Resultadas de las Pruebas de Concentración (9)

Tabla 06-009

No.	Prueba	Muestra	Peso (gr) / Volumen (ml)	Ag Ley (g/t)	Ag Continido Interior	Ag Contenido Exterior	Ag Contenido Total	Ag Recuperación (%)	Au Ley (g/t)	Au Continido	Au Recuperación (%)	Condición
28-1	Auto Clave	Cabeza	49.93	106.92			5,338.42		6.10	304.57	100.00	Plueba blanca
		Cake	49.93	28.00			1,398.04	26.19	0.20	9.99	3.28	Malla :
		2 Hr. Filtrado	150.00	13.00	1,950.00		1,950.00	36.53				Temp. :
		4 Hr. Filtrado	140.00	16.00	2,240.00	130.00	2,370.00	44.40				Presión :
		7 Hr. Filtrado	130.00	18.00	2,340.00	160.00	2,630.00	49.27				Tiempo :
		24 Hr. Filtrado	120.00	23.00	2,760.00	180.00	3,230.00	60.50				Presión Initial :
		30 Hr. Filtrado	110.00	24.00	2,640.00	230.00	3,340.00	62.57				
		48 Hr. Filtrado	237.00	12.00	2,844.00	240.00	3,784.00	70.88				
		Agua en Cake	13.03	12.00	156.38		3,940.38	73.81		294.59	96.72	Condiciónes Comun
		Humedad Cake	0.26									NaCN 0.4%, 48 Hr
28-2		Cabeza	47.75	98.31			4,694.27		6.10	291.28	100.00	Malla : -200
		Cake	47.75	25.00			1,193.75	25.43	0.10	4.78	1.64	Temp. : 212
		2 Hr. Filtrado	150.00	13.00	1,950.00		1,950.00	41.54				Presión : 19.4
		4 Hr. Filtrado	140.00	15.00	2,100.00	130.00	2,230.00	47.50				Tiempo : 30
		7 Hr. Filtrado	130.00	17.00	2,210.00	150.00	2,490.00	53.04				Presión Initial : Aire 1.1
		24 Hr. Filtrado	120.00	20.00	2,400.00	170.00	2,850.00	60.71				
		30 Hr. Filtrado	110.00	21.00	2,310.00	200.00	2,960.00	63.06				
		48 Hr. Filtrado	226.20	11.00	2,488.20	210.20	3,348.20	71.33				
		Agua en Cake	13.85	11.00	152.32		3,500.52	74.57		286.50	98.36	
		Humedad Cake	0.29									
28-3		Cabeza	48.47	99.55			4,825.30		6.10	295.67	100.00	Malla : -200
		Cake	48.47	23.00			1,114.81	23.10	0.10	4.85	1.64	Temp. : 211
		2 Hr. Filtrado	150.00	12.00	1,800.00		1,800.00	37.30				Presión : 19.1
		4 Hr. Filtrado	140.00	14.00	1,960.00	120.00	2,080.00	43.11				Tiempo : 15
		7 Hr. Filtrado	130.00	16.00	2,080.00	140.00	2,340.00	48.49				Presión Initial : —
		24 Hr. Filtrado	120.00	20.00	2,400.00	160.00	2,820.00	58.44				
		30 Hr. Filtrado	110.00	21.00	2,310.00	200.00	2,930.00	60.72				
		48 Hr. Filtrado	225.50	12.00	2,706.00	210.00	3,536.00	73.28				
		Agua en Cake	14.54	12.00	174.49		3,710.49	76.90		290.82	98.36	Condiciónes Comun
		Humedad Cake	0.30									NaCN 0.4%, 48 Hr

Resultadas de las Pruebas de Concentración (10)

Tabla 06-010

No.	Prueba	Muestra	Peso (gr) / Volumen (ml)	Ag Ley (g/t)	Ag Contenido Interior	Ag Contenido Exterior	Ag Contenido Total	Ag Recuperación (%)	Au Ley (g/t)	Au Contenido	Au Recuperación (%)	Condición
28-4	Auto Clave	Cabeza	47.73	103.56			4,943.12		6.10	291.15	100.00	Malla : -200
		Cake	47.73	25.00			1,193.25	24.14	0.20	9.55	3.28	Temp. : 213
		2 Hr. Filtrado	150.00	17.00	2,550.00		2,550.00	51.59				Presión : 19.1
		4 Hr. Filtrado	140.00	18.00	2,520.00	170.00	2,690.00	54.42				Tiempo : 60
		7 Hr. Filtrado	130.00	19.00	2,470.00	180.00	2,820.00	57.05				Presión Initial : —
		24 Hr. Filtrado	120.00	22.00	2,640.00	190.00	3,180.00	64.33				
		30 Hr. Filtrado	110.00	23.00	2,530.00	220.00	3,290.00	66.56				
		48 Hr. Filtrado	218.20	12.00	2,618.40	230.00	3,608.40	73.00				
		Agua en Cake	11.79	12.00	141.47		3,749.87	75.86		281.61	96.72	
		Humedad Cake	0.25									Flujo de Prueba : 6.1.6(4)
28-5		Cabeza	48.54	104.88			5,090.99		6.10	296.09	100.00	Malla : -200
		Cake	48.54	27.00			1,310.58	25.74	0.20	9.71	3.28	Temp. : 182
		2 Hr. Filtrado	150.00	14.00	2,100.00		2,100.00	41.25				Presión : 9.8
		4 Hr. Filtrado	140.00	15.00	2,100.00	140.00	2,240.00	44.00				Tiempo : 30
		7 Hr. Filtrado	130.00	17.00	2,210.00	150.00	2,500.00	49.11				Presión Initial : —
		24 Hr. Filtrado	120.00	21.00	2,520.00	170.00	2,980.00	58.53				
		30 Hr. Filtrado	110.00	23.00	2,530.00	210.00	3,200.00	62.86				
		48 Hr. Filtrado	226.20	12.00	2,714.40	230.00	3,614.40	71.00				
		Agua en Cake	13.83	12.00	166.01		3,780.41	74.26		286.39	96.72	Condicións Comun
		Humedad Cake	0.29									NaCN 0.4%, 48 Hr
28-6		Cabeza	44.50	118.00			5,251.12		6.10	271.45	100.00	Malla : -200
		Cake	44.50	27.00			1,201.50	22.88	0.10	4.45	1.64	Temp. : 206
		2 Hr. Filtrado	150.00	18.00	2,700.00		2,700.00	51.42				Presión : 18.1
		4 Hr. Filtrado	140.00	19.00	2,660.00	180.00	2,840.00	54.08				Tiempo : 30
		7 Hr. Filtrado	130.00	21.00	2,730.00	190.00	3,190.00	59.04				Presión Initial : O_2 5.3
		24 Hr. Filtrado	120.00	24.00	2,880.00	210.00	3,460.00	65.89				
		30 Hr. Filtrado	110.00	24.00	2,640.00	240.00	3,460.00	65.89				
		48 Hr. Filtrado	218.00	13.00	2,834.00	240.00	3,894.00	74.16				
		Agua en Cake	11.97	13.00	155.62		4,049.62	77.12		267.00	98.36	
		Humedad Cake	0.27									

Resultadas de las Pruebas de Concentración (11)

Tabla 06-011

No.	Prueba	Muestra	Peso (gr) / Volumen (ml)	Ag Ley (g/t)	Ag Continido Interior	Ag Contenido Exterior	Ag Contenido Total	Ag Recuperación (%)	Au Ley (g/t)	Au Continido	Au Recuperación (%)	Condición
28-7	Auto Clave	Cabeza	47.18	109.10			5,147.14		6.10	287.80	100.00	Malla : -200
		Cake	47.18	26.00			1,226.68	23.83	0.20	9.44	3.28	Temp. : 211
		2 Hr. Filtrado	150.00	16.00	2,400.00		2,400.00	46.63				Presión : 23.6
		4 Hr. Filtrado	140.00	18.00	2,520.00	160.00	2,680.00	52.07				Tiempo : 30
		7 Hr. Filtrado	130.00	20.00	2,600.00	180.00	2,940.00	57.12				Presión Initial : Aire 1.2
		24 Hr. Filtrado	120.00	25.00	3,000.00	200.00	3,540.00	68.78				
		30 Hr. Filtrado	110.00	25.00	2,750.00	250.00	3,540.00	68.78				
		48 Hr. Filtrado	227.30	12.00	2,727.60	250.00	3,767.60	73.20				
		Agua en Cake	12.74	12.00	152.86		3,920.46	76.17		278.36	96.72	Condiciónes Comun
		Humedad Cake	0.27									NaCN 0.4%, 48 Hr
28-8		Cabeza	48.12	113.38			5,455.87		6.10	293.53	100.00	Malla : -200
		Cake	48.12	29.00			1,395.48	25.58	0.10	4.81	1.64	Temp. : 211
		2 Hr. Filtrado	150.00	18.00	2,700.00		2,700.00	49.49				Presión : 24.8
		4 Hr. Filtrado	140.00	19.00	2,660.00	180.00	2,840.00	52.05				Tiempo : 30
		7 Hr. Filtrado	130.00	21.00	2,730.00	190.00	3,100.00	56.82				Presión Initial : O_2 5.2
		24 Hr. Filtrado	120.00	24.00	2,880.00	210.00	3,460.00	63.42				
		30 Hr. Filtrado	110.00	25.00	2,750.00	240.00	3,570.00	65.43				
		48 Hr. Filtrado	218.00	13.00	2,834.00	250.00	3,904.00	71.56				
		Agua en Cake	12.03	13.00	156.39		4,060.39	74.42		288.72	98.36	
		Humedad Cake	0.25									
28-9		Cabeza	47.99	114.64			5,501.47		6.10	292.74	100.00	Malla : -200
		Cake	47.99	29.00			1,391.71	25.30	0.20	9.60	3.28	Temp. : 206
		2 Hr. Filtrado	150.00	20.00	3,000.00		3,000.00	54.53				Presión : 33.1
		4 Hr. Filtrado	140.00	21.00	2,940.00	200.00	3,140.00	57.08				Tiempo : 30
		7 Hr. Filtrado	130.00	22.00	2,860.00	210.00	3,270.00	59.44				Presión Initial : O_2 10.1
		24 Hr. Filtrado	120.00	24.00	2,880.00	220.00	3,510.00	63.80				
		30 Hr. Filtrado	110.00	25.00	2,750.00	240.00	3,620.00	65.80				
		48 Hr. Filtrado	218.80	13.00	2,844.40	250.00	3,964.40	72.06				
		Agua en Cake	11.18	13.00	145.36		4,109.76	74.70		283.14	96.72	Condiciónes Comun
		Humedad Cake	0.23									NaCN 0.4%, 48 Hr

Resultadas de las Pruebas de Concentración (12)

Tabla 06-012

No.	Prueba	Muestra	Peso (gr) / Volumen (ml)	Ag Ley (g/t)	Ag Continido Interior	Ag Contenido Exterior	Ag Contenido Total	Ag Recuperación (%)	Au Ley (g/t)	Au Continido	Au Recuperación (%)	Condición
28-10	Auto Clave	Cabeza	48.79	124.13			6,056.16		6.10	297.62	100.00	Malla : -28
		Cake	48.79	28.00			1,366.12	22.56	0.10	4.88	1.64	Temp. : 211
		2 Hr. Filtrado	150.00	14.00	2,100.00		2,100.00	34.68				Presión : 19.5
		4 Hr. Filtrado	140.00	17.00	2,380.00	140.00	2,520.00	41.61				Tiempo : 30
		7 Hr. Filtrado	130.00	21.00	2,730.00	170.00	3,040.00	50.20				Presión Initial : —
		24 Hr. Filtrado	120.00	28.00	3,360.00	210.00	3,880.00	64.07				
		30 Hr. Filtrado	110.00	29.00	3,190.00	280.00	3,990.00	65.88				
		48 Hr. Filtrado	228.00	15.00	3,420.00	290.00	4,510.00	74.47				
		Agua en Cake	12.00	15.00	180.04		4,690.04	77.44		292.74	98.36	
		Humedad Cake	0.25									
28-11		Cabeza	47.84	105.90			5,066.47		6.10	291.82	100.00	Malla : -28
		Cake	47.84	14.00			669.76	13.22	0.10	4.78	1.64	Temp. : 210
		2 Hr. Filtrado	150.00	19.00	2,850.00		2,850.00	56.25				Presión : 24.1
		4 Hr. Filtrado	140.00	21.00	2,940.00	190.00	3,130.00	61.78				Tiempo : 30
		7 Hr. Filtrado	130.00	23.00	2,990.00	210.00	3,390.00	66.91				Presión Initial : O_2 5.1
		24 Hr. Filtrado	120.00	28.00	3,360.00	230.00	3,990.00	78.75				
		30 Hr. Filtrado	110.00	28.00	3,080.00	280.00	3,990.00	78.75				
		48 Hr. Filtrado	218.00	14.00	3,052.00	280.00	4,242.00	83.73				
		Agua en Cake	10.05	14.00	154.71		4,396.71	86.78		287.04	98.36	Condiciónes Comun
		Humedad Cake	0.23									NaCN 0.4%, 48 Hr

Flujo de Prueba (1)

Tabla 6-13

Tipo	Prueba
01	Cabeza Mag.Sepa.(5,000G) Mag-1 Mag.Sepa.(10,000G) Mag-2 Non-Mag.
02	Cabeza Mollienda(-65 Mesh) Decantacion Slime Flotacion (30%Solid,Na2CO3,Na2SiO3, Pine,Oleic,KAX) F1 T1 F2 T2 F3 T3 F4 Relave
03	Cabeza Lixiviacion (NaCN) Fluido Rediduo
04	Cabeza Tostacion (Clorurante,Desoxidante,Segregacion) Lixiviacion (NaCN) Fluido Rediduo

Flujo de Prueba (2)

Tabla 6-14

Tipo	Prueba
05	Cabeza Segregacion Flotacion F1 — Relave
06	Cabeza Mag.Sepa.(3,000G) Mag-1 — Lix.(NaCN) Mag.Sepa.(5,000G) Mag-2 — Lix.(NaCN) Mag.Sepa.(10,000G) Mag-3 — Lix.(NaCN) Non-Mag. — Lix.(NaCN)
07	Cabeza Flotacion F1 — Lix.(NaCN) — Fluido / Residuo Relave — Lix.(NaCN) — Fluido / Residuo

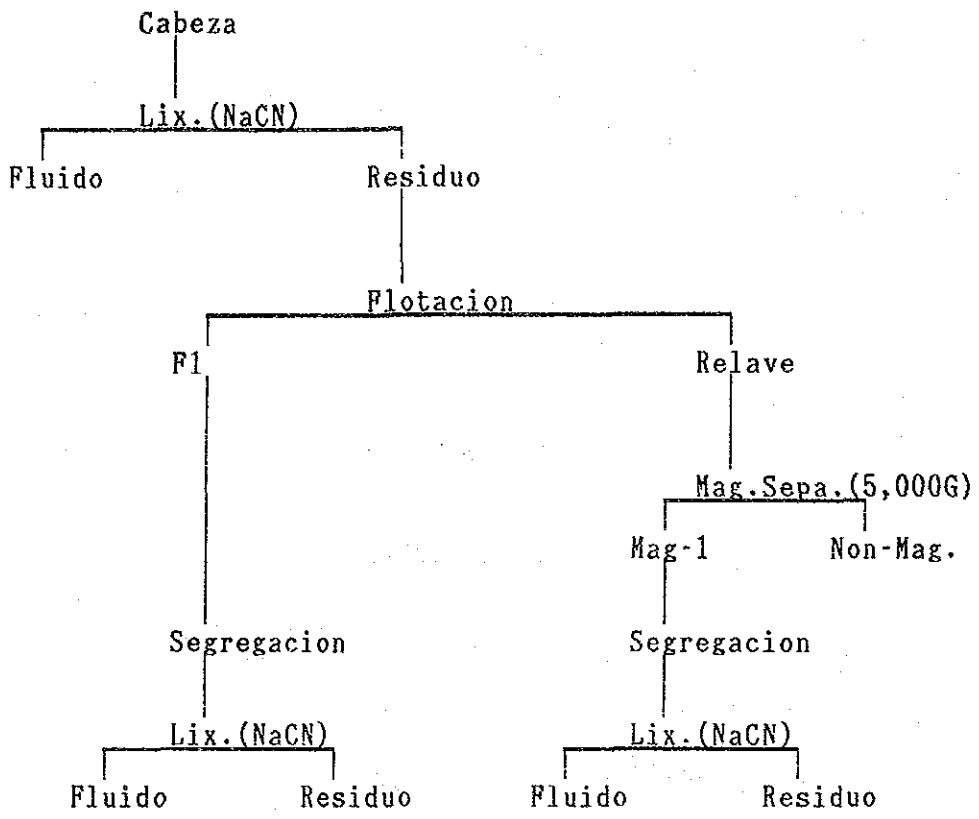
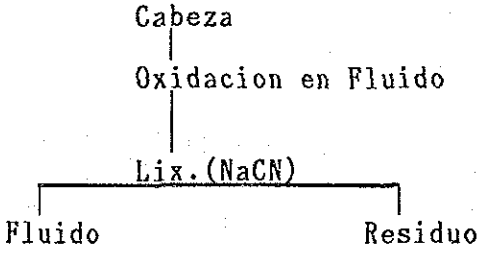
Flujo de Prueba (3)

