ton	Shipping Cost @ $17/ton	Estimated Development Cost	Total Costs	Estimated Return
800 Level												
809 Area	12000	0.41	1.6	$1,754,460	$73,359		$1,827,819	$744,000	$204,000	$96,600	$1,044,600	$783,219
950 Level												
Morgan Area	53000	0.22	9.1	$3,874,433	$2,533,109	($15,900)	$6,391,641	$3,286,000	$901,000	$28,000	$4,215,000	$2,176,641
905-S Area	2800	0.16	8.0	$140,049	$116,708		$256,757	$173,600	$47,600	$15,000	$236,200	$20,557
HW Gold Stope	2400	0.25	2.0	$203,148	$20,007		$223,155	$148,800	$40,800	$15,000	$204,600	$18,555
Totals	70200	0.25	7.5	$5,972,090	$2,743,182	($15,900)	$8,699,372	$4,352,400	$1,193,400	$154,600	$5,700,400	$2,998,972

Estimated Capital Cost to Bring Mine into Production ($100,000)
Payment to Verde Exploration ($450,000)

Estimated Net Returns from Production $2,448,972

This does not reflect any taxes or other costs not shown or estimated

Mining from the 1100 Level
is uneconomic based on current
assumptions.

1100 Level											
911 Area	8000	0.23	4.9	$615,600	$195,624	$811,224	$496,000	$136,000	$186,880	$818,880	($7,656)
905-S Area	4200	0.16	8.0	$210,074	$175,061	$385,135	$260,400	$71,400	$98,112	$429,912	($44,777)
HW Gold Stope	3600	0.25	2.0	$304,722	$30,011	$334,733	$223,200	$61,200	$72,275	$356,675	($21,943)

	12003	Hidalgo	377.52	0.324	1.50	$42,035.42
	12004	Hidalgo	564.96	0.307	1.50	$60,663.01
	12005	Hidalgo	512.45	0.224	1.62	$41,139.42
	12006	Hidalgo	217.29	0.165	1.40	$12,958.65
December	13001	Hidalgo	324.24	0.165	1.40	$18,674.56
	13002	Hidalgo	532.61	0.153	2.57	$32,382.82
	13003	Hidalgo	532.42	0.173	2.86	$37,869.68
	13004	Hidalgo	529.83	0.253	1.66	$50,264.09

Settlement sheets attached:

Date	Lot #	To	Dry tons	Grade gold oz/t	Grade silver oz/t	Amount
June	7001	Hidalgo	525.37	0.681	15.84	$148,182.23
	7002	Hidalgo	499.75	0.700	14.78	$143,950.84
	7005	Hidalgo	438.76	0.530	8.91	$60,919.53
July	8001	Hidalgo	157.61	0.530	8.91	$33,569.96
	8002	Hidalgo	475.90	0.490	10.33	$97,711.78
	8003	Hidalgo	471.13	0.406	4.73	$72,414.76
	8004	Hidalgo	473.38	0.304	4.61	$55,682.99
	8005	Hidalgo	582.49	0.309	3.48	$66,066.85
	8006	Hidalgo	795.09	0.494	7.91	$155,501.98
August	8007 & 9001	Hidalgo	419.51	0.792	4.19	$114,553.29
	9002	Hidalgo	526.04	0.800	2.83	$146,346.51
	9003	Hidalgo	428.26	0.539	3.35	$80,050.37
	9004	Hidalgo	509.66	0.515	5.40	$97,385.79
	9005	Hidalgo	426.06	0.475	5.86	$74,933.98
September	9006 & 10001	Hidalgo	533.47	0.210	2.11	$38,938.07
	10002	Hidalgo	218.21	0.189	2.17	$13,622.14
	10003	Hidalgo	537.33	0.214	2.31	$44,664.90
October	10004 & 11001	Hidalgo	508.33	0.294	2.24	$53,791.20
	11002	Hidalgo	537.52	0.331	1.91	$59,343.07
	11003	Hidalgo	590.96	0.487	1.61	$92,499.11
	11004	Hidalgo	403.02	0.369	1.53	$48,744.88
	11005	Hidalgo	533.87	0.332	1.90	$59,688.53
November	11006 & 12001	Hidalgo	539.51	0.211	1.60	$37,246.80
	12002	Hidalgo	643.50	0.361	2.20	$80,417.86

BUDGE

A.F. Budge (Mining) Limited

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

July 10, 1989

Mr. John Menke
44 Ogden Road
Scarsdale, NY 10583

Dear Mr. Menke:

According to Section 4(d) of the original Lease Agreement dated April 1, 1985, an estimate of Net Proceeds Interest is due and payable on July 1.

Pre-production Expenditures April 1, 1985 to October 31, 1988	$3,554,616.73

Copies of the Settlement Sheets from Phelps Dodge for shipments during February, March, April and May are enclosed. As I have only completed the compilation of May expenditures/receipts, I can only do projections for 1989 beginning in June.

On November 1, 1988 "Commercial Production" began at the UVX (Defined at 70% of design capacity of 500 tons per week)
Note: Actual mining began September 1, 1988, but at less than 70%.

November: Operatings Costs	$77,765.61
November: Gross receipts from production	$0.00
November: Operating Loss	($77,765.61)
December: Operatings Costs	$97,646.31
December: Gross receipts from production	$0.00
December: Operating Loss	($97,646.31)
Operating Loss Carryover (1988)	($175,411.92)
January: Operatings Costs	$100,085.72
January: Gross receipts from production	$0.00
January: Operating Loss	($100,085.72)
Cummulative Operating Loss	($275,497.64)

February: Operatings Costs	$87,821.74
February: Gross receipts from production	$50,749.57
February: Operating Loss	($37,072.17)
Cummulative Operating Loss	($312,569.80)
March: Operatings Costs	$122,204.18
March: Gross receipts from production	$173,978.45
March: Operating Profit/(Loss)	$51,774.27
Cummulative Operating Loss	($260,795.53)
April: Operatings Costs	$152,470.76
April: Gross receipts from production	$140,381.15
April: Operating Profit/(Loss)	($12,089.61)
Cummulative Operating Loss	($272,885.14)
May: Operatings Costs	$155,673.22
May: Gross receipts from production	$258,962.10
May: Operating Profit/(Loss)	$103,288.89
Cummulative Operating Loss	($169,596.25)

Projections:

Average monthly operating costs $93,000
Shipping 2,400 (wet) tons per month @ $30 per ton = $72,000

Estimated operating costs of $165,000

Revenues based on historic average of 0.337 opt gold and 6.60 opt silver are approximately $279,000, using $380 gold and $5.30 silver.

Estimated monthly cash flow, $114,000

Cummulative Operating Loss (May 31, 1989)		($169,596.25)
June estimated cash flow/profit		$114,000.00
Operating Loss carryover		($55,596.25)
July estimated cash flow/profit		$114,000.00
Operating Profit/(Loss) carryover		$58,403.75
15% to Verde	$8,760.56	
August estimated cash flow/profit		$114,000.00
Operating Profit/(Loss) carryover		
15% to Verde	$17,100.00	
September estimated cash flow/profit		$114,000.00
15% to Verde	$17,100.00	
October estimated cash flow/profit		$114,000.00
15% to Verde	$17,100.00	
November estimated cash flow/profit		$114,000.00
15% to Verde	$17,100.00	
December estimated cash flow/profit		$114,000.00
15% to Verde	$17,100.00	
Total Estimated Net Proceeds Interest	$94,260.56	
Credits for option payments	$80,000.00	
taxes, etc.	$10,748.42	
Estimate of Net Proceeds Interest for 1989	$3,512.14	

Our check in the amount of $3,512.14 is enclosed.

Sincerely,

Carole A. O'Brien

Carole A. O'Brien
Mining & Financial Coordinator

w/ attachments

Month	Area mined	Tons hoisted	Grade opt gold	opt silver	Approximate Value of Production
September	809	776	0.139	1.19	not shipped
October	809/907	749	0.134	3.38	not shipped
November	907/902	1,354	0.129	5.41	$56,000.00
December	902	1,250	0.336	7.99	$209,000.00
January	902	1,296	0.336	7.99	$209,000.00
February	902	1,974	0.336	7.99	$213,000.00
March	902	1,184	0.336	7.99	$205,000.00
April	902	2,158	0.229	2.64	$170,000.00
May	902	2,822	0.411	10.81	$417,000.00
June	902	2,578	0.512	16.39	$553,000.00
July	902 900	216 1,071	0.372 0.603	5.28 1.34	$29,800.00 $312,000.00
August	900	1,932	0.408	1.11	$195,000.00
September	900	1,961	0.284	1.51	$153,000.00
October	900	2,966	0.302	1.21	$287,000.00
November	900	278	0.228	1.15	$16,000.00
December	900	944	0.211	0.93	$85,000.00
		23,984 wet tons	0.355	6.14	$3,109,800.00
Actual smelter receipts		21,469 dry tons	0.384	5.32	$3,129,173.89

BUDGE

A.F. Budge (Mining) Limited

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

May 15, 1990

Mark Keller
Department of Revenue
Property Evaluation Division
1600 West Munroe, 8th Floor
Phoenix, AZ 85007

Dear Mark:

Enclosed for your information are:

1. map of claims in the Jerome area
2. listing of claims with acreage

Please do not hesitate to call me if you need any additional information.

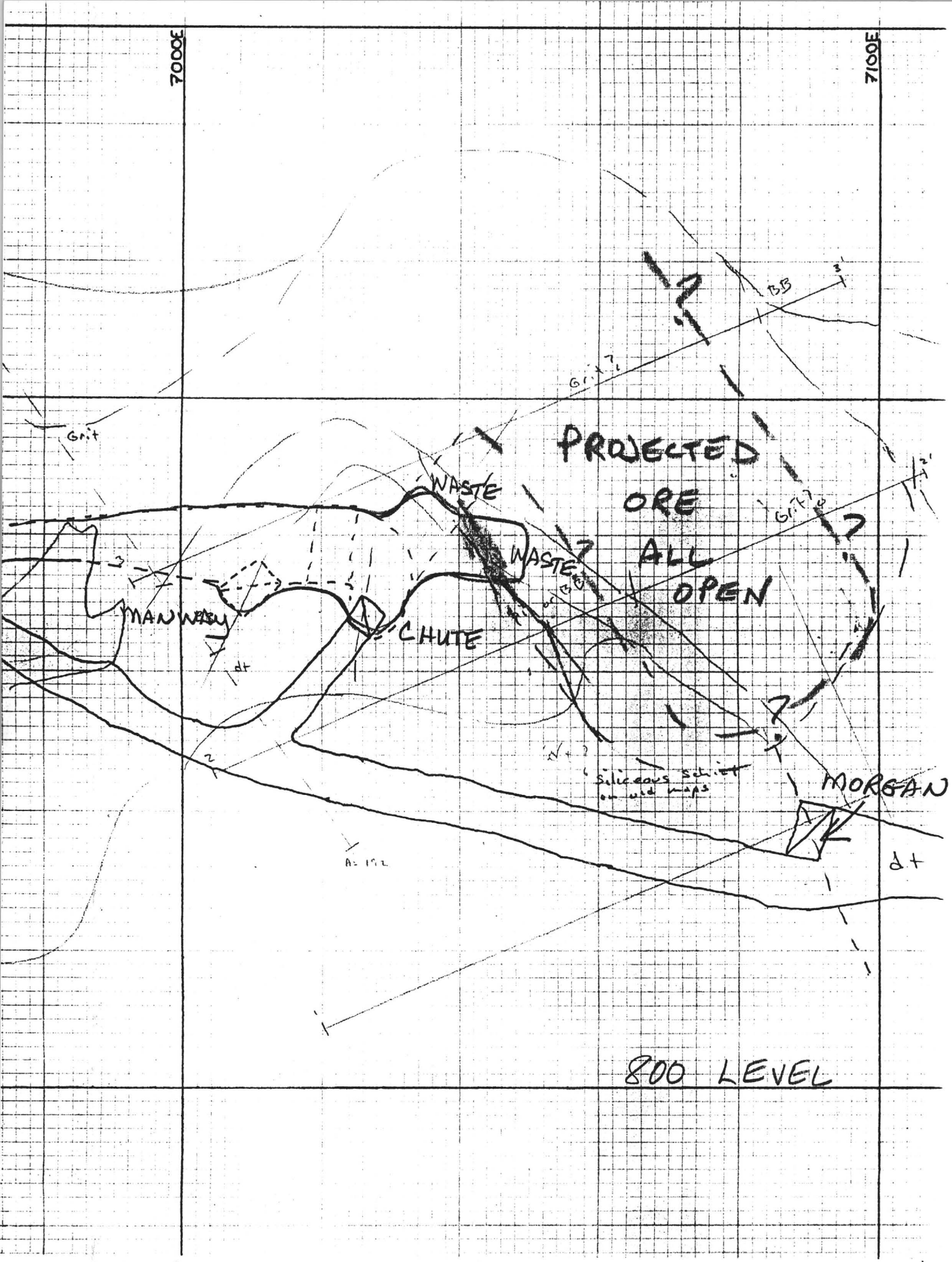
Sincerely,

Carole A. O'Brien

Carole A. O'Brien
Mining & Financial Coordinator

encl.

DIRECTORS: A.F. Budge, O.B.E., C.Eng., F.I.C.E., F.I.H.T.; Mrs J. Budge; 7602 Clearwater Parkway, Paradise Valley, AZ 85253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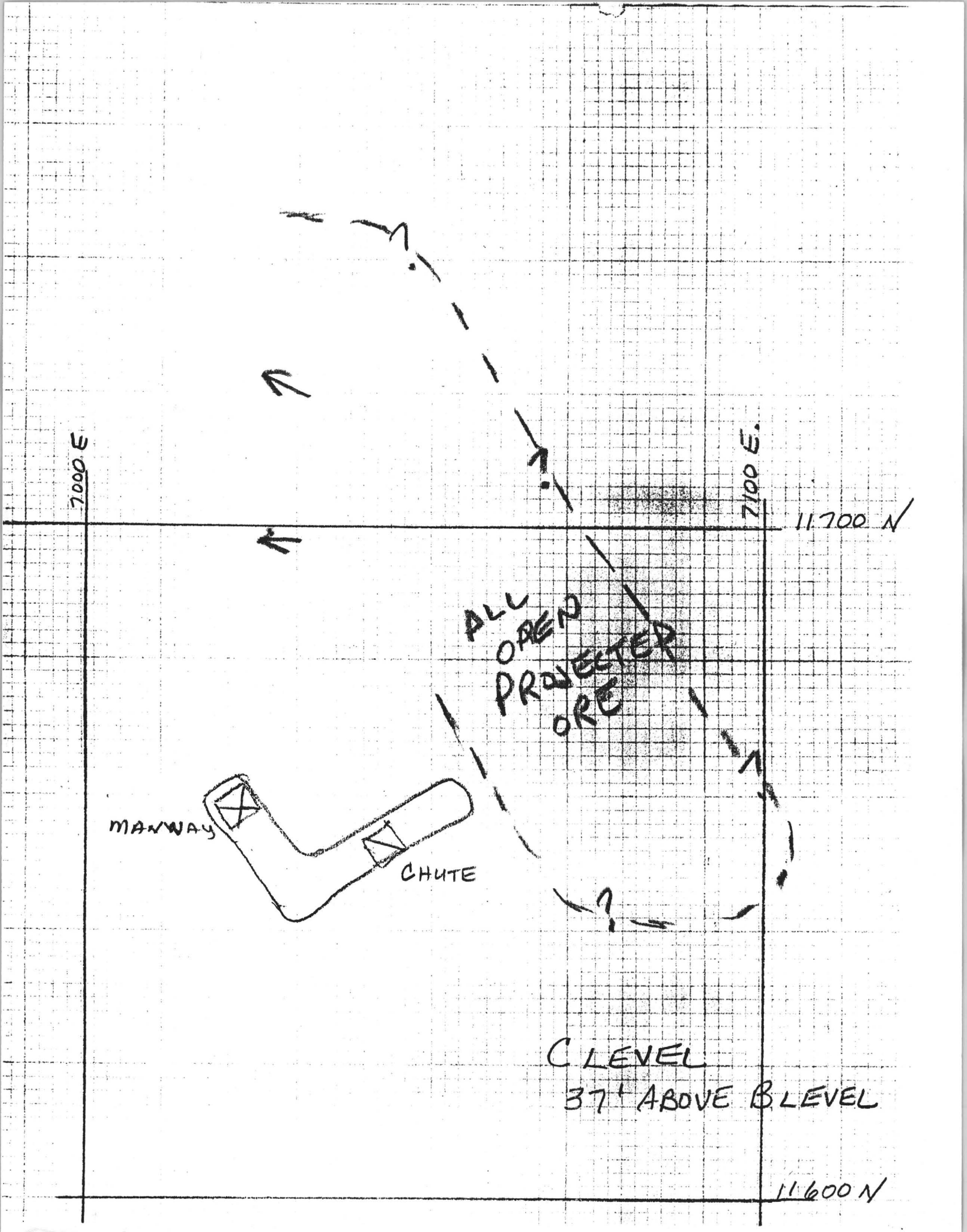
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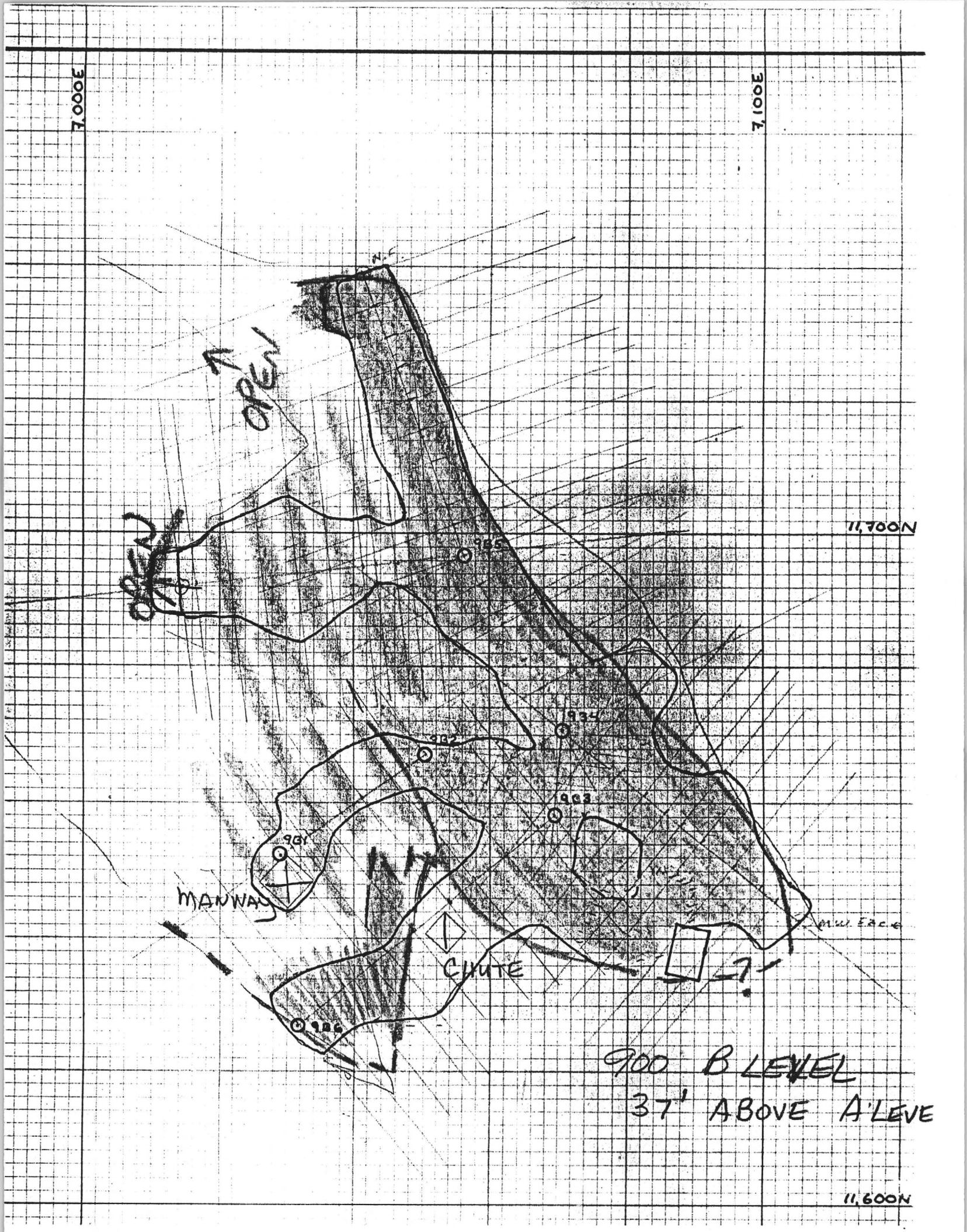
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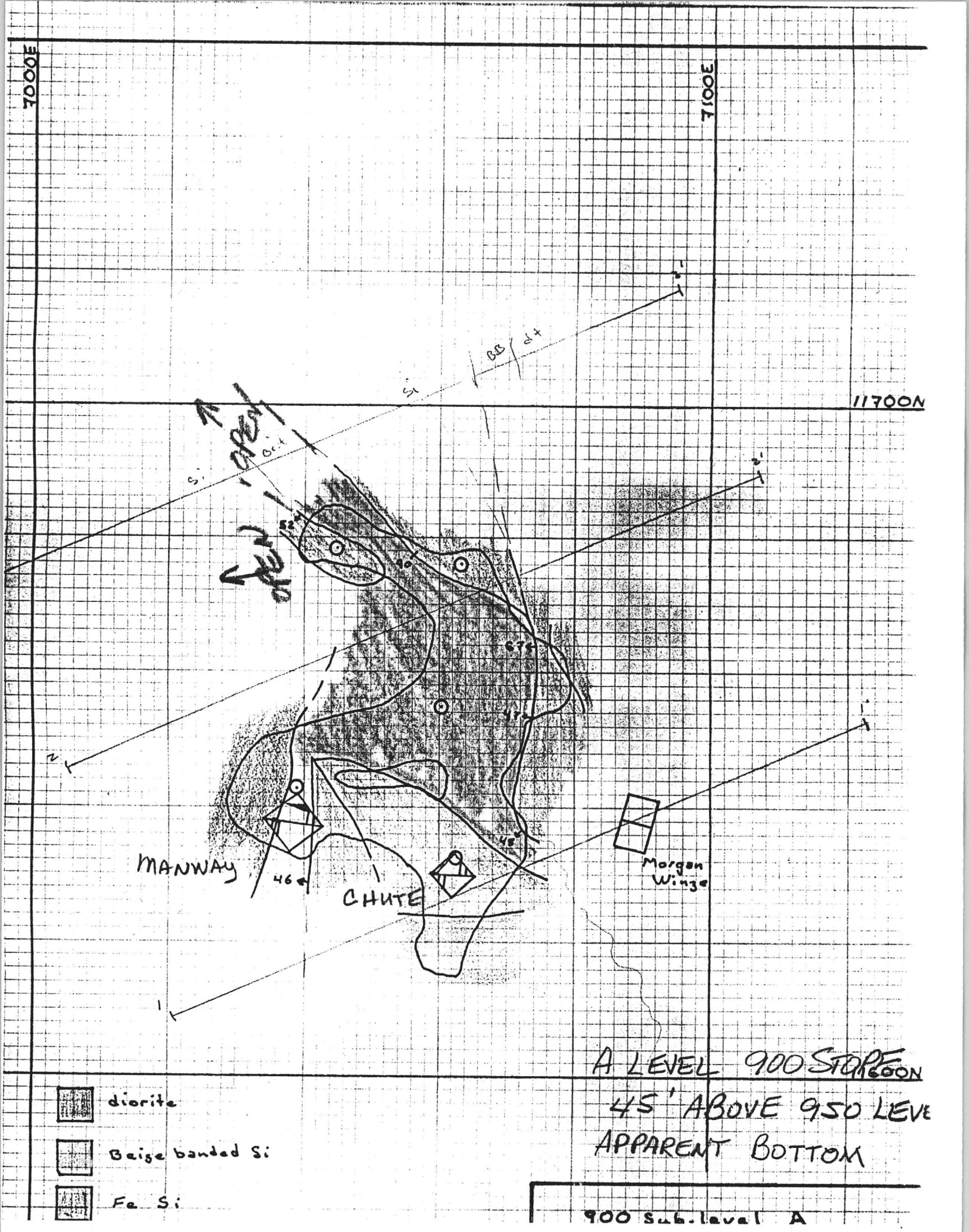
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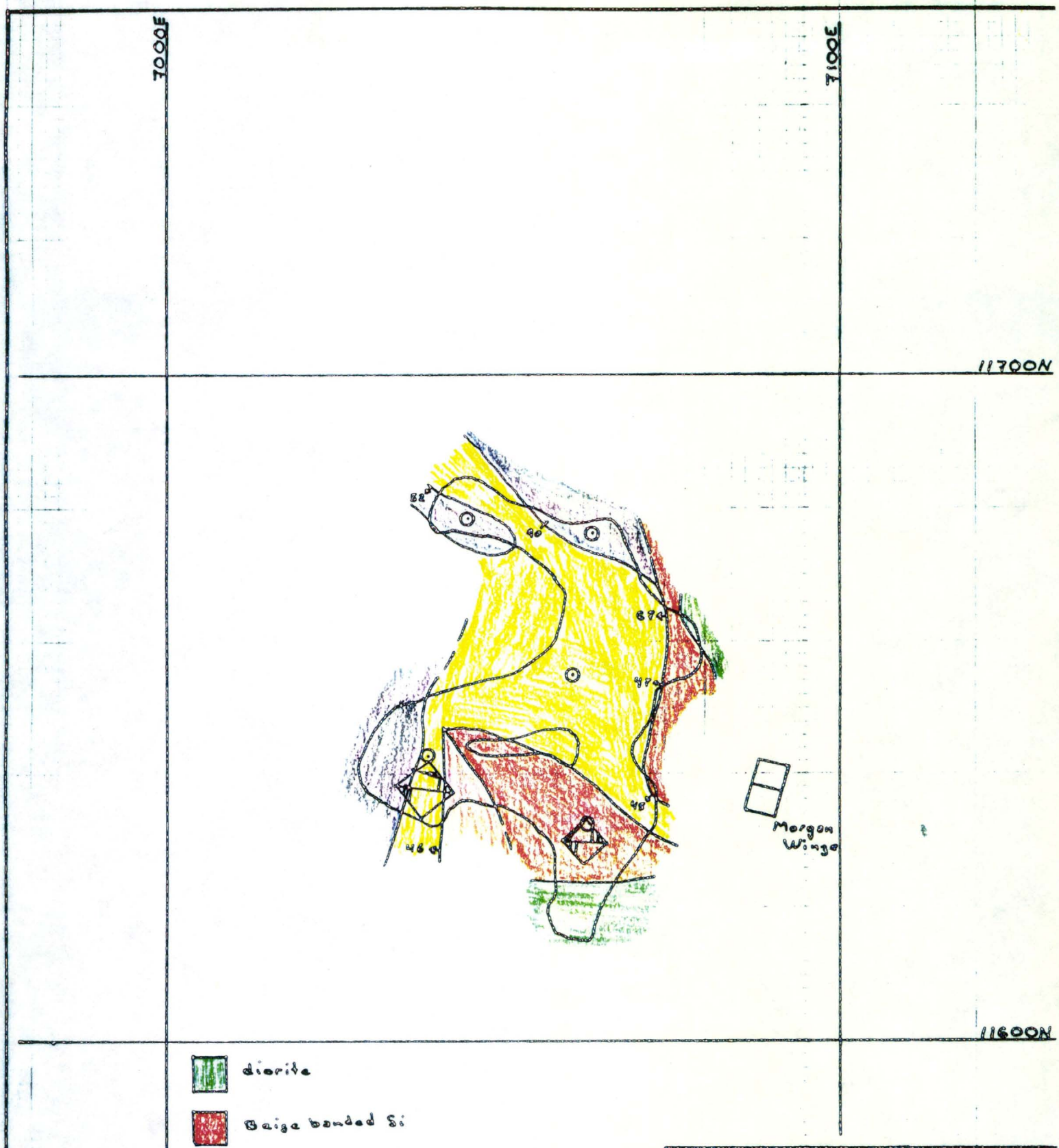
Fe Si
900 sub-level A

Date	Lot #	Destination	Number of Loads	Dry tons	Grade opt gold	Grade opt silver	Ounces gold	Ounces silver	Amount
February	3001	Playas - Hidalgo	11	284.23	0.417	7.81	118.52	2,220.69	$50,749.57
March	4001	Playas - Hidalgo	20	512.40	0.378	6.49	193.69	3,325.48	$81,171.96
	4002	Playas - Hidalgo	20	521.94	0.390	9.18	203.56	4,791.41	$92,806.49
April	5001	Playas - Hidalgo	24	623.46	0.124	1.71	77.31	1,066.12	$25,424.12
	5002	Playas - Hidalgo	10	413.65	0.187	3.47	77.35	1,435.37	$30,526.47
April	test	Hurley - Chino	20	507.56	0.383	7.95	171.37	3,454.62	$84,430.56
May	6001	Playas - Hidalgo	18	471.81	0.330	4.85	155.70	2,288.28	$60,840.85
	6002	Playas - Hidalgo	21	544.99	0.494	12.44	269.22	6,779.67	$119,015.24
	6003	Playas - Hidalgo	20	523.87	0.372	7.62	194.89	3,991.89	$79,134.61
	6004	Playas - Hidalgo	21	538.34	0.487	11.97	262.18	6,443.93	$108,889.47
June	7001	Playas - Hidalgo	20	525.37	0.681	15.84	357.78	8,319.23	$148,182.23
	7002	Playas - Hidalgo	19	499.75	0.700	14.78	349.83	7,383.81	$143,950.84
	7003	Playas - Hidalgo	21	541.25	0.444	9.99	240.32	5,407.09	$97,464.10
	7004	Playas - Hidalgo	23	592.48	0.505	13.10	299.20	7,761.49	$128,367.03
	7005	Playas - Hidalgo	17	438.76	0.530	8.91	232.54	3,909.35	$60,919.53
July	8001	Playas - Hidalgo	6	157.61	0.530	8.91	83.53	1,404.31	$33,569.96
	8002	Playas - Hidalgo	18	475.90	0.490	10.33	233.19	4,916.05	$97,711.78
	8003	Playas - Hidalgo	18	471.13	0.406	4.73	191.28	2,228.45	$72,414.76
	8004	Playas - Hidalgo	18	473.38	0.304	4.61	143.91	2,182.28	$55,682.99
	8005	Playas - Hidalgo	22	582.49	0.309	3.48	179.99	2,027.06	$66,066.85
	8006	Playas - Hidalgo	30	795.09	0.494	7.91	392.77	6,289.16	$155,501.98
	8007/9001	Playas - Hidalgo	16	419.51	0.792	4.19	332.25	1,757.75	$114,541.71
		Totals		10,915.0			4,760.4	89,383.5	$1,907,363.10
		Averages		0.436 8.19					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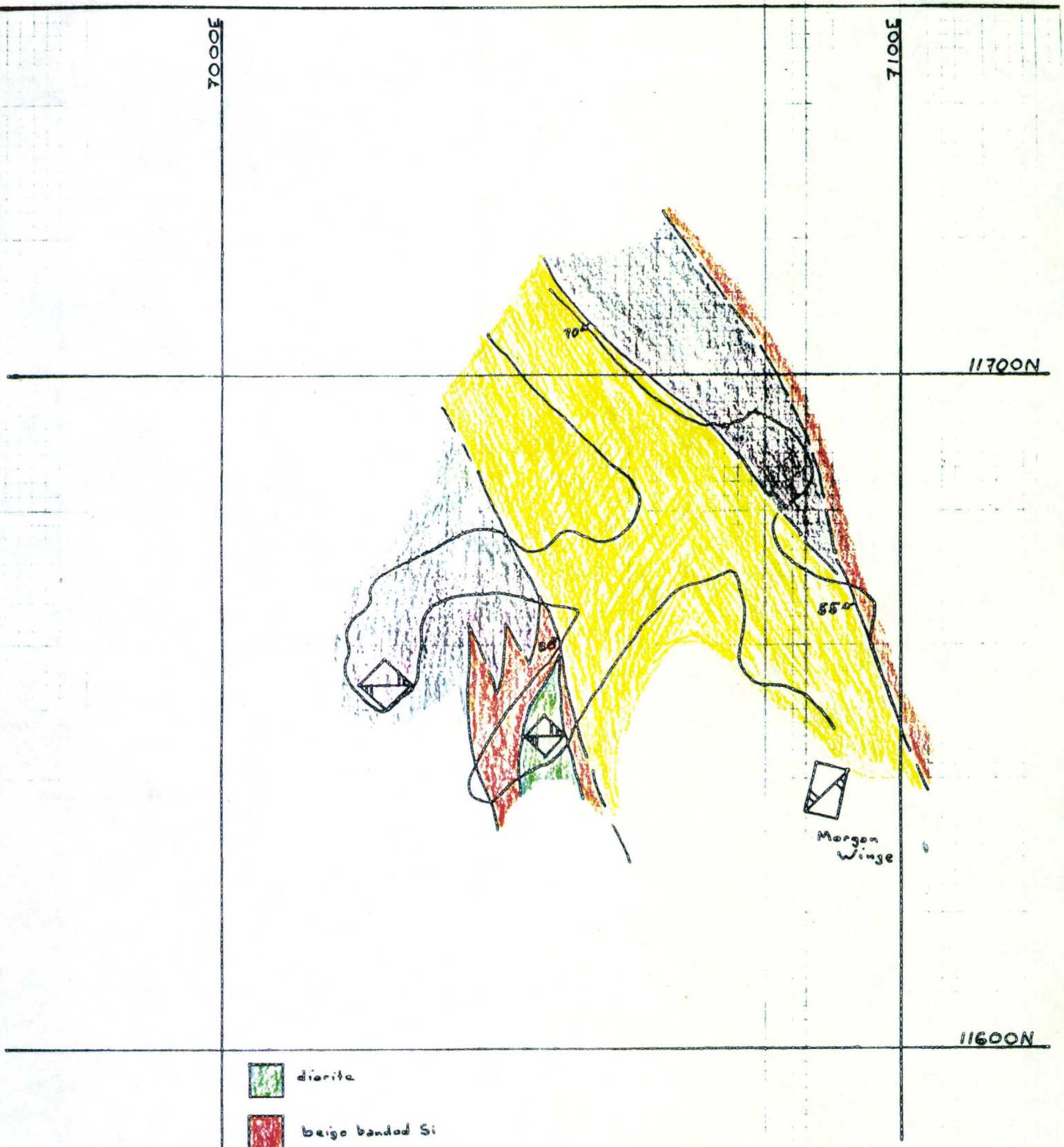
John McKenney



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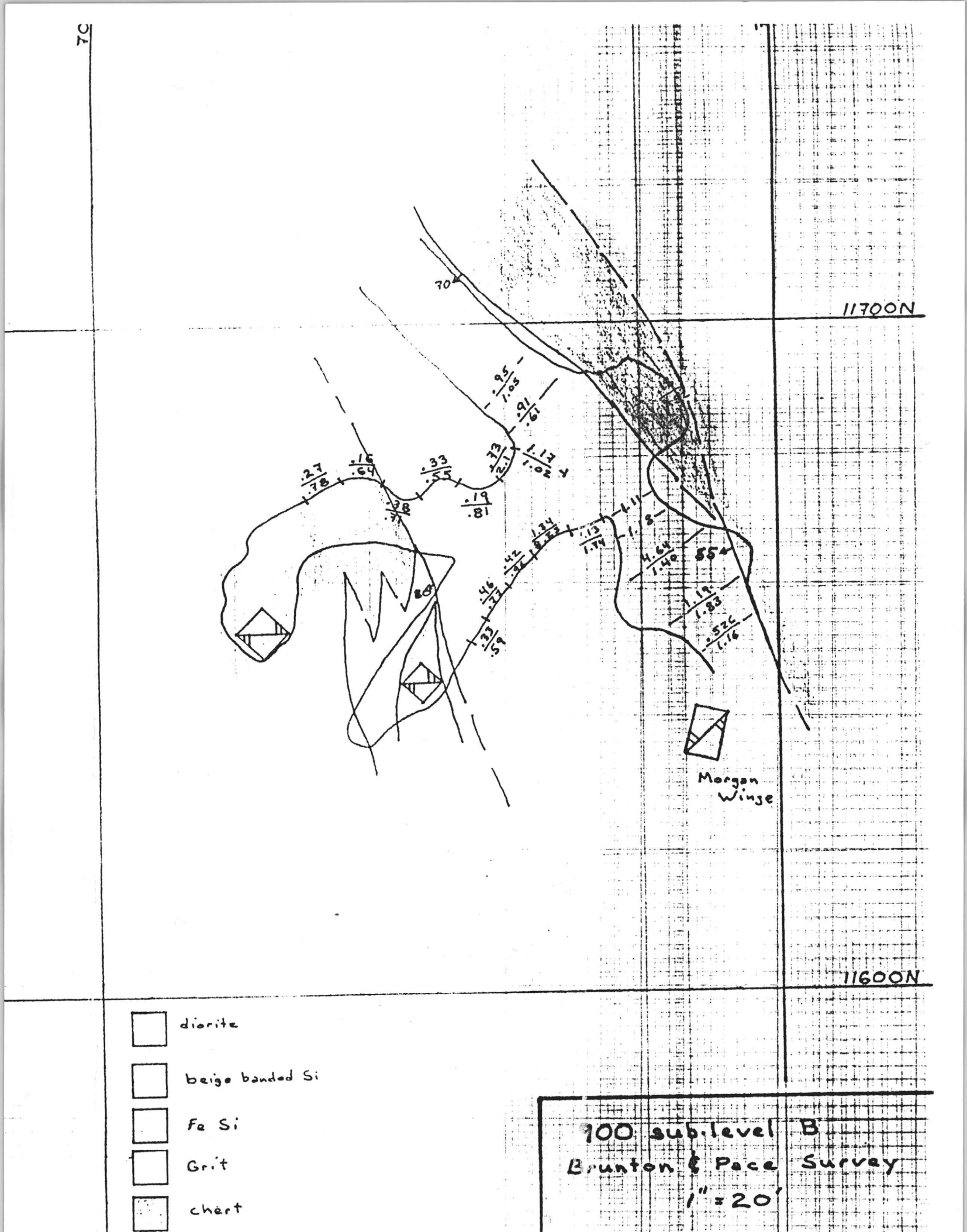
900 sub-level B
Brunton & Pace Survey
1" = 20'

8-3-89

John McKenney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Brunton & Pace Survey
1" = 20'

UVX Costs
thru August 31. 1988

	Option payments	
438 213.88	25,000	1985
648 463.75	25,000	1986
1 366 470.03	10,000	1987
926 514.57	10,000	1988
3,379,662.23		
	10,000	1989
	$80,000	

Sept 1/88 thru June 30, 1989

1,211,049.39
Revenues 1,321,928.15

110,878.76
July 203,696.50

(3,268,783.47)

July, 1989

est. costs 210 345.14
est. revenues 203696.50
+ 150 000
353696.50

143,351.36
(3,125,432.11)

350
− 170
$180,000/mo.
− 15%
$153,000/mo
profit

20 months to pay back investment

have to have 41,000 tons of .4+ material

0.40 opt gold
8.00 opt silver

Net from smelter @ 370 ; 5.20

= 126.54
35.57
162.11

mining + shipping 60.00

102.11 /ton x 2500 t/m.

