Crush Size Column
Data (STH)

TO

FROM

DATE

SUBJECT: 5TH Crush Size Column Data

Column ID	% Au Ext	start → mid → end pH Range	NaCN Consump
-1/2"; 2 lb/T CaO	51.8	6.3 → 9.2 → 9.0	
~~1/2~~			
-1/2"; 4 lb/T CaO	50.1	6.3 → 10.0 → 9.4	
~~3/8~~ -3/8"; 4 lb/T CaO	53.3	6.5 → 9.4 → 9.1	
-1"; 4 lb/T CaO	47.7	6.6 → 10.0 → 9.4	

-1/4" .287 lb NaCN/.0690T

4.2 #/T

240	COL A 51.8% Au Ext		Tail milliog	Sol'n milliog	Calc milliog	Calc Head	
milliog in	Tail	240/2 * .0256 =	3.072 +	3.3034 =	6.3754	.0531	
248	B 50.1	248/2 x .0269 =	3.3356 +	3.3480 =	6.6836	.0539	
238	C 47.7	238/2 x .0276 =	3.2844 +	3.0011 =	6.2855	.0528	
235	D 53.3	235/2 x .0256 =	3.008 +	3.4302 =	6.4382	.0548	
-1/4"	54.8	.0704 T 2232 .0247 =	~~1.8002~~ 1.739 +	2.1065 =	3.8455	.0546	
	% Ext	Calc Head	528% 1344	2.0292			
-1/2"	A	51.8%	pH 6.28 → 9.2 → 9.0				
	1344 hr						
-1/2"	B	50.1%	pH 6.30 0.5 → 10.0	→ 9.4			
				→			
-1"	C	47.7%	pH 6.50 1 → 9.4	→ 9.10			
-3/8"	D	53.3	pH 6.62 0.375 → 10.0	→ 9.4			
-1/4"							
	2232 hr						

240 lb COL A -1/2" 2#/T Ca; 150#/T LS

		Au	Ag
milling	Fire	10.61	30.00
	AA	6.46	19.82
milling	Soln	3.3034	13.8542

	Au	Ag
Head F	.0884	.250
AA	.0538	.1652

235 lb COL D -3/8" 4#/T Ca; 150#/T LS

10.39	29.38
6.32	19.41
3.4302	14.5022

248 lb COL B -1/2"; 4#/T CaO; 150#/T LS

Au		Ag	
10.96	.0884	31.00	.250
6.67	.0538	20.48	.1652

3.3480	13.6478

238 lb COL C -1"; 4#/T CaO; 150#/T LS

10.52	6.40
29.75	19.66
3.0011	13.5782

Crush size Columns Tails

BROOK MINING CORPORATION
GILT EDGE MINE
ASSAY REPORT

SHEET NO.: 1

DATE: 5/25/94

	SAMPLE #	INQUART	PULP WT.	BORE WT. (mg)	AU WT. (mg)	AU OZ/TON	AU OZ/TON	REMARKS
1	Col. A AB 1	2.5	29.17	2.25	.025			
2	2			2.22	.023	.0260		
3	3			2.50	.029			
4	4			2.52	.027			
5	5			—	—			Lost bead
6	Col. A CD 1			—	—	.0256		Lost bead
7	2			2.48	.026	.0252		
8	3			2.54	.025			
9	4			2.50	.024			
10	5			2.49	.026			
11	Blank		—	2.36	—			
12	Col B AB 1		29.17	2.46	.023			
13	2			2.62	.026	.0256		
14	3			2.48	.027			
15	4			2.54	.027			
16	5			2.52	.025			
17	Col B CD 1			2.54	.026	.0269		
18	2			2.55	.025			
19	3			2.46	.027	.0282		
20	4			2.48	.028			
21	5			2.42	.035			
22								
23								
24								

Column Crush size tails

[illegible] CORPORATION
[illegible]
[illegible] REPORT

SHEET NO.: 1

DATE: 6/23/94

	SAMPLE #	[illegible]	PULP WT.	[illegible] WT. (kg)	[illegible] WT. kg/t	[illegible] OZ/TON	[illegible] OZ/TON	REMARKS
1	Col C AB 1	2.5	29.17	1.70	.033			
2	2			2.14	.025			
3	3			2.48	.026	.0276		
4	4			2.47	.026			
5	5			2.45	.028			
6	Col C CD 1			2.30	.027	.0276		
7	2			2.52	.026			
8	3			2.47	.031	.0275		
9	4			2.53	.026			
10	5			2.58	.056			
11	Blank		—	2.35	—			
12	Col D AB 1		29.17	2.44	.025			
13	2			2.48	.025			
14	3			2.53	.026	.0252		
15	4			2.52	.030			
16	5			1.88	.020			
17	Col D CD 1			2.52	.026	.0256		
18	2			2.52	.026			
19	3			2.41	.026	.0260		
20	4			2.54	.027			
21	5			2.54	.025			
22								
23								
24								

MEMORANDUM

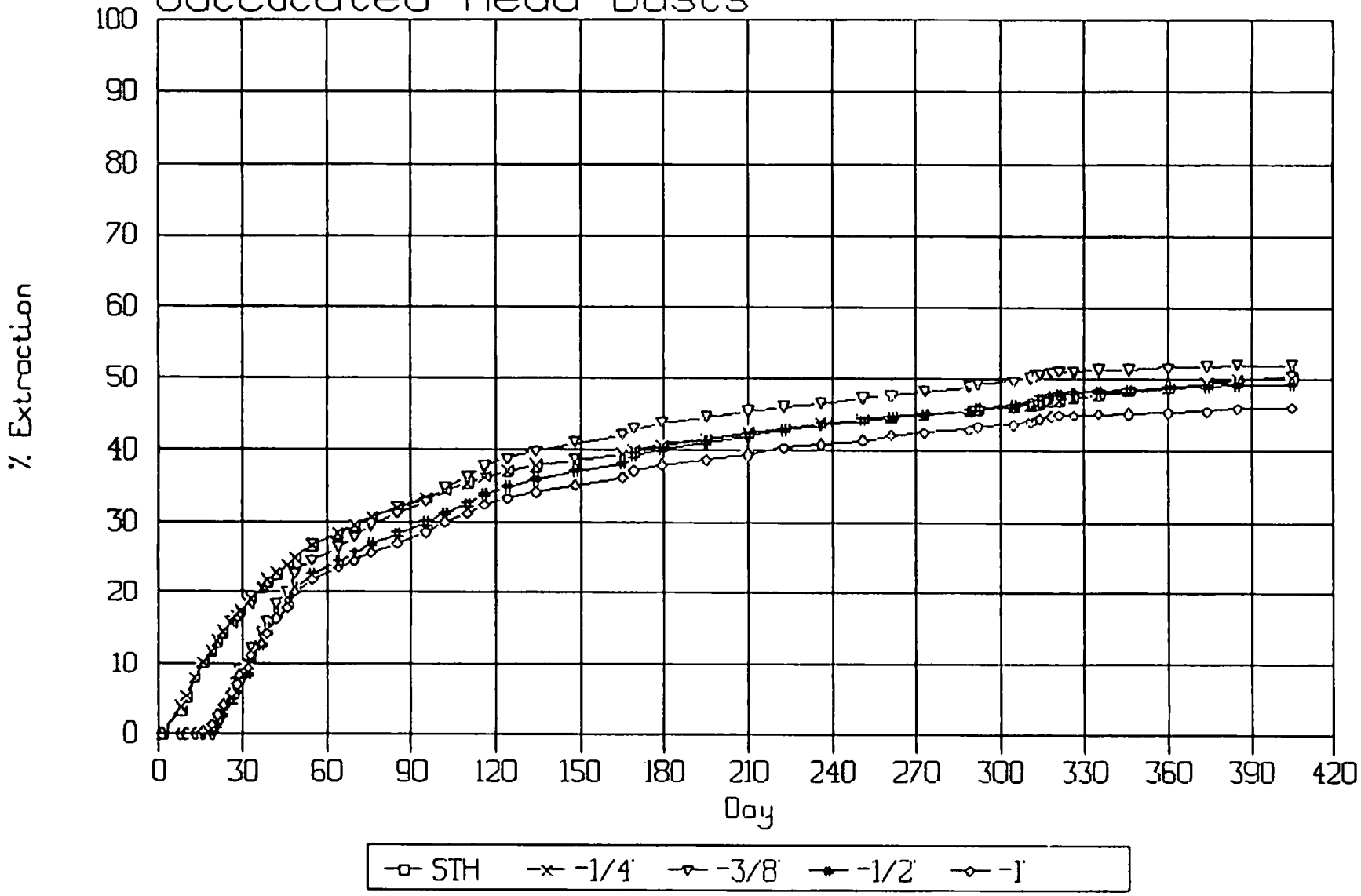
DATE: DECEMBER 16, 1994
TO: JIM THOMPSON
FROM: LAURA DAMON
SUBJECT: SULFIDE TEST HEAP ORE CRUSH SIZE GOLD EXTRACTION

Attached is the information you requested on the gold extraction percentages for various crush sizes of the sulfide test heap ore. A minus 1/4" ore column was run in parallel with the sulfide test heap. Size fraction columns of ore (-1", -1/2" and -3/8"), were run about one year after the -1/4" column. The sulfide test heap and the -1/4" column ore was agglomerated with 1 lb/ton NaCN solution which explains the elevated gold extraction in the first 30-60 days on leach. The size fraction column ore was not agglomerated.

