

TABLE OF CONTENTS

1. INTRODUCTION.....	1
2. SAMPLE ANALYSES.....	1
3. ORE HARDNESS.....	2
4. COARSE ORE BOTTLE ROLLS.....	4
5. GROUND ORE CYANIDATION.....	6
6. GRAVITY RECOVERY.....	7
7. FLOTATION.....	8
8. ORE SORTING.....	11
8.1 X-RAY SORTING.....	11
8.2 MICROWAVE SORTING.....	13
8.3 SORTING CONCLUSIONS.....	14
9. FUTURE RECOMMENDATIONS.....	14
10. PROCESS FLOWSHEETS.....	15

1. INTRODUCTION

This report provides a brief summary of the metallurgical work completed on samples of Fortuna mineralized rock as of the end of 2008. Additional testwork is ongoing at SGS Lakefield Research and additional third party laboratories.

In July 2008, three samples were sent to SGS Lakefield Research from Castle Gold Corporation's La Fortuna project. The samples consisted of coarse rocks which were removed from three areas in the old underground workings at the mine. The sample locations were selected so as to obtain material that was representative of the range of mineralization present in the deposit (low, average and high grade).

2. SAMPLE ANALYSES

The three samples received by SGS Lakefield were identified as N2, N2A and N3 and consisted of approximately 100kg (each) of coarse rock. The samples were collected at the Fortuna site by removing material from inside the deposit via existing mine adit tunnels. The intention was to obtain material that represented the range of mineralogy present in the Fortuna deposit.

- Sample N2 – Low grade material from adit level 2 which consisted of quartz feldspar intrusive with small veins of tourmaline.
- Sample N2A – Medium grade material from adit level 2 consisting primarily of tourmaline.
- Sample N3 – High grade material from adit level 3 consisting primarily of tourmaline but with strong showings of pyrite in veins and fracture fillings.

The assays from the samples are summarized in Table 2.1 below.

Elements		N2A	N2	N3
Au	g/t	1.46	0.61	14.4
Ag	g/t	12.8	26.0	85.9
S(T)	%	1.05	1.89	3.78
S ²⁻	%	0.76	1.68	3.64
C(T)	%	0.15	<0.01	0.02
C(g)	%	0.01	<0.01	<0.01
TOC	%	0.12	<0.05	<0.05
CO ₃	%	0.68	<0.05	<0.05

Table 2.1 Analysis of Fortuna metallurgical samples.

The gold content of sample N2A is most representative of the overall average mineralized grade for the La Fortuna deposit (~2 g/t Au at 0.5 g/t cutoff) contained in the recent 43-101 report (October 2008) for the project. Consequently, this sample was used for the “base case” metallurgical program. Following the completion of the base case testwork, material from the low grade (N2) and high grade (N3) samples were then used to examine the variability of initial metallurgical results.

Some key observations from the sample analyses include:

- The sample silver and gold contents do not appear to vary simultaneously in proportion to each other or the sulphide content. It is possible therefore that the gold and silver mineralisation belongs to two independent statistical populations (important for reserve modelling);
- The sulphur analyses indicate that the majority of the sulphur present in the mineral is present in the sulphide form. Visual observation of the materials confirm the presence of noticeable amounts of pyrite and chalcopyrite.
- The presence of “preg-robbing” organic carbon species in the samples is negligible.

3. ORE HARDNESS

Field observations at the La Fortuna deposit identified the potential that the mineralization host rock was of greater than “average” hardness. Some limited Bond Impact tests were performed on rocks from each of the three samples. The results from this work are summarized in Table 3.1 and Figure 3.1 below.

Sample Name	Number of Specimens	Work Index (kWh/t)	Min. (kWh/t)	Max. (kWh/t)	S.D. (kWh/t)	Ore Density (g/cm ³)	Hardness Percentile
N2	20	17.5	8.8	36.7	5.7	2.78	90
N2-A	20	13.1	9.4	17.0	2.1	2.74	74
N3	20	18.6	11.9	25.6	3.4	2.81	91

Table 3.1 Results of Bond Low-Energy Impact tests.

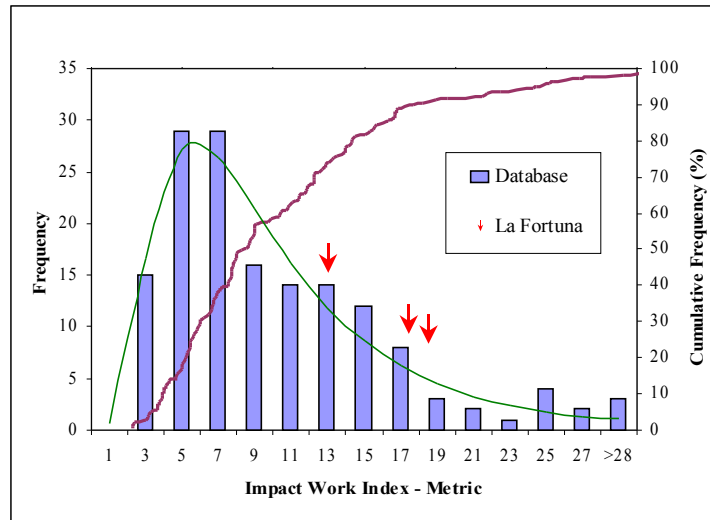


Figure 3.1 SGS database of impact test results showing position of La Fortuna sample.