= 255275 – 15%

217,000

14 1/2 months

36,000 tons of .4 / 8.0

phelps dodge Corporation Hidalgo Smelter, Playas, New Mexico 88009 • (505) 436-2211

June 30, 1989

Mr. Ron Short
A.F. Budge Mining Limited
4301 North 75th Street
Suite 101
Scottsdale, Arizona 85251-3504

Dear Mr. Short,

Enclosed please find payment adjustment calculations for lots #7003-7004. I am deducting $12.60 to cover the wire transfer charge. A wire transfer in the amount of $225,817.53 will be sent on July 6, 1989.

OK ✓
7-07-89

If you should have any questions, please contact Randy Barnes at (505) 436 - 2211, extension 221.

Sincerely,

D. J. Keime R.C.B.

D. J. Keime
Assistant Branch Controller

DJK:RCB:sl
Enclosures

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
LOT 7004

Silver	13.100
Gold	0.5050

Metals Week JUNE 23, 1989

Silver ($/oz.)	$5.32000
Gold ($/oz.)	$367.330

	Gross	Deduction	NET	Payable	Rate	Amount
Silver	7,761.49	776.15	6,985.34	6,636.07	5.32000	35,303.89
Gold **	299.202	29.920	269.282	255.818	367.330	93,969.63

Metals Week

Silver ($/oz.)	$5.20000
Gold ($/oz.)	$363.030

	Gross	Deduction	NET	Payable	Rate	Amount
Silver	0.00	0.00	0.00	0.00	5.20000	0.00
Gold	0.000	0.000	0.000	0.000	363.030	0.00

0.00

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	11.10%	-5.10%	$906.49
Lime	3.0%	0.30%	0.00%	0.00
Alumina	6.0%	0.30%	0.00%	0.00
Zinc	0.3%	0.00%	0.00%	0.00
Lead	0.3%	0.00%	0.00%	0.00
Arsenic	0.3%	0.000%	0.00%	0.00
Antimony		0.000%		
Cadmium		0.000%		
& Bismuth		0.000%		
total	0.2%	0.000%	0.00%	0.00
Chlorine	0.05%	0.00%	0.00%	0.00
Flourine	0.05%	0.00%	0.00%	0.00
Silica	75.00%	80.00%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(906.49)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$128,367.03

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
LOT 7004

SETTLED ASSAYS: CU - 0.22%
AG - 13.100
AU - 0.5050

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
19-Jun-89	7004	52110/2466	77900	24740	53160	7.8	49014	321.05	12.377
19-Jun-89	7004	52116/2477	78830	23780	55050	5.7	51912	340.02	13.108
19-Jun-89	7004	52117/2479	77820	23670	54150	4.6	51659	338.37	13.044
19-Jun-89	7004	52114/2481	76880	23620	53260	5.5	50331	329.68	12.709
19-Jun-89	7004	52115/2480	77970	23630	54340	5.4	51406	336.71	12.980
19-Jun-89	7004	52113/2478	77260	23570	53690	8.5	49126	321.78	12.404
20-Jun-89	7004	52122/2487	78050	23840	54210	7.2	50307	329.51	12.703
20-Jun-89	7004	52123/2482	79640	23760	55880	6	52527	344.05	13.263
20-Jun-89	7004	52124/2484	79090	23850	55240	6.2	51815	339.39	13.083
20-Jun-89	7004	52125/2485	79930	23830	56100	6.4	52510	343.94	13.259
20-Jun-89	7004	52126	77130	23730	53400	5.6	50410	330.19	12.729
21-Jun-89	7004	52127/2483	78420	24000	54420	5.9	51209	335.42	12.930
21-Jun-89	7004	52130	79700	23910	55790	5.5	52722	345.33	13.312
21-Jun-89	7004	52131	77850	23890	53960	4.9	51316	336.12	12.957
21-Jun-89	7004	52132	79210	23880	55330	5	52564	344.29	13.272
21-Jun-89	7004	52133	75140	23830	51310	3.7	49412	323.65	12.477
21-Jun-89	7004	52134	78810	23880	54930	6.7	51250	335.69	12.941
22-Jun-89	7004	52150	79650	23750	55900	5.5	52826	346.01	13.339
22-Jun-89	7004	52149	78110	23680	54430	6	51164	335.12	12.919
22-Jun-89	7004	52148	79670	23720	55950	5.5	52873	346.32	13.350
22-Jun-89	7004	52147	79670	23780	55890	5.4	52872	346.31	13.350
22-Jun-89	7004	52146	79480	23670	55810	5.3	52852	346.18	13.345
22-Jun-89	7004	52145	79330	23610	55720	5.1	52878	346.35	13.352
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,805,540	547,620	1,257,920	5.80	1,184,955	7,761.48	299.202

WET POUNDS	DRY POUNDS	DRY TONS

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
LOT 7003

Silver	9.990
Gold	0.4440

Metals Week JUNE 16, 1989

Silver ($/oz.)	$5.23800
Gold ($/oz.)	$361.310

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		5,407.09	540.71	4,866.38	4,623.06	5.23800	24,215.59	
Gold	**	240.315	24.032	216.283	205.469	361.310	74,238.00	
								$98,453.59

Metals Week

Silver ($/oz.)	$5.20000
Gold ($/oz.)	$363.030

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	0.00	0.00	0.00	0.00	5.20000	0.00	
Gold	0.000	0.000	0.000	0.000	363.030	0.00	
							0.00

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	12.10%	-6.10%	$990.49
Lime	3.0%	0.60%	0.00%	0.00
Alumina	6.0%	0.90%	0.00%	0.00
Zinc	0.3%	0.00%	0.00%	0.00
Lead	0.3%	0.00%	0.00%	0.00
Arsenic	0.3%	0.000%	0.00%	0.00
Antimony		0.000%		
Cadmium		0.000%		
& Bismuth		0.000%		
total	0.2%	0.000%	0.00%	0.00
Chlorine	0.05%	0.00%	0.00%	0.00
Flourine	0.05%	0.00%	0.00%	0.00
Silica	75.00%	77.60%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(990.49)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$97,463.10

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
LOT 7003

SETTLED ASSAYS: CU - 0.22%
AG - 9.990
AU - 0.4440

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
13-Jun-89	• 7003	52564/2453	80060	23990	56070	5.4	53042	264.96	11.776
13-Jun-89	7003	52565/2459	75830	24060	51770	6.2	48560	242.56	10.780
13-Jun-89	7003	52563/2460	78640	24080	54560	3.8	52487	262.17	11.652
13-Jun-89	7003	52562/2458	79760	24040	55720	5.1	52878	264.14	11.739
13-Jun-89	7003	52561/2457	77770	23910	53860	6.1	50575	252.62	11.228
14-Jun-89	7003	52574/2465	79750	23890	55860	6.8	52062	260.05	11.558
14-Jun-89	7003	52575/2454	78330	24050	54280	3.8	52217	260.82	11.592
14-Jun-89	7003	52576/2463	78340	24080	54260	3.9	52144	260.46	11.576
14-Jun-89	7003	52577/2462	79150	24010	55140	1.8	54147	270.46	12.021
14-Jun-89	7003	52578/2464	79510	24060	55450	5.4	52456	262.02	11.645
15-Jun-89	7003	52582/2461	77940	24030	53910	3.7	51915	259.32	11.525
15-Jun-89	7003	52593/2470	78260	24130	54130	3.9	52019	259.84	11.548
15-Jun-89	7003	52591/2467	79040	24010	55030	5.2	52168	260.58	11.581
15-Jun-89	7003	52592/2468	78840	24000	54840	6.9	51056	255.03	11.334
15-Jun-89	7003	52590/2471	78160	24130	54030	6	50788	253.69	11.275
15-Jun-89	7003	52589/2469	77330	24030	53300	5.4	50422	251.86	11.194
16-Jun-89	7003	52102/2475	77410	24040	53370	5.4	50488	252.19	11.208
16-Jun-89	7003	52103/2472	79720	23640	56080	5.5	52996	264.72	11.765
16-Jun-89	7003	52104/2473	79110	23800	55310	6	51991	259.70	11.542
16-Jun-89	7003	52105/2476	74710	23790	50920	6.3	47712	238.32	10.592
16-Jun-89	7003	52106/2474	77000	23750	53250	5.4	50374	251.62	11.183
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,644,660	503,520	1,141,140	5.14	1,082,497	5,407.09	240.315

WET POUNDS	DRY POUNDS	DRY TONS

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
LOT 6004

Silver	11.970
Gold	0.4870

Metals Week MAY 26, 1989

Silver ($/oz.)	$5.20000
Gold ($/oz.)	$363.030

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		4,947.44	494.74	4,452.70	4,230.07	5.20000	21,996.36	
Gold	**	201.287	20.129	181.158	172.100	363.030	62,477.46	
								$84,473.82

Metals Week JUNE 2, 1989

Silver ($/oz.)	$5.20625
Gold ($/oz.)	$361.700

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	1,496.49	149.65	1,346.84	1,279.50	5.20625	6661.40	
Gold	60.885	3.751	57.134	54.277	361.700	19,631.99	
							26,293.39

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	15.80%	-9.80%	$1,582.72
Lime	3.0%	0.30%	0.00%	0.00
Alumina	6.0%	0.50%	0.00%	0.00
Zinc	0.3%	0.04%	0.00%	0.00
Lead	0.3%	0.07%	0.00%	0.00
Arsenic	0.3%	0.019%	0.00%	0.00
Antimony		0.000%		
Cadmium		0.006%		
& Bismuth		0.020%		
total	0.2%	0.026%	0.00%	0.00
Chlorine	0.05%	0.01%	0.00%	0.00
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	74.53%	0.47%	253.02

STATUS U = UMPIRE

Less Penalties	(1,835.74)
Less Assay Charges	(42.00)
TOTAL JEROME FLUX	$108,889.47

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JERONE (BUDGE) - FLUX
SUMMARY WORKSHEET
LOT 6004

SETTLED ASSAYS: CU - 0.49%
AG - 11.970
AU - 0.4870

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
23-May-89	6004	52004/2396	79740	23850	55890	9	50860	304.41	12.385
23-May-89	6004	52005/2394	78930	23870	55060	8.4	50435	301.85	12.281
23-May-89	6004	52006/2395	79710	24030	55680	5.7	52506	314.25	12.785
23-May-89	6004	52007/2393	77610	23950	53660	8	49367	295.47	12.021
24-May-89	6004	52015	79770	23840	55930	6.7	52183	312.32	12.707
24-May-89	6004	52016	79860	23880	55980	9.3	50774	303.88	12.364
24-May-89	6004	52017	79430	23890	55540	6.1	52152	312.13	12.699
24-May-89	6004	52018	78430	23990	54440	6	51174	306.28	12.461
25-May-89	6004	52027	77900	23910	53990	7	50211	300.51	12.226
25-May-89	6004	52028	79120	24120	55000	7.9	50655	303.17	12.335
25-May-89	6004	52029	79710	24000	55710	6	52367	313.42	12.751
25-May-89	6004	52030	79250	24040	55210	6.5	51621	308.95	12.570
26-May-89	6004	52037	79900	23910	55990	3.8	53862	322.36	13.115
26-May-89	6004	52038	79290	23940	55350	4.7	52749	315.70	12.844
26-May-89	6004	52040	79000	23960	55040	3.3	53224	318.55	12.960
26-May-89	6004	52039	78920	24070	54850	4.3	52491	314.16	12.782
27-May-89	6004	52043	73250	24010	49240	2.7	47911	286.75	11.666
27-May-89	6004	52044	76860	23970	52890	2.9	51356	307.37	12.505
27-May-89	6004	52047	75430	24140	51290	6.1	48161	288.24	11.727
27-May-89	6004	52046	75380	24050	51330	3.1	49739	297.69	12.111
27-May-89	6004	52045	78940	24260	54680	3.3	52876	316.46	12.875
								0.00	0.000
TOTAL			1,646,430	503,680	1,142,750	5.78	1,076,674	6,443.91	262.171

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week MAY 26, 1989	883,320	826,631	413.32
Metals Week JUNE 2, 1989	259,430	250,043	125.02
	1,142,750	1,076,674	538.34

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
LOT 6003

Silver	7.620
Gold	0.3720

Metals Week MAY 19, 1989

Silver ($/oz.)	$5.43700
Gold ($/oz.)	$371.140

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		2,800.05	280.00	2,520.05	2,394.04	5.43700	13,016.40	
Gold	**	136.695	13.670	123.025	116.874	371.140	43,376.62	
								$56,393.02

Metals Week MAY 26, 1989

Silver ($/oz.)	$5.20000
Gold ($/oz.)	$363.030

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	1,191.84	119.18	1,072.66	1,019.03	5.20000	5298.96	
Gold	58.185	4.692	53.493	50.818	363.030	18,448.46	
							23,747.42

PENALTIES:	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	12.40%	-6.40%	$1,005.83
Lime	3.0%	0.40%	0.00%	0.00
Alumina	6.0%	0.70%	0.00%	0.00
Zinc	0.3%	0.04%	0.00%	0.00
Lead	0.3%	0.07%	0.00%	0.00
Arsenic	0.3%	0.019%	0.00%	0.00
Antimony		0.000%		
Cadmium		0.006%		
& Bismuth		0.002%		
total	0.2%	0.008%	0.00%	0.00
Chlorine	0.05%	0.01%	0.00%	0.00
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	78.20%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(1,005.83)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$79,134.61

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
LOT 6003

SETTLED ASSAYS: CU - 0.49%
AG - 7.620
AU - 0.3720

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
16-May-89	6003	51589/2371	79310	24100	55210	7.5	51069	194.58	9.500
16-May-89	6003	51588/2377	79830	24030	55800	5.3	52843	201.33	9.829
16-May-89	6003	51586/2376	79930	23980	55950	3.8	53824	205.07	10.011
16-May-89	6003	51587/2374	79930	24060	55870	3.7	53803	205.00	10.007
17-May-89	6003	51594/2380	80040	23960	56080	8.4	51369	195.72	9.555
17-May-89	6003	51595/2378	79730	23850	55880	7.4	51745	197.15	9.625
17-May-89	6003	51596/2381	80000	23960	56040	6.7	52285	199.21	9.725
17-May-89	6003	51597/2379	79960	24000	55960	6.7	52211	198.92	9.711
18-May-89	6003	51605/2385	79980	24050	55930	6.5	52295	199.24	9.727
18-May-89	6003	51606/2384	79790	23990	55800	5.4	52787	201.12	9.818
18-May-89	6003	51607/2382	79960	24030	55930	8.5	51176	194.98	9.519
19-May-89	6003	51614	79140	23980	55160	5.2	52292	199.23	9.726
19-May-89	6003	51623/2387	80230	23630	56600	5.8	53317	203.14	9.917
19-May-89	6003	51624/2386	80300	23680	56620	4.8	53902	205.37	10.026
20-May-89	6003	51629	79250	23790	55460	4.9	52742	200.95	9.810
20-May-89	6003	51630	79180	24580	54600	5.4	51652	196.79	9.607
22-May-89	6003	51643/2390	76660	24100	52560	5.4	49722	189.44	9.248
22-May-89	6003	51645/2391	77870	23900	53970	2.5	52621	200.49	9.788
22-May-89	6003	51646/2389	79320	23970	55350	4	53136	202.45	9.883
22-May-89	6003	51647/2392	79120	23970	55150	4	52944	201.72	9.848
								0.00	0.000
								0.00	0.000
TOTAL			1,589,530	479,610	1,109,920	5.60	1,047,735	3,991.89	194.880

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week MAY 19, 1989	782,830	734,918	367.46
Metals Week MAY 26, 1989	327,090	312,817	156.41
	1,109,920	1,047,735	523.87

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
LOT 6002

Silver	12.440
Gold	0.4940

Metals Week MAY 12, 1989

Silver ($/oz.)	$5.60600
Gold ($/oz.)	$377.440

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		5,171.18	517.12	4,654.06	4,421.36	5.60600	24,786.14	
Gold	**	205.351	20.535	184.816	175.575	377.440	66,269.03	
								$91,055.17

Metals Week MAY 19, 1989

Silver ($/oz.)	$5.43700
Gold ($/oz.)	$371.140

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	1,608.49	160.85	1,447.64	1,375.26	5.43700	7477.29	
Gold	63.874	3.879	59.995	56.995	371.140	21,153.12	
							28,630.41

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	10.10%	-4.10%	$670.34
Lime	3.0%	0.30%	0.00%	0.00
Alumina	6.0%	1.00%	0.00%	0.00
Zinc	0.3%	0.04%	0.00%	0.00
Lead	0.3%	0.07%	0.00%	0.00
Arsenic	0.3%	0.019%	0.00%	0.00
Antimony		0.000%		
Cadmium		0.006%		
& Bismuth		0.002%		
total	0.2%	0.008%	0.00%	0.00
Chlorine	0.05%	0.01%	0.00%	0.00
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	81.10%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(670.34)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$119,015.24

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
LOT 6002

SETTLED ASSAYS: CU - 0.39%
AG - 12.440
AU - 0.4940

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
08-May-89	6002	51350/2354	80420	24200	56220	4.8	53521	332.91	13.221
08-May-89	6002	51451/2351	80060	24210	55850	4.5	53337	331.76	13.174
08-May-89	6002	51279/2352	80190	24110	56080	6.4	52491	326.49	12.965
09-May-89	6002	51454/2353	80070	24160	55910	5.4	52891	328.99	13.064
09-May-89	6002	51460/2355	77210	24000	53210	4.4	50869	316.41	12.565
09-May-89	6002	51459/2357	78820	23940	54880	5.7	51752	321.90	12.783
09-May-89	6002	51458/2358	77930	24020	53910	4.1	51700	321.57	12.770
10-May-89	6002	51469/2360	80090	24050	56040	6.5	52397	325.91	12.942
10-May-89	6002	51468/2359	79260	24000	55260	6.1	51889	322.75	12.817
10-May-89	6002	51467/2361	79910	23980	55930	5.4	52910	329.10	13.069
11-May-89	6002	51472/2356	77000	24070	52930	6.9	49278	306.51	12.172
11-May-89	6002	51476/2364	79950	23890	56060	5.4	53033	329.87	13.099
11-May-89	6002	51477/2362	78060	23990	54070	4.1	51853	322.53	12.808
11-May-89	6002	51478/2365	78670	24030	54640	4.7	52072	323.89	12.862
12-May-89	6002	51489/2369	76430	23930	52500	5.6	49560	308.26	12.241
12-May-89	6002	51490/2367	78520	23960	54560	5	51832	322.40	12.803
13-May-89	6002	51504/2366	77190	24070	53120	7.3	49242	306.29	12.163
13-May-89	6002	51505/2368	78680	24040	54640	6.6	51034	317.43	12.605
15-May-89	6002	51566/2327	79560	23930	55630	3.9	53460	332.52	13.205
15-May-89	6002	51567/2320	79290	24000	55290	5	52526	326.71	12.974
15-May-89	6002	51568/2373	78640	24060	54580	4.1	52342	325.57	12.929
								0.00	0.000
TOTAL			1,655,950	504,640	1,151,310	5.33	1,089,989	6,779.75	269.228

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week MAY 12, 1989	878,050	831,385	415.69
Metals Week MAY 19, 1989	273,260	258,604	129.30
	1,151,310	1,089,989	544.99

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
LOT 6001

Silver	4.850
Gold	0.3300

Metals Week MAY 5, 1989

Silver ($/oz.)	$5.64000
Gold ($/oz.)	$377.400

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		2,288.28	235.91	2,052.37	1,949.75	5.64000	10,996.59	
Gold	**	155.697	15.570	140.127	133.121	377.400	50,239.87	
								$61,236.46

Metals Week

Silver ($/oz.)	$5.43700
Gold ($/oz.)	$371.140

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	0.00	0.00	0.00	0.00	5.43700	0.00	
Gold	0.000	0.000	0.000	0.000	371.140	0.00	
							0.00

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	8.60%	-2.60%	$368.01
Lime	3.0%	0.44%	0.00%	0.00
Alumina	6.0%	1.10%	0.00%	0.00
Zinc	0.3%	0.02%	0.00%	0.00
Lead	0.3%	0.05%	0.00%	0.00
Arsenic	0.3%	0.047%	0.00%	0.00
Antimony		0.001%		
Cadmium		0.060%		
& Bismuth		0.018%		
total	0.2%	0.079%	0.00%	0.00
Chlorine	0.05%	0.01%	0.00%	0.00
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	83.23%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(368.01)
Less Assay Charges	(15.00)
TOTAL JEROME FLUX	$60,853.45

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
LOT 6001

SETTLED ASSAYS: CU - 0.50%
AG - 4.850
AU - 0.3300

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
01-May-89	6001	51265/7431	76370	23690	52680	4.4	50362	122.14	8.311
01-May-89	6001	51281/2333	78220	23760	54460	3.6	52499	127.31	8.662
01-May-89	6001	51303/2335	76890	23870	53020	5.7	49998	121.25	8.250
02-May-89	6001	51309/2334	78050	23880	54170	3.2	52437	127.17	8.652
02-May-89	6001	51313/2339	79570	23730	55840	6.1	52434	127.15	8.652
02-May-89	6001	51314/2337	79090	23840	55250	4.1	52985	128.49	8.743
02-May-89	6001	51312/2338	78830	23830	55000	3.5	53075	128.71	8.757
03-May-89	6001	51324/2342	79870	24000	55870	1.7	54920	133.18	9.062
03-May-89	6001	51323/2341	79920	23930	55990	4	53750	130.34	8.869
03-May-89	6001	51322/2340	79900	24010	55890	4.5	53375	129.43	8.807
03-May-89	6001	51321/2343	79880	23880	56000	4	53760	130.37	8.870
04-May-89	6001	51329/2344	78190	23950	54240	3.4	52396	127.06	8.645
04-May-89	6001	51328/2345	78580	23950	54630	3.7	52609	127.58	8.681
04-May-89	6001	51327/2347	78720	23870	54850	3.8	52766	127.96	8.706
05-May-89	6001	51333/2346	78620	23990	54630	3.7	52609	127.58	8.681
05-May-89	6001	51337/2350	79000	24140	54860	7	51020	123.72	8.418
05-May-89	6001	51338/2348	78590	24010	54580	7.1	50705	122.96	8.366
05-May-89	6001	51336/2349	77850	23990	53860	3.6	51921	125.91	8.567
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,416,140	430,320	985,820	4.28	943,621	2,288.30	155.699

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week MAY 5, 1989	985,820	943,621	471.81
Metals Week	0	0	0.00
	985,820	943,621	471.81

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
5002

	STATUS
Silver	3.470
Gold	0.1870

Metals Week APRIL 14, 1989

Silver ($/oz.) $5.83200
Gold ($/oz.) $386.040

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		1,171.51	168.81	1,002.70	952.56	5.83200	5,555.33	
Gold	**	63.133	10.128	53.005	50.355	386.040	19,439.04	
								$24,994.37

Metals Week APRIL 21, 1989

Silver ($/oz.) $5.77300
Gold ($/oz.) $384.020

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	263.86	38.02	225.84	214.55	5.77300	1238.60	
Gold	14.220	2.281	11.939	11.342	384.020	4,355.55	
							5,594.15

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	6.50%	-0.50%	$62.05
Lime	3.0%	0.50%	0.00%	0.00
Alumina	6.0%	1.90%	0.00%	0.00
Zinc	0.3%	0.04%	0.00%	0.00
Lead	0.3%	0.09%	0.00%	0.00
Arsenic	0.3%	0.032%	0.00%	0.00
Antimony		0.007%		
Cadmium		0.003%		
& Bismuth		0.020%		
total	0.2%	0.000%	0.00%	0.00
Chlorine	0.05%	0.00%	0.00%	0.00
Flourine	0.05%	0.02%	0.00%	0.00
Silica	75.00%	84.20%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(62.05)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$30,526.47

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
5002

SETTLED ASSAYS: CU - 0.32%
AG - 3.470
AU - 0.1870

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
11-Apr-89	5002	49859/2318	79790	23960	55830	8	51364	89.13	4.804
11-Apr-89	5002	49860/2316	75810	24090	51720	6.9	48151	83.54	4.502
11-Apr-89	5002	49861/2319	77630	24040	53590	4.9	50964	88.42	4.765
11-Apr-89	5002	49862/2317	79620	24010	55610	7.8	51272	88.97	4.794
12-Apr-89	5002	49866/2322	80030	24390	55640	5.4	52635	91.32	4.921
12-Apr-89	5002	49867/2320	79700	24510	55190	5.7	52044	90.30	4.866
12-Apr-89	5002	49868/2323	79910	24510	55400	5.5	52353	90.83	4.895
12-Apr-89	5002	49869/2321	80370	24570	55800	5.8	52564	91.20	4.915
13-Apr-89	5002	49883/2325	80050	24300	55750	4.5	53241	92.37	4.978
13-Apr-89	5002	49884/2324	80320	24480	55840	5.3	52880	91.75	4.944
14-Apr-89	5002	49895/2329	80300	24420	55880	8	51410	89.20	4.807
14-Apr-89	5002	49894/2328	80230	24470	55760	4.1	53474	92.78	5.000
14-Apr-89	5002	49893/2327	80130	24300	55830	5.3	52871	91.73	4.943
15-Apr-89	5002	49896/2326	80070	25010	55060	5.9	51811	89.89	4.844
17-Apr-89	5002	49907/2330	77290	23870	53420	5.8	50322	87.31	4.705
17-Apr-89	5002	49908/2331	76510	23980	52530	4.9	49956	86.67	4.671
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
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								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,267,760	388,910	878,850	5.86	827,312	1,435.41	77.354

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week APRIL 14, 1989	717,840	675,223	337.61
Metals Week APRIL 21, 1989	161,010	152,089	76.04
	878,850	827,312	413.65

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
5001

	STATUS
Silver	1.710
Gold	0.1240

Metals Week APRIL 7,1989

Silver ($/oz.) $5.79000
Gold ($/oz.) $384.340

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		842.47	246.34	596.13	566.32	5.79000	3,278.99	
Gold	**	61.091	14.780	46.311	43.996	384.340	16,909.42	
								$20,188.41

Metals Week APRIL 14,1989

Silver ($/oz.) $5.83200
Gold ($/oz.) $386.040

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	223.65	65.40	158.25	150.34	5.83200	876.78	
Gold	16.218	3.924	12.294	11.679	386.040	4,508.56	
							5,385.34

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	6.80%	-0.80%	$149.63
Lime	3.0%	0.60%	0.00%	0.00
Alumina	6.0%	2.40%	0.00%	0.00
Zinc	0.3%	0.04%	0.00%	0.00
Lead	0.3%	0.09%	0.00%	0.00
Arsenic	0.3%	0.032%	0.00%	0.00
Antimony		0.007%		
Cadmium		0.003%		
& Bismuth		0.020%		
total	0.2%	0.000%	0.00%	0.00
Chlorine	0.05%	0.00%	0.00%	0.00
Flourine	0.05%	0.02%	0.00%	0.00
Silica	75.00%	84.30%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(149.63)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$25,424.12

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
5001

SETTLED ASSAYS: CU - 0.0031
AG - 1.710
AU - 0.1240

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
03-Apr-89	5001	50004/	79090	24100	54990	4.3	52625	45.00	3.264
03-Apr-89	5001	50003/838209	79510	24020	55490	4	53270	45.55	3.303
03-Apr-89	5001	50002/0001	79940	23960	55980	3.7	53909	46.09	3.342
03-Apr-89	5001	50005	79130	24140	54990	4.3	52625	45.00	3.263
04-Apr-89	5001	50009	79060	23970	55090	3.6	53107	45.41	3.293
04-Apr-89	5001	50010	77860	24120	53740	4.5	51322	43.88	3.182
04-Apr-89	5001	50011	78570	24060	54510	4.5	52057	44.51	3.228
04-Apr-89	5001	50012	80010	24160	55850	5.1	53002	45.32	3.286
05-Apr-89	5001	50015/2301	74900	23960	50940	5.8	47985	41.03	2.975
05-Apr-89	5001	50016/2300	74560	23900	50660	5.6	47823	40.89	2.965
05-Apr-89	5001	50017/2302	77850	23770	54080	5.5	51106	43.70	3.169
05-Apr-89	5001	50018/2303	76770	23860	52910	4.9	50317	43.02	3.120
06-Apr-89	5001	50021/2306	78640	23920	54720	5.2	51875	44.35	3.216
06-Apr-89	5001	50022/2304	77890	24040	53850	3.4	52019	44.48	3.225
06-Apr-89	5001	50023/2305	77710	24100	53610	4.6	51144	43.73	3.171
06-Apr-89	5001	50024/2307	79690	24010	55680	5.1	52840	45.18	3.276
07-Apr-89	5001	50033/2310	79380	23800	55580	4.9	52857	45.19	3.277
07-Apr-89	5001	50032/2308	78370	23780	54590	4.8	51970	44.43	3.222
07-Apr-89	5001	50031/2309	79640	23640	56000	4.5	53480	45.73	3.316
08-Apr-89	5001	50038/2311	79310	23730	55580	7.9	51189	43.77	3.174
10-Apr-89	5001	50050/2314	79450	23370	56080	5.7	52883	45.22	3.279
10-Apr-89	5001	49851/2312	78550	23490	55060	6.5	51481	44.02	3.192
10-Apr-89	5001	49852/2315	77820	23510	54310	4.2	52029	44.49	3.226
10-Apr-89	5001	49853/2313	79220	23560	55660	3	53990	46.16	3.347
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,882,920	572,970	1,309,950	4.81	1,246,905	1,066.12	77.309

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week APRIL 7,1989	1,033,260	985,333	492.67
Metals Week APRIL 14,1989	276,690	261,572	130.79
	1,309,950	1,246,905	623.46

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
4002

	STATUS
Silver	9.180
Gold	0.3900

Metals Week MARCH 24,1989

Silver ($/oz.)	$6.05875
Gold ($/oz.)	$394.125

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	4,791.41	479.14	4,312.27	4,096.66	6.05875	24,820.64	
Gold **	203.557	20.356	183.201	174.041	394.125	68,593.91	
							$93,414.55

Metals Week

Silver ($/oz.)	$0.00000
Gold ($/oz.)	$0.000

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	0.00	0.00	0.00	0.00	0.00000	0.00	
Gold	0.000	0.000	0.000	0.000	0.000	0.00	
							0.00

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	9.73%	-3.73%	$584.05
Lime	3.0%	0.14%	0.00%	0.00
Alumina	6.0%	0.89%	0.00%	0.00
Zinc	0.3%	0.07%	0.00%	0.00
Lead	0.3%	0.08%	0.00%	0.00
Arsenic	0.3%	0.051%	0.00%	0.00
Antimony		0.008%		
Cadmium		0.005%		
& Bismuth		0.075%		
total	0.2%	0.139%	0.00%	0.00
Chlorine	0.05%	0.07%	-0.02%	24.01
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	86.10%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(608.06)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$92,806.49