Tabla 6-15

Tipo	Prueba
08	Cabeza Lix.(NaCN) Fluido / Residuo Flotacion F1 / Relave
09	Cabeza Mag.Sepa.(5,000G) Mag-1 / Non-Mag. Autoclave Lix.(NaCN) Fluido / Residuo
10	Cabeza Mag.Sepa.(5,000G) Mag-1 / Non-Mag. Oxidacion en Fluido Filtracion con Agua Solido / Liquido Lix.(NaCN) Fluido / Residuo

Flujo de Prueba (4)

Tabla 6-16

Tipo	Prueba
11	
12	

Especificacion de los Equipos de La Planta

Tabla 06-017

No	Equipo	Cantidad	Especificacion	Motor	Nota
	Seccion Trituracion				
1	Silo I	1	5m ϕ×8m, 250Tn Cap , Grilla de 300 ×300mm		Seccion Trituracion ('89 Realizado) Mineral para Planta : (1,4655 • Hr/Ano) ×(59,34t/Hr) =86,962t/Ano Mineral para Heap : (854,2Hr/Ans) ×(50,71t/Hr) =43,316t/Ans Operacion : 6Hr/Turno ×3 Turno/Dia, 2 personales/Turno
2	Alimentadora Alternativa	1	40′×40′ Movimiento reciproco, 380V, 11.1Amp	10 HP	
3	Cinta Transportadora	1	40′×9.3mL , Inclinada 5 ° , Con Electroiman 380V, 2.4Amp	10 HP	
4	Parrilla Fija	1	40′×2.5m , Inclinada 30 ° , 2′ parrilla		
5	Trituradora de Mamdibulas	1	17′×25′, apertura 50m/m, Ferroni (ARG) Duracion de Liner : 3meses/Unided (200kg) 380V, 21Amp (Load 11.2kw)	40 HP	
6	Cinta Intermedia	1	16′×12.3m, Inclinada 18 ° 380V 6.8Amp	7.5 HP	
7	Zaranda vibratoria de Doble Piso	1	1.2m ×3.0m Apertura 1/2′ y 3/8′, Ferroni (ARG) Duracion de Zaranda : 4meses, 380V, 7.8Amp	7.5 HP	
8	Trituradora de Cono	1	3′ Faco (Brazil), 380V, 62Amp Duracion de Mantle/Concave Liner :1.5/3.0 meses	60 HP	
9	Cinta Retorno #1	1	16′×16m, Inclinade 20 ° 380V 5.2Amp	7.5 HP	
10	〃 #2	1	16′× 4m, 380V 3.9Amp	2 HP	
11	Cinta Inferior	1	16′×30m, Inclinade 20 ° 380V 15.8Amp	10 HP	
	Seccion Molienda				
12	Silo II	1	9.60 ϕ×18.45mH, 1000Tn Cap		
13	Cinta transportadora	1	16′×20m Ferroni	10 HP	Oparacion {6,824.5Hr/(24 ×365=8,700) = } =284.4dias/Ano (1989)
14	Molino de bolas	1	7′ ×7′ Ferroni , 380V, 224Amp Duracion : Placas cilindricas 9 meses 〃 laterales 8 meses bolas : 13 ton (1kg/Ball ……60m/m) Consumo de bola : 0.94kg/t, NaCN 1.2kg/t, $Ca(OH)_2$ 3.1Kg/t, Agua desde el circuito de lavado	225 kw	Mineral tratado : (86,955.8ton/Ano) ÷ (6,824.5Hr) =12.74t/Hr o : (86,955.9ton/Ano) ÷ (284.4dias) =305.8t/dia Analisis de granulometrco Cabeza : +1/4′--10.0, +1m/m--44.0, -1m/m--46% ∴ F_{80}=4,000μm Producto : +65# --1.5, +325#--48.5, -325#--50.0% P_{80}=120μm Wio= $\{(\sqrt{3})(380)(224)(0.9)(0.9)/(12.74)/(1.1)\} / \{\frac{100}{\sqrt{120}} - \frac{10}{\sqrt{4000}}\}$ =13.7kwH/st
15	Hidrociclon	3	12′ Dorr Oliver Duracion de Liner Vortex-12, Apex-1, Inner-5meses		Desnidad de Pulpa : Feed 40, O-flow 25, U-flow 73% Solidos. Presion de Feed 0.8kg/cm2 100m³/Hr, S′ =1.35, 40% SOlid, d_{50}=0.4mm, 6.1m/sec. Actual Head 5m, Pipe Loss 2.2m, Total Headloss= 5+7.2+8= 20.2m
16	Bomba de Arena	2	4′ ×5′ FACO SRL-C, 380V, 18.1Amp Consume de Liner : 0.0042kg/t Dnracion de Impellar : 1,800Hr	25 HP	

Analisis Granulometrico 9.525m/m 6.35m/m

Tamano	3′	2′	1′	3/4′	1/2′	3/8′	1/4′	-1/4′		Total
Silo I	56.4	6.4	7.1	2.9	3.3	2.4	3.7	17.8		100%
Cabeza de Zaranda	-	9.7	13.7	1.6	2.4	4.0	28.2	40.3		100%
							-3/8′			
Cabeza de Cono	-	13.6	25.3	8.2	10.3	10.8	31.9			100%
								-1/4′		
Cinta Retorno	-	-	-	-	-	4.5	36.3	59.2		100%
								4#	-4#	
Cinta Inferior	-	-	-	-	-	0.3	22.4	7.5	69.8	100%

(80% pass 7m/m)

Carga Circulante del Cinta Retorno : aproximadamente 100%

No.	Equipo	Cantidad	Espocificaci9n	Motor	Nota
	Seccion de Cianuracion				
17	Espesador #1	1	50′ ϕ×10′	3.5HP	Densidad de Pulpa : U-flow 54, O-flow 0% Solid, pH 11.5, CN 900ppm Pulpa desde Molino : 1075m³/Dia, Pulpa a Clalificador : 690m³/Dia Ensayo : U-flow : Au2.0 /Ag70-g/m³, O-flow Au2.5 /Ag14g/m³
18	Clarificador de Solucion	1	50′ ϕ×10′		Concentracion Au 2.5ppm, Ag 12ppm, pH 11.5, CN 900ppm Solucion Rica : 690m³/Dia, (Au, Rec≒75%)
19	Bomba de Succion	5	Tipo Dorco, (Denver Diaphragm) Duracion de Diaphragm : 5 meses 380V, 4～6Amp	4 HP	385/408/408/408/385m³/Dia, Densidad de Pulpa 50～55% Solido, 2′ Reguiable
20	Bomba de Solucion rica	1	3′ ×2′ Warthington, 380V, 10.7Amp	10 HP	690～960 m³/Dia (40m³/Hr)
21	Agitador	3	30′ ϕ×25′ Dorr, Cap. 500m³/Unidad 3 r.p.m, 380V, 5～5.5Amp Con Aire Comprimido 3kg／cm², 5 m³/min	5 HP	594m³/Dia (de Clarificador 385, de Deposito de Sol. molienda 209 m³/Dia) Tiempo de Retencion : (500×3)/(594)=2.5Dias. Concentracion de O-flow : Au/Ag/CN=4/28/(900～700)ppm, 40% Solidos Relaciones entre Tiempo de Retencion y Disolucion de Au, Ag

Tiempo (Hr)			0	5	10	15	20	25	30	35	40
Ensayo (ppm)	Liquido	Ag	24.5	28.2	31.1	31.5	32.9	33.2	〃	〃	〃
		Au	3.21	3.55	3.69	3.76	3.84	3.86	3.87	3.89	3.91
	solido	Ag	85.2	79.8	75.3	74.5	71.9	〃	〃	〃	〃
		Au	1.54	1.01	0.81	0.71	0.58	0.55	0.56	0.51	0.49

22	Espesador #2	1	10′ ϕ×50′ 380V, 2.9Amp	3.5HP	Densidad de Pulpa : U-flow 52, O-flow-% solidos Pulpa desde : Agitador 594, Deposito de Sol. Esteril 16, Espesador #968m³/Dia Pulpa a : Deposito de Sol. Molienda 1170, Espesador #3 408 m³/Dia
23	Espesador #3	1	10′ ϕ×50′	3.5HP	Densidad de Pulpa : U-flow 52, O-flow-% solidos Pulpa desde : Espesador #2 408, Espesador #4 780, Filtro Disco 188 m³/Dia Pulpa a : Espesader #2 968, Espesador #4 408 m³/Dia
24	Espesador #4	1	10′ ϕ×50′	3.5HP	Densidad de Pulpa : U-flow 52, O-flow-% solidos Pulpa desde : Espesador #3 408, Deposito de Sol Esteril 690, Deposito de Agua 90, Esperador #5, (278) m³/Dia Pulpa a : Espesader #3 780, Espesador #5 408 m³/Dia
25	Espesador #5	1	10′ ϕ×50′	3.5HP	Densidad de Pulpa : U-flow 54, O-flow-% solidos Pulpa desde : Espesador #4 408, Deposito de Agua (272) m³/Dia Pulpa a : Relave (385m³), (Normal 130m³/Dia) Espesador #4 (278) m³/Dia
26	Filtro de disco	1 2	10′ ϕ×5discos, 380V 4 Amp Con 20 HP de Bomba de Vacio, y 4HP de Soplador 16′ Cinta transportadora (10m) 380V, 4.2/5.0 Amp	4 HP 24 HP 5 HP	Normalmente 2/3 de total relave es tratado por el Filtro y el Resto por la espesadra #5 Densidad de Pulpa : Cake 75%, O-flow-% Solidos Pulpa desde : Espesador #4 Max 408 m³/Dia Pulpa a : Relave Max 220 m³/Dia (Normal 150m³/Dia)
27	Bomba de Solucion Molienda	2	4′ ×3′ Warthington, 380V, 20Amp	20 HP	1170 m³/Dia, pH 11, Ensayo : Au 1.7, Ag 7g/m³, Acutual Head 45m

No.	Equipo	Cantidad	Espocificaci9n	Motor	Nota
28	Deposito de Solucion Molienda	1	7.5m ϕ×8mH Cap. 240 m³	HP	Liquido desde : Espesador #2, y Lixiviacion de Playa Liquido a : Molino de Bolas y Agitadoras
29	Deposito de Solucion Rica	1	〃		Liquido desde : Clarificadora Liquido a : Precipitacion
30	Deposito de Solucion Esteril	1	〃		Liquido desde : Cajas de precipitaciones Liquido a : Espesadora #2, #3, #4
31	Deposito de Agua	3	100m³×3, Cap. 200m³		Agua Fresco : 90 (272) m³/Dia, para Cianuracion, Total 470 m³/Dia (650×0.72)
	Seccion de Precipitacion				
32	Filtros de arena	3	Cap 50 m³×1 unided, Cap 30m³×2 Unidades		Cambio de Arena : 1 Ano
33	Tanque de Oxigenador	1	1.25mϕ×4.5mH, Merrill Crowe Tower con 20 HP de Bomba de Vacio 500mmHg 380V, 17.5 Amp y 2 HP de Blower	 20 HP 2 HP	Oxigeno en Liquido : 5 ppm
34	Cinc mezclador	1	2′ ×4′ 10′ Cinta transportadora	10 HP 2 HP	Zn : Au, Ag=4 : 1, Consumo 60kg/Dia, 92% Zn (400# 90%)
35	Bomba de Extraccion	1	3′ ×2′ Wathington, 380V, 6.9Amp	10 HP	
36	Cajas de Precipitado	4	4′ ×5′ ×6′ 35m³/hr/unidad 12 cmϕ×0.9mL Bolsa ×232 Unidades		Cake : 90% Solidos, Au 6%, Ag 34%, Zn 40%, Ensayo de Filtrado : Au 0.1, Ag 0.2g/m³ Consecha : 15 Dias
37	Bomba de Solucion Esteril	2	3′ ×2′ Warthington, 380V	10 HP	50 m³/Hr, 30m Head
38	Estufa de precipitado	1			
39	Fundente				
40	Horno	4		(4kw)	
41	Bullion				
	Seccion de Heap Leaching				
42	Bomba de Alimentacion	1	3′ ×2′ Warthington, Con 10mϕ×2.8mH Tanque	10 HP	
43	Tanque Aglomerador	1	5′ ×13′, 25t/Hr. Con Cinta tronsportadora Agitader NaCN Alimentador Cal	15 HP 9.5HP 10 HP 1 HP	2.4～2.6g/t de Au, 60～70g/t de Ag, -3/8′, 10～12% Humedad Con 3.0kg/t de $Ca(OH)_2$ y 0.5kg/t de NaCN (Concentracion de 9,000) 20t/Hr Total 43,312.6ton/′89, 45,828.7ton/′88 de Mineral tratado, Operacion 2,327 Hr/′89, 3,055Hr/′88, (18.6/15.0t/Hr) Tecnicos 1, operarios 14, Au Rec 70%, Ag Rec 35%
44	Playa de lixiviacion	1	1000 t/Sector×11 Sectores		43 dias/sector (Cianuracion 35, Lavado 6 dias, Desagua 1 dia, Transporte 1 dia)
45	Pileta de Solucion Lixiviante	2	Cap 200m³, Con 2′ ×2′ Warthington	12 HP	1 Pileta : Para Agua Fresco (40m³/Dia)
46	Pileta de Solucion Rica	1	Cap 600m³, Con 4′ ×3′ Warthington	20 HP	

COSTO DE PRODUCCION (SECCION SERVICIOS, INDERECTOS y GENERALES)

補助・管理部門コスト

	Seccion	Item		部門	項目
SERVICIOS			補助部門		
1	Acueducto y Usina		1	用水・発電	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
2	Taller Mecanico		2	機械工場	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
3	Sector Transporte		3	輸送	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
4	Obras Civiles		4	土木	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
5	Administracion de Personal		5	人事	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
6	Seguridad Industrial		6	保安	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
7	Geologia y Topografia		7	地質測量	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
8	Laboratorio Quimico		8	分析・試験	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
9	Servicio Medico		9	病院	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
10	Intendencia		10	山元総務	
	Mano de Obra	Fera/Convenio		労務費	非組合員
		Convenio			組合員
	Insumos y material			資機材他	
		Sub-Total			小計
		Total-1			計-1
GASTO INDERECTOS y GENERALES			管理部門		
11	Gerencia Economica Financiera		11	経理	
	Salarios	Fera/Convenio		給料	非組合員
		Convenio			組合員
	Materiales			資材	
	Gastos Varios de Produccion			生産諸経費	
	Gastos Varios de Administracion			管理諸経費	
		Sub-Total			小計
12	Relaciones Industriales		12	生産管理	
	Salarios	Fera/Convenio		給料	非組合員
		Convenio			組合員
	Materiales			資材	
	Gastos Varios de Produccion			生産諸経費	
	Gastos Varios de Administracion			管理諸経費	
		Sub-Total			小計
13	Gastos Generales		13	一般管理	
	Salarios	Fera/Convenio		給料	非組合員
		Convenio			組合員
	Gastos Varios de Administracion			管理諸経費	
		Sub-Total			小計
		Total-2			計-2
		Gran Total			合計

COSTO DE PRODUCCION (SECCION SERVICIOS, INDERECTOS y GENERALES)