It can be seen that the low-impact indices for the three La Fortuna samples can be considered as “hard” to “very hard” with two of the samples positioned in excess of the 90th percentile in the existing SGS Lakefield impact database. The SGS database is not an absolute reference but rather a historical collection of all of the impact indices that have been obtained from the various metallurgical samples tested by the laboratory.

The results of the La Fortuna mineral sample impact tests represent valuable information for consideration during process design studies for the project. The fact that the host rock has been identified as “hard” will impact the capacities of crushing equipment for the site. Harder ores require larger crushing equipment in order to achieve the sample process throughputs. Work is presently underway at SGS to also determine the Bond Grinding Indices for the Fortuna samples. These indices are required for grinding mill sizing should this type of equipment be considered.

During the impact testwork, densities were also calculated for the three samples. These values ranged from 2.74 to 2.81 which is in good agreement with the value of 2.72 which was utilized for mineralised rock in the most recent 43-101 resource report for the project.

4. COARSE ORE BOTTLE ROLLS

Historical testwork performed on mineral samples from the La Fortuna deposit had identified the potential for heap leaching at the site. The key results from this work were highlighted in the recent 43-101 resource report for the project. These include:

- The gold in the deposit is typically present as coarse grains from 50-200 microns that are located along the sulphide grain boundaries (as opposed to being encapsulated by the sulphides) and are therefore leachable.
- Gold recoveries from heap leaching tests range from 58% at 1" crush to 64% at 1/2" and 63% at 1/4". Silver recoveries for these same crush sizes were 19%, 36% and 30% respectively. An optimum crush size of 1/2" was determined as optimal for the samples tested.
- Cyanide consumptions were reasonable at 0.6-1.4 kg/t.
- Due to the coarse nature of the gold particles leach times in excess of 90 days were required in order to approach ultimate heap leach recoveries.

Using the new samples that are available at SGS Lakefield, a series of coarse ore bottle roll tests were performed at different crush sizes. These tests are not intended to provide an actual simulation of expected heap leaching results (i.e. as with column tests) but instead to provide a relatively quick and inexpensive method to examine an ore's amenability to heap leaching while providing some qualitative data with respect to critical process parameters. As of the preparation of this report only the data from the N2A (base case) coarse ore testwork was available and is presented in Figures 4.1 and 4.2. It is planned to compare these results to that from the low and high grade samples when the complete data set is available.

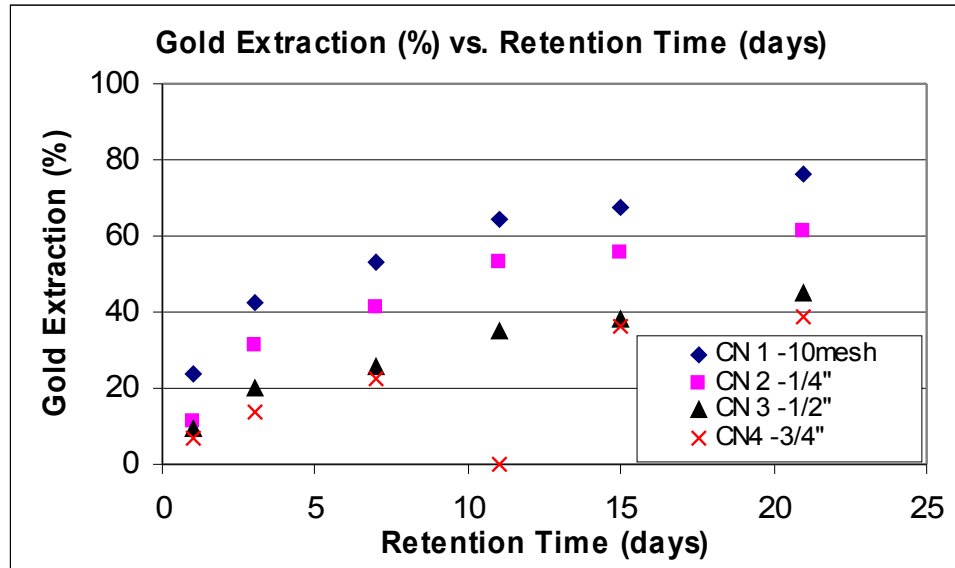


Figure 4.1 Coarse ore gold leach results for N2A sample (1.46 g/t Au)