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
4002

SETTLED ASSAYS: CU -
AG - 9.180
AU - 0.3900

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
20-Mar-89	4002	50406/2231	79900	24180	55720	4.5	53213	244.26	10.378
20-Mar-89	4002	50407/2233	79980	24120	55860	4.4	53402	245.12	10.413
20-Mar-89	4002	50409/2232	80040	24260	55780	3.1	54051	248.09	10.540
20-Mar-89	4002	50408/2234	79840	24190	55650	3.4	53758	246.76	10.483
21-Mar-89	4002	50416/2237	78500	24020	54480	6.8	50775	233.06	9.901
21-Mar-89	4002	50417/2235	76600	24140	52460	5.2	49732	228.27	9.698
21-Mar-89	4002	50419/2236	78180	24260	53920	5.1	51170	234.87	9.978
21-Mar-89	4002	50420/2238	79050	24160	54890	5.6	51816	237.84	10.104
22-Mar-89	4002	50428/2241	79320	24280	55040	4.5	52563	241.26	10.250
22-Mar-89	4002	50429/2239	79050	24170	54880	5.9	51642	237.04	10.070
22-Mar-89	4002	50427/2240	80340	24060	56280	4.2	53916	247.47	10.514
22-Mar-89	4002	50426/2242	80100	24210	55890	5.2	52984	243.20	10.332
23-Mar-89	4002	50434/2258	79350	24000	55350	3.9	53191	244.15	10.372
23-Mar-89	4002	50435/2257	78400	24090	54310	4.7	51757	237.57	10.093
23-Mar-89	4002	50436/2243	79020	24140	54880	5.4	51916	238.29	10.124
23-Mar-89	4002	50437/2259	79930	24250	55680	5.1	52840	242.54	10.304
24-Mar-89	4002	50445/2260	77570	24050	53520	5.2	50737	232.88	9.894
24-Mar-89	4002	50444/2261	78590	23950	54640	4.2	52345	240.26	10.207
24-Mar-89	4002	50446	77940	24090	53850	7.1	50027	229.62	9.755
24-Mar-89	4002	50447/2262	78880	24150	54730	4.9	52048	238.90	10.149
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,580,580	482,770	1,097,810	4.91	1,043,883	4,791.44	203.558

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week MARCH 24,1989	1,097,810	1,043,883	521.94
Metals Week	0	0	0.00
	1,097,810	1,043,883	521.94

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
4001

	STATUS
Silver	6.490
Gold	0.3780

Metals Week MARCH 17,1989

Silver ($/oz.) $6.08100
Gold ($/oz.) $392.820

		Gross	Deduction	NET	Payable	Rate	Amount	
Silver		3,325.48	332.55	2,992.93	2,843.28	6.08100	17,289.99	
Gold	**	193.687	19.369	174.318	165.602	392.820	65,051.78	
								$82,341.77

Metals Week

Silver ($/oz.) $0.00000
Gold ($/oz.) $0.000

	Gross	Deduction	NET	Payable	Rate	Amount	
Silver	0.00	0.00	0.00	0.00	0.00000	0.00	
Gold	0.000	0.000	0.000	0.000	0.000	0.00	
							0.00

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	13.61%	-7.61%	$1,169.81
Lime	3.0%	0.36%	0.00%	0.00
Alumina	6.0%	2.30%	0.00%	0.00
Zinc	0.3%	0.05%	0.00%	0.00
Lead	0.3%	0.08%	0.00%	0.00
Arsenic	0.3%	0.066%	0.00%	0.00
Antimony		0.008%		
Cadmium		0.005%		
& Bismuth		0.075%		
total	0.2%	0.154%	0.00%	0.00
Chlorine	0.05%	0.02%	0.00%	0.00
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	82.26%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	(1,169.81)
Less Assay Charges	0.00
TOTAL JEROME FLUX	$81,171.96

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
4001

SETTLED ASSAYS: CU -
AG - 6.490
AU - 0.3780

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	OUNCES SILVER	OUNCES GOLD
13-Mar-89	4001	50352/2265	79380	24140	55240	9.3	50103	162.59	9.471
13-Mar-89	4001	50353/2144	79820	24210	55610	10.1	49993	162.23	9.449
13-Mar-89	4001	50351/2264	79760	23990	55770	9.3	50583	164.14	9.560
13-Mar-89	4001	50350/2263	77900	24150	53750	7.3	49826	161.70	9.417
14-Mar-89	4001	50362/2133	79700	24180	55520	9	50523	163.95	9.549
14-Mar-89	4001	50363/2284	79960	23970	55990	10.4	50167	162.79	9.482
14-Mar-89	4001	50364/2251	79640	24140	55500	8.8	50616	164.25	9.566
14-Mar-89	4001	50365/2285	79700	24060	55640	7.9	51244	166.29	9.685
15-Mar-89	4001	50372/2289	75260	24100	51160	5.6	48295	156.72	9.128
15-Mar-89	4001	50373/2286	77840	24040	53800	7.1	49980	162.19	9.446
15-Mar-89	4001	50374/2288	78570	24130	54440	5.1	51664	167.65	9.765
15-Mar-89	4001	50375/2287	78590	23920	54670	5.6	51608	167.47	9.754
16-Mar-89	4001	50384/2292	79620	23930	55690	4.9	52961	171.86	10.010
16-Mar-89	4001	50385/2293	79850	24030	55820	5.2	52917	171.72	10.001
16-Mar-89	4001	50387/2290	76630	24130	52500	4.6	50085	162.53	9.466
16-Mar-89	4001	50386/2291	80110	23990	56120	4.7	53482	173.55	10.108
17-Mar-89	4001	50392/2295	79850	23900	55950	5	53153	172.48	10.046
17-Mar-89	4001	50393/2294	79520	23980	55540	7	51652	167.61	9.762
17-Mar-89	4001	50394/2296	79850	24130	55720	3.9	53547	173.76	10.120
17-Mar-89	4001	50395/2297	79960	24030	55930	6.3	52406	170.06	9.905
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
								0.00	0.000
TOTAL			1,581,510	481,150	1,100,360	6.87	1,024,805	3,325.51	193.689

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week MARCH 17,1989	1,100,360	1,024,805	512.40
Metals Week	0	0	0.00
	1,100,360	1,024,805	512.40

SETTLEMENT SHEETS

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
PAYMENT SUMMARY WORKSHEET
3001

	STATUS
Copper	0.320%
Silver	7.813
Gold	0.4170

Metals Week FEBRUARY 10,1989

Copper (cents/lb)	$1.38067
Silver ($/oz.)	$5.88300
Gold ($/oz.)	$390.570

		Gross	Deduction	NET	Payable	Rate	Amount
Copper		1,819	2,842	0	0	1.23067	$0.00
Silver		2,220.69	222.07	1,998.62	1,898.69	5.88300	11,169.99
Gold	**	118.524	11.852	106.672	101.338	390.570	39,579.58

$50,749.57

Metals Week

Copper (cents/lb)	$0.00000
Silver ($/oz.)	$0.00000
Gold ($/oz.)	$0.000

	Gross	Deduction	NET	Payable	Rate	Amount
Copper	0	0	0	0	(0.15000)	$0.00
Silver	0.00	0.00	0.00	0.00	0.00000	0.00
Gold	0.000	0.000	0.000	0.000	0.000	0.00

0.00

PENALTIES:

	Contract Limit	Actual	Penalty Basis	Penalty Applied
Iron	6.0%	4.57%	0.00%	$0.00
Lime	3.0%	0.61%	0.00%	0.00
Alumina	6.0%	1.20%	0.00%	0.00
Zinc	0.3%	0.10%	0.00%	0.00
Lead	0.3%	0.04%	0.00%	0.00
Arsenic	0.3%	0.020%	0.00%	0.00
Antimony		0.003%		
Cadmium		0.010%		
& Bismuth		0.130%		
total	0.2%	0.163%	0.00%	0.00
Chlorine	0.05%	0.03%	0.00%	0.00
Flourine	0.05%	0.01%	0.00%	0.00
Silica	75.00%	89.99%	0.00%	0.00

STATUS U = UMPIRE

Less Penalties	0.00
Less Assay Charges	0.00
TOTAL ECHO BAY	$50,749.57

PHELPS DODGE CORPORATION
HIDALGO SMELTER
JEROME (BUDGE) - FLUX
SUMMARY WORKSHEET
3001

SETTLED ASSAYS: CU - 0.320%
AG - 7.813
AU - 0.4170

DATE RECEIVED*	LOT NO.	CAR ID.	GROSS WEIGHT	TARE WEIGHT	WET POUNDS	PERCENT MOISTURE	DRY POUNDS	POUNDS COPPER	OUNCES SILVER	OUNCES GOLD
04-Feb-89	3001	49750/7403	79170	25240	53930	5.3	51072	163	199.52	10.650
04-Feb-89	3001	49751/7402	79080	24930	54150	6.8	50468	162	197.15	10.523
04-Feb-89	3001	49752/7412	79050	23890	55160	4.4	52733	169	206.00	10.995
04-Feb-89	3001	49753/7404	78670	25340	53330	4.4	50983	163	199.18	10.630
04-Feb-89	3001	49754/7406	78530	24740	53790	3.9	51692	165	201.94	10.778
04-Feb-89	3001	49757/7410	78610	23900	54710	4.5	52248	167	204.11	10.894
04-Feb-89	3001	49755/7409	77720	23940	53780	4.6	51306	164	200.43	10.697
04-Feb-89	3001	49756/7408	79640	23850	55790	4.2	53447	171	208.79	11.144
04-Feb-89	3001	49758/7405	79230	24780	54450	6.7	50802	163	198.46	10.592
04-Feb-89	3001	49759/7407	77490	23940	53550	5.6	50551	162	197.48	10.540
04-Feb-89	3001	49760/7413	79370	23770	55600	4.4	53154	170	207.65	11.083
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
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								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
								0	0.00	0.000
TOTAL			866,560	268,320	598,240	4.98	568,456	1,819	2,220.69	118.524

	WET POUNDS	DRY POUNDS	DRY TONS
Metals Week FEBRUARY 10,1989	598,240	568,456	284.23
Metals Week	0	0	0.00
	598,240	568,456	284.23

CHINO MINES COMPANY
SHIPPER: A. F. BUDGE (MINING) LIMITED
Attn. R. R. Short

SILICEOUS FLUXING ORE - Minus 10 Mesh Fines

FOR WEEK ENDED	1989 DATE RCV'D	CMC LOT #	SMPL #	SHIPPERS NO.	GROSS	TARE	NET	%H2O	DRY	TONS	LOT TONS	SETTLEMENT ASSAYS: OZ/TON GOLD	OZ/TON SILVER	% SIO2	% FE	% CA	% AL2O3
APRIL, 1989:																	
04/28	04/24	BFF 1	1	7421	76,140	23,980	52,160	5.56	49,260	24.6300	24.6300	Est 0.385	7.270	86.04%	8.58%	0.21%	1.10%
04/28	04/24	BFF 2	1	7425	79,560	24,120	55,440	5.62	52,324	26.1620	26.1620	Est 0.385	7.270	86.04%	8.58%	0.21%	1.10%
04/28	04/24	BFF 3	1	7416	77,260	24,280	52,980	5.85	49,881	24.9405	24.9405	Est 0.385	7.270	86.04%	8.58%	0.21%	1.10%
04/28	04/24	BFF 4	1	7424	77,860	24,100	53,760	5.00	51,072	25.5360	25.5360	Est 0.385	7.270	86.04%	8.58%	0.21%	1.10%
04/28	04/25	BFF 5	2	7426	77,940	23,960	53,980	5.34	51,097	25.5485	25.5485	Est 0.309	7.070	86.67%	8.59%	0.18%	1.10%
04/28	04/25	BFF 6	2	7427	79,360	24,140	55,220	4.98	52,470	26.2350	26.2350	Est 0.309	7.070	86.67%	8.59%	0.18%	1.10%
04/28	04/25	BFF 7	2	7429	75,360	24,020	51,340	5.17	48,686	24.3430	24.3430	Est 0.309	7.070	86.67%	8.59%	0.18%	1.10%
04/28	04/25	BFF 8	2	7428	75,140	24,080	51,060	5.38	48,313	24.1565	24.1565	Est 0.309	7.070	86.67%	8.59%	0.18%	1.10%
04/28	04/25	BFF 9	3	7432	77,900	24,040	53,860	6.67	50,268	25.1340	25.1340	Est 0.399	7.740	84.47%	9.91%	0.12%	0.80%
04/28	04/26	BFF 10	3	7430	78,380	24,000	54,980	6.30	51,516	25.7580	25.7580	Est 0.399	7.740	84.47%	9.91%	0.12%	0.80%
04/28	04/26	BFF 11	3	7433	79,740	24,180	55,560	6.84	51,760	25.8800	25.8800	Est 0.399	7.740	84.47%	9.91%	0.12%	0.80%
04/28	04/27	BFF 12	4	7435	77,460	24,060	53,400	7.09	49,614	24.8070	24.8070	Est 0.400	7.763	85.17%	8.21%	0.35%	1.10%
04/28	04/27	BFF 13	4	7436	74,660	23,980	50,680	7.26	47,001	23.5005	23.5005	Est 0.400	7.763	85.17%	8.21%	0.35%	1.10%
04/28	04/27	BFF 14	4	7437	78,840	24,180	54,660	6.07	51,342	25.6710	25.6710	Est 0.400	7.763	85.17%	8.21%	0.35%	1.10%
04/28	04/28	BFF 15	5	7441	79,560	24,220	55,340	6.75	51,605	25.8025	25.8025	Est 0.400	8.170	83.86%	10.04%	0.20%	1.10%
04/28	04/28	BFF 16	5	7438	79,060	24,080	54,980	6.46	51,428	25.7140	25.7140	Est 0.400	8.170	83.86%	10.04%	0.20%	1.10%
04/28	04/28	BFF 17	5	7440	79,300	24,040	55,260	6.60	51,613	25.8065	25.8065	Est 0.400	8.170	83.86%	10.04%	0.20%	1.10%
04/28	04/28	BFF 18	5	7434	79,040	24,220	54,820	6.61	51,196	25.5980	25.5980	Est 0.400	8.170	83.86%	10.04%	0.20%	1.10%
April, 1989					1,403,160	433,680	969,480	6.09	910,446	455.2230	455.2230						
MAY, 1989:																	
05/05	05/01	BFF 19	6	7444	79,280	24,060	55,220	6.81	51,460	25.7300	25.7300	Est 0.424	9.670	82.04%	10.30%	0.42%	1.30%
05/05	05/01	BFF 20		7442	79,780	23,940	55,840	4.71	53,210	26.6050	26.6050	Est 0.424	9.670	82.04%	10.30%	0.42%	1.30%
May, 1989					159,060	48,000	111,060	5.75	104,670	52.3350	52.3350						
TOTAL TEST LOT							1,080,540	6.05	1,015,116	507.5580							

Results are based on the lower assays.

CHINO MINES COMPANY
SHIPPER: A. F. BUDGE (MINI
Attn. R. R. Short

SILICEOUS FLUXING ORE

H&H $/OZ GOLD	H&H $/OZ SILVER	$/TON SIZING	FOR WEEK ENDED	1989 DATE RCV'D	CMC LOT #	SMPL #	SHIPPERS NO.	GOLD PAYMENT: OZ GOLD	TOTAL DEDUCT.	OZS. NET GOLD	OZS. PAY. @ 95%	GOLD PAY	SILVER PAYMENT: OZ SILVER	TOTAL DEDUCT.	OZS. NET SILVER	OZS. PAY. @ 95%	SILVER PAY	SIZING SIZING PAY	LESS PENALTIES: FE	TOTAL CHARGE	TOTAL PAYMENT
			APRIL, 1989:																		
$383.020	$5.7680	$3.50	04/28	04/24	BFF 1	1	7421	9.483	0.948	8.540	8.110	$3,106.29	183.25	18.33	164.92	156.67	$903.67	$86.21	2.58%	$19.06	$4,077.11
$383.020	$5.7680	$3.50	04/28	04/24	BFF 2	1	7425	10.072	1.007	9.070	8.620	$3,301.63	194.65	19.47	175.18	166.42	$959.91	$91.57	2.58%	$20.25	$4,332.86
$383.020	$5.7680	$3.50	04/28	04/24	BFF 3	1	7416	9.602	0.960	8.640	8.210	$3,144.59	185.56	18.56	167.00	158.65	$915.09	$87.29	2.58%	$19.30	$4,127.67
$383.020	$5.7680	$3.50	04/28	04/24	BFF 4	1	7424	9.831	0.983	8.850	8.410	$3,221.20	189.99	19.00	170.99	162.44	$936.95	$89.38	2.58%	$19.76	$4,227.77
$383.020	$5.7680	$3.50	04/28	04/25	BFF 5	2	7426	8.150	0.815	7.340	6.970	$2,669.65	182.93	18.29	164.64	156.41	$902.17	$89.42	2.20%	$16.86	$3,644.38
$383.020	$5.7680	$3.50	04/28	04/25	BFF 6	2	7427	8.369	0.837	7.530	7.150	$2,738.59	187.84	18.78	169.06	160.61	$926.40	$91.82	2.20%	$17.32	$3,739.49
$383.020	$5.7680	$3.50	04/28	04/25	BFF 7	2	7429	7.765	0.777	6.990	6.640	$2,543.25	174.30	17.43	156.87	149.03	$859.61	$85.20	2.20%	$16.07	$3,471.99
$383.020	$5.7680	$3.50	04/28	04/25	BFF 8	2	7428	7.706	0.771	6.940	6.590	$2,524.10	172.96	17.30	155.66	147.88	$852.97	$84.55	2.20%	$15.94	$3,445.68
$383.020	$5.7680	$3.50	04/28	04/26	BFF 9	3	7432	10.028	1.003	9.030	8.580	$3,286.31	201.07	20.11	180.96	171.91	$991.58	$87.97	3.84%	$28.95	$4,336.91
$383.020	$5.7680	$3.50	04/28	04/26	BFF 10	3	7430	10.277	1.028	9.250	8.790	$3,366.75	206.06	20.61	185.45	176.18	$1,016.21	$90.15	3.84%	$29.67	$4,443.44
$383.020	$5.7680	$3.50	04/28	04/26	BFF 11	3	7433	10.326	1.033	9.290	8.830	$3,382.07	207.04	20.70	186.34	177.02	$1,021.05	$90.58	3.84%	$29.81	$4,463.89
$383.020	$5.7680	$3.50	04/28	04/27	BFF 12	4	7435	10.096	1.010	9.090	8.640	$3,309.29	192.58	19.26	173.32	164.65	$949.70	$86.82	2.17%	$16.15	$4,329.66
$383.020	$5.7680	$3.50	04/28	04/27	BFF 13	4	7436	9.565	0.957	8.610	8.180	$3,133.10	182.43	18.24	164.19	155.98	$899.69	$82.25	2.17%	$15.30	$4,099.74
$383.020	$5.7680	$3.50	04/28	04/27	BFF 14	4	7437	10.448	1.045	9.400	8.930	$3,420.37	199.28	19.93	179.35	170.38	$982.75	$89.85	2.17%	$16.71	$4,476.26
$383.020	$5.7680	$3.50	04/28	04/28	BFF 15	5	7441	10.553	1.055	9.500	9.030	$3,458.67	214.93	21.49	193.44	183.77	$1,059.99	$90.31	3.81%	$29.49	$4,579.48
$383.020	$5.7680	$3.50	04/28	04/28	BFF 16	5	7438	10.517	1.052	9.470	9.000	$3,447.18	214.20	21.42	192.78	183.14	$1,056.35	$90.00	3.81%	$29.39	$4,564.14
$383.020	$5.7680	$3.50	04/28	04/28	BFF 17	5	7440	10.555	1.056	9.500	9.030	$3,458.67	214.97	21.50	193.47	183.80	$1,060.16	$90.32	3.81%	$29.50	$4,579.65
$383.020	$5.7680	$3.50	04/28	04/28	BFF 18	5	7434	10.470	1.047	9.420	8.950	$3,428.03	213.23	21.32	191.91	182.31	$1,051.56	$89.59	3.81%	$29.26	$4,539.92
			April, 1989					173.813	17.384	156.460	148.660	$56,939.74	3,517.27	351.74	3,165.53	3,007.25	$17,345.81	$1,593.28		$398.79	$75,480.04
			MAY, 1989:																		
$377.400	$5.6400	$3.50	05/05	05/01	BFF 19	6	7444	10.910	1.091	9.820	9.330	$3,521.14	262.45	26.25	236.20	224.39	$1,265.56	$90.06	4.30%	$33.19	$4,843.57
$377.400	$5.6400	$3.50	05/05	05/01	BFF 20	6	7442	11.281	1.128	10.150	9.640	$3,638.14	271.37	27.14	244.23	232.02	$1,308.59	$93.12	4.30%	$34.32	$5,005.53
			May, 1989					22.191	2.219	19.970	18.970	$7,159.28	533.82	53.39	480.43	456.41	$2,574.15	$183.18		$67.51	$9,849.10

TOTAL TEST LOT	$85,329.14
LESS UMPIRE CHARGES	$93.00
	$85,236.14
LESS PROVISIONAL PAYMENT	$84,060.84
NET PAYABLE	$1,175.30

CHIND MINES COMPANY
SHIPPER: A. F. BUDGE (MINI
Attn. R. R. Short

SILICEOUS FLUXING ORE - Min

H&H $/OZ GOLD	H&H $/OZ SILVER	$/TON SIZING	FOR WEEK ENDED	1989 DATE RCV'D	CMC LOT #	SMPL. #	SHIPPERS NO.	GOLD PAYMENT: OZ GOLD	TOTAL DEDUCT.	OZS. NET GOLD	OZS. PAY. @ 95%	GOLD PAY	SILVER PAYMENT: OZ SILVER	TOTAL DEDUCT.	OZS. NET SILVER	OZS. PAY. @ 95%	SILVER PAY	SIZING: SIZING PAY	LESS PENALTIES: FE	TOTAL CHARGE	TOTAL PAYMENT
			APRIL, 1989:																		
$383.020	$5.7680	$3.50	04/28	04/24	BFF 1	1	7421	9.483	0.948	8.540	8.110	$3,106.29	179.05	17.91	161.15	153.09	$883.02	$86.21	2.58%	$13.06	$4,056.46
$383.020	$5.7680	$3.50	04/28	04/24	BFF 2	1	7425	10.072	1.007	9.070	8.620	$3,301.63	190.20	19.02	171.18	162.62	$937.99	$91.57	2.58%	$20.25	$4,310.94
$383.020	$5.7680	$3.50	04/28	04/24	BFF 3	1	7415	9.602	0.960	8.640	8.210	$3,144.59	181.32	18.13	163.19	155.03	$894.21	$87.29	2.58%	$19.30	$4,106.79
$383.020	$5.7680	$3.50	04/28	04/24	BFF 4	1	7424	9.831	0.983	8.850	8.410	$3,221.20	185.65	18.57	167.08	158.73	$915.55	$89.38	2.58%	$19.76	$4,206.37
$383.020	$5.7680	$3.50	04/28	04/25	BFF 5	2	7426	7.894	0.789	7.110	6.750	$2,585.39	180.63	18.06	162.57	154.44	$890.81	$89.42	2.59%	$19.85	$3,545.77
$383.020	$5.7680	$3.50	04/28	04/25	BFF 6	2	7427	8.107	0.811	7.300	6.930	$2,654.33	185.48	18.55	166.93	158.58	$914.69	$91.82	2.59%	$20.38	$3,640.46
$383.020	$5.7680	$3.50	04/28	04/25	BFF 7	2	7429	7.522	0.752	6.770	6.430	$2,462.82	172.11	17.21	154.90	147.16	$848.82	$85.20	2.59%	$18.91	$3,377.93
$383.020	$5.7680	$3.50	04/28	04/25	BFF 8	2	7428	7.464	0.746	6.720	6.380	$2,443.67	170.79	17.08	153.71	146.02	$842.24	$84.55	2.59%	$18.77	$3,351.69
$383.020	$5.7680	$3.50	04/28	04/26	BFF 9	3	7432	10.028	1.003	9.030	8.580	$3,286.31	194.54	19.45	175.09	166.34	$959.45	$87.97	3.91%	$29.48	$4,304.25
$383.020	$5.7680	$3.50	04/28	04/26	BFF 10	3	7430	10.277	1.028	9.250	8.790	$3,366.75	199.37	19.94	179.43	170.46	$983.21	$90.15	3.91%	$30.21	$4,409.90
$383.020	$5.7680	$3.50	04/28	04/26	BFF 11	3	7433	10.326	1.033	9.290	8.830	$3,382.07	200.31	20.03	180.28	171.27	$987.89	$90.58	3.91%	$30.36	$4,430.18
$383.020	$5.7680	$3.50	04/28	04/27	BFF 12	4	7435	9.923	0.992	8.930	8.480	$3,248.01	192.58	19.26	173.32	164.65	$949.70	$86.82	2.21%	$16.45	$4,268.08
$383.020	$5.7680	$3.50	04/28	04/27	BFF 13	4	7436	9.400	0.940	8.460	8.040	$3,079.48	182.43	18.24	164.19	155.98	$899.69	$82.25	2.21%	$15.58	$4,045.84
$383.020	$5.7680	$3.50	04/28	04/27	BFF 14	4	7437	10.268	1.027	9.240	8.780	$3,362.92	199.28	19.93	179.35	170.38	$982.75	$89.85	2.21%	$17.02	$4,418.50
$383.020	$5.7680	$3.50	04/28	04/28	BFF 15	5	7441	10.321	1.032	9.290	8.830	$3,382.07	210.81	21.08	189.73	180.24	$1,039.62	$90.31	4.04%	$31.27	$4,480.73
$383.020	$5.7680	$3.50	04/28	04/28	BFF 16	5	7438	10.286	1.029	9.260	8.800	$3,370.58	210.08	21.01	189.07	179.62	$1,036.05	$90.00	4.04%	$31.17	$4,465.46
$383.020	$5.7680	$3.50	04/28	04/28	BFF 17	5	7440	10.323	1.032	9.290	8.830	$3,382.07	210.84	21.08	189.76	180.27	$1,039.80	$90.32	4.04%	$31.28	$4,480.91
$383.020	$5.7680	$3.50	04/28	04/28	BFF 18	5	7434	10.239	1.024	9.220	8.760	$3,355.26	209.14	20.91	188.23	178.82	$1,031.43	$89.59	4.04%	$31.02	$4,445.26
			April, 1989					171.366	17.136	154.260	146.560	$56,135.44	3,454.62	345.46	3,109.16	2,953.70	$17,036.92	$1,593.28		$420.12	$74,345.52
			MAY, 1989:																		
$377.400	$5.6400	$3.50	05/05	05/01	BFF 19	6	7444	10.910	1.091	9.820	9.330	$3,521.14	248.81	24.88	223.93	212.73	$1,199.80	$90.06	4.30%	$33.19	$4,777.81
$377.400	$5.6400	$3.50	05/05	05/01	BFF 20		7442	11.281	1.128	10.150	9.640	$3,638.14	257.27	25.73	231.54	219.96	$1,240.57	$93.12	4.30%	$34.32	$4,937.51
			May, 1989					22.191	2.219	19.970	18.970	$7,159.28	506.08	50.61	455.47	432.69	$2,440.37	$183.18		$67.51	$9,715.32

TOTAL TEST LOT $84,060.84

INTEREST (805.58) 11.5% PRIME

PROVISIONAL PAYMENT 83,255.26

Note: Final Settlement will be made upon receipt of umpire assays.

PHELPS DODGE CORPORATION
2600 NORTH CENTRAL AVENUE
PHOENIX, AZ 85004

PHELPS DODGE CORPORATION
RAW MATERIALS DIRECTOR, D. K. FARQUHAR
WESTERN OPERATIONS, c/o MORENCI BRANCH
MORENCI, ARIZONA 85540

PURCHASE CONTRACT

DATE March 1, 1989

SHIPPER: A. F. Budge (Mining) Limited (Attn. R. R. Short)

ADDRESS: 4301 N. 75th St., Suite 101, Scottsdale, AZ 85251-3504

MATERIAL: Siliceous Fluxing Ore

ANALYSIS

Au	_____ oz/ton	S	_____ %	As	_____ %
Ag	_____ oz/ton	Fe	_____ %	Sb	_____ %
Cu	_____ %	CaO	_____ %	Bi	_____ %
SiO_2	_____ %	Al_2O_3	_____ %	Cd	_____ %
		Pb	_____ %	F	_____ %
		Zn	_____ %	Cl	_____ %

DELIVERY: F.O.B. Hidalgo Smelter, Phelps Dodge Corporation. Truck haulage is acceptable within smelter determined quantities. Drop bottom cars SP series 464 thru 467 or equivalent may also be acceptable upon agreement by Phelps Dodge.

SECTION I - ECONOMIC

PAYMENT: If assay certificates are exchanged, payment shall be made within 30 days after the date of the exchange of assays. If assays are not exchanged, the Phelps Dodge assay results will be used for the settlement and payment shall be made within 30 days after the shipment is weighed and sampled at the Smelter. If a sample is sent to an umpire, settlement will be delayed until after receipt of the umpire results.

Gold: Deduct 0.03 tr. oz per dry ton or 10% of the gold content, whichever is greater, and pay for 95 % of balance at the weekly average Handy and Harmon quotation in Metals Week; for the week ending Friday in which the shipment is received.

Silver: Deduct 0.5 tr. oz per dry ton or 10% of the silver content, whichever is the greater, and pay for 95 % of the balance at the weekly average Handy & Harmon quotation in Metals Week for the week ending Friday in which the shipment is received.

CHARGES: ~~Treatment Charge xxxxxxxx of the payable gold, silver and copper content.~~

Silica: Ore less than 75% SiO_2 will be charged at $1.00 per unit (1 percentage point = 1 unit = 20 lbs.) fractions in proportion.

Iron: Above 6 %, charge excess at $ 0.30 per unit, fractions in proportion.

Lime: Above 3 %, charge excess at $ 0.30 per unit, fractions in proportion.

Alumina: Above 6 %, charge excess at $ 1.00 per unit, fractions in proportion.

Determination for the following impurities shall be made on a weighted monthly composite sample.

Lead:	Above 0.3 %, charge excess at $ 0.30 per unit, fractions in proportion.
Zinc:	Above 0.3 %, charge excess at $ 0.30 per unit, fractions in proportion.
Arsenic:	Above 0.3 %, charge excess at $ 0.30 per unit, fractions in proportion.
Antimony:) Bismuth:) Cadmium:)	Combined, Above 0.2 %, charge excess at $ 8.00 per unit, fractions in proportion.
Fluorine:	Above 0.05%, charge excess at $ 2.00 per lb., fractions in proportion.
Chlorine:	Above 0.05%, charge excess at $ 2.00 per lb., fractions in proportion.
Moisture:	Above 10 %, charge excess at $ 0.30 per unit, fractions in proportion.

Above purchase terms are subject to the following non-economic section of this contract.

SECTION II - NON-ECONOMIC

TERMS

This agreement will be in force from March 1, 1989 until terminated by Phelps Dodge Corporation. Termination will be effective thirty (30) days after written notice is given to the Shipper by Phelps Dodge. All terms of this Contract are subject to periodic review and re-negotiation by the parties.

Basic weight units will be troy ounces, avoirdupois pounds and short dry tons. The word "unit" will mean "1 percentage point (1.0%)", or 20 lbs.

QUANTITY

The Shipper will be advised by Phelps Dodge on a monthly basis of the quantity to be delivered during each calendar month and the lot size for sampling and settlement purposes. This contract is for up to 1000 tons/month.

WEIGHING, SAMPLING & ASSAYING

Weighing, sampling, moisture determination and assaying will be conducted in accordance with standard practices at the Smelter after receipt of material at the Smelter. The Shipper shall have the right to be present, or have his representative present, at the weighing and sampling.

If the Shipper notifies the Hidalgo Smelter, Phelps Dodge Corporation, in writing, prior to receipt by the Smelter of the siliceous material, that Shipper wishes to exchange assays, Phelps Dodge shall deliver to Shipper a one-quarter split of the sample of the shipment taken by the Smelter and the Supplier shall cause his sample split to be assayed by a reputable and qualified assayer. The Shipper, on receipt of his assay certificate, shall present same to the Branch Controller or his representative, who shall then present at that time the Smelter's assay certificate for comparison. If the variation between the two certificates do not exceed the following splitting limits:

Copper	=	0.15%
Silver	=	0.15 oz/ton
Gold	=	0.010 oz/ton
Lead	=	0.05%
Zinc	=	0.2%
Arsenic	=	0.4%
Antimony	=	0.4%
Bismuth	=	0.1%
Fluorine	=	0.005%
Chlorine	=	0.01%
SiO_2	=	0.5%
Al_2O_3	=	0.5%
CaO	=	0.5%
Iron	=	0.5%

then the settlement will be established on the average between the respective assays. In the case of the variation exceeding the splitting limits, a mutually acceptable umpire shall be chosen from the following assayers:

Mountain States Research & Development, Tucson
Metallurgical Labs, San Francisco
American Analytical, Tucson
Skyline Labs, Tucson

The umpire's assay result shall be final, if it is not higher than the highest result or lower than the lowest result of the Shipper and Smelter assay certificates. If the umpire's assay is higher than the highest or lower than the lowest results of the Shipper and Smelter assay certificates, settlement shall be based on the assay nearest to the umpire's. Cost of the umpire analysis shall be borne by the party whose assay result is the furthest from the umpire's.

WITHHOLDING

If any third party should make claim to any of the siliceous material or the proceeds from the sale thereof, payment shall be withheld until such time as the dispute has been resolved by:

(i) Entry of a final judgment by a court or a final award in arbitration determining the respective rights of the claimants to the siliceous material or the proceeds from the sale thereof, or

(ii) Mutual agreement among the claimants releasing and discharging Phelps Dodge from any and all liability in connection with the purchase of and payment for said siliceous material.

WARRANTIES

The Shipper warrants that it has the right to mine and ship siliceous material to the Hidalgo Smelter, Phelps Dodge Corporation, hereunder, and that it will have good title to all siliceous material delivered to the Hidalgo Smelter, Phelps Dodge Corporation, and the Shipper agrees to indemnify and hold harmless the Hidalgo Smelter, Phelps Dodge Corporation, from any and all claims, demands, obligations, and liabilities of any kind whatsoever that may be asserted against the Hidalgo Smelter, Phelps Dodge Corporation, for or on account of siliceous material delivered hereunder, or the purchase thereof.

FORCE MAJEURE

Either party hereto shall be excused from performance during any period such performance is prevented by governmental action, war, fire, flood or other force majeure beyond the control of such party, or by strike, lockout, or failure of transportation facilities, and the Hidalgo Smelter, Phelps Dodge Corporation, shall not be required to order, accept, or receive any siliceous material hereunder during any period when the operations of the Hidalgo Smelter, Phelps Dodge Corporation, or any smelter to which such material has been shipped or is to be shipped, are suspended or curtailed on account of any such cause.