Tabla 08-001

	Seccion	Item	Base de Calculo (Fin de 1991) Perso-nales	Perso-nales Costo US$/ano	-2 US$/ano	-1 US$/ano	0 US$/ano	1 US$/ano	2 US$/ano	3 US$/ano	4 US$/ano	5 US$/ano	6 US$/ano	7 US$/ano	8 US$/ano	9 US$/ano	0 Total US$/ano
				90,000	105,000	120,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000		1,530,000
				45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483		541,483
				135,000	150,000	165,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	181,483		2,071,483
SERVICIOS																	
1	Acueducto y Usina																
	Mano de Obra	Fera/Convenio	11	53,043	53,043	48,221	48,221	48,221	48,221	48,221	48,221	48,221	48,221	48,221	48,221		583,473
		Convenio	10	29,279	29,279	29,279	29,279	29,279	29,279	29,279	29,279	29,279	29,279	29,279	29,279		351,348
	Insumos y material			9,120	9,120	8,066	8,066	8,066	8,066	8,066	8,066	8,066	8,066	8,066	8,066		97,847
		Sub-Total	21	91,442	91,442	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566		1,032,668
2	Taller Mecanico																
	Mano de Obra	Fera/Convenio	4	20,867	20,867	15,650	15,650	10,434	10,434	10,434	10,434	10,434	10,434	10,434	10,434		146,069
		Convenio	2	5,800	5,800	8,700	8,700	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600		127,600
	Insumos y material			23,205	23,205	17,831	17,831	16,419	16,419	16,419	16,419	16,419	16,419	16,419	16,419		206,639
		Sub-Total	6	49,872	49,872	42,181	42,181	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453		480,308
3	Sector Transporte																
	Mano de Obra	Fera/Convenio	3	13,455	13,455	13,455	13,455	8,970	8,970	8,970	8,970	8,970	8,970	8,970	8,970		121,095
		Convenio	12	35,071	35,071	35,071	35,071	35,071	35,071	35,071	35,071	35,071	35,071	35,071	35,071		420,852
	Insumos y material			76,600	76,600	76,600	76,600	72,876	72,876	72,876	72,876	72,876	72,876	72,876	72,876		885,680
		Sub-Total	15	125,126	125,126	125,126	125,126	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917		1,427,627
4	Obras Civiles																
	Mano de Obra	Fera/Convenio	1	4,787	4,787	4,787	4,787	4,787	4,787	4,787	4,787	4,787	4,787	4,787	4,787		57,444
		Convenio	6	17,811	17,811	17,811	17,811	17,811	17,811	17,811	17,811	17,811	17,811	17,811	17,811		213,732
	Insumos y material			5,550	5,550	5,550	5,550	5,550	5,550	5,550	5,550	5,550	5,550	5,550	5,550		66,600
		Sub-Total	7	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148		337,776
5	Administracion de Personal																
	Mano de Obra	Fera/Convenio	10	65,658	65,658	45,961	26,263	13,132	13,132	13,132	13,132	13,132	13,132	13,132	13,132		256,066
		Convenio	7	20,235	20,235	17,344	17,344	14,454	14,454	14,454	14,454	14,454	14,454	14,454	14,454		185,006
	Insumos y material			6,130	6,130	3,270	1,606	757	757	757	757	757	757	757	757		17,816
		Sub-Total	17	92,023	92,023	66,575	45,213	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342		458,888
6	Seguridad Industrial																
	Mano de Obra	Fera/Convenio	4	21,404	21,404	21,404	21,404	21,404	21,404	21,404	21,404	21,404	21,404	21,404	21,404		256,848
		Convenio	2	5,939	5,939	5,939	5,939	5,939	5,939	5,939	5,939	5,939	5,939	5,939	5,939		71,268
	Insumos y material			73,675	73,675	73,675	73,675	73,675	73,675	73,675	73,675	73,675	73,675	73,675	73,675		884,100
		Sub-Total	6	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018		1,212,216
7	Geologia y Topografia																
	Mano de Obra	Fera/Convenio	3	13,455	13,455	13,455	13,455	8,970	8,970	8,970	8,970	8,970	8,970	8,970	8,970		121,095
		Convenio	4	11,533	11,533	11,533	11,533	11,533	11,533	11,533	11,533	11,533	11,533	11,533	11,533		138,396
	Insumos y material			9,145	9,145	9,145	9,145	6,774	6,774	6,774	6,774	6,774	6,774	6,774	6,774		88,402
		Sub-Total	7	34,133	34,133	34,133	34,133	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277		347,893
8	Laboratorio Quimico																
	Mano de Obra	Fera/Convenio	2	10,627	10,627	5,314	5,314	5,314	5,314	5,314	5,314	5,314	5,314	5,314	5,314		69,076
		Convenio	7	20,106	20,106	17,234	14,361	14,361	14,361	14,361	14,361	14,361	14,361	14,361	14,361		180,954
	Insumos y material			17,990	17,990	12,073	8,564	8,564	8,564	8,564	8,564	8,564	8,564	8,564	8,564		115,707
		Sub-Total	9	48,723	48,723	34,620	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239		365,737
9	Servicio Medico																
	Mano de Obra	Fera/Convenio	1	6,874	6,874	6,874	6,874	6,874	6,874	6,874	6,874	6,874	6,874	6,874	6,874		82,488
		Convenio	5	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432		173,184
	Insumos y material			102,260	102,260	102,260	102,260	102,260	102,260	102,260	102,260	102,260	102,260	102,260	102,260		1,227,120
		Sub-Total	6	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566		1,482,792
10	Intendencia																
	Mano de Obra	Fera/Convenio	2	8,219	8,219	8,219	8,219	8,219	8,219	8,219	8,219	8,219	8,219	8,219	8,219		98,628
		Convenio	32	92,251	92,251	80,720	72,071	60,540	60,540	60,540	60,540	60,540	60,540	60,540	60,540		789,899
	Insumos y material			48,920	48,920	37,518	29,964	21,222	21,222	21,222	21,222	21,222	21,222	21,222	21,222		307,403
		Sub-Total	34	149,390	149,390	126,456	110,254	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981		1,195,930
		Total-1	128	843,441	843,441	767,390	723,445	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	0	8,341,834
GASTO INDERECTOS y GENERALES																	
11	Gerencia Economica Financiera																
	Salarios	Fera/Convenio	32	175,009	175,009	120,319	32,814	54,690	54,690	54,690	54,690	54,690	54,690	54,690	54,690		820,355
		Convenio	24	70,440	70,440	58,700	52,830	44,025	44,025	44,025	44,025	44,025	44,025	44,025	44,025		578,195
	Materiales			7,392	7,392	3,874	1,164	1,224	1,224	1,224	1,224	1,224	1,224	1,224	1,224		23,446
	Gastos Varios de Produccion			58,308	58,308	64,787	71,265	77,744	77,744	77,744	77,744	77,744	77,744	77,744	77,744		894,697
	Gastos Varios de Administracion			85,392	85,392	70,557	59,340	54,275	54,275	54,275	54,275	54,275	54,275	54,275	54,275		703,760
		Sub-Total	56	396,541	396,541	318,235	217,413	231,958	231,958	231,958	231,958	231,958	231,958	231,958	232,598		3,020,453
12	Relaciones Industriales																
	Salarios	Fera/Convenio	11	60,112	60,112	32,788	21,859	10,929	10,929	10,929	10,929	10,929	10,929	10,929	10,929		213,124
		Convenio	17	49,036	49,036	23,076	17,307	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538		193,260
	Materiales			3,024	3,024	771	387	138	138	138	138	138	138	138	138		5,421
	Gastos Varios de Produccion			128,268	128,268	142,520	156,772	171,024	171,024	171,024	171,024	171,024	171,024	171,024	172,433		1,968,185
	Gastos Varios de Administracion			158,580	158,580	131,030	110,200	100,792	100,792	100,792	100,792	100,792	100,792	100,792	100,792		1,306,941
		Sub-Total	28	399,020	399,020	330,186	306,524	294,421	294,421	294,421	294,421	294,421	294,421	294,421	295,830		3,686,931
13	Gastos Generales																
	Salarios	Fera/Convenio	16	128,198	128,198	112,173	104,161	96,149	96,149	96,149	96,149	96,149	96,149	96,149	96,149		1,209,869
		Convenio	8	21,668	21,668	21,668	18,960	16,251	16,251	16,251	16,251	16,251	16,251	16,251	16,251		208,555
	Gastos Varios de Administracion			146,868	146,868	115,128	98,163	82,613	82,613	82,613	82,613	82,613	82,613	82,613	82,613		1,103,678
		Sub-Total	24	296,734	296,734	248,969	221,283	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013		2,522,101
		Total-2	108	1,092,295	1,092,295	897,391	745,221	721,392	721,392	721,392	721,392	721,392	721,392	721,392	723,442	0	9,229,485
		Gran Total	236	1,935,736	1,935,736	1,664,781	1,468,666	1,388,898	1,388,898	1,388,898	1,388,898	1,388,898	1,388,898	1,388,898	1,390,948	0	17,571,318

CALCULO de VENTA　　売上計算

Ano	年
Cabeza para Planta T/dia	選鉱処理量 (t/日)
Mineral tratado (T/Ano)	処理鉱量 (t/年)
Sub-Total : (2)+(3)+(4)	小計 : (2)+(3)+(4)
* (1).Open Pit	* (1).露天掘鉱
* (2).Farrallon	* (2).ﾌｧﾗｼﾞｮﾝ鉱
* (3).Port. y Labo.	* (3).ﾎﾟﾙﾃｽｴﾛ,ﾗﾎﾞﾚｵ鉱
* (4).Esperanza	* (4).ｴｽﾍﾟﾗﾝｻ鉱
Leyes (Au g/t)	品位 (Au g/t)
Sub-Total : (2)+(3)+(4)	小計 : (2)+(3)+(4)
* (1).Open Pit	* (1).露天掘鉱
* (2).Farrallon	* (2).ﾌｧﾗｼﾞｮﾝ鉱
* (3).Port. y Labo.	* (3).ﾎﾟﾙﾃｽｴﾛ,ﾗﾎﾞﾚｵ鉱
* (4).Esperanza	* (4).ｴｽﾍﾟﾗﾝｻ鉱
Contenido (Au g/ano)	金属量 (Au g/年)
Sub-Total : (2)+(3)+(4)	小計 : (2)+(3)+(4)
* (1).Open Pit	* (1).露天掘鉱
(2).Farrallon	(2).ﾌｧﾗｼﾞｮﾝ鉱
(3).Port. y Labo.	(3).ﾎﾟﾙﾃｽｴﾛ,ﾗﾎﾞﾚｵ鉱
(4).Esperanza	(4).ｴｽﾍﾟﾗﾝｻ鉱
Leyes (Ag g/t)	品位 (Ag g/t)
Sub-Total : (2)+(3)+(4)	小計 : (2)+(3)+(4)
* (1).Open Pit	* (1).露天掘鉱
* (2).Farrallon	* (2).ﾌｧﾗｼﾞｮﾝ鉱
* (3).Port. y Labo.	* (3).ﾎﾟﾙﾃｽｴﾛ,ﾗﾎﾞﾚｵ鉱
* (4).Esperanza	* (4).ｴｽﾍﾟﾗﾝｻ鉱
Contenido (Ag g/ano)	金属量 (Ag g/年)
Sub-Total : (2)+(3)+(4)	小計 : (2)+(3)+(4)
* (1).Open Pit	* (1).露天掘鉱
(2).Farrallon	(2).ﾌｧﾗｼﾞｮﾝ鉱
(3).Port. y Labo.	(3).ﾎﾟﾙﾃｽｴﾛ,ﾗﾎﾞﾚｵ鉱
(4).Esperanza	(4).ｴｽﾍﾟﾗﾝｻ鉱
Recuperacion (Au %)	採収率 (Au %)
* (1).Open Pit	* (1).露天掘(ﾚｰﾌﾟﾘｰﾁﾝｸﾞ)
* (2).Planta	* (2).青化工場
Recuperacion (Ag %)	採収率 (Ag %)
* (1).Open Pit	* (1).露天掘(ﾚｰﾌﾟﾘｰﾁﾝｸﾞ)
* (2).Planta	* (2).青化工場
Contenido (Au g/ano)	金属量 (Au g/年)
* (1).Open Pit	* (1).露天掘(ﾚｰﾌﾟﾘｰﾁﾝｸﾞ)
(2).Planta	(2).青化工場
Contenido (Ag g/ano)	金属量 (Ag g/年)
* (1).Open Pit	* (1).露天掘(ﾚｰﾌﾟﾘｰﾁﾝｸﾞ)
(2).Planta	(2).青化工場
Cotizacion (US$/Tr.oz)	金属価格 (US$/Tr.oz)
* (1).Au	* (1).Au
* (1).Ag	* (1).Ag
Valor de Produccion	生産金額
Total(US$/ano) : (1)+(2)	合計(US$/年) : (1)+(2)
(1).Au	(1).Au
(2).Ag	(2).Ag
Recuperacion de Refineria (%)	精錬採収率 (%)
* (1).Au	* (1).Au
* (1).Ag	* (1).Ag
R/C (US$/gr.)	R/C (US$/gr.)
* (1).Au	* (1).Au
* (1).Ag	* (1).Ag
Venta	売上総額(US$/年) : (1)+(2)
Total(US$/ano) : (1)+(2)	
(1).Au	(1).Au
(2).Ag	(2).Ag

CALCULO DE VENTA (135,000 TON/ANO, SIN AUTCLAVE)

Tabla 08-002

Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total
Cabeza para Planta T/dia	300	350	400	450	450	450	450	450	450	450	450	450	
Mineral tratado (T/Ano)													
Sub-Total : (2)+(3)+(4)	90,000	105,000	120,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	1,530,000
* (1).Open Pit	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483	541,483
* (2).Farrallon	40,000	25,000	25,000	15,000									105,000
* (3).Port. y Labo.	35,000	35,000	35,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	510,000
* (4).Esperanza	15,000	45,000	60,000	75,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	915,000
Leyes (Au g/t)													
Sub-Total : (2)+(3)+(4)	6.14	6.11	6.14	6.19	6.17	6.07	6.00	5.77	5.60	5.51	5.60	5.51	5.89
* (1).Open Pit	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
* (2).Farrallon	6.19	6.19	6.13	6.13									6.17
* (3).Port. y Labo.	6.40	6.40	6.60	6.70	6.50	6.40	6.20	5.80	5.53	5.53	5.53	5.53	6.07
* (4).Esperanza	5.39	5.85	5.88	5.90	6.00	5.90	5.90	5.75	5.63	5.50	5.63	5.50	5.75
Contenido (Au g/ano)													
Sub-Total : (2)+(3)+(4)	552,450	642,000	737,050	835,950	832,500	819,000	810,000	778,500	755,550	743,850	755,550	743,850	9,006,250
* (1).Open Pit	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	108,305	1,261,655
(2).Farrallon	247,600	154,750	153,250	91,950	0	0	0	0	0	0	0	0	647,550
(3).Port. y Labo.	224,000	224,000	231,000	301,500	292,500	288,000	279,000	261,000	248,850	248,850	248,850	248,850	3,096,400
(4).Esperanza	80,850	263,250	352,800	442,500	540,000	531,000	531,000	517,500	506,700	495,000	506,700	495,000	5,262,300
Leyes (Ag g/t)													
Sub-Total : (2)+(3)+(4)	112.00	111.00	112.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.32
* (1).Open Pit	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
* (2).Farrallon	105.00	105.00	105.00	105.00									105.00
* (3).Port. y Labo.	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00
* (4).Esperanza	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00
Contenido (Ag g/ano)													
Sub-Total : (2)+(3)+(4)	10,085,000	11,810,000	13,460,000	15,270,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	173,385,000
* (1).Open Pit	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,952,286	22,742,286
(2).Farrallon	4,200,000	2,625,000	2,625,000	1,575,000	0	0	0	0	0	0	0	0	11,025,000
(3).Port. y Labo.	4,235,000	4,235,000	4,235,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	61,710,000
(4).Esperanza	1,650,000	4,950,000	6,600,000	8,250,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	100,650,000
Recuperacion (Au %)													
* (1).Open Pit	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	
* (2).Planta	93.29	93.29	93.29	94.29	94.29	94.29	94.29	94.29	94.29	94.29	94.29	94.29	
Recuperacion (Ag %)													
* (1).Open Pit	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	
* (2).Planta	42.06	42.06	42.06	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	
Contenido (Au g/ano)	591,698	675,236	763,905	864,525	861,273	848,544	840,058	810,358	788,719	777,687	788,719	780,203	9,390,926
* (1).Open Pit	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	78,852	918,548
(2).Planta	515,362	598,900	687,569	788,189	784,937	772,208	763,722	734,022	712,383	701,351	712,383	701,351	8,472,378
Contenido (Ag g/ano)	4,896,636	5,622,171	6,316,161	9,816,885	9,861,885	9,861,885	9,861,885	9,861,885	9,861,885	9,861,885	9,861,885	9,883,467	105,568,515
* (1).Open Pit	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	676,467	7,880,202
(2).Planta	4,241,751	4,967,286	5,661,276	9,162,000	9,207,000	9,207,000	9,207,000	9,207,000	9,207,000	9,207,000	9,207,000	9,207,000	97,688,313
Cotizacion (US$/Tr.oz)													
* (1).Au	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	
* (1).Ag	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Valor de Produccion													
Total(US$/ano) : (1)+(2)	7,700,779	8,792,624	9,941,250	11,611,104	11,578,481	11,427,046	11,326,090	10,972,742	10,715,303	10,584,060	10,715,303	10,616,904	125,981,686
(1).Au	7,039,497	8,033,360	9,088,264	10,285,351	10,246,651	10,095,216	9,994,260	9,640,912	9,383,473	9,252,230	9,383,473	9,282,159	111,724,845
(2).Ag	661,282	759,264	852,986	1,325,753	1,331,830	1,331,830	1,331,830	1,331,830	1,331,830	1,331,830	1,331,830	1,334,745	14,256,841
Recuperacion de Refineria (%)													
* (1).Au	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	
* (1).Ag	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	
R/C (US$/gr.)													
* (1).Au	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	
* (1).Ag	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Venta													
Total(US$/ano) : (1)+(2)	7,491,540	8,553,821	9,671,119	11,303,589	11,272,068	11,125,064	11,027,061	10,684,050	10,434,142	10,306,738	10,434,142	10,338,892	122,642,026
(1).Au	6,833,565	7,798,353	8,822,398	9,984,465	9,946,897	9,799,893	9,701,890	9,358,879	9,108,971	8,981,567	9,108,971	9,010,621	108,456,469
(2).Ag	657,976	755,468	848,721	1,319,124	1,325,171	1,325,171	1,325,171	1,325,171	1,325,171	1,325,171	1,325,171	1,328,071	14,185,557

