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Volume 3 ; Book 1

TOMBSTONE

Mining District

Cochise County

ARIZONA

Misc. S.E.A. Reports and Maps
1973 to 1974

Southwestern
Exploration
Associates

Mineral Exploration &
Natural Resource
Consultants
Tucson, Arizona

Briscoe & Smith (5-16-73)

PRELIMINARY CYANIDATION TEST ON DUMP MATERIAL FROM THE "STATE OF MAINE AND BROTHER JONATHAN MINE, TOMBSTONE, ARIZONA

Lot I

submitted

by

Mr. James A. Briscoe
Sierra Mineral Management
4741 E. Sunrise Dr.
602-299-9736
Tucson, Arizona 85718

by

Sigmund L. Smith
Registered Metallurgical Engineer
P.O. Box 4063, University Station
Tucson, Arizona, 85717
602-884-1578 or 1361

May 16, 1973

RESULTS:

Lot I; about 500 pounds

Calculated head assay = 3.06 oz/T silver and a trace of gold

PERCOLATION TEST

The plus 20 mesh (0.03") minus 6 mesh (0.13") material assaying 3.40 oz/T silver (40% of the total silver) and 37.3% of the total weight percolated in a 5 foot column for 3 days will extract about 70% of the silver and have a tail assaying about 1.06 oz/T silver.

Using the first order reaction equation, the percent extract vs. time at the end of a 4 day leach will be about 80% recovery of the silver.

Cyanidation and lime consumption tests shows a normal consumption of about 1.5 pounds soldium cyanide (NaCN) and about 5 pounds of lime (CaO) per ton of ore leached.

Sigmund L. Smith
Registered Metallurgical Engineer
P.O. Box 4063, University Station
Tucson, Arizona 85717
602-884-1578 or 1361

Serra Mineral Management
4741 E. Sunrise Drive
Tucson, Arizona 85718

For services rendered: Cyanidation test on State of Maine and Brother Joanthn Mine dump material.

Paid $100.00 check No. 1056 , Amount due $100.00

SCREEN ANALYSIS AND ASSAYS

No.	Size	Ind. % Wt.	Accum. % Wt.	ASSAYS		SILVER DIST.	
				oz/T Silver	oz/T Gold	Ind. % Total	Accum. %
1	+1.05"	18.9	18.9	0.36	Tr(A)	2.2	2.2
2	-1.05 +0.74	5.9	24.8	0.56	Tr	1.1	3.3
3	-0.74 +0.63	5.7	30.5	0.72	Tr	1.3	4.6
4	-0.63 +0.38	5.9	36.4	1.14	Tr	2.2	6.8
5	-0.38 +0.26	5.9	42.3	1.60	Tr	3.1	9.9
6	-0.26 +0.13	12.4	54.7	2.40	Tr	9.7	19.6
7	-0.13 + .065	13.5	68.2	3.60	Tr	15.8	35.4
8	-0.065+0.031	11.4	79.6	4.02	Tr	14.9	50.3
9	-0.33(20M)	20.4	100.0	7.52	Tr	49.6	99.9

(A) Trace less than 0.02 oz/T gold.

Calculated head assay = 3.06 oz/T silver and a trace of gold.

CYANIDATION AND LIME CONSUMPTION: TEST I

Forty grams of pulverized head sample was agitation leached with 120 cc tap water plus 120 mg lime (2#/T solution or 6#/T ore) and 300 mg solium cyanide (5#/T solution or 15#/T ore) for 4 hours.

After leaching the free sodium cyanide was 4.5 # NaCN/ton solution or consumed 0.5 # cyanide/T solution or 1.5 #/T ore.

The free lime was 0.35 # CaO/T solution or consumed 1.65 # CaO/T solution or 4.95 #/T ore.

SOAK AND DISPLACEMENT LEACH OF VARIOUS SIZE: TEST 2

Five hundred cc of ore was placed in a 600 cc beaker and tap water was added to make a volume of 500 cc. Three hundred and fifty grams of lime and 350 mg sodium cyanide were added to each size fraction. Every 24 hours the contents were changed to a new beaker.

Test 2	Size	Gms Ore	CC Soln.	Reagents Added		Pulp Ratio	After 96 Hours Leaching #/T Soln				
				NaCN #/T Soln.	CaC #/T Soln.		Free CN	Free CaO	Heads oz/T mg	Tails oz/T mg	% Rec Trend
A	-1.05 +0.742	514	270	2.6	2.6	1 to 1.90	1.04	Trace	0.56	0.48	14.0
B	-0.74 +0.63	543	270	2.6	2.6	1 to 1.97	0.96	Trace	0.72	0.60	17.0
C	-0.63 +0.38	560	270	2.6	2.6	1 to 2.08	0.76	Trace	1.14	0.56	51.0
D	-0.38 +0.26	590	270	2.6	2.6	1 to 2.19	0.68	Trace	1.60	Lost	--
E	-0.26 +0.13	621	270	2.6	2.6	1 to 2.30	0.60	Trace	2.40	1.20	50.0
F	-0.13 +0.065	623	270	2.6	2.6	1 to 2.32	0.54	Trace	3.60	0.98	73.0
G	-0.065+0.031	611	270	2.6	2.6	1 to 2.26	0.98	Trace	4.02	2.42	(B) 40.0
H	-0.033(20M)	669	270	2.6	2.6	1 to 2.48	NO RESULT		7.52	2.68	(B) 65.0

(B) Poor results caused by insufficient washing.

PERCOLATION TEST: TEST 3

A 4" diameter 5.5 feet high plastic tube was used as a downward type of percolator.

Feed: Mixed (41 pounds)

6,410 grams #6 -0.26 +0.13" (33% by wt.)

6,960 grams #7 -0.13 +0.065 (36% by wt.)

5,940 grams #8 -.065 +0.03 (31% by wt.)

19,310 grams

Having an assay of 3.4 oz/T silver.

Solution: 8.5 liters (pulp ratio 1 to 0.44) contained 10.69 NaCN (1.25 #/T soln) and 11.39 CaO (1.33 #/T soln).

Leaching cycle was 72 hours and the percolation rate was about 6 inches per hour, a satisfactory rate.

At the end of 24 hours the free cyanide was 1.50 #/T solution and a trace of lime. End 48 hours the free cyanide was 1.30 #/T solution and a trace of lime and at the end of 72 hours of leaching the free cyanide was 1.16 #/T solution.

The tails assayed 1.06 oz/T silver giving a recovery of about 70% for 3 days of leaching or a calculated 80% for 4 days of leaching.

After leaching the system was allowed to drain over night and 2 separate washings were applied.

First wash of 1,250 cc contained 165 mg silver.

Second wash of 1,000 cc contained 64.0 mg silver.

Total silver IN = $\frac{19,300}{30}$ x 3.4 = 2180 mg Ag.

% Recovery total silver first wash = $\frac{165}{2180}$ x 100 = 7.6

% Recovery total silver second wash = $\frac{64}{2180}$ x 100 = 3.0

Wash recovery = 10.6%

Which can be considered satisfactory.

CONCLUSION:

It appears the dump material is amenable for cyanidation leaching and the cyanide and lime consumption is satisfactory.

More work should be done with various fractions between -20 mesh and perhaps 65 mesh to increase the assay of silver and at the same time increase the percent of the total weight going to percolation. The -0.375 + 0.265 material assaying 1.60 oz/T silver might be included as percolation material.

The -20 mesh material had a poor filtering rate and further testing should be required on agitation before any conclusion can be reached as to its amenability to agitation leaching.

Sigmund L. Smith
Registered Metallurgical
Engineer

Assay Comparison (5/73+)

Assay & Metallurgical Notes & Results

MANY OF THESE ASSAYS APPEAR TO BE RELATED TO TOMBSTONE & STATE OF MAINE AREA

Memo To: RFH Saturday May 19, 1973
From: JAB

Subject: Comparison of Sig Smith assay's to trace analysis run by Hawley & Hawley using Atomic Absorption technique

As indicated on the attached assay sheets, in all samples fire assay's run by Sigmond Smith showed a higher silver content than the trace analyses by the Atomic Absorption method run by Hawley & Hawley.
The Percent difference is calculated below.

1 ~~0.35~~ / ~~0.56~~ H&H / Smith = $\frac{0.39}{0.36} \times 100 = 1.083\%$

2. " $\frac{0.35}{0.56} \times 100 = 62.5\%$

3 $\frac{0.59}{1.14} \times 100 = 55.6\%$

4. $\frac{0.59}{1.14} \times 100 = 51.8\%$

5 $\frac{1.28}{1.60} \times 100 = 80.\%$

6. $\frac{1.39}{2.40} \times 100 = 57.9\%$

7 $\frac{1.92}{3.60} \times 100 = 53.3\%$

8. $\frac{3.73}{4.02} \times 100 = 92.8\%$

9 $\frac{6.76}{7.52} \times 100 = 89.9\%$

As a general statement, the Atomic Absorption method is more accurate in the lower ranges of metal content than is fire assaying. As the metal content increases, the relative accuracy of fire assaying increases until it becomes preferable for most ore-range determinations.

I discussed the above observation with William Lehmbeck, Hawley? Hawley manager when I delivered these samples. He said that they were using a technique that should be comparable to fire assaying and suggested we compare the two methods.

Note the high lead content in #9, the only sample which I had the base metal determinations run. Many of the disolving procedures used to get silver into solution for the AA machine are not totally effective when there is a high lead content. The lead tends to form an insoluable residue which traps a ~~sign~~ significant amount of the contained silver. The best answer for this type of problem is fire assaying.

Conclusions:

Check assays by the Atomic Absorption method are significantly different than those obtained by Sig. Smith by fire assay. Additional fire assays should be run.

The differences could be caused by any of the following reasons:

1. Actual lower silver content of the samples as indicated by the AA analyses
2. Inhomogeneity of the assay pulp
3. Depression of the silver values by high lead content in the AA method.

Of these I think that #3 is most likely. Because of its importance, not only to this test, but also to our choice of analysis techinique for future sampling in the Tombstone District, I will direct Hawley & Hawley to re-run all samples in this group by fire assay methods.

Best regards

James S. Burnison

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold ~~XXX~~ ppm	Silver ~~XXX~~ ppm	Lead % OZ Ag	Copper %	Zinc %	Mo. %	copper ppm		
T - 1	<0.01	13.					195		
2	<0.01	5.8					65		
3	0.08	78.					125		
101	<0.01	21.	0.61				70		
102	<0.01	10.	0.29				40		
103	<0.01	6.4	0.19				25		
104	0.01	2.8	0.08				20		
105	<0.01	<0.2					15		
T - 106	<0.01	0.6					15		
Moonlight - 1	0.01	75.	6.56	0.43	5.95				
2	<0.01	100.	0.83	0.05	6.70				
3	<0.01	31.	0.43	0.04	5.05				
Moonlight - 4	0.02	48.	0.76	0.05	2.33				
CC - 1				0.01					
2				0.02					
CC - 3	0.21	0.4							

CC: Sierra Minerals
ADD: 4741 East Sunrise Drive
CITY: Tucson, Arizona 85718
ADD: Attn: Mr. James A. Briscoe
CITY:

REMARKS:

Au, Ag, Cu - Trace analysis
Pb, Cu, Zn - Single determination

Analysis Cert. By

Preparation $ 14.40
Analysis $ 91.00

ACC:	Date Spl. Received	Date Compl.		$
SIERRA MINERALS	4/19/73	4/25/73	347179	105.40

HH3

HAWLEY & HAWLEY

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TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

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El Paso
St. Louis

IDENTIFICATION	Gold ~~%~~ ppm	Silver ~~%~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	Zinc %	Mo. %	OZ Ag		
T - 107	<0.02	1.0	50	35					
108	<0.02	0.6	50	25					
109	<0.02	0.6	40	25					
110	<0.02	0.6	50	25					
111									
112	<0.02	0.6	30	15					
113	<0.02	0.2	65	20					
114	<0.02	1.4	50	15					
115	<0.02	< 0.2	35	20					
116	<0.02	< 0.2	25	15					
117	<0.02	< 0.2	45	20					
118	<0.02	< 0.2	35	20					
119	0.06	112.	3,280	385			3.27		
120	0.02	35.	7,200	100			1.07		
121	0.08	35.	3,480	140			1.02		
122	0.02	14.	2,680	50			0.41		
123	0.12	150.	4,960	570			4.37		
124	<0.02	11.	2,160	35			0.32		
125	<0.02	3.8	125	25			0.11		
T - 126	<0.02	7.4	1,840	40			0.22		

CC: Sierra Minerals
ADD: 1971 Minerals Ltd.,
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85716
CITY:

REMARKS:

Trace analysis

Analysis Cert. By

Preparation $
Analysis $
$

Page 1 of 2

ACC:	Date Spl. Received	Date Compl.	
SIERRA MINERALS	4/24/73	4/27/73	347195

HH3

HAWLEY & HAWLEY

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BOX 50106 1700 W. GRANT RD.,

TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold ~~oz/T~~ ppm	Silver ~~oz/T~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	Zinc %	Mo. %
T - 127	0.08	21.	5,680	75		
128	0.08	45.	32,000	160		
129	<0.02	10.	1,880	50		
130	<0.02	14.	800	70		
131	<0.02	10.	3,000	35		
132	<0.02	8.0	920	60		
Where 133	0.13	192.	1,960	470		
134	<0.02	6.8	2,240	40		
135	<0.02	19.	7,400	130		
136	0.31	26.	1,100	60		
137	0.07	9.4	2,080	25		
138A	0.54	42.	445	40		
138B	0.09	23.	135	25		
T - 139	0.02	28.	100	20		

34 Au @ $2.00 =$ 68.00
34 Ag @ 1.50 = 51.00
34 Pb, Cu @ 1.60 = 54.40
Sub-total $173.40

CC: Sierra Minerals
ADD: 1971 Minerals Ltd.,
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85716
CITY:

REMARKS:

Trace analysis

Analysis Cert. By

REGISTERED ASSAYER Arizona U. S. A.

Preparation $ 30.60
Analysis $ 173.40

Page 2

ACC:	Date Spl. Received	Date Compl.		$
SIERRA MINERALS	4/24/73	4/27/73	347195	204.00

HH3

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
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Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold ~~%~~ ppm	Silver ~~%~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	Zinc %	Mo. %	Ag oz
T - 202 C	0.08	16	65	10		0.47	
203 A	0.05	1.4	20	20		—	
203 B	0.18	9.4	350	30		0.27	
203 C	0.08	7.0	80	20		0.20	
204	0.05	1.0	25	10		—	
205	0.17	6.8	55	20		0.20	
206	0.10	5.2	70	10		0.15	
207	0.24	6.2	135	20		0.18	
T - 208	0.10	6.6	135	20		0.19	

203 A B & C Avg. 5.43 ppm or 0.18 oz

34 Gold @ $2.00=	$	68.00
34 Silver 1.50=		51.00
34 Lead & Copper 1.60=		54.40
SUBTOTAL		173.40
34 Full preparations $.90=		30.60

CC: Sierra Minerals
ADD: 4741 E. Sunrise Drive
CITY: Tucson, Arizona 85718
ADD: Attn: Mr. R. Hewlett
CITY: cc: J. A. Briscoe, Tucson, Ariz.

REMARKS:

Trace analysis
Page 2

Analysis Cert. By

REGISTERED ASSAYER CERTIFICATE NO. G.E.

Preparation $ 30.60
Analysis $ 173.40

ACC:	Date Spl. Received	Date Compl.		$
SIERRA MINERALS	5/22/73	5/30/73	347338	204.00

HH3

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

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St. Louis

IDENTIFICATION	Gold OPT	Silver OPT	Lead %	Copper %	Zinc %	Mo. %			
	ppm	ppm	ppm	ppm	Oz Ag				
T - 166	0.06	0.8	50	15			2 Samp. # 166		
167	0.07	0.8	30	10					
168	0.07	1.2	50	10					
169	0.10	9.4	45	30					
170	0.07	5.0	60	15					
171	0.09	6.6	40	20					
172	0.09	9.8	80	20					
173	0.10	11.	205	35	0.321				
174	0.13	46.	200	40	1.341				
175	0.10	2.4	45	20					
176	0.26	26.	200	25	0.758				
177	9.4	960.	6,900	475	27.993				
178	0.09	1.6	45	15					
179	0.09	2.4	45	15					
180	0.08	2.6	60	20					
181	0.11	3.8	105	20					
182	0.06	4.4	55	15					
183	0.09	6.6	50	15					
184	0.11	13.	40	20	0.379				
185	0.18	16.	55	30	0.466				
186	0.12	9.4	35	25					
187	0.09	5.4	60	15					
188	0.13	10.	345	25	0.2916				
189	0.16	9.0	170	25					
190	0.56	9.8	85	30					
191	0.08	140.	165	85	4.082				
192	0.36	55	285	45	1.604				
193	0.12	5.4	75	15					
194	0.09	35.	100	30	1.021				
195	0.10	3.4	50	10					
T - 196	0.11	28.	80	50	0.816				

Wted Avg
Ag = 1.16 oz
Au = 0.01 oz
@ $125 Au
+ $3.00 Ag
value = $4.74

CC: J. A. Briscoe DBA
ADD: Sierra Minerals Management
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85718
CITY: cc: Mr. R. Howlett

REMARKS:

Trace analysis

Page 1 of 2

Analysis Cert. By

Preparation $
Analysis $

ACC: J. A. BRISCOE DBA
SIERRA MINERALS MANAGEMENT

Date Spl. Received 8/6/73

Date Compl. 8/11/73

347415

$

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HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

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Registered Assayers
OVER 50 YEARS

BRANCHES
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IDENTIFICATION	Gold OPT ppm	Silver OPT ppm	Lead % ppm	Copper % ppm	~~Zinc~~ % Oz Ag/Tm	Mo. %			
T - 197	0.08	1.0	40	10					
198	0.08	2.4	45	10					
199	0.06	4.4	35	10					
200	0.08	0.8	70	10					
209	0.07	0.2	340	15					
210	0.11	7.2	6,000	85					
211	0.08	4.8	3,000	100					
212	0.04	1.0	250	15	5.321				
213	0.04	1.5	1,900	30	~~1.271~~				
214	0.05	7.8	6,400	105					
215	0.03	2.6	1,800	50	~~27.756~~				
216	0.04	3.0	1,400	30	~~27.443~~				
217	0.05	1.6	1,900	35					
218	0.04	16.	2,100	380	0.466				
219	0.11	230	2,000	7,300	6.707				
220	0.26	64.	4,700	600	1.866				
221	0.03	18.	1,500	60	0.524				
222	0.12	220.	9,700	2,200	6.415				
223	0.05	29	800	370	~~0.846~~				
329	0.07	4.0	70	15	~~0.416~~				
330	0.04	6.8	90	20					
T - 331	0.06	2.8	35	15					
					0.2916				
						53 Gold @ $	2.00=		$106.00
						53 Silver	1.50=		79.50
					4.~~459~~ 1.604	53 Lead & Copper	1.60=		84.80
						Sub-total			$270.30
					1.~~053~~	sample preparation	@.90=		47.70
					0.846				

CC: J. A. Briscoe DBA
ADD: Sierra Minerals Management
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85718
CITY: cc: Mr. R. Hewlett

REMARKS:

Trace analysis
Page 2

Analysis Cert. By H Ellichard

Preparation $ 47.70
Analysis $ 270.30

ACC: J A BRISCOE DBA
SIERRA MINERALS MANAGEMENT

Date Spl. Received 6/6/73 | Date Compl. 6/11/73 | 347415 | $ 318.00

HH3

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

Checks made out.

IDENTIFICATION	Gold ~~OZ/T~~ ppm	Silver ~~OZ/T~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	~~Zinc %~~ Ag Oz/T	Mo. %			
T - 224	<0.02	4.4	1,600	30	0.128				
225	<0.02	1.0	1,700	30	.02916				
226	0.06	1.2	6,700	45	.0349				
227	<0.02	1.2	1,700	30	.0349				
228	0.08	2.0	1,500	30	.0583		Below machine shop		
229	0.10	7.1	5,400	40	.207				
230	0.08	3.4	2,600	35	.099				
231	0.06	1.4	1,700	25	.0408			# T-232 missing	
233	<0.02	4.2	1,200	45	.1224				
234	0.04	0.2	850	25					
235	0.04	14.	45	65	0.408	9' long			State of Maine area
236	0.05	52.	360	70	1.516	18' heavy muck			
237	0.05	8.6	200	90	.251	H side collar state of Maine			
238	0.08	171.	12,000	145	4.986				
T - 239	0.05	88.	3,400	155	2.566	12" salt fw rlc under #238			

15 Gold @ $2.00 =	$30.00
15 Silver @ $1.50 =	22.50
15 Lead & Copper @$1.60 =	24.00
Subtotal	$76.50
15 sample preparations@$.90=	13.50

CC: J. A. Briscoe DBA
ADD: Sierra Mineral Management
CITY: 4741 East Sunrise Drive
ADD: Tucson, Arizona 85718
CITY: Attn: Mr. R. Hewlett

REMARKS: Trace analysis

Analysis Cert. By H. Ellsworth

Preparation $ 13.50
Analysis $ 76.50

ACC: J A BRISCOE DBA
SIERRA MINERAL MANAGEMENT

Date Spl. Received 6/8/73 | Date Compl. 6/13/73 | 347419 | $ 90.00

HH3

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Gold ppm	Silver ppm	Lead ppm	Copper ppm	Oz Ag				
1	T - 232	0.08	8.1	4,900	30	0.24				
2	240	<0.02	8.1	2,800	60	0.24				
3	241	0.23	220.	25,000	120	6.42	underground			
4	242	<0.02	5.7	4,200	600	0.17				
5	243	<0.02	1.4	40	25	—				
6	244	<0.02	1.8	280	25	—				
7	245	<0.02	9.7	1,200	30	0.28				
8	246 (9.97 ppm or 0.30 oz)	<0.02	11.4	1,100	30	0.33				
9	247	<0.02	8.8	525	25	0.26				
10	248	0.06	31.	2,300	40	0.90				
11	249	0.11	14.	1,900	55	0.41				
12	? 250	<0.02	13.	65	70	0.38	—	where		
13	251	<0.02	0.8	80	15	—				
14	252	<0.02	9.4	2,500	100	0.27				
15	253	<0.02	2.4	470	15	—				
16	254	<0.02	2.6	535	20	—				
17	255	<0.02	2.2	435	30	—				
18	256	<0.02	2.0	540	30	—				
19	257	<0.02	39.	4,000	110	1.14				
20	258	<0.02	9.8	630	50	0.29				
21	259	0.32	39.	33,000	320	1.14	underground			
22	260	1.20	240.	4,500	55	7.00				
23	261	<0.02	< 0.2	50	15	—				
24	262	<0.02	0.6	25	15	—				
25	263	<0.02	31.	1,900	55	0.90				
26	264	<0.02	6.2	2,500	30	0.18				
27	265	<0.02	2.6	165	35	—				
28	266	<0.02	2.8	150	30	—				
29	T - 305	<0.02	2.0	35	10	—				

where 254–258

TO: J. A. Briscoe DBA
Sierra Mineral Management
1971 Minerals Ltd., 4741 E. Sunrise Dr.,
Tucson, Arizona 85718
cc: Mr. R. Hewlett

REMARKS: Trace analysis

CERTIFIED BY: H. E. RICHARD

REGISTERED ASSAYER CERTIFICATE NO. 6784 Arizona U.S.A.