The time for making payments for siliceous material sampled during a period when force majeure has been declared shall be extended by a period of time equivalent to the number of days for which force majeure was in effect.

NOTICE

All notices shall be deemed to have been given upon delivery in person or upon deposit thereof in the United States mail, registered or certified mail, postage prepaid, return receipt requested; enclosed in a sealed envelope addressed to the party at the address set forth above or to such other address as a party shall have designated by written notice to the other. Any notice of change of address shall not be deemed given until actually received by the party entitled to receive such notice.

PHELPS DODGE CORPORATION

by D. K. Farquhar
D. K. Farquhar

Title Raw Materials Director, Western Operations

Date 3/3/89

Accepted:

A.F. BUDGE (MINING) LTD.
(Shipper)

by Ronald Short
(Authorized Rep. For Shipper)

Title GENERAL MANAGER

Date MARCH 7, 1989

Number of cars sampled	Sample No.	Date	Gold oz/t	Silver oz/t
25	1723	4/24/89	0.228	3.95
28	1725	4/25/89	0.286	6.33
35	1726	4/25/89	0.198	3.72
30	1727	4/25/89	0.238	3.11
30	1728	4/25/89	0.666	6.16
9	1729	4/26/89	0.266	2.67
27	1732	4/27/89	0.368	2.58
30	1733	4/27/89	0.222	2.56
18	1734	4/27/89	0.328	2.65
30	1738	4/28/89	0.480	3.25
30	1739	4/28/89	0.256	2.35
31	1741	5/02/89	0.482	2.34
46	1742	5/02/89	0.366	1.81
30	1743	5/02/89	0.352	2.17
36	1744	5/02/89	0.276	2.37
30	1745	5/02/89	0.306	2.55
30	1746	5/02/89	0.180	2.44
30	1747	5/02/89	0.348	4.75
30	1749	5/03/89	0.278	1.50
29	1750	5/03/89	0.214	1.76
30	1216	5/03/89	0.198	1.93
30	1217	5/03/89	0.244	1.62
24	1218	5/04/89	0.142	1.80
30	1219	5/04/89	0.208	1.58
15	1220	5/04/89	0.368	1.86
30	1222	5/05/89	0.150	1.26
30	1223	5/05/89	0.140	1.61
30	1225	5/08/89	0.154	1.24
30	1226	5/08/89	0.252	6.74
30	1227	5/08/89	0.178	4.25
30	1229	5/09/89	0.394	9.32
30	1230	5/08/89	0.226	6.45
30	1232	5/09/89	0.962	19.98
30	1233	5/09/89	0.838	22.10
30	1234	5/09/89	0.636	14.38
30	1236	5/10/89	0.578	15.36
30	1237	5/10/89	0.150	6.69
30	1238	5/10/89	0.508	19.18
30	1239	5/11/89	0.524	18.86
30	1240	5/11/89	0.804	13.91
30	1241	5/11/89	0.630	13.49
30	1244	5/15/89	0.570	11.25
30	1246	5/15/89	0.464	9.76
30	1247	5/15/89	0.310	6.10

Smelter samples	Sample No.	Date	Tons	Gold oz/t	Silver oz/t
Chino	1735	4/27/89	75	0.358	6.79
Chino	1737	4/28/89	100	0.424	8.05
	Weighted average on		450	0.326	6.19
		Actual	507.5	0.381	7.80
Hidalgo	1731	4/26/89	25	0.254	3.87
Hidalgo	1736	4/27/89	25	0.326	6.89
Hidalgo	1740	5/01/89	50	0.362	8.63
Hidalgo	1748	5/02/89	75	0.304	4.79
Hidalgo	1215	5/03/89	100	0.320	4.92
Hidalgo	1221	5/04/89	100	0.324	5.27
Hidalgo	1224	5/05/89	75	0.140	1.82
Hidalgo	1228	5/08/89	100	0.210	4.56
Hidalgo	1231	5/09/89	75	0.442	10.61
Hidalgo	1235	5/10/89	100	0.476	13.90
Hidalgo	1242	5/11/89	75	0.582	17.04
Hidalgo	1243	5/11/89	100	0.542	15.32
Hidalgo	1245	5/12/89	100	0.390	10.72
Hidalgo	1249	5/16/89	100	0.441	7.68
Hidalgo	1253	5/17/89	100	0.466	8.21
Hidalgo	1257	5/18/89	75	0.256	6.56
Hidalgo	1258	5/18/89	100	0.350	8.63
Hidalgo	1259	5/19/89	100	0.240	3.90
	1262	5/20/89	100	0.345	12.69
	1270	5/24/89	100	0.582	23.14
	1276	5/25/89	125	0.500	22.65
	1280	5/26/89	100		
			1800 tons		
		Weighted average		0.385	10.27
		"Net" to Budge	$328,333.02		

Number of cars sampled	Sample No.	Date	Gold oz/t	Silver oz/t	Smelter samples	Sample No.	Date	Tons	Gold oz/t	Silver oz/t
30	1248	5/15/89	0.316	6.20						
30	1250	5/16/89	0.547	9.75						
18	1251	5/16/89	0.351	9.69						
30	1252	5/16/89	0.293	6.47						
35	1254	5/17/89	0.440	8.87						
30	1255	5/17/89	0.236	9.22						
30	1256	5/17/89	0.430	6.90						
42	1260	5/18/89	0.497	16.17						
10	1261	5/17/89	0.307	3.74						
24	1263	5/20/89	0.480	19.83						
30	1264	5/20/89	0.218	7.52						
30	1265	5/20/89	0.235	9.14						
30	1266	5/20/89	0.549	22.52						
30	1267	5/20/89	0.556	23.50						
30	1268	5/20/89	0.247	8.64						
30	1269	5/20/89	0.266	8.20						
30	1271	5/25/89	0.732	25.25						
30	1272	5/25/89	0.382	15.42						
30	1273	5/25/89	0.423	18.24						
30	1274	5/25/89	0.561	23.29						
30	1275	5/25/89	0.534	23.04						
30	1277	5/25/89	0.410	16.26						
30	1278	5/25/89	0.573	20.28						
42	1279	5/26/89								
30	1281	5/26/89								
		3295	0.313	6.30						
		4,349								

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

September 29, 1988

Bondar-Clegg & Co., Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5

Dear Sirs,

You have forgotten to do step "3" of my very simple and specific letter of June 3rd (attached). Please do so now (e.g., locate my 100 pulps with "809" sample number prefixes -- your report #V88-04149.0 and ship them via U.P.S. to me at the address above).

Sincerely,

Don White

Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien
Ron R. Short

Prescott, AZ

September 21, 1988

Dear Bob,

Posted separately a few days ago was a sample of peculiarly iron-rich (~45% Fe!) silica from the stratigraphic top (E edge) of the U.V.X. Morgan zone recently intersected by a raise from the 950 level. It occurs in that zone between the beige-banded silica and the low-iron silica grit. Because of that positioning and the areal continuity of the rock I have dubbed it the "iron front", thinking of it as iron emplaced by migrating thermal fluids from the adjacent diorite. It was discussion about that which led you to request the sample to see whether it couldn't be a relict iron formation or whether some study couldn't reveal more about its history.

I shall get you a plan with this sample located in context of others on the 925 sublevel (25 ft. above the 950 level) as soon as it's compiled.

Carole tells me the first gold pour of the Vulture tailings operation will be later today. I've been away on another tailings evaluation in the Cripple Creek district the last couple weeks.

Give me a call if any issues need discussion on the N.W.M.C. paper.

Sincerely,

Don

Don White
Geologist, C.P.G.

cc: Carole A. O'Brien
Ron R. Short
John McKenney

DAWSON METALLURGICAL LABORATORIES, INC.

P.O. Box 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

September 30, 1988

A. F. Budge Mining Ltd.
4301 North 75th Street
Suite 101
Scottsdale, Arizona 85251

Attention: Carole A. O'Brien

Subject: Results of Cyanide Leach and Residue Assay Screen Analysis of a Sample of UVX Ore. Our Project No. P-1583A.

In accordance with discussions with Mr. Frank Millsaps a cyanide leach test was performed on 3 kilograms of minus 1½ inch (as received) sample from the United Verde Extension Project to determine gold and silver extraction. In addition, an assay-screen analysis was performed on the leach residue to determine the distribution of unleached gold and silver.

Cyanide leach results on this sample, identified as "yellow grit - stope run material" indicated that 67% of the gold and 12% of the silver was leached in 72 hours. A leach residue assaying 0.020 oz/ton gold and 1.14 oz/ton silver was obtained from a 0.060 oz/ton gold, 1.29 oz/ton silver back-calculated head. Results are summarized below:

P-1583A: A. F. Budge
Cyanidation Results: UVX Sample

Product	Assay, oz/ton		Distribution, %	
	Au	Ag	Au	Ag
Solution	0.040	0.15	66.75	11.67
Residue	0.020	1.14	33.25	88.33
Total (calc)	0.060	1.29	100.00	100.00
Total (assay)	0.063	1.06		

NaCn consumed: 1.82 lb/ton ore
Lime consumed: 3.1 lb/ton ore

P-1583A: A. F. Budge
Leach Residue Assay Screen Analyses

Screen Size, Mesh	Weight Percent	Assay, oz/ton Au	Assay, oz/ton Ag
+¼"	14.62	0.043	0.98
-¼ +10 mesh	21.34	0.030	1.06
-10 +35	16.19	0.021	1.01
-35 +100	7.08	0.015	0.96
-100	40.77	0.006	1.31
Total	100.00	0.020	1.14

Approximately 10 pounds of minus 1½ inch UVX sample identified as "Yellow Grit-Stope Run Material" was received at our laboratory September 20, 1988, and assigned our Lot No. P-1583A. Approximately 500 grams of sample was split out, crushed through 20 mesh and a pulverized split submitted for gold and silver assay.

Three kilograms of sample was mixed with 3 liters of water and the pulp pH adjusted to 11.0-11.5 with hydrated lime. Sodium cyanide was added to provide a leach solution containing 10 lbs NaCN per ton of solution and the slurry was bottle rolled for 72 hours. The leach slurry was then weighed, filtered and washed: The washed leach residue was wet screened on ¼ inch, 10, 35, and 100 mesh. Each fraction was dried, weighed and submitted for gold and silver assay along with the full strength leach solution.

If you have any questions or comments regarding this testwork, please call.

Sincerely,

DAWSON METALLURGICAL LABORATORIES, INC.

Philip Thompson

Philip Thompson
Vice President

PT/fg

cc: Mr. Frank Millsaps

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1583A
DATE 9/23/88
BY LA

TEST NO. 1 NAME UVX

72 hour leach on as received ore with 10 lb/ton NaCN Soln followed by assay screen

Product	Weight	Assay Au	Assay Ag	Units Au	Units Ag	Distribution Au	Distribution Ag
Leach Solution	3006.0	0.040	0.15	1.2024	4.509	66.75	11.67
Leach Residue	2995.0	0.020	1.14	0.5990	34.143	33.25	88.33
Head Calculated	3000.0	0.060	1.29	1.8014	38.652	100.00	100.00

Product	Weight	% Wt.	Assay Au	Assay Ag	Units Au	Units Ag	Distribution Au	Distribution Ag
+1/4" Leach Res	438.0	14.62	0.043	0.98	0.0063	0.143	32.09	12.63
-1/4"+10m Leach Res	639.0	21.34	0.030	1.06	0.0064	0.226	32.66	19.92
-10+35m Leach Res	485.0	16.19	0.021	1.01	0.0034	0.164	17.35	14.41
-35+100m Leach Res	212.0	7.08	0.015	0.96	0.0011	0.068	5.42	5.99
-100mesh Leach Res	1221.0	40.77	0.006	1.31	0.0024	0.534	12.48	47.05
Calculated	2995.0	100.00	0.020	1.14	0.0196	1.135	100.00	100.00

OPERATION			Start			Off							GRINDING PRODUCT	
TIME			7:35			7:35								
REAGENTS - LBS PER TON			Leach			72 hrs.								
Ore gm	3000											MESH	%	%
Water gm	3000											+10		
Lime gm		5.0										+14		
NaCN gm			15.0									+20		
NaCN Titration, lb/ton	Ore					8.16						+28		
CaO Titration, lb/ton	Ore					0.2						+35		
NaCN consumed, lb/ton	Ore					1.82						+48		
Lime consumed, lb/ton	Ore					3.1						+65		
												+100		
												+150		
MACHINE												+200		
R.P.M.												+325		
pH	7.5	11.9				11.0						-325		
% SOLIDS														
TEMPERATURE														

REMARKS:

P-1583B: A.F.Budge Mining, Inc.
Cyanide Leach Test Results Summary
UVX Samples

Test No.	Product	Weight, grams	Assay, oz/t Au	Assay, oz/t Ag	Distribution, % Au	Distribution, % Ag	NaCN* #/t ore
1	Leach Solution	3028.0	0.036	0.10	33.56	13.82	1.71
	Leach Residue	2997.0	0.072	0.63	66.44	86.18	
	Total (Calc)	3000.0	0.108	0.73	100.00	100.00	
	Total (Assay)		0.134	0.91			
2	Leach Solution	3032.0	0.059	0.32	67.53	20.61	2.74
	Leach Residue	2966.0	0.029	1.26	32.47	79.39	
	Total (Calc)	3000.0	0.088	1.57	100.00	100.00	
	Total (Assay)		0.084	2.14			
3	Leach Solution	3052.0	0.118	2.69	71.57	53.75	2.61
	Leach Residue	2981.0	0.048	2.37	28.43	46.25	
	Total (Calc)	3000.0	0.168	5.09	100.00	100.00	
	Total (Assay)		0.160	4.79			

Test No.1: 809 Level
Test No.2: 902 Level Low Fe, High Au
Test No.3: 902 Level High Fe, High Au

72hr Leach on 3 kilograms of -3/8" sample.
50% solids, 10lb NaCN per ton Solution.

***lbs NaCN consumed per ton of ore.**

Department of Geology,
Univ. Western Ontario,
November 14, 1988

FAX 519-661-3292

Mr. D. C. White,
A.F. Budge (Mining) Limited
4301 North 75th. Street,
Scottsdale, Arizona,
85251

FAX 602-949173/

Dear Don:

Attached please find another draft of the UVX paper. I am continuing to work on the manuscript and will look forward to getting together later this month.

Very best wishes to everyone.

Yours truly,

R.W. Hodder

INTRODUCTION

Copper was the principal product through the first half of this century at Jerome in Yavapai County, central Arizona. This came from two large and several small massive sulphide bodies stratabound within steeply dipping Proterozoic volcanic rocks successively overlain by flat lying Paleozoic sandstone and limestone and, Tertiary conglomerate and basalt (Anderson and Creasy, 1958). The first found, and largest, of these deposits was the United Verde which outcropped and produced 33 million short tons of 4.8% Cu, 0.043 oz/T Au and 1.6 oz/T Ag from massive and stringer chalcopyrite in the footwall of a pyritic lense perched upon a chlorite pipe penetrating a rhyolite footwall and overlain by chert, tuff, and basalt (figure 1, modified section from Lindberg, p.22). The second largest ore body was the United Verde Extension which did not outcrop but was found by undergrounf exploration on the downthrown side of the Verde Fault which bisects the area. The United Verde Extension produced 3.9 million short tons of 10.2% Cu, 0.039 oz/T Au, and 1.7 oz/T Ag from a lense of chalcocite above a chalcopyrite stringer zone within rhyolite and overlain by chert and tuff. Initially these massive sulphide bodies were interpreted as sulphide replacement of schistose rock and, the United Verde Extension was believed to be the downfaulted, supergene enriched, top of the United Verde. Subsequently Paul Handverger's and Paul Lindberg's (1974) mapping convinced most that the two ore bodies are independent, each above their own hydrothermal roots which flair out upon a common exhalative stratigraphic horizon now folded into the Jerome Anticline and separated by 1,000 feet of normal displacement on the Verde Fault.

In 1984, Paul Handverger, vice-president of United Verde Exploration, had the pressence of mind to assay for gold in selected ferruginous cherty specimens from the company's classic rock collection taken from mine workings inaccesable since the 1930's. These rocks were originally mapped as gossan above the supergene copper deposit. It was Handverger's contention that this might be auriferous chert peripheral to a volcanogenic base metal massive sulphide deposit and an attractive target of gold-bearing silica flux rock much in demand by Arizona's copper smelters. A.F. Budge (Mining) Limited has drilled this target from rehabilitated mine workings concurrently with compilation of past production records. This work has defined three ore types on the basis of metals, gangue minerals, and location and, supports a reinterpretation of distribution of precious metals at the United Verde Extension.

CHALCOCITE-CUPRITE ORE

The main ore body which sustained production at the United

Verde Extension was an equidimensional lense of massive chalcocite and cuprite of 3 million tons with 12% Cu, 0.03 oz/T Au and 1.2 oz/T Ag which extended for 450feet vertically from 800 feet below the Precambrian - Paleozoic unconformity to diminishing amounts of chalcopyrite and pyrite in stringers within chloritic schist persisting downward an additional 250 feet. It has a footwall of rhyolite against the Verde Fault and a hanging wall of chert and tuffs against another normal fault sympathetic to the verde Fault (figure 1).

COPPER-SILICA ORE

Copper-silica ore was mined from more than 20 separate bodies aggregating 850,000 tons of 6% Cu, 0.06% oz/T Au, 3.5 oz/T Ag, plus 55% SiO2 and 12% total Fe. Gold abundance was extremely variable from stope to stope and body to body over a range of 0.02 oz/T to 1 oz/T. These ore bodies are between 400 and 800 feet below the Precambrian - Paleozoic unconformity in immediate hanging wall strands of the Verde Fault. Malachite, azurite, chalcocite, and minor cuprite and native copper occur with up to 25% hematite and goethite on fractures in shattered, masssive, fine grained quartz. The hematite varies from blood red to brown in colour and earthy and porous to massive and flinty. Some hematite is specular.

GOLD-ONLY ORE

Gold-only ore was discoverd in the 1920's when an exploration cross-cut intersected a fine grained gritty quartz interval which "flowed like sand" and contained more than 1 oz/T Au. This material was more than 90% SiO2 and virtually devoid of alumina and alkalis. It was mined for flux and shipped direct to the smelter at the rate of one car of gold-only ore to three cars of massive chalcocite. Most of the gold-only ore came from one stope, the Gold Stope, of 35,000 tons averaging 0.4 oz/T Au and 2.0 oz/T Ag with less than 1000 ppm combined base metals but with appreciable As, Bi, Hg, Mo, Sb, Se, Sn, and Te. Except for Sn as cassiterite, none of those trace metals has been identified in mineral species. Gold occurs in micron-size grains of native metal and electrum.

The Gold Stope, and additional gold-only ore bodies found in current exploration, are farther into the siliceous hanging wall of the Verde Fault and above copper-silica ore. They are in the first 300 vertical feet below the Precambrian-Paleozoic unconformity, and within wrinkles on foot and hanging wall of a diorite sill which is roughly conformable to the Verde Fault and to hanging wall tuffs and cherts. The ore bodies are shattered lenses with several generations of hairline to millimeter thick fractures healed by quartz and yellow to brown geothite and hematite which contain in some instances discordant pipe-like zones of matrix supported breccia in which clasts are inches to several feet in diameter of finely fractured, equigranular, fine grained

quartz. Clasts are angular to round and both clasts and matrix are traversed by nealy horizontal leisigang bands of variously colored iron oxides. Fractures and bands fade outward from the hanging wall of the Gold Stope into doubly graded felsic tuffs and cherts. In the footwall of the Gold Stope fractures grade into a massive siliceous hematite-rich rock and progressively into a beige, massive and siliceous margin to the diorite sill. These are also common features in gold-only bodies along the footwall of the diorite.

THE DIORITE SILL

The diorite sill has an average thickness of 25 feet and extends from at least above the massive chalcocite-cuprite body for 1,000 feet to the Precambrian-Paleozoic unconformity. It has a core with a sub-ophitic texture of chlorite, epidote, and calcite pseudomorphing plagioclase and hornblende plus relict slightly round quartz grains. There is native copper and hematite on fractures. The propylitic assemblage at the core of the sill grades outward to both hanging and footwall zones dominated by clay minerals and small, round, quartz grains with no relict texture. This argillic assemblage grades outward into a zone from one to ten feet thick of very siliceous, fine-grained, massive beige colored rock with a few round quartz eyes, an average of 5% total iron as hematite and 0.001 oz/T Au. This in turn is flanked by a rim with 10 to 50% total iron as red hematite, yellow brown geothite, and locally specularite. There is no relict texture and gold content is trace.

INTERPRETATION

In brief, the United Verde Extension ore body is steeply inclined and from bottom up is veinlets of chalcopyrite and pyrite in black chlorite overlain by a lense of massive chalcocite after pyrite and succeeded upward by extremely siliceous, iron-rich, broken rocks adjacent to the Verde Fault and in hanging and footwall of a diorite sill. This siliceous, iron-rich rock contains in order of decreasing elevation, copper-silica bodies with 0.06 oz/T Au and 3.5 oz/T Ag and gold-only bodies with an average of 0,17 oz/T Au and 3.8 oz/T Ag which are close to the diorite sill and the unconformity between Precambrian and Paleozoic.

Lindberg's (1974) interpretation of base metal massive sulphide distribution does not consider gold except as a primary trace metal of volcanogenic base metal massive sulphide deposits with some supergene enrichment in the United Verde Extension. In his interpretation the siliceous, iron-rich zone is an in situ gossan immediately below the unconformity and immediately above the supergene masive chalcocite-cuprite body.

However, it is our contention that the hypogene and supergene

processes must be somewhat more complex to explain the total metal content and its distribution relative to the diorite sill. We interpret the following events: 1)the diorite sill intruded into still hydrous exhalative cherts and cherty tuffs overlying and flanking the primary sulphide deposit of the United Verde Extension.

2) during emplacement and cooling the diorite was hydrated by water from the cherts and tuffs to propylitic and argillic mineral assemblages by an exchange of water for silica. The bulk of expelled silica is now the siliceous edge to the diorite, and the siliceous, repeatedly fractured cherts and tuffs marginal to the sill.

3) intake of cold water into the sill was diffuse but discharge was warm, iron, gold, and other metallic element-bearing water focussed at step-like wrinkles in the sill margins and into coincident disrupted zones within flanking cherts and tuffs. This fluid flow effected the first upgrading of iron and precious metals and other attendant trace elements at epithermal-like sites.

4) with Tertiary normal movement on the Verde Fault, the United Verde massive sulphide deposit was exposed. Meteoric water running down the fault scarp and into the fault zone progresively enriched the copper deposit of the United Verde Extension in place but also selectively leached precious metals, copper, silica, and iron from the United Verde and redeposited them in the Verde Fault zone in the first few hundred feet below the unconformity.

There is no convincing pseudomorphous evidence that the siliceous and iron-rich area was ever sulphide-bearing or particularly metalliferous. In addition, the present course of Bitter Creek is through the United Verde to the United Verde Extension and during the rainy season has running water which is milky with silica gel and assayable iron, copper, and gold. This is depositing as a ferricrete just down stream from the UNited Verde Extension and as copper oxides on fractures in Tertiary basalt.

CONCLUSIONS

The primary gold content of the base metal massive sulphide deposits at the United Verde and United Verde Extension is average for this type of deposit. The elevated gold content at the United Verde Extension is by secondary hypogene concentration in peripheral cherts during early mafic sill emplacement in the Precambrian and, by transported supergene enrichment from Tertiary to Present.

DAWSON METALLURGICAL LABORATORIES, INC.

P.O. Box 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

September 2, 1988

A.F. Budge Mining Ltd.
4301 North 75th Street
Suite 101
Scottsdale, Arizona 85251

Attn: Carole A. O'Brien

Subject: Results of Cyanide Leach and Residue Assay Screen Analysis of a Sample of UVX Ore. Our Project No. P-1583.

Dear Ms. O'Brien:

In accordance with arrangements made with Mr. Frank Millsaps, a cyanide leach test was performed on 3 kilograms of minus one inch (as received) sample from the United Verde Extension Project to determine gold and silver extraction. In addition an assay-screen analysis was performed to determine the distribution of unleached gold and silver.

Cyanide leach results on this particular UVX sample were encouraging. Approximately 75% of the gold and 50% of the silver was leached from the minus one inch sample in 72 hours. A leach residue assaying 0.062 oz/ton gold and 4.02 oz/ton silver was obtained from a 0.238 oz/ton gold, 7.90 oz/ton silver back-calculated head. Results are summarized below and presented in a detailed test data sheet attached to the end of this report.

P-1583: A.F. Budge
Cyanidation Results : UVX Sample

Product	Assay, oz/ton		Distribution, %	
	Au	Ag	Au	Ag
Solution	0.174	3.85	74.24	49.58
Residue	0.062	4.02	25.76	50.42
Total (calc)	0.238	7.90	100.00	100.00
Total (assay)	0.240	7.46		

NaCN consumed: 1.92 lb/ton ore
Lime consumed: 3.2 lb/ton ore

P-1583: A.F. Budge
Leach Residue Assay Screen Analyses

Screen Size, Mesh	Weight Percent	Assay, oz/ton Au	Ag
+1/4"	12.29	0.091	3.33
-1/4"+10 mesh	14.84	0.065	4.44
-10+35	10.49	0.076	4.62
-35+100	5.66	0.071	4.85
-100	56.72	0.052	3.87
Total	100.00	0.062	4.02

Approximately four kilograms of minus one inch UVX sample was received at our laboratory August 23, 1988 and assigned our Lot No. P-1583. Approximately 500 grams of sample was split out, crushed through 20 mesh and a pulverized split submitted for gold and silver assay.

Three kilograms of sample was mixed with 3 liters of water and the pulp pH adjusted to 11.0-11.5 with hydrated lime. Sodium cyanide was added to provide a leach solution containing 10 lbs NaCN per ton of solution and the slurry was bottle rolled for 72 hours. The leach slurry was then weighed, filtered and washed: The washed leach residue was wet screened on 1/4 inch, 10, 35, and 100 mesh. Each fraction was dried, weighed and submitted for gold and silver assay along with the full strength leach solution.

Testwork performed on an earlier sample of UVX ore, reported June 3, 1988 (re. DML P-1534) indicated extremely low gold extraction (10%) at minus 3/4 inch. This low gold extraction was attributed to silica encapsulation, which does not appear to be a serious problem with the currently reported sample. We suggest evaluating other samples from the UVX property to determine the variability of the ore to cyanidation.

If you have any questions or comments regarding this testwork, please call.

Sincerely,
DAWSON METALLURGICAL LABORATORIES, INC.

Philip Thompson

Philip Thompson
Vice President

PT/sk

cc: Mr. Frank Millsaps

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1583
DATE 8/26/88
BY LA

As recieved ore (-1")

TEST NO. 1 NAME UVX

72 hr leach on as received with 10 lb/ton NaCN soln. followed by assay screen

Product	Weight	Assay Au	Assay Ag	Units Au	Units Ag	Distribution Au	Distribution Ag	
Leach Solution	3052.4	0.174	3.85	5.3112	117.517	74.24	49.58	V1C
Leach Residue	2972.6	0.062	4.02	1.8430	119.499	25.76	50.42	
Head Calculated	3000.0	0.238	7.90	7.1542	237.016	100.00	100.00	

Product	Weight	% Wt.	Assay Au	Assay Ag	Units Au	Units Ag	Distribution Au	Distribution Ag	V1G
+1/4" Leach Res.	365.4	12.29	0.091	3.33	0.0112	0.409	17.95	10.18	
-1/4"+10 Leach Res.	441.1	14.84	0.065	4.44	0.0096	0.659	15.48	16.38	
-10+35m Leach Res.	311.9	10.49	0.076	4.62	0.0080	0.485	12.80	12.05	
-35+100m Leach Res.	168.2	5.66	0.071	4.85	0.0040	0.274	6.45	6.82	
-100mesh Leach Res.	1686.0	56.72	0.052	3.87	0.0295	2.195	47.33	54.57	
Residue Calculated	2972.6	100.00	0.062	4.02	0.0623	4.022	100.00	100.00	
Assayed Head			0.240	7.46					

OPERATION			Start			Off							GRINDING PRODUCT	
TIME			8:25			8:25								
REAGENTS - LBS PER TON			Leach			72 hrs								
Ore gm	3000											MESH	%	%
Water gm	3000											+10		
Lime gm		5.0										+14		
NaCN gm			15.0									+20		
NaCN titration lb/t soln						7.94						+28		
CaO titration lb/t soln						0.1						+35		
NaCN consumed lb/t ore						1.92						+48		
Lime consumed lb/t ore						3.23						+65		
												+100		
												+150		
MACHINE												+200		
R.P.M.												+325		
pH												-325		
% SOLIDS	7.4	12.0				11.0								
TEMPERATURE														

REMARKS:

Carole

M E M O

TO: Carole A. O'Brien, A.F. Budge

FROM: Don White

DATE: May 11, 1988

SUBJECT: Jerome Town Council meeting discussion related to U.V.X.

A number of issues related to U.V.X. were discussed at the Jerome Town Council's regular meeting, 7pm, May 10, 1988. Because some citizens were concerned about the DOT road plans and rumored Budge trucking, those issues were listed as the first agenda item for the session.

I was warned a few days earlier by Phil Harris, Jerome State Park director, that rumors of collusion between "U.V.X." and the ADOT were circulating. Many Jeromians newly aware of the D.O.T. plans for improving the U.V.X. Mine road, and also hearing rumors of impending production from the U.V.X., figure there is more than coincidence in that timing and are incensed that "a state entity is aiding private enterprise at the taxpayers' expense." To allay any further rumors, it seemed wise to explain to everyone the timing of the DOT project and the status of the U.V.X. So, with Carole's approval, I accepted mayor Ray Rantapaa's request to attend the council meeting and make a statement.

Everyone was all ears as I:

a) Introduced myself and reminded them we had met three years earlier over the vent-fan noise issue which was solved rapidly by moving the fans underground.

b) Pointed out that other noise issues had come up in the last two years, including compressors, tractors, and dumping of rock, and that all of them has been settled amicably between locals and Pete Flores, supt.

c) Explained that about two years of core drilling had recently culminated and had delineated about half a dozen small bodies about the size of small ranch houses on their sides.

d) Explained that these bodies are about 1,000 feet deep and miniscule by comparison to the copper stopes mined in the 1920's and 30's.

e) Described how the engineers, financial analysts, and myself were now figuring just what is and what is not worth mining and that no decisions are yet made on whether or how to mine or where to ship or how to process.

f) Provided some minimal history on the road project and, upon introducing Mr. L. Brady of the DOT and Dave Mellgren, DOT design engineer, offered to answer any questions. There were several questions in addition to praise for the noise abatement.

Mr. Brady of the D.O.T. then gave a more detailed account of the road improvement plans but was very nervous and, in typical bureaucratic fashion, worded things in such a way as to beg misinterpretation. He told of being "approached" in March, 1985 "by the Budge geologist" regarding potential haulage and consequently increasing the asphaltic content of the planned road from 2 inches to 4 inches, at an estimated extra cost of $40,000. He described the "special request" retaining wall opposite the shaft collar. Questions then addressed to him were very insinuating that such aid to the mining effort was surely improper. It took both his efforts and my own to explain that a) the road plans predated Budge's exploration, b) the "approach" was a casual encounter at the mine site between D.O.T. engineers putting out enlarged easement survey stakes and myself, concerned for what those stakes inside our lease meant, c) subsequent negotiation over roadway widths settled on the retaining wall as the best compromise between routing, safety, and cost, and represented the give and take between DOT easement needs and Budge security and operating room needs, d) DOT plans for a thicker road surface were their own, in response to the design review meeting, and not at Budge's request.

Up to that point in the meeting, all had been civil and speaking was in the order recognized by the mayor. Then a young mother made quite a scene by shouting that "UVX is taking seventeen feet of my back yard." She was asked to wait till she had the floor but jumped up and down and hollered how unfair it was for mining to spoil her lifestyle. It became apparent that she lives somewhere in the wedge of land on the "hogback", between Hwy 89A and the UVX Mine road and my guess is that Verde doesn't even enter the picture. Her issue is probably with the D.O.T. and/or a misunderstanding as to where her boundary is. Either way, it's something that can be worked out.

At that point Paul Handverger was recognized and proceeded to bore everyone with history of "long haired people" moving to town in the early sixties and how he has "no regrets about allowing that." He pointed out Verde's help for the community in terms of rentals for artists' studios at the High School, water, easements for sewer lines, and free ground for sewage disposal. He was interrupted several times by rude comments from Lisa, the woman who still felt Handverger was to blame for everything. The mayor had to have the constable remove her from the meeting.

Many more questions and statements followed, mostly critical of the road plans and mine haulage. One of the councilmen asked the DOT fellows whether Jerome couldn't restrict the road to some low weight limit following its reconstruction and transfer of ownership to the town, as is apparently the plan. This may well be within the town's legal rights and set Verde and Budge up for a legal fight on haulage.

Councilman Richard Martin then pointed out that he was in Jerome for 10 to 15 years worth of Big Hole Mining Company's operation (through 1974) in the U.V. Pit, including haulage of many loads per day right through town with no appreciable impact. He stated "we owe it to Verde to cooperate." He went on to put the DOT pavement thickness and retaining wall issues in perspective by maintaining that DOT had also agreed to route the present non-conforming

trestle sewer line in a new trench and pipeline at a cost of some $45,000. without charging the town. That too is state taxpayer aid of private entities, "the stockholders of Jerome."

The mayor then insisted upon moving on to the next agenda item despite many more hands raised for permission to speak. Many folks were in attendance only for the road issue and were incensed not to be heard. They stomped out, insisting upon another meeting.

Overall, I would say our understanding of the purpose of the meeting was fulfilled. Information was shared to help allay rumors and issues were aired to sense the community mood. It seems that another meeting is likely. The only problem I could foresee will be some legal trick pulled by the towns folk, perhaps related to their exercising jurisdiction over the road after its completion. There may be some advantage in using the road for haulage before that time to establish some precedent.

DW:sk

Carole

Don White
521 East Willis St.
Prescott, Arizona 86301
602/778-3140

May 20, 1988

Ed DeWitt, Geologist
M.S. 905, US Geological Survey
Box 25046, Denver Federal Center
Denver, CO 80225

Dear Ed,

Enclosed is the sample and data you requested concerning the Vulture Mine area:

a) The muscovite concentrate remaining from an earlier $^{87}Rb/^{86}Sr$ whole rock - muscovite separate age dating. This was a sample from the core of the Vulture stock, the quartz monzonite body west of Vulture Mine from which the Vulture sill emanates. It is otherwise known as the quartz porphyry.

b) Lead isotopic analyses on Vulture Mine galena samples collected at the west end of pit 1, essentially the east end of the Vulture sill. The galena there occurs in white bull quartz, as coarse enhedra with associated pyrite, chalcopyrite, and visible gold. Thus we see the lead data as indicative of the age of gold mineralization.