CALCULO DE VENTA (135,000 TON/ANO, PLANTA : CON AUTOCLAVE)

Tabla 08-003

Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total
Cabeza para Planta T/dia	300	350	400	450	450	450	450	450	450	450	450	450	
(* : Input Manual)													
Mineral tratado (T/Ano)													
Sub-Total : (2)+(3)+(4)	90,000	105,000	120,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	1,530,000
* (1).Open Pit	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483	541,483
* (2).Farrallon	40,000	25,000	25,000	15,000									105,000
* (3).Port. y Labo.	35,000	35,000	35,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	510,000
* (4).Esperanza	15,000	45,000	60,000	75,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	915,000
Leyes (Au g/t)													
Sub-Total : (2)+(3)+(4)	6.14	6.11	6.14	6.19	6.17	6.07	6.00	5.77	5.60	5.51	5.60	5.51	5.89
* (1).Open Pit	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
* (2).Farrallon	6.19	6.19	6.13	6.13									6.17
* (3).Port. y Labo.	6.40	6.40	6.60	6.70	6.50	6.40	6.20	5.80	5.53	5.53	5.53	5.53	6.07
* (4).Esperanza	5.39	5.85	5.88	5.90	6.00	5.90	5.90	5.75	5.63	5.50	5.63	5.50	5.75
Contenido (Au g/ano)													
Sub-Total : (2)+(3)+(4)	552,450	642,000	737,050	835,950	832,500	819,000	810,000	778,500	755,550	743,850	755,550	743,850	9,006,250
* (1).Open Pit	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	108,305	1,261,655
(2).Farrallon	247,600	154,750	153,250	91,950	0	0	0	0	0	0	0	0	647,550
(3).Port. y Labo.	224,000	224,000	231,000	301,500	292,500	288,000	279,000	261,000	248,850	248,850	248,850	248,850	3,096,400
(4).Esperanza	80,850	263,250	352,800	442,500	540,000	531,000	531,000	517,500	506,700	495,000	506,700	495,000	5,262,300
Leyes (Ag g/t)													
Sub-Total : (2)+(3)+(4)	112.00	111.00	112.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.32
* (1).Open Pit	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
* (2).Farrallon	105.00	105.00	105.00	105.00									105.00
* (3).Port. y Labo.	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00
* (4).Esperanza	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00
Contenido (Ag g/ano)													
Sub-Total : (2)+(3)+(4)	10,085,000	11,810,000	13,460,000	15,270,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	15,345,000	173,385,000
* (1).Open Pit	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,952,286	22,742,286
(2).Farrallon	4,200,000	2,625,000	2,625,000	1,575,000	0	0	0	0	0	0	0	0	11,025,000
(3).Port. y Labo.	4,235,000	4,235,000	4,235,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	5,445,000	61,710,000
(4).Esperanza	1,650,000	4,950,000	6,600,000	8,250,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	100,650,000
Recuperacion (Au %)													
* (1).Open Pit	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	
* (2).Planta	93.29	93.29	93.29	97.00	97.00	97.00	97.00	97.00	97.00	97.00	97.00	97.00	
Recuperacion (Ag %)													
* (1).Open Pit	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	
* (2).Planta	60.00	60.00	60.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	
Contenido (Au g/ano)	591,698	675,236	763,905	887,208	883,861	870,766	862,036	831,481	809,220	797,871	809,220	800,386	9,582,888
* (1).Open Pit	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	78,852	918,548
(2).Planta	515,362	598,900	687,569	810,872	807,525	794,430	785,700	755,145	732,884	721,535	732,884	721,535	8,664,339
Contenido (Ag g/ano)	6,705,885	7,740,885	8,730,885	12,870,885	12,930,885	12,930,885	12,930,885	12,930,885	12,930,885	12,930,885	12,930,885	12,952,467	139,517,202
* (1).Open Pit	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	676,467	7,880,202
(2).Planta	6,051,000	7,086,000	8,076,000	12,216,000	12,276,000	12,276,000	12,276,000	12,276,000	12,276,000	12,276,000	12,276,000	12,276,000	131,637,000
Cotizacion (US$/Tr.oz)													
* (1).Au	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	
* (1).Ag	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Valor de Produccion													
Total(US$/ano) : (1)+(2)	7,945,115	9,078,752	10,267,354	12,293,393	12,261,682	12,105,889	12,002,027	11,638,511	11,373,664	11,238,644	11,373,664	11,271,488	132,850,183
(1).Au	7,039,497	8,033,360	9,088,264	10,555,202	10,515,389	10,359,596	10,255,734	9,892,218	9,627,371	9,492,351	9,627,371	9,522,280	114,008,631
(2).Ag	905,618	1,045,393	1,179,091	1,738,190	1,746,293	1,746,293	1,746,293	1,746,293	1,746,293	1,746,293	1,746,293	1,749,208	18,841,551
Recuperacion de Refineria (%)													
* (1).Au	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	
* (1).Ag	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	
R/C (US$/gr.)													
* (1).Au	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	
* (1).Ag	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Venta													
Total(US$/ano) : (1)+(2)	7,734,654	8,838,519	9,995,593	11,975,922	11,945,335	11,794,100	11,693,277	11,340,395	11,083,295	10,952,225	11,083,295	10,984,179	129,420,790
(1).Au	6,833,565	7,798,353	8,822,398	10,246,423	10,207,774	10,056,538	9,955,715	9,602,833	9,345,734	9,214,663	9,345,734	9,243,717	110,673,446
(2).Ag	901,090	1,040,166	1,173,195	1,729,499	1,737,562	1,737,562	1,737,562	1,737,562	1,737,562	1,737,562	1,737,562	1,740,462	18,747,344

CALCULO DE VENTA (90,000 TON/ANO)

Tabla 08-004

Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
Cabeza para Planta T/dia	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
(* : Input Manual)																		
Mineral tratado (T/Ano)																		
Sub-Total : (2)+(3)+(4)	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	1,530,000
* (1).Open Pit	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483						541,483
* (2).Farrallon	40,000	25,000	25,000	15,000														105,000
* (3).Port. y Labo.	50,000	65,000	65,000	75,000	90,000	90,000	80,000											515,000
* (4).Esperanza							10,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	910,000
Leyes (Au g/t)																		
Sub-Total : (2)+(3)+(4)	6.09	6.06	6.04	6.03	6.01	6.01	5.98	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.88
* (1).Open Pit	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33						2.33
* (2).Farrallon	6.19	6.19	6.13	6.13														6.17
* (3).Port. y Labo.	6.01	6.01	6.01	6.01	6.01	6.01	6.01											6.01
* (4).Esperanza							5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78	5.78
Contenido (Au g/ano)																		
Sub-Total : (2)+(3)+(4)	548,100	545,400	543,900	542,700	540,900	540,900	538,600	520,200	520,200	520,200	520,200	520,200	520,200	520,200	520,200	520,200	520,200	9,002,500
* (1).Open Pit	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	104,850	108,305	0	0	0	0	0	1,261,655
(2).Farrallon	247,600	154,750	153,250	91,950	0	0	0	0	0	0	0	0	0	0	0	0	0	647,550
(3).Port. y Labo.	300,500	390,650	390,650	450,750	540,900	540,900	480,800	0	0	0	0	0	0	0	0	0	0	3,095,150
(4).Esperanza	0	0	0	0	0	0	57,800	520,200	520,200	520,200	520,200	520,200	520,200	520,200	520,200	520,200	520,200	5,259,800
Leyes (Ag g/t)																		
Sub-Total : (2)+(3)+(4)	112.00	111.00	112.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.36
* (1).Open Pit	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
* (2).Farrallon	105.00	105.00	105.00	105.00														105.00
* (3).Port. y Labo.	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00
* (4).Esperanza	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00	110.00
Contenido (Ag g/ano)																		
Sub-Total : (2)+(3)+(4)	10,250,000	10,490,000	10,490,000	10,650,000	10,890,000	10,890,000	10,780,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	173,440,000
* (1).Open Pit	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,890,000	1,952,286	0	0	0	0	0	22,742,286
(2).Farrallon	4,200,000	2,625,000	2,625,000	1,575,000	0	0	0	0	0	0	0	0	0	0	0	0	0	11,025,000
(3).Port. y Labo.	6,050,000	7,865,000	7,865,000	9,075,000	10,890,000	10,890,000	9,680,000	0	0	0	0	0	0	0	0	0	0	62,315,000
(4).Esperanza	0	0	0	0	0	0	1,100,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	9,900,000	100,100,000
Recuperacion (Au %)																		
* (1).Open Pit	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	72.81	
* (2).Planta	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	93.29	
Recuperacion (Ag %)																		
* (1).Open Pit	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	34.65	
* (2).Planta	42.06	42.06	42.06	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	
Contenido (Au g/ano)	587,640	585,122	583,722	582,603	580,924	580,924	578,778	561,613	561,613	561,613	561,613	564,129	485,277	485,277	485,277	485,277	485,277	9,316,680
* (1).Open Pit	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	76,336	78,852	0	0	0	0	0	918,548
(2).Planta	511,304	508,785	507,386	506,267	504,588	504,588	502,442	485,277	485,277	485,277	485,277	485,277	485,277	485,277	485,277	485,277	485,277	8,398,132
Contenido (Ag g/ano)	4,966,035	5,066,979	5,066,979	7,044,885	7,188,885	7,188,885	7,122,885	6,594,885	6,594,885	6,594,885	6,594,885	6,616,467	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	106,341,540
* (1).Open Pit	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	654,885	676,467	0	0	0	0	0	7,880,202
(2).Planta	4,311,150	4,412,094	4,412,094	6,390,000	6,534,000	6,534,000	6,468,000	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	5,940,000	98,461,338
Cotizacion (US$/Tr.oz)																		
* (1).Au	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	
* (1).Ag	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
Valor de Produccion																		
Total(US$/ano) : (1)+(2)	7,661,873	7,645,539	7,628,892	7,882,686	7,882,156	7,882,156	7,847,717	7,572,200	7,572,200	7,572,200	7,572,200	7,605,045	6,575,581	6,575,581	6,575,581	6,575,581	6,575,581	125,202,772
(1).Au	6,991,219	6,961,253	6,944,605	6,931,287	6,911,310	6,911,310	6,885,784	6,681,573	6,681,573	6,681,573	6,681,573	6,711,502	5,773,395	5,773,395	5,773,395	5,773,395	5,773,395	110,841,535
(2).Ag	670,654	684,287	684,287	951,399	970,846	970,846	961,933	890,628	890,628	890,628	890,628	893,542	802,186	802,186	802,186	802,186	802,186	14,361,237
Recuperacion de Refineria (%)																		
* (1).Au	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	
* (1).Ag	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	
R/C (US$/gr.)																		
* (1).Au	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	
* (1).Ag	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Venta																		
Total(US$/ano) : (1)+(2)	7,454,000	7,438,475	7,422,314	7,675,163	7,675,120	7,675,120	7,641,472	7,372,286	7,372,286	7,372,286	7,372,286	7,404,240	6,402,677	6,402,677	6,402,677	6,402,677	6,402,677	121,888,430
(1).Au	6,786,699	6,757,610	6,741,449	6,728,521	6,709,128	6,709,128	6,684,348	6,486,111	6,486,111	6,486,111	6,486,111	6,515,165	5,604,501	5,604,501	5,604,501	5,604,501	5,604,501	107,598,999
(2).Ag	667,301	680,865	680,865	946,642	965,992	965,992	957,123	886,174	886,174	886,174	886,174	889,074	798,176	798,176	798,176	798,176	798,176	14,289,431

		Ano			年
Playa de Lixi.	(Ton/Ano)		ヒープリーチング	(Ton/年)	
Ton Proyecto	(Ton/Ano)		浄化工場	(Ton/年)	
EXPLOTACION		Ton/Ano	採鉱		Ton/年
	Mano Ob.			労務費	
	Material			資材	
	Gastos			諸経費	
	Sub-t	US$/Ano		小計	US$/年
Playa de Lixi.		US$/Ton	ヒープリーチング		US$/Ton
		US$/Ano			US$/年
Prep.Operativa		Ton/Ano	採掘開坑		Ton/年
	Mano Ob.			労務費	
	Material			資材	
	Gastos			諸経費	
	Sub-t	US$/Ano		小計	US$/年
Maquina			機械設備		
	Total	US$/Ano		計	US$/年
	Para Expl			開坑用	
COSTO TOTAL de EXPLOTACION sin Maquina			採鉱費計（除．機械）		
COSTO TOTAL de EXPLOTACION		US$/Ano	採鉱費計		US$/年
(US$/Ton sin Maquina)				(US$/Ton ---除．機械)	
PREPARACION		US$/Ano	開坑		US$/年
	Mano Ob.			労務費	
	Material			資材	
	Gastos			諸経費	
	Sub-t	US$/Ano		小計	US$/年
Maquina para Preparacion		US$/Ano	開坑用機械		US$/年
COSTO TOTAL de INVERSION			投資総額		
COSTO TOTAL de PREPARACION		US$/Ano	開坑用投資計		US$/年
		Cum.			積算
		US$/Pes.			金額/工数
Mano de Obra			労務費		
Explotacion		4451.0	採鉱		4451.0
Preparacion		8902.0	開坑		8902.0
Total de Personal.			総人員		
		Ano			年
Preparacion Operativa			採掘開坑		
		Costo			コスト
	82012.50	US$/m		82012.50	US$/m
(1).LHD	Total		(1).LHD	計	
	Mano Ob.	186.0		労務費	186.0
	Material	384.0		資材他	384.0
(2).Pala	Total		(2).ローダー	計	
	Mano Ob.	214.0		労務費	214.0
	Material	436.0		資材他	436.0
(3).Chim(1)	Total		(3).アリマック切上り	計	
	Mano Ob.	0.0		労務費	0.0
	Material	0.0		資材他	0.0
(4).Chim(2)	Total		(4).仮足場切上り	計	
	Mano Ob.	127.0		労務費	127.0
	Material	233.0		資材他	233.0
		Ano			年
Preparacion			開坑		
(5).LHD(1)	Total		(5).LHD(大)	計	
	Mano Ob.	214.0		労務費	214.0
	Material	546.0		資材他	546.0
(6).LHD(2)	Total		(6).LHD(小)	計	
	Mano Ob.	186.0		労務費	186.0
	Material	484.0		資材他	484.0
(7).Pala	Total		(7).ローダー	計	
	Mano Ob.	214.0		労務費	214.0
	Material	656.0		資材他	656.0
(8).Chim(A)	Total		(8).アリマック切上り	計	
	Mano Ob.	255.0		労務費	255.0
	Material	589.0		資材他	589.0
(9).Chim(B)	Total		(9).仮足場切上り	計	
	Mano Ob.	128.0		労務費	128.0
	Material	297.0		資材他	297.0

COSTO TOTAL DE MINA (135,000 Ton/Ano CON MECANIZACION)