The column data are actual percentages which were correlated to the sulfide test heap days via the -1/4" column. Percent gold extractions for the -1/4" column were matched to the the sulfide test heap gold extactions and assigned the corresponding day. The size fraction columns, which were leached on the same hour time line as the -1/4" column, were in turn assigned the corresponding day for each percent gold extraction.

The size fraction column ore sat in barrels for over a year before being tested. Although every available precaution was taken to avoid oxidation of the archived ore, the ore may have oxidized in the barrels somewhat as it sat. This could explain the slightly higher gold extraction percentage on the -3/8" ore and the very similar gold extraction percentage on the -1/2" ore in comparison to the -1/4" ore. Therefore the gold extraction percentages for the -1", -1/2" and -3/8" size fractions may be elevated somewhat as compared to what may be seen in the field.

SULFIDE TEST HEAP CRUSH SIZE COMPARISON
PERCENT AU EXTRACTION
Calculated Head Basis



(12/16/94)

Gold Extraction Percentage Comparison
Sulfide Test Heap Ore
Size Fraction Columns

Hour	-1"	-1/2"	-3/8"	-1/4"	STH	Day
0	.0	.0	.0	.0	.0	1
4	.0	.0	.0	3.8	3.3	8
8	.0	.0	.0	5.4	5.2	10
12	.0	.0	.0	7.9	7.9	13
16	.4	.0	.0	10.1	10.0	16
20	1.4	.0	.0	11.9	11.8	19
24	2.8	1.1	1.1	13.3	13.0	21
28	4.2	2.6	3.3	14.6	14.3	23
32	5.8	4.6	5.8	15.7	15.9	26
36	6.9	5.8	7.2	16.8	16.8	28
40	8.4	7.5	9.0	17.6	17.3	29
44	9.3	8.4	10.0	18.4	18.6	32
48	11.2	10.7	12.2	19.1	19.0	33
56	12.9	12.7	14.2	20.6	20.8	37
64	14.3	14.4	15.8	21.8	21.6	39
72	16.3	16.7	18.4	22.8	22.7	42
84	17.8	18.3	20.1	24.0	24.0	46
96	20.1	20.7	22.7	25.0	25.0	49
120	21.9	22.6	24.6	26.7	26.7	55
144	23.4	24.4	26.4	28.3	28.2	64
168	24.5	25.6	27.8	29.5	29.5	70
192	25.8	27.0	29.4	30.6	30.6	76
216	27.0	28.3	31.2	32.0	32.0	85
240	28.5	29.9	32.9	33.4	33.5	95
264	30.0	31.3	34.8	34.5	34.5	102
288	31.2	32.6	36.4	35.5	35.5	110
312	32.5	33.9	37.7	36.3	36.4	116
336	33.3	35.1	38.8	37.2	37.2	124
360	34.3	36.0	39.9	37.9	37.9	134
384	35.3	37.2	41.0	38.5	38.6	148
408	36.3	38.2	42.1	39.4	39.4	165
432	37.2	39.2	42.9	39.9	39.9	169
456	38.0	40.2	43.8	40.7	40.7	179
480	38.8	41.1	44.6	41.5	41.5	195
504	39.4	42.0	45.3	42.4	42.4	210
528	40.3	42.8	46.0	43.1	43.1	223
552	40.9	43.5	46.5	43.7	43.8	236
576	41.4	44.1	47.2	44.3	44.3	251
600	42.1	44.6	47.6	44.7	44.7	261
624	42.4	45.0	48.2	45.0	45.0	273
648	42.9	45.5	48.8	45.4	45.4	289
672	43.3	45.9	49.3	45.6	45.6	292
696	43.7	46.3	49.6	46.1	46.1	305
720	43.9	46.7	50.0	46.3	46.3	311
744	44.4	47.1	50.4	46.5	46.4	313
768	44.5	47.3	50.6	46.6	46.5	314
792	44.8	47.7	50.9	46.8	46.7	318
816	45.0	47.9	51.0	47.0	47.0	321
840	45.0	48.1	51.1	47.3	47.3	326
864	45.1	48.3	51.3	47.7	47.8	335
888	45.1	48.5	51.3	48.2	48.2	346
912	45.3	48.8	51.6	48.8	48.8	360
936	45.4	48.9	51.8	49.3	49.3	374
960	45.8	49.1	52.0	49.8	49.8	385
984	46.0	49.2	52.0	50.3	50.3	405

SULFIDE SIZE FRACTION DATA
CRUSH SIZE COMPARISON

MINUS 1"

Size	% Retained	% Passing	Degestion
1"	0.9%	99.1%	6.7%
3/4"	7.9%	91.2%	17.2%
1/2"	18.9%	72.3%	23.6%
3/8"	10.3%	62.0%	10.4%
1/4"	13.5%	48.5%	10.1%
-1/4"	48.5%		32.1%

MINUS 1/2"

Size	% Retained	% Passing
1"	0.0%	100.0%
3/4"	0.0%	100.0%
1/2"	2.1%	97.9%
3/8"	8.0%	89.9%
1/4"	21.7%	68.2%
-1/4"	68.2%	

MINUS 3/8"

Size	% Retained	% Passing	
1"	0.0%	100.0%	
3/4"	0.0%	100.0%	
1/2"	0.9%	99.1%	
3/8"	3.0%	96.1%	15.0%
1/4"	11.7%	84.4%	31.2%
-1/4"	84.4%		53.8%

SULFIDE SIZE FRACTION DATA
CRUSH SIZE COMPARISON

MINUS 1"		MINUS 1/2"		MINUS 3/8"	
Size	% Retained	Size	% Retained	Size	% Retained
1"	0.9%	1"	0.0%	1"	0.0%
3/4"	7.9%	3/4"	0.0%	3/4"	0.0%
1/2"	18.9%	1/2"	2.1%	1/2"	.9%
3/8"	10.3%	3/8"	8.0%	3/8"	3.0%
1/4"	13.5%	1/4"	21.7%	1/4"	11.7%
-1/4"	48.5%	-1/4"	68.2%	-1/4"	84.4%

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/15/93 Day 1

Column I.D. COLUMN A - BLUE Start 11/15/93 7AM

Time	7AM	11AM	3PM	7PM	11PM	-	3AM
Au oz/ton							.0033
Ag oz/ton							.0007
pH							6.28
NaCN lb/ton							ND
Effluent + Tare (grams)							2345
Tare Weight (grams)							438
Effluent Weight (grams)							
Cu (ppm)							16
					DO		4.30

Column I.D. COLUMN B - RED

Time	7AM	11AM	3PM	7PM	11PM	-	3AM
Au oz/ton							.0445
Ag oz/ton							.0342
pH							6.30
NaCN lb/ton							ND
Effluent + Tare (grams)							865
Tare Weight (grams)							442
Effluent Weight (grams)							
Cu (ppm)							170
					DO		4.39

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/15/93 Day 1

Start 11/15/93 7AM

Column I.D. COLUMN C - GRAY

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton					.0191	.0268
Ag oz/ton					.0020	.0354
pH					6.48	6.50
NaCN lb/ton					ND	ND
Effluent + Tare (grams)					1669	2890
Tare Weight (grams)					443	443
Effluent Weight (grams)						
Cu (ppm)					89	193
					DO	4.71

Column I.D. COLUMN D - BLACK

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton						
Ag oz/ton						
pH						
NaCN lb/ton						
Effluent + Tare (grams)						
Tare Weight (grams)						
Effluent Weight (grams)						
Cu (ppm)						
					DO	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/15/93 Day 1

BARREN SOLN Au .0026 Ag .0011 pH/~~emf~~ 9.56

Cu 784 NaCN 1.20% DO 6.78 ml/min A _____

ml/min B _____

ml/min C _____

ml/min D _____

≈ 10.5 ml/min

REMARKS

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/16/93 Day 2

Column I.D. COLUMN A - BLUE

Time	7AM	11AM	3PM	7PM	11PM	3AM
Au oz/ton	.0181	.0309	.0365	.0347	.0342	.0304
Ag oz/ton	.0069	.0478	.0891	.0973	.0976	.0937
pH	6.50	—	—	—	—	6.76
NaCN lb/ton	ND	—	—	—	—	ND
Effluent + Tare (grams)	2935	2913	3596	2582	3598	2307
Tare Weight (grams)	438		438	439	439	438
Effluent Weight (grams)						
Cu (ppm)	92	253	459	656	792	897
					DO	4.38