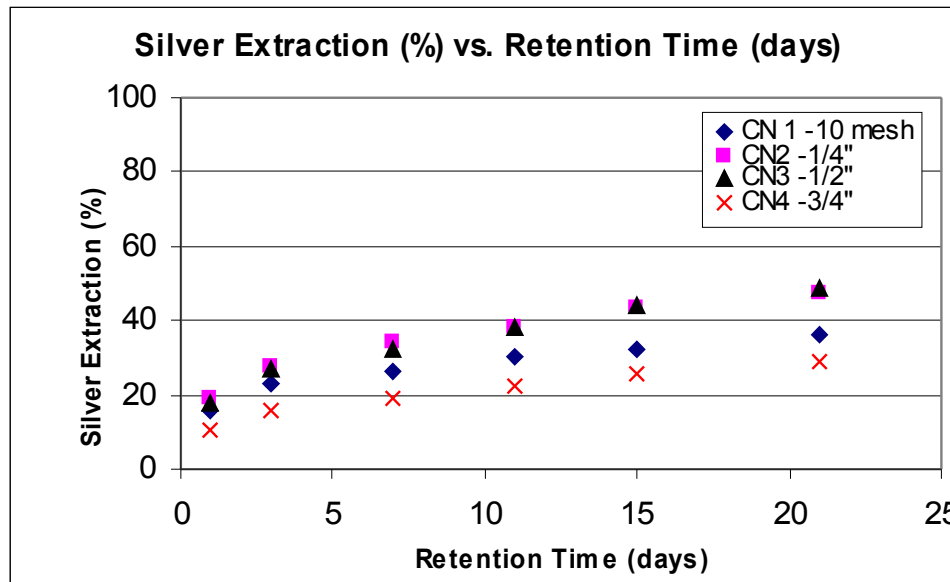


Figure 4.2 Coarse ore silver leach results for N2A sample (12.8 g/t Ag)

Information gained from the N2A sample coarse ore leach tests can be summarized as follows:

- Gold recoveries improved significantly as the material crush size was decreased. Unlike the historical testwork results, a noticeable improvement was observed by decreasing the crush size from 1/2" to 1/4". At 1/4" ultimate gold recoveries in excess of 60% appear possible as was observed with the historical data.
- A crush size of 1/2" appeared optimal for silver recoveries in excess of 40% (slightly higher than with historical testwork)
- Relatively slow gold leach kinetics with recoveries still increasing at a noticeable rate after 21 days (equivalent heap/column leach times are usually considerably longer than those observed with coarse ore tests). This information would tend to support the optimal leach times predicted from historical column leach testwork which were in excess of 90 days.
- Reasonable cyanide consumptions that ranged from 1.2-1.6 kg/t (for 1" to 1/4" crush sizes).

Overall, the results from the recent coarse ore bottle leaching work would tend to support data obtained from historical testwork and indicate that the La Fortuna deposit is amenable to heap leaching at fine crush sizes. Gold recoveries in excess of 60% are possible and cyanide consumptions are reasonable indicating that the sulphide minerals in the mineralization are not particularly reactive. Additional testwork is underway to examine the behaviour of the low and high grade test samples and also to analyze the final leach solutions for potential impurities such as copper that may have solubilized during leaching.

5. GROUND ORE CYANIDATION

Samples of the N2A material were ground to 75 microns and subjected to standard cyanidation bottle roll tests with and without the addition of carbon during the leach period. After 72 hours of leach time the gold recovery to solution in both tests was 98% and the silver recovery was approximately 55%. Cyanide consumptions ranged from 2.2-2.3 kg/t.

The results from the recent ground ore cyanidation testwork are very similar to the historical testwork completed by the Colorado Minerals Research Institute (CMRI) in 1995 which obtained gold and silver recoveries of 97% and 47%, respectively, at a grind size of 75 microns. The CMRI work also demonstrated that these recoveries changed very little even when much coarser grind sizes were utilized (up to 300 microns). Cyanide consumptions were also very similar to those obtained with the recent SGS Lakefield program.

Overall, from the data available to date the following key conclusions can be made:

- The gold in the La Fortuna samples is readily leachable and not encapsulated in the sulphide grains. This is further evidence that the majority of the gold is present as free gold grains.
- Excellent cyanidation recoveries (+97% for gold) are achievable even with coarse grind sizes of up to 300 microns (sulphide grains in the rock are coarse in size).
- Cyanide consumptions are reasonable at approximately 2 kg/t.
- Leach times are fast with very little extra recovery of gold after the initial 24 hour leach period.

Additional leach solution analyses are pending from SGS Lakefield. These will allow for a more complete determination to be made as to the level of soluble impurities (i.e. copper) that are present in the solutions following cyanidation.

6. GRAVITY RECOVERY

A gravity-recoverable gold test was performed on the N2A sample using a lab scale Knelson concentrator. This test is performed by grinding the sample to a predetermined size (in this case 250 microns) and passing it through the Knelson concentrator. The gravity tails from the first pass through the Knelson are then ground to a finer size and run through the machine a second time. The procedure is then repeated a third time before a final gravity tailings product is achieved. The purpose of this technique is to obtain an overall gravity recoverable gold curve that can be used for process design.