ACCT.:	DATE REC'D:	DATE COMPL.:	
J. A. BRISCOE, DBA, SIERRA MINERAL MGNT., 1971 MINERALS LTD	6/14/73	6/21/73	347451

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold ~~oz/t~~ ppm	Silver ~~oz/t~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	~~Zinc~~ % Lead	Mo. %	Oz Ag	Oz Au
T - 140	0.35	4.4	4250	130	0.425		0.13	0.01
141	<0.02	0.6	75	15	.007		—	—
142	0.06	3.0	95	15			0.09	0.002
143	0.03	<0.2	50	10			—	0.001
300	0.04	<0.2	55	5			—	0.001
301 A	<0.02	<0.2	55	10				—
301 B	<0.02	<0.2	40	10				—
301 C	<0.02	<0.2	40	5				—
302	<0.02	<0.2	25	5				—
303	<0.02	<0.2	35	10				—
304	0.05	<0.2	25	5				0.001
305 Missing								
306	<0.02	<0.2	40	5				—
307	<0.02	1.6	125	10	0.013			—
308	<0.02	2.2	55	10				—
309	0.04	0.8	50	10				0.001
310	0.16	0.4	60	5				0.005
311	<0.02	<0.2	45	10				—
312	<0.02	0.4	60	10				
313	<0.02	2.0	35	5				—
314	<0.02	<0.2	25	10				—
315	<0.02	0.2	30	5				
316	0.03	<0.2	35	10				0.001
317	<0.02	<0.2	30	10				
T - 318	<0.02	<0.2	30	5				—

CC: J. A. Briscoe DBA
ADD: Sierra Mineral Management
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85716
CITY: cc: Mr. Richard Hewlett

REMARKS:

Page 1 of 2

Trace analysis

Analysis Cert. By

Preparation $
Analysis $

ACC: J. A Briscoe DBA
Sierra Minerals Management

Date Spl. Received 5/29/73

Date Compl. 6/4/73

347359

$

HH3

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Pb ppm	Cu ppm	Ag (oz)
1	T - 267	0.03	6.8	2,500	30	0.20
2	268	<0.02	1.6	360	25	—
3	? 269	<0.02	1.0	135	20	—
4	270	0.03	37.	6,100	175	1.08
5	? 271	<0.02	0.40	120	15	—
6	272	0.03	4.4	540	20	—
7	273	<0.02	8.6	400	20	0.25
8	274	0.04	15.	980	85	0.44
9	275	0.12	50.	2,300	195	1.46
10	278	<0.02	2.0	335	10	—
11	279	0.02	2.2	360	10	—
12	280	0.06	79.	17,000	215	2.30
13	? 284	<0.02	31.	1,100	45	0.90
14	285	0.02	34.	850	95	0.99
15	T - 286	0.03	95.	2,200	220	2.77

TO: J. A. Briscoe DBA
Sierra Minerals Management
4741 East Sunrise Drive
Tucson, Arizona 85718
Attn: Mr. R. Hewlett

REMARKS:

CERTIFIED BY:

ACCT.: SIERRA MINERALS MANAGEMENT

DATE REC'D: 6/20/73

DATE COMPL.: 6/26/73

347483

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold ~~Oz/T~~ ppm	Silver ~~Oz/T~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	Zinc %	Mo. %	Oz Ag	Oz Au
T - 319	<0.02	<0.2	40	5				
320	<0.02	<0.2	30	10				
321	<0.02	<0.2	35	10				
322	<0.02	<0.2	35	10				
323	<0.02	<0.2	30	10				
324	<0.02	<0.2	40	10				
325	0.07	1.8	30	15				
326	<0.02	<0.2	35	10				
327	<0.02	<0.2	30	10				
T - 328	0.03	5.4	85	15			0.16	

34 Gold @ $2.00= $ 68.00
34 Silver@ $1.50= 51.00
34 Copper@ $1.60= 54.40
& Lead

Sub-total $173.40

34 sample prep.@ $.90 = 30.60

CC: J. A. Briscoe DBA
ADD: Sierra Mineral Management
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85716
CITY: cc: Mr. Richard Hewlett

REMARKS:
Page 2
Trace analysis

Analysis Cert. By H. Effinhard

Preparation $ 30.60
Analysis $ 173.40

ACC: J. A. BRISCOE DBA
SIERRA MINERALS MANAGEMENT

Date Spl. Received 5/29/73
Date Compl. 6/4/73
347359
$ 204.00

HH3

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold ~~oz/t~~ ppm	Silver ~~oz/t~~ ppm	Lead ~~%~~ ppm	Copper ~~%~~ ppm	Zinc %	Mo. %	Oz Ag		
T - 202 C	0.08	16	65	10			0.47		
203 A	0.05	1.4	20	20			—		
203 B	0.18	9.4	350	30			0.27		
203 C	0.08	7.0	80	20			0.20		
204	0.05	1.0	25	10			—		
205	0.17	6.8	55	20			0.20		
206	0.10	5.2	70	10			—		
207	0.24	6.2	135	20			—		
T - 208	0.10	6.6	135	20			—		
					34 Gold @ $2.00=			$	68.00
					34 Silver 1.50=				51.00
					34 Lead & Copper 1.60=				54.40
					SUBTOTAL				173.40
					34 Full preparations $.90=				30.60

CC: Sierra Minerals
ADD: 4741 E. Sunrise Drive
CITY: Tucson, Arizona 85718
ADD: Attn: Mr. R. Hewlett
CITY: cc: J. A. Briscoe, Tucson, Ariz.

REMARKS:

Trace analysis
Page 2

Analysis Cert. By H. Effenbach

Preparation $ 30.60
Analysis $ 173.40

ACC:	Date Spl. Received	Date Compl.		$
SIERRA MINERALS	5/22/73	5/30/73	347338	204.00

HH3

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Pb ppm	Oz Ag
1	T - 354	0.30	28	185	1,250	0.82
2	T - 355	0.50	820	255	2,150	23.91
3	T - 356	0.64	157	110	2,350	4.58
4	T - 357	0.21	82	185	3,300	2.39
5	T - 358	0.10	35	70	1,400	1.02
6	T - 359	<0.02	24	120	1,300	0.70
7	T - 360	<0.02	10	30	1,250	0.29
8	T - 361	<0.02	101	85	800	2.96
9	T - 362	<0.02	< 0.2	5	35	—
10	T - 363	<0.02	< 0.2	5	30	—
11	T - 364	<0.02	< 0.2	5	35	—
12	T - 365	<0.02	< 0.2	20	35	—
13	T - 366	<0.02	< 0.2	10	165	—
14	T - 367	<0.02	1.2	10	950	—
15	T - 368	<0.02	1.0	15	1,200	—
16	T - 369	<0.02	< 0.2	10	110	—
17	T - 370	<0.02	< 0.2	10	30	—
18	T - 371	<0.02	8.2	15	750	0.24
19	T - 372	<0.02	0.8	20	35	—
20	T - 373	<0.02	0.8	15	75	—
21	T - 374	<0.02	0.6	10	170	—
22	T - 375A	<0.02	4.4	35	80	0.13
23	T - 375B	<0.02	5.8	180	600	0.17
24	T - 451	<0.02	2.0	10	80	—
25	T - 452	<0.02	0.6	15	180	—
26	T - 453	<0.02	< 0.2	20	40	—
27	T - 454	<0.02	1.0	20	50	—
28	T - 455	<0.02	< 0.2	15	70	—
29	T - 456	<0.02	< 0.2	20	30	—
30	T -457	<0.02	< 0.2	25	80	—
31	T - 458	<0.02	< 0.2	5	50	—
32	T - 459	<0.02	< 0.2	20	200	—

TO:
J. A. Briscoe DBA Sierra Mineral Mgnt.,
4741 East Sunrise Drive, Tucson, Az.85718
Attn: Mr. Hewlett
cc: Mr. J. A. Briscoe
6814 Santa Aurelia, Tucson, Az. 85715

REMARKS:
Trace analysis

CERTIFIED BY:

ACCT.:
J. A. BRISCOE, DBA
SIERRA MINERAL MANAGEMENT

DATE REC'D: 7/3/73

DATE COMPL.: 7/11/73

347558

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Pb ppm
1	T - 376	0.10	2.2	70	285
2	377	0.07	1.6	35	245
3	378	0.15	1.8	75	115
4	379	0.06	<0.2	35	160
5	380	<0.02	0.8	25	110
6	381	0.05	1.4	55	100
7	382	0.03	0.6	15	185
8	383	0.22	5.0	40	365
9	384	0.06	4.0	10	185
10	385	0.06	3.8	10	270
11	386	0.04	1.4	20	25
12	387	0.02	4.0	10	350
13	388	0.10	5.6	10	295
14	T - 389	<0.02	1.6	10	55

TO:
Sierra Mineral Management
4741 East Sunrise Drive
Tucson, Arizona 85715
cc: Mr. James A. Briscoe

REMARKS:
Trace analysis

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERAL MANAGEMENT	8/1/73	8/6/73	347691

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Pb ppm
1	T - 390	<0.02	<0.2	20	110
2	391	<0.02	<0.2	25	30
3	392	<0.02	0.8	20	75
4	393	<0.02	1.0	40	25
5	394	<0.02	2.0	15	80
6	395	<0.02	1.6	20	75
7	396	<0.02	4.4	20	45
8	397	<0.02	0.6	50	20
9	398	<0.02	<0.2	15	25
10	399	<0.02	<0.2	15	30
11	400	<0.02	<0.2	5	50
12	401	<0.02	<0.2	10	50
13	402	<0.02	<0.2	15	35
14	403	<0.02	<0.2	15	100
15	404	<0.02	<0.2	25	25
16	405	<0.02	<0.2	10	30
17	406	<0.02	<0.2	10	90
18	407	<0.02	<0.2	5	30
19	408	<0.02	<0.2	10	25
20	409	<0.02	<0.2	10	55
21	410	<0.02	<0.2	15	25
22	411	<0.02	<0.2	10	30
23	412	<0.02	<0.2	10	35
24	413	<0.02	<0.2	10	35
25	T - 414	<0.02	<0.2	5	75

To: A. BriscoeDBA Sierra Mineral Mng't.
4741 East Sunrise Drive
Tucson, Arizona 85718
cc: James A. Briscoe
6418 Santa Aurelia, Tucson, Az. 85715

REMARKS:

Trace analysis

Page 1 of 2

CERTIFIED BY:

ACCT.: A. Briscoe DBA
SIERRA MINERAL MANAGEMENT

DATE REC'D: 8/6/73

DATE COMPL.: 8/14/73

347719

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Pb ppm
26	T - 415	<0.02	<0.2	10	35
27	416	<0.02	<0.2	15	30
28	417	<0.02	<0.2	20	20
29	418	0.06	<0.2	25	35
30	419	<0.02	<0.2	20	50
31	420	<0.02	<0.2	20	35
32	421	<0.02	<0.2	10	50
33	422	<0.02	<0.2	25	125
34	423	<0.02	<0.2	10	85
35	424	<0.02	<0.2	15	25
36	425	<0.02	<0.2	40	40
37	426	<0.02	<0.2	15	30
38	427	<0.02	<0.2	10	45
39	428	<0.02	<0.2	10	15
40	429	<0.02	<0.2	15	25
41	430	<0.02	1.2	10	130
42	431	<0.02	<0.2	5	100
43	T - 432	<0.02	<0.2	5	65

TO: J. A. Briscoe DBA Sierra Mineral Mng't.
4741 East Sunrise Drive
Tucson, Arizona 85718
cc: James A. Briscoe
6418 Santa Aurelia, Tucson, Az. 85715

REMARKS:
Trace analysis
Page 2 of 2

CERTIFIED BY:

ACCT.: J. A. Briscoe DBA
SIERRA MINERAL MANAGEMENT

DATE REC'D: 8/6/73

DATE COMPL.: 8/14/73

347719

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
1	TDC-12	0 - 5	<0.02	<0.2	10	285	35
2		5 - 10	<0.02	1.2	20	100	60
3		10 - 15	<0.02	<0.2	10	120	65
4		15 - 20	<0.02	0.4	5	90	100
5		20 - 25	<0.02	1.2	20	190	205
6		25 - 30	<0.02	1.2	25	185	170
7		30 - 35	<0.02	0.4	10	270	40
8		35 - 40	<0.02	0.6	5	160	25
9		40 - 45	<0.02	<0.2	5	110	100
10	TDC-12	45 - 48	<0.02	0.8	10	75	70
11	TDC-13	0 - 5	<0.02	<0.2	5	60	35
12		5 - 10	<0.02	<0.2	5	60	45
13		10 - 15	<0.02	<0.2	10	185	45
14		15 - 20	<0.02	<0.2	5	155	25
15		20 - 25	<0.02	<0.2	10	630	25
16		25 - 30	<0.02	<0.2	10	55	15
17		30 - 35	<0.02	<0.2	10	50	20
18		35 - 40	<0.02	0.6	20	460	105
19		40 - 45	<0.02	<0.2	15	75	80
20	TDC-13	45 - 48	<0.02	<0.2	10	60	75
21	TDC-14	0 - 5	<0.02	<0.2	20	55	50
22		5 - 10	<0.02	0.8	10	50	45
23		10 - 15	<0.02	<0.2	10	270	50
24		15 - 20	<0.02	<0.2	10	195	30
25		20 - 25	<0.02	<0.2	10	290	45
26		25 - 30	<0.02	<0.2	10	165	50
27		30 - 35	<0.02	<0.2	10	290	155
28		35 - 40	<0.02	<0.2	10	390	65
29		40 - 45	<0.02	<0.2	20	165	50
30	TDC-14	45 - 48	<0.02	<0.2	15	270	40
31	TDC-15	0 - 5	<0.02	<0.2	15	170	255
32		5 - 10	<0.02	<0.2	20	210	335
33		10 - 15	<0.02	<0.2	25	150	45
34		15 - 20	<0.02	<0.2	30	60	45
35	TDC-15	20 - 25	<0.02	<0.2	60	140	25

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718
cc: Mr. James Briscoe, 6418 Santa Aurelia
Tucson, Arizona 85715

REMARKS:
Trace analysis
Page 1 of 3

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	8/31/73	9/19/73	347861

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
36	TDC-15	25 - 30	<0.02	<0.2	10	80	25
37		30 - 35	<0.02	<0.2	10	70	25
38		35 - 40	<0.02	<0.2	10	230	20
39		40 - 45	<0.02	<0.2	10	150	15
40	TDC-15	45 - 48	<0.02	<0.2	10	105	10
41	TDC-16	0 - 5	<0.02	1.2	15	190	35
42		5 - 10	<0.02	2.0	10	55	25
43		10 - 15	<0.02	0.6	10	310	20
44		15 - 20	<0.02	0.4	10	75	20
45		20 - 25	<0.02	<0.2	10	240	25
46		25 - 30	<0.02	0.6	10	270	65
47		30 - 35	<0.02	0.6	20	200	140
48		35 - 40	<0.02	1.0	15	700	170
49		40 - 45	<0.02	<0.2	10	105	145
50	TDC-16	45 - 48	<0.02	1.0	10	300	160
51	TDC-17	0 - 5	<0.02	<0.2	15	55	30
52		5 - 10	<0.02	0.4	10	50	60
53		10 - 15	<0.02	0.4	10	65	25
54		15 - 20	<0.02	0.4	10	65	20
55		20 - 25	<0.02	<0.2	10	165	35
56		25 - 30	<0.02	0.4	25	105	35
57		30 - 35	<0.02	1.4	20	45	50
58		35 - 40	<0.02	1.8	35	185	30
59		40 - 45	<0.02	0.4	15	120	80
60	TDC-17	45 - 48	<0.02	1.0	10	115	80
61	TDC-18	0 - 5	<0.02	0.2	15	40	15
62		5 - 10	<0.02	0.4	15	35	40
63		10 - 15	<0.02	0.6	15	80	60
64		15 - 20	<0.02	0.6	170	110	50
65		20 - 25	<0.02	1.0	85	240	55
66		25 - 30	<0.02	1.4	25	60	30
67		30 - 35	0.07	5.2	15	100	75
68		35 - 40	0.07	1.4	10	150	85
69		40 - 45	0.05	1.2	15	110	95
70	TDC-18	45 - 48	<0.02	1.5	15	75	70

TO:

REMARKS:

Trace analysis
Page 2 of 3

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	8/31/73	9/19/73	347861

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
71	TDC-19	0 - 5	<0.02	12.	10	60	25
72		5 - 10	0.16	24.	15	30	35
73		10 - 15	0.06	6.0	10	135	35
74		15 - 20	0.05	3.2	20	65	55
75		20 - 25	0.05	1.6	10	225	90
76		25 - 30	0.09	3.6	40	340	145
77		30 - 35	<0.02	2.8	5	70	35
78		35 - 40	0.10	6.2	10	180	70
79		40 - 45	0.07	4.0	10	55	35
80	TDC-19	45 - 48	<0.02	1.6	30	60	30
81	TDC-20	0 - 5	0.09	25.	30	750	310
82		5 - 10	0.15	5.2	10	180	155
83		10 - 15	0.05	2.6	5	440	25
84		15 - 20	0.03	1.4	5	120	15
85		20 - 25	0.03	2.4	5	170	20
86		25 - 30	<0.02	1.6	5	40	25
87		30 - 35	0.07	3.0	5	35	35
88		35 - 40	0.04	2.6	20	175	50
89		40 - 45	0.05	2.4	30	40	50
90	TDC-20	45 - 48	<0.02	2.0	20	60	45
91	TDC-21	0 - 5	<0.02	1.4	5	125	40
92		5 - 10	0.06	6.4	5	65	65
93		10 - 15	0.07	4.8	5	160	100
94		15 - 20	0.10	2.4	10	90	130
95		20 - 25	0.04	3.6	10	150	50
96		25 - 30	0.03	2.0	5	75	45
97		30 - 35	<0.02	1.2	5	50	15
98		35 - 40	<0.02	0.8	5	120	20
99		40 - 45	<0.02	1.2	5	55	15
100		45 - 50	<0.02	0.4	5	250	25
101		50 - 55	<0.02	0.4	10	125	50
102	TDC-21	55 - 60	<0.02	1.2	10	100	60

TO:

REMARKS:

Trace analysis
Page 3 of 3

CERTIFIED BY:

ACCT.: SIERRA MINERALS

DATE REC'D: 8/31/73

DATE COMPL.: 9/19/73

347861

TUCSON 11

SKYLINE LABS, INC. - FIRE ASSAY

Sample Weight 1.A.T. by _____

Assayer H.B

(Au) (Ag) Pt Pd

Job No. 3474

Page _____ of _____ Pages

Date _____

	Sample No. SIERRA	Fire Assay AU-OPT	Fire Assay AG-OPT	Type of Material	Type of Flux	Flr 1/4 Tsps	Ntr 1/4 Tsps	SiO_2 1/4 Tsps	Cover	wt of Pb Bttn.	Inquart	wt of Au+Ag mg	wt of Au mg	wt of Ag mg
1	T-177 12	0.260	36.98		R								.260	37.24
2	T-219 46	0.005	7.30										.005	7.30
3	T-222 49	L.005	7.50										L.005	7.50
4		PPM	PPM											
5		9.6 9.4	1268 960											
6		.2 .1	270 220											
7		<.2 .12	277 230											
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

BOX 50106 1700 W. GRANT RD.,

TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold OPT ppm	Silver OPT ppm	Lead % ppm	Copper % ppm	Zinc % ppm	Mo. % ppm	Gold oz/ton	Silver oz/ton
SMM - LOT 1								
No. 1	0.11	13.7					<0.005	0.39
2	0.05	12.3					<0.005	0.35
3	0.05	14.0					<0.005	0.40
4	0.06	20.5					<0.005	0.59
5	0.11	44					<0.005	1.28
6	0.11	48					<0.005	1.39
7	0.11	66					<0.005	1.92
8	0.10	128					<0.005	3.73
No. 9	0.15	232	5,750	550	2,100	< 2	<0.005	6.76

CC: J. A. Briscoe DBA
ADD: Sierra Mineral Management
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85716
CITY:

REMARKS:

Trace analysis

Analysis Cert. By

Preparation $

Analysis $ 34.85

ACC:	Date Spl. Received	Date Compl.		$
J. A. BRISCO DBA SIERRA MINERALS MANAGEMENT	5/9/73	5/16/73	347272	34.85

HH3

To Hawley & Hawley, Tucson

SAMPLE SHIPMENT

~~176~~ 191 SAMPLES (in ½ pint containers)

9	samples	marked	"AT-1, 5-10"	to	"AT-1, 45-50"	
9	"	"	"AT-2	"	to AT2	" "
12	"	"	AT-3	"	to "AT3, 60-65"	
12	"	"	AT-4	"	to "AT4, 60-65"	
9	"	"	AT-5	"	to "AT5, 45-50"	
19	"	"	AT-6	"	to AT6, 95-100	
19	"	"	AT-7	"	to AT7 95-100	
20	"	"	AT-8	"	to AT8 100-104	
19	"	"	AT9	"	to AT9 95-100	
19			AT10	"	to AT9 95 100	
19			AT11	"	to AT9 95-100	
10			TOC-1 TRACK 0-5		to TOC-1 TRACK 45-50	

15 " " HRD-1 80'-85' to HRD-1 150-155'

191

assay for: Ag, Au, Pb, Cu, Zn

Associates

Questions Re: Lecture work

1. will hire a guy from gentiles in Las Vegas. —

2. should I file an affidavit for Tombstone —

3.

Harrah's

MEMO

Jim:

The comparisons look good -

Dick

Jim: Please check the spelling of "Amerelia" for me & also give me your Zip Code next time you call or come in

Thanks Amy

Jim Briscoe

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

Fire Assay A A

IDENTIFICATION	Gold OPT	Silver OPT	Gold opt	Silver opt	Zinc %	Mo. %			
T - 119	0.010	2.36	.002	3.29					
120	<0.005	1.10	.0006	1.03					
121	0.010	1.07	.002	1.03					
122	<0.005	0.50	.0006	0.41					
123	0.010	4.20	.004	4.41					
124	<0.005	0.36	.0006	0.32					
125	<0.005	0.19	.0006	0.11					
126	<0.005	0.26	.0006	0.22					
127	<0.005	0.73	.002	1.62					
128	<0.005	1.31	.002	1.32					
133	0.005	5.85	.003	5.65					
135	<0.005	0.54	.0006	0.56					
136	<0.005	0.80	.009	0.76					
137	<0.005	0.28	.002	0.28					
138 A	0.020	1.12	.016	1.24					
138 B	0.005	0.70	.003	0.68					
T - 139	<0.005	0.62	.0006	0.82					

CC: Sierra Minerals
ADD: 4741 E. Sunrise Drive
CITY: Tucson, Arizona 85718
ADD: Attn: Richard Hewlett
CITY:

REMARKS:

Single determination

Analysis Cert. By

Preparation $
Analysis $ 72.25

ACC:	Date Spl. Received	Date Compl.		$
SIERRA MINERALS	5/21/73	5/24/73	347195-A	72.25

HH3

State of Maine area Dumps Sampled by Nick Caruso
analyzed by USBM, Reno, Nevada.