Tabla 08-005

		Ano	-2		-1		0		1		2		3		4		5		6		7		8		9		TOTAL
Playa de Lixi.		(Ton/Ano)	45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		46,483		541,483
Ton Proyecto		(Ton/Ano)	90,000		90,000		120,000		135,000		135,000		135,000		135,000		135,000		135,000		135,000		135,000		135,000		1,530,000
EXPLOTACION		Ton/Ano	73,759		87,958		103,085		114,627		120,781		120,781		125,881		125,881		125,881		125,881		125,881		130,607		1,381,000
	Mano Ob.		8.71	642	8.93	810	5.66	583	4.31	494	4.02	486	4.02	486	4.02	506	4.02	506	4.02	506	4.02	506	4.02	506	4.15	542	
	Material		7.46	550	7.16	630	6.51	671	6.47	742	6.14	742	6.14	742	6.14	773	6.14	773	6.14	773	6.14	773	6.14	773	5.68	742	
	Gastos		7.62	562	7.55	664	6.43	663	6.63	760	5.91	714	5.91	714	5.91	744	5.91	744	5.91	744	5.91	744	5.91	744	5.46	713	
	Sub-t	US$/Ano		1,755		1,903		1,917		1,996		1,941		1,941		2,023		2,023		2,023		2,023		2,023		1,997	23,665
																										(US$/T=)	17.06
Playa de Lixi.		US$/Ton	4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		
		US$/Ano		182		182		182		182		182		182		182		182		182		182		182		188	2,193
Prep.Operativa		Ton/Ano	16,244		17,042		16,915		20,373		14,219		14,219		9,119		9,119		9,119		9,119		9,119		4,393		149,000
	Mano Ob.			147		170		196		219		221		221		221		221		221		221		221		108	2,384
	Material			203		233		270		301		304		304		304		304		304		304		304		148	3,280
	Gastos			0		0		0		0		0		0		0		0		0		0		0		0	0
	Sub-t	US$/Ano		350		403		466		520		525		525		525		525		525		525		525		253	5,663
																										(US$/T=)	38.01
Maquina			HDx2,Jumbx1		..Sx5,Dumpx1		HDx6,Jumbx1		HDx1,Jumbx1				Enginex2		Legx5,Dumpx1		HSTx3,Legx5		HSTx1,Jumbx1				HSTx2,Legx3				
							Dumpx1,Payx1		Dumpx1				Jumbx1		Jeepx1		Jumbx1,Dumpx1		Dumpx1				Jeepx1,				
					Jeepx1,Fanx5,		C.Drillx1,Legx5						Legx3,Jeepx1				C.Drillx1										
	Total	US$/Ano	489		145		1,627		329				159		110		319		95				128				3,399
	Para Expl			290		89		1,062		227		0		159		110		319		95		0		128		0	2,476
	Imprevistos			24		7		81		16		0		8		5		16		5		0		6			
COSTO TOTAL de EXPLOTACION		sin Maquina		2,287		2,489		2,566		2,898		2,648		2,648		2,730		2,730		2,730		2,730		2,730		2,438	31,421
COSTO TOTAL de EXPLOTACION		US$/Ano		2,576		2,577		3,628		2,924		2,648		2,800		2,833		3,049		2,825		2,730		2,858		2,438	33,897
(US$/Ton	sin	Maquina)	25.41		23.70		21.38		19.98		19.61		19.61		20.22		20.22		20.22		20.22		20.22		18.06	(US$/T=)	20.54
PREPARACION		US$/Ano																									
	Mano Ob.			322		322		276		263		0		0		0		0		0		0		0		0	1,173
	Material			881		881		743		652		0		0		0		0		0		0		0		0	3,157
	Gastos			0		0		0		0		0		0		0		0		0		0		0		0	0
	Sub-t	US$/Ano		1,202		1,202		1,019		908		0		0		0		0		0		0		0		0	4,329
Maquina para Preparacion		US$/Ano		199		56		565		103		0		0		0		0		0		0		0		0	922
COSTO TOTAL de INVERSION				1,715		1,354		2,727		1,251		0		166		115		335		100		0		134		0	7,898
COSTO TOTAL de PREPARACION		US$/Ano		1,401		1,258		1,584		1,008		0		0		0		0		0		0		0		0	5,251
		Cum.		1,401		2,659		4,243		5,251		5,251		5,251		5,251		5,251		5,251		5,251		5,251		5,251	
		US$/Pes	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	Person.	US$/Ano	
Mano de Obra																											
Explotacion		4451.0	177	790	175	779	175	780	160	713	159	706	159	706	163	727	163	727	163	727	163	727	163	727	146	648	
Preparacion		8902.0	36	322	36	322	31	276	28	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total de Personal.			214	1,111	211	1,101	206	1,056	189	966	159	706	159	706	163	727	163	727	163	727	163	727	163	727	146	648	
		Ano	-2		-1		0		1		2		3		4		5		6		7		8		9		
Preparacion Operativa				Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano		Costo US$/Ano	
	82012.50	Costo US$/m																									
(1).LHD	Total		225.00 m	102	250.00 m	114	300.00 m	136	325.00 m	148	337.00 m	153	337.00 m	153	337.00 m	153	337.00 m	153	337.00 m	153	337.00 m	153	337.00 m	153	163.00 m	74	
	Mano Ob.	186.0		42		47		56		60		63		63		63		63		63		63		63		30	
	Material	334.0		60		67		81		87		91		91		91		91		91		91		91		44	
(2).Pala	Total		225.00 m	117	250.00 m	130	300.00 m	156	325.00 m	169	338.00 m	176	338.00 m	176	338.00 m	176	338.00 m	176	338.00 m	176	338.00 m	176	338.00 m	176	162.00 m	84	
	Mano Ob.	214.0		48		54		64		70		72		72		72		72		72		72		72		35	
	Material	436.0		69		76		92		99		103		103		103		103		103		103		103		49	
(3).Chim(1)	Total		0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
	Mano Ob.	0.0		0		0		0		0		0		0		0		0		0		0		0		0	
	Material	0.0		0		0		0		0		0		0		0		0		0		0		0		0	
(4).Chim(2)	Total		450.00 m	131	550.00 m	160	600.00 m	174	700.00 m	203	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	325.00 m	94	
	Mano Ob.	127.0		57		70		76		89		86		86		86		86		86		86		86		41	
	Material	233.0		73		90		98		114		110		110		110		110		110		110		110		53	
		Ano	-2		-1		0		1		2		3		4		5		6		7		8		9		
Preparacion																											
(5).LHD(1)	Total		100.00 m	76	100.00 m	76	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
	Mano Ob.	214.0		21		21	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	
	Material	646.0		55		55		0		0		0		0		0		0		0		0		0		0	
(6).LHD(2)	Total		650.00 m	436	650.00 m	436	750.00 m	503	650.00 m	436	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
	Mano Ob.	186.0		121		121		140		121		0		0		0		0		0		0		0		0	
	Material	494.0		315		315		363		315		0		0		0		0		0		0		0		0	
(7).Pala	Total		600.00 m	522	600.00 m	522	400.00 m	348	200.00 m	174	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
	Mano Ob.	214.0		128		128		86		43		0		0		0		0		0		0		0		0	
	Material	656.0		394		394		262		131		0		0		0		0		0		0		0		0	
(8).Chim(A)	Total		200.00 m	169	200.00 m	169	200.00 m	169	250.00 m	211	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
	Mano Ob.	255.0		51		51		51		64		0		0		0		0		0		0		0		0	
	Material	589.0		118		118		118		147		0		0		0		0		0		0		0		0	
(9).Chim(B)	Total		0.00 m	0	0.00 m	0	0.00 m	0	200.00 m	86	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
	Mano Ob.	128.0		0		0		0		26		0		0		0		0		0		0		0		0	
	Material	297.0		0		0		0		59		0		0		0		0		0		0		0		0	
			1550.00		1550.00		1350.00		1300.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		5,750

COSTO TOTAL DE MINA (135,000 T/AÑO, SIN MECANIZACION)

Tabla 06-006

Año	-2		-1		0		1		2		3		4		5		6		7		8		9		TOTAL
Playa de Lixi. (Ton/Año)	45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		45,000		46,483		541,483
Ton Proyecto (Ton/Año)	90,000		105,000		120,000		135,000		135,000		135,000		135,000		135,000		135,000		135,000		135,000		135,000		1,530,000
EXPLOTACION Ton/Año	73,756		87,958		103,085		114,627		120,781		120,781		125,881		125,881		125,881		125,881		125,881		130,607		1,381,000
Mano Ob.	8.71	642	8.71	766	8.71	898	8.71	998	8.71	1,052	8.71	1,052	8.71	1,096	8.71	1,096	8.71	1,096	8.71	1,096	8.71	1,096	8.71	1,138	
Material	7.46	550	7.46	656	7.46	769	7.46	855	7.46	901	7.46	901	7.46	939	7.46	939	7.46	939	7.46	939	7.46	939	7.46	974	
Gastos	7.62	562	7.62	670	7.62	786	7.62	873	7.62	920	7.62	920	7.62	959	7.62	959	7.62	959	7.62	959	7.62	959	7.62	995	
Sub-t US$/Año		1,755		2,093		2,452		2,727		2,873		2,873		2,995		2,995		2,995		2,995		2,995		3,107	32,854
																								(US$/T=)	23.79
Playa de Lixi. US$/Ton	4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		4.05		
US$/Año		182		182		182		182		182		182		182		182		182		182		182		188	2,193
Prep.Operativa Ton/Año	16,244		17,042		16,915		20,373		14,219		14,219		9,119		9,119		9,119		9,119		9,119		4,393		149,000
Mano Ob.		153		177		205		228		230		230		230		230		230		230		230		111	2,485
Material		211		242		281		313		316		316		316		316		316		316		316		152	3,411
Gastos		0		0		0		0		0		0		0		0		0		0		0		0	0
Sub-t US$/Año		364		419		488		541		546		546		546		546		546		546		546		263	5,896
																								(US$/T=)	39.57
Maquina			L.Sx6,Dumpx1		Payx1 Legx6		Dumpx1,Legx6						Legx6,Dumpx1		Payx1,Legx6 Topex1		Legx1								
Total US$/Año			99		613		99						85		95		85								1,076
Para Expl US$/Año		0		60		415		72		0		0		85		95		85		0		0		0	812
COSTO TOTAL de EXPLOTACION sin Maquina		2,301		2,694		3,120		3,450		3,602		3,602		3,723		3,723		3,723		3,723		3,723		3,558	40,943
COSTO TOTAL de EXPLOTACION US$/Año		2,301		2,754		3,535		3,522		3,602		3,602		3,808		3,818		3,808		3,723		3,723		3,558	41,756
(US$/Ton sin Maquina)	25.57		25.66		26.00		25.55		26.68		26.68		27.58		27.58		27.58		27.58		27.58		28.36	(US$/T=)	26.76
PREPARACION US$/Año																									
Mano Ob.		340		340		297		271		0		0		0		0		0		0		0		0	1,248
Material		1,003		1,003		872		764		0		0		0		0		0		0		0		0	3,643
Gastos		0		0		0		0		0		0		0		0		0		0		0		0	0
Sub-t US$/Año		1,343		1,343		1,169		1,036		0		0		0		0		0		0		0		0	4,891
Maquina para Prep. US$/Año		0		39		198		27		0		0		0		0		0		0		0		0	264
COSTO TOTAL de INVERSION(Con Maqui.)		1,343		1,442		1,782		1,135		0		0		85		95		85		0		0		0	5,967
COSTO TOTAL de PREPARACION US$/Año		1,343		1,382		1,387		1,063		0		0		0		0		0		0		0		0	5,155
Cum.		1,343		2,725		4,093		5,155		5,155		5,155		5,155		5,155		5,155		5,155		5,155		5,155	
US$/Pes	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	Person.	US$/Año	
Mano de Obra																									
Explotacion 4451.0	177	795	210	943	246	1,102	274	1,226	285	1,282	286	1,282	296	1,327	296	1,327	296	1,327	296	1,327	296	1,327	278	1,249	
Preparacion 8902.0	38	340	38	340	33	297	30	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total de Personal	215	1,136	248	1,283	279	1,400	304	1,498	286	1,282	286	1,282	296	1,327	296	1,327	296	1,327	296	1,327	296	1,327	278	1,248	
Preparacion Operativa Año	-2		-1		0		1		2		3		4		5		6		7		8		9		
Costo US$/m		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año		US$/Año	
(1).LHD Total	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 186.0		0		0		0		0		0		0		0		0		0		0		0		0	
Material 384.0		0		0		0		0		0		0		0		0		0		0		0		0	
(2).Pala Total	450.00 m	234	500.00 m	260	600.00 m	312	650.00 m	337	675.00 m	350	675.00 m	350	675.00 m	350	675.00 m	350	675.00 m	350	675.00 m	350	675.00 m	350	325.00 m	169	
Mano Ob. 214.0		98		107		128		139		144		144		144		144		144		144		144		70	
Material 436.0		137		153		183		198		206		206		206		206		206		206		206		99	
(3).Chim(1) Total	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 0.0		0		0		0		0		0		0		0		0		0		0		0		0	
Material 0.0		0		0		0		0		0		0		0		0		0		0		0		0	
(4).Chim(2) Total	450.00 m	131	550.00 m	160	600.00 m	174	700.00 m	203	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	675.00 m	196	325.00 m	94	
Mano Ob. 127.0		57		70		76		89		86		86		86		86		86		86		86		41	
Material 233.0		73		90		98		114		110		110		110		110		110		110		110		53	
Año	-2		-1		0		1		2		3		4		5		6		7		8		9		
Preparacion																									
(5).LHD(1) Total	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 214.0		0		0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	
Material 546.0		0		0		0		0		0		0		0		0		0		0		0		0	
(6).LHD(2) Total	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 166.0		0		0		0		0		0		0		0		0		0		0		0		0	
Material 484.0		0		0		0		0		0		0		0		0		0		0		0		0	
(7).Pala Total	1350.00 m	1,175	1350.00 m	1,175	1150.00 m	1,001	850.00 m	740	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 214.0		289		289		246		182		0		0		0		0		0		0		0		0	
Material 656.0		886		886		754		558		0		0		0		0		0		0		0		0	
(8).Chim(A) Total	200.00 m	169	200.00 m	169	200.00 m	169	250.00 m	211	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 255.0		51		51		51		64		0		0		0		0		0		0		0		0	
Material 589.0		118		118		118		147		0		0		0		0		0		0		0		0	
(9).Chim(B) Total	0.00 m	0	0.00 m	0	0.00 m	0	200.00 m	85	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	0.00 m	0	
Mano Ob. 128.0		0		0		0		26		0		0		0		0		0		0		0		0	
Material 297.0		0		0		0		59		0		0		0		0		0		0		0		0	
	1550.00		1550.00		1350.00		1300.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		5,750

COSTO TOTAL DE MINA (9,000 TON/AÑO, SIN MECANIZACION)

Tabla 08-007

Año	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Playa de Lixi. (Ton/Año)	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,493						641,493
Ton Proyecto (Ton/Año)	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	1,530,000
EXPLOTACION Ton/Año	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	73,756	1,253,852
Mano Ob.	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	8.71 642	
Material	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	7.46 550	
Gastos	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	7.62 562	
Sub-t US$/Año	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	29,829
																		23.79
Playa de Lixi. US$/Ton	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	
US$/Año	182	182	182	182	182	182	182	182	182	182	182	188	0	0	0	0	0	2,193
Prep.Operativa Ton/Año	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	16,244	276,148
Mano Ob.	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	2,609
Material	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	3,582
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-t US$/Año	364	364	364	364	364	364	364	364	364	364	364	364	364	364	364	364	364	6,191
																		22.42
Maquina																		
Total US$/Año	0	64	578	64	35	41	50	60	50	35	91	50		50				1,167
Para Expl	0	48	431	48	27	31	41	49	50	35	91	50	0	50	0	0	0	949
COSTO TOTAL de EXPLOTACION sin Maquina	2,301	2,301	2,301	2,301	2,301	2,301	2,301	2,301	2,301	2,301	2,301	2,307	2,119	2,119	2,119	2,119	2,119	38,213
COSTO TOTAL de EXPLOTACION US$/Año	2,301	2,349	2,732	2,349	2,328	2,333	2,342	2,350	2,351	2,336	2,392	2,357	2,119	2,169	2,119	2,119	2,119	39,162
(US$/Ton sin Maquina)	25.57	25.57	25.57	25.57	25.57	25.57	25.57	25.57	25.57	25.57	25.57	25.63	23.54	23.54	23.54	23.54	23.54	24.98
PREPARACION US$/Año																		
Mano Ob.	161	161	161	161	138	138	114	114	0	0	0	0	0	0	0	0	0	1,147
Material	440	440	440	440	372	372	297	297	0	0	0	0	0	0	0	0	0	3,097
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-t US$/Año	601	601	601	601	510	510	410	410	0	0	0	0	0	0	0	0	0	4,244
Maquina para Prep. US$/Año	0	16	147	16	8	9	9	11	0	0	0	0	0	0	0	0	0	218
COSTO TOTAL de INVERSION	601	665	1,179	665	544	550	460	470	50	35	91	50	0	50	0	0	0	5,411
COSTO TOTAL de PREPARACION US$/Año	601	617	749	617	517	519	420	422	0	0	0	0	0	0	0	0	0	4,462
Cum.	601	1,219	749	1,366	517	1,036	420	841	0	0	0	0	0	0	0	0	0	
US$/Pes	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	Person. US$/Año	
Mano de Obra																		
Explotacion 4451.0	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	
Preparacion 6902.0	18 161	18 161	18 161	18 161	16 138	16 138	13 114	13 114	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
Total de Personal.	197 957	197 957	197 957	197 957	194 934	194 934	192 910	192 910	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	179 796	
Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Preparacion Operativa / Costo	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	Costo US$/Año	
82012.50 US$/m																		
(1).LHD Total	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	
Mano Ob. 186.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Material 384.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
(2).Pala Total	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	450.00 m 234	
Mano Ob. 214.0	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	
Material 435.0	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	
(3).Chim(1) Total	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	
Mano Ob. 0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Material 0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
(4).Chim(2) Total	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	450.00 m 131	
Mano Ob. 127.0	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
Material 233.0	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	
Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Preparacion																		
(5).LHD(1) Total	50.00 m 38	50.00 m 38	50.00 m 38	50.00 m 38	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	
Mano Ob. 214.0	11	11	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	
Material 546.0	27	27	27	27	0	0	0	0	0	0	0	0	0	0	0	0	0	
(6).LHD(2) Total	325.00 m 218	325.00 m 218	325.00 m 218	325.00 m 218	375.00 m 251	375.00 m 251	325.00 m 218	325.00 m 218	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	
Mano Ob. 186.0	60	60	60	60	70	70	60	60	0	0	0	0	0	0	0	0	0	
Material 484.0	157	157	157	157	182	182	157	157	0	0	0	0	0	0	0	0	0	
(7).Pala Total	300.00 m 261	300.00 m 261	300.00 m 261	300.00 m 261	200.00 m 174	200.00 m 174	100.00 m 87	100.00 m 87	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	
Mano Ob. 214.0	64	64	64	64	43	43	21	21	0	0	0	0	0	0	0	0	0	
Material 656.0	197	197	197	197	131	131	66	66	0	0	0	0	0	0	0	0	0	
(8).Chim(A) Total	100.00 m 84	100.00 m 84	100.00 m 84	100.00 m 84	100.00 m 84	100.00 m 84	125.00 m 106	125.00 m 106	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	
Mano Ob. 255.0	26	26	26	26	26	26	32	32	0	0	0	0	0	0	0	0	0	
Material 589.0	59	59	59	59	59	59	74	74	0	0	0	0	0	0	0	0	0	
(9).Chim(B) Total	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	0.00 m 0	m 0	m 0	m 0	m 0	m 0	m 0	m 0	
Mano Ob. 128.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Material 297.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	775.00	775.00	775.00	775.00	675.00	675.00	550.00	550.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	5,550