Column I.D. COLUMN B - RED

Time	7AM	11AM	3PM	7PM	11PM	3AM
Au oz/ton	.0356	.0440	.0423	.0356	.0304	.0281
Ag oz/ton	.0428	.0633	.0690	.0669	.0674	.0670
pH	6.67	—	—	—	—	7.13
NaCN lb/ton	ND	—	—	—	—	ND
Effluent + Tare (grams)	2706	2734	3412	2395	3381	2205
Tare Weight (grams)	436	438	440	443	443	442
Effluent Weight (grams)						
Cu (ppm)	246	464	654	783	870	938
					DO	4.81

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/16/93 Day 2

Column I.D. COLUMN C - GRAY

Time	7AM	11AM	3PM	7PM	11PM	3AM
Au oz/ton	.0318	.0323	.0316	.0294	.0292	.0273
Ag oz/ton	.0832	.1090	.1173	.1208	.1241	.1228
pH	6.53	—	—	—	—	6.81
NaCN lb/ton	ND	—	—	—	—	ND
Effluent + Tare (grams)	2895	2918	3434	2470	3418	2300
Tare Weight (grams)	442	443	443	443	443	443
Effluent Weight (grams)	—	—	—	—	—	—
Cu (ppm)	383	561	716	835	934	1006
					DO	4.45

Column I.D. COLUMN D - BLACK

Time	7AM	11AM	3PM	7PM	11PM	3AM
Au oz/ton	.0363	.0538	.0483	.0429	.0329	.0340
Ag oz/ton	.0203	.0619	.0640	.0524	.0457	.0449
pH	6.62	—	—	—	—	7.10
NaCN lb/ton	ND	—	—	—	—	ND
Effluent + Tare (grams)	2291	2817	3378	2435	3216	2191
Tare Weight (grams)	443	443	443	443	444	442
Effluent Weight (grams)	—	—	—	—	—	—
Cu (ppm)	127	401	658	803	892	958
					DO	4.56

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/14/93 Day 2

BARREN SOLN Au ND Ag .0008 pH/~~emf~~ 9.45

Cu 776 NaCN 1.18#/T DO 6.62 ml/min A _____

ml/min B _____ x 10.5 ml/min

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/17/93 Day 3

Column I.D. COLUMN A - BLUE

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton	.0303		.0257		.0218	
Ag oz/ton	.0882		.0825		.0726	
pH	6.84		—		6.96	
NaCN lb/ton	—		—		ND	
Effluent + Tare (grams)	5394		5670		5573	
Tare Weight (grams)	438	438	438		439	
Effluent Weight (grams)						
Cu (ppm)	1023		1135		1209	
					3.83 DO	

Column I.D. COLUMN B - RED

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton	.0274		.0234		.0203	
Ag oz/ton	.0640		.0591		.0545	
pH	7.33		—		7.31	
NaCN lb/ton	.05#/T		.10#/T		.19#/T	
Effluent + Tare (grams)	5162		5158		5134	
Tare Weight (grams)	443		440		443	
Effluent Weight (grams)						
Cu (ppm)	1001		1039		1044	
					4.45 DO	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/17/93 Day 3

Column I.D. COLUMN C - GRAY

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton	.0232		.0201		.0172	
Ag oz/ton	.1139		.0978		.0803	
pH	6.82		—		6.92	
NaCN lb/ton	—		—		.05#/t	
Effluent + Tare (grams)						
Tare Weight (grams)	5349		5387		5317	
Effluent Weight (grams)	443		443		443	
Cu (ppm)	1076		1120		1100	
					4.28 DO	

Column I.D. COLUMN D - BLACK

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton	.0280		.0249		.0214	
Ag oz/ton	.0418		.0405		.0385	
pH	7.25		—		7.28	
NaCN lb/ton	—		—		.06#/t	
Effluent + Tare (grams)	5166		5184		5121	
Tare Weight (grams)	443		443		444	
Effluent Weight (grams)						
Cu (ppm)	1022		1090		1110	
					4.39 DO	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/17/93 Day 3

BARREN SOLN Au .0009 Ag .0009 pH/~~emf~~ 9.47

Cu 765 NaCN 1.19 #/T DO 6.41 ml/min A _____

ml/min B _____

ml/min C _____

ml/min D _____

adj. A & C ≈ 10.5 ml/min

REMARKS

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/18/93 Day 4

Column I.D. COLUMN A - BLUE

Time	7AM	11AM	3PM	7PM	11PM	-	3AM
Au oz/ton	.0194			.0142			
Ag oz/ton	.0657			.0532			
pH	7.07			7.07			
NaCN lb/ton	ND			.06#/T			
Effluent + Tare (grams)	8221			6937			
Tare Weight (grams)	438			439			
Effluent Weight (grams)							
Cu (ppm)	1340			1200			
				4.41	DO		

Column I.D. COLUMN B - RED

Time	7AM	11AM	3PM	7PM	11PM	-	3AM
Au oz/ton	.0186			.0169			
Ag oz/ton	.0489			.0442			
pH	7.53			7.68			
NaCN lb/ton	.23#/T			.29#/T			
Effluent + Tare (grams)	8110			6942			
Tare Weight (grams)	436			443			
Effluent Weight (grams)							
Cu (ppm)	1070			1050			
				4.95	DO		

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/18/93 Day 4

Column I.D. COLUMN C - GRAY

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton	.0156			.0142		
Ag oz/ton	.0645			.0494		
pH	7.05			7.06		
NaCN lb/ton	.15#/t			.21#/t		
Effluent + Tare (grams)	8227			7137		
Tare Weight (grams)	442			443		
Effluent Weight (grams)						
Cu (ppm)	1090			1040		
				4.95		
					DO	

Column I.D. COLUMN D - BLACK

Time	7AM	11AM	3PM	7PM	11PM -	3AM
Au oz/ton	.0196			.0171		
Ag oz/ton	.0386			.0391		
pH	7.48			7.65		
NaCN lb/ton	.16#/t			.27#/t		
Effluent + Tare (grams)	8398			6768		
Tare Weight (grams)	443			443		
Effluent Weight (grams)						
Cu (ppm)	1100			1060		
				4.93		
					DO	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/18/93 Day 4

BARREN SOLN	Au	.0008	Ag	.0002	pH/~~emf~~	9.56
Cu 765	NaCN	1.17 #/T	DO	6.25	ml/min A	
					ml/min B	
					ml/min C	
					ml/min D	

REMARKS

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/19/93 Day 5

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0110	Au oz/ton	.0115
Ag oz/ton	.0438	Ag oz/ton	.0414
pH	7.33	pH	7.98
NaCN lb/ton	.28#/T	NaCN lb/ton	.39#/T
TOTAL Effluent + Tare (grams)	14K 750 GRAM	Effluent + Tare (grams)	15K 341 GRAM
Tare Weight (grams)	1883 g	Tare Weight (grams)	1897 G
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	872	Cu (ppm)	890

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0105	Au oz/ton	.0121
Ag oz/ton	.0412	Ag oz/ton	.0422
pH	7.29	pH	7.92
NaCN lb/ton	.32#/T	NaCN lb/ton	.40#/T
Effluent + Tare (grams)	14K 856 GRAM	Effluent + Tare (grams)	15K 360 GRAM
Tare Weight (grams)	1811 g	Tare Weight (grams)	1948 g
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	846	Cu (ppm)	888

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/20/93 Day 6

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0088	Au oz/ton	.0087
Ag oz/ton	.0371	Ag oz/ton	.0352
pH	7.34	pH	8.14
NaCN lb/ton	.38#/T	NaCN lb/ton	.53#/T
Effluent + Tare (grams)	16462	Effluent + Tare (grams)	16124
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	913	Cu (ppm)	927

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0079	Au oz/ton	.0085
Ag oz/ton	.0292	Ag oz/ton	.329
pH	7.40	pH	8.16
NaCN lb/ton	.46#/T	NaCN lb/ton	.50#/T
Effluent + Tare (grams)	16352	Effluent + Tare (grams)	16220
Tare Weight (grams)	1795g	Tare Weight (grams)	1946g
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	871	Cu (ppm)	917

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/21/93 Day 7

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0083	Au oz/ton	.0080
Ag oz/ton	.0306	Ag oz/ton	.0295
pH	7.41	pH	8.27
NaCN lb/ton	.47#/T	NaCN lb/ton	.59#/T
Effluent + Tare (grams)	16180	Effluent + Tare (grams)	16213
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	1028	Cu (ppm)	988

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0069	Au oz/ton	.0079
Ag oz/ton	.0261	Ag oz/ton	.0324
pH	7.46	pH	8.35
NaCN lb/ton	.47#/T	NaCN lb/ton	.58#/T
Effluent + Tare (grams)	16478	Effluent + Tare (grams)	16222
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	954	Cu (ppm)	984