SAMPLE ANALYSIS REPORT

Samples submitted by: MARANDA Date: 7/23

Sample No.	Au	Ag							
				Heinrich HEAD SAMPLES					
Jm 2-308	TR	2.0		State of	MAINE	Dump		#3	
309		4.8						#7	
310		3.2						#8	
311		3.4		Solstice	Dump				
312		4.4		Bonanza	Dump				
313		3.7		Triple X	Dump				
314		1.1		Uncle Sam	Dump				
315		4.5		Triple X	extension				
316		2.0		North Bonanza	Dump				
317		3.0		Brother	Johnathan	Dump			
318	TR	1.4		Scales	Cause				?
319	.070	13.025	mg	"	"				?
		Numerical avg. =		3.05	oz Ag				

Remarks:

Results are reported as ~~percent element~~ oz/Ton unless otherwise noted.
p.p.m. oxide

Analyst [illegible] Date 9/27

SAMPLE ANALYSIS REPORT

Samples submitted by: Moorwala Date: 9/17

Sample No.	Au	Ag								
Jm 2. 269										
269										
270										
271										
272										
273										
274	Tr	3.8	Hewlett			State of	Maine	Dump		#2
275	Tr	2.8								#4
276	Tr	2.8	Numerical Avg. = 2.64 oz							#5
277	Tr	1.4								#6
278	Tr	2.4	Merrimack			Dump		(Hewlett)		
		.1								
12	—	—						"	"	

Remarks:

Results are reported as ~~percent element~~ oz/ton unless otherwise noted.
p.p.m. oxide

Analyst [signature] Date 2-23

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold OPT	Silver OPT	Lead %	Copper %	Zinc %	Mo. %			
SSM Lot - 1		0.46							
2		0.47							
3		0.42							
4		0.66							
5		1.33							
6		1.52							
7		2.00							
8		3.84							
SSM Lot - 9		7.23							

CC: J. A. Briscoe DBA
ADD: Sierra Mineral Management
CITY: 4741 E. Sunrise Drive
ADD: Tucson, Arizona 85716
CITY:

REMARKS:
Single determination

Analysis Cert. By R E Richard

Preparation $
Analysis $ 20.25

ACC:	Date Spl. Received	Date Compl.		$
J. A. BRISCO DBA SIERRA MINERAL MANAGEMENT	3/21/73	3/24/73	347272-A	20.25

HH3

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.
BOX 50106 1700 W. GRANT RD.,
TUCSON, ARIZONA 85703 (602) 622-4836

Registered Assayers
OVER 50 YEARS

BRANCHES
Douglas
Hayden
Morenci
Inspiration
El Paso
St. Louis

IDENTIFICATION	Gold OPT ppm	Silver OPT ppm	Lead % ppm	Copper % ppm	Zinc %	Mo. %	Oz Ag		
T - 145	0.04	<0.2	40	10					
146	0.04	<0.2	40	5					
147	0.05	<0.2	40	5					
148	0.08	<0.2	35	10					
149	0.07	<0.2	35	10					
150	0.06	<0.2	35	10					
151	0.05	<0.2	30	10					
152	0.06	<0.2	35	10					
153	0.04	<0.2	25	10					
154	0.08	<0.2	30	10					
155	0.08	<0.2	25	10					
156	0.04	<0.2	25	10					
157	0.02	<0.2	65	5					
158	0.04	<0.2	65	5					
159	0.03	<0.2	40	5					
160	0.04	<0.2	30	10					
161	<0.02	<0.2	40	10					
162	0.03	1.4	95	30					
163	0.04	0.8	40	30					
164	0.04	4.2	60	15			0.12		
							0.09		
165	0.10	3.0	95	10					
166	0.04	<0.2	30	5					2 samp. #166
201	0.11	18	205	25			0.52		
202 A	0.07	29	210	50			0.85		
T - 202 B	0.13	13	310	25			0.38		

CC: Sierra Minerals
ADD: 4741 E. Sunrise Drive
CITY: Tucson, Arizona 85718
ADD: Attn: Mr. R. Hewlett
CITY: cc: J.A. Briscoe, Tucson, Az.

REMARKS:

Trace analysis

Page 1 of 2

Analysis Cert. By

Preparation $
Analysis $

ACC: SIERRA MINERALS

Date Spl. Received 5/22/73

Date Compl. 5/30/73

347338

$

HH3

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Pb ppm	Cu ppm					
1	T - 276	<0.02	4.0	125	20	—				
2	277	<0.02	0.2	85	15	—				
3	281A	0.18	28.	6,800	75	0.82				
4	281B	0.23	26.	3,800	40	0.76				
5	282	0.11	165.	8,900	1,300	4.81				
6	283	<0.02	6.6	8,100	50	0.19				
7	287	<0.02	8.2	4,000	45	0.24				
8	288	<0.02	11.	3,600	30	0.32				
9	289	0.11	36.	1,400	30	1.05				
10	290	<0.02	165.	4,400	180	4.81				
11	291	0.06	3.6	30	30	—				
12	292	<0.02	2.8	1,100	20	—				
13	293A	<0.02	18.	1,400	75	0.52				
14	293B	0.19	13.	1,300	85	0.38				
15	294	<0.02	1.4	125	20	—				
16	295	<0.02	4.2	3,200	45	—				
17	296	<0.02	0.8	55	20	—				
18	297	<0.02	1.0	425	25	—				
19	298	0.03	13.	1,500	90	0.38				
20	299	0.06	62.	16,000	260	1.81				
21	332	0.06	4.2	850	20	—				
22	333	<0.02	4.0	1,300	15	—				
23	334	<0.02	6.6	1,900	15	—				
24	335	<0.02	1.0	110	25	—				
25	T - 336	<0.02	4.4	4,100	100	—				

TO:
James A. Briscoe DBA
Sierra Mineral Management
4741 East Sunrise Drive
Tucson, Arizona 85718
Attn: Mr. R. Hewlett

REMARKS:
Trace analysis

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERAL MANAGEMENT	6/26/73	6/29/73	347509

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Pb ppm	Cu ppm	Oz Ag
26	T - 337	<0.02	0.8	70	10	—
27	338	<0.02	1.0	165	15	—
28	339	<0.02	0.6	50	15	—
29	340	<0.02	1.0	175	15	—
30	341	0.07	5.6	950	15	—
31	342	<0.02	4.2	2,100	15	—
32	343	0.03	3.2	1,200	25	—
33	344	<0.02	4.0	1,400	10	—
34	345	<0.02	11.	1,700	10	0.32
35	346	<0.02	6.8	2,300	10	0.20
36	347	<0.02	6.0	1,400	10	—
37	348	0.03	3.6	1,400	20	—
38	349	0.09	3.8	1,200	20	—
39	350	<0.02	2.2	800	15	—
40	351	0.04	3.8	950	30	—
41	352	<0.02	4.0	1,100	20	—
42	T - 353	<0.02	1.8	545	15	—

TO: James A. Briscoe DBA
Sierra Mineral Management
4741 East Sunrise Drive
Tucson, Arizona 85718
Attn: Mr. R. Hewlett

REMARKS:

Trace analysis

Page 2

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERAL MANAGEMENT	6/26/73	6/29/73	347509

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm			
1	TMR-RD-1 510-530			50						
2	530-550			45		75	2			
3	550-560			35						
4	560-570			30						
5	570-580			30						
6	580-590			35						
7	590-595	<0.02	<0.2	35	730	165	6			
8	TMR-RD-1 595-600	<0.02	<0.2	35	210	80	6			

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718

cc: Mr. James A. Briscoe

REMARKS:
Trace analysis

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/20/73	9/27/73	347969

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm				
1	HRD-2	0-5	<0.02	<0.2	10	40	65				
2		5-10	<0.02	0.8	20	65	65				
3		10-15	<0.02	1.8	15	55	70				
4		15-20	<0.02	<0.2	25	85	80				
5		20-25	<0.02	<0.2	30	50	95				
6		25-30	<0.02	<0.2	45	45	150				
7		30-35	<0.02	<0.2	100	140	155				
8		35-40	<0.02	<0.2	40	140	50				
9		40-45	<0.02	<0.2	45	65	40				
10		45-50	<0.02	<0.2	35	530	40				
11		50-55	<0.02	<0.2	30	130	50				
12		55-60	<0.02	<0.2	75	100	125				
13		60-65	<0.02	<0.2	50	135	155				
14		65-70	<0.02	<0.2	50	135	150				
15		70-75	<0.02	<0.2	50	140	155				
16		75-80	<0.02	<0.2	35	150	145				
17		80-85	<0.02	<0.2	30	75	145				
18		85-90	<0.02	1.0	45	140	165				
19		90-95	<0.02	<0.2	30	70	60				
20		95-100	<0.02	<0.2	40	95	110				
21		100-105	<0.02	<0.2	35	85	135				
22		105-110	<0.02	<0.2	25	75	100				
23		110-115	<0.02	<0.2	20	50	95				
24	HRD-2	115-120	<0.02	<0.2	20	85	90				
25	HRD-3	0-5	<0.02	<0.2	15	90	50				
26		5-10	<0.02	<0.2	10	50	45				
27		10-15	<0.02	<0.2	10	40	40				
28		15-20	<0.02	<0.2	15	195	35				
29		20-25	<0.02	<0.2	15	155	15				
30		25-30	<0.02	<0.2	15	65	15				
31		30-35	<0.02	<0.2	15	180	15				
32		35-40	<0.02	<0.2	15	75	20				
33		40-45	<0.02	<0.2	25	105	25				
34		45-50	<0.02	1.4	15	220	35				
35	HRD-3	50-55	<0.02	<0.2	15	160	30				

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718

cc: Mr. James A. Briscoe

REMARKS:
Trace analysis
Page 1 of 6

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/5/73	9/28/73	347882

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm				
36	HRD-3	55-60	<0.02	<0.2	15	110	30				
37		60-65	<0.02	<0.2	15	155	35				
38		65-70	<0.02	<0.2	10	225	25				
39		70-75	<0.02	<0.2	10	125	35				
40		75-80	<0.02	<0.2	10	135	40				
41		80-85	<0.02	<0.2	15	115	40				
42		85-90	<0.02	<0.2	15	150	30				
43		90-95	<0.02	<0.2	10	90	25				
44		95-100	<0.02	<0.2	10	75	20				
45		100-105	<0.02	<0.2	15	65	20				
46		105-110	<0.02	0.2	20	140	20				
47		110-115	<0.02	<0.2	15	135	10				
48	HRD-3	115-120	<0.02	<0.2	10	90	10				
49	E-1	0-5	<0.02	<0.2	30	35	85				
50		5-10	<0.02	<0.2	20	40	80				
51		10-15	<0.02	1.6	40	170	80				
52		15-20	<0.02	<0.2	30	120	75				
53		20-25	<0.02	<0.2	10	545	50				
54		25-30	<0.02	<0.2	5	185	65				
55		30-35	<0.02	1.0	5	275	60				
56		35-40	<0.02	<0.2	5	155	85				
57		40-45	<0.02	<0.2	5	145	115				
58	E-1	45-50	<0.02	<0.2	5	255	85				
59	E-2	0-5	<0.02	<0.2	5	35	75				
60		5-10	<0.02	<0.2	5	45	70				
61		10-15	<0.02	<0.2	5	120	75				
62		15-20	<0.02	<0.2	5	130	65				
63		20-25	<0.02	<0.2	5	55	65				
64		25-30	<0.02	<0.2	5	255	65				
65		30-35	<0.02	<0.2	5	55	75				
66		35-40	<0.02	<0.2	5	205	70				
67		40-45	<0.02	<0.2	5	65	70				
68	E-2	45-50	<0.02	<0.2	5	295	70				
69	E-3	0-5	<0.02	<0.2	20	240	135				
70	E-3	5-10	<0.02	<0.2	35	295	125				

TO:

REMARKS:

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/5/73	9/28/73	347882

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm				
71	E-3	10-15	<0.02	<0.2	15	380	130				
72		15-20	<0.02	3.4	15	180	180				
73		20-25	<0.02	0.2	10	295	110				
74		25-30	<0.02	0.2	5	545	110				
75		30-35	<0.02	1.2	15	535	265				
76		35-40	<0.02	0.6	45	525	630				
77		40-45	<0.02	1.4	425	415	2000				
78	E-3	45-50	<0.02	1.2	480	880	1425				
79	F-1	0-5	<0.02	<0.2	10	75	70				
80		5-10	<0.02	<0.2	20	115	105				
81		10-15	<0.02	<0.2	5	125	65				
82		15-20	<0.02	<0.2	5	90	65				
83		20-25	<0.02	<0.2	5	145	55				
84		25-30	<0.02	<0.2	5	260	75				
85	F-1	30-35	<0.02	<0.2	10	85	65				
86	F-2	0-5	<0.02	<0.2	5	95	55				
87		5-10	<0.02	<0.2	5	45	50				
88		10-15	<0.02	<0.2	5	230	55				
89		15-20	<0.02	<0.2	5	40	65				
90		20-25	<0.02	<0.2	5	45	65				
91		25-30	<0.02	0.6	5	515	55				
92		30-35	<0.02	<0.2	5	120	50				
93		35-40	<0.02	<0.2	5	140	40				
94		40-45	<0.02	<0.2	5	115	45				
95	F-2	45-50	<0.02	<0.2	5	150	60				
96	F-3	0-5	<0.02	<0.2	5	385	45				
97		5-10	<0.02	<0.2	5	65	40				
98		10-15	<0.02	0.8	5	405	40				
99		15-20	<0.02	<0.2	5	40	25				
100		20-25	<0.02	<0.2	5	155	45				
101		25-30	<0.02	<0.2	5	245	30				
102		30-35	<0.02	<0.2	20	85	65				
103		35-40	<0.02	<0.2	45	315	110				
104		40-45	<0.02	<0.2	5	690	40				
105	F-3	45-50	<0.02	<0.2	5	205	55				

TO:

REMARKS:

CERTIFIED BY:

ACCT.: SIERRA MINERALS

DATE REC'D: 9/5/73

DATE COMPL.: 9/28/73

347882

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm				
106	F-4	0-5	<0.02	<0.2	5	45	40				
107		5-10	<0.02	<0.2	5	35	50				
108		10-15	<0.02	<0.2	5	385	50				
109		15-20	<0.02	<0.2	5	50	50				
110		20-25	<0.02	<0.2	5	115	30				
111		25-30	<0.02	<0.2	5	80	35				
112		30-35	<0.02	<0.2	5	180	40				
113		35-40	<0.02	<0.2	5	75	50				
114		40-45	<0.02	<0.2	5	110	50				
115	F-4	45-50	<0.02	<0.2	5	315	55				
116	F-5	0-5	<0.02	<0.2	25	60	65				
117		5-10	<0.02	<0.2	25	50	60				
118		10-15	<0.02	<0.2	30	80	60				
119		15-20	<0.02	<0.2	30	125	75				
120		20-25	<0.02	<0.2	30	275	115				
121		25-30	<0.02	<0.2	20	115	55				
122		30-35	<0.02	<0.2	15	170	55				
123		35-40	<0.02	<0.2	10	100	60				
124		40-45	<0.02	<0.2	20	130	65				
125	F-5	45-50	<0.02	<0.2	15	240	50				
126	F-6	0-5	<0.02	<0.2	25	200	70				
127		5-10	<0.02	<0.2	30	55	60				
128		10-15	<0.02	<0.2	25	165	55				
129		15-20	<0.02	<0.2	25	100	65				
130		20-25	<0.02	<0.2	25	60	50				
131		25-30	<0.02	<0.2	20	145	60				
132		30-35	<0.02	<0.2	15	140	60				
133		35-40	<0.02	<0.2	20	115	65				
134		40-45	<0.02	<0.2	20	170	65				
135	F-6	45-50	<0.02	0.4	25	210	55				
136	F-7	0-5	<0.02	<0.2	20	45	50				
137		5-10	<0.02	0.4	15	65	50				
138		10-15	<0.02	<0.2	20	425	55				
139		15-20	<0.02	<0.2	25	185	45				
140	F-7	20-25	<0.02	<0.2	20	145	60				

TO:

REMARKS:

CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/5/73	9/28/73	347882

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
141	F-7	25-30	<0.02	<0.2	20	110	70
142		30-35	<0.02	0.2	30	130	85
143		35-40	<0.02	<0.2	25	125	75
144		40-45	<0.02	<0.2	30	170	75
145	F-7	45-50	<0.02	2.8	25	70	80
146	F-8	0-5	<0.02	<0.2	25	185	70
147		5-10	<0.02	<0.2	45	55	85
148		10-15	<0.02	<0.2	25	85	75
149		15-20	<0.02	<0.2	30	60	50
150		20-25	<0.02	<0.2	35	105	45
151		25-30	<0.02	<0.2	30	85	85
152		30-35	<0.02	<0.2	35	80	80
153		35-40	<0.02	<0.2	25	70	70
154		40-45	<0.02	<0.2	20	140	70
155	F-8	45-50	<0.02	<0.2	15	140	65
156	F-10	0-5	<0.02	<0.2	25	95	70
157		5-10	<0.02	<0.2	15	50	75
158		10-15	<0.02	<0.2	5	40	65
159		15-20	<0.02	<0.2	5	100	65
160		20-25	<0.02	<0.2	5	70	65
161		25-30	<0.02	<0.2	5	40	70
162		30-35	<0.02	<0.2	10	140	75
163		35-40	<0.02	<0.2	5	45	70
164		40-45	<0.02	<0.2	10	35	70
165		45-50	<0.02	<0.2	5	125	75
166	F-10	50-55	<0.02	0.2	5	45	70
167	E-4	0-5	<0.02	<0.2	5	110	80
168		5-10	<0.02	<0.2	5	35	70
169		10-15	<0.02	<0.2	5	40	70
170		15-20	<0.02	<0.2	5	145	70
171		20-25	<0.02	<0.2	5	50	75
172		25-30	<0.02	<0.2	10	60	75
173		30-35	<0.02	<0.2	5	125	70
174		35-40	<0.02	<0.2	5	80	70
175	E-4	40-45	<0.02	<0.2	5	55	70

TO:

REMARKS:

CERTIFIED BY:

ACCT.: SIERRA MINERALS

DATE REC'D: 9/5/73

DATE COMPL.: 9/28/73

347882

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm				
176	E-4	45-50	<0.02	<0.2	5	110	75				
177		50-55	<0.02	<0.2	5	45	75				
178		55-60	<0.02	<0.2	5	30	70				
179		60-65	<0.02	<0.2	5	55	70				
180		65-70	<0.02	<0.2	5	40	75				
181		70-75	<0.02	<0.2	5	45	75				
182		75-80	<0.02	<0.2	10	125	80				
183	E-4	80-85	<0.02	<0.2	10	40	80				

TO:

REMARKS:

CERTIFIED BY:

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DATE REC'D: 9/5/73

DATE COMPL.: 9/28/73

347882

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm				
1	E-4	85-90	<0.02	<0.2	5	35	70				
2		90-95	<0.02	<0.2	< 5	80	75				
3		95-100	<0.02	<0.2	< 5	45	70				
4		100-105	<0.02	<0.2	< 5	25	70				
5		105-110	<0.02	<0.2	< 5	125	70				
6		110-115	<0.02	<0.2	< 5	50	75				
7		115-120	<0.02	<0.2	< 5	45	65				
8		120-125	<0.02	<0.2	< 5	150	70				
9		125-130	<0.02	<0.2	< 5	45	70				
10	E-4	130-135	<0.02	<0.2	5	80	70				
11	F-9	0-5	<0.02	<0.2	30	65	75				
12		5-10	<0.02	<0.2	20	60	75				
13		10-15	<0.02	<0.2	25	185	80				
14		15-20	<0.02	<0.2	25	85	75				
15		20-25	<0.02	<0.2	30	165	70				
16		25-30	<0.02	<0.2	25	80	75				
17		30-35	<0.02	<0.2	20	235	70				
18		35-40	<0.02	<0.2	10	65	65				
19		40-45	<0.02	<0.2	5	250	75				
20	F-9	45-50	<0.02	<0.2	5	95	80				
21	F-10	55-60	<0.02	<0.2	< 5	50	70				
22	F-11	0-5	<0.02	<0.2	25	700	70				
23		5-10	<0.02	<0.2	25	70	70				
24		10-15	0.03	<0.2	20	840	75				
25		15-20	<0.02	<0.2	10	230	55				
26		20-25	<0.02	<0.2	15	220	65				
27		25-30	<0.02	<0.2	5	310	65				
28		30-35	<0.02	<0.2	5	190	70				
29		35-40	<0.02	<0.2	5	110	75				
30		40-45	<0.02	<0.2	5	130	60				
31	F-11	45-48	<0.02	<0.2	5	410	60				
32	F-12	0-5	<0.02	<0.2	20	225	70				
33		5-10	<0.02	<0.2	20	70	85				
34		10-15	<0.02	<0.2	15	120	70				
35	F-12	15-20	<0.02	<0.2	25	60	80				

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718

cc: Mr. James A. Briscoe

REMARKS:
Trace analysis
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CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/11/73	10/15/73	347912

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
36	F-12	20-25	<0.02	<0.2	30	170	80
37		25-30	<0.02	<0.2	25	105	80
38		30-35	<0.02	<0.2	20	140	70
39		35-40	<0.02	<0.2	25	75	60
40		40-45	<0.02	<0.2	25	180	70
41	F-12	45-50	<0.02	<0.2	25	90	70
42	F-13	0-5	<0.02	<0.2	15	140	65
43		5-10	<0.02	<0.2	15	65	65
44		10-15	<0.02	<0.2	20	155	70
45		15-20	<0.02	<0.2	30	100	85
46		20-25	<0.02	<0.2	40	80	75
47		25-30	<0.02	<0.2	30	85	70
48		30-35	<0.02	<0.2	25	115	65
49		35-40	<0.02	<0.2	25	95	80
50		40-45	<0.02	<0.2	35	70	70
51	F-13	45-50	<0.02	<0.2	45	220	80
52	TMR-1	0-5	<0.02	<0.2	25	35	255
53		5-10	<0.02	0.2	30	35	630
54		10-15	<0.02	0.6	20	100	490
55		15-20	<0.02	<0.2	10	55	260
56		20-25	<0.02	<0.2	20	320	320
57		25-30	<0.02	0.2	20	630	240
58		30-35	0.06	2.0	5	370	45
59		35-40	0.43	2.2	25	450	1050
60		40-45	<0.02	2.0	15	190	650
61		45-50	<0.02	0.8	15	400	170
62		50-55	<0.02	0.2	10	140	105
63		55-60	<0.02	0.2	15	115	185
64		60-65	<0.02	<0.2	10	360	310
65		65-70	<0.02	2.4	20	385	570
66		70-75	0.20	2.2	10	940	200
67		75-80	0.10	1.0	5	650	45
68		80-85	<0.02	<0.2	15	110	25
69	TMR-1	85-90	<0.02	3.2	30	250	350
70	TMR-RD-1	0-5	<0.02	<0.2	15	120	25

TO:

REMARKS:

Trace analysis
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CERTIFIED BY:

ACCT.: SIERRA MINERALS

DATE REC'D: 9/11/73

DATE COMPL.: 10/15/73

347912

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
71	TMR-RD-1	5-10	<0.02	<0.2	25	95	80
72		10-15	<0.02	<0.2	10	50	20
73		15-20	<0.02	<0.2	20	245	20
74		20-25	<0.02	<0.2	15	110	25
75		25-30	<0.02	<0.2	10	115	25
76		30-35	<0.02	<0.2	10	145	30
77		35-40	<0.02	<0.2	15	80	25
78		40-45	<0.02	<0.2	15	75	35
79		45-50	<0.02	<0.2	10	140	35
80		50-55	<0.02	<0.2	20	65	35
81		55-60	<0.02	<0.2	20	70	40
82		60-65	<0.02	<0.2	15	130	20
83		65-70	<0.02	<0.2	15	80	30
84		70-75	<0.02	<0.2	15	60	20
85		75-80	<0.02	<0.2	10	125	25
86		80-85	0.05	2.0	10	550	170
87		85-90	<0.02	<0.2	10	85	15
88		90-95	<0.02	<0.2	15	220	25
89		95-100	<0.02	<0.2	15	115	35
90		100-105	<0.02	<0.2	15	170	25
91		105-110	<0.02	<0.2	15	135	25
92		110-115	<0.02	<0.2	20	80	35
93		115-120	<0.02	<0.2	10	90	25
94		120-125	<0.02	<0.2	10	115	20
95		125-130	<0.02	<0.2	10	140	25
96		130-135	<0.02	<0.2	10	230	35
97		135-140	<0.02	<0.2	5	155	25
98		140-145	<0.02	<0.2	10	155	20
99	TMR-RD-1	145-150	<0.02	<0.2	10	150	20
100	T-447		0.04	0.4	10	170	55
101	T-448		0.10	0.2	15	140	185

TO:

REMARKS:

Trace analysis
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CERTIFIED BY:

ACCT.: SIERRA MINERALS

DATE REC'D: 9/11/73

DATE COMPL.: 10/15/73

347912

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Ag ppm	Cu ppm	Pb ppm						
1	TMR-2 Track	0-5	<0.2								
2		5-10	<0.2								
3		10-15	<0.2								
4		15-20	<0.2								
5		20-25	<0.2								
6		25-30	<0.2								
7		30-35	<0.2								
8		35-40	<0.2								
9		40-45	<0.2								
10		45-50	<0.2								
11		50-55	<0.2								
12		55-60	<0.2								
13		60-65	<0.2								
14		65-70	<0.2								
15		70-75	<0.2								
16		75-80	0.2								
17		80-85	0.6								
18	TMR-2 Track	85-90	0.8	45	1400						
19	TMR-3 Track	0-5	<0.2								
20		5-10	<0.2								
21		10-15	<0.2								
22		15-20	0.2								
23		20-25	<0.2								
24		25-30	<0.2								
25		30-35	<0.2								
26		35-40	<0.2								
27		40-45	<0.2								
28		45-50	<0.2								
29		50-55	0.2								
30		55-60	<0.2								
31		60-65	<0.2								
32		65-70	<0.2								
33		70-75	<0.2								
34		75-80	<0.2								
35	TMR-3 Track	80-85	<0.2								

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718

cc: Mr. James A. Briscoe

REMARKS:
Trace analysis

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CERTIFIED BY:

ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/17/73	10/16/73	347940

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
36	TMR-3 Track	85-90	0.2	15	160		
37	TMR-4 Track	0-5	0.2				
38		5-10	0.2				
39		10-15	<0.2				
40		15-20	<0.2				
41		20-25	0.2				
42		25-30	<0.2				
43		30-35	<0.2				
44		35-40	0.2				
45		40-45	<0.2				
46		45-50	<0.2				
47		50-55	<0.2				
48		55-60	<0.2				
49		60-65	<0.2				
50		65-70	<0.2				
51		70-75	<0.2				
52		75-80	0.2				
53		80-85	0.2				
54	TMR-4 Track	85-90	<0.2	5	80		
55	TMR-RD-1	150-180		15		15	2
56		180-200		25			
57		200-220		15			
58		220-240		25			
59		240-260		45			
60		260-280		35			
61		280-300		20			
62		300-320		15			
63		320-340		20			
64		340-360		30		30	2
65		360-380		50			
66		380-400		20			
67		400-420		20		40	4
68	TMR-RD-1	420-440		15		60	2

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Trace analysis

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ACCT.:	DATE REC'D:	DATE COMPL.:	
SIERRA MINERALS	9/17/73	10/16/73	347940

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm
1	TMR # 5 Track	0-10	<0.02	8.4	
2		10-20	<0.02	5.2	
3		20-35	<0.02	2.2	
4		35-45	<0.02	2.4	
5		45-60	<0.02	0.6	
6		60-75	<0.02	0.8	
7	TMR # 5 Track	75-90	<0.02	0.2	15
8	TMR # 6 Track	0-30	<0.02	<0.2	
9		30-60	<0.02	<0.2	
10	TMR # 6 Track	60-90	<0.02	<0.2	10
11	TMR # 7 Track	0-20	<0.02	2.0	
12		20-40	<0.02	5.0	
13		40-60	<0.02	0.4	
14		60-75	<0.02	0.8	
15		75-85	<0.02	2.6	
16	TMR # 7 Track	85-90	<0.02	<0.2	35
17	TMR # 8 Track	0-30	<0.02	3.0	
18		30-60	<0.02	3.4	
19	TMR # 8 Track	60-90	<0.02	0.8	35
20	TMR # 9 Track	0-30	<0.02	<0.2	
21		30-55	<0.02	0.8	
22		55-75	<0.02	0.4	
23	TMR # 9 Track	75-90	<0.02	0.2	105
24	TMR #10 Track	0-15	<0.02	7.4	
25		15-30	<0.02	5.0	
26		30-45	<0.02	1.0	
27		45-60	<0.02	0.2	
28		60-75	<0.02	0.4	
29	TMR #10 Track	75-90	<0.02	1.0	55
30	TMR #11 Track	0-10	<0.02	2.8	

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718

cc: Mr. James A. Briscoe

REMARKS:
Trace analysis

CERTIFIED BY:

ACCT.: SIERRA MINERALS

DATE REC'D: 9/18/73

DATE COMPL.: 10/5/73

347953

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm			
1	MS-7	0-5	<0.02	<0.2							
2		5-20	<0.02	<0.2							
3		20-30	<0.02	<0.2							
4		30-35	<0.02	<0.2							
5		35-50	<0.02	<0.2							
6		50-55	<0.02	14.6							
7		55-65	<0.02	1.4							
8		65-80	<0.02	0.6							
9		80-90	<0.02	1.4							
10	MS-7	90-100	<0.02	3.2							
11	PH-2	0-10	<0.02	<0.2							
12		10-20	<0.02	<0.2							
13		20-30	<0.02	<0.2							
14		30-40	<0.02	<0.2							
15		40-50	<0.02	<0.2							
16		50-60	<0.02	<0.2							
17		60-70	<0.02	<0.2							
18		70-80	<0.02	<0.2							
19		80-90	<0.02	<0.2							
20		90-100	<0.02	<0.2							
21		100-110	<0.02	<0.2							
22		110-120	<0.02	<0.2							
23		120-130	<0.02	<0.2							
24		130-140	<0.02	<0.2							
25		140-150	<0.02	<0.2							
26		150-160	<0.02	<0.2							
27		160-175	<0.02	<0.2							
28		175-185		<0.2							
29		185-200		<0.2							
30		200-215		<0.2							
31		215-230		<0.2							
32		230-240		<0.2							
33		335-340	<0.02	<0.2	15	150	65	4			
34		340-345	<0.02	<0.2	15	65	60	4			
35	PH-2	345-350	<0.02	<0.2	10	75	65	4			

TO: Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718
Attn.: Mr. Richard Hewlett

cc: Mr. James A Briscoe

REMARKS:
Trace analysis
Page 1 of 2

CERTIFIED BY:

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
10/19/73	10/24/73	348115

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Pb %		
36	PH-2	350-355	<0.02	<0.2	15	50	65	4			
37		355-360	<0.02	<0.2	15	50	55	4			
38		360-365	<0.02	<0.2	15	90	60	4			
39		365-370	<0.02	<0.2	10	120	60	4			
40		370-375	<0.02	<0.2	15	100	80	4			
41		375-380	<0.02	<0.2	15	50	110	2			
42		380-385	<0.02	<0.2	15	110	50	2			
43	PH-2	385-390	<0.02	<0.2	20	60	55	2			
44	TP-1	0-15	<0.02	0.4							
45		15-30	<0.02	<0.2							
46		30-40	<0.02	<0.2							
47		40-50	<0.02	<0.2							
48		50-65	<0.02	<0.2							
49		65-75	<0.02	1.2							
50		75-80	<0.02	3.5							
51		80-90	<0.02	1.8							
52	TP-1	90-100	<0.02	0.4							
53	TP-2	10-25	<0.02	<0.2							
54		25-30	<0.02	3.0		600					
55		30-40		<0.2							
56		40-60		<0.2							
57		60-75		<0.2							
58		75-85		<0.2							
59	TP-2	85-100		<0.2	20						
60	TP-3	5-10	<0.02	<0.2							
61		10-25	<0.02	<0.2							
62		25-30	<0.02	<0.2							
63		30-35	<0.02	<0.2							
64		35-45	<0.02	0.2							
65		45-50	<0.02	1.0							
66		50-55	<0.02	2.4							
67	TP-3	55-60	<0.02	0.4							
68	TP - X - 1		0.05	85.		>2000			0.70		
69	T - 460		0.13	15.8		900					
70	T - 461		0.02	0.5		280					

TO:

REMARKS:

Trace analysis
1 Pb - single analysis
Page 2 of 2

CERTIFIED BY:

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
10/19/73	10/24/73	348115

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Pb ppm
1	MS#1	15-20		5.5	
2		20-35		7.0	
3		35-55		<0.2	
4	MS#1	55-70		<0.2	
5	MS#2	0-15		<0.2	
6		15-25		0.4	
7		25-40		<0.2	
8		40-45	<0.02	0.2	
9		45-60		<0.2	
10		60-75		<0.2	
11	MS#2	75-90		<0.2	
12	MS#3	0-20		13.5	
13		20-40		2.2	
14		40-60		<0.2	
15		60-80		<0.2	
16	MS#3	80-100		25.	
17	MS#4	0-25		0.4	
18		25-35		<0.2	
19		35-45	<0.02	<0.2	225
20		45-60		<0.2	
21		60-80		<0.2	
22		80-95		<0.2	
23	MS#4	95-100	<0.02	<0.2	85
24	MS#5	0-15	<0.02	<0.2	100
25		15-30	<0.02	1.2	70
26		30-40		6.4	
27		40-55		0.4	
28		55-70		<0.2	
29		70-85		<0.2	
30		85-95	<0.02	<0.2	115
31	MS#5	95-100	<0.02	<0.2	175
32	MS#6	0-20		1.0	
33		20-35		<0.2	
34		35-45		7.2	
35	MS#6	45-55		12.0	

TO:
Sierra Minerals
4741 East Sunrise Drive
Tucson, Arizona 85718
Attn.: Mr. Richard Hewlett

cc: Mr. James A. Briscoe

REMARKS:
Trace analysis

Page 1 of 3

CERTIFIED BY:

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
10/19/73	10/25/73	348126

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Au ppm	Ag ppm	Pb ppm						
36	MS#6	55-60		0.8							
37		60-65		<0.2							
38		65-70	<0.02	0.6	40						
39		70-75		<0.2							
40		75-80		<0.2							
41		80-90		<0.2							
42	MS#6	90-100		1.0							
43	PH#1	0-10		1.4							
44		10-20		6.5							
45		20-30		1.6							
46		30-40		<0.2							
47		40-50		<0.2							
48		50-60		<0.2							
49		60-70		<0.2							
50		70-80		<0.2							
51		80-90		<0.2							
52		90-100		0.6							
53		100-110	<0.02	<0.2	55						
54		110-120	<0.02	<0.2	30						
55		120-130	<0.02	0.2	60						
56		130-140	<0.02	0.8	100						
57		140-150	<0.02	0.6	55						
58		150-160		1.4							
59		160-170		0.4							
60		170-180		0.2							
61		180-190		0.2							
62		190-200		1.2							
63		200-210		<0.2							
64		210-220		<0.2							
65		220-230		<0.2							
66		230-240		0.4							
67		240-250		<0.2							
68		250-260	<0.02	<0.2	75						
69	PH#1	260-270	<0.02	0.4	100						
70	PH#2	240-250		<0.2							

TO:

REMARKS:

Trace analysis

Page 2 of 3

CERTIFIED BY:

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
10/19/73	10/25/73	348126

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

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION		Ag ppm
71	PH#2	250-260	<0.2
72		260-270	<0.2
73		270-280	<0.2
74		280-290	<0.2
75		290-300	<0.2
76		300-310	<0.2
77		310-320	0.4
78		320-330	<0.2
79		330-335	<0.2
80		390-400	<0.2
81		400-410	<0.2
82		410-420	0.4
83		420-430	<0.2
84	PH#2	430-440	<0.2

TO:

REMARKS:

Trace analysis

Page 3 of 3

CERTIFIED BY:

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
10/19/73	10/25/73	348126

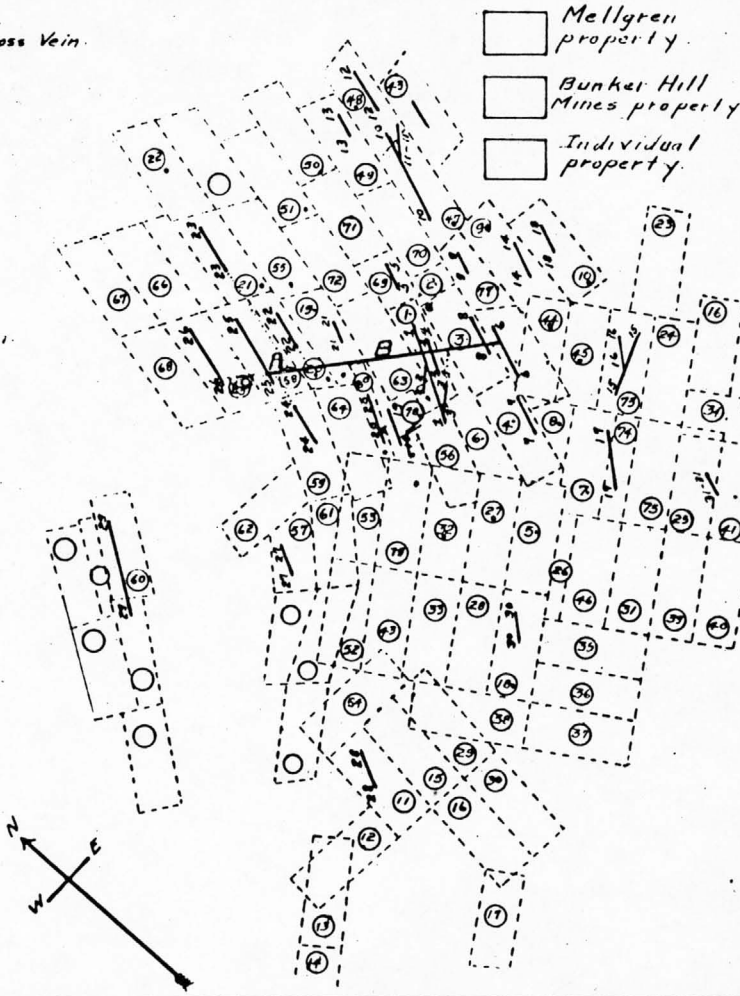
Land Maps

Vein Map of Western District

Scale 1" = 2400 feet. Vein positions approximate

Key to Veins

1-1 Bonanza-Chance Vein.
2-2 West Bonanza Cross Vein.
3-3 East Bonanza-Chance Cross Vein.
4-4 East Bonanza Vein.
5-5 Superior Vein.
6-6 Mamie Vein.
7-7 Joseph No. 2 Vein
8-8 Joseph No. 1 Vein.
9-9 Bay vein
10-10 Anex No. 40 Vein
11-11 Anex No. 40 Cross Vein.
12-12 Anex No. 41 Vein.
13-13 Anex No. 42 Vein
14-14 Lost Lead Vein.
15-15 Junetta Vein.
16-16 Junetta Cross Vein
17-17 Louise-Extension Vein.
18-18 Empire Vein.
19-19 Pinto Vein.
20-20 Pinto No. 3 Vein.
21-21 Oversite Vein
22-22 Oversite No. 1 Vein
23-23 Dacota No. 5 Vein.
24-24 Merrimac Vein.
25-25 Free Coinage Vein.
26-26 Argenta Vein
27-27 State of Maine Vein.
28-28 Bill-B Vein
29-29 San Pedro Vein.
30-30 Hornspoon Vein
31-31 Anex No. 5 Vein.



Key to Veins

1 Bonanza
2 Bonanza No 1
3 Joseph No. 1
4 Joseph No. 2
5 Joseph No. 3
6 Joseph No. 4
7 Extension
8 Fraction
9 Lost Lead
10 Empire
11 Bill-B
12 Connection
13 Lion
14 Lion No. 1
15 Fox No. 1
16 Fox No. 2
17 Fox No. 3
18 Hornspoon
19 Oversite
20 Oversite No. 1
21 Dacota No. 5
22 Dacota No. 10
23 Anex No. 12
24 Anex No. 13
25 Anex No. 15
26 Anex No. 16
27 Anex No. 17
28 Anex No. 18
29 Anex No. 19
30 Anex No. 20
31 Anex No. 21
32 Anex No. 23
33 Anex No. 24
34 Anex No. 25
35 Anex No. 26
36 Anex No. 27
37 Anex No. 28
38 Anex No. 29
39 Anex No. 30
40 Anex No. 31
41 Anex No. 32
42 Anex No. 33
43 Anex No. 35
44 Anex No. 36
45 Anex No. 37
46 Anex No. 38
47 Anex No. 4
48 Anex No. 41
49 Anex No. 42
50 Anex No. 43
51 Anex No. 44
52 Anex No. 45
53 Anex No. 46
54 Anex No. 47
55 Dacota No. 4
56 Chance
57 State of Maine
58 Free Coinage
59 Merrimac
60 San Pedro
61 XXX
62 Uncle Sam
63 Red Top
64 Clipper
65
66 } Argenta Group
67
68
69 } Solstice Group
70
71
72
73 Junetta
74 Louise
75 Sunset No. 2
76 Margarette
77 Bay
78 Pinto
79 Porphory
80 Pinto No. 3

Verticle-Section along line A-B on Vein Map, showing proposed plan of development.

(Enlarged three times)

Drifts from the east and west cross-cuts should be run, not only on veins actually cut, but to lateral veins from points of intersection, of their projected lines of strike with this cross-cut. The cross-cut as thus delimited should in a distance of 3300 feet bring under development twelve veins, whose positions are indicated above, with a reasonable certainity of encountering other veins not exposed at the surface.

Ore Tests (5-30-73)

UNIVERSITY OF ARIZONA
ARIZONA BUREAU OF MINES
ORE TESTING SERVICE

May 30, 1973

Mr. J. A. Briscoe
1971 Minerals Ltd.
Sierra Mineral Management
4741 E. Sunrise Dr.
Tucson, Arizona 85716

Dear Mr. Briscoe:

Ore Test No. 2182

A sample of minus 20-mesh product which Mr. Smith had screened from the State of Maine dump was separated into minus 20 plus 100-mesh, which assayed 8.3 ounces silver per ton, and minus 100-mesh products.

The minus 100-mesh product was cyanided in a rotating bottle at 40 percent solids for 72 hours and after settling the solution was syphoned off. There is clay present in the material and a floculent was needed to make the solids settle. More water was added and the pulp agitated for a few minutes and again allowed to settle and the clear solution syphoned off. This procedure was repeated.

The results are given in the following table:

Product	Percent weight based on -100-mesh product	Ounces silver per ton	Distribution percent silver
Head	100.0	6.05*	100.0
Solution #1	85.0	2.55	40.7
" #2	68.0	2.08	23.3
" #3	92.0	0.87	13.3
Tailing	98.0	1.40	22.7

*Calculated

The cyanide consumption was 3.0 pounds per ton and lime, 2.5 pounds. The silver recovered amounted to 77.3 percent of the silver in the minus 100-mesh.

Another test was made on the minus 20-mesh desliming the material at about 200-mesh and cyaniding the plus 200-mesh sands. There was too much fine material left in the sands for the solution to percolate down through the sand in a 20-inch column. I would not recommend leaving any material less than 20-mesh in the sands to be leached.

METALLURGICAL RESULTS OBTAINED ABOVE SHOULD BE CONSIDERED AS ONLY APPLICABLE TO MATERIAL CONFORMING TO THE CHARACTER OF THE SAMPLE UPON WHICH THE TESTS WERE MADE.

UNIVERSITY OF ARIZONA
ARIZONA BUREAU OF MINES
ORE TESTING SERVICE

#2, 5/30/73

Mr. J. A. Briscoe

State of Maine

Ore Test No. 2183

The sample you delivered to the Arizona Bureau of Mines, May 25, was screened and the products assayed. The results are given in the following table:

Screen size	Weight Percent	Assay ounces silver	Districution percent silver
Head	100.0	4.25*	100.0
on 1"	31.8	2.00	15.0
Minus 1 on 3/4"	9.1	2.75	6.0
3/4 on 1/2"	6.9	2.30	3.7
1/2 on 1/4"	16.2	3.85	14.8
1/4 on 10-mesh	17.6	6.90	28.6
10 on 20-mesh	6.9	6.40	10.4
20-mesh	11.3	8.10	21.5

*Calculated from products

The silver values in the minus 1/2 plus 20-mesh amounted to 40.7 percent of the weight and contained 53.8 percent of the silver in the mine run sample. It assayed 5.8 ounces silver.

We are holding the samples in reserve in case you may wish to have cyanide test made on any of these products.

METALLURGICAL RESULTS OBTAINED ABOVE SHOULD BE CONSIDERED AS ONLY APPLICABLE TO MATERIAL CONFORMING TO THE CHARACTER OF THE SAMPLE UPON WHICH THE TESTS WERE MADE.

UNIVERSITY OF ARIZONA
ARIZONA BUREAU OF MINES
ORE TESTING SERVICE

#3, 5/30/73

Mr. J. A. Briscoe

Bisbee Group

Ore Test No. 2184

The sample you delivered from the Bisbee group, May 25, was screened and each size assayed. The results are given in the following table:

Product	Weight percent	Assay Ounces Silver
Head	100.0	2.00*
plus 1"	32.5	1.30
Minus 1 plus 3/4"	12.4	4.20
3/4 " 1/2"	10.4	2.20
1/2 " 1/4"	21.4	1.80
1/4 " 10-mesh	11.4	2.20
10 on 20-mesh	3.5	1.85
20-mesh	8.4	3.80

*Calculated

This sample is too low to be considered ore.

Yours very truly,

Geo. Roseveare,
Metallurgist

GR:B

METALLURGICAL RESULTS OBTAINED ABOVE SHOULD BE CONSIDERED AS ONLY APPLICABLE TO MATERIAL CONFORMING TO THE CHARACTER OF THE SAMPLE UPON WHICH THE TESTS WERE MADE.