Product	Feed K ₈₀ µm	Weight		Assays (g/t)		% Distribution	
		g	%	Au	Ag	Au	Ag
1st pass Concentrate	252	101.3	2.53	47.4	70.8	62.9	14.2
2nd pass Concentrate	103	96.9	2.42	18.2	69.6	23.1	13.3
3rd pass Concentrate	78	87.6	2.19	5.21	59.6	6.0	10.3
Knelson Tailing		3714.2	92.85	0.17	8.45	8.0	62.1
Head (calc.)		4000.0	100.0	1.91	12.6	100.0	100.0
Head Assay				1.46	12.8		

Combined Products

Product	Weight		Assays (g/t)		% Distribution	
	g	%	Au	Ag	Au	Ag
1st+2nd pass Conc	198.2	4.95	33.1	70.2	86.0	27.5
1st+2nd+3rd pass Conc	285.8	7.14	24.6	67.0	92.0	37.9

Table 6.1 Gravity recoverable gold from N2A sample (1.46 g/t Au/12.8 g/t Ag)

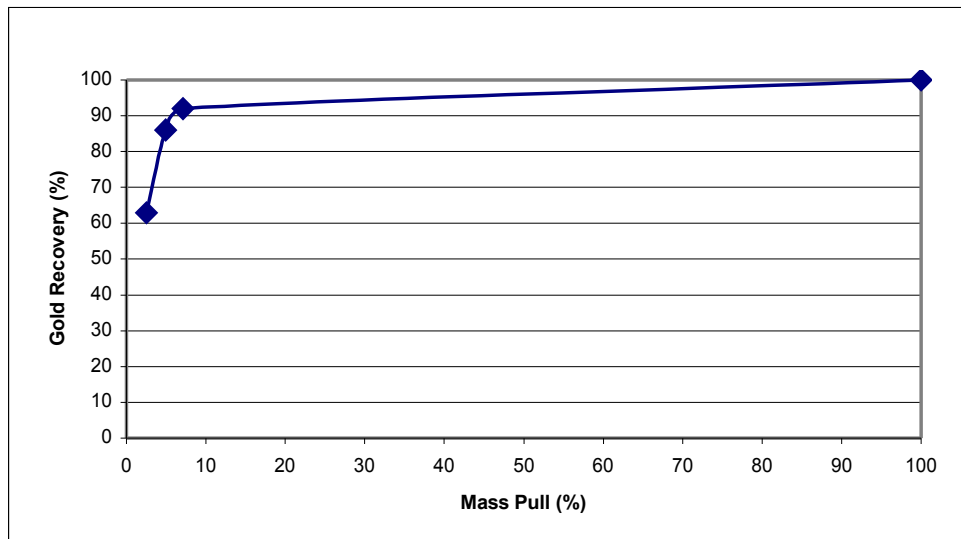


Figure 6.1 Gravity gold recovery versus mass recovery for N2A sample.

It can be seen that the gold contained in the N2A Fortuna sample is very amenable to gravity separation techniques. This is further confirmation of the coarse nature of the gold grains in the mineralization. Using centrifugal gravity concentration techniques, greater than 90% of the gold contained in the sample can be recovered into a concentrate that is comprised of less than 10% of the initial sample weight. This correlates well with previous gravity work performed by CMRI (1995) using shaking tables. CMRI predicted ultimate recoveries of up to 92% but associated these with slightly greater mass recoveries due to the inefficiencies associated with non-centrifugal techniques. Silver recoveries are significantly lower than those achieved for gold and remain in the 30-40% range.

In summary, the gold in the La Fortuna deposit responds positively to gravity separation techniques. Future work at SGS Lakefield will focus on the response of the low and high grade samples to this technique and also the downstream cyanidation recoveries from the gold gravity concentrates.

7. FLOTATION

La Fortuna N2A sample material was subjected to a series of rougher flotation tests at different grind sizes. The goal of this testwork was not necessarily to produce a final salable flotation concentrate but instead to examine the ultimate gold recoveries that might be achievable using this technique (assuming further downstream processing will be present). Assuming that the results from this initial phase were positive additional testwork would examine the possibilities for producing a final salable (direct to smelter) concentrate. The results from this work are illustrated in Table 7.1 and Figures 7.1/7.2.

Test No. Sample	Grind Size K80 µm	Conditions	Product	Wt %	Assays, g/t, %			% Distribution		
					Au	Ag	S	Au	Ag	S
F1 N2A	210	125 g/t PAX 125 g/t R208	3 minute Ro Conc	3.80	8.5	106	6.89	19.9	31.7	20.7
			8 minute Ro Conc	9.52	14.1	113	12.4	82.4	84.9	93.2
			13 minute Ro Conc	12.06	13.0	96.8	10.1	96.5	92.0	96.8
			18 minute Ro Conc	14.72	10.7	81.4	8.37	97.1	94.4	97.6
			28 minute Ro Conc	18.67	8.5	65.3	6.63	97.5	96.2	98.1
			Ro Tail	81.33	0.05	0.60	0.03	2.5	3.8	1.9
Head (calc)	100.00	1.63	12.7	1.26	100.0	100.0	100.0			
F2 N2A	118	125 g/t PAX 125 g/t R208	3 minute Ro Conc	5.19	21.9	258	15.2	92.7	86.2	89.8
			8 minute Ro Conc	8.86	13.4	164	9.54	97.2	93.7	96.3
			13 minute Ro Conc	14.21	8.46	105	6.02	98.1	95.8	97.4
			18 minute Ro Conc	17.72	6.80	84.7	4.85	98.4	96.6	97.8
			28 minute Ro Conc	22.66	5.34	66.9	3.81	98.7	97.5	98.2
			Ro Tail	77.34	0.020	0.5	0.020	1.3	2.5	1.8
Head (calc)	100.00	1.23	15.5	0.88	100.0	100.0	100.0			
F3 N2A	90	125 g/t PAX 125 g/t R208	3 minute Ro Conc	9.15	13.1	139	13.70	75.4	86.5	94.7
			8 minute Ro Conc	13.80	11.4	100	9.39	98.5	94.0	97.8
			13 minute Ro Conc	18.81	8.36	75.0	6.93	98.8	95.9	98.4
			18 minute Ro Conc	22.29	7.06	63.9	5.86	98.9	96.8	98.6
			28 minute Ro Conc	27.17	5.80	52.8	4.82	99.1	97.5	98.9
			Ro Tail	72.83	0.020	0.5	0.020	0.9	2.5	1.1
Head (calc)	100.00	1.59	14.700	1.32	100.0	100.0	100.0			