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/21/93 Day 7

BARREN SOLN Au .0008 Ag .0009 pH/~~emf~~ 9.47

Cu 765 NaCN 1.19 #/t DO — ml/min A

ml/min B

REMARKS

ml/min C

ml/min D

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/22/92 Day 8

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0065	Au oz/ton	.0071
Ag oz/ton	.0262	Ag oz/ton	.0292
pH	7.53	pH	8.46
NaCN lb/ton	.44#/T	NaCN lb/ton	.56#/T
Effluent + Tare (grams)	15904	Effluent + Tare (grams)	16144
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	871	Cu (ppm)	885
DO	6.54	DO	6.47

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0060	Au oz/ton	.0076
Ag oz/ton	.0253	Ag oz/ton	.0325
pH	7.65	pH	8.57
NaCN lb/ton	.44#/T	NaCN lb/ton	.55#/T
Effluent + Tare (grams)	16314	Effluent + Tare (grams)	16176
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	847	Cu (ppm)	883
DO	6.55	DO	6.34

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/22/93 Day 8

BARREN SOLN Au .0017 Ag .0009 pH/~~emf~~ 9.51

Cu 785 NaCN 1.20#/T DO 6.43 ml/min A

ml/min B

REMARKS

ml/min C

ml/min D

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/23/93 Day 9

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0065	Au oz/ton	.0072
Ag oz/ton	.0252	Ag oz/ton	.0314
pH	7.61	pH	8.59
NaCN lb/ton	.51#/T	NaCN lb/ton	.55#/T
Effluent + Tare (grams)	15899	Effluent + Tare (grams)	16224
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	844	Cu (ppm)	857

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0060	Au oz/ton	.0078
Ag oz/ton	.0240	Ag oz/ton	.0330
pH	7.69	pH	8.77
NaCN lb/ton	.50#/T	NaCN lb/ton	.55#/T
Effluent + Tare (grams)	15807	Effluent + Tare (grams)	16121
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	830	Cu (ppm)	849

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/23/93 Day 9

BARREN SOLN Au .0010 Ag .0010 pH/~~emf~~ 9.54

Cu 261 NaCN 1.16#/t DO — ml/min A

ml/min B

REMARKS

ml/min C

ml/min D

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11-24-93 Day 10

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0058	Au oz/ton	.0058
Ag oz/ton	.0248	Ag oz/ton	.0321
pH	7.74	pH	8.76
NaCN lb/ton	.48#/T	NaCN lb/ton	.55#/T
Effluent + Tare (grams)	1843g	Effluent + Tare (grams)	1842g
Tare Weight (grams)	15,830	Tare Weight (grams)	15,929
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	830	Cu (ppm)	824

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0056	Au oz/ton	.0076
Ag oz/ton	.0225	Ag oz/ton	.0327
pH	7.93	pH	8.95
NaCN lb/ton	.51#/T	NaCN lb/ton	.49#/T
Effluent + Tare (grams)	1795g	Effluent + Tare (grams)	1946g
Tare Weight (grams)	15645	Tare Weight (grams)	16,050
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	794	Cu (ppm)	822

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/25/93 Day 11

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0066	Au oz/ton	.0069
Ag oz/ton	.0264	Ag oz/ton	.0298
pH	7.80	pH	8.87
NaCN lb/ton	.50#/T	NaCN lb/ton	.52#/T
Effluent + Tare (grams)	1883g	Effluent + Tare (grams)	1897g
Tare Weight (grams)	16300	Tare Weight (grams)	16,095
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	794	Cu (ppm)	804

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0062	Au oz/ton	.0074
Ag oz/ton	.0209	Ag oz/ton	.0320
pH	7.94	pH	9.13
NaCN lb/ton	.55#/T	NaCN lb/ton	.52#/T
Effluent + Tare (grams)	1811g	Effluent + Tare (grams)	1948g
Tare Weight (grams)	15874	Tare Weight (grams)	16215
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	728	Cu (ppm)	785

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/26/93 Day 12

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0063	Au oz/ton	.0064
Ag oz/ton	.0247	Ag oz/ton	.0270
pH	7.87	pH	9.02
NaCN lb/ton	.50#/T	NaCN lb/ton	.58#/T
Effluent + Tare (grams)	1843g	Effluent + Tare (grams)	1842g
Tare Weight (grams)	14,042	Tare Weight (grams)	15,751
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	781	Cu (ppm)	799

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0067	Au oz/ton	.0085
Ag oz/ton	.0191	Ag oz/ton	.0306
pH	8.07	pH	9.26
NaCN lb/ton	.57#/T	NaCN lb/ton	.58#/T
Effluent + Tare (grams)	1795g	Effluent + Tare (grams)	1946g
Tare Weight (grams)	15.550	Tare Weight (grams)	15983
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	784	Cu (ppm)	783

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/27/93 Day 13

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0062	Au oz/ton	.0058
Ag oz/ton	.0225	Ag oz/ton	.0247
pH	7.90	pH	9.10
NaCN lb/ton	.60#/T	NaCN lb/ton	.50#/T
Effluent + Tare (grams)	1883g	Effluent + Tare (grams)	1897g
Tare Weight (grams)	16,290	Tare Weight (grams)	15,745
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	808	Cu (ppm)	795

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0053	Au oz/ton	.0067
Ag oz/ton	.0184	Ag oz/ton	.0290
pH	8.05	pH	9.36
NaCN lb/ton	.64#/T	NaCN lb/ton	.64#/T
Effluent + Tare (grams)	1811g	Effluent + Tare (grams)	1948g
Tare Weight (grams)	15,981	Tare Weight (grams)	16,344
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	786	Cu (ppm)	786

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/28/93 Day 14

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0051	Au oz/ton	.0064
Ag oz/ton	.0210	Ag oz/ton	.0233
pH	7.93	pH	9.12
NaCN lb/ton	.63#/T	NaCN lb/ton	.69#/T
Effluent + Tare (grams)	16972	Effluent + Tare (grams)	15608
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	779	Cu (ppm)	805

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0059	Au oz/ton	.0059
Ag oz/ton	.0173	Ag oz/ton	.0267
pH	8.13	pH	9.32
NaCN lb/ton	.60#/T	NaCN lb/ton	.68#/T
Effluent + Tare (grams)	14930	Effluent + Tare (grams)	15691
Tare Weight (grams)	1295	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	802	Cu (ppm)	804

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/28/93 Day 10-14

BARREN SOLN Au .0004 Ag .0022 pH/~~emf~~ 9.45

Cu 785 NaCN 1.17#/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/29/93 Day 15

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0050	Au oz/ton	.0058
Ag oz/ton	.0194	Ag oz/ton	.0218
pH	8.01	pH	9.20
NaCN lb/ton	.65#/T	NaCN lb/ton	.68#/T
Effluent + Tare (grams)	16194	Effluent + Tare (grams)	15555
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	790	Cu (ppm)	286

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0041	Au oz/ton	.0053
Ag oz/ton	.0162	Ag oz/ton	.0255
pH	8.19	pH	9.40
NaCN lb/ton	.67#/T	NaCN lb/ton	.71#/T
Effluent + Tare (grams)	15668	Effluent + Tare (grams)	15802
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	789	Cu (ppm)	788

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/29/93 Day 15

BARREN SOLN Au .0005 Ag .0010 pH/~~emf~~ 9.44

Cu 749 NaCN 1.16 #/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/30/93 Day 16

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0056	Au oz/ton	.0060
Ag oz/ton	.0183	Ag oz/ton	.0212
pH	8.12	pH	9.32
NaCN lb/ton	.65#/t	NaCN lb/ton	.72#/t
Effluent + Tare (grams)	15063	Effluent + Tare (grams)	16063
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	802	Cu (ppm)	809
DO	6.70	DO	6.59

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0057	Au oz/ton	.0061
Ag oz/ton	.0158	Ag oz/ton	.0244
pH	8.36	pH	9.51
NaCN lb/ton	.68#/t	NaCN lb/ton	.78#/t
Effluent + Tare (grams)	15920	Effluent + Tare (grams)	15745
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	793	Cu (ppm)	804
DO	6.87	DO	6.50

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 11/30/93 Day 16

BARREN SOLN Au .0017 Ag .0010 pH/emf 9.49

Cu 759 NaCN 1.16#/T DO 6.18 ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/1/93 Day 17

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0063	Au oz/ton	.0066
Ag oz/ton	.0200	Ag oz/ton	.0219
pH	8.20	pH	9.41
NaCN lb/ton	.69#/T	NaCN lb/ton	.75#/T
Effluent + Tare (grams)	17008	Effluent + Tare (grams)	16137
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	805	Cu (ppm)	813