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

ARIZONA BUREAU OF MINES

TEL. (602) 884-2733

18 June 1973

Mr. J. A. Briscoe
1971 Minerals Limited
4741 East Sunrise Drive
Tucson, Arizona 85716

Ore Tests 2185, 2186, 2187, 2188

Dear Mr. Briscoe:

The four samples 3, 4, 5, and 6 from State of Maine, Tombstone, were screened and each size assayed for silver.

2185 - Sample 3

Product	Wt. %	Oz. Ag/ton	Distribution Ag %
Heads	100.0	4.88*	100.0
on ½ inch	28.4	3.05	17.5
Minus ½ plus ¼ inch	11.7	3.30	7.9
Minus ¼ plus 20-mesh	36.0	6.20	45.7
Minus 20-mesh	23.9	5.90	28.9

*Calculated from products

2186 - Sample 4

Heads	100.0	1.74*	100.0
on ½ inch	74.8	1.50	64.4
Minus ½ plus ¼ inch	12.2	2.10	14.7
Minus ¼ plus 20-mesh	10.1	2.70	15.6
Minus 20-mesh	2.9	3.20	5.3

*Calculated

2187 - Sample 5

Heads	100.0	2.44*	100.0
on ½ inch	57.4	1.60	41.8
Minus ½ plus ¼ inch	13.1	3.60	21.5
Minus ¼ plus 20-mesh	22.5	2.60	26.2
Minus 20-mesh	7.5	3.10	10.5

*Calculated

2188 - Sample 6

Heads	100.0	2.45*	100.0
on ½ inch	58.8	1.80	47.1
Minus ½ plus ¼ inch	14.3	2.50	15.9
Minus ¼ plus 20-mesh	19.8	2.80	24.4
Minus 20-mesh	7.1	4.00	12.6

*Calculated

The only sample that has promise is Sample 3. We are saving the products in case you would need further information.

Yours very truly,

George H. Roseveare
Metallurgist

GHR:rj

Briscoe Field Notes (6-7/13)

June 18, 1973

Note 1 - n1

State of Maine Vein cropping out in addit, vein dips 36 degrees west strikes degrees magnetic slickensided fault was point of measurement below which is gougee zone 3 feet thick. Magneese crops out in fault but is pinched to none existence at breast height, tunnel, more correctly addit penetrates approximately 75 feet beyond this point showing too moderate argillic alteration and patchy stronger alteration with MNOX along sheer fractures at the end of the tunnel Alteration seems to fade lightly but workings intersect slickenside zone approximately parellel to addis lenghth. In portal and road a distance of approximately 40 feet rock is highly sheared and bleached directly below in the footwall of the gougee zone is maganeferous zone caused by maganeese stringers approximately six to eight feet in thickness these stringers are spaced several to the foot and dip approxximately 72 degrees west parelleling strike directions approximately of the more shallowly dipping veinlet or vein other stringers between the magganeese zone and the road show approximately the same dip suggesting that the shallow dipping stringer may be post mineral movemnet and continues to the road where it is covered by NQAL T237 cut around both sides of portal 243 the footwall of the slickenside over approximately ten foot thickness end n-1

n - 2

At this location a short incline goes down approximately 30 to 40 feet hwere it flattens and disappears from sight in darkness I didn't go to the bottom although it may extend another 20 to 50 feet following the vein which strike about north 50 to 60 degrees east magnetic and dips at approximately 20 degrees and appears to flatten with depth. Vein is actually a breecha zone between one and six feet wide with altered wall rocks it pinches and swells in a manner that suggests over thrusting. It isn't clear whether this is part of the Maine Vein system or possibly a fracture zone enchlon with the triple XXX vein system at any rate because of the low dip the strike will probably vary greatly Sample 241 across 2 feet at the collar T240 30 feet down the incline n - 1 At the shaft a linenite stained vein approximately 2 to 3 feet in thickness is exposed in the footwall the hanging wall is very poorly altered being essentially fresh with a few little stains of limenite, hematite and maganeese on it. The main vein strikes 178 degrees magnetic dipping approximately 35 this is very close to the strike of the vein at the State of Maine shaft andc in all likelihood this is the vein with the other features between here and the State of Maine Shaft being subsidiary fractures striking more north= easternly and probably being tear fractures associated with the over thrusting on the Main State of Maine fracture system end of n -2

N - 4

At the Uncle Sam incline shaft with wood faced and metal rails going down the incline the vein here appears to be striking about north 5 east magnetic and dipping about 35 degrees and ranging from about a foot too about 4 feet in width Although the walls are very dirty and it is very difficult to see the vein exactly which is almost due north and the inclination makes it appear that this is also the State of Maine Vein but north 4 the oldd back hoe cuts in the top of the Uncle Sam Dump put in by Austral Oil indicate that this dump is well sampled probably the best I have seen so far the back hoe cuts go approximately 3 feet deep and 2 feet wide and are on every branch of the various dumps. Branch 5 at this shaft which is vertical to about 20 feet and then dips down probably along the State of Maine Vein we see parallel shear zones striking approximately parallel to the maine vein that is 5 degrees magnetic north dipping 43 degrees to the west. Not well altered but somewhat bleached containing maganeese and limenite the projection of the Maine Vein from the Uncle Sam incline would suggest that the shafts to the and the prospects pits to the south east of

N - 5

shaft would intersect the vein however the shafts and prospects only intersected fresh rock this suggest that wither these are faults which off set the vein or it changes drastically in strike and then straightens out again giving it a braided or weaving nature since all the ground is covered in between these two veins. We can only speculate on which case it might be. The dump with be sampled by number 294 end n -5

N- 6

At this point we have a shallow shaft approximately 20 feet deep the shaft intersects moderate to strong alteration including rather strong maganeese oxide the bottom of the shaft veers to the north and west or to the west to form a drift following this maganeese and a small pile of the highgrade MNOX material is piled on the west side of the shaft. Sample 299 represents this material while sample 298 represents mine run dump material. At this point and in this area between north 5 and north 6 we are still on the State of Maine Vein at a point 297 the vein appears to flay out and broaden due to] topographic affect this being a very flat spot it looks as though it may be up to 100 feet wide and float indicates this. This is merely and affect of the flow angel of the vein and the flat topography end N - 6

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Geologic work for June 18, 1973

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angle veins and faults breechia zones are exposed however none of these appear to be the State fo Maine instead the State of Maine appears to lie under alluvial cover and the exposed veins are more easterly trending shear fractures associated with the Maine Vein and indicative of right latteral over thrusting movement the Maine vein is again exposed at point n -3 and also to the north in some of the workings in the Uncle Sam Mine and it is apparently trasable north of the Uncle Sam Mine by leached float in tailis alluvium on the hills at point n -6 the vein flays out and to the north this cretaceous Bisbee group sediments are exposed. The vein can not be traced into theses sediments although it projects into them or into this area although the whole northern slope of this hillside shows reasonable alteration with quite a few alluvial fragments of black shale material. There are therr possibilities as to what has become of the vein 1- It may continue and be hard to trace because of the varried nature of the cretaceous sediments. 2 - It may be diverted such that it follows the contact between the Uncle Sam Porphyry and the cretaceous sediments thas becoming very very low angle in nature adn becoming essentially a horizonaal plain or 3 - It could become so defuse in the cretaceous Bisbee group that it looses its identity as a vein and only regains that where it encounters the more competnet Uncle Sam Porphyry. This hillside should receive some deep bulldozer scraper cuts to explore for continuing of the vein below the aluvium. To the north of this and across the Fox Creek road are exposed quartsite which is probably the equivalent of the navaculite of the Tombstone basin and strongly breechiated sediments along a northeast trending zone showing strong maganeese oxide as seen in some shaft areas the veins are very hard to discern in the sediments and are very hard to trace on the surface. end comments for June 18, 1973

Field notes June 22, 1973

N - 7

At a rhyolite outcrop this point the rhyolite shows swirlley circular flow texture something that has not been noted in the same rhyolite dike in other areas this suggest this spot may be a circular vent area. This putcrop argillic alteration with limenite staining after about two percent finely crystalline pyrite.

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In this area creataceous Bisbee group sediments are exposed they are for the most part shales of various types intriculated with one or possibly two thin limestone horizone the shale material has been largely altered to hornfels with containign quite a bit of chorletic materail and other hornfelsic alteration sweets the limestone has been altered to marble and in a few places appears to have possible cala-silicate mineralization although this is weak these sediments are apparently located in the footwall of the State of Maine Vein and below in the vein projection and its poor outcrop on the top of the hill there is a rather strong limenite staining and maganeese and silicififcation of the sediments a bulldozer cut will be required in this area to expose what the float suggest may be relatively good mineralization just south of the Fox Creek road the sediments are less altered but there is an anticlineal feature just south of the road which appears to be very much like one of the roles of the Tombstone district the limestone marker horizon is folded quite tightly and with out careful exmmination the realtions appear rather complex the role pitches to the east and at the nose of the anticline there appears to be some rather good maganees veining a few inches wide this would probably be a good spot for a test hole that is on the axel plane of the anticline

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N - 11

At this point there is outcropping a blue limestone breccia with a very small exposure of quartzite on its eastern edge the breccia appears to be sedimentary feature how ever it could be a tectonic intrusive origin there is a outcrop approximately two feet square in the bottom of the wash of what looks to be Oracle type granite this is the only exposure of this rock I have seen in the Tombstone District it may be classed with the limestone quartzite breccia its contacks are inconclusive this area only sparatically altered with a small amount of limenite stains for the msot part the limestone is unmarbledlized.

N - 12

At this point is a small pod of heavy green garnet skarn associated with a blue limestone the other surrounding Bisbee group sediments are dark grey hornfels and where they carry sulfides or where they carry sulfides they are colored medium red from limenite products the Uncle Sam Porphry contack is about fifty feet to the south but does not appear to be related to heavy garnet skarn neither is the skarn apparently relatedto an exposed structural feature it is significant in that this is the first occasion that I have seen intense development of garnet

Thoughts on the State of Maine area:

The State of Maine area itself consists of the State of Maine shaft Brother Johnathan and Uncle Sam shafts which are assentially located on the State of Maine Vein there are othere systems which parrellel this and total number of major veins exposed to date are four in mumber they include the State of Maine Vein the Wood Collare Shaft Vein the FRee Coinage Clipper VEin and Chance Vein all of thhsee systems and we might also include the San Pedro Vein although this seems to dip more steeply all these systems strike north northeasterly and dip from thirty to fifty degrees to the west the dip generally being forth thirty eight to forty two degrees with consderable amount of consistency apparent between the vein systems. vein systems occur in both Uncle Sam porphyry and crotashish Bisbee group sediments. There apprears to be a subsidiary related vein system which strikes northeasterly and dips steeply in the range of 50 to seventy degrees. The growth appect of these verins systems jest thrust volting activity with movemont from the southwest to the northeast and a right lateral throw along the fault structures it is apparent the vautl movement was premineral and occured allong several splains. These plains being previous mentioned veins. Veins were seen on the surface appreared to be one to five feet in thickness the main thickness being in the range to two to three feet are of course intermediate subsideary and related eshilon vains however by enlarge the rock in betwwen the major vein systems is relatively fressh and unaltered. The preceeding observation suggest that there is little potenttial for larger diseminated orbodxies minable by balk methods either underground or surface. This conclusion might be negated if the veins tend to flatten and coless depth however this is a mear speculation and that possibilty would have to be tested by further exploration drilling and subsurface geologic work. Bus encumbant of the preceeding obeervations that the potental in this area is for Bonanza type vein minerailiza tion along rather shallowy dippy strutures. These structures may be imminable mining be some sort of trackless mining system involved in the shrinagke stopping or other semi-bulk methods. However, their explotation will be expensive both from an exploration and a mining veiw point. And a critical factor in the economic explotation of the mineralization will be close attention to cost cutting. There are a couple of subilities for this one being variations of trackless miningand shrinkage stoping of one type or another Another solution might be to sink a shaft to the present water table drive raises along the veins and either drill and blast them in place or start shrinkage stop operations leaving the muck in place. After sufficeint quantity of muck has been broken and loosened sionide solution could be perculated through the ore the broken ore and collected in a sub at the bottom of the shaft or on various sub levels.

This type of

This type of insitu leech operation the ore might never have to be mined if the metallice values could be recovedred in place. Below the water tabbe leeching would be impossible because of the action of the intermingling solvent solution and the ground water unless the ground water is lowered by pumpong . On the other hand the nature of the ore may change to lead-zinc solfides which are not minable to sionide leeching and thus it may be possible or it may be necessary to mine the ore in and hoist it for processing through a normal flotation plant. Nation of these mining may be may make the deposit economicly feasible. A considerable tonage of ore should be present in the various veins systems. Ation should consist of continued detailed surface mapping and sampling done prior and contemperainiously on a continuing basis with vertical drilling by rotary drills followed by vertical or incline drilling by diamond drill rigs.

Monday July 30 N-13

At this point exposed in a shallow prospect pit is a very intensly altered lay tight or andisight porfree dike of the silver lily type . The feld spars and ground masks have gone to cerisight with very finly diseminated hymitight points diseminatede throughout. This occurs with a north , northeast trending sheer zone with abundant liminight staining. This is one of the few places so far seen that this type of dike is strongly altered in other areas similar apprearing rock is fresh ajjacent to strong alterations suggest that it might be postmineral. Either this dike is not postmineral or this is a different age feature but similar in composition.

N-14

Ex posed at this point in a shallow inclined propsect shaft added is a vault stucture along a quartz vien in which quotatish arcos is dropped down on the hanging wall and quotashish shales are up thrown on the handging wall showing a thrust fault or reverse fault. And that is on the order of 6 to 10 feet although corelity bedscould not be matched up exactly. Erzone is from 3 to 6 inches wide and lined with vuggy quartz a couple of plaines it is not strongly prchiated . This is another line of evidence towards my idea proposed Idea of north thrusting-from the soutwest to the northeast.

N - 15

At this point exposed in the bottom of the wash is pinkish Uncle Same Porfree the ground mass of this exposure appears quite pink in relation to that exposed at Uncle Sam hill where it is dark gray to almost black where it is fresh. This pinkis color may be due to hemitite staining in the feltspars however the feltspars appear quite pink as though there is more poggiclay than is present in the Uncle Sam Hill area. Slightly to the northwest down thecreek is the contack between the Uncle Sam and the Cotashish shales at approximately on the contact is a silver lily type indisight dike fresh completely unalteredexcept for exotic liminite stainning. After a dilligent search around the surrounding area no more exposures of this Uncle Sam porfree ore found and thus it is concluded that iseither a dike or anapothosy of the larger Uncl Sam porfree cell. This may account for its differeence in color and texture and possibly composition.

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13, 1973 N- 13
Near the Fox Ranch

At this point we have a contact exposed between the Uncle Sam Laytipe porfree and what are probably crotashish Bisbee group sediments. The contact is somewhat grayashinal with hornfelsed limestone grating into dirty xenolithic Uncle Sam profree which then grades into dark Uncle Same profree which then grades into the normal fresh Uncle Sam porfree cell. The contact appears to be very low the exposure is not good enough to be accurate but it appears to dip in the range of 20 degrees or less to the west. This is the first good clean or the cleanest contact I have seen and it looks like an ignious feture suggesting that the Uncle Sam is a rather shallow cell and it is certainly not faulted at this point.

N - 21

At this point we have another contact between Uncle Sam porfree and Bisbee group sedimentsz . Here the appearcance of the porfree is the same in that it is very xenolithic and dirty looking . The rock has be cloritized apparently the xenolith tended to become cloretic from deuteric alteration while the limey rocks at the contact are brieccated and have been somewhat horfelsed however the alteration in either rock is not intense . This is further evidence that this is outcrop of sediment is actually a window in the csill and not an upfaulted or fault fragment.

Saturday July 14, 1973

n - 22

At this point there is exposed a shadder zone which appears to be either late or postmineral even though it has some liminite stain on the fractures it strikes almost due north slightly west of north and looking towards the dome it appears as though this may be one the projection of the mile long fault zone visable on areal photographs. This is not here been before noted in the feild but thise exposure may be part of it.

N - 23

At this point is exposed a composit dike consisting of an older andisight dike paralell and broken by a younger riolite dike. The riolite occurs on both the hanging and foot wall of the andisight profree dike . It is composed of five to seven feet on either side and has toren off and cimilated around spherical fragments of the andisite profree. The andisite porfree is the silver lily or silver thread type porfree and it is definitly younger than the riolite they both have apparently the same strike in dip and they cut unaltered Uncle Sam porfree little or no alterarion being evident caused by the dikes.

Wednesday July 18, 1973
Subject: Tmr Drilling Equipment

The equipment visited at Steve Henderson's 40 acre ranch sight on the middle March pass road. Equpment consists of 1 porter drill 500 which is approximately equivilent to a Faline 1500, mounted on a 1962 Ford truck with dual rear wheels dual rear tires, the mass has been lengthened and strengthened with three Sheel

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wheels so that it can pull a 30 foot lenth of drill pipe . The capability of the ri g is approximately 1800feet using 23/8" drill pipe . Steve Henderson suggest for air drilling we should purchase 27/8 drill pipe . We have essentially no drill pipe that is unworen on hand approximately 300 feet which may have about 500 feet of air drili drilling or less in it before it is completely unusable. There is no air compresser which would be required for air drilling approxmiatly a 600 CFM unit there is a air hammer 61/2 inch size; ther is no core barrell but the rig is capable of doing some light core drilling. In addition ther is a Ford (62 age) flat bed truck with a water bed mounted on it and side over head racks for drill steel . A 1948 (probable) vintage Ford winch truck with an a-frame mounted on the back with an exten sion so that it is 15 to 20 crane . An old studebaker panel truck with a willy's Jeep 4-wheel drive frame and axle under it and an old (probable 1955) vintage Chevy 6-cylinder 5ton flat bed truck with dual rear wheels on a single axle side boards on this truck would make it capable of it hauling a good diverse hayload. Ther is also a 1962 3/4 ton For truck which is in ok running condition but needs rubber under it. Value of the four micellaneous trucks and including a pick-up truck for a total of five would probably be about $2,000 to $2,500 . The drill rig seems to be in reasonable condition Steve figures a new string of 1.000 foot drill pipe to 27/8 inch diamiter and miscellaneous equipment reparis needed on the rig would run about $10,000 at least $7,000 of that being cost for pipe. He would like about $5 per hour and is interested in running the rig and operation.

Wednesday JUly 18, 1973

N - 24

Located South of the San Padreo Shaft.

At this point the San Padreo vein is trenched the vein itself is probabely at least 20 feet wide although dumps and aloovium cover its true extent and it is poorly exposed. However this trench is cut on a 3 foot wide manginiferous breccha zone which is omewhat beeter mineralized than the more silisous parts of the vien. In the foot wall of this smaller zone, which dips appproximately 80 to the west, is exposed oxide copper with the magenese.

N - 25

Exposed on the dump of the San Padreo shaft are fragments of sulfide bearing Uncle Sam porfree . It is obvious that the San Padreo shaft has intersected the sulfide zone which is obviously in the Uncle Sam Porfree . The Uncle Sam is altered to rather strong serisite, farly typical pyritic mezothermal zone-the pirite is very ~~yellow or~~ brassy to white in color-very little indication of contained copper. No tarnishing or introduction of calcocite or argentiite.

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Notes July 26 1973

N - 26

At this point exposed in a bulldozer cut is a north 70 degree magnetic east vein dipping 42 to the northwest. Previous examination of this suggest that it might be the continuation of the State of Maine vein. The dip is approximately the same however the strike is much more easterly than the State of Maine at the State of Maine shaft. Red hemitite along the vein and rather strong clay cerisite along a width of 10 feet suggests resonable alteration antethitic faulting or jointing dipping into the viein at 48degrees but dipping at an opposite direction suggest that this structure has suffered left lateral strain. ~~Alterxxxxxxxxxxxx~~ Alteration exposed in this dozer cut varies from weak to moderate to strong along the vein structure.

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June 18, 1973

Note 1 - n1

State of Maine Vein cropping out in addit, vein dips 36 degrees west strikes degrees magnetic slickensided fault was point of measurement below which is gougee zone 3 feet thick. Magneese crops out in fault but is pinched to none existence at breast height, tunnel, more correctly addit penetrates approximately 75 feet beyond this point showing too moderate argillic alteration and patchy stronger alteration with MNOX along sheer fractures at the end of the tunnel Alteration seems to fade lightly but workings intersect slickenside zone approximately parellel to addis lenghth. In portal and road a distance of approximately 40 feet rock is highly sheared and bleached directly below in the footwall of the gougee zone is maganeferous zone caused by maganeese stringers approximately six to eight feet in thickness these stringers are spaced several to the foot and dip approxximately 72 degrees west parelleling strike directions approximately of the more shallowly dipping veinlet or vein other stringers between the magganeese zone and the road show approximately the same dip suggesting that the shallow dipping stringer may be post mineral movemnet and continues to the road where it is covered by NQAL T237 cut around both sides of portal 243 the footwall of the slickenside over approximately ten foot thickness end n-1

n - 2

At this location a short incline goes down approximately 30 to 40 feet hwere it flattens and disappears from sight in darkness I didn't go to the bottom although it may extend another 20 to 50 feet following the vein which strike about north 50 to 60 degrees east magnetic and dips at approximately 20 degrees and appears to flatten with depth. Vein is actually a breecha zone between one and six feet wide with altered wall rocks it pinches and swells in a manner that suggests over thrusting. It isn't clear whether this is part of the Maine Vein system or possibly a fracture zone enchlon with the triple XXX vein system at any rate because of the low dip the strike will probably vary greatly Sample 241 across 2 feet at the collar T240 30 feet down the incline n - 1 At the shaft a linenite stained vein approximately 2 to 3 feet in thickness is exposed in the footwall the hanging wall is very poorly altered being essentially fresh with a few little stains of limenite, hematite and maganeese on it. The main vein strikes 178 degrees magnetic dipping approximately 35 this is very close to the strike of the vein at the State of Maine shaft andc in all likelihood this is the vein with the other features between here and the State of Maine Shaft being subsidiary fractures striking more north= easternly and probably being tear fractures associated with the over thrusting on the Main State of Maine fracture system end of n -2

N - 4

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At this point is a small pod of heavy green garnet skarn associated with a blue limestone the other surrounding Bisbee group sediments are dark grey hornfels and where they carry sulfides or where they carry sulfides they are colored medium red from limenite products the Uncle Sam Porphry contack is about fifty feet to the south but does not appear to be related to heavy garnet skarn neither is the skarn apparently relatedto an exposed structural feature it is significant in that this is the first occasion that I have seen intense development of garnet

Thoughts on the State of Maine area:

The State of Maine area itself consists of the State of Maine shaft Brother Johnathan and Uncle Sam shafts which are assentially located on the State of Maine Vein there are othere systems which parrellel this and total number of major veins exposed to date are four in mumber they include the State of Maine Vein the Wood Collare Shaft Vein the FRee Coinage Clipper VEin and Chance Vein all of thhsee systems and we might also include the San Pedro Vein although this seems to dip more steeply all these systems strike north northeasterly and dip from thirty to fifty degrees to the west the dip generally being ~~forth~~ thirty eight to forty two degrees with consderable amount of consistency apparent between the vein systems. vein systems occur in both Uncle Sam porphyry and crotashish ~~Bisbee~~ Bisbee group sediments. There apprears to be a subsidiary related vein system which strikes northeasterly and dips steeply in the range of 50 to seventy degrees. The growth appect of these verins systems suggest thrust volting activity with movembnt from the southwest to the northeast and a right lateral throw along the fault structures it is apparent the vautl movement was premineral and occured allong several plains. These plains being previous mentioned veins. Veins were seen on the surface appreared to be one to five feet in thickness the main thickness being in the range to two to three feet are of course intermediate subsideary and related eshilon vains however by enlarge the rock in betwwen the major vein systems is relatively fressh and unaltered. The preceeding observation suggest that there is little potenttial for larger diseminated orbodies minable by balk methods either underground or surface. This conclusion might be negated if the veins tend to flatten and coless with depth however this is a mear speculation and that possibilty would have to be tested by further exploration drilling and subsurface geologic work. Thus encumbant of the preceeding observations that the potental in this area is for Bonanza type vein minerailiza tion along rather shallowy dippy strutures. These structures may be imminable to mining by some sort of trackless mining system involved in the shrinagke stopping or other semi-bulk methods. However, their explotation will be expensive both from an exploration and a mining veiw point. And a critical factor in the economic explotation of the mineralization will be close attention to cost cutting. There are a couple of subilities for this one being variations of trackless miningand shrinkage stoping of one type or another Another solution might be to sink a shaft to the present water table drive raises along the veins and either drill and blast them in place or start shrinkage stop operations leaving the muck in place. After sufficeint quantity of muck has been broken and loosened sionide solution could be perculated through the ore the broken ore and collected in a sub at the bottom of the shaft or on various sub levels. This type of

This type of insitu leech operation the ore might never have to be mined if the metallic values could be recovedred in place. Below the water tabbe leeching would be impossible because of the action of the intermingling solvent solution and the ground water unless the ground water is lowered by pumpong . On the other hand the nature of the ore may change to lead-zinc solfides which are not minable to sionide leeching and thus it may be ~~possible or it may be~~ necessary to mine the ore in and hoist it for processing through a normal flotation plant. Nation of these mining may be may make the deposit economicly feasible. A considerable tonage of ore should be present in the various veins systems. Ation should consist of continued detailed surface mapping and sampling done prior and contemperainiously on a continuing basis with vertical drilling by rotary drills followed by vertical or incline drilling by diamond drill rigs.