Table 7.1 Rougher flotation results from La Fortuna N2A sample.

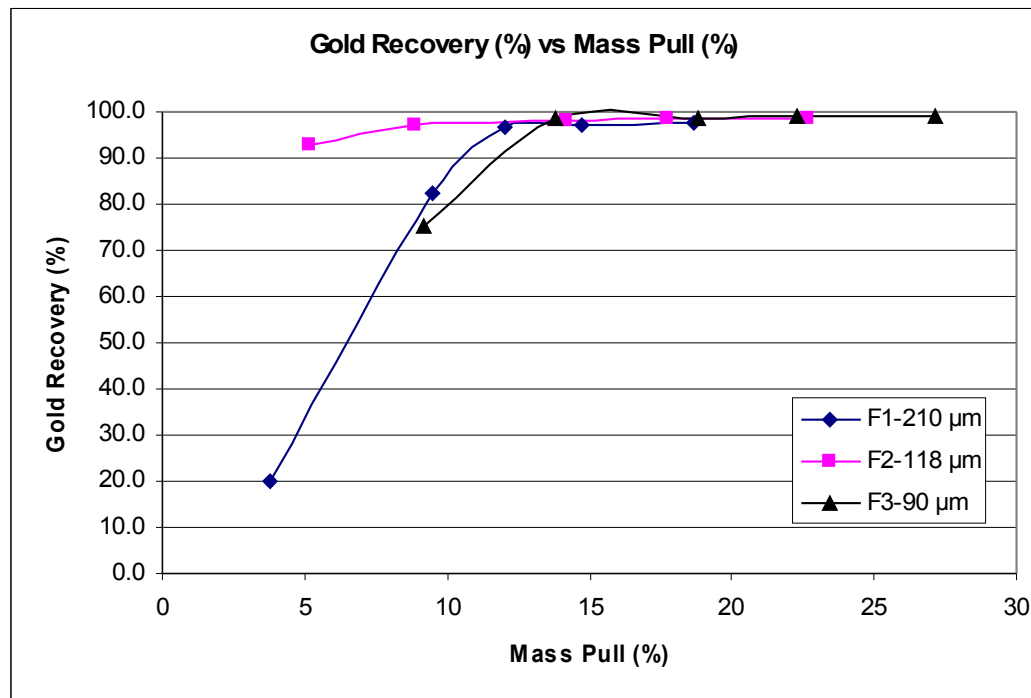


Figure 7.1 Relationship between gold recovery and mass recovery for N2A sample

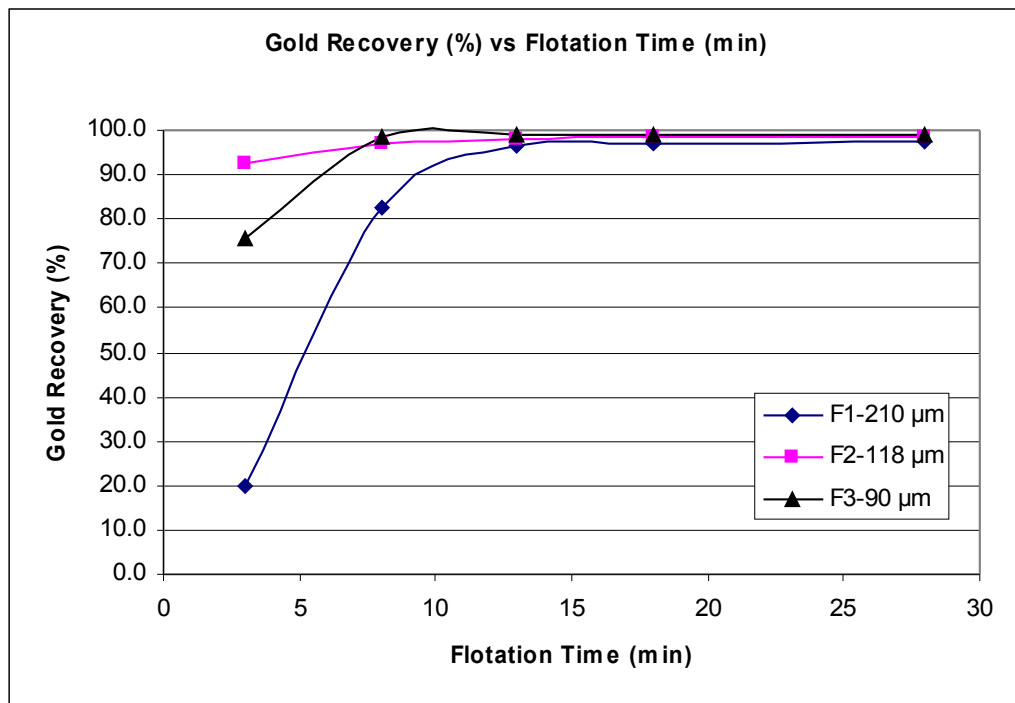


Figure 7.2 Gold flotation kinetics for La Fortuna N2A sample.

Overall, the recent flotation testwork at SGS Lakefield confirms previous historical work that indicated rougher flotation recoveries of 96-98% were possible. The key conclusions from this testwork are as follows:

- Overall gold recoveries of +96% are possible using a single rougher flotation stage.
- The optimal mass recoveries for the flotation stage appear to be approximately 10-15%. There is evidence that additional grind size optimisation can reduce this mass recovery to <10% with no effect on overall recoveries.
- The silver content is effectively recovered using flotation techniques with similar efficiencies to those observed for gold. This difference in the silver recoveries via flotation versus gravity techniques indicates that a significant portion of the silver content is likely present in the form of sulfo-salts.

Future flotation testwork on the La Fortuna mineral will focus on the following areas:

- Examination of gold recoveries via cyanidation of the flotation concentrates;
- Grind size/reagent optimisation work;
- Rougher/cleaner flotation studies to determine potential for a final (direct to smelter) salable concentrate.

8. ORE SORTING

Observations of the La Fortuna core indicated that the gold present in the ore was related primarily to the presence of sulphide minerals that occurred in breccias and veins which were visually distinct from the remainder of the deposit host rock. Consequently, consideration was given to the application of ore sorting techniques. Ore sorting is a common procedure in Europe and other areas of the world. Essentially, particles of rock are passed in front of a camera that detects any one of many physical characteristics including colour, UV reflectance, infrared, x-ray adsorption, etc. Air jets are then used to separate those rocks that contain a calibrated signature from the remaining material.