Categoria	Item	分類	項目
Mano de Obra	Fera Convenio	労務費	非組合員
	Convenio		組合員
	Sub-Total		小計
Aceros	Boras	鉄鋼	ﾎﾞｰﾙﾛｯﾄﾞ
	Rodillo	２次品	ﾛｯﾄﾞ
	R.M. Liner		ﾛｯﾄﾞﾐﾙ･ﾗｲﾅｰ
	Blaker Liner		ﾌﾞﾚｰｶｰ･ﾗｲﾅｰ
	C.C. Liner		ｺｰﾝｸﾗｯｼｬ･ﾗｲﾅｰ
	B.M. Cell Liner		ﾎﾞｰﾙﾐﾙ･ｾﾙﾗｲﾅｰ
	B.M. End Liner		ﾎﾞｰﾙﾐﾙ･ｴﾝﾄﾞﾗｲﾅｰ
	Screen		網
	Otros		その他
	Sub-Total		小計
Reactivos	NaCN	試薬	NaCN
	Zn Dust		亜鉛末
	Ca(OH)2		石灰
	Floculant		凝集剤
	Borax		硼砂
	NaNO3,NaCO3		NaNO3,NaCO3
	Sub-Total		小計
Otros Insumos		その他消耗品	
Mantenimiento	Convencional	保全	従来工場分
	Autoclave		オートクレーブ
	Sub-Total		小計
Energia Electrica	Convencional	電力	従来工場分
	Parte Ampliacion		増設分
	Autoclave		オートクレーブ
	Sub-Total		小計
Agua	Convencional	用水	従来工場分
	Autoclave		オートクレーブ
	Otros		その他
	Sub-Total		小計
Trans. de Colas		廃さい輸送	
Fusion		溶融	
	Total (1)		計 (1)
Amortizacion	Convencional	減価償却	従来工場分
	Autoclave		オートクレーブ
	Otros		その他
	Sub-Total		小計
Lixi. Pilas		ﾋｰﾌﾟﾘｰﾁﾝｸﾞ	
	Gran Total		総計

COSTO DE PRODUCCION DE PLANTA (135,000 TON/ANO, SIN AUTOCLAVE)

Tabla 08-008

Categoria	Item	Costo	Base de Calculo	Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total
				Planta Tn/ano	90,000	105,000	120,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	1,530,000
				Lixi. Tn/ano	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483	541,483
		US$/T		Sub-T	135,000	150,000	165,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	181,483	2,071,483
				Inversion	Molino	Tituracion	Filtro										
							Usina										
		US$/Pers./ano															
Mano de Obra	Fera Convenio	9420.97	=(52,356,244/9970/10)*(1.495)*12		10	9	8	6	6	6	6	6	6	6	6	6	
	Convenio	4323.99	=(134,569,258/9970/56)*(1.495)*12		56	50	46	42	42	42	42	42	42	42	42	42	
					* (4*10+13+3+10)=66				* (4*7+12+2+6)=48								
	Sub-Total	3.74	=(224,986US$/Y*1.495)/(90,000)		336,353	300,988	274,272	238,134	238,134	238,134	238,134	238,134	238,134	238,134	238,134	238,134	3,054,816
					3.74			1.76									
Aceros	Boras	0.87	=(0.94Kg/t*1.55US$/Kg)*(0.6)		131,130	91,791	104,904	118,017	118,017	118,017	118,017	118,017	118,017	118,017	118,017	118,017	1,389,978
	Rodillo	0.58	=(0.94Kg/t*1.55US$/Kg)*(0.4)		0	61,194	69,936	78,678	78,678	78,678	78,678	78,678	78,678	78,678	78,678	78,678	839,232
	R.M. Liner	0.14	=(12/9)*(16,000$)/(90000)(0.5)		12,800	14,933	17,067	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	217,600
	Blaker Liner	0.07	=(12/3)(1.20)(1,300US$)/(90,000)		6,240	7,280	8,320	9,360	9,360	9,360	9,360	9,360	9,360	9,360	9,360	9,360	106,080
	C.C. Liner	0.10	=((12/2.0)(800$)+(12/3)(1,000$))/(90,000)		8,800	10,267	11,733	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	149,600
	B.M. Cell Liner	0.24	=(12/9)*(16,000$)/(90000)		21,333	24,889	28,444	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	362,667
	B.M. End Liner	0.27	=(12/8)*(16,000$)/(90000)		24,000	28,000	32,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	408,000
	Screen	0.02	=(12/4)*(2)*(230$)/(90000)		1,380	1,610	1,840	2,070	2,070	2,070	2,070	2,070	2,070	2,070	2,070	2,070	23,460
	Otros	0.05	=(2,700$)/(90,000)		4,500	5,250	6,000	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	76,500
	Sub-Total	2.34			210,183	245,214	280,244	315,275	315,275	315,275	315,275	315,275	315,275	315,275	315,275	315,275	3,573,117
Reactivos	NaCN	3.06	=(1.2Kg/t*1.70US$)*(1.5)		183,600	214,200	244,800	413,100	413,100	413,100	413,100	413,100	413,100	413,100	413,100	413,100	4,360,500
	Zn Dust	0.68	=(2.35$/Kg)*(60Kg/D)*(28*12)/(90000)*(1.3)		47,376	55,272	63,168	92,383	92,383	92,383	92,383	92,383	92,383	92,383	92,383	92,383	997,265
	Ca(OH)2	0.56	=(3.1Kg/t*0.18$/Kg)		50,220	58,590	66,960	75,330	75,330	75,330	75,330	75,330	75,330	75,330	75,330	75,330	853,740
	Floculant	0.22	=(19,800$)/(90,000)		19,800	23,100	26,400	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	336,600
	Borax	0.06	=(5,400$)/(90,000)		5,400	6,300	7,200	8,100	8,100	8,100	8,100	8,100	8,100	8,100	8,100	8,100	91,800
	NaNO3,NaCO3	0.08	=(7,200$)/(90,000)		7,200	8,400	9,600	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	122,400
	Sub-Total	4.66			313,596	365,862	418,128	629,413	629,413	629,413	629,413	629,413	629,413	629,413	629,413	629,413	6,762,305
Otros Insumos		0.64	=(57,600$/90,000)		57,600	67,200	76,800	86,400	86,400	86,400	86,400	86,400	86,400	86,400	86,400	86,400	979,200
Mantenimiento	Convencional	0.24	=(21,810$/90,000)		21,810	25,445	29,080	32,715	32,715	32,715	32,715	32,715	32,715	32,715	32,715	32,715	370,770
	Autoclave	0.00															0
	Sub-Total	0.24			21,810	25,445	29,080	32,715	32,715	32,715	32,715	32,715	32,715	32,715	32,715	32,715	370,770
Energia Electrica	Convencional	3.15	=(2'576,640Kwh/y)*(0.11US$/Kw)/(90,000)		283,430	390,185	461,490	547,542	547,542	547,542	547,542	547,542	547,542	547,542	547,542	547,542	6,062,983
	Parte Ampliacion		=(71)+(227.5)+(82.5+10) Hp (US$/t)		(3.15)	(3.72)	(3.85)	(4.06)									0
	Autoclave																0
	Sub-Total	3.15	Cru..15%,Grind..45%,CN..20%,Etc..20%=100%		283,430	390,185	461,490	547,542	547,542	547,542	547,542	547,542	547,542	547,542	547,542	547,542	6,062,983
Agua	Convencional	0.99	=(1'389,928Kwh/y*.58)*(0.11US$/Kw)/(90,000		88,677	103,457	118,237	103,457	103,457	103,457	103,457	103,457	103,457	103,457	103,457	103,457	1,241,484
	Autoclave																0
	Otros	0.44	=(39,600$/90,000)		39,600	46,200	52,800	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400	673,200
	Sub-Total	1.43	=(192,360$)/(90,000)		128,277	149,657	171,037	162,857	162,857	162,857	162,857	162,857	162,857	162,857	162,857	162,857	1,914,684
Trans. de Colas		0.93	=(83,700$)/(90,000)		83,700	97,650	111,600	179,357	179,357	179,357	179,357	179,357	179,357	179,357	179,357	179,357	1,907,164
Fusion		0.26	=(23,490$)/(90,000)		23,490	27,405	31,320	35,235	35,235	35,235	35,235	35,235	35,235	35,235	35,235	35,235	399,330
	Total (1)	17.38			1,458,441	1,669,606	1,853,971	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	25,024,369
Amortizacion	Convencional	0.00	=(220,915$)/(90,000)		0	0	0	0	0	0	0	0	0	0	0	0	0
	Autoclave				0	0	0	0	0	0	0	0	0	0	0	0	0
	Otros				0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-Total	0.00			0	0	0	0	0	0	0	0	0	0	0	0	0
Lixi. Pilas		3.52	=(170,720$)/(48,500t)		158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	163,620	1,906,020
	Gran Total	20.90			1,616,841	1,828,006	2,012,371	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,390,548	26,930,389
				Costo Total	17.96	17.41	16.77	17.67	17.67	17.67	17.67	17.67	17.67	17.67	17.67	17.71	17.60

COSTO DE PRODUCCION DE PLANTA (135,000 TON/ANO, CON AUTOCLAVE)

Tabla 08-009

Categoria	Item	Costo	Base de Calculo	Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total
				Planta Tn/ano	90,000	105,000	120,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	1,530,000
				Lixi. Tn/ano	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483	541,483
		US$/T		Sub-T	135,000	150,000	165,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	181,483	2,071,483
				Inversion	Molino	Tituracion	Filtro										
		US$/Pers./ano					Usina										
Mano de Obra	Fera Convenio	9420.97	=(52,356,244/9970/10)*(1.495)*12		10	9	8	6	6	6	6	6	6	6	6	6	
	Convenio	4323.99	=(134,569,258/9970/56)*(1.495)*12		56	50	46	42	42	42	42	42	42	42	42	42	
					* (4*10+13+3+10)=66				* (4*7+12+2+6)=48								
	Sub-Total	3.74	=(224,986US$/Y*1.495)/(90,000)		336,353	300,988	274,272	238,134	238,134	238,134	238,134	238,134	238,134	238,134	238,134	238,134	3,054,816
					3.74			1.76									
Aceros	Boras	0.87	=(0.94Kg/t*1.55US$/Kg)*(0.6)		131,130	91,791	104,904	118,017	118,017	118,017	118,017	118,017	118,017	118,017	118,017	118,017	1,389,978
	Rodillo	0.58	=(0.94Kg/t*1.55US$/Kg)*(0.4)		0	61,194	69,936	78,678	78,678	78,678	78,678	78,678	78,678	78,678	78,678	78,678	839,232
	R.M. Liner	0.14	=(12/9)*(16,000$)/(90000)(0.5)		12,800	14,933	17,067	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	19,200	217,600
	Blaker Liner	0.07	=(12/3)(1.20)(1,300US$)/(90,000)		6,240	7,280	8,320	9,360	9,360	9,360	9,360	9,360	9,360	9,360	9,360	9,360	106,080
	C.C. Liner	0.10	=((12/2.0)(800$)+(12/3)(1,000$))/(90,000)		8,800	10,267	11,733	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	149,600
	B.M. Cell Liner	0.24	=(12/9)*(16,000$)/(90000)		21,333	24,889	28,444	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000	362,667
	B.M. End Liner	0.27	=(12/8)*(16,000$)/(90000)		24,000	28,000	32,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	408,000
	Screen	0.02	=(12/4)*(2)*(230$)/(90000)		1,380	1,610	1,840	2,070	2,070	2,070	2,070	2,070	2,070	2,070	2,070	2,070	23,460
	Otros	0.05	=(2,700$)/(90,000)		4,500	5,250	6,000	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	76,500
	Sub-Total	2.34			210,183	245,214	280,244	315,275	315,275	315,275	315,275	315,275	315,275	315,275	315,275	315,275	3,573,117
Reactivos	NaCN	2.04	=(1.2Kg/t*1.70US$)		275,400	321,300	367,200	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	3,442,500
	Zn Dust	0.53	=(2.35$/Kg)*(60Kg/D)*(28*12)/(90000)*(1.3)		61,589	71,854	82,118	71,064	71,064	71,064	71,064	71,064	71,064	71,064	71,064	71,064	855,137
	Ca(OH)2	0.56	=(3.1Kg/t*0.18$/Kg)		50,220	58,590	66,960	75,330	75,330	75,330	75,330	75,330	75,330	75,330	75,330	75,330	853,740
	Floculant	0.22	=(19,800$)/(90,000)		19,800	23,100	26,400	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	336,600
	Borax	0.06	=(5,400$)/(90,000)		5,400	6,300	7,200	8,100	8,100	8,100	8,100	8,100	8,100	8,100	8,100	8,100	91,800
	NaNO3,NaCO3	0.08	=(7,200$)/(90,000)		7,200	8,400	9,600	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	122,400
	Sub-Total	3.48			419,609	489,544	559,478	470,394	470,394	470,394	470,394	470,394	470,394	470,394	470,394	470,394	5,702,177
Otros Insumos		0.64	=(57,600$/90,000)		57,600	67,200	76,800	86,400	86,400	86,400	86,400	86,400	86,400	86,400	86,400	86,400	979,200
Mantenimiento	Convencional	0.24	=(21,810$/90,000)		21,810	25,445	29,080	32,715	32,715	32,715	32,715	32,715	32,715	32,715	32,715	32,715	370,770
	Autoclave	0.10						13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	121,500
	Sub-Total	0.34			21,810	25,445	29,080	46,215	46,215	46,215	46,215	46,215	46,215	46,215	46,215	46,215	492,270
Energia Electrica	Convencional	3.15	=(2'576,640Kwh/y)*(0.11US$/Kw)/(90,000)		283,430	390,185	461,490	547,542	547,542	547,542	547,542	547,542	547,542	547,542	547,542	547,542	6,062,983
	Parte Ampliacion		=(71)+(227.5)+(82.5+10) Hp (US$/t)		(3.15)	(3.72)	(3.85)	(4.06)									0
	Autoclave	2.37	=(Fuel oil:11.1Kg/T,0.16US$/Kg./.75)					319,680	319,680	319,680	319,680	319,680	319,680	319,680	319,680	319,680	2,877,120
	Sub-Total	5.52	Cru..15%,Grind..45%,CN..20%,Etc..20%=100%		283,430	390,185	461,490	867,222	867,222	867,222	867,222	867,222	867,222	867,222	867,222	867,222	8,940,103
Agua	Convencional	0.99	=(1'389,928Kwh/y*.58)*(0.11US$/Kw)/(90,000		88,677	103,457	118,237	103,457	103,457	103,457	103,457	103,457	103,457	103,457	103,457	103,457	1,241,484
	Autoclave	0.08						10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	94,499
	Otros	0.44	=(39,600$/90,000)		39,600	46,200	52,800	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400	59,400	673,200
	Sub-Total	1.50	=(192,360$)/(90,000)		128,277	149,657	171,037	173,357	173,357	173,357	173,357	173,357	173,357	173,357	173,357	173,357	2,009,183
Trans. de Colas		0.93	=(83,700$)/(90,000)		83,700	97,650	111,600	179,357	179,357	179,357	179,357	179,357	179,357	179,357	179,357	179,357	1,907,164
Fusion		0.26	=(23,490$)/(90,000)		23,490	27,405	31,320	35,235	35,235	35,235	35,235	35,235	35,235	35,235	35,235	35,235	399,330
	Total (1)	18.75			1,564,453	1,793,288	1,995,321	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	27,057,360
Amortizacion	Convencional	0.00	=(220,915$)/(90,000)		0	0	0	0	0	0	0	0	0	0	0	0	0
	Autoclave				0	0	0	0	0	0	0	0	0	0	0	0	0
	Otros				0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-Total	0.00			0	0	0	0	0	0	0	0	0	0	0	0	0
Lixi. Pilas		3.52	=(170,720$)/(48,500t)		158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	163,620	1,906,020
	Gran Total	22.27			1,722,853	1,951,688	2,153,721	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,575,209	28,963,380
				Costo Total	19.14	18.59	17.95	19.04	19.04	19.04	19.04	19.04	19.04	19.04	19.04	19.08	18.93