Monday July 30 N-13

At this point exposed in a shallow prospect pit is a very intensly altered lay tight or andisight porfree dike of the silver lily type . The feld spars and ground masks have gone to cerisight with very finly diseminated hymitight points diseminatede throughout. This occurs with a north , northeast trending sheer zone with abundant liminight staining. This is one of the few places so far seen that this type of dike is strongly altered in other areas similar apprearing rock is fresh ajjacent to strong alterations suggest that it might be postmineral. Either this dike is not postmineral or this is a different age feature but similar in composition.

N-14

Ex posed at this point in a shallow inclined propsect shaft added is a vault stucture along a quartz vien in which quotatish arcos is dropped down on the hanging wall and quotashish shales are up thrown on the handging wall showing a thrust fault or reverse fault. And that is on the order of 6 to 10 feet although corelity bedscould not be matched up exactly. Erzone is from 3 to 6 inches wide and lined with Yuggy quartz a couple of plaines it is not strongly prchiated . This is another line of evidence towards my idea proposed Idea of north thrusting-from the soutwest to the northeast.

N - 15

At this point exposed in the bottom of the wash is pinkish Uncle Same Porfree the ground mass of this exposure appears quite pink in relation to that exposed at Uncle Sam hill where it is dark gray to almost black where ~~it is~~ fresh. This pinkis color may be due to hemitite staining in the feltspars however the feltspars appear quite pink as though there is more poggiclay than is present in the Uncle Sam Hill area. Slightly to the northwest down thecreek is the contack between the Uncle Sam and the Cotashish shales at approximately on the contact is a silver lily type indisight dike fresh completely unalteredexcept for exotic liminite stainning. After a dilligent search around the surrounding area no more exposures of this Uncle Sam porgree ore found and thus it is concluded that iseither a dike or anapothosy of the larger Uncl Sam porfree cell. This may account for its differeence in color and texture and possibly composition.

13, 1973 N- 13
Near the Fox Ranch

At this point we have a contact exposed between the Uncle Sam Laytipe porfree and what are probably crotashish Bisbee group sediments. The contact is somewhat grayashinal with hornfelsed limestone grating into dirty xenolithic Uncle Sam profree which then grades into dark Uncle Same profree which then grades into the normal fresh Uncle Sam porfree cell. The contact appears to be very low the exposure is not good enough to be accurate but it appears to dip in the range of 20 degrees or less to the west. This is the first good clean or the cleanest contact I have seen and it looks like an ignious feture suggesting that the Uncle Sam is a rather shallow cell and it is certainly not faulted at this point.

N - 21

At this point we have another contact between Uncle Sam porfree and Bisbee group sedimentsz . Here the appearcance of the porfree is the same in that it is very xenolithic and dirty looking . The rock has be cloritized apparently the xenolith tended to become cloretic from deuteric alteration while the limey rocks at the contact are brieccited and have been somewhat horfelsed however the alteration in either rock is not intense . This is further evidence that this is outcrop of sediment is actually a window in the csill and not an upfaulted or fault fragment.

Saturday July 14, 1973

n - 22

At this point there is exposed a shadder zone which appears to be either late or postmineral even though it has some liminite stain on the fractures it strikes almost due north slightly west of north and looking towards the dome it appears as though this may be the projection of the mile long fault zone visable on areal photographs. This is not here been before noted in the feild but this exposure may be part of it.

N - 23

At this point is exposed a composit dike consisting of an older andisight dike paralell and broken by a younger riolite dike. The riolite occurs on both the hanging and foot wall of the andisight profree dike . It is composed of five to seven feet on either side and has toren off and cimilated around spherical fragments of the andisite profree. The andisite porfree is the silver lily or silver thread type porfree and it is definitly younger than the riolite they both have apparently the same strike in dip and they cut unaltered Uncle Sam porfree little or no alterarion being evident caused by the dikes.

Wednesday July 18, 1973
Subject: Tmr Drilling Equipment

The equipment visited at Steve Henderson's 40 acre ranch site on the middle March pass road. Equpment consists of 1 porter drill 500 which is approximately equivilent to a Faline 1500, mounted on a 1962 Ford truck with dual rear wheels dual rear tires, the mast has been lengthened and strengthened with three Sheel sheave

wheels so that it can pull a 30 foot lenth of drill pipe . The capability of the ri g is approximately 1800feet using 23/8" drill pipe . Steve Henderson suggest for air drilling we should purchase 27/8 drill pipe . We have essentially no drill pipe tha is unworen on hand approximately 300 feet which may have about 500 feet of air drili drilling or less in it before it is completely unusable. There is no air compresser which would be required for air drilling approxmiatly a 600 CFM unit there is a air hammer 61/2 inch size. ther is no core barrell but the rig is capable of doing some light core drilling. In addition ther is a Ford (62 age) flat bed truck with a water bed mounted on it and side over head racks for drill steel . A 1948 (probable) vintage Ford winch truck with an a-frame mounted on the back with an exten sion so that it is 15 to 20 crane . An old studebaker panel truck with a willy's Jeep 4-wheel drive frame and axle under it and an old (probable 1955) vintage Chevy 6-cylinder 5ton flat bed truck with dual rear wheels on a single axle side boards on this truck would make it capable of it hauling a good diverse hayload. Ther is also a 1962 3/4 ton For truck which is in ok running condition but needs rubber under it. Value of the four micellaneous trucks and including a pick-up truck for a total of five would probably be about $2,000 to $2,500 . The drill rig seems to be in reasonable condition Steve figures a new string of 1.000 foot drill pipe to 27/8 inch diamiter and miscellaneous equipment reparis needed on the rig would run about $10,000 at least $7,000 of that being cost for pipe. He would like about $5 per hour and is interested in running the rig and operation.

Wednesday JUly 18, 1973

N - 24

Located South of the San Padreo Shaft.

At this point the San Padreo vein is trenched the vein itself is probabely at least 20 feet wide although dumps and aloovium cover its true extent and it is poorly exposed. However this trench is cut on a 3 foot wide manginiferous breccha zone which is omewhat better mineralized than the more silisous parts of the vien. In the foot wall of this smaller zone, which dips appproximately 80 to the west, is exposed oxide copper with the magenese.

N - 25

Exposed on the dump of the San Padreo shaft are fragments of sulfide bearing Uncle Sam porfree . It is obvious that the San Padreo shaft has intersected the sulfide zone which is obviously in the Uncle Sam Porfree . The Uncle Sam is altered to rather strong serisite, farly typical pyritic mezothermal zone-the pirite is very ~~yellow or~~ brassy to white in color-very little indication of contained copper. No tarnishing or introduction of calcocite or argentiite.

Notes July 26 1973

N - 26

At this point exposed in a bulldozer cut is a north 70 degree magnetic east vein dipping 42 to the northwest. Previous examination of this suggest that it might be the continuation of the State of Maine vein. The dip is approximately the same however the strike is much more easterly than the State of Maine at the State of Maine shaft. Red hemitite along the vein and rather strong clay cerisite along a width of 10 feet suggests resonable alteration antethitic faulting or jointing dipping into the vein at 48degrees but dipping at an opposite direction suggest that this structure has suffered left lateral strain. ~~xxxxxxxxxxxxxxxxxx~~ Alteration exposed in this dozer cut varies from weak to moderate to strong along the vein structure.

Screen Analysis (Empire, Tranquility, Typhoon) 1943-44

73-74

Southwestern
Exploration
Associates, Inc.

SCREEN ANALYSIS

Tranquility
Empire
Toughnut

Copy 2 of 3
S.E.A. Files

4500 E. SPEEDWAY, SUITE 14, TUCSON, ARIZONA 85712 (602) 795-6097

DAY/TIMER Time-Saver

LETTER

Southwestern Exploration Associates
4500 E. SPEEDWAY, SUITE 14
TUCSON, ARIZONA 85712

(602) 795-6097

IN REFERENCE TO: P-418 Tombstone Proj. Cochise Co., Ariz.

FIRST CLASS MAIL ☒ INTER-OFFICE ☐

FOR Dr. John Dean

HOW TO USE THIS DAY/TIMER Time-Saver LETTER TO SAVE TIME.

Type or write your reply in the space below. Then mail the white copy to us and keep the pink copy for your files. You'll save time and effort, and we'll have your answer much faster! Thank you.

MESSAGE

FOLD

DATE 8/22/79

ear John; Enclosed herewith is
rox 1 of 3 of Screen Analysis & assay
ata Performed by 71 Minerals on the
-anquility Empire and Tough nut dumps.
e data consists of 63 Xerox pages
ound in a white SEA mity-binder.
I've not had a chance to review this
ata (which was supplied by Mr. Al.
atterson) but I think you'll find it

SIGNED

REPLY

DATE

FOLD

useful. As I mentioned
in our conversation yesterday
more of this data will
be available from Charl
Escapule.
Because of the cost
xeroxing, I've not se
a copy to Tom & Dm
Please give your impr
to us. JMB

SIGNED

cc. FAMCO

DAY/TIMER Time-Saver® REORDER FORM No. B2419L, DAY-TIMERS, Allentown, Pa. 18001

9/6/74

Start Load	Trip Time	Loads
6:00 P.M.	2 Hrs. (Flat tire)	11
8:30 "		

9/4/74

Start Load.	Trip Time	Loads
9:25	45 Min.	III
10:20		
3:20		

9/5/74

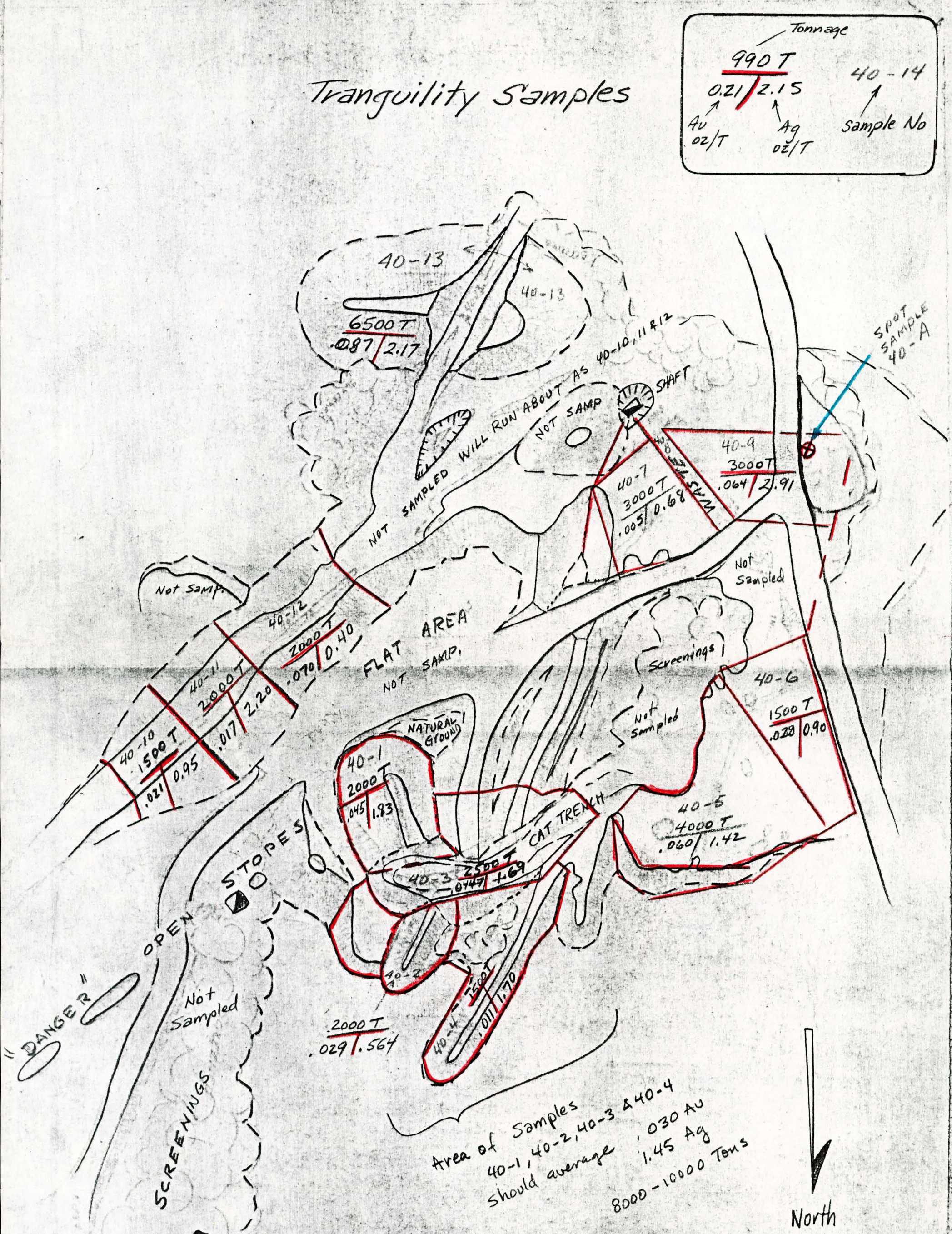
7:42	50 Min.	~~IIII~~ II
8:30	48 Min.	2nd.
9:18	51 "	
10:09	47 "	
10:54	47 "	
11:40	55 "	
1:05		

9/10/74

Start Load	Trip Time	Loads
7:30	51 Min.	IIII
8:21	57 "	
9:18	49 "	
10:07		

Date	Mine	loads / tons			Sample No.	
Sept, 1974	Tranquility	3 Loads / 30T			40-13	useing 10 [illegible]
" 5, 1974	"	[illegible] / 40T			40-13	" " " "
" 6, 1974	"	[illegible]			40-13	" " " "
" 16, 1974	"	4 Loads / 40T			40-13	" " " "
" 18, 1974	"	22 Loads / 220T			40-13	" " " "
" 19, 1974	"	12 Loads / 192T			40-13	useing 2-12 yrd Dump Trucks (leased)
" 20, 1974	"	22 Loads / 352T			40-13	" " "
" 21, 1974	"	19 Loads / 304T			" "	" " "
" 22, 1974	"	22 Loads / 352T			" "	" " "
" 23, 1974	"	22 Loads / 352T			" "	" " "
" 25, 1974	"	22 Loads Lease / 4 Loads / 440T			" "	useing 2-12 yrd Dump Trucks Lease / useing 1-12 yrd [illegible]
" 26, 1974	"	436T	22 Loads Lease Trk	4 Loads I.H.C.	" "	" " " " "
" 27, 1974	"	448T	22 Loads Lease	8 Loads THC	" "	" " " " "
" 30, 1974	"	320T	20 Loads Lease	—	" "	useing 2-12 yrd Dump [illegible]
Oct. 1, 1974	"	352T	22 Loads Lease	—	" "	" " " " "
Oct 2, 1974	"	320T.	20 Loads Lease	—	" "	" " " " "
Oct. 3, 1974	"	386T	24 Loads Lease	—	" "	" " " " "
Oct. 4, 1974	"	352T	22 Loads Lease	—	" "	" " " " "
Oct 9, 1974	"	256T	16 Loads Lease	—	40-5	" " " " "
Oct. 10, 1974	"	352T	22 Loads Lease	—	40-5	" " " " "
Oct. 11, 1974	"	352T	22 Loads Lease	—	40-5	" " " " "
Oct. 14, 1974	"	352T	22 Loads Lease		40-A	" " " " "
Oct. 15, 1974	"	352T	22 Loads Lease		40-A	" " " " "
Oct. 16, 1974	"	352T	22 Loads Lease		40-A	" " " " "
Oct. 17, 1974	"	304T	19 Loads Lease		40-A	" " " " "
[illegible] 1974	"	368T	23 Loads Lease		40-A	" " " " "

Tranquility Samples



screened
Road
Road
Road
Road
Flat Area
Old Home
Temporary Shaft
screened
screened
+15

Tranquility

1" = 50'

DATE 10-26-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-A	Tranquility			0.050	2.35

Spot Sample 10 ft Deep just South of Tranquility tions

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" + 3/4"					
-3/4" + 1/2"					
-1/2" + 1/4"					
-1/4"					
Totals	22.9	100.0		0.050	2.350

DATE 10-26-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-1			2000	0.045	1.83

-3/4 0.052 2.26

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		
+1½"	78.4	13		.025	.73	.033	.06
-1½" + 1"	32.7	6	26	.025	.60	.0015	.024
-1" + 3/4"	42.9	7		.035	.64	.0024	.0427
-3/4" + 1/2"	67.6	16/12		.030	.025 .139 .87	.0036	.104
-1/2" + 1/4"	145.8	34/25		.040	.014 .44 1.32	.010	.335
-1/4"	215.9	50/37		.065	.033 1.08 3.34	.0241	1.236
Totals	9292	100.0			.52 2.26	.0450	1.831

DATE 10-29-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-2			2000	.033	.564
		3/4		.029	.606

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt AVG	Ag wt AVG
+1½"	80.2	13		.010	0.3	.0011	.0481
-1½" + 1"	29.7	5	24	.010	.4	.0005	.0245
-1" + 3/4"	37.2	6		.010	.5	.0006	.0324
-3/4" + 1/2"	53.9	12/9		.005	.001 .0 .5	.0005	.0522
-1/2" + 1/4"	107.0	23/18		.005	.002 .13 .4	.0001	.0[illegible]
-1/4"	294.5	65/49		.040	.6 .43 .5	.0[illegible]	.[illegible]5
Totals	602.5 455.4	100.2 100.0			.02 .00	.0[illegible]4	.5[illegible]

DATE 10-27-78

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-3			2500	.0447	1.69
		-3/4		.052	1.95

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au Wt. Avg	Ag Wt. Avg
+1½"	99.1	16		.020	[illegible]	.0032	.1920
-1½" + 1"	41.5	6		.035	[illegible]	.0021	.048
-1" + 3/4"	39.0	[illegible]		.015	[illegible]	.0009	.0315
-3/4" + 1/2"	71.4	16/[illegible]		.015	[illegible] .17 .73	.0017	.0803
-1/2" + 1/4"	109.7	25/[illegible]		.025	.95 .325 1.52	.0045	.2340
-1/4"	266.6	59.43		.045	1.510 2.50	.0723	1.100
Totals	629.3 447	100 100.0			1.952	.0447	1.695

DATE 10-29-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-4			1500	.011	1.70
		-3/4		.009	1.94

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		Au Wt. Avg	Ag Wt. Avg
+1½"	56.3	8		.020	0.51		.0016	.0408
-1½" + 1"	24.5	4	18	.005	.30		.0002	.012
-1" + 3/4"	41.5	6		.025	.34		.0015	.0204
-3/4" + 1/2"	61.4	11/9		.005	.21 .068	.62	.0005	.0558
-1/2" + 1/4"	123.3	21/18		.025	.005 .005	1.26	.0045	.7665
-1/4"	394.5	68/56		.005	.003 .979	1.44	.0029	.8064
Totals	701.5	100/100.0					.0111	1.7[illegible]

DATE 10-29-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-5			4000	.060	1.42
		-3/4		.080	1.50

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au. wt Avg	Ag wt Avg
+1½"	137.5	18		.020	1.80	.0036	.32
-1½" + 1"	50.0	6		.020	.82	.0012	.052
-1" + 3/4"	110.5	14		.045	.76	.0063	.1064
-3/4" + 1/2"	70.1	15/9		.020	.003 .110 .73	.0018	.0657
-1/2" + 1/4"	124.0	25/16		.020	.005 .480 1.93	.0032	.3088
-1/4"	288.8	60/37		.020	.172 .1.52	.0344	.5324
Totals	780.7 482.9	100.0			.50	.0605	1.4195

DATE 10-30-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-6			1500±	.028	.494
		-3/4		.036	1.09

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt x Au	Ag wt x Ag
+1½"	40.0	18		.005	.38	.0009	.0684
-1½" + 1"	10.6	5	79	>.005	.52	—	.0260
-1" + 3/4"	13.6	6		.035	.53	.0021	.0318
-3/4" + 1/2"	21.3	14/10		.025	.73	.0025	.0730
-1/2" + 1/4"	36.7	23/17		.030	.6	.0051	.1029
-1/4"	97.9	63/44		.040	1.3	.0176	.5896
Totals	220.1 155.9	100/100.0				.0282	.5976

DATE 10-30-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-7			3000	.005	.680
		-3/4		.006	.606

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au Wt Avg	Ag Wt Avg
+1½"	103.7	18		.005	1.30	.0001	.2340
-1½" + 1"	41.5	8	35	.005	.36	.0004	[illegible]
-1" + 3/4"	49.6	9		>.005	.28	[illegible]	.0252
-3/4" + 1/2"	66.7	18/12		>.005	.18	[illegible]	.0216
-1/2" + 1/4"	103.8	29/19		.005	.45	.0010	.0912
-1/4"	189.9	53/34		.010	.52	.0034	[illegible]
Totals	555.2 360.4	100.0 100.0				.0048	1.96

DATE 10-30-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-8			waste	.0021	.49