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0056	Au oz/ton	.0067
Ag oz/ton	.0166	Ag oz/ton	.0252
pH	8.45	pH	9.60
NaCN lb/ton	.69#/T	NaCN lb/ton	.80#/T
Effluent + Tare (grams)	15930	Effluent + Tare (grams)	15740
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	805	Cu (ppm)	807

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/1/93 Day 17

BARREN SOLN Au .0017 Ag .0011 pH/~~emf~~ 9.46

Cu 266 NaCN 1.17#/t DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/2/93 Day 18

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0052	Au oz/ton	.0059
Ag oz/ton	.0197	Ag oz/ton	.0206
pH	8.36	pH	9.66
NaCN lb/ton	.67#/T	NaCN lb/ton	.81#/T
Effluent + Tare (grams)	17080	Effluent + Tare (grams)	15952
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	291	Cu (ppm)	289

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0058	Au oz/ton	.0062
Ag oz/ton	.0164	Ag oz/ton	.0247
pH	8.66	pH	9.69
NaCN lb/ton	.68#/T	NaCN lb/ton	.83#/T
Effluent + Tare (grams)	16086	Effluent + Tare (grams)	15694
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	292	Cu (ppm)	285

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/2/93 Day 18

BARREN SOLN Au .0017 Ag .0002 pH/~~emf~~ 9.51

Cu 750 NaCN 1.18% DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/3/93 Day 19

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0057	Au oz/ton	.0067
Ag oz/ton	.0206	Ag oz/ton	.0211
pH	8.50	pH	9.54
NaCN lb/ton	.70#/T	NaCN lb/ton	.72#/T
Effluent + Tare (grams)	502 grams 16 Kilo	Effluent + Tare (grams)	452 grams 15 Kilo 15,452
Tare Weight (grams)	1883g 16,502	Tare Weight (grams)	1897g
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	788	Cu (ppm)	799

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0055	Au oz/ton	.0054
Ag oz/ton	.0175	Ag oz/ton	.0258
pH	8.76	pH	9.69
NaCN lb/ton	.71#/T	NaCN lb/ton	.90#/T
Effluent + Tare (grams)	924 grams 15 Kilo 15,924	Effluent + Tare (grams)	471 grams 15 Kilo 15,471
Tare Weight (grams)	1811g	Tare Weight (grams)	1948g
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	770	Cu (ppm)	751

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/4/93 Day 20

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0056	Au oz/ton	.0051
Ag oz/ton	.0201	Ag oz/ton	.0198
pH	8.57	pH	9.58
NaCN lb/ton	.71#/T	NaCN lb/ton	.76#/T
Effluent + Tare (grams)	634 grams 18 Kilo	Effluent + Tare (grams)	912 grams 15 Kilo
Tare Weight (grams)	1843 g	Tare Weight (grams)	1842 g
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	759	Cu (ppm)	765

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0050	Au oz/ton	.0054
Ag oz/ton	.0176	Ag oz/ton	.0245
pH	8.88	pH	9.75
NaCN lb/ton	.68#/T	NaCN lb/ton	.95#/T
Effluent + Tare (grams)	54 grams 16 Kilo	Effluent + Tare (grams)	723 grams 15 Kilo
Tare Weight (grams)	1795 g	Tare Weight (grams)	1946 g
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	722	Cu (ppm)	754

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/5/93 Day 21

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0052	Au oz/ton	.0054
Ag oz/ton	.0251	Ag oz/ton	.0196
pH	8.73	pH	9.65
NaCN lb/ton	.76#/t	NaCN lb/ton	.78#/t
Effluent + Tare (grams)	18916	Effluent + Tare (grams)	15884
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	762	Cu (ppm)	770

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0048	Au oz/ton	.0053
Ag oz/ton	.0184	Ag oz/ton	.0243
pH	8.92	pH	9.79
NaCN lb/ton	.72#/t	NaCN lb/ton	1.01#/t
Effluent + Tare (grams)	16106	Effluent + Tare (grams)	15717
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	781	Cu (ppm)	752

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/5/93 Day 19-21

BARREN SOLN Au .0018 Ag .0010 pH/emf 9.47

Cu 224 NaCN 1.15#/t DO — ml/min A

ml/min B

REMARKS

ml/min C

ml/min D

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/6/93 Day 22

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0054	Au oz/ton	.0051
Ag oz/ton	.0240	Ag oz/ton	.0192
pH	8.81	pH	9.72
NaCN lb/ton	.72#/T	NaCN lb/ton	.89#/T
Effluent + Tare (grams)	15638	Effluent + Tare (grams)	15613
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	755	Cu (ppm)	765

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0039	Au oz/ton	.0045
Ag oz/ton	.0186	Ag oz/ton	.0233
pH	9.05	pH	9.87
NaCN lb/ton	.70#/T	NaCN lb/ton	1.00#/T
Effluent + Tare (grams)	15508	Effluent + Tare (grams)	15588
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	760	Cu (ppm)	770

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/6/93 Day 22

BARREN SOLN Au .0014 Ag .0011 pH/~~emf~~ 9.46

Cu 746 NaCN 1.16 #/T DO — ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/7/93 Day 23

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0046	Au oz/ton	.0051
Ag oz/ton	.0190	Ag oz/ton	.0173
pH	8.90	pH	9.28
NaCN lb/ton	.79#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	18881	Effluent + Tare (grams)	15763
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)	-------	Effluent Weight (grams)	-------
Cu (ppm)	777	Cu (ppm)	787

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0055	Au oz/ton	.0043
Ag oz/ton	.0170	Ag oz/ton	.0204
pH	9.08	pH	9.90
NaCN lb/ton	.79#/T	NaCN lb/ton	1.06#/T
Effluent + Tare (grams)	15601	Effluent + Tare (grams)	15700
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	-------	Effluent Weight (grams)	-------
Cu (ppm)	766	Cu (ppm)	790

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/7/93 Day 23

BARREN SOLN Au .0017 Ag .0011 pH/~~emf~~ 9.48

Cu 758 NaCN 1.18% DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/8/93 Day 24

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0040	Au oz/ton	.0042
Ag oz/ton	.0178	Ag oz/ton	.0157
pH	8.91	pH	9.77
NaCN lb/ton	.71#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	16632	Effluent + Tare (grams)	15598
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	269	Cu (ppm)	262

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0036	Au oz/ton	.0036
Ag oz/ton	.0154	Ag oz/ton	.0182
pH	9.09	pH	9.91
NaCN lb/ton	.76#/T	NaCN lb/ton	1.13#/T
Effluent + Tare (grams)	15417	Effluent + Tare (grams)	15615
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	259	Cu (ppm)	272

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/8/93 Day 24

BARREN SOLN Au .0013 Ag .0010 pH/~~emf~~ 9.44

Cu 7.61 NaCN 1.15#/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/9/93 Day 25

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0045	Au oz/ton	.0040
Ag oz/ton	.0160	Ag oz/ton	.0145
pH	9.00	pH	9.88
NaCN lb/ton	.70#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	14900	Effluent + Tare (grams)	15661
Tare Weight (grams)	1883	Tare Weight (grams)	1892
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	228	Cu (ppm)	282

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0037	Au oz/ton	.0046
Ag oz/ton	.0143	Ag oz/ton	.0168
pH	9.16	pH	9.98
NaCN lb/ton	.71#/T	NaCN lb/ton	1.07#/T
Effluent + Tare (grams)	15492	Effluent + Tare (grams)	15637
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	223	Cu (ppm)	228

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/9/93 Day 25

BARREN SOLN Au .0014 Ag .0009 pH/~~emf~~ 9.49

Cu 259 NaCN 1.15 g/t DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/10/93 Day 26

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0037	Au oz/ton	.0035
Ag oz/ton	.0137	Ag oz/ton	.0141
pH	8.99	pH	9.87
NaCN lb/ton	.70#/T	NaCN lb/ton	.98#/T
Effluent + Tare (grams)	14450	Effluent + Tare (grams)	15646
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	>286	Cu (ppm)	>273

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0042	Au oz/ton	.0031
Ag oz/ton	.0134	Ag oz/ton	.0160
pH	9.22	pH	9.92
NaCN lb/ton	.68#/T	NaCN lb/ton	1.00#/T
Effluent + Tare (grams)	15680	Effluent + Tare (grams)	15700
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	>266	Cu (ppm)	>265

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/11/93 Day 27

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0032	Au oz/ton	.0033
Ag oz/ton	.0127	Ag oz/ton	.0128
pH	9.01	pH	9.91
NaCN lb/ton	.72#/T	NaCN lb/ton	1.02#/T
Effluent + Tare (grams)	16K 66g	Effluent + Tare (grams)	15K 566g
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	768	Cu (ppm)	728