Two ore sorting techniques were identified as having the potential for success with the La Fortuna material. The first – double source x-ray identification – is a common technique used to identify signatures from specific metals or other molecules. The second – microwave identification – is a new procedure that is presently being piloted by one of the sorting machine manufacturers as a new technique for sulphide mineral sorting. Many sulphide minerals (notably pyrite) are known to be effectively heated by microwave radiation and the heat signatures can then be identified using common ore sorting techniques.

8.1 X-Ray Sorting

Samples of the high grade and average grade material were sent to SGS/Terravision for bench top analysis using x-ray sorting techniques. For preliminary screening only rocks from 1/2" to 1" were utilized. The results of this testwork are summarized in Tables 8.1 and 8.2.

DEXRT Grouping	Mass g	Mass (%)	Assays Au (g/t)	Distribution Au (%)
1	457.3	13.83%	62	70.71%
2	398.5	12.05%	19.3	19.18%
3	291.8	8.83%	3.91	2.85%
4	932.2	28.19%	2.14	4.98%
5	559	16.91%	1.2	1.67%
6	176.7	5.34%	1.02	0.45%
7	207.4	6.27%	0.14	0.07%
8	283.4	8.57%	0.13	0.09%
<i>Calculated Head</i>	<i>3306.3</i>	<i>100.00%</i>	<i>12.13</i>	<i>100.00%</i>

Table 8.1. Results of x-ray ore sorting tests on La Fortuna high grade sample.

DEXRT Grouping	Mass		Assays	Distribution
	g	(%)	Au (g/t)	Au (%)
1	342.7	13.64	8.57	80.33
2	183.8	7.32	1.67	8.4
3	236	9.4	0.63	4.07
4	341.4	13.59	0.3	2.8
5	204.2	8.13	0.04	0.22
6	466	18.56	0.26	3.31
7	426	16.96	0.03	0.35
8	311.5	12.4	0.06	0.51
<i>Calculated Head</i>	<i>2511.6</i>	<i>100.00%</i>	<i>1.46</i>	<i>100.00%</i>

Table 8.2. Results of x-ray ore sorting tests on La Fortuna average grade sample.