I understand you wish to perform an Argon isotopic analysis of the muscovite concentrate in order to check the earlier Rb/Sr derived date of 85±3 m.y. Further, you believe the lead data, while on only one sample, will at least allow you to constrain the possible age of mineralization.

Certainly I shall look forward to your results. Please also return any unused muscovite concentrate.

Do not hesitate to phone if any questions arise or if any samples from the Vulture would be useful for additional Pb-Pb or U-Pb analyses if they're still in the plan.

Sincerely,

Don White

Don White
Geologist, C.P.G.

DW:sk

Enclosures

cc: Carole A. O'Brien
Steve Reynolds

Carole

Don White
521 East Willis Street
Prescott, AZ 86301
778-3140

May 24, 1988

James H. Lundy, Jr.
Senior Process Engineer
Inspiration Consolidated Copper Co.
P.O. Box 4444
Claypool, AZ 85539

Dear Mr. Lundy,

Shipped separately via U.P.S. to your "Open Pit Office, c/o #3 Warehouse, Miami" are two samples of auriferous silica flux from the U.V.X. Mine, Jerome, AZ. I send them in response to your letter of April 4, 1988 to Carole A. O'Brien of Budge (Mining) Ltd.

Each sample is about 13 pounds of run-of-mine silica but representing a different lithology.

The samples are:

UVX - Insp.-1 - Low Fe, high Au & Ag, low density, porous, gritty silica prone to breaking fine.

UVX - Insp.-2 - High Fe (all oxides), modest Au & Ag, more dense, tight silica which breaks coarser (than the "grit" of sample 1).

Budge has drill indicated reserves at the U.V.X. amounting to many tens of thousands of tons of each rock type represented by these samples and all gradations in between.

Would you please share your analyses of these samples with us by sending a copy to me. I would also appreciate a copy of your results on a sample I sent two years ago (my cover letter to Al Binegar was April 17, 1986) known as "1104-1, 193'-225'." Perhaps those results are in your files. We never received them.

I look forward to hearing what you think of the present two samples and then pursueing whatever discussions are appropriate.

Sincerely,

Don White

Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien

Carole —
This letter + sample not sent yet.
Awaiting your approval.
Don

Carole

M E M O

TO: Ron Short, Carole O'Brien, Anthony Budge

FROM: Don White

DATE: May 31, 1988

SUBJECT: Sector of the 903 intermediate level accessed via the 906 dog-hole raise

Earlier this month access was gained to a 200 foot sector of the 903-N drift on the 903-intermediate level via a dog-hole raise from the 906 X-cut (950 level). The purpose of the crosscut reopening and raise was to test that stretch of silica known to occur between the 907 and 911 drilling. That stretch amounted to about 250 feet between holes 907-1 and 911-10, as on the accompanying plan.

The 200-foot sector of the 903 that is accessible was mapped and sampled May 10th, the day after it was accessed, as soon as the air was made safe. What became clear is that the diorite has pinched off the silica target in that area so effectively that no gold target remains. The silica that remains is largely hornfelsed (so-called beige-banded and massive) and barren (confirmed by samples with assays posted on the plan). That silica not hornfelsed is exceedingly iron rich, both as the red, hematitic, iron-front type, and as the brown, vuggy, limonitic type. The red, hematitic zone is modestly mineralized in the 907 array of holes but has to pinch out in the new area. The brown limonitic zone is barren. There is no chance of any better gold down-dip as the diorite there cuts very close to the Verde Fault, leaving only hornfelsed silica below the 903. Up dip one goes immediately into mined out copper silica ore stopes. So with diorite to the NE and Verde Fault to the SW, there remains no prospectable rock in that area.

Thus the gap between the Morgan body (including 902 and 907 extensions) and the 911 body is real. It was hinted at strongly enough by the old mapping and our own drilling that I didn't feel it was worth drilling in its own right and this access has confirmed that.

These findings in no way change the reserves calcualted last month since no reserves were extrapolated into this area.

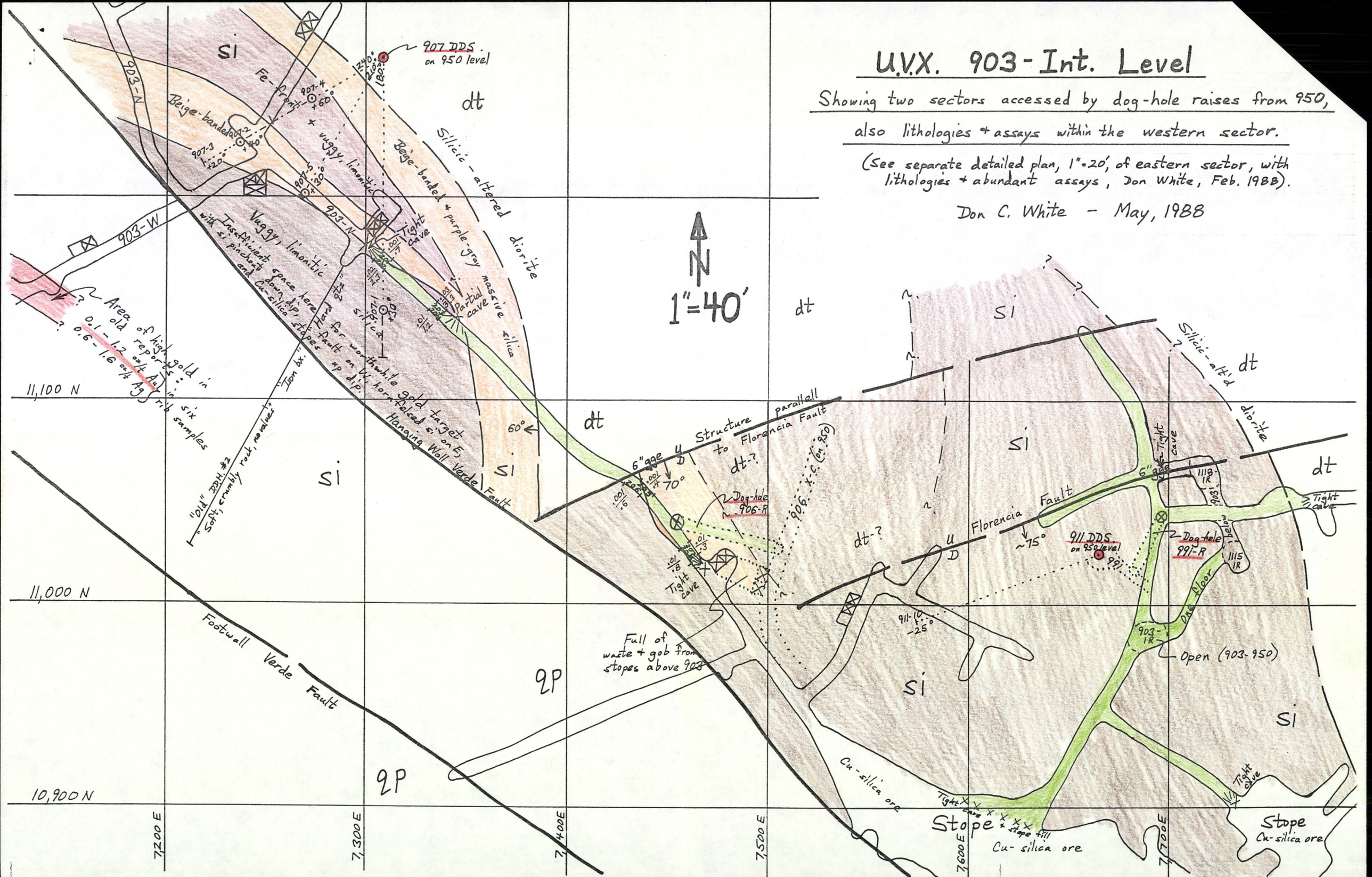
DW:sk

U.V.X. 903-Int. Level

Showing two sectors accessed by dog-hole raises from 950, also lithologies + assays within the western sector.

(See separate detailed plan, 1"=20', of eastern sector, with lithologies + abundant assays, Don White, Feb. 1988).

Don C. White - May, 1988



Employee	Date Employed	Current Salary/Wage Rate
Peter F. Flores	06-01-86	$2900/month
Gordon Jerome Gunderson	06-01-86	$12/hour
Gilbert P. Enriquez	06-10-86	$11.50/hour
Secundino R. Jaurequi (Re-hired)	11-20-86 4-20-87	$13/hour
Ronald Kenneth Mead	04-28-87	$11/hour
Theodore Frank Slezak	05-11-87	$11/hour
Daniel Warren Hall	07-28-87	$10/hour
Daniel Peter Dalrymple	08-10-87	$11/hour
David Scarbrough	08-17-87	$11/hour
Ulysses Grant Wells	08-17-87	$10.50/hour
Steven Verl Long	08-24-87	$11/hour
Tim T. Stoks	09-15-87	$10.50/hour
Carl Campio	12-21-87	$10.50/hour

U.V.X. 907 D.D.S.* DRILLHOLE SUMMARY

	D.D.H.	Orientation at collar Azimuth	Orientation at collar Inclination	Length of Hole (ft)	Silica Intercepts (ft)
	907-1	180° (Due S)	+30°	166	66-166+
	907-2	240° (S60°W)	+40°	105	9-105+
	907-3	240° (S60°W)	+20°	107	7-100
	907-4	240° (S60°W)	+60°	121	11-121+
	907-5	210° (S30°W)	+30°	85	11-85+
907 D.D.S. RANGES/TOTALS:	5 holes	180° thru 240°	+20° thru +60°	584 feet drilled	473 feet drilled in silica

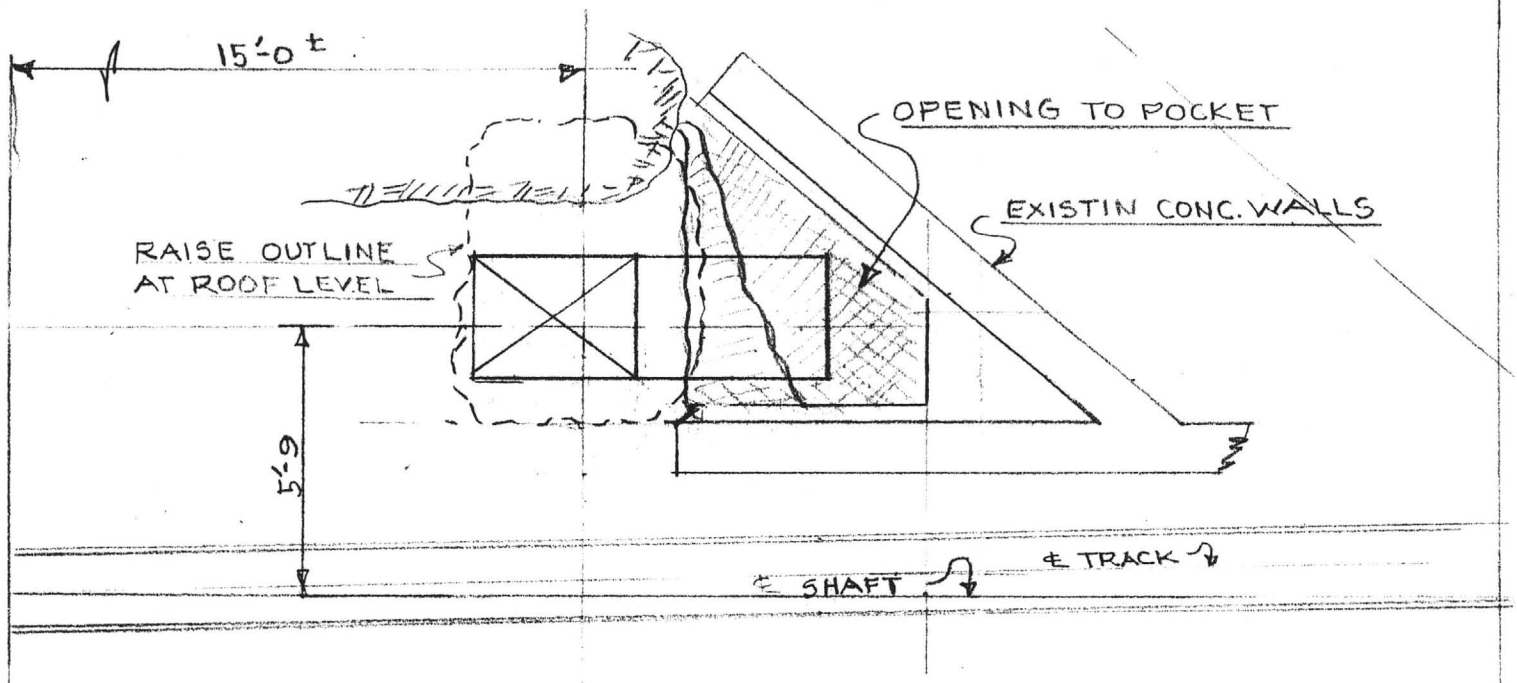
(60° lateral fan) (40° vertical fan)

*907 D.D.S. location; U.V.X. Mine, 950 level,
Center of rig; 11,269N 7,309E 4,180 Elev.

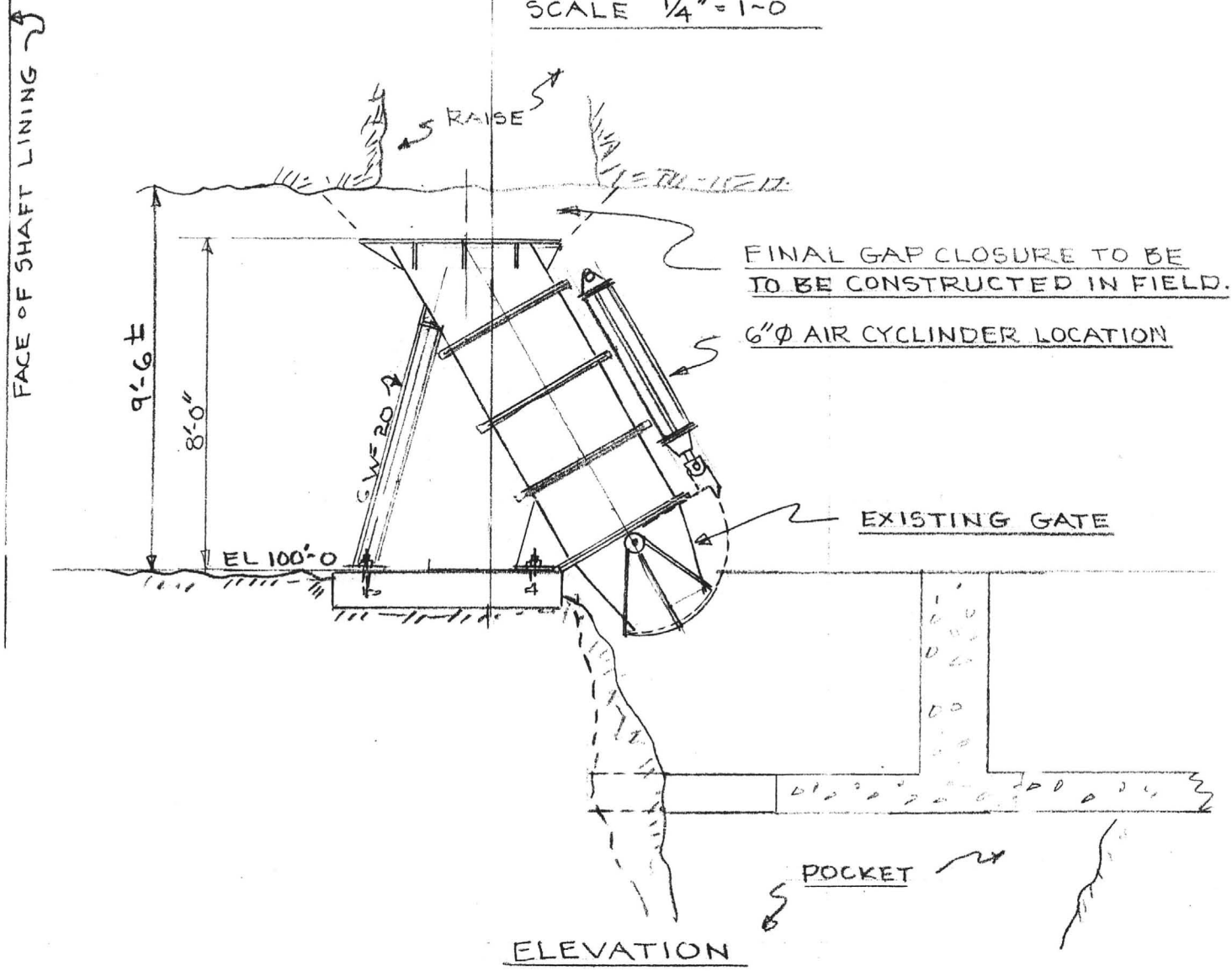
Compiled by Don White
Updated to March, 1988

A.F. BUDGE MINING ~ UVX PROJECT

H.KING ~ 5/11/88



PLAN
SCALE 1/4" = 1~0



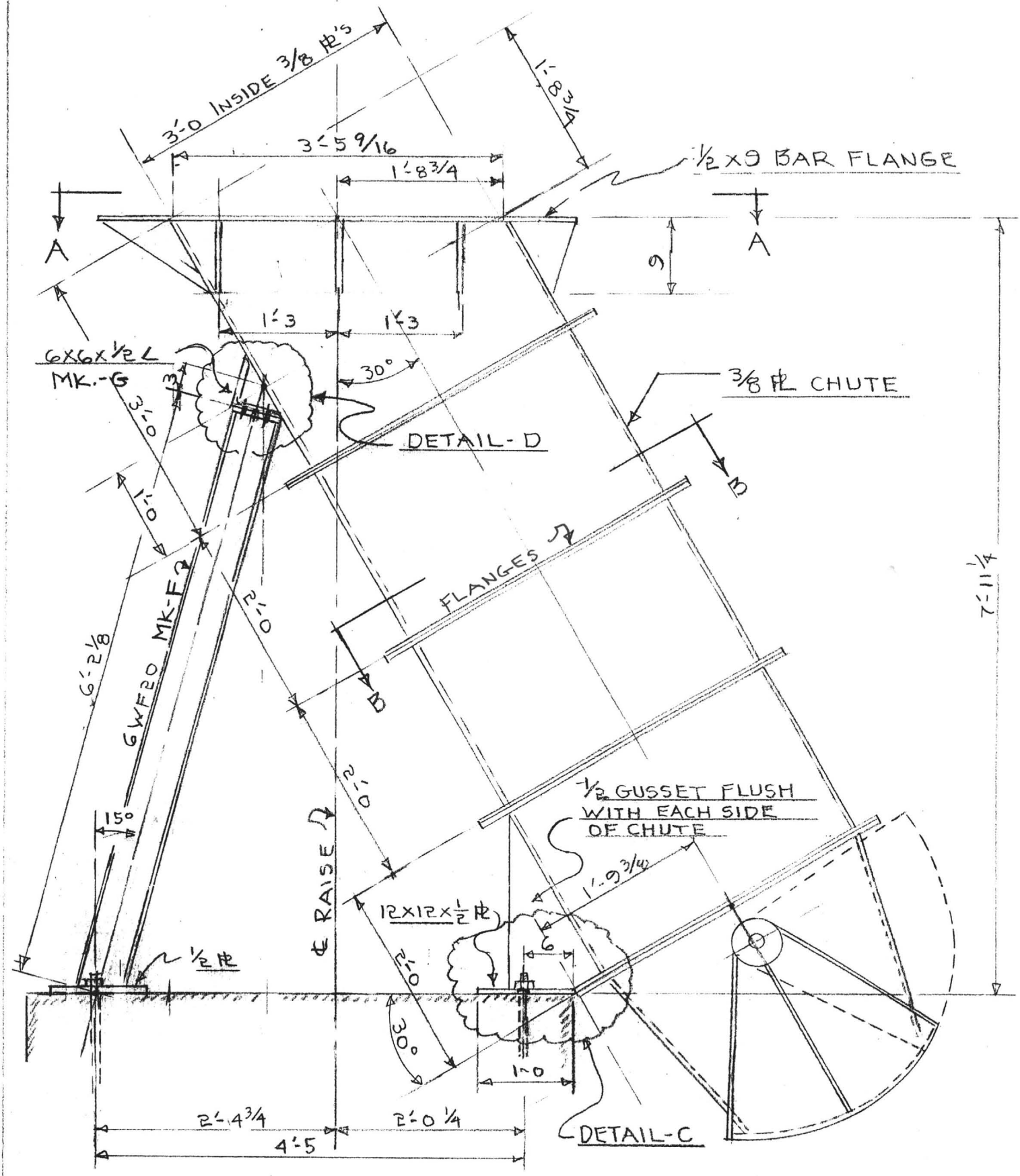
ELEVATION

SCALE 1/4 = 1~0

A.F. BUDGE MINING ~ UVX PROJECT

SHEET 1 OF 4

H. KING, 5/10/88

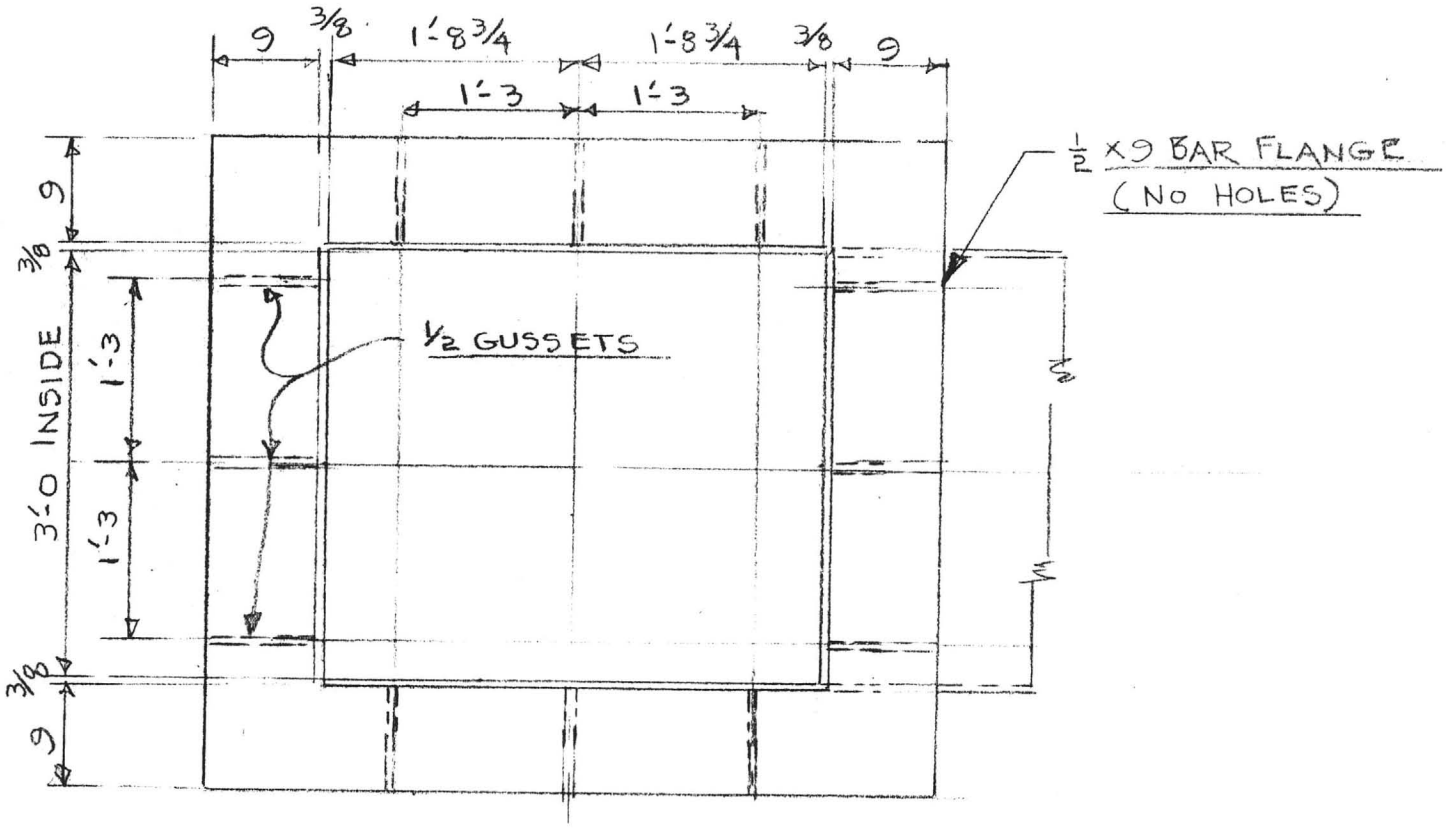


950 LEVEL RAISE DISCHARGE CHUTE

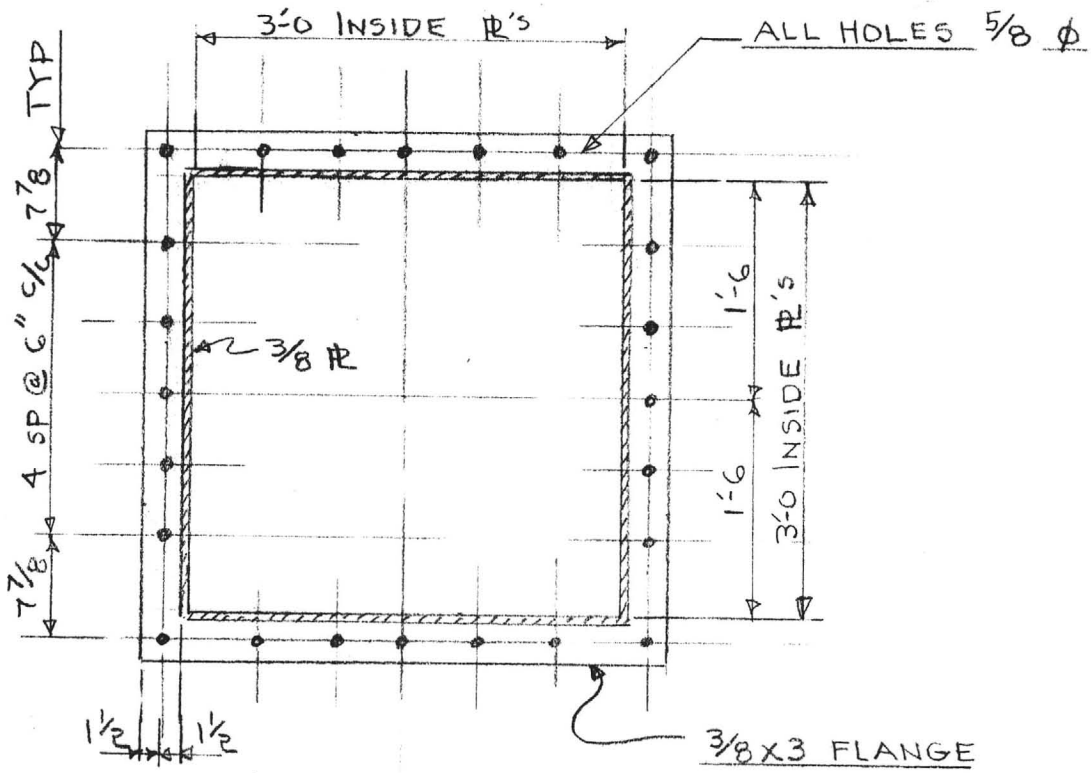
SCALE 3/4" = 1'-0

A.F. BUDGE MINING ~ UVX PROJECT

H.KING, 5/10/88



SECTION A-A

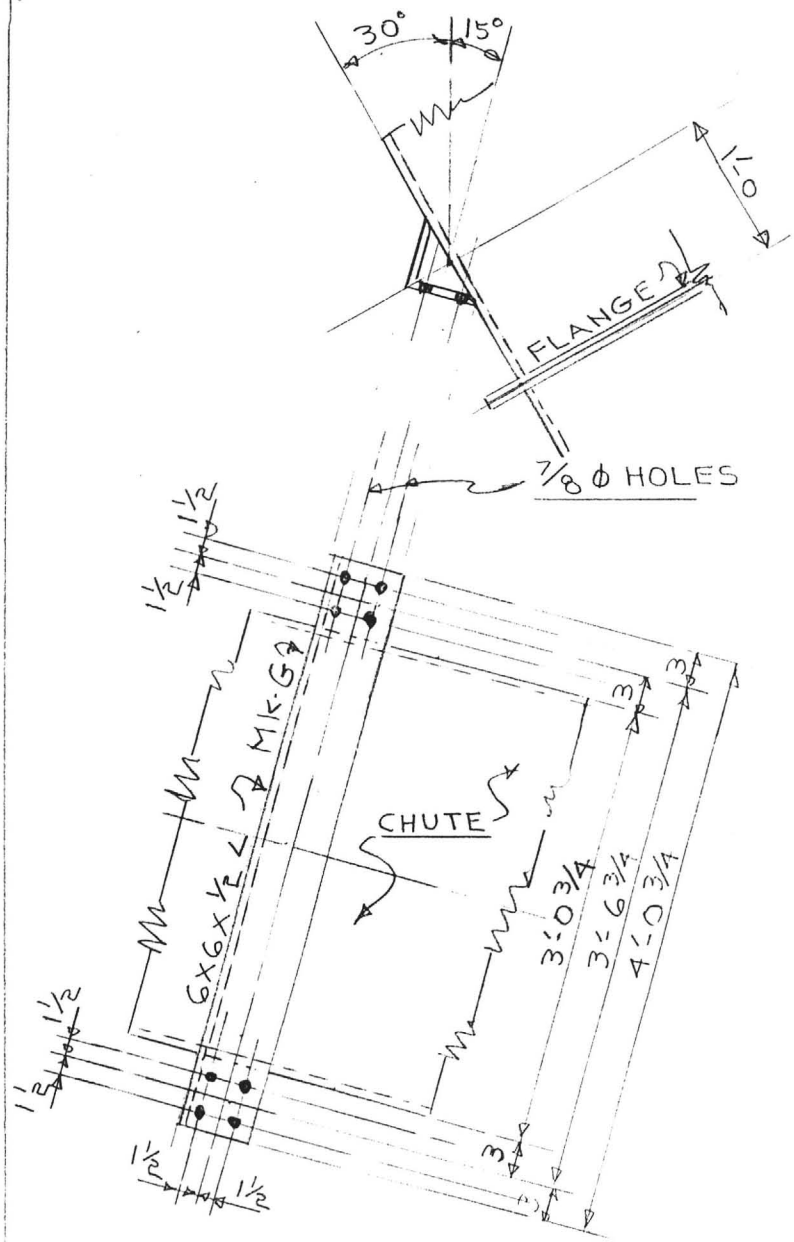


SECTION B~B

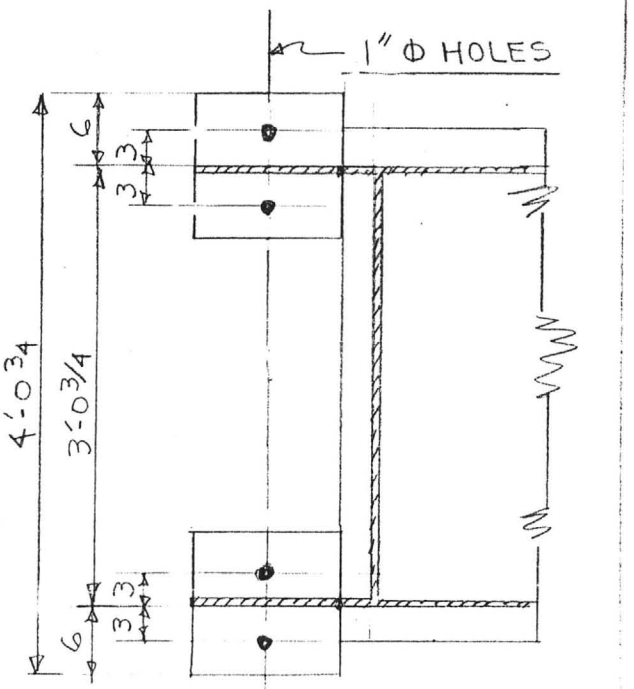
SCALE 3/4" = 1~0

A.F. BUDGE MINING ~ UVX PROJECT

SHEET 3 OF 4
H. KING, 5/11/88



DETAIL - D



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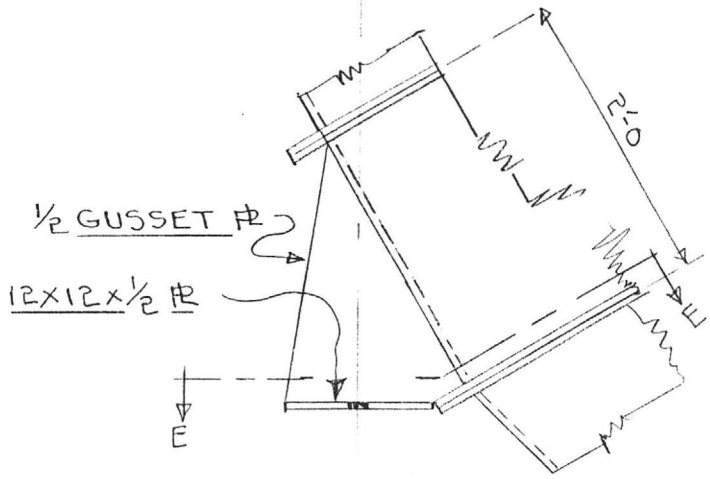
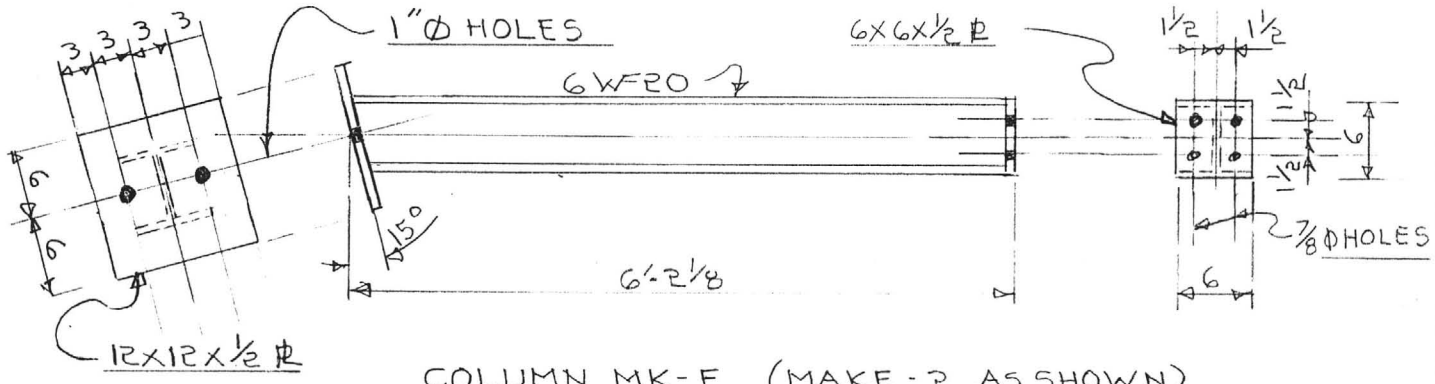


DETAIL ~ C



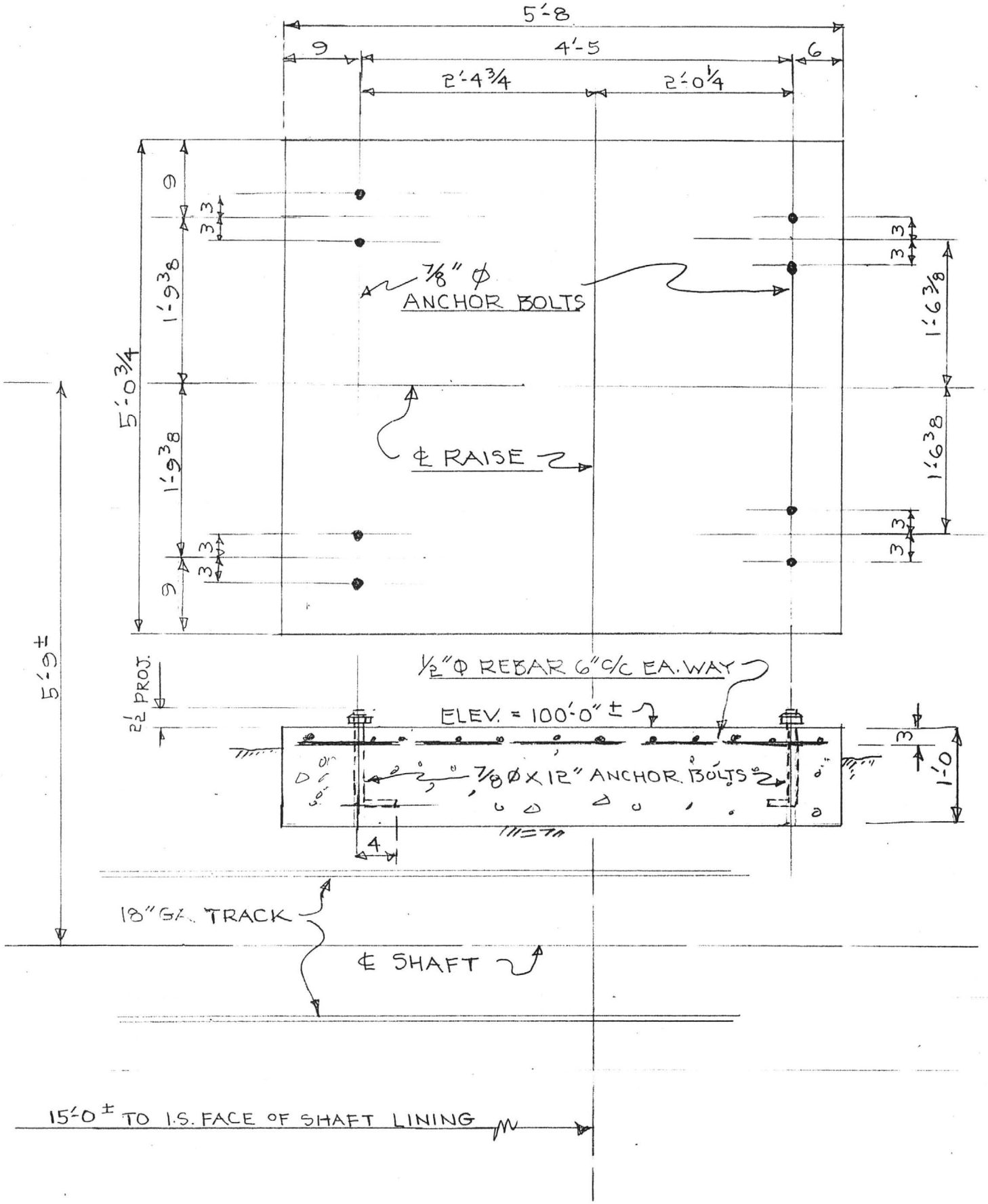
COLUMN MK-F (MAKE-2 AS SHOWN)

SCALE 3/4 = 1'-0

A.F. BUDGE MINING ~ UVX PROJECT

SHEET 4 OF 4

H. KING, 5/12/88



SCALE 3/4" = 1-0

Carole

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

April 12, 1988

Mr. Harmel A. Dawson
DAWSON METALLURGICAL LABORATORIES, INC.
P.O. Box 7685
5217 Major St.
Murray, Utah 84107

Dear Mr. Dawson;

Shipped separately via U.P.S. to your 5217 Major St. address are 4 boxes totalling over 200 pounds of rock. Please blend the four separate lots (over 50 pounds each) to produce one uniform sample. That sample we refer to as U.V.X.-902-W.