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0028	Au oz/ton	.0038
Ag oz/ton	.0125	Ag oz/ton	.0146
pH	9.20	pH	9.99
NaCN lb/ton	.70#/T	NaCN lb/ton	1.05#/T
Effluent + Tare (grams)	15K 720g	Effluent + Tare (grams)	15K 821g
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	768	Cu (ppm)	764

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/12/93 Day 28

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0028	Au oz/ton	.0035
Ag oz/ton	.0129	Ag oz/ton	.0123
pH	9.05	pH	9.87
NaCN lb/ton	.71#/T	NaCN lb/ton	1.04#/T
Effluent + Tare (grams)	19779	Effluent + Tare (grams)	15389
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	268	Cu (ppm)	223

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0032	Au oz/ton	.0040
Ag oz/ton	.0119	Ag oz/ton	.0143
pH	9.25	pH	9.93
NaCN lb/ton	.71#/T	NaCN lb/ton	1.10#/T
Effluent + Tare (grams)	15633	Effluent + Tare (grams)	15324
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	220	Cu (ppm)	223

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/12/93 Day 26-28

BARREN SOLN	Au	.0014	Ag	.0009	pH/~~emf~~	9.43	
Cu 79	NaCN	1.12 #/T	DO		ml/min A		
					ml/min B		
	REMARKS				ml/min C		
					ml/min D		

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/13/93 Day 29

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0035	Au oz/ton	.0041
Ag oz/ton	.0128	Ag oz/ton	.0130
pH	9.05	pH	9.89
NaCN lb/ton	.71#/T	NaCN lb/ton	1.04#/T
Effluent + Tare (grams)	12421	Effluent + Tare (grams)	15542
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	273	Cu (ppm)	264

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0033	Au oz/ton	.0035
Ag oz/ton	.0122	Ag oz/ton	.0151
pH	9.25	pH	9.94
NaCN lb/ton	.76#/T	NaCN lb/ton	1.06#/T
Effluent + Tare (grams)	15792	Effluent + Tare (grams)	15704
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	268	Cu (ppm)	267

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/13/93 Day 29

BARREN SOLN Au .0016 Ag .0011 pH/~~emf~~ 9.42

Cu 286 NaCN 1.16 DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/14/93 Day 30

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0031	Au oz/ton	.0028
Ag oz/ton	.0112	Ag oz/ton	.0128
pH	9.08	pH	9.88
NaCN lb/ton	.70#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	11880	Effluent + Tare (grams)	15541
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	15541
Cu (ppm)	788	Cu (ppm)	723

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0026	Au oz/ton	.0027
Ag oz/ton	.0115	Ag oz/ton	.0146
pH	9.29	pH	9.93
NaCN lb/ton	.74#/T	NaCN lb/ton	1.01#/T
Effluent + Tare (grams)	15888	Effluent + Tare (grams)	15618
Tare Weight (grams)	1946	Tare Weight (grams)	1795
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	767	Cu (ppm)	720

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/15/93 Day 31

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0030	Au oz/ton	.0029
Ag oz/ton	.0102	Ag oz/ton	.0116
pH	9.06	pH	9.92
NaCN lb/ton	.71#/T	NaCN lb/ton	1.02#/T
Effluent + Tare (grams)	14773	Effluent + Tare (grams)	15386
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	265	Cu (ppm)	276

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0022	Au oz/ton	.0026
Ag oz/ton	.0100	Ag oz/ton	.0132
pH	9.29	pH	9.95
NaCN lb/ton	.72#/T	NaCN lb/ton	1.04#/T
Effluent + Tare (grams)	15265	Effluent + Tare (grams)	15249
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	263	Cu (ppm)	262

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/15/93 Day 30-31

BARREN SOLN Au .0011 Ag .0010 pH/~~emf~~ 9.40

Cu 804 NaCN 1.14#/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/16/93 Day 32

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0027	Au oz/ton	.0025
Ag oz/ton	.0090	Ag oz/ton	.0103
pH	9.12	pH	9.94
NaCN lb/ton	.72#/T	NaCN lb/ton	1.05#/T
Effluent + Tare (grams)	13500	Effluent + Tare (grams)	15625
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	284	Cu (ppm)	771

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0027	Au oz/ton	.0026
Ag oz/ton	.0094	Ag oz/ton	.0116
pH	9.31	pH	9.95
NaCN lb/ton	.74#/T	NaCN lb/ton	1.07#/T
Effluent + Tare (grams)	15802	Effluent + Tare (grams)	15675
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	769	Cu (ppm)	774

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/16/93 Day 32

BARREN SOLN Au .0008 Ag .0005 pH ~~emf~~ 9.45

Cu 8.00 NaCN 1.14 #/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/18/93 Day 33

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0024	Au oz/ton	.0024
Ag oz/ton	.0100	Ag oz/ton	.0119
pH	9.23	pH	10.04
NaCN lb/ton	.71#/T	NaCN lb/ton	1.00#/T
Effluent + Tare (grams)	13365	Effluent + Tare (grams)	15695
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	767	Cu (ppm)	224

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0018	Au oz/ton	.0021
Ag oz/ton	.099	Ag oz/ton	.0130
pH	9.42	pH	10.02
NaCN lb/ton	.70#/T	NaCN lb/ton	.98#/T
Effluent + Tare (grams)	15810	Effluent + Tare (grams)	15548
Tare Weight (grams)	1795	Tare Weight (grams)	1846
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	760	Cu (ppm)	256

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/17/93 Day 34

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0034	Au oz/ton	.0033
Ag oz/ton	.0097	Ag oz/ton	.0116
pH	9.21	pH	10.06
NaCN lb/ton	.67#/T	NaCN lb/ton	1.02#/T
Effluent + Tare (grams)	13352	Effluent + Tare (grams)	15480
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	770	Cu (ppm)	778

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0025	Au oz/ton	.0026
Ag oz/ton	.0102	Ag oz/ton	.0131
pH	9.39	pH	10.03
NaCN lb/ton	.69#/T	NaCN lb/ton	1.08#/T
Effluent + Tare (grams)	15613	Effluent + Tare (grams)	15274
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	765	Cu (ppm)	762

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/18/93 Day 35

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0025	Au oz/ton	.0021
Ag oz/ton	.0100	Ag oz/ton	.0118
pH	9.19	pH	9.98
NaCN lb/ton	.71 #/T	NaCN lb/ton	1.05 #/T
Effluent + Tare (grams)	13986	Effluent + Tare (grams)	15830
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	758	Cu (ppm)	752

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0019	Au oz/ton	.0017
Ag oz/ton	.0096	Ag oz/ton	.0134
pH	9.37	pH	9.93
NaCN lb/ton	.75 #/T	NaCN lb/ton	1.02 #/T
Effluent + Tare (grams)	15897	Effluent + Tare (grams)	15555
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	767	Cu (ppm)	768

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/19/93 Day 33-35

BARREN SOLN Au .0013 Ag .0008 pH/~~emf~~ 9.41

Cu 803 NaCN 1.16 #/t DO — ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/20/93 Day 36

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0023	Au oz/ton	.0019
Ag oz/ton	.0095	Ag oz/ton	.0123
pH	9.19	pH	9.95
NaCN lb/ton	.73#/T	NaCN lb/ton	1.10#/T
Effluent + Tare (grams)	13058	Effluent + Tare (grams)	15716
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	222	Cu (ppm)	222

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0012	Au oz/ton	.0016
Ag oz/ton	.0096	Ag oz/ton	.0140
pH	9.40	pH	9.88
NaCN lb/ton	.76#/T	NaCN lb/ton	1.03#/T
Effluent + Tare (grams)	15788	Effluent + Tare (grams)	15653
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	224	Cu (ppm)	280

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/20/93 Day 36

BARREN SOLN Au .0013 Ag .0008 pH 9.41

Cu 789 NaCN 1.14#/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/21/93 Day 37

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0017	Au oz/ton	.0016
Ag oz/ton	.0099	Ag oz/ton	.0116
pH	9.22	pH	9.98
NaCN lb/ton	.70#/T	NaCN lb/ton	1.05#/T
Effluent + Tare (grams)	14196	Effluent + Tare (grams)	15885
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	786	Cu (ppm)	781

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0011	Au oz/ton	.0016
Ag oz/ton	.0091	Ag oz/ton	.0133
pH	9.38	pH	9.91
NaCN lb/ton	.73#/T	NaCN lb/ton	1.02#/T
Effluent + Tare (grams)	15757	Effluent + Tare (grams)	15192
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	778	Cu (ppm)	775

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/21/93 Day 37

BARREN SOLN Au .0007 Ag .0006 pH/~~emf~~ 9.38

Cu 297 NaCN 1.14#/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/22/93 Day 38

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0017	Au oz/ton	.0018
Ag oz/ton	.0094	Ag oz/ton	.0107
pH	9.27	pH	10.00
NaCN lb/ton	.71#/T	NaCN lb/ton	1.09#/T
Effluent + Tare (grams)	14146	Effluent + Tare (grams)	15778
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	288	Cu (ppm)	278