The results from both of the x-ray ore sorting tests were very encouraging. From the data in Tables 8.1 and 8.2 it can be seen that in excess of 90% of the gold can be recovered in a mass stream that represents approximately 25-30% of the initial sample size. This separation efficiency appears to remain consistent regardless of differences in the initial sample head grades. Assuming that this procedure can be applied to the entire deposit, the implications of these results are as follows:

- Following crushing, the La Fortuna mineral could be processed via an ore sorting machine to produce a high grade sulphide stream that represents 25-30% on the initial material weight and contains in excess of 90% of the contained gold.
- The low volume but high grade sulphide product from sorting can be subjected to downstream processing via cyanidation, gravity and/or flotation techniques. Due to the reduced volume, the size and costs (operating/capital) of any processing equipment for this stream will be considerably reduced.
- It is possible that the low grade rejects from the sorting process could either be disposed of as a dry waste material (no tailings impoundment required) or potentially processed via a form of “dump-leaching” to recover a portion of the contained gold.

As a result of the promising early results it is recommended that larger scale continuous x-ray sorting tests be performed over a range of crush sizes. The product from this piloting work can then be utilised for testwork to examine downstream processing alternatives (i.e. heap leaching, flotation, gravity and ground ore cyanidation)

8.2 Microwave Sorting

Samples of the high grade (N3) and low grade (N2) materials were sent to Orectech for basic screening to examine their suitability to microwave sorting. As with the x-ray work the majority of the rocks were typically in the 1/2” to 1” size range. The results of the sorting tests are summarized in Table 8.2 and 8.3.

Fraction	Weight		Test and calculated results									
			Au		S total		Fe		As		Cu	
	Conc	% in fraction	Conc	% in fraction	Conc	% in fraction	Conc	% in fraction	Conc	% in fraction		
	g	%	g/t	%								
Cold	1198.0	58.4	0.65	2.42	1.18	21.68	6.27	48.10	0.000	0.00	0.13	8.51
Med	535.5	26.1	4.55	7.56	3.60	29.57	7.91	27.14	0.001	35.97	0.79	23.11
Hot	317.8	15.5	91.25	90.02	10.00	48.75	12.15	24.76	0.003	64.03	3.94	68.39
Calculated head	2051.3	100.0	15.70	100.00	3.18	100.00	7.61	100.00	0.001	100.00	0.89	100.00

Table 8.2 Microwave sorting of high grade La Fortuna sample (N3)

Fraction	Weight		Test and calculated results									
			Au		S total		Fe		As		Cu	
	Conc	% in fraction	Conc	% in fraction	Conc	% in fraction	Conc	% in fraction	Conc	% in fraction		
	g	%	g/t	%								
Cold	461.2	28.6	0.48	17.83	0.55	14.51	3.40	21.87	0.000	0.00	0.07	15.30
Med	944.7	58.5	0.09	6.85	0.57	30.80	4.65	61.32	0.000	0.00	0.05	22.38
Hot	208.8	12.9	4.48	75.33	4.58	54.69	5.77	16.82	0.000	0.00	0.63	62.32
Calculated head	1614.7	100.0	0.77	100.00	1.08	100.00	4.44	100.00	0.000	0.00	0.13	100.00

Table 8.3 Microwave sorting of low grade La Fortuna sample (N2)

As with the x-ray sorting results, the La Fortuna mineral responded positively to microwave sorting techniques. With the high grade (16 g/t Au) sample in excess of 90% of the gold can be recovered into a mass fraction containing approximately 20% of the initial sample weight. Even with the low grade (0.8 g/t Au) material the recovery only declined slightly to approximately 80%.

Samples from each of the the high grade sample “hot”, “med” and “cold” fractions were pulverized and subjected to standard bottle roll cyanidation methods (with carbon) to examine gold recoveries. Results of these tests indicated that all of the fractions exhibited good gold dissolutions with leach times in excess of 48 hours. Recoveries ranged from 88% in the low grade “cold” fraction to 94% in the high grade “hot fraction”.

8.3 Sorting Conclusions

Overall, the preliminary ore sorting results were very encouraging and additional continuous bench scale piloting was warranted. The key observations from the work completed to date (both x-ray and microwave sorting) include:

- The gold in the La Fortuna mineralization is intimately associated with the presence of sulphide minerals and sorting techniques to recovery high sulphide rocks are effective at also recovering +90% of the gold content.
- Gold recoveries from ore sorting remain high regardless of changes in the sample feed grades.
- Gold in all of the sorted fractions is easily recoverable by conventional cyanidation techniques which allows for a two phase processing system with more energy intensive techniques for the high grade gold “concentrate” and low intensity techniques (i.e. heap leaching) for the low grade gold “tailings”.
- Mineralized rock can be effectively sorted at reasonable crush sizes allowing for the use of a high capacity sorting machine. Additional testwork can better optimize the acceptable sort sizes.
- The high hardness of the La Fortuna deposit is actually beneficial to ore sorting since the mined rock can likely be crushed to optimal sort sizes while producing on a minimal quantity of fines.