Following a head assay, please perform a cyanide leach amenability test and then an assay screen analysis. With those results reported, we will decide whether to proceed with a column leach, for which the large sample may be used.

By way of warning and a sort of check, we expect the sample to run in the range of .15 to .25 oz/t Au, 5. to 8. oz/t Ag, 20. wt % Fe, 4,000-5,000 ppm combined base metals and at least 75% SiO_2. It is the ferruginous and highly siliceous nature of this material that differentiates it from many other samples you likely deal with. Those characteristics worry us as to cyanide leach amenability. We have early indications from a bottle roll on a very tight, even more siliceous sample, that at least 200 mesh grinding will be necessary. We would like to confirm that for this particular lithology and perhaps take it even finer it the assay screen analysis so mandates.

If any questions arise, do not hesitate to phone me, Carole A. O'Brien, or Frank W. Millsaps. Please send the bill and a copy of the results to Carole A. O'Brien (A.F. Budge (Mining) Ltd., 7340 East Shoeman Lane, Suite 111-B-(E), Scottsdale, Arizona 85251).

Sincerely,

head assay 0.089 - 0.088
7.45 silver.

Don White

Don White
Geologist, C.P.G.

DW:sk

cc: Carole A. O'Brien
Frank W. Millsaps

back calculated grades.

.117 .104 av. .111
8.32 8.1 8.21

net @ 80% rec @ $450 $ 39.78
@ 70% rec @ 6.50 37.36
$ 77.

To: Anthony F. Budge

From: Carole A. O'Brien

Date: February 10, 1988

Have not had the opportunity to get that information you requested on contractors and construction costs from Sergent, Hauskins & Beckwith, but will attempt to do so tomorrow.

As to whether we have a mine at UVX, will offer the following very rough and probably over-simplified calculations.

I have taken Don's sketch map of November, 1987 and simplified the zone(s) into one continuous zone. At my scale of 1" = 200', this equates to a strike length in the "main zone" of about 1350 feet. In addition, there is about 250 feet of extension on the Gold Stope zone. This totals 1600 feet; over 400 feet is yet to be tested from our proposed 907 and 906 drill stations.

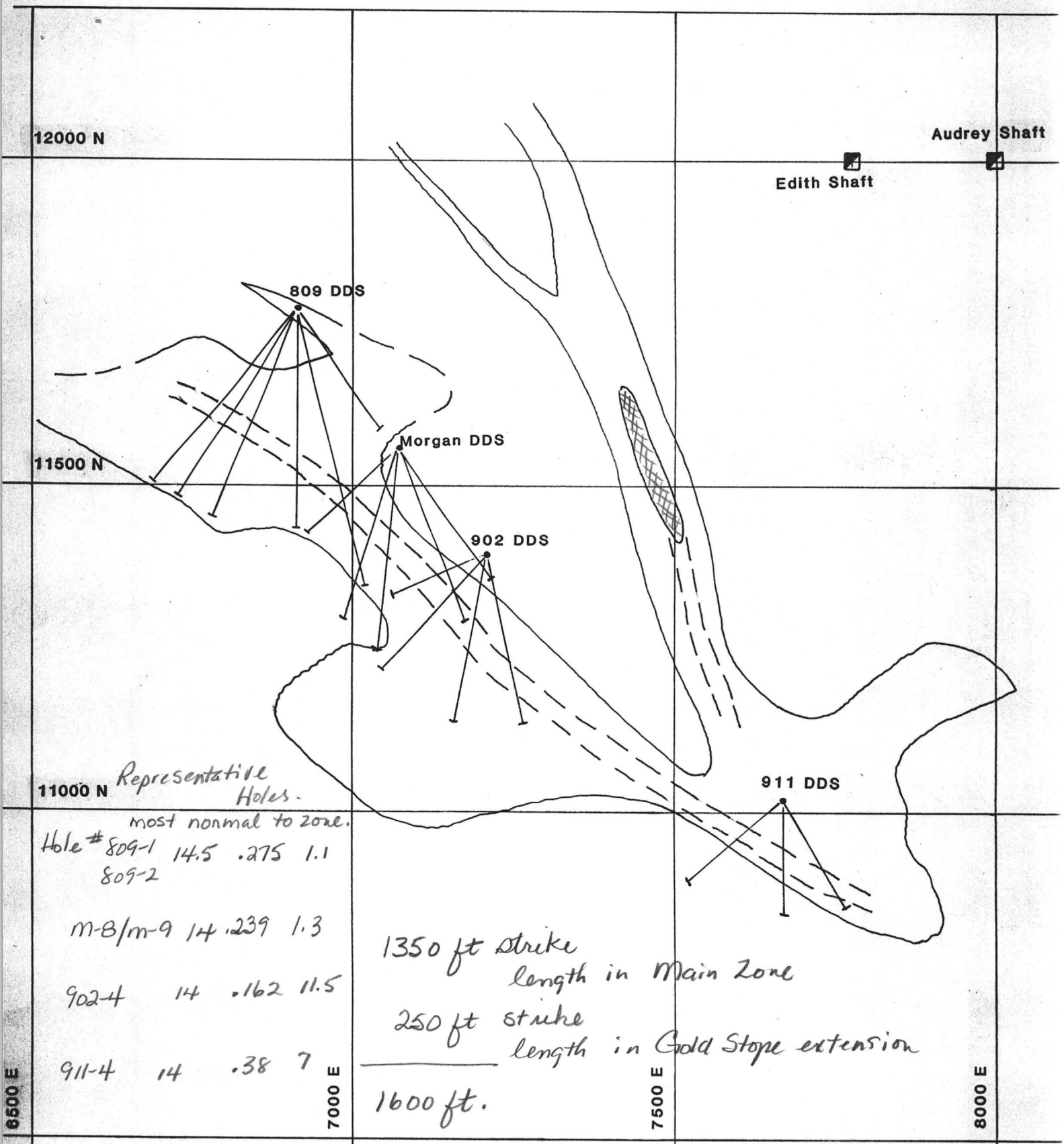
Completely ignoring the high grade intervals in holes M-3, M-6, M-11 and 809-4, I have calculated a mathematical average grade of 0.17 oz/t gold and 3.1 oz/t silver, or a gold equivalent of about 0.21 oz/t.

Using select holes, i.e. ones more normal to the zone, as in holes 809-1, 809-2, M-8, M-9, 902-4, 911-4 and the cut through the 902-W where Don sampled, I calculated an average of 0.25 oz/t gold and 4.8 oz/t silver, or a gold equivalent of 0.31 oz/t.

These select holes also average about 14 feet wide, which I use for convenience sake to negate the 14 cu.ft. tonnage factor.

				Contained ounces	
				@ 0.21 oz/t	@ 0.31 oz/t
1600 ft. x	50 ft.	=	80,000 tons w/	16,800	24,800
1600	75		120,000	25,200	31,200	37,200
1600	100		160,000	33,600	49,600

Economics follow for the indicated cases.



Representative Holes.
most normal to zone.

Hole #			
809-1	14.5	.275	1.1
809-2			
m-8/m-9	14	.239	1.3
902-4	14	.162	11.5
911-4	14	.38	7

1350 ft strike length in Main Zone
250 ft strike length in Gold Stope extension
1600 ft.

14ft 0.264 5.3
0.34 Aueq

17ft 0.17 3.2
.245 4.8

14 ft wide = 14 cu.ft/t.

1600 tons per vertical foot

@50	=	80,000 tons	16000 ozs	27,000 ozs
@75	=	120,000 tons.	24000 ozs	41000 ozs.
@100	=	160,000 tons	32000 ozs	54,000 ozs

.17/3.1 = 0.20 Au eq.

Assumptions and Parameters

gold	$450.00	per ounce
silver	$6.50	per ounce
Worst Possible Case	80000	tons
grade (gold)	0.17	oz/t
grade (silver)	3.1	oz/t
Average	120000	tons
grade (gold)	0.21	oz/t
grade (silver)	3.9	oz/t
Best Possible Case	160000	tons
grade (gold)	0.25	oz/t
grade (silver)	4.8	oz/t
cost, mining rock	$40.00	per ton
Net Smelter	0.85	85%
Transportation	$13.00	per ton

UVX Mine Options (February 10, 1988)

	Worst Possible Case	Most Probable Case	Best Possible Case
Gross Revenues	$6,550,100	$12,241,275	$19,543,200
Operating Costs: -			
Mining @ $40/ton	$3,200,000	$4,800,000	$6,400,000
Transportation @ $13.00/ton	$1,040,000	$1,560,000	$2,080,000
Operating Profit	$2,310,100	$5,881,275	$11,063,200

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

BONDAR-CLEGG

Geochemical Lab Report

A.F. BUDGE (MINING) LTD.
MS. CAROLE A. O'BRIEN
7340 E. SHOEMAN LANE
SUITE 111-B-(E)
SCOTTSDALE, AZ. 85251

DMEA LTD.
APR 2 5 1988
RECEIVED

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
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BONDAR-CLEGG

Geochemical Lab Report

REPORT: V88-02020.0 (PARTIAL)

REFERENCE INFO:

CLIENT: A.F. BUDGE (MINING) LTD.
PROJECT: NONE GIVEN

SUBMITTED BY: DON WHITE
DATE PRINTED: 15-APR-88

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold - Fire Assay	15	5 PPB	FIRE-ASSAY	Fire Assay AA
2	Ag	Silver	15	0.5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
3	As	Arsenic	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
4	Bi	Bismuth	15	2 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
5	Co	Cobalt	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
6	Cr	Chromium	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
7	Cu	Copper	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
8	Mn	Manganese	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
9	Mo	Molybdenum	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
10	Ni	Nickel	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA
11	Pb	Lead	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
12	Sb	Antimony	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
13	Se	Selenium	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
14	W	Tungsten	15	10 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
15	Zn	Zinc	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
16	Hg	Mercury	15	5 PPB	HNO3-HCL HOT EXTR	Cold Vapour AA
17	Ba	Barium	15	20 PPM		X-RAY Fluorescence

RESULTS TO FOLLOW FOR: Ag As Au Ba Br Cd Ce Co Cr Cs Eu Fe Hf Ir La Lu Mo Na Ni Rb Sb Sc Se Sm Sn Ta Tb Te Th U W Yb Zn Zr

SAMPLE TYPES		NUMBER	SIZE FRACTIONS		NUMBER	SAMPLE PREPARATIONS	NUMBER
P	PREPARED PULP	100	4	AS REC'D	100	AS RECEIVED, NO SP	100

REPORT COPIES TO: MS. CAROLE A. O'BRIEN

INVOICE TO: MS. CAROLE A. O'BRIEN

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SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Bi PPM	Co PPM	Cr PPM	Cu PPM	Mn PPM	Mo PPM	Ni PPM	Pb PPM
P4 911-8-80-83												
P4 911-8-83-86												
P4 911-8-89-92												
P4 911-8-92-94												
P4 911-8-94-97												
P4 M-3-127-131		<5	2.5	140	7	<1	13	192	16	<1	1	43
P4 M-3-138-141		90	2.9	189	17	<1	86	142	25	4	5	243
P4 M-3-144-146		200	4.8	78	6	<1	82	76	30	2	5	280
P4 M-3-146-151		2600	24.1	>2000	124	2	30	1713	79	20	10	2502
P4 M-3-153-156		>10000	11.1	328	54	<1	16	156	34	4	7	1004
P4 M-3-158-161		>10000	11.5	189	45	<1	15	144	25	2	5	473
P4 M-3-163-166		>10000	10.1	141	87	<1	8	108	18	1	4	295
P4 M-3-171-176		>10000	10.7	215	60	<1	16	124	31	3	8	518
P4 M-3-181-185		5200	22.0	283	5	<1	13	450	25	1	5	121
P4 M-3-185-188		1750	14.4	101	4	<1	26	160	49	4	14	37
P4 M-3-194-196		4500	12.3	609	2	<1	47	1014	30	6	4	93
P4 M-3-202-204		>10000	14.6	409	20	<1	38	673	24	10	2	129
P4 M-3-204-206		1650	13.1	314	4	4	69	1168	38	2	5	99
P4 M-3-216-221		4800	15.8	876	28	<1	62	1379	65	9	10	278
P4 M-3-230-233		1350	13.5	515	4	<1	47	1049	25	4	2	76

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PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS	Sb PPM	Se PPM	W PPM	Zn PPM	Hg PPB	Ba PPM
P4 911-8-80-83							
P4 911-8-83-86							
P4 911-8-89-92							
P4 911-8-92-94							
P4 911-8-94-97							
P4 M-3-127-131		<5	<5	<10	143	55	80
P4 M-3-138-141		<5	9	<10	77	85	110
P4 M-3-144-146		<5	<5	<10	53	60	70
P4 M-3-146-151		21	9	<10	648	3400	140
P4 M-3-153-156		16	16	<10	30	310	<20
P4 M-3-158-161		35	<5	<10	28	400	<20
P4 M-3-163-166		27	12	<10	24	50	<20
P4 M-3-171-176		30	<5	<10	16	230	<20
P4 M-3-181-185		31	45	<10	182	550	<20
P4 M-3-185-188		11	21	<10	36	440	<20
P4 M-3-194-196		7	66	<10	345	650	<20
P4 M-3-202-204		28	32	<10	222	550	<20
P4 M-3-204-206		8	<5	<10	436	500	<20
P4 M-3-216-221		17	14	<10	401	1400	<20
P4 M-3-230-233		8	<5	<10	236	450	<20

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4	Bi	Bismuth	15	2 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
5	Co	Cobalt	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
6	Cr	Chromium	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
7	Cu	Copper	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
8	Mn	Manganese	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
9	Mo	Molybdenum	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
10	Ni	Nickel	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA
11	Pb	Lead	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
12	Sb	Antimony	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
13	Se	Selenium	15	5 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
14	W	Tungsten	15	10 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
15	Zn	Zinc	15	1 PPM	HNO3-HCL HOT EXTR	PLASMA EMISSION SPEC
16	Hg	Mercury	15	5 PPB	HNO3-HCL HOT EXTR	Cold Vapour AA
17	Ba	Barium	15	20 PPM		X-RAY Fluorescence

RESULTS TO FOLLOW FOR: Ag As Au Ba Br Cd Ce Co Cr Cs Eu Fe Hf Ir La Lu Mo Na Ni Rb Sb Sc Se Sm Sn Ta Tb Te Th U W Yb Zn Zr

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
P PREPARED PULP	100	4 AS REC'D	100	AS RECEIVED, NO SP	100

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Geochemical Lab Report

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PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	As PPM	Bi PPM	Co PPM	Cr PPM	Cu PPM	Mn PPM	Mo PPM	Ni PPM	Pb PPM
P4 911-8-80-83												
P4 911-8-83-86												
P4 911-8-89-92												
P4 911-8-92-94												
P4 911-8-94-97												
P4 M-3-127-131		<5	2.5	140	7	<1	13	192	16	<1	1	43
P4 M-3-138-141		90	2.9	189	17	<1	86	142	25	4	5	243
P4 M-3-144-146		200	4.8	78	6	<1	82	76	30	2	5	280
P4 M-3-146-151		2600	24.1	>2000	124	2	30	1713	79	20	10	2502
P4 M-3-153-156		>10000	11.1	328	54	<1	16	156	34	4	7	1004
P4 M-3-158-161		>10000	11.5	189	45	<1	15	144	25	2	5	473
P4 M-3-163-166		>10000	10.1	141	87	<1	8	108	18	1	4	295
P4 M-3-171-176		>10000	10.7	215	60	<1	16	124	31	3	8	518
P4 M-3-181-185		5200	22.0	283	5	<1	13	450	25	1	5	121
P4 M-3-185-188		1750	14.4	101	4	<1	26	160	49	4	14	37
P4 M-3-194-196		4500	12.3	609	2	<1	47	1014	30	6	4	93
P4 M-3-202-204		>10000	14.6	409	20	<1	38	673	24	10	2	129
P4 M-3-204-206		1650	13.1	314	4	4	69	1168	38	2	5	99
P4 M-3-216-221		4800	15.8	876	28	<1	62	1379	65	9	10	278
P4 M-3-230-233		1350	13.5	515	4	<1	47	1049	25	4	2	76

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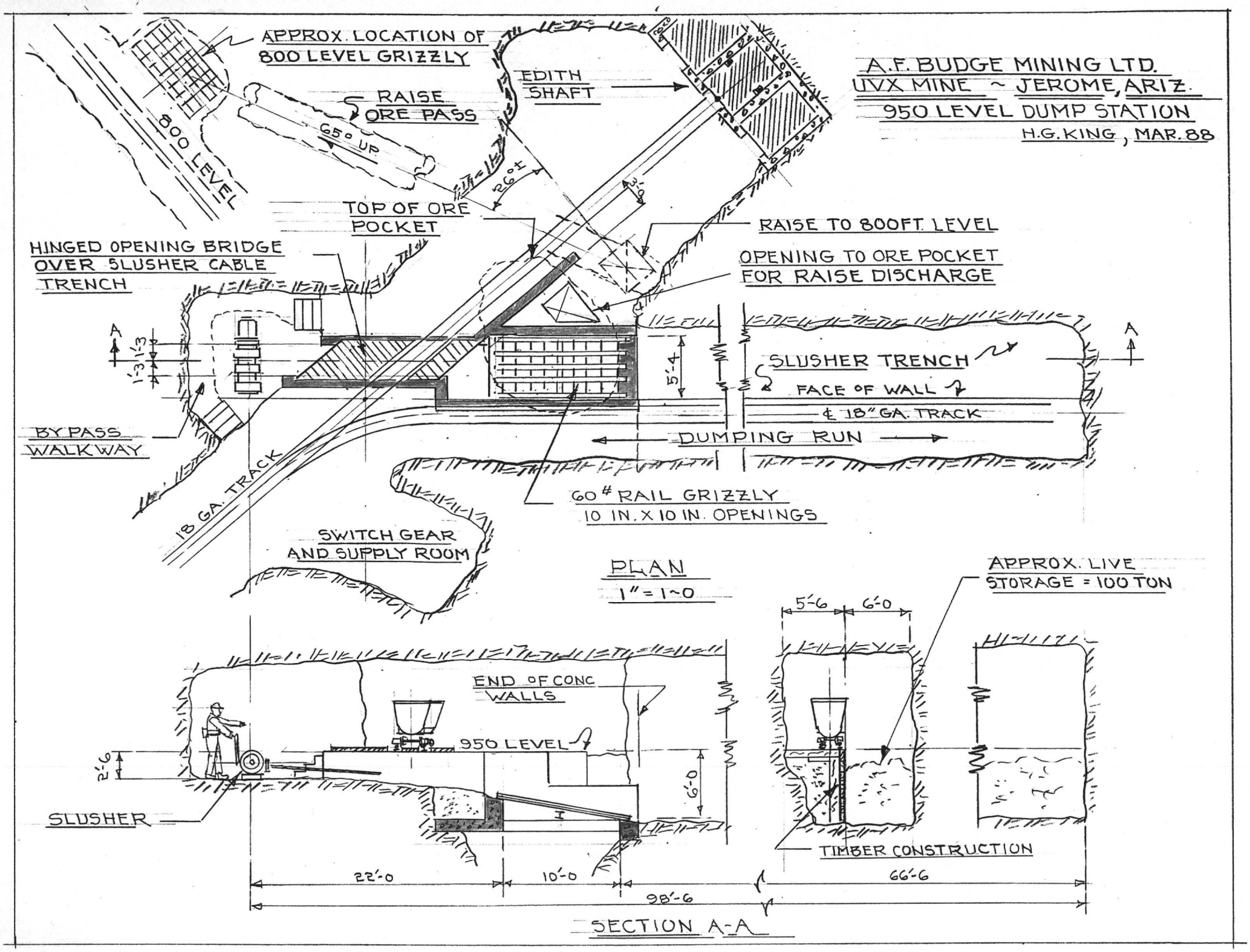
Geochemical Lab Report

REPORT: V88-02020.0

PROJECT: NONE GIVEN

SAMPLE NUMBER	ELEMENT UNITS	Sb PPM	Se PPM	W PPM	Zn PPM	Hg PPB	Ba PPM
P4 911-8-80-83							
P4 911-8-83-86							
P4 911-8-89-92							
P4 911-8-92-94							
P4 911-8-94-97							
P4 M-3-127-131		<5	<5	<10	143	55	80
P4 M-3-138-141		<5	9	<10	77	85	110
P4 M-3-144-146		<5	<5	<10	53	60	70
P4 M-3-146-151		21	9	<10	648	3400	140
P4 M-3-153-156		16	16	<10	30	310	<20
P4 M-3-158-161		35	<5	<10	28	400	<20
P4 M-3-163-166		27	12	<10	24	50	<20
P4 M-3-171-176		30	<5	<10	16	230	<20
P4 M-3-181-185		31	45	<10	182	550	<20
P4 M-3-185-188		11	21	<10	36	440	<20
P4 M-3-194-196		7	66	<10	345	650	<20
P4 M-3-202-204		28	32	<10	222	550	<20
P4 M-3-204-206		8	<5	<10	436	500	<20
P4 M-3-216-221		17	14	<10	401	1400	<20
P4 M-3-230-233		8	<5	<10	236	450	<20


A.F. BUDGE MINING LTD.
UVX MINE ~ JEROME, ARIZ.
950 LEVEL DUMP STATION
H.G. KING, MAR. 88
APPROX. LOCATION OF 800 LEVEL GRIZZLY
800 LEVEL
RAISE ORE PASS
65° UP
EDITH SHAFT
26°±
3'-0
TOP OF ORE POCKET
RAISE TO 800FT. LEVEL
HINGED OPENING BRIDGE OVER SLUSHER CABLE TRENCH
OPENING TO ORE POCKET FOR RAISE DISCHARGE
A
1'-3
1'-3
5'-4
SLUSHER TRENCH
FACE OF WALL
℄ 18" GA. TRACK
DUMPING RUN
BYPASS WALKWAY
18 GA. TRACK
60# RAIL GRIZZLY
10 IN. X 10 IN. OPENINGS
SWITCH GEAR AND SUPPLY ROOM
PLAN
1" = 1'-0
APPROX. LIVE STORAGE = 100 TON
5'-6
6'-0
END OF CONC WALLS
950 LEVEL
2'-6
6'-0
SLUSHER
TIMBER CONSTRUCTION
22'-0
10'-0
66'-6
98'-6
SECTION A-A

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

March 17, 1988

Donald C. White
521 E. Willis Street
Prescott, AZ 86301

Dear Don:

Communications between us have been almost exclusively oral, but I feel it necessary to comment on your February 29 letter to Paul Handverger, which I received awhile ago and only gave it a cursory review. The letter was received by Mr. Budge this week and discussed on the telephone during my conversation with him Tuesday.

Your statement that "...Budge's surveyors goofed..." is totally inappropriate, especially in a written communication to Verde, or to anyone else for that matter. As consultant, and a representative of A.F. Budge, you owe a certain loyalty/responsibility which should preclude your making such intemperate remarks.

It would have been sufficient to let Handverger know that inaccuracies have been noted in our hole locations, corrections have been made, and that revised plans and sections will be sent to him when they become available.

In fact, a simple listing of the materials you were providing him would have been enough. We need not detail the problems in the surveying nor any other of our activities at the mine.

"Flogging a dead horse" serves no purpose. The surevying errors have had serious repercussions, especially in regards to your work on plans, sections and reserve calculations. The wisest course of action is to forget what happened yesterday and get on with tomorrow.

Sincerely,

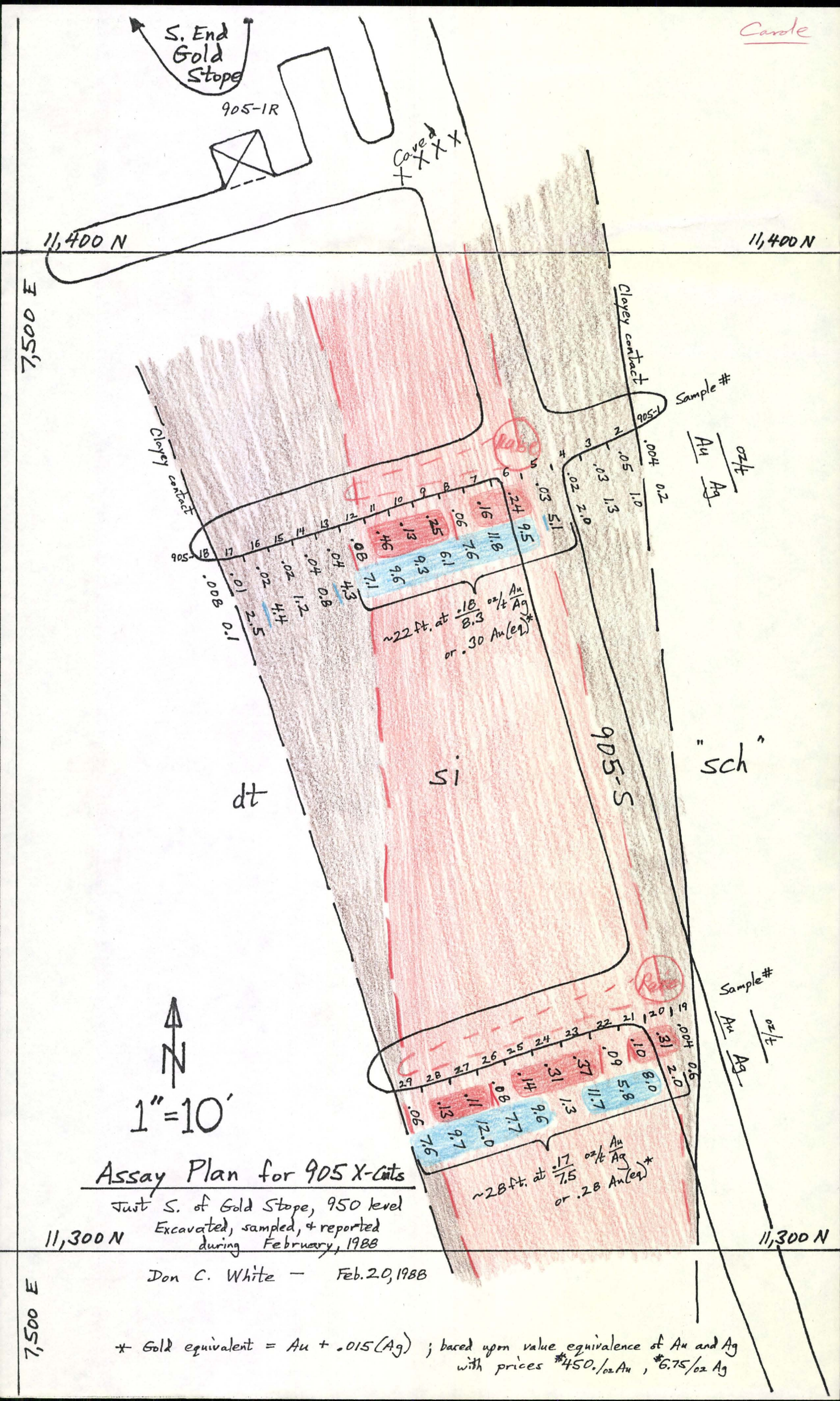
Carole A. O'Brien

Carole A. O'Brien

c: A.F. Budge

DIRECTORS: A.F. Budge, O.B.E., C.Eng., F.I.C.E., F.I.H.T.; Mrs. J. Budge; 7602 Clearwater Parkway, Paradise Valley, AZ 85253

Carole



Assay Plan for 905 X-Cuts

Just S. of Gold Stope, 950 level
Excavated, sampled, & reported during February, 1988

Don C. White — Feb. 20, 1988

* Gold equivalent = Au + .015(Ag) ; based upon value equivalence of Au and Ag with prices $450./oz Au , $6.75/oz Ag

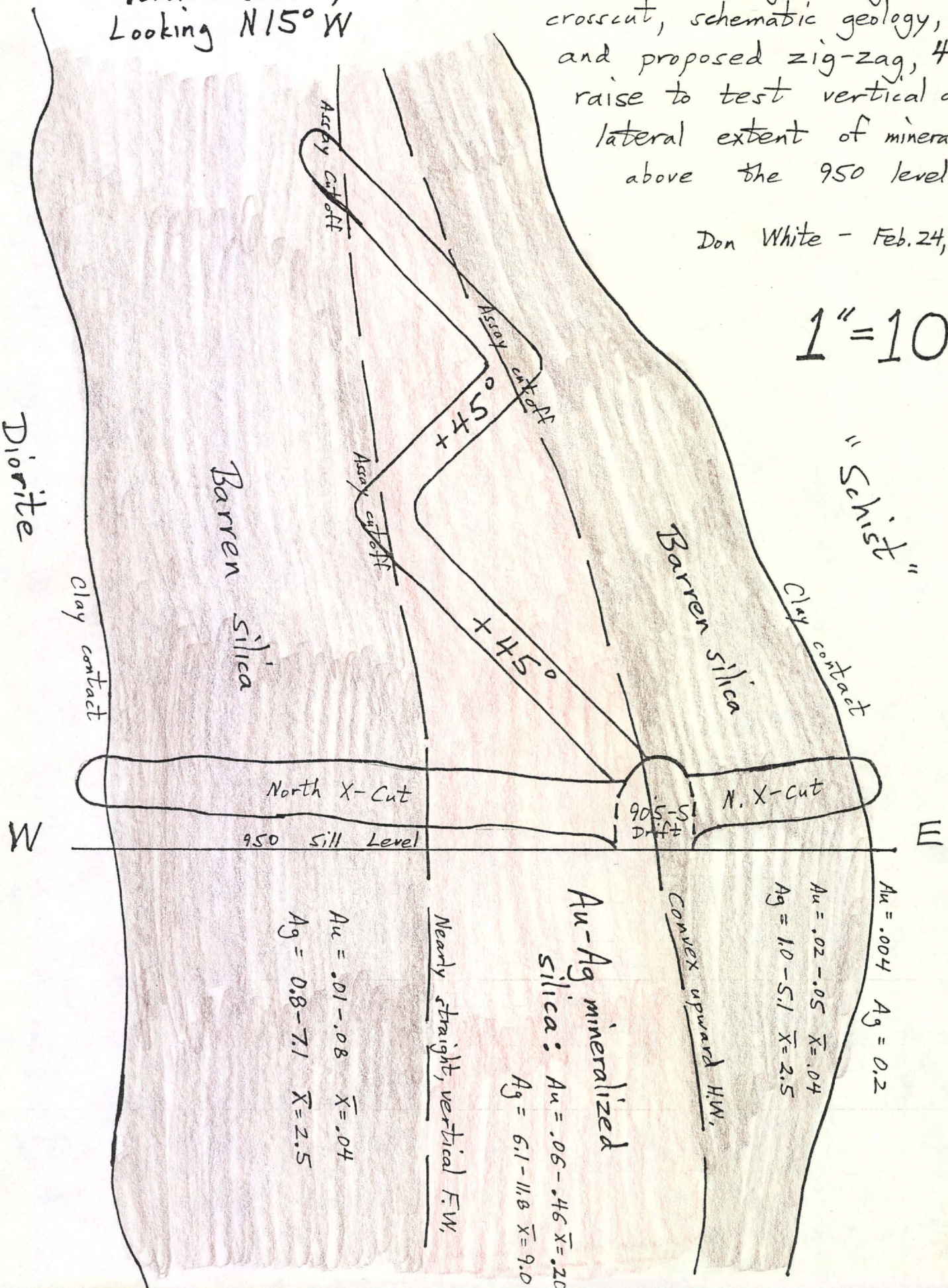
Gold Stope South Extension

Carole

X-Section showing existing north crosscut, schematic geology, and proposed zig-zag, 45° raise to test vertical and lateral extent of mineralization above the 950 level.