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au WT AVG	Ag WT AVG
+1½"	11.4	18		.005	.48	.0009	[illegible]
-1½" + 1"	4.2	6	33	>.005	2.61	✓	✓
-1" - 3/4"	5.5	9		>.005	.15	✓	.0135
-3/4" + 1/2"	7.7	12		>.005	.42	✓	.0480
-1/2" + 1/4"	13.2	20		>.005	.15	✓	[illegible]
-1/4"	22.8	35		.005	.56	.0018	[illegible]
Totals	64.8	100.0				.0027	[illegible]

DATE 10-30-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-9			3000	.064	2.91
		-3/4		.094	5.02

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt. Avg	Ag wt Avg
+1½"	141.0	27		.050	.89	.0135	.2403
-1½" + 1"	54.6	11	47	.005	.14	x	.0154
-1" - 3/4"	47.9	9		.015	.36	.0014	.0324
-3/4" + 1/2"	51.2	18/10		.025	.06 1.91 1.06	.0025	.1060
-1/2" + 1/4"	78.6	28/15		.030	.54 .12	.0045	.3150
-1/4"	149.7	54/28		.150	.43 7.86	.042	2.2
Totals	523.0 279.5	100/100.0 100.0			.094 .50	.0639	2.0317

DATE 10-30-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-10			1500	0212	0.95
		-3/4		.010	1.13

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	RU WT RJS	RS WT. RJS
+1½"	127.7	17		.010	.53	.0017	.0901
-1½" + 1"	58.0	8		.015	.52	.0004	.041
-1" + 3/4"	71.3	9		.005	.81	.0005	.0729
-3/4" + 1/2"	87.5	17/11		.005	.46	.0006	.0506
-1/2" + 1/4"	154.6	30/20		.005	.43	.0010	.086
-1/4"	265.5	53/35		.050	1.75	.0175	.62
Totals	764.6 / 507.6	/ 100.0			1.52	.0212	.85

DATE 10-30-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-11			2000	.017	2.22
		-3/4		.010	1.80

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt. avg	Ag wt. avg
+1½"	78.0	11	19	.015	6.05	.0013	.1633
-1½" + 1"	23.2	3.		.005	.61	.0002	.0183
-1" - 3/4"	30.0	5		.015	1.19	.0003	.0290
-3/4" + 1/2"	48.1	9/7		.010	.65	.0007	.0433
-1/2" + 1/4"	103.0	18/15		.010	.21	.0015	.0315
-1/4"	406.7	73/59		.010	1.18	.0059	1.2562
Totals	689.0 557.8	100/100.0			1.99	.0119	2.19

DATE 10-31-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-12			2000		0.40
		-3/4		.081	0.46

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt. avg.	Ag wt. avg.
+1½"	103.8	13.9		.025	0.34	.0035	
-1½" + 1"	34.9	4.8	5	.075	0.43	.0036	
-1" + 3/4"	48.1	6.4		.030	0.36	.0019	
-3/4" + 1/2"	67.8	12 / 9.3		.030 .055	0.44	.0028	
-1/2" + 1/4"	119.6	21 / 15.9		.175 .095	2.35	.0278	
-1/4"	372.7	67 / 49.9		.060 .308	2.	.0279	
Totals	746.9 / 560.1	100 / 100.0		.0695 .088 average	.40 .458		

DATE 10-31-73

SCREEN ANALYSIS

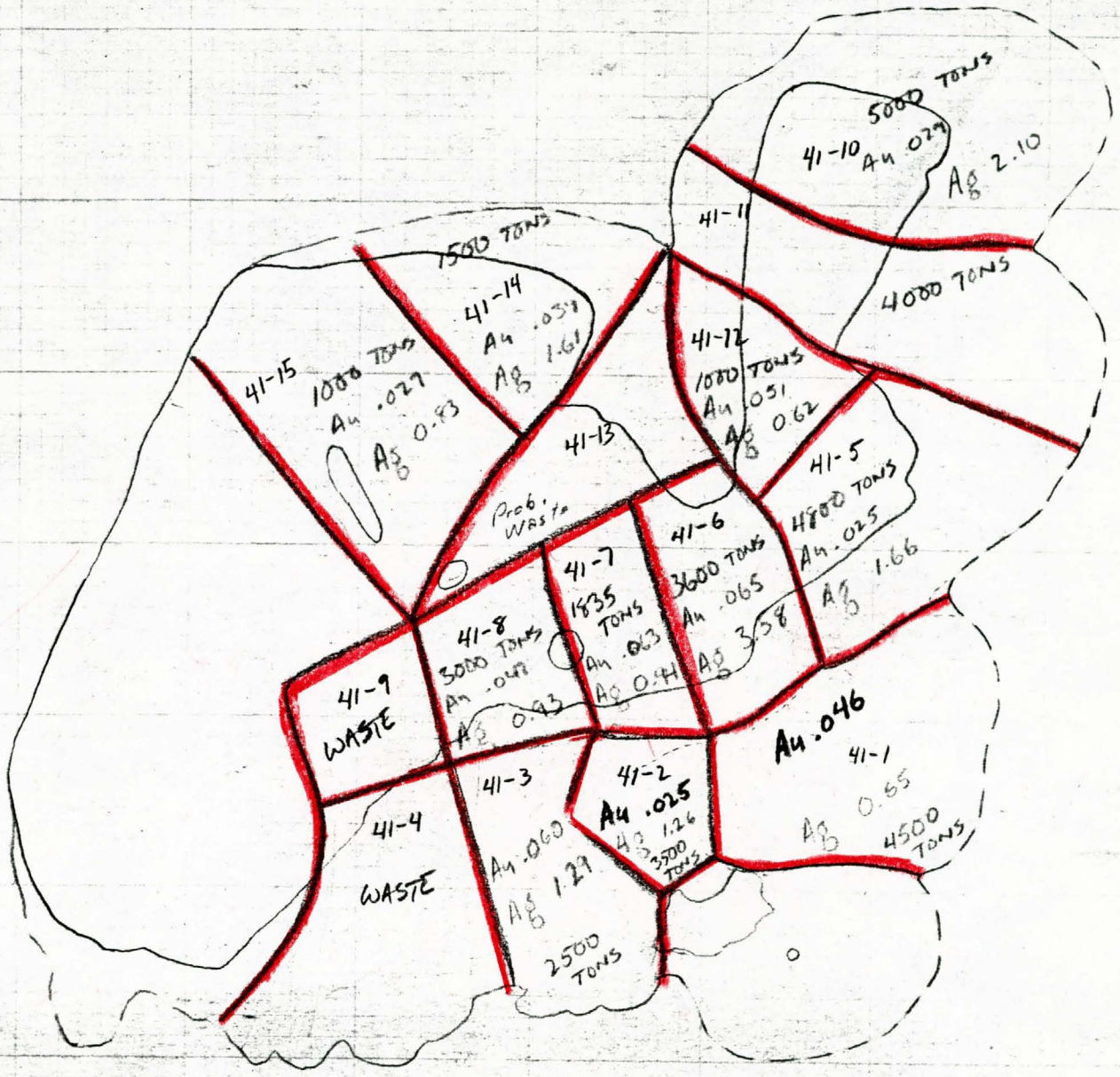
- Take samples collected from the two parallel trenches and combine.

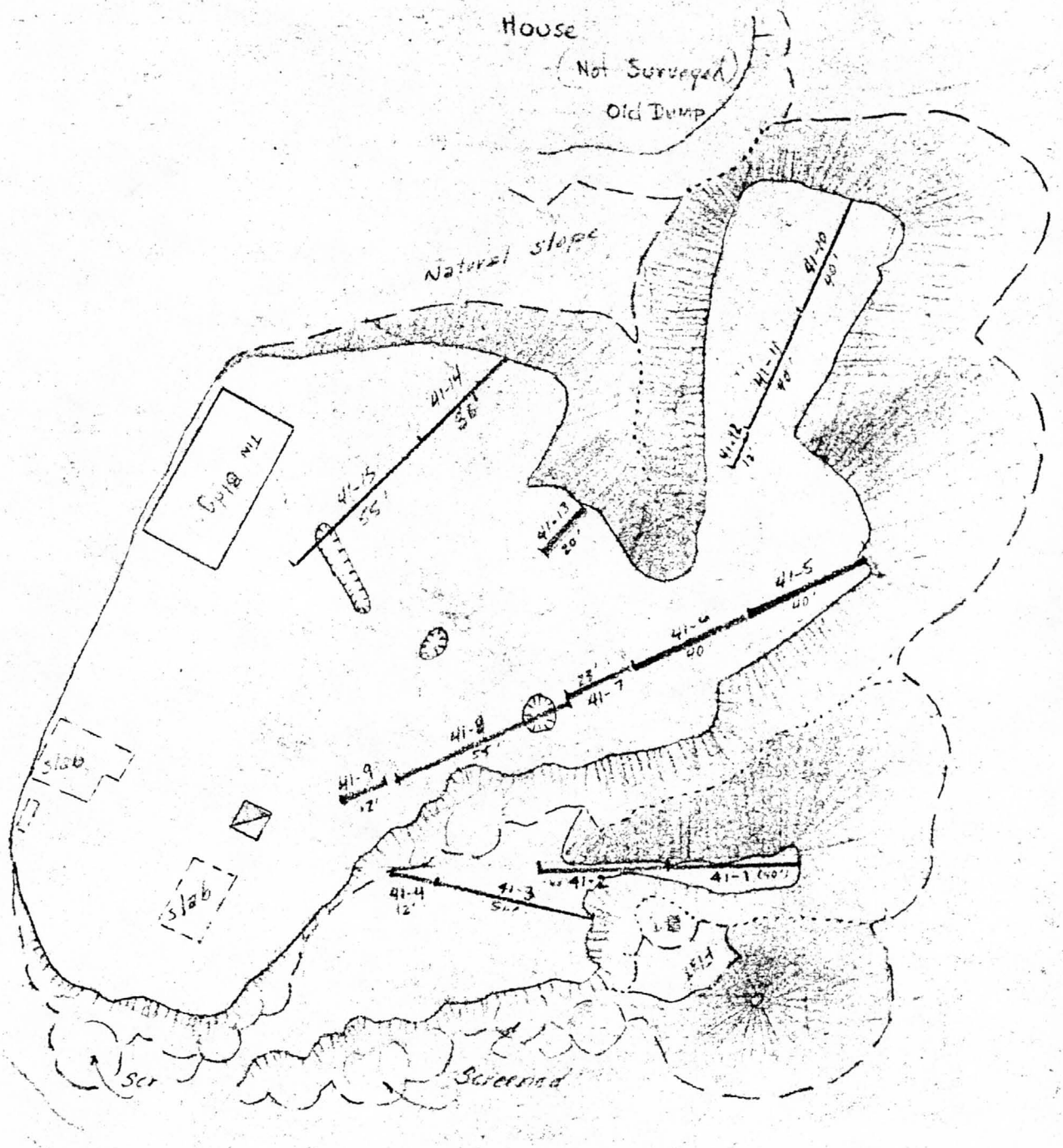
- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
40-13			6500	.087	2.17
			8.7	0.100	2.45

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt. avg	Ag wt. avg
+1½"	61.8	8.7		.01	1.08	.0035	.094
-1½" + 1"	23.5	3.3	19	.025	.86	.0008	.0284
-1" - 3/4"	45.3	6.4		.035	.91	.0022	.0582
-3/4" + 1/2"	65.2	11 / 9.2		.025	1.02	.0023	.0938
-1/2" + 1/4"	131.7	23 / 18.7		.02	.50	.0037	.0935
-1/4"	375.6	66 / 53.5		.14	3.36	.0749	1.7976
Totals	703.1 / 572.5	100 / 100.0 / 99.9		.0855	2.17	.0914	2.1555

EMPIRE


5000 TONS
41-10
Au .029
Ag 2.10
41-11
1500 TONS
41-14
Au .039
Ag 1.61
4000 TONS
41-15
1000 TONS
Au .027
Ag 0.83
41-12
1000 TONS
Au .051
Ag 0.62
41-13
Prob. Waste
41-5
4800 TONS
Au .025
Ag 1.66
41-6
3600 TONS
Au .065
Ag 3.58
41-7
1835 TONS
Au .063
Ag 0.41
41-8
3000 TONS
Au .047
Ag 0.93
41-9
WASTE
Au .046
41-1
Ag 0.65
4500 TONS
41-2
Au .025
Ag 1.26
3500 TONS
41-3
Au .060
Ag 1.29
2500 TONS
41-4
WASTE


House
(Not Surveyed)
Old Dump
Natural slope
Tin Bldg
41-14
56'
41-15
55'
41-13
20'
41-12
12'
41-11
40'
41-10
40'
41-5
40'
41-6
40'
41-7
41-8
55'
41-9
12'
Slab
Slab
41-4
12'
41-3
41-2
41-1 (40')
Scr
Screened

DATE _____

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-1A	40' long 20 ft below 41-5 in cat trench				

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" + 3/4"		20%		.005	0.67
-3/4" + 1/2"		80%		.020	0.76
-1/2" + 1/4"					
-1/4"					
Totals		100.0			

DATE _____

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-2A	40' long 20ft below 41-6 in cat trench				

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" + 3/4"		36%		.020	1.18
-3/4" + 1/2"		64%		.030	1.50
-1/2" + 1/4"					
-1/4"					
Totals		100.0			

DATE _____

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-3A	45 ft long 20' below 41-7 and part of 41-8 in a cat trench				

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" + 3/4"		45%		.030	4.70
-3/4" + 1/2"		55%		.040	0.98
-1/2" + 1/4"					
-1/4"					
Totals		100.0			

DATE 10-17-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-1	Empire		~~[illegible]~~ 4500		

	Au	Ag	Pb
* Composite sample (independent)	0.040	0.13	0.54 %
Wt average from below	0.046	0.65	
	-3/4 .050	0.72	

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	All Wt. Ag	Pb Wt. Ag
+1½"	46.5	8.0		0.025	0.37	.00[illegible]	.03[illegible]
-1½" + 1"	19.3	3.0		0.025	0.89	.00[illegible]8	.02[illegible]
-1" + 3/4"	22.2	4.0		0.035	1.03	.00[illegible]	.04[illegible]
-3/4" + 1/2"	42.5	10 / 7.0		0.050	.005 .185 1.85	.0035	.13[illegible]
-1/2" + 1/4"	90.5	19 / 16.0		0.030	.006 .080 0.42	.0060	.0672
-1/4"	339.1	71 / 60.0		0.055	.039 .454 0.64	.035	.3810
Totals	560.1	100.0			.050 .79	.0455	.6782

DATE 10-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.
- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-2			3500		

	Au	Ag	Pb
* Composite sample (independent	0.055	1.20	0.97
	0.025	1.26	—
		Au	Ag
-3/4		0.022	1.29

	Wt. lbs	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		Au Wt. Avg	Ag Wt. Avg
+1½"	74.0	13.0		0.040		1.34	.0052	.1742
-1½" + 1"	24.3	4.0	22	0.035		1.18	.0014	.0472
-1" + 3/4"	29.5	5.0		0.040		0.86	.002	.430
-3/4" + 1/2"	44.5	10 / 8.0		0.030	.03 .9	1.17	.0024	.0252
-1/2" + 1/4"	79.2	18 / 14.0		0.025	.005 .212	1.18	.0035	.1[illegible]
-1/4"	308.5	71 / 55.0		0.020	.01 .59	1.35	.011	.7425
Totals	560.0 lb 432.2	99 / 100.0			.022 1.29		.0255	1.2[illegible]

DATE 10-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-3			2500	.060	1.29

* Composite sample (independent)

	Au	Ag	Pb
	0.085	1.15	0.57
	.056	1.29	
-3/4		.056	1.23

	Wt. lbs	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt Ag	Ag wt Ag
+1½"	114.0	16		0.045	1.57	.0072	.2512
-1½" + 1"	42.6	6.0		0.040	1.34	.0024	.0804
-1" - 3/4"	45.4	6.0		0.065	1.23	.0039	.0738
-3/4" + 1/2"	67.1	13 / 9.0		0.055	.07 .135 1.04	.005	.095
-1/2" + 1/4"	162.6	31 / 23		0.045	.014 .360 1.16	.0104	.266
-1/4"	287.5	56 / 40		0.070	.024 .704 1.51	.0250	.524
Totals	719.2 517.2	100.0 / 100.0				.0560	1.200

DATE 10-22-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-4			Waste		

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au WT AVG	Ag WT AVG
~~+1½"~~	Combined +1½ w/ -1½+1						
-1½" + 1"	6.4	11.0		.010	.09	.0011	.0099
-1" + 3/4"	2.7	5.0		.025	.21	.0003	.0105
-3/4" + 1/2"	5.1	9.0		.010	.20	.0009	.0180
-1/2" + 1/4"	10.2	18.0		.040	.15	.0072	.0270
-1/4"	33.8	58.0		>.005	.30	/	.1740
Totals	58.2 (49.1)	100.0				.0095	.2394

DATE 10-22-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-5			~~6800~~ 4800	.025	1.66
		-3/4		.027	1.52

	Wt. lbs	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	47.2	7.0		.030	[illegible]
-1½" + 1"	23.5	4.0	16	.010	[illegible]
-1" + 3/4"	33.2	5.0		.020	.10
-3/4" + 1/2"	52.3	10 / 7.5		.010	.001 / .005 / .62
-1/2" + 1/4"	108.1	20 / 17.0		.025	.005 / .96 / .92
-1/4"	367.3	70 / 58.5		.030	.021 / 1.20 / 1.80
Totals	631.6 527.7	100 / 100.0 99.0	Total Ounces	.025	.027 / 1.52 / 1.66

DATE 10-22-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-6			3600	.065	3.58
		-3/4		.091	3.34

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		
+1½"	66.8	10.5		.080	2.76		
-1½" + 1"	44.3	7.0	24	.140	10.01		
-1" + 3/4"	40.4	6.5		.010	.77		
-3/4" + 1/2"	59.0	12 9.0		.010	.71	.001	.025
-1/2" + 1/4"	114.2	23 17.5		(.14) .265	.57	.061	.136
-1/4"	323.6	65 49.5		.045	4.80	.029	5.120
Totals	648.3 (495.5)	100 100.0		.065	3.58	.091	3.341

DATE 10-23-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.
- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-7			1835	.063	0.94
		-3/4		.078	.83

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		
+1½"	57.6	14.5		.035 .021	1.72		
-1½" + 1"	25.3	6.5	27	.020 .013	.95		
-1" - 3/4"	23.7	6.0		.010 .001	.53		
-3/4" + 1/2"	35.9	13/ 9.0		.025 .002	.77	.003	.103
-1/2" + 1/4"	65.0	22/ 16.5		.175 .029	.7	.039	.156
-1/4"	188.8	65/ 47.5		.055 .036	.61	.136	.566
Totals	396.3 389.7	100 100.0 ✓	Wave.	.063 .0642	.94	.578	.512

DATE 10-23-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

3/4" .054 1.070

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-8			~~3420~~ 3000	.047	0.93

Wt. average 5, 6, 7 8

#5	6800	.43	7.40	3.18
6	3600	.23	17.00	3.91
7	1835	.12	9.10	1.09
8	3420	.22	7.70	1.69
	15,655	1.00		10.87

@ $100 Au + $3.00 Ag

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	
+1½"	83.3	14.0		.025	.75	
-1½" + 1"	30.6	5.0		.030	[illegible]	
-1" - 3/4"	43.5	7.0		.020	>.04	
-3/4" + 1/2"	51.9	12 / 8.5		.020	.72	.002 .084
-1/2" + 1/4"	119.0	27 / 20.0		.115	1.03	.031 .277
-1/4"	262.2	61 / 45.5		.035	1.16	.021 .705
Totals	590.5 433.1	100 / 100.0	Wt. avg	~~.050~~ .047	.93	.054

DATE 10-23-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-9			Waste		

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au WT ROS	Ag WT ROS
+1½"	12.2	22.0		.005	.36	.0011	.0792
-1½" + 1"	5.4	10.0		.005	.50	.0005	.0500
-1" - 3/4"	5.2	9.0		.010	.17	.0009	.0153
-3/4" + 1/2"	6.5	12.0		.022	.56	.003	.0672
-1/2" + 1/4"	9.5	17.0		.035	.51	.006	.0867
-1/4"	17.4	32.0		.060	.62	.0192	.1984
Totals	56.2	100.0				.0307	.4968

DATE 10-24-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-10			5000	.029	2.10
		-3/4		.030	2.416

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au wt. avg.	Ag wt. avg.
+1½"	76.2	13	20	0.020	1.10	.0026	.1430
-1½" + 1"	34.5	6		0.025	1.04	.0015	.0624
-1" + 3/4"	40.8	7		0.035	1.59	.0025	.1113
-3/4" + 1/2"	47.0	10 / 8		0.030	.115 1.15	.0024	.0920
-1/2" + 1/4"	97.2	22½ / 16		0.030	.295 1.34	.0048	.2144
-1/4"	305.4	68% / 50		0.030	.500 2.0004 2.95	.0150	1.475
Totals	599.1 / 447.6	100.0			.030 2.416	.0258	2.098

DATE 10-25-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-11			4000		
			-3/4	.031	0.72

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au WT AVE.	Ag WT AVE.
+1½"	69.7	11		0.010	0.49	.0011	.0539
-1½" + 1"	36.0	6	22	0.010	0.41	.0006	.0246
-1" + 3/4"	33.3	5		0.015	0.91	.0008	.0455
-3/4" + 1/2"	56.4	11/9		0.015	.002 .05 0.50	.0014	.0450
-1/2" + 1/4"	107.4	21/17		0.012	.032 .149 0.71	.0017	.1207
-1/4"	342.3	68/52		.040	.027 .517 0.76	.0208	.3922
Totals	645.1 506.1	100/100.0			.031 .721	.0264	.6231

DATE 10-25-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-12			1000	0.051	0.62
		-3/4		0.063	0.64

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		Au WT AVG	Ag WT AVG
+1½"	7.6	11		0.020	0.71		.0022	.0781
-1½" + 1"	5.5	8		0.010	0.65		.0008	.0520
-1" + 3/4"	4.4	7		0.020	0.28		.0014	.0196
-3/4" + 1/2"	6.1	12 / 9		0.210	.05	.061	1.21	.0189 .0459
-1/2" + 1/4"	11.4	23 / 17		0.050	.012	.004	0.41	.0085 .0697
-1/4"	32.5	65 / 48		0.040	.026	.481	0.74	.0193 .3552
Totals	67.5 / 50	100 / 100.0			.063	.636		.0510 .6206

DATE 10-25-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.
- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-13			15oz Waste	0.018	0.45
		-3/4		0.016	0.39

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	NV NOT AVG	Ag NV NOT AVG
+1½"	17.7	17		.025	0.75	.0043	.1275
-1½" + 1"	3.3	3	25	.015	.43	.0005	.0129
-1" + 3/4"	5.3	5		.015	.41	.0005	.0205
-3/4" + 1/2"	8.4	11/8		.010	.01 .25 .23	.0008	.0184
-1/2" + 1/4"	17.3	22/17		.010	.002 .06 .3	.0017	.0663
-1/4"	52.6	67/50		.020	.015 .25 .41	.0100	.2050
Totals	104.6 78.3	100.0 100			.016 .33	.0181	.3550