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0013	Au oz/ton	.0008
Ag oz/ton	.0084	Ag oz/ton	.0125
pH	9.42	pH	9.94
NaCN lb/ton	.75#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	15616	Effluent + Tare (grams)	15407
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	288	Cu (ppm)	286

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/22/93 Day 38

BARREN SOLN Au .0010 Ag .0007 pH/~~emf~~ 9.41

Cu 8.09 NaCN 1.16#/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

Tank Barren 9.34 pH

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/23/93 Day 39

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0025	Au oz/ton	.0023
Ag oz/ton	.0085	Ag oz/ton	.0095
pH	9.21	pH	9.89
NaCN lb/ton	.88	NaCN lb/ton	1.00
Effluent + Tare (grams)	14,447	Effluent + Tare (grams)	15,650
Tare Weight (grams)	1883	Tare Weight (grams)	1892
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	802	Cu (ppm)	815

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0018	Au oz/ton	.0022
Ag oz/ton	.0077	Ag oz/ton	.0115
pH	9.33	pH	9.81
NaCN lb/ton	.96	NaCN lb/ton	.98
Effluent + Tare (grams)	15,459	Effluent + Tare (grams)	15,250
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	810	Effluent Weight (grams)	
Cu (ppm)	810	Cu (ppm)	825

.0011 B Au

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/24/93 Day 40

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0012	Au oz/ton	.0017
Ag oz/ton	.0075	Ag oz/ton	.0084
pH	9.21	pH	9.89
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	15,105	Effluent + Tare (grams)	15,672
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	799	Cu (ppm)	817

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0012	Au oz/ton	.0020
Ag oz/ton	.0070	Ag oz/ton	.0104
pH	9.34	pH	9.79
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	15,495	Effluent + Tare (grams)	15,391
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	805	Cu (ppm)	806

.0013 B-Au

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/25/93 Day 41

Did Columns At 9:45 A.M.

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0017	Au oz/ton	.0017
Ag oz/ton	.0065	Ag oz/ton	.0076
pH	9.18	pH	9.90
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	15,795	Effluent + Tare (grams)	17,295
Tare Weight (grams)	18,83	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	806	Cu (ppm)	815

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0025	Au oz/ton	.0016
Ag oz/ton	.0064	Ag oz/ton	.0096
pH	9.33	pH	9.77
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	16,840	Effluent + Tare (grams)	16,721
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	800	Cu (ppm)	800

.0013 B-A

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/26/93 Day 42

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0013	Au oz/ton	.0015
Ag oz/ton	.0063	Ag oz/ton	.0072
pH	9.17	pH	9.83
NaCN lb/ton	.86	NaCN lb/ton	1.04
Effluent + Tare (grams)	12,308	Effluent + Tare (grams)	13,875
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	821	Cu (ppm)	797

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0018	Au oz/ton	.0010
Ag oz/ton	.0061	Ag oz/ton	.0091
pH	9.32	pH	9.74
NaCN lb/ton	.94	NaCN lb/ton	1.00
Effluent + Tare (grams)	13,724	Effluent + Tare (grams)	13,635
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	811	Cu (ppm)	807

.0006 B-Au

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/~~23~~-26/93 Day 39-42

BARREN SOLN	Au	.0009	Ag	.0008	pH/emf	9.34
Cu			NaCN	1.14	DO		ml/min A	
							ml/min B	
							ml/min C	
							ml/min D	

REMARKS

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/27/93 Day 43

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0018	Au oz/ton	.0011
Ag oz/ton	.0060	Ag oz/ton	.0071
pH		pH	
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	14257	Effluent + Tare (grams)	15235
Tare Weight (grams)	14839	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)		Cu (ppm)	

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	0013	Au oz/ton	.0019
Ag oz/ton	.0056	Ag oz/ton	.0085
pH		pH	
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	15467	Effluent + Tare (grams)	15265
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)		Cu (ppm)	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/28/93 Day 44

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0010	Au oz/ton	.0008
Ag oz/ton	.0053	Ag oz/ton	.0062
pH		pH	
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	14025	Effluent + Tare (grams)	14435
Tare Weight (grams)	~~1846~~ 1843	Tare Weight (grams)	1842
Effluent Weight (grams)	~~16170~~	Effluent Weight (grams)	
Cu (ppm)		Cu (ppm)	

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0012	Au oz/ton	.0012
Ag oz/ton	.0051	Ag oz/ton	.0072
pH		pH	
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	15135	Effluent + Tare (grams)	1946
Tare Weight (grams)	1745	Tare Weight (grams)	16170
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)		Cu (ppm)	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/29/93 Day 45

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0018	Au oz/ton	.0017
Ag oz/ton	.0044	Ag oz/ton	.0054
pH		pH	
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	14077	Effluent + Tare (grams)	14475
Tare Weight (grams)	1983	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)		Cu (ppm)	

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0016	Au oz/ton	.0011
Ag oz/ton	.0046	Ag oz/ton	.0062
pH		pH	
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	15057	Effluent + Tare (grams)	15141
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)		Cu (ppm)	

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/27 - 12/29 Day 43-45

BARREN SOLN	Au	.0008	Ag	.0005	pH/emf		
Cu			NaCN		DO		
					ml/min A		
					ml/min B		
					ml/min C		
					ml/min D		

REMARKS

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/30/93 Day 46

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0017	Au oz/ton	.0016
Ag oz/ton	.0046	Ag oz/ton	.0053
pH	9.04	pH	9.63
NaCN lb/ton	.78#/T	NaCN lb/ton	1.03#/T
Effluent + Tare (grams)	13712	Effluent + Tare (grams)	14125
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	780	Cu (ppm)	788

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0016	Au oz/ton	.0016
Ag oz/ton	.0049	Ag oz/ton	.0060
pH	9.20	pH	9.58
NaCN lb/ton	.76#/T	NaCN lb/ton	.98#/T
Effluent + Tare (grams)	14819	Effluent + Tare (grams)	14778
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	764	Cu (ppm)	763

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 12/31/93 Day 47

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0017	Au oz/ton	.0018
Ag oz/ton	.0045	Ag oz/ton	.0052
pH	9.07	pH	9.65
NaCN lb/ton	.74#/T	NaCN lb/ton	1.00#/T
Effluent + Tare (grams)	1883g	Effluent + Tare (grams)	1897g
Tare Weight (grams)	14,281	Tare Weight (grams)	14,625
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	765	Cu (ppm)	>56

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0018	Au oz/ton	.0014
Ag oz/ton	.0050	Ag oz/ton	.0064
pH	9.21	pH	9.52
NaCN lb/ton	.82#/T	NaCN lb/ton	.99#/T
Effluent + Tare (grams)	1811g	Effluent + Tare (grams)	1948g
Tare Weight (grams)	15,749	Tare Weight (grams)	15,162
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	759	Cu (ppm)	767

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/1/94 Day 48

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0023	Au oz/ton	.0017
Ag oz/ton	.0051	Ag oz/ton	.0059
pH	9.04	pH	9.58
NaCN lb/ton	.76#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	1843g	Effluent + Tare (grams)	1842g ~~[illegible]~~g
Tare Weight (grams)	14,348	Tare Weight (grams)	14,730 ~~[illegible]~~
Effluent Weight (grams)	-------	Effluent Weight (grams)	-------
Cu (ppm)	762	Cu (ppm)	766

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0013	Au oz/ton	.0015
Ag oz/ton	.0050	Ag oz/ton	.0073
pH	9.30	pH	9.65
NaCN lb/ton	.81#/T	NaCN lb/ton	1.01#/T
Effluent + Tare (grams)	1795	Effluent + Tare (grams)	1946g
Tare Weight (grams)	15,680	Tare Weight (grams)	15,355
Effluent Weight (grams)	-------	Effluent Weight (grams)	-------
Cu (ppm)	762	Cu (ppm)	764

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/2/94 Day 49

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0016	Au oz/ton	.0018
Ag oz/ton	.0046	Ag oz/ton	.0055
pH	9.13	pH	9.66
NaCN lb/ton	.72#/T	NaCN lb/ton	1.01#/T
Effluent + Tare (grams)	13255	Effluent + Tare (grams)	12558
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	762	Cu (ppm)	767

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0012	Au oz/ton	.0011
Ag oz/ton	.0046	Ag oz/ton	.0058
pH	9.31	pH	9.61
NaCN lb/ton	.82#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	14562	Effluent + Tare (grams)	14148
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	771	Cu (ppm)	761

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/2/94 Day 46-49

BARREN SOLN Au .0010 Ag .0014 pH/~~emf~~ 9.14

Cu 792 NaCN 1.10 #/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/3/94 Day 50

BG off (Au only)

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0033	Au oz/ton	.0032
Ag oz/ton	.0039	Ag oz/ton	.0048
pH	9.09	pH	9.65
NaCN lb/ton	.75#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	13714	Effluent + Tare (grams)	15456
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	281	Cu (ppm)	>25