COSTO DE PRODUCCION DE PLANTA (90,000 TON/AÑO)

Tabla 08-010

Seccion	Item	Costo	Base de Calculo	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
			Planta Tn/y	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	1,530,000
			Lixi. Tn/y	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	46,483						541,483
		US$/Tn	Sub-T	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	135,000	136,483	90,000	90,000	90,000	90,000	90,000	2,071,483
Planta Convencional y Lixi. en Pilas																					
Mano de Obra	Pera Convenio	9420.97		10	9	8	6	6	6	6	6	6	6	6	6	5	5	5	5	5	
	Convenio	4323.99		56	50	46	42	42	42	42	42	42	42	42	42	34	34	34	34	34	
	Obrero																				
(Plant Conv.+ Lixi.)	Sub-Total (1)	3.74	=(224,986US$/Y*1.495)/(90,000)	336,353	300,988	274,271	238,133	238,133	238,133	238,133	238,133	238,133	238,133	238,133	238,133	194,121	194,121	194,121	194,121	194,121	4,025,416
Aceros	Boras	1.45	=(0.94Kg/t*1.55US$/Kg)	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	130,500	2,218,500
	Rodillo			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blaker Liner	0.07	=(12/3)(1.2)(1,300US$)/(90,000)	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	106,080
	C.C. Liner	0.10	=((12/2.0)(800$)+(12/3)(1,000$))/(90,000)	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	8,800	149,600
	B.M. Liner	0.51	=(12/9)*(16,000$)/(90000)	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	45,633	775,767
	Screen	0.02	=(12/4)*(2)*(230$)/(90000)	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	1,380	23,460
	Otros	0.05	=(2,700$)/(90,000)	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	76,500
	Sub-Total	2.19		197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	197,053	3,349,907
Reactivos	NaCN	3.06	=(1.2Kg/t*1.70US$*1.5)	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	275,400	4,681,800
	Zn Dust	0.68	=(2.35$/Kg)*(60Kg/D)*(28*12)/(90000)*(1.3)	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	61,589	1,047,010
	Ca(OH)2	0.56	=(3.1Kg/t*0.18$/Kg)	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	50,220	853,740
	Flocculant	0.22	=(19,800$)/(90,000)	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	336,600
	Borax	0.06	=(5,400$)/(90,000)	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	91,800
	NaNO3,NaCO3	0.08	=(7,200$)/(90,000)	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	122,400
	Sub-Total	4.65		419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	419,609	7,133,350
Otros Insumos		0.64	=(57,600$/90,000)	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	57,600	979,200
Mantenimiento	Convencional	0.24	=(21,810$/90,000)	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	370,770
	Autoclave			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-Total	0.24	=(21,810$/90,000)	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	21,810	370,770
Energia Electrica	Convencional	3.15	=(2'576,640Kwh/y)*(0.11US$/Kw)/(90,000)	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	4,818,317
	Autoclave			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-Total	3.15		283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	283,430	4,818,310
Agua	Convencional	0.99	=(1'389,928Kwh/y)*(0.58)*(0.11US$/Kw)/(90,	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	88,677	1,507,516
	Autoclave			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Otros	0.44	=(39,600$/90,000)	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	39,600	673,200
	Sub-Total	1.43	=(192,360$)/(90,000)	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	128,277	2,180,716
Trans. de Colas		0.93	=(83,700$)/(90,000)	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	83,700	1,422,900
Fusion		0.26	=(23,490$)/(90,000)	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	23,490	399,330
Total (1)		17.24		1,551,323	1,515,958	1,489,241	1,453,103	1,453,103	1,453,103	1,453,103	1,453,103	1,453,103	1,453,103	1,453,103	1,453,103	1,409,090	1,409,090	1,409,090	1,409,090	1,409,090	24,679,898
			Plant Cost	17.24	16.84	16.55	16.15	16.15	16.15	16.15	16.15	16.15	16.15	16.15	16.15	15.66	15.66	15.66	15.66	15.66	16.13
Amortizacion	Convencional	0.00	=(220,915$)/(90,000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Autoclave			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Otros			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-Total	0.00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lixi. Pilas		3.52	=(170,720$)/(48,500t)	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	163,620	0	0	0	0	0	1,906,020
Planta Convencional y Lixi. en Pilas																					
Gran Total (1)		20.76		1,709,723	1,674,358	1,647,641	1,611,503	1,611,503	1,611,503	1,611,503	1,611,503	1,611,503	1,611,503	1,611,503	1,616,723	1,409,090	1,409,090	1,409,090	1,409,090	1,409,090	26,585,918
			Total Cost	12.66	12.40	12.20	11.94	11.94	11.94	11.94	11.94	11.94	11.94	11.94	11.85	15.66	15.66	15.66	15.66	15.66	12.83

INVERSION de PLANTA (135,000 TON/AÑO, CON AUTOCLAVE) 選鉱投資

	Seccion	Maquina	No.	Especificacion	Unid.		部門	設備	機番	仕様	台数
***	Import.:	Con Impuesto		Mod.:Modificacion		***	輸入:税付			Mod.:改修	
**	Import.:	Sin Impuesto		Com.:Compra Nueva		**	輸入:無税			Com.:新規購入	
*	Fabrica.	Nacional		Fab.:Fabricacion Mina		*	国産品			自家製作	
*	Titura-	Cilo				*	破砕部門	鉱倉			
*	cion	Grilla				*		グリズリー			
*		Apron Feeder				*		エプロン・フィーダー			
*		Parrilla				*		グリズリー			
*		Mandibulas				*		ブレーカー			
*		Alimentadora Vib.				*		振動フィーダー			
*		Zaranda Vibratoria				*		振動スクリーン			
*		Zaranda Vibratoria				*		振動スクリーン			
*		Trituradora Cono				*		コーンクラッシャー			
*		Cinta Transport.				*		ベルトコンベア			
*		Tablero Electrico				*		電源設備			
		Sub total						小計			
*	Molienda	Cinta Transport.				*	摩鉱部門	ベルトコンベア			
*		Molino de rodillo				*		ロッドミル			
*		Cinta Transport.				*		ベルトコンベア			
***		Bomba de Arena				***		スラリーポンプ			
*		Distribuidor				*		鉱量分配器			
*		Tablero Electrico				*		電源設備			
*		Transformadora				*		変圧器			
		Sub total						小計			
***	Cianura-	Clarificadora				***	青化部門	清浄槽			
***	cion	Bomba de Succion				***		ドルコポンプ			
*		Bomba de Sol.Rica				*		溶液ポンプ			
*		Distribuidor				*		鉱量分配器			
*		Bomba de Sol.Holin.				*		貧液ポンプ			
***		Filtro de Tambor				***		ドラムフィルター			
*		Bomba de Vacio				*		真空ポンプ			
*		Blower				*		送風機			
*		Cinta Transport.				*		ベルトコンベア			
*		Tablero Electrico				*		電源設備			
		Sub total						小計			
*	Precipita-	Filtro de Arena				*	置換部門	サンドフィルター			
*	cion	Bomba de Sol.Esteril				*		貧液ポンプ			
		Sub total						小計			
***	Distribu-	Electrgeno movil				***	電力部門	ジーゼルエンジン			
***	cion	Generador				***		発電機			
	Electrica										
		Sub total						小計			
*	Cola	Canal abierto				*	廃さい部門	開水路			
*		Diseno				*		設計費			
*		Contingencia				*		予備費			
		Gran Total (sin Autoclave)						総計(除. オートクレーブ)			
*	Autoclave	Transport. Cadena				*	オートクレーブ部門	フローコンベアー			
*		Tolva				*		貯鉱ビン			
**		Autoclave				**		オートクレーブ			
*		Compresora				*		コンプレッサー			
*		Steam Boiler				*		蒸気ボイラー			
*		Tablero Electrico				*		電源設備			
		Sub total						小計			
		Gran Total (con Autoclave)						総計(含. オートクレーブ)			

INVERSION DE PLANTA (135,000 TON/AÑO, SIN y CON AUTOCLAVE)

Tabla 08-011

	Seccion	Maquina	No.	Especificacion	Unid.	Motor (Nuevo +Actual) Hp	Total Costo Inicial x1000 US$	Costo Inicial (x1000 US$) Maquina + IVA	Material + IVA	Labor + IVA	Transporte + IVA	Nota
***	Import.:	Con Impuesto		Mod.:Modificacion								
**	Import.:	Sin Impuesto		Com.:Compra Nueva								
*	Fabrica.	Nacional		Fab.:Fabricacion Mina								
*	Titura-cion	Cilo	1 Mod.	Cap. 250 ton	1	-	8.4	0.0	3.4	5.0	0.0	Buarou of Mines
*		Grilla	1 Mod.	Grilla 400x400mm	1	-	2.6	0.0	1.0	1.0	0.6	600T/d :
*		Apron Feeder	Com.	40'x3m	1	3.0	61.5	51.0	4.3	5.0	1.2	Instalacion nueva
*		Parrilla	4 Mod.	40'x2m,Parrilla 2'	1	-	5.5	0.0	2.9	2.0	0.6	369 mil US$
*		Mandibulas	5 Com.	36'x24',Abertura 50mm	1	50.0	132.2	102.2	21.7	6.0	2.3	
*		Alimentadora Vib.	Com	16'x3m,Horizontal	1	3.0	20.5	17.4	1.5	1.0	0.6	
*		Zaranda Vibratoria	7 Com	5'x12',Doble Piso	1	10.0	35.6	27.8	4.1	3.0	0.6	
*		Zaranda Vibratoria	Mod.	1.2x3.0m,Usado actual	1	-	3.6		0.0	3.0	0.6	
*		Trituradora Cono	8 Mod.	3' FC,Usado	2	-	38.7		33.5	4.0	1.2	
*		Cinta Transport.	6 Mod.	16'x12m Prolong.	1	5.0	29.4	23.2	3.6	2.0	0.6	
*		Tablero Electrico	Mod.	Desde Flotacion Mn	1	-	17.3	11.6	3.1	2.0	0.6	
		Sub total				71.0	355.2	233.3	79.1	34.0	8.7	
*	Molienda	Cinta Transport.	Mod.	16'x9m,de Planta Mn	1	7.5	21.2	11.6	4.0	5.0	0.6	Buarou of Mines
*		Molino de rodillo	Com.	6'x12'	1	200.0	480.9	440.4	9.6	25.0	5.8	450T/d :
*		Cinta Transport.	Mod.	16'x12m,de Planta Mn	1	10.0	33.9	23.2	5.1	5.0	0.6	Instalacion nueva
***		Bomba de Arena	16 Mod.	5'x4' FACO SRL-C	2	10.0	0.1	0.0	0.0	0.1	0.0	433 mil US$
*		Distribuidor	Fab.	4'x4' Caja	1	-	1.9	0.0	0.9	1.0	0.0	
*		Tablero Electrico	Mod.	Desde Flotacion Mn	1	-	16.7	11.6	3.1	2.0	0.0	
*		Transformadora	Com.	325KVA	1	-	51.7	41.1	9.6	0.5	0.6	
		Sub total				227.5	606.4	527.9	32.4	38.6	7.5	
***	Cianura-cion	Clarificadora	18 Com.	Solo Mecanismo Rastro	1	3.5	107.2	90.8	10.8	5.0	0.6	Buarou of Mines
***		Bomba de Succion	Com.	Tipo Dorco Diafragma	1	4.0	6.6	2.1	1.9	2.0	0.6	450T/d : Disk Filter
*		Bomba de Sol.Rica	20 Com.	3'x2' Warthington	1	10.0	7.8	2.3	2.9	2.0	0.6	Instalacion nueva
*		Distribuidor	Fab.	4'x4' Caja	1	-	4.5	0.0	1.9	2.0	0.6	309 mil US$
*		Bomba de Sol.Molin.	27 Com.	4'x3' Warthington	1	20.0	8.4	2.9	2.9	2.0	0.6	
***		Filtro de Tambor	Com.	4,000øx5,000mm,Oliver	2	10.0	348.6	321.5	14.8	10.0	2.3	
*		Bomba de Vacio	Com.	Tipo Pascal	1	20.0	31.3	28.7	0.0	2.0	0.6	
*		Blower	Com.	Tipo Rotativo	1	7.5	7.4	4.8	1.1	1.0	0.6	
*		Cinta Transport.	Mod.	16'x10m, de Planta Mn	1	7.5	33.9	19.3	4.0	10.0	0.6	
*		Tablero Electrico	Mod.	Desde Flotacion Mn	1	-	16.7	11.6	3.1	2.0		
		Sub total				82.5	572.5	484.0	43.6	38.0	7.0	
*	Precipita-cion	Filtro de Arena	32 Fab.	Cap.120m3	1	-	131.2	0.0	100.0	30.0	1.2	
*		Bomba de Sol.Esteril	37 Com.	3'x2' Warthington	2	10.0	10.1	4.6	2.9	2.0	0.6	
		Sub total				10.0	141.2	4.6	102.9	32.0	1.7	
				Total de Motor Aumentado (Hp)		391.0	1675.3	1249.8	258.0	142.6	24.9	
						(293.3 Kw)						
***	Distribu-cion	Electrgeno movil	Com.	Fiat A 230.12 ESS	1		586.3	412.4	118.8	50.0	5.1	Buarou of Mines 1,600Kw Generadora
***	Electrica	Generador	Com.	GS1600/6KVA,13200V-70A	1							Instalacion nueva
												512.0 mil US$
		Sub total					586.3	412.4	118.8	50.0	5.1	
*	Cola	Canal abierto	Fab.	2m2x1Km,Cota Dif.40m	1		107.5	34.8	17.4	53.0	2.3	
*		Diseno		5%			118.5	27.9	15.0	70.0	5.6	
*		Contingencia		5%			124.4	16.4	108.0			
		Gran Total (sin Autoclave)					2612.0	1741.3	517.2	315.6	38.0	2612.0
*	Autoclave	Transport. Cadena	Com.	120t/h,28mL	1	15.0						Aprox.FOT en JAPON ¥ 7'500
*		Tolva		Cap.40m3,Rotary feeder		2.0						¥ 4'000 Total ¥ milicnes
**		Autoclave		2.5møx8.0mLx2Unit.	2	30.0	2000.0	1400.0	300.0	250.0	50.0	¥19'000x2 107.0
*		Compresora		20Kg/cm2,6m3/min,75Kw.	1	100.0						¥19,000 =856 mil US$
*		Steam Boiler		1,500,000Kcal/h	1	7.5						¥30'000
*		Tablero Electrico	Mod.	Desde Flotacion Mn	1	-	16.7	11.6	3.1	2.0	0.0	¥ 8'500
		Sub total				137.5	2016.7	1411.6	303.1	252.0	50.0	
		Gran Total (con Autoclave)				528.5	4628.8	3152.9	820.3	567.6	88.0	
						(396.4 Kw)						

COSTO TOTAL DE PRODUCCION　生産・投資コスト総計

Ano	年
Cabeza para Planta T/dia	選鉱処理鉱量 (t/日)
COSTO DE PRODUCCION	生産コスト
(1).Mina	(1).採鉱
Explotacion (US$/t)	採掘 (US$/t)
Open Pit (US$/t)	露天掘 (US$/t)
(2).Mina	(2).採鉱
Explotacion (US$/Y)	採掘 (US$/年)
Prep.Operat (US$/Y)	操業開坑 (US$/年)
Open Pit (US$/Y)	露天掘 (US$/年)
Sub-T (US$/Y)	小計 (US$/年)
(3).Plant(Benef)(US$/Y)	(3).育化工場 (US$/年)
(4).Plant(Lixiv)(US$/Y)	(4).ﾋｰﾌﾟﾘｰﾁﾝｸﾞ (US$/年)
Sub-T (US$/Y)	小計 (US$/年)
SERVICIOS	補助部門
(5).Acueducto	(5).用水
(6).Taller Mecanico	(6).機械工場
(7).Transporte	(7).輸送
(8).Obra Civil	(8).土木
(9).Adm.Personal	(9).人事
(10).Seg.Industrial	(10).保安
(11).Geol. y Topog.	(11).地質測量
(12).Labo. Quimico	(12).分析試験
(13).Serv. Medico	(13).病院
(14).Intendencia	(14).山元総務
Sub-T(Serviio)(US$/Y)	小計(補助部門)(US$/年)
COSTO TOTAL DE F.NEGRO (US$/Y)	山元コスト計 (US$/年)
GASTO INDERECTO y GEN.	管理部門
(1).Ger. Econ. y Finan.	(1).経理
(2).Relacion Indus.	(2).生産管理
(3).Gastos Generales	(3).一般管理
Sub-T (US$/Y)	小計 (US$/年)
COSTO TOTAL DE YMAD (US$/Y)	YMAD社コスト総計 (US$/年)
AMORTIZACION	減価償却
(1).Mina	(1).採鉱
(2).Planta(Benef.)	(2).選鉱
(3).Ger. Econ. y Finan.	(3).管理
(4).Relacion Indus.	(4).生産管理
(5).Gastos Generales	(5).一般管理
Sub-T (US$/Y)	小計 (US$/年)
INVERSION	投資
(1).Mina	(1).採鉱
Preparacion (US$/Y)	開坑 (US$/年)
Maquinarias (US$/Y)	重機類 (US$/年)
Renovacion (US$/Y)	更新 (US$/年)
Sub-Total	小計
(2).Planta(Benef.)	(2).選鉱
Sub-Total	小計
INVERSION	投資
Gran-Total (US$/Y)	総計 (US$/年)