9. FUTURE RECOMMENDATIONS

The following recommendations are provided for the ongoing Fortuna metallurgical work:

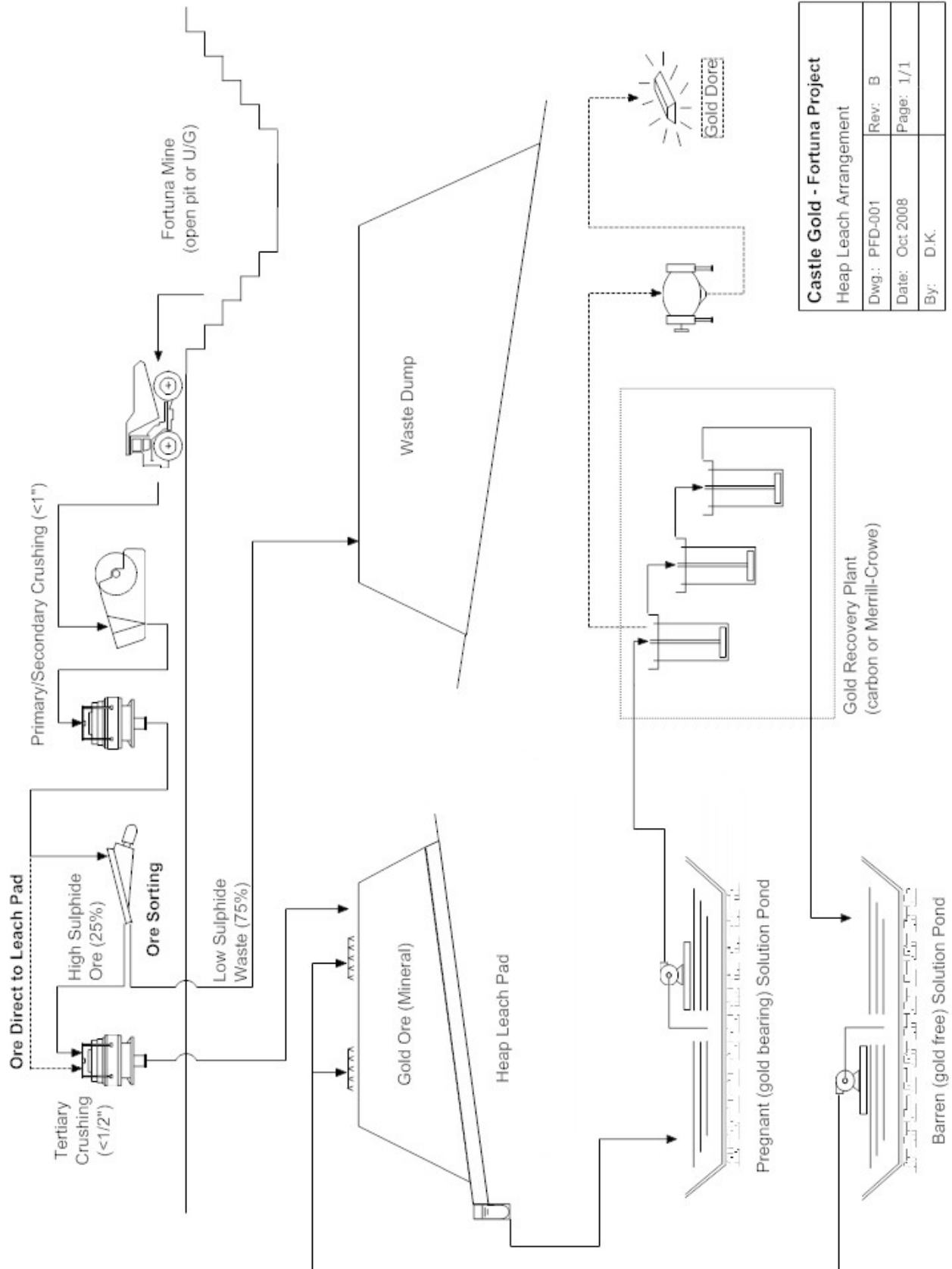
- Verify how the “base case” parameters summarized in this report vary when processing low and high grade samples.
- Perform ore-sorting continuous pilot campaign on large sample of Fortuna material to determine optimal crush sizes.
- Following the completion of the ore-sorting pilot work complete downstream processing testwork on ore-sorter concentrate to examine heap leaching, ground ore cyanidation, flotation/gravity concentration.
- Prepare “scoping-level” studies to evaluate capital and operating costs for each process alternative.
- As required, perform detailed metallurgical testwork on best alternatives from scoping studies to increase confidence in model parameters.

10. PROCESS FLOWSHEETS

Based on the metallurgical testwork completed to date a number of processing alternatives remain open for the La Fortuna project. These are illustrated in generic fashion in Figures 10.1 and 10.2.

Figure 10.1 illustrates a heap leaching operation with the potential use of ore-sorting techniques to significantly reduce the quantities of mineral stored on the leach pad. Figure 10.2 illustrates more conventional processing routes that incorporate grinding and a combination of direct cyanidation, flotation and/or gravity concentration. Once again, ore-sorting offers the potential to reduce the size of the downstream processing equipment.

The additional metallurgical work and scoping studies planned to be completed in 2009 will allow the company to prioritize the options for moving forward with the La Fortuna project.



Castle Gold - Fortuna Project			
Heap Leach Arrangement			
Dwg.: PFD-001	Rev: B	Page: 1/1	
Date: Oct 2008			
By: D.K.			