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0031	Au oz/ton	.0029
Ag oz/ton	.0040	Ag oz/ton	.0050
pH	9.22	pH	9.55
NaCN lb/ton	.77#/T	NaCN lb/ton	1.02#/T
Effluent + Tare (grams)	14632	Effluent + Tare (grams)	14672
Tare Weight (grams)	1295	Tare Weight (grams)	1946
Effluent Weight (grams)	_____	Effluent Weight (grams)	_____
Cu (ppm)	279	Cu (ppm)	277

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/3/93 Day 50

BARREN SOLN Au .0028 Ag .0006 pH/~~emf~~ 9.12

Cu 795 NaCN 1.00 #/T DO _____ ml/min A _____

No BG (on Au)

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/4/93 Day 51

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0039	Au oz/ton	.0039
Ag oz/ton	.0038	Ag oz/ton	.0046
pH	9.10	pH	9.64
NaCN lb/ton	.80#/T	NaCN lb/ton	1.01#/T
Effluent + Tare (grams)	13782	Effluent + Tare (grams)	13931
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	228	Cu (ppm)	224

BG off

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0040	Au oz/ton	.0037
Ag oz/ton	.0042	Ag oz/ton	.0050
pH	9.21	pH	9.53
NaCN lb/ton	.83#/T	NaCN lb/ton	.98#/T
Effluent + Tare (grams)	15292	Effluent + Tare (grams)	14758
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	220	Cu (ppm)	225

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/4/93 Day 51

BARREN SOLN Au .0035 Ag .0011 pH ~~Lemf~~ 9.21

Cu 801 NaCN .96 #/T DO _____ ml/min A _____

BG off

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/5/93 Day 52

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0006	Au oz/ton	.0006
Ag oz/ton	.0034	Ag oz/ton	.0043
pH	9.08	pH	9.60
NaCN lb/ton	.79#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	13382	Effluent + Tare (grams)	13500
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	>22	Cu (ppm)	222

BG on

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0008	Au oz/ton	.0004
Ag oz/ton	.0032	Ag oz/ton	.0042
pH	9.19	pH	9.53
NaCN lb/ton	.85#/T	NaCN lb/ton	1.00#/T
Effluent + Tare (grams)	13318	Effluent + Tare (grams)	14626
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	228	Cu (ppm)	222

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/5/94 Day 52

BARREN SOLN Au .0005 Ag .0006 pH ~~emf~~ 9.18

Cu 296 NaCN 1.02 % DO _____ ml/min A _____

ml/min B _____

REMARKS

BG on

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/6/94 Day 53

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0012	Au oz/ton	.0014
Ag oz/ton	.0033	Ag oz/ton	.0042
pH	9.06	pH	9.56
NaCN lb/ton	.72#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	13954	Effluent + Tare (grams)	13657
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	782	Cu (ppm)	770

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0016	Au oz/ton	.0010
Ag oz/ton	.0035	Ag oz/ton	.0041
pH	9.15	pH	9.49
NaCN lb/ton	.75#/T	NaCN lb/ton	.92#/T
Effluent + Tare (grams)	13516	Effluent + Tare (grams)	14043
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	769	Cu (ppm)	769

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/6/94 Day 53

BARREN SOLN	Au	.0010	Ag	.0007	pH/~~cond~~	9.14	
Cu 807	NaCN	.98#/T	DO		ml/min A		
					ml/min B		
	REMARKS				ml/min C		
					ml/min D		

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/2/94 Day 54

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0015	Au oz/ton	.0008
Ag oz/ton	.0034	Ag oz/ton	.0041
pH	9.10	pH	9.60
NaCN lb/ton	.73#/T	NaCN lb/ton	.99#/T
Effluent + Tare (grams)		Effluent + Tare (grams)	
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)	14.205	Effluent Weight (grams)	13.612
Cu (ppm)	780	Cu (ppm)	772

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0008	Au oz/ton	.0009
Ag oz/ton	.0036	Ag oz/ton	.0041
pH	9.27	pH	9.56
NaCN lb/ton	.76#/T	NaCN lb/ton	.90#/T
Effluent + Tare (grams)	13.648	Effluent + Tare (grams)	14069
Tare Weight (grams)	1795	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	792	Cu (ppm)	769

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/8/94 Day 55

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0009	Au oz/ton	.0013
Ag oz/ton	.0034	Ag oz/ton	.0040
pH	9.12	pH	9.60
NaCN lb/ton	.74#/T	NaCN lb/ton	.92#/T
Effluent + Tare (grams)	13.400	Effluent + Tare (grams)	13.510
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	766	Cu (ppm)	764

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0010	Au oz/ton	.0013
Ag oz/ton	.0034	Ag oz/ton	.0037
pH	9.24	pH	9.57
NaCN lb/ton	.70#/T	NaCN lb/ton	.89#/T
Effluent + Tare (grams)	13.375	Effluent + Tare (grams)	13.700
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)	--------	Effluent Weight (grams)	--------
Cu (ppm)	759	Cu (ppm)	758

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/9/94 Day 56

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0015	Au oz/ton	.0014
Ag oz/ton	.0032	Ag oz/ton	.0037
pH	9.10	pH	9.48
NaCN lb/ton	.73#/T	NaCN lb/ton	.92#/T
Effluent + Tare (grams)	13743	Effluent + Tare (grams)	13501
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	790	Cu (ppm)	781

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0017	Au oz/ton	.0014
Ag oz/ton	.0032	Ag oz/ton	.0035
pH	9.13	pH	9.41
NaCN lb/ton	.76#/T	NaCN lb/ton	.91#/T
Effluent + Tare (grams)	13457	Effluent + Tare (grams)	13811
Tare Weight (grams)	1295	Tare Weight (grams)	1946
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	771	Cu (ppm)	771

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/9/94 Day 54-56

BARREN SOLN Au .0005 Ag .0008 pH/~~emf~~ 9.03

Cu 784 NaCN .96 #/T DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/10/94 Day 57

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0004	Au oz/ton	.0005
Ag oz/ton	.0031	Ag oz/ton	.0035
pH	8.99	pH	9.43
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	11046	Effluent + Tare (grams)	11183
Tare Weight (grams)	1883	Tare Weight (grams)	1897
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	787	Cu (ppm)	785

1344 Hr

1/2 #/T A 31.14

1/2 #/T B 30.54

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0009	Au oz/ton	.0003
Ag oz/ton	.0030	Ag oz/ton	.0034
pH	9.10	pH	9.36
NaCN lb/ton		NaCN lb/ton	
Effluent + Tare (grams)	10494	Effluent + Tare (grams)	11269
Tare Weight (grams)	1811	Tare Weight (grams)	1948
Effluent Weight (grams)		Effluent Weight (grams)	
Cu (ppm)	788	Cu (ppm)	770

1" C 28.53

3/8" D 33.02

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/10/94 Day 57

BARREN SOLN Au .0003 Ag .0006 pH/~~amf~~ 9.01

Cu 807 NaCN _____ DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____

END OF TEST

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/11/94 Day Last

columns off 7:AM 1/11 Sampled 1/12 ← drained bottom of column

Column I.D.	COLUMN A - BLUE	Column I.D.	COLUMN B - RED
Time	7AM	Time	7AM
Au oz/ton	.0013	Au oz/ton	.0010
Ag oz/ton	.0038	Ag oz/ton	.0034
pH	8.89	pH	9.40
NaCN lb/ton	.75#/T	NaCN lb/ton	.96#/T
Effluent + Tare (grams)	5316	Effluent + Tare (grams)	5083
Tare Weight (grams)	1843	Tare Weight (grams)	1842
Effluent Weight (grams)	-------	Effluent Weight (grams)	-------
Cu (ppm)	273	Cu (ppm)	282

Column I.D.	COLUMN C - GRAY	Column I.D.	COLUMN D - BLACK
Time	7AM	Time	7AM
Au oz/ton	.0010	Au oz/ton	.0009
Ag oz/ton	.0041	Ag oz/ton	.0036
pH	9.04	pH	9.28
NaCN lb/ton	.78#/T	NaCN lb/ton	1.00#/T
Effluent + Tare (grams)	5216	Effluent + Tare (grams)	4676
Tare Weight (grams)	1295	Tare Weight (grams)	1946
Effluent Weight (grams)	-------	Effluent Weight (grams)	-------
Cu (ppm)	283	Cu (ppm)	225

SULFIDE CRUSH SIZE COLUMN TEST - LEACH CYCLE

Sample Collection Date: 1/11/93 Day _____

Columns off

BARREN SOLN Au .0006 Ag .0006 pH/~~emf~~ 8.96

Cu 812 NaCN .90#/t DO _____ ml/min A _____

ml/min B _____

REMARKS

ml/min C _____

ml/min D _____