Don White - Feb. 24, 1988

1" = 10'



Carole

Hole No. 907-1

Collar location: U.V.X. Mine – 950 Level 907 DDS. ~ 4,180 Elev. Mine Grid 11,260 N 7,309 E

Inclination: Plus (+) 30° at collar

Azimuth: 180° (due S) at collar

Length: 166 feet

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

Core recovery: ~90% overall

Dates: March 9 through 15, 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 16.5 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	Lithology
ϕ 10								Silicic-altered diorite	ϕ–60' Blotchy purple-gray and red-gray, soft, locally brecciated, argillic- and silicic-altered diorite.
10 40									
40 95									
20 100	Box A (skeletonized)	20							
20 100									
20 100									
10 90									
10 40		40							
10 95									
20 80									
ϕ 40									
ϕ 60		60	Gradational						60'–66' White, massive, intensely kaolinized diorite. Rock now probably ≥ 95% kaolin.
60 95	Box 1		Grad.						66'–68' Red-brown + red-gray, earthy, massive, silicic-altered diorite.
20 80			Sharp, intrusive						66'–94' Beige-banded and red-brown massive silica with ~50% light gray silica clasts (ϕ–3", X̄=½"). Rather ferruginous, perhaps 10% Fe.
ϕ 70								Banded + massive si. bx.	
10 70		80		.013	.73				94'–106' Black to very dark red, massive, siliceous specular hematite with ~20% beige-banded clasts (ϕ–6", X̄=2"). Matrix is exceedingly dense, hard, ferruginous (≥50% Fe). Very few open spaces (≤2%, ≤¼").
ϕ 5	2								
30 95									
40 95	3		Grad.	.005	.88				
				.004	1.13				
60 100			Fe Fe	.108	.66			Exceedingly dense, ferruginous silica	
50 100		100	Fe Ag Fe	.070	5.35				
40 60	4		Au Fe Fe	.049	3.66				
40 100			Sharp, irregular, intrusive	.608	7.78				94'–106' = 12' at .21 oz/t Au, 4.4 oz/t Ag
20 100				.020	1.17			Banded si. bx.	106'–115' Beige-banded silica, very similar to 66'–94', but more (~60%) and larger (ϕ–4", X̄=2") clasts of milky-gray silica. Some red-brown patches and perhaps 10% Fe overall. Very low porosity (≤2%)
10 90	5			.009	1.82				
ϕ 40			Sharp, intrusive	.005	1.42				
20 70	6	120	Fe	.021	2.26			Vuggy, limonitic silica breccia.	115'–161' Vuggy, limonitic silica breccia. Yellow-brown, chocolate brown, and local black-red matrix (both goethitic + hematitic) as matrix to ~60% yellow-brown clasts (ϕ–2", X̄=1"). Approx 10% open space (≤½"). Fe variable from 10% to local 50% (zone of massive specular hematite) but X̄≈15%
20 95			Fe	.015	4.14				
10 30				.015	1.59				
40 95	7			.032	3.05				
40 100		140	Fe	.062	4.56				
30 100				.068	2.72				
20 95	8			.033	.93				
10 100			Fe	.018	.97				
50 100	9			.019	1.31				
40 100			Fe	.014	.84				
30 100	10	160	Sharp intrusive	.011	.61				161'–165' Approx. 90% light gray, massive silica (one large clast-?) with ~10% interstitial red-br. + yell-br. silica.
10 80		166'	Grad. Fe 166' E.O.H.	.007	1.16				165'–166+ Grades more chocolate brown, more Fe rich, more vuggy, like 115'–161', further suggesting 161'–165' is a clast rather than an interbed.

D6068-V325

UNITED STATES DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

TECHNICAL SUPPORT

A VENTILATION SURVEY OF THE UNITED VERDE EXTENSION GOLD MINE

A. F. Budge Mining Ltd.
Jerome, Yavapai County, Arizona

January 20 and 21, 1988

by

Thomas H. Koenning
Mining Engineer

and

Roger A. Pierce
Mining Engineer

Issuing Office
Ventilation Division
William E. Bruce, Chief

SAFETY AND HEALTH TECHNOLOGY CENTER

D. K. Walker, Chief

P.O. Box 25367, Denver Federal Center
Denver, Colorado 80225-0367

INTRODUCTION

A ventilation survey was conducted at the A. F. Budge Mining Ltd. United Verde Extension gold mine in Jerome, AZ, on January 20 and 21, 1988. Denver Safety and Health Technology Center survey participants included Thomas H. Koenning and Roger A. Pierce, Mining Engineers with the Ventilation Division. Metal and Nonmetal Mine Safety and Health participants included Gary Day, Supervisory Mine Inspector, and Jack Supulveda, Mine Inspector, both with the Phoenix Field office. Pete Flores, Mine Superintendent with A. F. Budge Mining Ltd. was the company representative during the survey.

The survey was requested by Metal and Nonmetal field office personnel. The mine was experiencing problems with high carbon dioxide concentrations which were assumed to be coming from old timbered stopes. The problem was reported to be aggravated by periods of low barometric pressure.

BACKGROUND

The United Verde Extension began production of high-grade copper, gold, and silver ore in 1915. Production was terminated in about 1932. The ore body was on the hanging wall side of the Verde fault. The United Verde ore body which was developed in about 1876 was on the footwall side of the Verde fault. The United Verde Extension was developed through two concrete-lined vertical shafts. The Edith and Audrey shafts were located close together at the eastern edge of the property (see figure 1). The cross-sectional area of each shaft reportedly measured about 14.5 ft by 5.5 ft and each shaft was divided into three compartments. The Edith shaft was equipped with a hoist and cage but the Audrey shaft was not.

Development drifts observed during the survey were generally untimbered except when heavy ground was encountered. Ore was mined by square-set stopes. Stopes were filled with waste rock as mining progressed.

A. F. Budge Mining Ltd. was not producing ore at the time of the survey. Only exploration drilling and development work were underway. Exploration efforts were being directed toward identifying gold reserves for future mining. Exploration activity during the survey was being conducted on the 950 level. Drifts were being driven from both directions to by-pass the 902W caved zone. A diamond drill was set up in the 911-diamond-drill station (911 DDS) as indicated in figure 1. The diamond-drill station was separated from abandoned workings by a ventilation curtain. The diamond-drill station was reportedly the area which was most severely affected by carbon dioxide.

SURVEY PROCEDURES

Air quantities were measured using calibrated anemometers. Direction of airflow from abandoned areas and recirculation paths were determined with

smoke clouds. Air samples were analyzed by gas chromatograph in the Denver Safety and Health Technology Center analytical laboratory.

SURVEY RESULTS

Intake air entered the mine through the Edith shaft and was exhausted out the Audrey shaft. A fan of unknown manufacture was mounted in a bulkhead on the 950 level at the Audrey shaft. The fan was reported to be driven by a 15-hp motor and was exhausting air from the 950 level of the mine and delivering it to the surface through the Audrey shaft.

At the Edith shaft station, a 5-hp fan with flexible ventilation tubing was used to direct air towards the 902-W development drift. Two additional auxiliary fans were positioned along the route to the development drift. The first auxiliary fan encountered along the route to 902-W was a 7-hp fan located near the Gold stope. The inlet of the 7-hp fan was separated from the end of the flexible-ventilation tubing by about a 6-in. gap and as a result return air was being recirculated to face areas. The final auxiliary fan in the system was a 5-hp fan installed in a similar manner.

The 902-E development drift and diamond-drill station were ventilated with a 5-hp auxiliary fan and flexible ventilation tubing which picked up air exhausting from the 902-W development drift. A second 5-hp auxiliary fan was mounted in the system in the manner previously described. The 911-diamond-drill station was ventilated with a 5-hp fan which picked up air exhausting from the 902-E development drift. Results of the mine air analyses are included in the appendix.

DISCUSSION

A set of air doors was located near the Edith shaft station. The oval ventilation pipe passed through a hole provided in the air-door structure. The doors were reportedly closed in an attempt to solve the carbon dioxide contamination problem. When the doors were closed, the problem was reportedly aggravated because the air which was being short-circuited from the Edith shaft to the return was no longer available. About 3,000 cfm of fresh intake air was entering the 950-level through the auxiliary systems. Closing the doors at the Edith shaft resulted in the remainder of the air volume supplied to the 15-hp fan exhausting at the Audrey shaft being drawn through abandoned stopes caved to the surface and from leakage around the doors.

Gas samples taken from caved areas which exhibited perceptible movement into the active workings contained the highest carbon dioxide concentrations. The sample taken at the edge of the 905 caved stope contained 0.33% carbon dioxide which was the maximum concentration detected in the samples taken. The source of the carbon dioxide contamination was apparently from the many caved, heavily timbered stopes which were mined in the past.

About 1 hour prior to entering the mine for the survey on January 20, 1988, the 902-W development drift was blasted. It is assumed that the carbon monoxide which was detected in the gas samples was a result of the blasting.

RECOMMENDATIONS

1. Connection of the 902-E and 902-W development headings was anticipated to take place within a short time following the survey. It was recommended that following the breakthrough, the 15-hp fan and bulkhead being used in the exhausting mode at the Audrey shaft be removed. The 15-hp fan should then be installed in a bulkhead in the blowing mode at the 901-diamond-drill station with sets of doors installed in the 901-W and 901-S drifts. A rigid oval duct was installed in 901-S from the junction of 901-S and 901-W to the connection leading to the the Audrey shaft. The oval duct was intended to serve as a return for this distance of about 140 ft. A bulkhead or set of doors would also be necessary at the point of discharge from the oval duct towards the Audrey shaft. The auxiliary fans and flexible ventilation tubing being used to direct air from the Edith shaft to the work areas could then be removed with the exception of the auxiliary system used to ventilate the 911-diamond-drill station. The blowing system as described (figure 2) has the advantage of forcing leakage through old abandoned stopes towards surface openings. The exhausting system which was in use during the survey encouraged leakage from the surface through the old stopes, and into the active workings.

2. A second escapeway from the mine should be developed as soon as possible. The Audrey shaft was reportedly going to be equipped with a hoist at some point in the future; however the escapeways will not be separated such that damage to one escapeway will not lessen the effectiveness of the other. Additional development will be required to provide two separate escapeways. With only one escapeway currently available, construction and equipping of a refuge chamber should be expedited.

3. The auxiliary ventilation systems in use during the survey were not effective for a number of reasons. The largest fan in the system, a 7-hp unit, should have been placed at the shaft station in order to pull the maximum fresh air volume from a clean intake air source. When additional fans are needed in the auxiliary system due to the distance from the source, a tight connection between the fan inlet and ventilation tubing is necessary to control recirculation. The flexible ventilation tubing being used is not appropriate for the job because it will collapse if attached to the inlet of a fan. Rigid ventilation tubing should be used and should be tightly connected to the inlet side of each successive in-line fan. Ventilation tubing was observed quite a distance back from the face during the survey. Blowing ventilation tubing should be maintained within 10-tubing diameters of the face for effective face ventilation. Another guideline to follow when designing

auxiliary ventilation systems is to supply more clean intake air across the auxiliary fan than the rated fan capacity. 1/

4. The oval duct used to carry exhaust air to the Audrey shaft with the blowing system is a limiting factor on the volume of air which can be coursed through the 950 level. Should future development require an increase in the air volume, an alternate means of returning air to the Audrey shaft will be necessary. Alternate means to be considered should include but not be limited to directing the return to an upper or lower level, or driving a drift from the Audrey shaft to 901-S between the 901-W and 912 drifts. For practical reasons, the means chosen should also be considered for use as a second and separate escapeway.

5. Regular monitoring of the air quality is recommended. Appropriate instruments should be used to guard against oxygen deficiency, elevated carbon dioxide, and elevated carbon monoxide. It is anticipated that the air quality will improve following breakthrough of 902-W and 902-E development drifts and implementation of the proposed ventilation changes. It is important to check the air quality frequently in the United Verde Extension mine because of the existence of carbon dioxide in the numerous abandoned areas of unknown extent. The carbon monoxide which was detected more than 1 hour after blasting in the 902-W development drift probably resulted from marginal ventilation, and should be corrected by the proposed changes. Improved air quality immediately following the changes should not be relied upon solely because of the possibility of unknown connections and changing conditions. Included in the appendix are two fatal accident reports involving carbon monoxide and carbon dioxide which demonstrate the need for frequent air quality testing using appropriate instruments.

ACKNOWLEDGMENT

The courtesy and assistance provided by MSHA Metal and Nonmetal Phoenix Field Office personnel and A. F. Budge Mining Ltd. personnel in completing this survey is gratefully acknowledged.

1/ Rock, R. L. et al. Controlling Employee Exposure To Alpha Radiation in Uranium Mines. U.S. Bureau of Mines, v.2 of 2, 1971, p. 113.

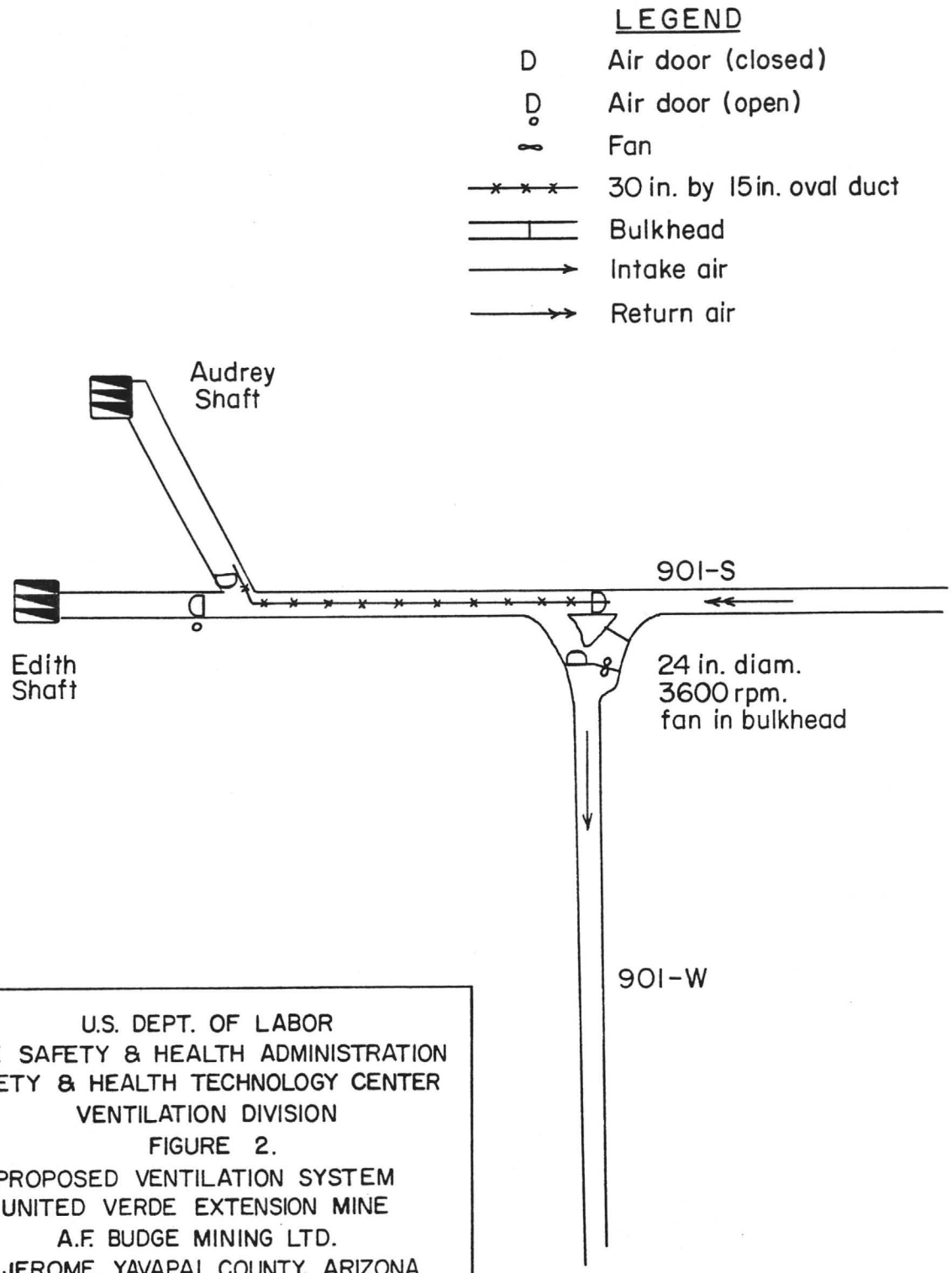
Thomas H. Koenning
Mining Engineer
Ventilation Division

Roger A. Pierce
Mining Engineer
Ventilation Division

Approved:

William E. Bruce Date: 2-10-88
William E. Bruce
Chief, Ventilation Division
Safety and Health Technology Center

A P P E N D I X



U.S. DEPT. OF LABOR
MINE SAFETY & HEALTH ADMINISTRATION
SAFETY & HEALTH TECHNOLOGY CENTER
VENTILATION DIVISION
FIGURE 2.
PROPOSED VENTILATION SYSTEM
UNITED VERDE EXTENSION MINE
A.F. BUDGE MINING LTD.
JEROME, YAVAPAI COUNTY, ARIZONA
JANUARY, 1988

Air Sample Record

U.S. Department of Labor
Mine Safety and Health Administration

Check if Needed:
☐ Mailers ☐ Plastic Vials ☐ Vacuum Bottles ☒ Bistables ☐ Forms Sheet of

1. Mine/Mill: United Verde Extension
2. Company: A.F. Budge Ltd
3. Mine ID Number:
4. Commodity: Gold
5. Collector: Koenning
6. AR Number:
7. Field Office:
8. Subdistrict Office:

● **SAMPLING DATA**

	1	2	3	4	5	6
9. Pre-seal Number						
10. Sample Number	39987	39988	39989	39991	39992	39993
11. Sample Type						
12. Date Collected	1-20-88	1-20-88	1-20-88	1-20-88	1-20-88	1-20-88
13. Time Collected	9:38 am	9:44 am	10:13 am	10:22 am	10:32 am	10:44 am
14. Sample Location	902 East	902 E. Face	901S Return	990 Return at Booster	902W Face	905 Caved Stope
15. Methane (est. %)	0	0	0		0	
16. Flow Rate (lpm)						
17. Analysis Desired	Full	Full	Full	Full	Full	Full

● **WEIGHING DATA**

18. Received By and Date						
19. Post-seal Number						
20. Sample Weight (mg)						
21. Weighed By and Date						
22. Fiber Count						
23. Counted By and Date						

● **LABORATORY ANALYSIS**

Received By and Date	CNB 1-26-88					
Seal Number						
Laboratory Number	G18-161	-162	-163	-164	-165	-166
☐ Quartz (mg)						
☐ Fiber Count (f/ml)						
☐ Fiber ID						
☐ Elemental						
☐ Oxygen (%)	20.76	20.80	20.75	20.73	20.80	20.62
☐ Methane (%)	.002	.001	.001	.000	.001	.000
☐ Carbon Monoxide (%)	.0076	.0042	.0021	.0021	.0028	.0012
☐ Carbon Dioxide (%)	.22	.15	.19	.21	.13	.33
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
TWA						
TLV						
Analysis Completed By & Date	CNB 2-3-88					
Analysis Mailed By & Date						

MSHA Form 4000-29, Mar 80

Air Sample Record

U.S. Department of Labor
Mine Safety and Health Administration

Check if Needed:
☐ Mailers ☐ Plastic Vials ☐ Vacuum Bottles ☒ Bistables ☐ Forms Sheet of

1. Mine/Mill: United Verde Extension
2. Company: A.F. Budge Ltd
3. Mine ID Number:
4. Commodity: Gold
5. Collector: Koenning
6. AR Number:
7. Field Office:
8. Subdistrict Office:

● **SAMPLING DATA**

	1	2	3	4	5	6
9. Pre-seal Number						
10. Sample Number	39994	39995	39996			
11. Sample Type						
12. Date Collected	1-20-88	1-20-88	1-20-88			
13. Time Collected	10:54am	11:02am	11:23am			
14. Sample Location	911 D.D. Sta	902W Cave	Main Retrm			
15. Methane (est. %)	0	0	0			
16. Flow Rate (lpm)						
17. Analysis Desired	Full	Full	Full			

● **WEIGHING DATA**

18. Received By and Date						
19. Post-seal Number						
20. Sample Weight (mg)						
21. Weighed By and Date						
22. Fiber Count						
23. Counted By and Date						

● **LABORATORY ANALYSIS**

	Received By and Date	CAB 1-26-88 →				
	Seal Number					
	Laboratory Number	G18-167	168	169		
☐	Quartz (mg)					
☐	Fiber Count (f/ml)					
☐	Fiber ID					
☐	Elemental					
☐	Oxygen (%)	19.84	20.84	20.89		
☐	Methane (%)	.000	.000	.000		
☐	Carbon Monoxide (%)	.0000	.0005	.0000		
☐	Carbon Dioxide (%)	.17	.11	.08		
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
	TWA					
	TLV					
Analysis Completed By & Date	CAB 2-3-88 →					
Analysis Mailed By & Date						

MSHA Form 4000-29, Mar 80

3.2.3
Fatalities

I.D. 22025

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

District E

REPORT OF FATAL ASPHYXIATION ACCIDENT
SECTION 22 MINE
KERR McGEE CORPORATION
AMBROSIA LAKE DISTRICT, McKINLEY COUNTY, NEW MEXICO
(Mailing Address: P. O. Box 218, Grants, New Mexico 87020)

March 7, 1969

By

E. A. Morgan
Subdistrict Manager

Originating Office - Bureau of Mines
1110 Federal Building, Phoenix, Arizona 85025
E. A. Morgan, Subdistrict Manager
Phoenix, Arizona Subdistrict, Health and Safety, District E

I.D. 22025

REPORT OF FATAL ASPHYXIATION ACCIDENT
SECTION 22 MINE
KERR McGEE CORPORATION
AMBROSIA LAKE DISTRICT, McKINLEY COUNTY, NEW MEXICO
(Mailing Address: P. O. Box 218, Grants, New Mexico 87020)

March 7, 1969

By

E. A. Morgan
Subdistrict Manager

INTRODUCTION

This report is based on an investigation made pursuant to clause (1) of section 4 of the Federal Metal and Nonmetallic Mine Safety Act (80 Stat. 772).

Between 11 a.m. and 12:20 p.m., March 7, 1969, Max Pohl, 29, a miner with 18 months experience, entered an unventilated dead end heading and was asphyxiated. The accident occurred in the 6516 stope - 1 south, 1 west - 2 south heading of Section 22 mine, Kerr McGee Corporation, Ambrosia Lake District, Grants, New Mexico. The victim is survived by his wife and two dependent children.

Baxter Bliss, Kerr McGee Corporation, telephoned the Phoenix office of the Bureau of Mines of the accident Friday evening, March 7, 1969. An investigation and the New Mexico State Mine Inspector's hearing were held Monday, March 10, 1969.

Information for this report was obtained from an inspection of the scene of the accident, from conferences with company supervisors and employees, and from the State Mine Inspector's hearing.

GENERAL INFORMATION

Kerr McGee Corporation's Section 22 underground uranium mine is in Ambrosia Lake District, McKinley County, New Mexico, about 25 miles north of Grants, New Mexico. The company mailing address is Box 218, Grants, New Mexico. 87020 Billy Stevens is the general manager.

The mine was operated two 8-hour shifts a day, 5 days a week. A total of 153 men was employed; 143 worked underground. Ore was hoisted to the surface from a three compartment vertical shaft 850 feet deep.

Haulageways were driven in waste below the ore body. Ventilation air, 263,000 cfm, entered the mine through the hoisting shaft and two downcast drill holes. Air was exhausted from the mine through seven upcast drill holes.

The accident occurred in the 65-16 development stope area. The south drift had been advanced 150 feet from the 65-16 raise. About 90 feet from the raise the 1 west heading was driven 90 feet; however, the 2 south drift was turned off the 1 west 55 feet from the 1 south. The 2 south drift, parallel to 1 south, had been advanced 70 feet and several sets of "fan drill holes" had been made. "Fan" holes are 40-foot long holes drilled from each rib of the drift; holes are drilled horizontally, and are angled up and angled down. The "fan drilling" had been completed in the 2 south drift about 43 hours before the accident. The ventilation tubing at the intersection of 2 south and 1 west had been disconnected and the equipment moved into the 1 south drift.

Ventilation for either the 1 south or 2 south faces was provided by a blower fan and tubing, and about 2,500 cfm of air was circulated at a face. The fan tubing was moved to the heading where work was performed.

A blasters' check board was located adjacent to the lunch room off the 65 drift near the 6400 shaft station. The board was checked at noon, and everyone in the area had to be accounted for before blasting was done.

Persons participating in the investigation were:

Kerr McGee Corporation

Billy Stevens, general manager
Leo Bradshaw, safety director
James Cleveland, senior ventilation engineer
Alvin Phliger, mine superintendent
Bill Rion, mine foreman
Ed Archuletta, shift boss

New Mexico State Mine Inspectors Office

William Hays, State mine inspector
Howard Robison, deputy State mine inspector
L. P. Quinones, dust and gas engineer

U. S. Bureau of Mines

E. A. Morgan, subdistrict manager

Table 1 ANALYSIS OF AIR SAMPLE(S) COLLECTED March 10 and 11, 1969

MINE Section 22 COMPANY Kerr McGee Corporation COLLECTED BY E. A. Morgan and L. Quinones

Bottle	Lab	Location in Mine	Carbon Dioxide CO_2	Oxygen O_2	Carbon Monoxide CO	Total Hydrocarbons	Nitrogen N_2
X-748	26265	6516 stope in 2 south off 1 west drift at bottom of face	0.22	20.52	.000	0.00	79.26
X-749	26266	6516 stope, 2 south drill hole, 3 feet down in the hole	4.05	11.55	.000	0.00	84.40
A-1886	26267	6516 stope, 2 south face, drill hole, 3 feet in the hole	8.83	2.69	Trace, less than .003	0.00	88.48
A-1887	26268	6516 stope, 2 south face, general atmosphere at face of drift	0.55	19.84	.000	0.00	79.61

DESCRIPTION OF ACCIDENT

Max Poha (victim) entered the mine at the regular starting time, 8 a.m., Friday, March 7, 1969. He went to 65-16 stope area where he was to drill long holes at the 1 south heading. Working alone, he was drilling on the left side of the heading. About 11 a.m. he left the 1 south and asked another miner in the area where to find a steel adapter. The miner told Poha to get an adapter at the manway to the 65 drift. Apparently, the victim found the adapter and returned to the 1 south heading. It is believed that he left this heading and entered the 2 south heading to get a connector in order to add another length of threaded steel to the steel in the long hole he was drilling. He had entered the 2 south before lunch time because miners from the other working places looked into the 1 south as they left for lunch and not seeing him assumed he had returned to the lunch room on the 65 drift. When the blasting board was checked, the victim's tags indicated he was still in the stope area. A search was started immediately, and the victim was found in the 2 south heading about 30 feet below the 1 west.

Rescuers attempted to enter the 2 south but the air made them dizzy and they were forced to leave before reaching the victim. Immediately, the men pulled the fan tubing from the 1 south drift and connected it to the tubing hanging in the 2 south.

Again, they were driven back by the depleted air. One man ran into the heading and using a knife slit the tubing near the victim. Fresh air was directed upon him and he was moved to fresh air in the 1 west. Artificial respiration and oxygen from an inhalator were administered for about 2 hours. Poha was pronounced dead by a doctor and his body was moved to the surface.

Vacuum air samples were collected in the 2 south on March 10 and 11, 1969. Samples were analyzed in the Bureau of Mines laboratory, Denver, Colorado. Two samples were taken from "down" holes and indicated a deficiency of oxygen. Horizontal and "up" holes were tested but oxygen deficiency was not indicated. Analysis of samples are listed in table 1 appended to this report.

The barometer had fallen about a half-inch on the day of the accident. The area where the long holes had been drilled was virgin territory, and the holes did not intersect a worked out area.

The mining company has issued orders that no one will enter a dead end without taking ventilation with them.

CAUSE OF ACCIDENT

Entering an unventilated dead end drift was the cause of the accident.

RECOMMENDATIONS

Compliance with the following recommendations may prevent accidents of a similar nature:

1. The new company rule which requires anyone entering a dead end to take ventilation with them should be enforced.

2. Flame safety lamps or other suitable devices should be used to test for acute oxygen deficiency.

E. A. Morgan

E. A. Morgan

Accident Investigation Report

U. S. Department of Labor
Safety and Health Administration

Explosive Fumes

REPORT OF FATAL ASPHYXIATION ACCIDENT
CROSS MINE
HENDRICKS MINING COMPANY, INC.
NEDERLAND, BOULDER COUNTY, COLORADO
September 19, 1980

By

James L. Atwood
Supervisory Mine Inspector

Carl Baron
Special Investigator

Michael Lynham
Metal and Nonmetal Mine Inspector

Edward Machesky
Metal and Nonmetal Mine Inspector

METAL AND NONMETAL MINE SAFETY AND HEALTH
ROCKY MOUNTAIN DISTRICT

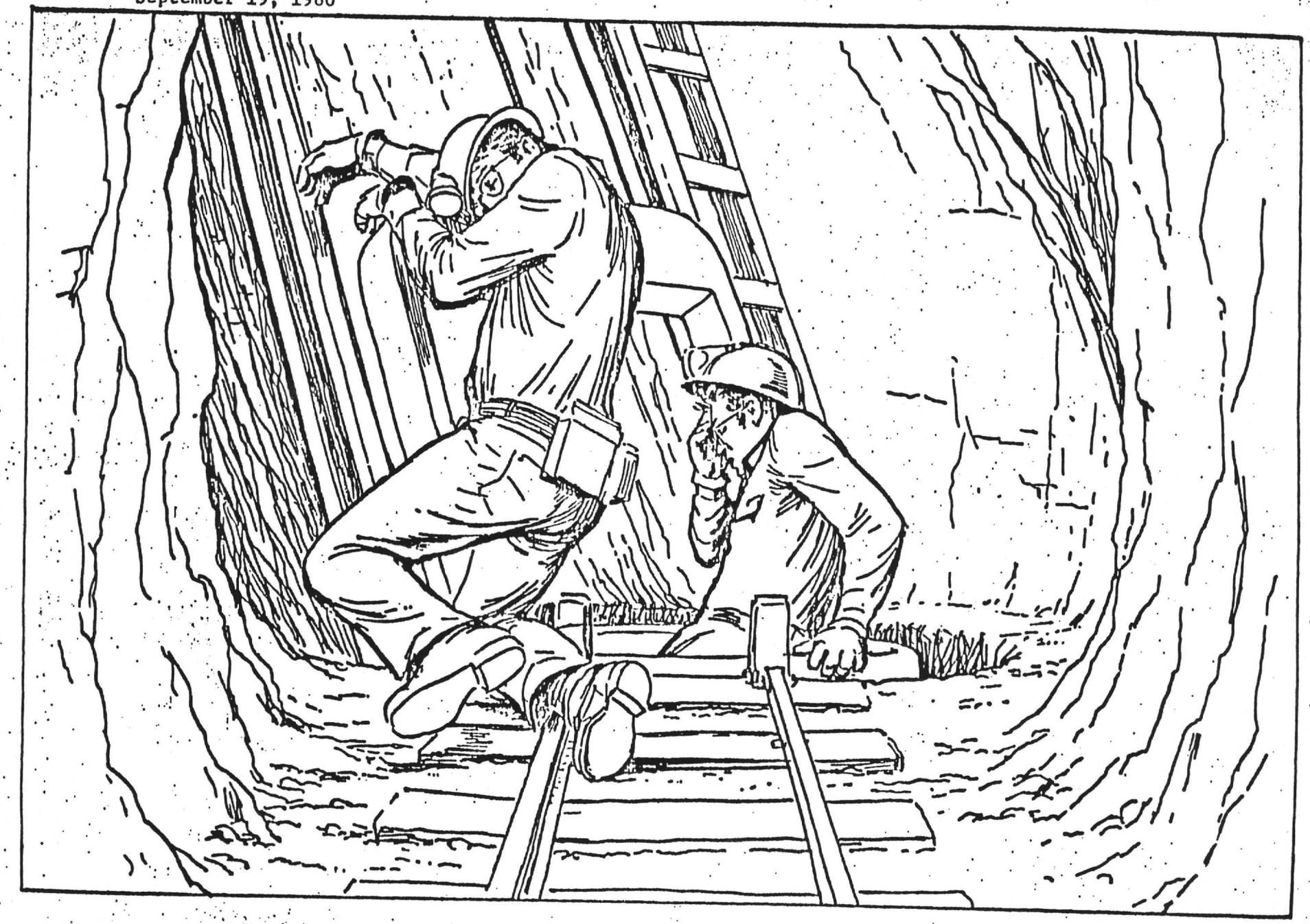
W. C. Gardner
District Manager

Originating Office
730 Simms Street
Lakewood, Colorado 80215

Jack S. Petty
Subdistrict Manager

CROSS MINE
.ICKS MINING COMPANY, INC.
NEDERLAND, BOULDER COUNTY, COLORADO

September 19, 1980



UNITED STATES DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION (MSHA)
METAL AND NONMETAL MINE SAFETY AND HEALTH
INSPECTION INFORMATION SHEET

Operation Address:

Hendricks Mining Company, Inc.
P. O. Box 653
Nederland, CO 80466

Telephone:

303-258-3806

Issuing Office Address:

Jack S. Petty, Subdistrict Manager
P. O. Box 25367
Denver, CO 80225

Identification No.: 05-02730-FG5
Inspection Date(s): Sept. 19 - Oct. 7, 1980
Inspection Code : 030 Accident Investigation

Company: DiCamillo Brothers Mining Co.