DATE 10-25-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41=14			1500	.039	1.6
		-3/4		.029	1.305

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	AU WT. AVG	AG WT. AVG
+1½"	77.0	14		.100	3.50	.0140	.490
-1½" + 1"	27.8	5		.025	1.40	.0013	.070
-1" + 3/4"	35.0	6		.030	1.03	.0018	.0618
-3/4" + 1/2"	51.7	13/10		.055	2.57	.0055	.2570
-1/2" + 1/4"	100.8	25/19		.025	2.79	.0048	.5301
-1/4"	248.0	62/46		.025	0.44	.0115	.2024
Totals	540.3 405.5	100 100.0			.029 1.305	.0389	1.6113

DATE 10-26-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

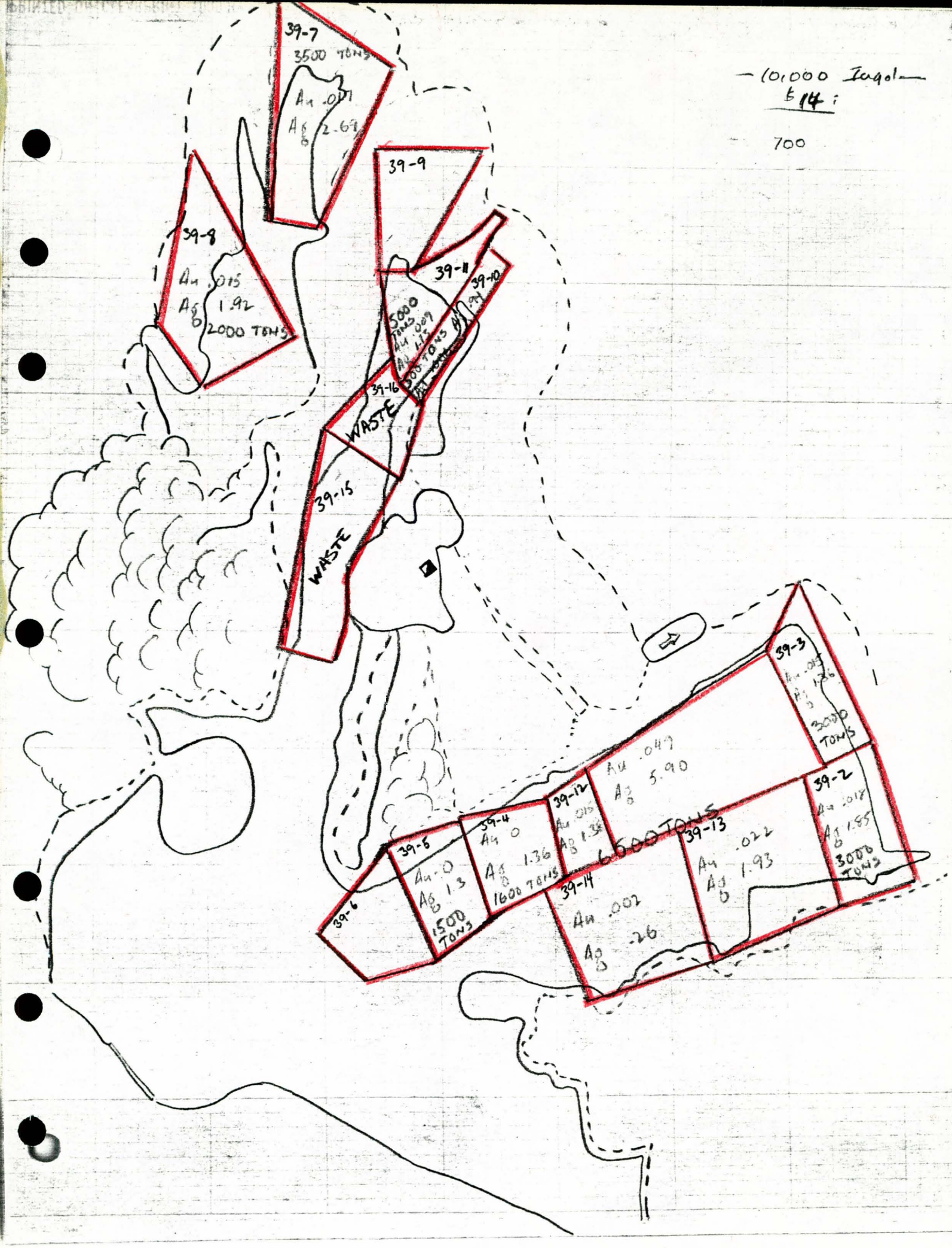
Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
41-15			1000	0.027	0.83
		-3/4		0.033	0.90

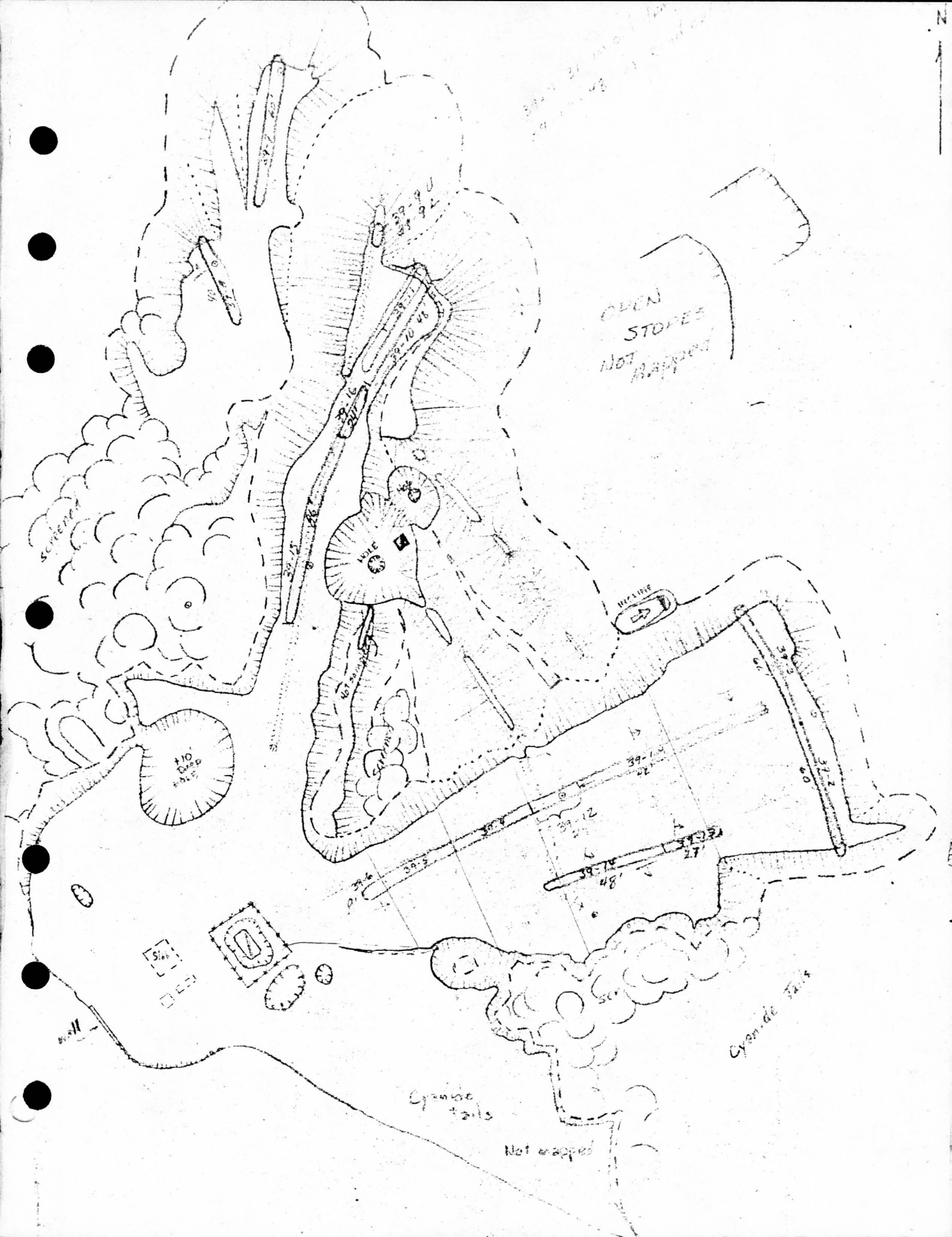
	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton			Au Wt Ag	Ag Wt. Au
+1½"	167.6	23		.020	0.85			.0046	.0029
-1½" + 1"	51.4	7		.010	.41			.0007	.0025
-1" - 3/4"	55.5	8		.015	.42			.0012	.0033
-3/4" + 1/2"	69.4	16/10		.015	.02	.080	.5	.0015	.0053
-1/2" + 1/4"	111.4	25/16		.015	.04	.138	.5	.0024	.0080
-1/4"	262.0	59/36		.045	.027	.684	.6	.0162	.4.76
Totals	717.3 4428	100.0	100.0		.033	.902		.0266	8.59

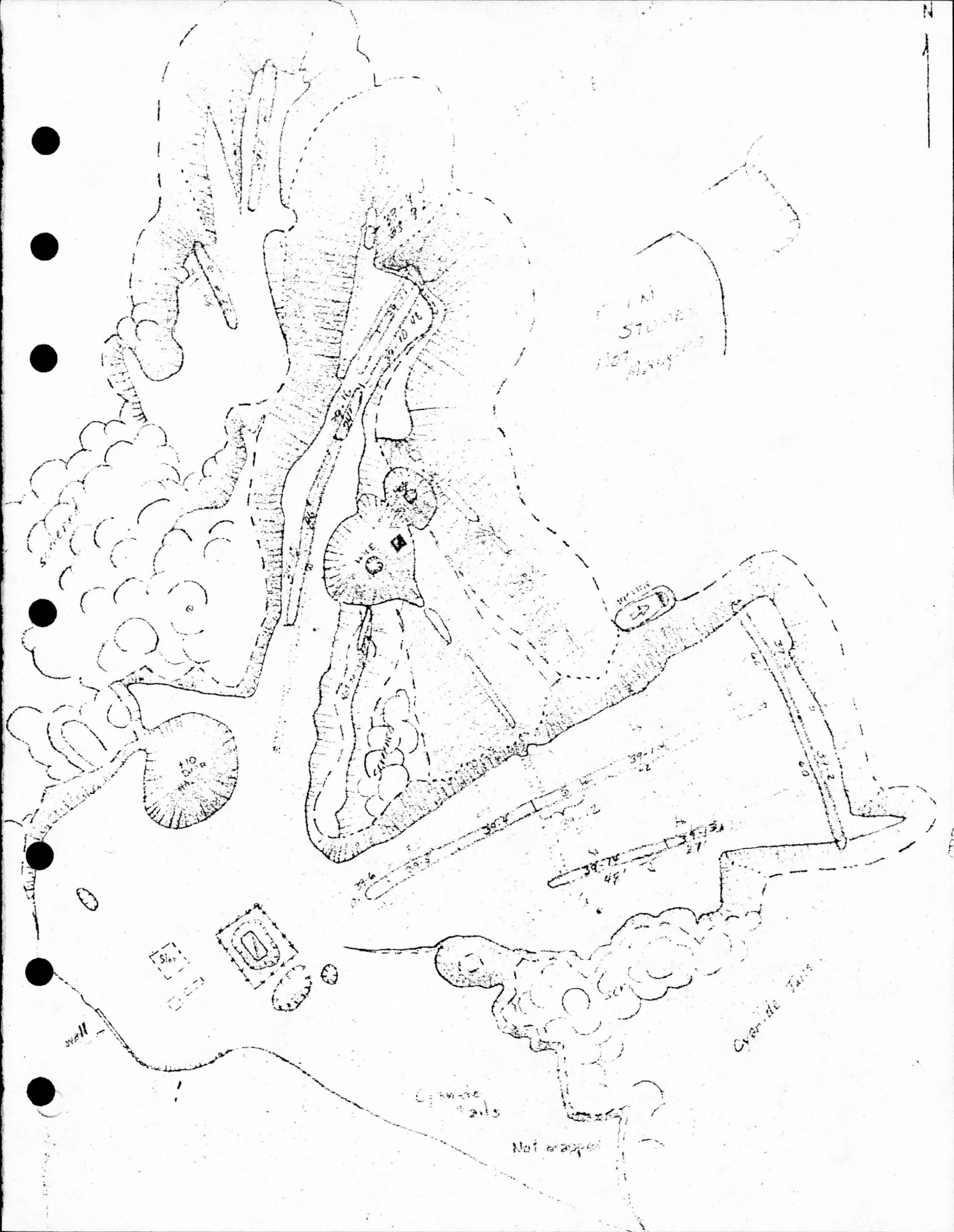
TOUGHNUT

— 10,000 Ingot —
$ 14 :

700




OPEN
STONES
NOT
MAPPED
screened
HOLE
HOLE
+10
Deep
HOLE
Slab
wall
Granite tails
Not mapped
Granite tails


Cyanide Tails
Not capped

DATE 10-29-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons for 39-1 39-12, 13 & 14	Au/Oz/+	Ag/Oz/Ton
39-1	Toughnut ~~Lucky Boss~~		6500 ~~2700~~	.0495	5.90
		-3/4		0.058	6.89

Recalculate Samples
39-1 39-12
39-14 & 39-13
Total tonnage = 6500 Tons

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au Wt. Ag	Ag Wt. Ag
+1½"	65.5	10		.010	2.04	.001	.2040
-1½" + 1"	34.8	5	12	.010	1.38	.0005	.0690
-1" - 3/4"	42.6	7		.025	3.26	.0018	.2282
-3/4" + 1/2"	60.3	12 / 9		.001	2.22	.0001	[illegible]
-1/2" + 1/4"	110.3	23 / 18		.015	4.38	.0027	[illegible]
-1/4"	316.8	65 / 51		.085	8.64	.0434	[illegible]
Totals	630.3	487.4 / 100				.0495	[illegible]
				.058	6.889		

DATE 10-29-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.
- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-2			3000	.018	1.85
		-3/4		.019	2.132

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	Au Wt. Avg	Ag Wt. Avg
+1½"	95.3	14		.015	.84	.0021	.117
-1½" + 1"	27.7	4	25	.010	1.44	.0008	.0576
-1" + 3/4"	47.5	7		.010	1.02	.0007	.0714
-3/4" + 1/2"	65.8	13/10		.010	.001 .881 1.06	.001	.1060
-1/2" + 1/4"	121.7	26/19		.010	.003 .286 1.10	.0007	.2090
-1/4"	295.1	61/46		.025	.05 1.708 2.80	.0015	1.2880
Totals	653.1 484.6	100/100.0			.019 2.132	.0180	1.8476

DATE 10-29-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39.3			3000	.015	1.36
		-3/4		.015	1.46

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton			Au wt. x .13	Ag wt. Ag
+1½"	63.5	11		.020			1.52	.0022	.1672
-1½" + 1"	37.0	7		.010			.74	.0007	.0518
-1" + 3/4"	39.6	8		>.005			.78	✓	.0624
-3/4" + 1/2"	49.5	12 / 9		<.005	✓	.144	1.20	.0005	.1050
-1/2" + 1/4"	95.5	24 / 18		.010	.002	.271	1.13	.0018	.2034
-1/4"	253.9	64 / 47		.020	.013	1.050	1.64	.0044	.7708
Totals	541.0 398.9	100 / 100.0			.015	1.465		.0146	1.36

DATE 11-12-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-4			1600	-0-	1.36
			-3/4	-0-	0.997

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton	
+1½"	109.3	19	36	~.005	1.96	7.84
-1½" + 1"	47.3	9		.005	2.38	10.02
-1" + 3/4"	45.3	8		.010	1.75	8.00
-3/4" + 1/2"	64.2	17 11		-.005	1.13	4.52
-1/2" + 1/4"	98.5	27 17		-0.005	0.96	3.84
-1/4" + 1/8"	78.0	56 14 34		-.005	0.79	3.66
-1/8"	126.4	22		.010	1.09	5.36
Totals	569.0	100 100.0		.003	1.36	

DATE 11-12-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-5			~~1000~~ 1500	-0-	1.306
		-3/4		-0-	1.386

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	65.7	16		.005	1.09 4.36
-1½" + 1"	29.4	7		-.005	1.00 4.00
-1" + 3/4"	33.9	8		-.005	1.34 5.36
-3/4" + 1/2"	49.4	17 12		-.005	1.97 1.16 4.64
-1/2" + 1/4"	76.4	26 18		-.005	1.60 1.00 4.00
-1/4"	60.7	57 14 39		-.005	1.97 1.20 1.63 4.80
-½"	103.1	25		.010	1.87 8.48
Totals	418.6	289.6 100 100.0		.003	1.386 1.306

.104
.468
.036

DATE 11-15-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-6		9'	Not for tonnage		

Sack sample

Additional Sample Needed

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" - 3/4"					
-3/4" + 1/2"					
-1/2" + 1/4"					
-1/4"					
Totals	51.0	100.0		0.040	2.10

DATE 11-15-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-7			3500 ~~2505~~	0.017	2.69
		-3/4		0.024	3.177

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		
+1½"	86.5	13		~~0.005~~	1.14		
-1½" + 1"	41.2	7	29	<0.005	3.60		
-1" - 3/4"	56.9	9		0.005	0.36		
-3/4" + 1/2"	104.0	22 16		0.025	4.02	.006	.984
-1/2" + 1/4"	140.0	31 22		0.015	4.09	.005	1.268
-1/4" + 1/4	83.4	47 13		0.010	0.99	.013	1.025
- 1/4	135.0	20		0.040	2.95		
Totals	462.4 647.0	1010 100.0		0.017	2.69	0.024	3.177

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-8			2000	0.015	1.92
		+3/4		.019	2.166

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	60.1	10.0		0.005	0.94
-1½" + 1"	32.3	6.0	26	0.005	0.64
-1" - 3/4"	57.1	10.0		0.005	1.60
-3/4" + 1/2"	87.6	21 / 15.0		<0.005	1 / .164 / 0.78
-1/2" + 1/4"	144.3	34 / 25.0		0.010	.003 / .207 / 0.61
-1/4"	192.6	45 / 34.0		0.035	.016 / 1.795 / 3.99
Totals	574.0 / 424.5	100.0			.019 / 2.166

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-9-L			Not for Tons calc.		

Spot Sample

Lower "old" dump.

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" - 3/4"					
-3/4" + 1/2"					
-1/2" + 1/4"					
-1/4"					
Totals	23.5	100.0		0.010	0.63

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-9-U			Not for Tons Calc		

Spot Sample

Upper "Ven" Dump

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"					
-1½" + 1"					
-1" - 3/4"					
-3/4" + 1/2"					
-1/2" + 1/4"					
-1/4"					
Totals	31.8	100.0		<0.005	0.01

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-10			500	0.006	0.94
		-3/4		1.014	2.00

Sample from "New" Dump covering old dump

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	68.0	34.0		<0.005	0.14
-1½" + 1"	14.6	8.0	51	0.005	0.20
-1" - 3/4"	15.6	9.0		<0.005	0.01
-3/4" + 1/2"	18.3	18 / 10.0		<0.005	✓ .022 0.12
-1/2" + 1/4"	27.9	27 / 15.0		<0.005	✓ .032 0.12
-1/4"	55.7	55 / 24.0		0.025	.014 1.947 3.54
Totals	200.1 +01.9	100 / 100.0			.014 2.001

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-11			5000	0.009	1.13
		-3/4		0.011	1.29

Sample from "old" dump
Material from 39-10 & 39-11 will have to be mixed

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	34.7	10.0		<0.005	0.46
-1½" + 1"	13.4	4.0		<0.005	0.65
-1" - 3/4"	17.5	6.0		<0.005	0.45
-3/4" + 1/2"	22.0	19 / 8.0		<0.005	.026 0.26
-1/2" + 1/4"	53.8	21 / 17.0		0.005	.011 .088 0.42
-1/4"	179.3	69 / 55.0		0.015	.010 1.17 1.70
Totals	325.7 ~~260.1~~	100 / 100.0		0.009	.011 1.29 1.13

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-12			See 39-1	0.015	1.38
		-3/4		0.023	1.324

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	22.0	36.0		0.005	1.42
-1½" + 1"	3.4	6.0	41	0.005	1.13
-1" - 3/4"	3.1	5.0		<0.005	0.48
-3/4" + 1/2"	5.1	16 / 8.0		0.025	.001 / .123 / 0.77
-1/2" + 1/4"	7.5	23 / 12.0		0.005	.001 / .281 / 1.22
-1/4"	20.0	61 / 33.0		0.030	.018 / 1.043 / 1.71
Totals	61.1 / 32.6	100 / 100.0			.023 / 1.324

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-13			See 39-1	0.022	1.93
		-3/4		0.030	2.421

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton		
+1½"	45.6	22.0		.010	1.07		
-1½" + 1"	13.3	6.0	36	.005	1.19		
-1" - 3/4"	17.2	8.0		.005	1.07		
-3/4" + 1/2"	19.6	15 10.0		.020	1.27	.003	.191
-1/2" + 1/4"	32.8	25 16.0		.025	1.24	.006	.310
-1/4"	77.6	60 38.0		.035	3.20	.021	1.920
Totals	206.1 130.0	100 100.0				.030	2.421

DATE 11-19-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-14			See 39-1	.002	0.26
		-3/4		.006	0.374

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	270.8	41.0		<0.005	0.20
-1½" + 1"	51.5	9.0	58	<0.005	<0.01
-1" + 3/4"	51.0	8.0		<0.005	0.16
-3/4" + 1/2"	67.7	24/10.0		0.010	.002 .022 0.09
-1/2" + 1/4"	67.6	24/10.0		<0.005	.001 .041 0.17
-1/4"	141.3	51/22.0		0.005	.003 .311 0.61
Totals	649.9 (276.6)	98/100.0			.006 .374

DATE 11-20-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-15			Waste	<0.005	0.62
		-3/4		-0-	0.58

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	212.2	30		<0.005	0.86
-1½" + 1"	53.4	7		"	0.30
-1" + 3/4"	52.2	7		"	0.18
-3/4" + 1/2"	67.7	~~17~~ 9		"	-.06 0.36
-1/2" + 1/4"	109.5	~~27~~ 15		"	-.049 0.18
-1/4"	231.6	~~56~~ 32		"	-.470 0.84
Totals	~~408.8~~ 726.6	~~100~~ 100.0			-.580

DATE 11-20-73

SCREEN ANALYSIS

- Take samples collected from the two parallel trenches and combine.

- Screen through the five listed screen sizes and report information as follows:

Sample No.	Dump Description or Number	Measurement of Sampled Area	Tons	Au/Oz/+	Ag/Oz/Ton
39-16			Waste	<0.005	0.43
		-3/4		-	.37

	Wt.	Percent Wt.	Tons	Au/Oz/+	Ag/Oz/Ton
+1½"	111.6	70.0		<0.005	0.50
-1½" + 1"	7.2	4.5		"	0.04
-1" - 3/4"	7.4	4.5		"	0.06
-3/4" + 1/2"	8.2	24 / 5.0		"	0.54 .130
-1/2" + 1/4"	10.9	31 / 7.0		"	0.28 .097
-1/4"	15.5	45 / 9.5		"	0.34 .153
Totals	34.6 / 160.8	100 / 100.0			.370