Mine Name: Cross Mine

City: Nederland **County:** Boulder **State:** Colorado

Location: 6 Miles North of old Caribou Town site

Type of Mine: Underground **Mining Method:** Stoping **Product:** Silver, Gold Copper, Lead

No. Employees: 15 **Work Schedule: Hrs/shift** 8 **Shifts/dy** 2 **Days/wk** 5

Operating Officials: Jay and Henry DiCamillo

Inspection Party:

Company: See Attached List

Union Rep(s): DNA

Miner's Rep(s): DNA

MSHA Inspector(s): See Attached List

Other: See Attached List

No. of Outstanding Citations: 0

No. of Outstanding Orders: 0

Remarks:

September 19, 1980 to September 23, 1980

Company Personnel on Investigation:

Nick DiCamillo
Henry DiCamillo
Paul DiCamillo
Jay DiCamillo
Dave DiCamillo
Tom Hendricks
Mike Smith, General Supervisor

MSHA

E. Machesky
M. Lynham
J. Atwood
C. Baron

State Inspector

Floyd Dooley

Witnesses

Henry DiCamillo
Dave DiCamillo
Paul Ovellet
John Montero

County

Detective Richard Datrow
Patrolperson Elsie Flesher, Badge #570
Mike Huss, County Coroner

INTRODUCTION

This report is based on an investigation made pursuant to Section 103(a) of the Federal Mine Safety and Health Act of 1977, Public Law 91-173 (83 STAT. 742) as amended by Public Law 95-164 (91 STAT. 1290).

Jerry Travis Miller, miner, age 27, SSN 503-62-2455, married, one dependent, was fatally injured by asphyxiation (carbon monoxide poisoning) on September 19, 1980 between the hours of 7:00 a.m. - 9:00 a.m. Paul R. Ovellet, miner's helper, age 23, SSN 002-48-7260, single, no dependents, was hospitalized and held for observation at St. Anthony's Central Hospital, Denver, Colorado, and was released on September 23, 1980.

Jerry Miller, lead miner, had a total time of 6 years and 7 months as a miner and 7 months at this mine as a lead miner. His retraining at this operation consisted of touring the surface and all the underground workings and escapeways, self rescuer, safety in handling explosives and storage of same, and general safety procedures at this mine.

Paul Ovelett had 6 months total experience as a miner's helper, all at this operation. He had the required 40 hours of new miner training starting on March 5, 1980 to March 16, 1980 and an additional 32 hours of job and work place training and safety starting on April 14, 1980 to April 21, 1980.

The Mine Safety and Health Administration was notified of the accident by a telephone call from Tom Hendricks, owner of the Cross Mine on September 19, 1980 at approximately 11:15 a.m. The investigation was started on the same day.

Information contained in this report was obtained by visiting the scene of the accident and by interviewing company officials and employees.

GENERAL INFORMATION

The underground Cross Mine was located at the old Caribou Town site approximately 6 miles north of Nederland, Colorado. Work was scheduled on two 8-hour shifts per day, 5 days a week. The mining method was drift mining for gold, silver, and lead. Total employment at the mine was 18. Mining was done by a contractor, DiCamillo Brothers.

Operating officials were:

Tom Hendricks, Owner
DiCamillo Brothers, Contractors
- Henry DiCamillo
- Paul DiCamillo
- Nick DiCamillo
- Jay DiCamillo
- Dave DiCamillo
- Tim DiCamillo

Participating in the investigation were company officials:

Tom Hendricks, Owner
Henry DiCamillo) Co-Supervisors
Nick DiCamillo)
Paul DiCamillo)
Jay DiCamillo)
Dave DiCamillo)
Mike Smith, General Supervisor

Witnesses

Henry DiCamillo, Supervisor
Dave DiCamillo, Asst. Supervisor
John Montero, Hoistman
Paul Ovellet, Miner (injured)

Union - DNA

Colorado Division of Mines

Floyd Dooley, Inspector

Mine Safety and Health Administration

James L. Atwood, Supervisory Mine Inspector
Edward Machesky, Metal and Nonmetal Mine Inspector
M. Lynham, Metal and Nonmetal Mine Inspector
Carl Baron, Special Investigator

PHYSICAL FACTORS INVOLVED

The 4th level was 200 feet long, 5 to 6 feet wide, and 7 feet high. Ventilation was supplied to the mine with a 10 hp axial fan which was rated at 11,000 to 12,000 cfm. The fan was located in the portal. The hoist was an air driven 15 hp motor (HUL 40) with a 5/8-inch wire rope. The shaft was 190 feet deep with the 4th level located at 185 feet. There were 4 levels and only 2 levels were being worked which were the 3rd and 4th levels. The skip or muck bucket was a 3/4-ton capacity front dumping bail type.

DESCRIPTION OF THE ACCIDENT

Jerry Miller, lead miner (victim) reported for work at his regular starting time of 07:00 a.m. on September 19, 1980. He received his instructions and work assignments from Henry DiCamillo, supervisor. Paul Ovellet, miner's helper (injured), Miller's partner, received the same instructions. The two miners were to proceed to the 4th level where a series of slab rounds had been shot on swing shift September 18 at 11:30 p.m. A period of 8 hours had elapsed. They were to muck up the shot rock.

They proceeded down the manway to the 4th level and checked for misfires where the slab rounds were shot. From testimony by Ovellet, the air was clear, there was no smoke or dust on the 4th level or in their working place. They started cleaning up prior to start mucking with the 12B mucker.

Ovellet stated that they were only in their working place approximately 10 to 15 minutes when he started to feel funny and dizzy, so he sat on the muck pile. He tried to stand up and had a difficult time doing so. He then noticed that Jerry Miller (deceased) had put the oxygen cutting torch into his mouth to get oxygen. This oxygen and acetylene outfit was on the right rib approximately 40 to 50 feet away from the shaft station. Ovellet further stated that they did not turn on the compressed air hose to ventilate their working area.

Ovellet could not remember who was in the lead as they started out of their area to the shaft station. He stated that the last thing he remembers was seeing Jerry Miller in the skip and that he probably fell in on top of him. Henry DiCamillo, supervisor, and Dave DiCamillo, asst. supervisor, were on the hoist level at approximately 8:30 a.m. and inquired of the hoistman if the men on the 4th level had started to muck. Getting a negative answer, he and his brother, Dave, went down to the 2nd level to check various places on this level. At approximately 9:20 a.m., Henry DiCamillo went up to the 1st level and again asked the hoistman about the men on the 4th level. The hoistman told him that nobody had contacted him.

Henry then called down to his brother, Dave, to check on the men. Dave went to the 3rd level and looked down the shaft and called Henry on the mine phone and told him that he could see the two miners lying in the skip.

Dave then went down to the 4th level and rang up the skip with the miners in it. The skip was stopped at the 2nd level and Ovellet was removed. One man stayed with Ovellet (injured); he was breathing. Miller was taken to the 1st level and mouth to mouth resuscitation and CPR were administered.

The employees then returned to the 2nd level and brought Ovellet to the surface where he was then transported by air ambulance to Denver, Colorado, St. Anthony's Central Hospital. Jerry Miller was pronounced dead at the mine site at 1:48 p.m. The mine officials closed the mine at approximately 10:30 a.m., September 19, 1980. Ovellet was held for observation and released on September 23, 1980 and is now back to work.

During the interview with Ovellet (injured), he stated that he never thought of using his self rescuer because there was no smoke or dust and that they used to go back into their work place an hour after they blasted and that they did not seem to suffer any ill effects. He further said that someone should have turned the compressed air on after the blast on swing shift and that he and his partner did not turn the air on in their working place before they started working. He had thought that the ventilation was all right on the day of the accident, but that they were not in the habit of checking it to see if there was sufficient air movement.

CAUSE OF THE ACCIDENT

The cause of the accident was the lack of adequate ventilation on the 4th level. Possible contributing factors to the accident were: (1) The failure of the ventilation door located on the 2nd level, which was found lying on the ground creating a short circuit of the fresh air. (2) The failure of the employees to turn on the compressed air after the blast on swing shift. (3) The failure of the two employees, who were working on the 4th level, to turn on the compressed air prior to starting the mining cycle.

ORDERS ISSUED

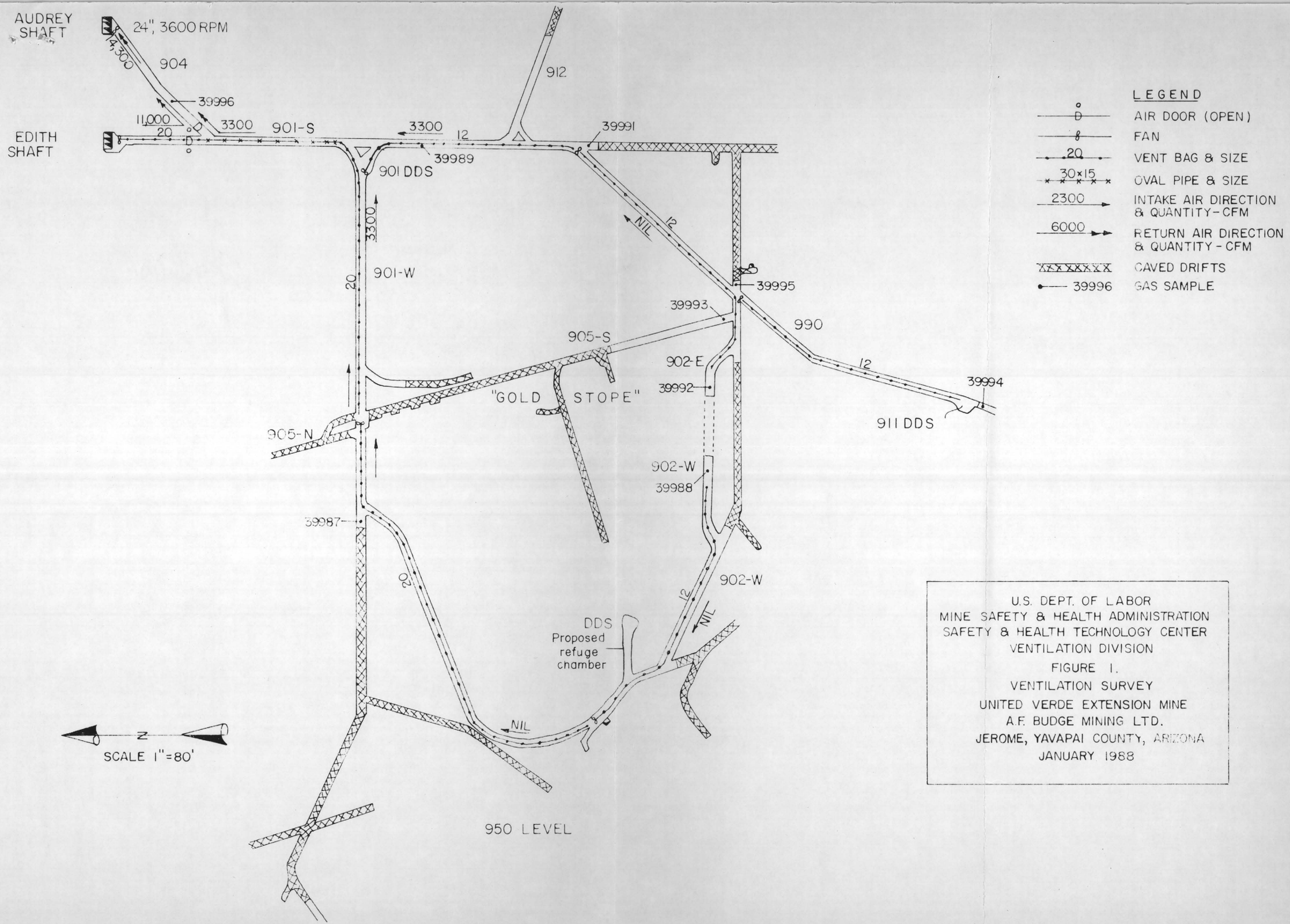
Order #333981, 57.5-5, 107-a - 104-a was issued September 19, 1980 at 1545 hours. It reads: Two carbon detector tube samples were taken at the 4th level shaft station with the Drager Model 21/31 multi-gas detector. The results showed that the air at the shaft station contained an average concentration of 550 ppm of CO. At the time of the sample, the mine was closed due to a fatal accident. The concentration is high enough to have adverse effects to anyone who may be exposed to it. If a man is exposed to enough CO, it can be fatal to him. The TLV for CO is 50 ppm. Only authorized personnel, according to 104-c of the Act, are allowed to enter the above area to establish the required ventilation. The company must notify MSHA when they bring the level of CO into compliance so the inspectors can continue the accident investigation on the 4th level.

Order #333981 was terminated on September 22, 1980 at 1055 hours. It reads: The company introduced compressed air into the 4th level. Samples taken on the fourth level showed that the compressed air brought the carbon monoxide level down within permissible limits. All samples taken on the 4th level showed that the air contain zero concentration of CO.

CITATIONS ISSUED

Citation #0567048, 57.5-31, was issued September 22, 1980 at 1150 hours. It reads: The ventilation door on the second level was not substantially constructed, nor was it maintained in a good condition. The ventilation door was found lying in the middle of the drift. This condition created a short circuit in the mine's ventilation system, which could have contributed to the fatal mine accident that occurred on Friday, September 19, 1980.

Citation #333581, 57.5-31, was issued September 22, 1980 at 0930 hours. It reads: No perceptible air movement was detected on the 4th level. This unventilated level is an active work area. The area was not barricaded or posted against entry. No blasting will be allowed until positive ventilation has been established. This condition caused a fatality on September 19, 1980.



U.S. DEPT. OF LABOR
MINE SAFETY & HEALTH ADMINISTRATION
SAFETY & HEALTH TECHNOLOGY CENTER
VENTILATION DIVISION

FIGURE 1.

VENTILATION SURVEY
UNITED VERDE EXTENSION MINE
A.F. BUDGE MINING LTD.
JEROME, YAVAPAI COUNTY, ARIZONA
JANUARY 1988

M E M O

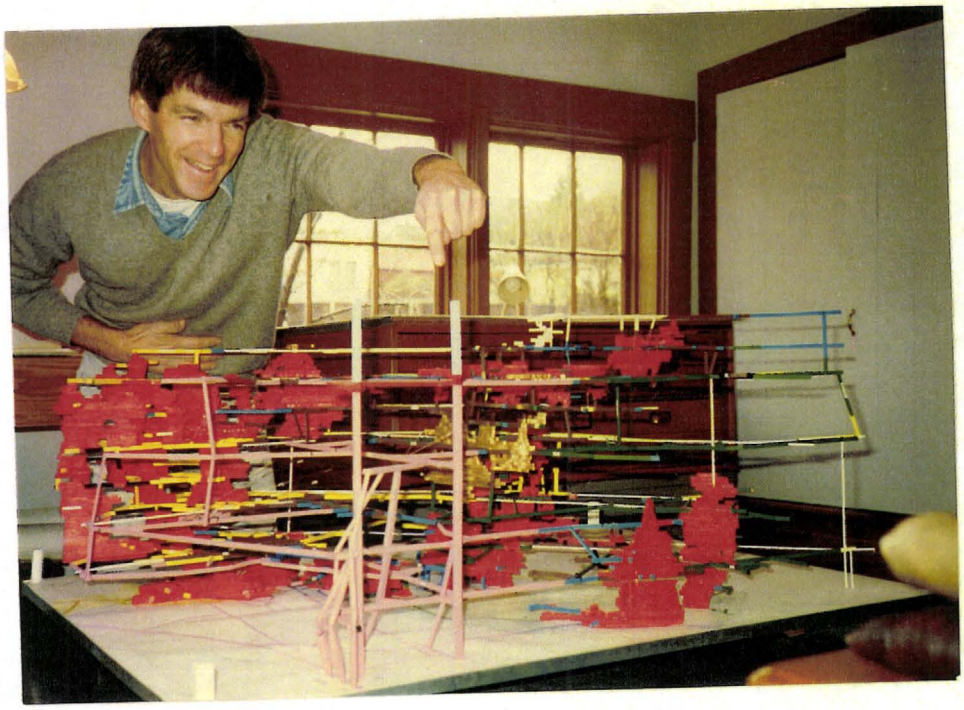
TO: Carole A. O'Brien

FROM: Don White

DATE: January 30, 1987

SUBJECT: UVX 925 drift assays

Attached are some photographs and notes to explain the 925-samples I scrambled in to recover earlier this month.



UNITED VERDE EXTENSION MINE MODEL

BUILT BY DON WHITE, GEOLOGIST, C.P.G.

Scale 1" = 40'

Model covers that portion of property with chert occurrences flanking and capping the historically mined copper ore bodies (massive sulfide and silica ore types) and known to contain gold-only ores. Model spans 600-level through 1300 haulage-level. All workings color-coded by geology (rock type or ore type). Drill holes and mineralization are included.

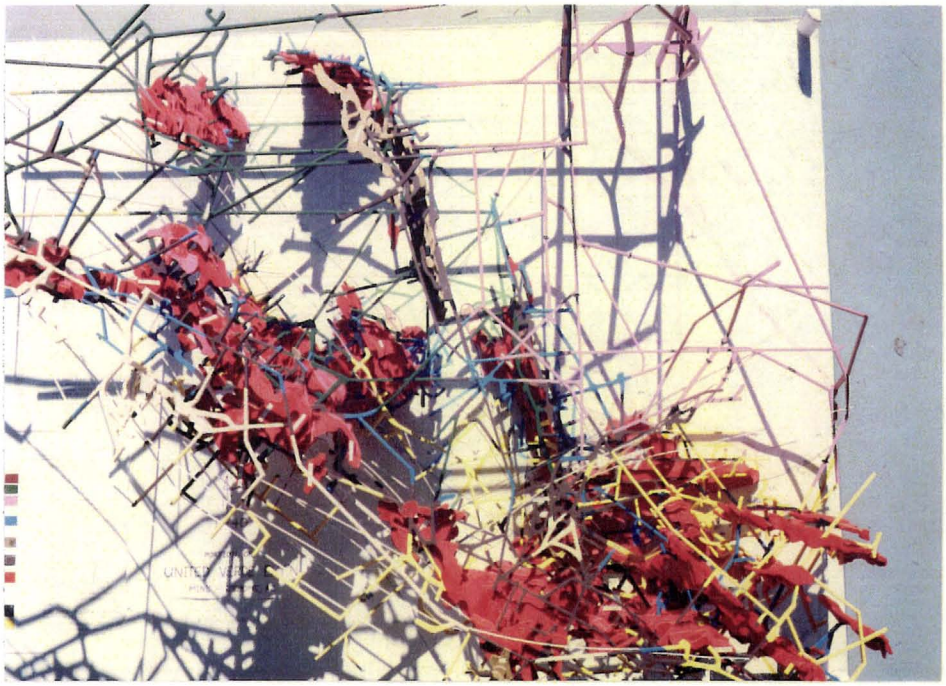


Figure 1: Top-side, vertical view with north up. Stratigraphic top is to NE.

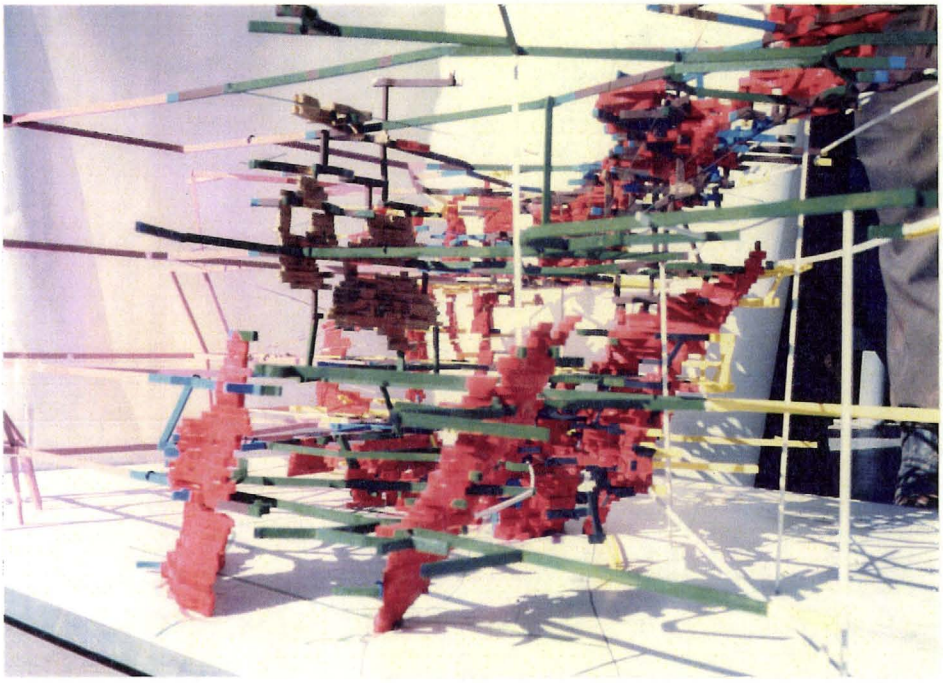


Figure 2: View toward SE, from diorite (green) through silica ore bodies (red) and Gold Stope (gold) toward main ore body (bottom rear).

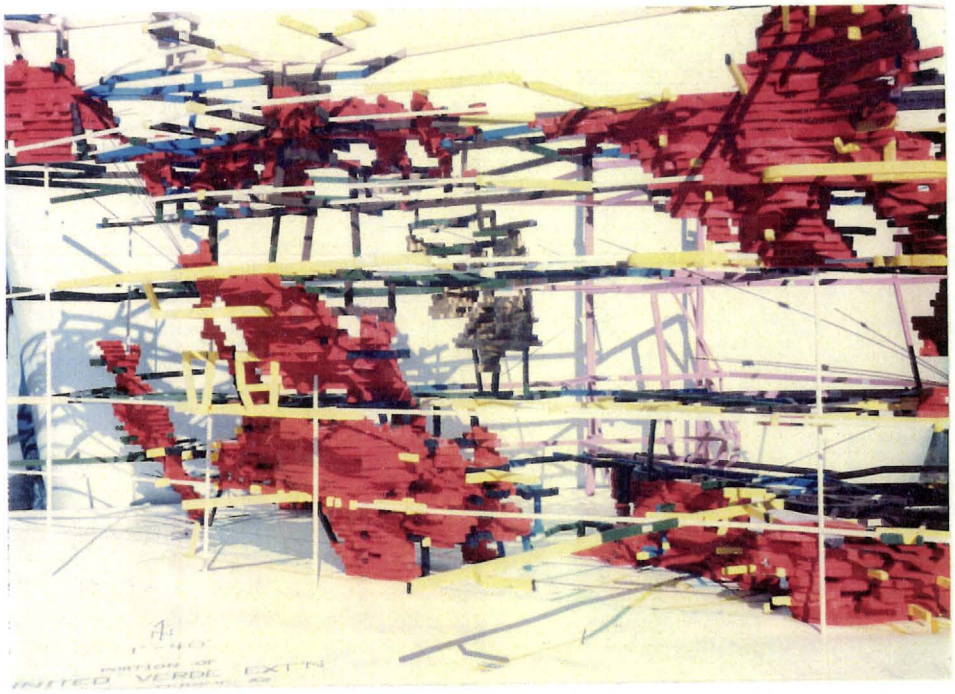


Figure 3: Looking NE across Verde fault at main ore body's top (lower right) 1204 complex (center left) and Gold Stope (center).

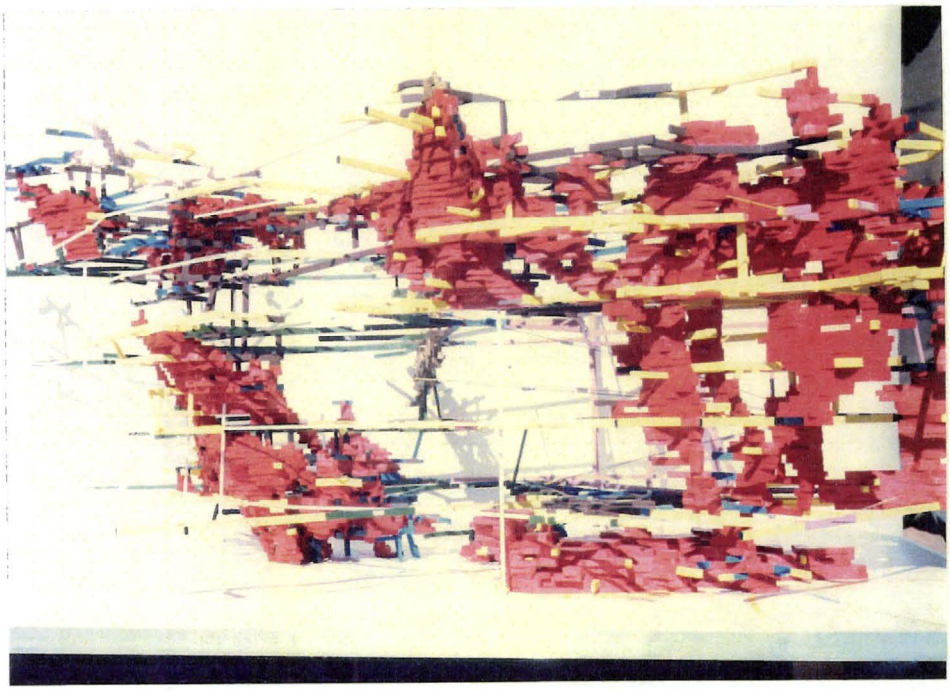


Figure 4: Similar view, looking due N.

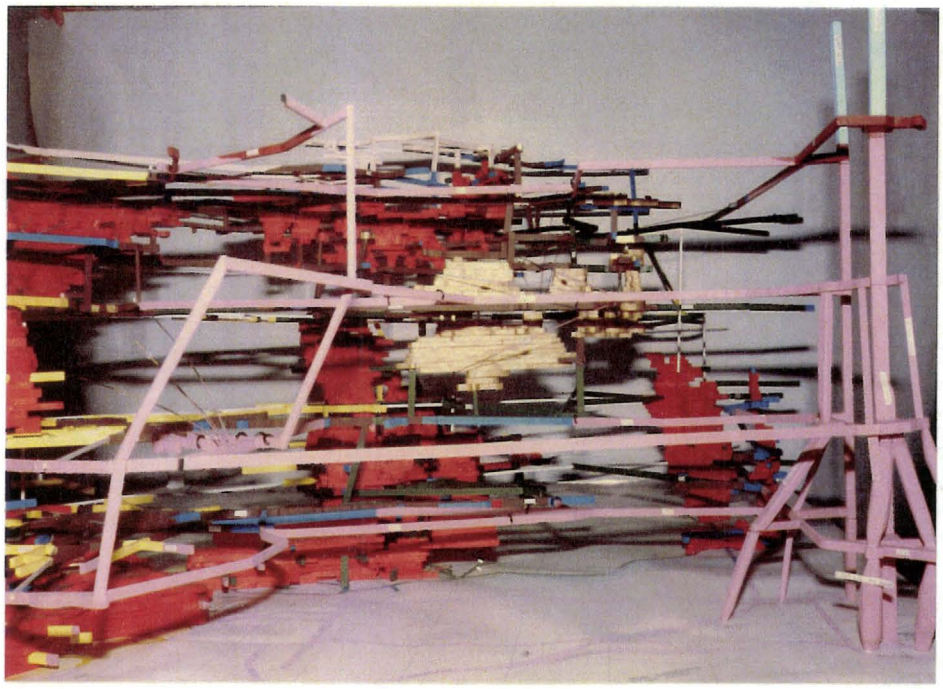


Figure 5: Gold Stope, looking W. Note Florencia area (1104) drilling at left and Gold Stope perimeter (901) drilling at center. Gold Stope extends from 1100 level, 6th floor through 950 level, 8th floor.

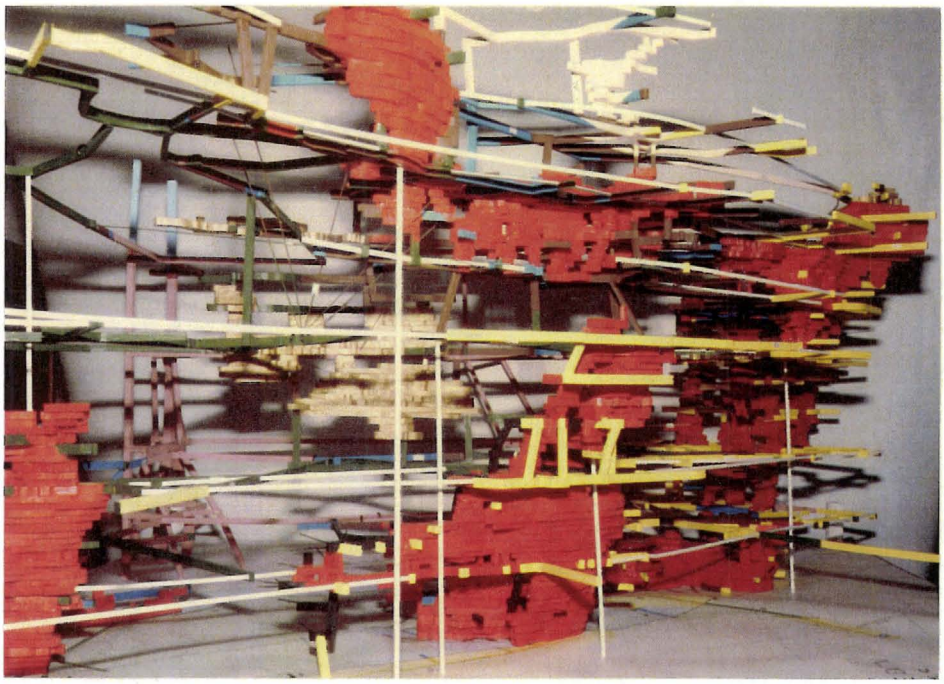


Figure 6: Gold Stope, looking E. Note Verde area (Morgan diamond drill station) drill holes (fan) and 806-1 hole (nearly horizontal).

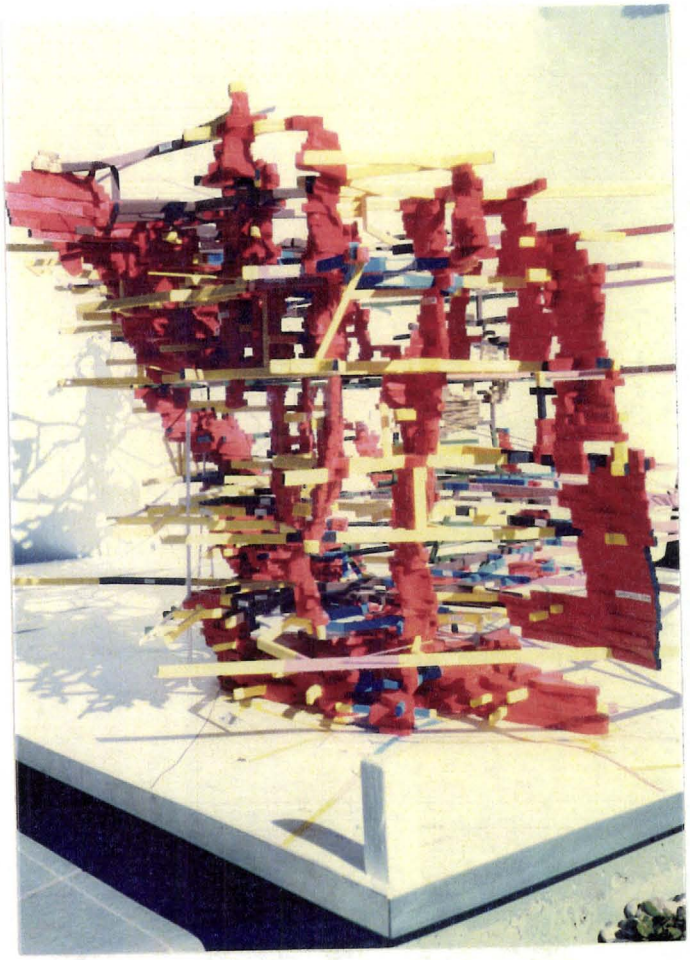


Figure 7:

Sheet-like stopes above main ore body, looking NW

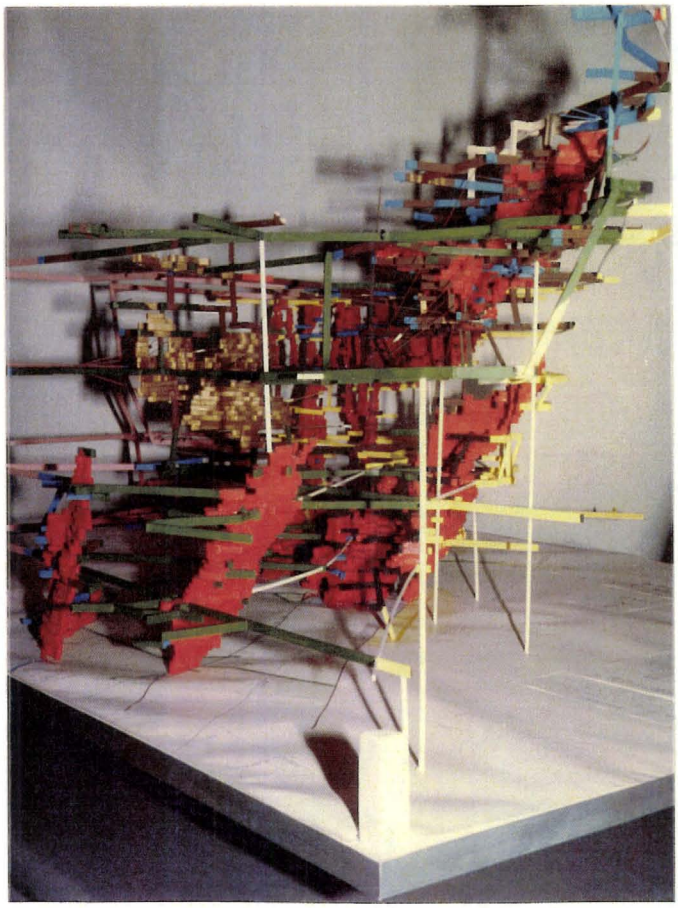


Figure 8:

Looking SE along Verde fault showing Gold Stope and silica ore bodies.

925-3 $\frac{1.5}{1.5}$

Sample 925-1 $\frac{.08}{1.1} = \frac{Au}{Ag}$ (oz/t)

925-2 $\frac{.01}{0.8}$

925 drift into hanging wall cherts of Gold Stope area, 950-level, 11,650 N 7,500E, looking N. Assays are $\frac{Au}{Ag}$ in troy ounces per short ton. Three prominently color contrasting rocks are:

Sample

925-1 4-ft thick, snow white, clean saccharoidal chert, poorly cemented.

925-2 2-ft thick, yellow brown goethitic saccharoidal chert. Minor supergene copper oxides.

925-3 5-ft thick, light gray and white matrix-supported chert breccia with saccharoidal matrix and intrabeds. Clasts are fairly homogenous light gray, translucent, 1" to 3" chert fragments stretched parallel to bedding. Minor, local goethite staining.

Another view of the NW rib of the 925 drift in the HW of the Gold Stope, just N of the previous photos.

Note the three double-graded cycles of chert breccia to ferruginous silica grit. Stratigraphic top is to the right (E). Each cycle is successively thinner, finer grained, and less auriferous. The Gold Stope occupied the basal portion of the first and main cycle.