COSTO TOTAL DE PRODUCCION (135,000 TON/ANO, MINA: CON MECANIZACION, PLANTA: SIN AUTOCLAVE))

Tabla 08-012

Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total	-2	1
Cabeza para Planta T/dia	300	350	400	450	450	450	450	450	450	450	450	450		%	%
COSTO DE PRODUCCION															
(1).Mina															
Explotacion (US$/t)	23.39	21.96	19.86	18.64	18.27	18.27	18.87	18.87	18.87	18.87	18.87	16.67			
Open Pit (US$/t)	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05			
(2).Mina													US$		
Explotacion (US$/Y)	1,755,000	1,903,000	1,917,000	1,996,000	1,941,000	1,941,000	2,023,000	2,023,000	2,023,000	2,023,000	2,023,000	1,997,000	23,565,000	30.1	30.8
Prep.Operat (US$/Y)	350,000	403,000	466,000	520,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000	253,000	5,663,000	6.0	8.0
Open Pit (US$/Y)	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	188,256	2,193,006	3.1	2.8
Sub-T (US$/Y)	2,287,250	2,488,250	2,565,250	2,698,250	2,648,250	2,648,250	2,730,250	2,730,250	2,730,250	2,730,250	2,730,250	2,438,256	31,421,006	39.2	41.7
(3).Plant(Benef)(US$/Y)	1,458,441	1,669,606	1,853,971	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	25,024,369	25.0	34.4
(4).Plant(Lixiv)(US$/Y)	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	163,620	1,906,020	2.7	2.4
Sub-T (US$/Y)	1,616,841	1,828,006	2,012,371	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,390,548	26,930,390	27.7	36.9
SERVICIOS															
(5).Acueducto	91,442	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	1,032,668	1.6	1.3
(6).Taller Mecanico	49,872	42,181	42,181	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453	480,311	0.9	0.6
(7).Transporte	125,126	125,126	125,126	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917	1,427,631	2.1	1.8
(8).Obra Civil	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	337,776	0.5	0.4
(9).Adm.Personal	92,023	66,575	45,213	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342	458,889	1.6	0.4
(10).Seg.Industrial	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	1,212,216	1.7	1.6
(11).Geol. y Topog.	34,133	34,133	34,133	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277	347,892	0.6	0.4
(12).Labo. Quimico	48,723	34,620	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	365,733	0.8	0.4
(13).Serv. Medico	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	1,482,792	2.1	1.9
(14).Intendencia	149,390	126,456	110,254	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981	1,195,929	2.6	1.4
Sub-T(Serviio)(US$/Y)	843,441	767,390	723,445	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	8,341,830	14.4	10.3
COSTO TOTAL DE F.NEGRO (US$/Y)	4,747,532	5,083,646	5,301,066	5,751,084	5,701,084	5,701,084	5,783,084	5,783,084	5,783,084	5,783,084	5,783,084	5,496,310	66,697,226	81.3	88.9
GASTO INDERECTO y GEN.															
(1).Ger. Econ. y Finan.	396,541	318,236	217,413	231,958	231,958	231,958	231,958	231,958	231,958	231,958	231,958	232,598	3,020,452	6.8	3.6
(2).Relacion Indus.	399,020	330,186	306,524	294,421	294,421	294,421	294,421	294,421	294,421	294,421	294,421	295,830	3,686,928	6.8	4.5
(3).Gastos Generales	296,734	248,969	221,283	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013	2,522,103	5.1	3.0
Sub-T (US$/Y)	1,092,295	897,391	745,221	721,392	721,392	721,392	721,392	721,392	721,392	721,392	721,392	723,441	9,229,485	18.7	11.1
COSTO TOTAL DE YMAD (US$/Y)	5,839,827	5,981,037	6,046,287	6,472,476	6,422,476	6,422,476	6,504,476	6,504,476	6,504,476	6,504,476	6,504,476	6,219,751	75,926,710	100.0	100.0
AMORTIZACION															
(1).Mina															
(2).Planta(Benef.)															
(3).Ger. Econ. y Finan.															
(4).Relacion Indus.															
(5).Gastos Generales															
Sub-T (US$/Y)	0	0	0	0	0	0	0	0	0	0	0	0			
INVERSION															
(1).Mina															
Preparacion (US$/Y)	1,202,000	1,202,000	1,019,000	906,000									4,329,000		
Maquinarias (US$/Y)	512,925	152,775	1,708,140	345,870	0	50,295							2,770,005		
Renovacion (US$/Y)						115,500	114,975	334,950	99,750	0	134,295		799,470		
Sub-Total	1,714,925	1,354,775	2,727,140	1,251,870	0	165,795	114,975	334,950	99,750	0	134,295	0	7,898,475		
(2).Planta(Benef.)															
	606,400	355,200	572,500										1,534,100		
	(Molienda)	(Tritura.)	(Cianura.)												
	118,500	141,200	107,500										367,200		
	(Diseno)	(Precip.)	(Cola)												
		293,150	293,150										586,300		
		(Generadora)													
			124,400										124,400		
Sub-Total	724,900	789,550	1,097,550	0	0	0	0	0	0	0	0	0	2,612,000		
INVERSION Gran-Total (US$/Y)	2,439,825	2,144,325	3,824,690	1,251,870	0	165,795	114,975	334,950	99,750	0	134,295	0	10,510,475		

COSTO TOTAL DE PRODUCCION (135,000 TON/ANO, MINA: CON MECANIZACION, PLANTA: CON AUTOCLAVE)

Tabla 08-013

Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total	-2	1
Cabeza para Planta T/dia	300	350	400	450	450	450	450	450	450	450	450	450		%	%
COSTO DE PRODUCCION															
(1).Mina															
Explotacion (US$/t)	23.39	21.96	19.86	18.64	18.27	18.27	18.87	18.87	18.87	18.87	18.87	16.67			
Open Pit (US$/t)	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05			
(2).Mina													US$		
Explotacion (US$/Y)	1,755,000	1,903,000	1,917,000	1,996,000	1,941,000	1,941,000	2,023,000	2,023,000	2,023,000	2,023,000	2,023,000	1,997,000	23,565,000	29.5	30.0
Prep.Operat (US$/Y)	350,000	403,000	466,000	520,000	525,000	525,000	525,000	525,000	525,000	525,000	525,000	253,000	5,663,000	5.9	7.8
Open Pit (US$/Y)	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	188,256	2,193,006	3.1	2.7
Sub-T (US$/Y)	2,287,250	2,488,250	2,565,250	2,698,250	2,648,250	2,648,250	2,730,250	2,730,250	2,730,250	2,730,250	2,730,250	2,438,256	31,421,006	38.5	40.5
(3).Plant(Benef)(US$/Y)	1,564,453	1,793,288	1,995,321	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	2,411,589	27,057,362	26.3	36.2
(4).Plant(Lixiv)(US$/Y)	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	163,620	1,906,020	2.7	2.4
Sub-T (US$/Y)	1,722,853	1,951,688	2,153,721	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,569,989	2,575,209	28,963,383	29.0	38.6
SERVICIOS															
(5).Acueducto	91,442	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	1,032,668	1.5	1.3
(6).Taller Mecanico	49,872	42,181	42,181	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453	480,311	0.8	0.6
(7).Transporte	125,126	125,126	125,126	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917	1,427,631	2.1	1.8
(8).Obra Civil	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	337,776	0.5	0.4
(9).Adm.Personal	92,023	66,575	45,213	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342	458,889	1.5	0.4
(10).Seg.Industrial	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	1,212,216	1.7	1.5
(11).Geol. y Topog.	34,133	34,133	34,133	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277	347,892	0.6	0.4
(12).Labo. Quimico	48,723	34,620	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	365,733	0.8	0.4
(13).Serv. Medico	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	1,482,792	2.1	1.9
(14).Intendencia	149,390	126,456	110,254	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981	1,195,929	2.5	1.4
Sub-T(Serviio)(US$/Y)	843,441	767,390	723,445	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	8,341,830	14.2	10.0
COSTO TOTAL DE F.NEGRO (US$/Y)	4,853,544	5,207,328	5,442,416	5,935,745	5,885,745	5,885,745	5,967,745	5,967,745	5,967,745	5,967,745	5,967,745	5,680,971	68,730,219	81.6	89.2
GASTO INDERECTO y GEN.															
(1).Ger. Econ. y Finan.	396,541	318,236	217,413	231,958	231,958	231,958	231,958	231,958	231,958	231,958	231,958	232,598	3,020,452	6.7	3.5
(2).Relacion Indus.	399,020	330,186	306,524	294,421	294,421	294,421	294,421	294,421	294,421	294,421	294,421	295,830	3,686,928	6.7	4.4
(3).Gastos Generales	296,734	248,969	221,283	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013	2,522,103	5.0	2.9
Sub-T (US$/Y)	1,092,295	897,391	745,221	721,392	721,392	721,392	721,392	721,392	721,392	721,392	721,392	723,441	9,229,485	18.4	10.8
COSTO TOTAL DE YMAD (US$/Y)	5,945,839	6,104,719	6,187,637	6,657,137	6,607,137	6,607,137	6,689,137	6,689,137	6,689,137	6,689,137	6,689,137	6,404,412	77,959,703	100.0	100.0
AMORTIZACION															
(1).Mina															
(2).Planta(Benef.)															
(3).Ger. Econ. y Finan.															
(4).Relacion Indus.															
(5).Gastos Generales															
Sub-T (US$/Y)	0	0	0	0	0	0	0	0	0	0	0	0			
INVERSION															
(1).Mina															
Preparacion (US$/Y)	1,202,000	1,202,000	1,019,000	906,000									4,329,000		
Maquinarias (US$/Y)	512,925	152,775	1,708,140	345,870		50,295							2,770,005		
Renovacion (US$/Y)						115,500	114,975	334,950	99,750		134,295		799,470		
Sub-Total	1,714,925	1,354,775	2,727,140	1,251,870	0	165,795	114,975	334,950	99,750	0	134,295	0	7,898,475		
(2).Planta(Benef.)															
	606,400	355,200	572,500										1,534,100		
	(Molienda)	(Tritura.)	(Cianura.)												
	118,500	141,200	107,500										367,200		
	(Diseno)	(Precip.)	(Cola)												
	(Generadora)	293,150	293,150										586,300		
	672,233	672,233	672,233												
	(Autoclave)	(Autoclave)	124,400										124,400		
Sub-Total	1,397,133	1,461,783	1,769,783	0	0	0	0	0	0	0	0	0	4,628,700		
INVERSION Gran-Total (US$/Y)	3,112,058	2,816,558	4,496,923	1,251,870	0	165,795	114,975	334,950	99,750	0	134,295	0	12,527,175		

COSTO TOTAL DE PRODUCCION (135,000 TON/ANO, MINA : SIN MECANIZACION, PLANTA: SIN AUTOCLAVE)

Tabla 08-014

Ano	-2	-1	0	1	2	3	4	5	6	7	8	9	Total	-2	1
Cabeza para Planta T/dia	300	350	400	450	450	450	450	450	450	450	450	450		%	%
COSTO DE PRODUCCION															
(1).Mina															
Explotacion (US$/t)	23.54	23.92	24.48	24.21	25.33	25.33	26.23	26.23	26.23	26.23	26.23	24.96			
Open Pit (US$/t)	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05			
(2).Mina													US$		
Explotacion (US$/Y)	1,755,000	2,093,000	2,452,000	2,727,000	2,873,000	2,873,000	2,995,000	2,995,000	2,995,000	2,995,000	2,995,000	3,107,000	32,854,000	30.0	37.7
Prep.Operat (US$/Y)	364,000	419,000	486,000	541,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	263,000	5,895,000	6.2	7.5
Open Pit (US$/Y)	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	182,250	188,256	2,193,006	3.1	2.5
Sub-T (US$/Y)	2,301,250	2,694,250	3,120,250	3,450,250	3,601,250	3,601,250	3,723,250	3,723,250	3,723,250	3,723,250	3,723,250	3,558,256	40,942,006	39.3	47.8
(3).Plant(Benef)(US$/Y)	1,458,441	1,669,606	1,853,971	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	2,226,928	25,024,369	24.9	30.8
(4).Plant(Lixiv)(US$/Y)	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	158,400	163,620	1,906,020	2.7	2.2
Sub-T (US$/Y)	1,616,841	1,828,006	2,012,371	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,385,328	2,390,548	26,930,390	27.6	33.0
SERVICIOS															
(5).Acueducto	91,442	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	85,566	1,032,668	1.6	1.2
(6).Taller Mecanico	49,872	42,181	42,181	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453	38,453	480,311	0.9	0.5
(7).Transporte	125,126	125,126	125,126	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917	116,917	1,427,631	2.1	1.6
(8).Obra Civil	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	28,148	337,776	0.5	0.4
(9).Adm.Personal	92,023	66,575	45,213	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342	28,342	458,889	1.6	0.4
(10).Seg.Industrial	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	101,018	1,212,216	1.7	1.4
(11).Geol. y Topog.	34,133	34,133	34,133	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277	27,277	347,892	0.6	0.4
(12).Labo. Quimico	48,723	34,620	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	28,239	365,733	0.8	0.4
(13).Serv. Medico	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	123,566	1,482,792	2.1	1.7
(14).Intendencia	149,390	126,456	110,254	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981	89,981	1,195,929	2.6	1.2
Sub-T(Servio)(US$/Y)	843,441	767,390	723,445	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	667,506	8,341,830	14.4	9.2
COSTO TOTAL DE F.NEGRO (US$/Y)	4,761,532	5,289,646	5,856,066	6,503,084	6,654,084	6,654,084	6,776,084	6,776,084	6,776,084	6,776,084	6,776,084	6,616,310	76,215,226	81.3	90.0
GASTO INDERECTO y GEN.															
(1).Ger. Econ. y Finan.	396,541	318,236	217,413	231,958	231,958	231,958	231,958	231,958	231,958	231,958	231,958	232,598	3,020,452	6.8	3.2
(2).Relacion Indus.	399,020	330,186	306,524	294,421	294,421	294,421	294,421	294,421	294,421	294,421	294,421	295,830	3,686,928	6.8	4.1
(3).Gastos Generales	296,734	248,969	221,283	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013	195,013	2,522,103	5.1	2.7
Sub-T (US$/Y)	1,092,295	897,391	745,221	721,392	721,392	721,392	721,392	721,392	721,392	721,392	721,392	723,441	9,229,485	18.7	10.0
COSTO TOTAL DE YMAD (US$/Y)	5,853,827	6,187,037	6,601,287	7,224,476	7,375,476	7,375,476	7,497,476	7,497,476	7,497,476	7,497,476	7,497,476	7,339,751	85,444,710	100.0	100.0
AMORTIZACION															
(1).Mina															
(2).Planta(Benef.)															
(3).Ger. Econ. y Finan.															
(4).Relacion Indus.															
(5).Gastos Generales															
Sub-T (US$/Y)	0	0	0	0	0	0	0	0	0	0	0	0			
INVERSION															
(1).Mina															
Preparacion (US$/Y)	1,343,000	1,343,000	1,169,000	1,036,000									4,891,000		
Maquinarias (US$/Y)													0		
Renovacion (US$/Y)		99,000	613,000	99,000			85,000	95,000	85,000				1,076,000		
Sub-Total	1,343,000	1,442,000	1,782,000	1,135,000	0	0	85,000	95,000	85,000	0	0	0	5,967,000		
(2).Planta(Benef.)															
	606,400	355,200	572,500										1,534,100		
	(Molienda)	(Tritura.)	(Cianura.)												
	118,500	141,200	107,500										367,200		
	(Diseno)	(Precip.)	(Cola)												
		293,150	293,150										586,300		
		(Generadora)													
			124,400										124,400		
Sub-Total	724,900	789,550	1,097,550	0	0	0	0	0	0	0	0	0	2,612,000		
INVERSION Gran-Total (US$/Y)	2,067,900	2,231,550	2,879,550	1,135,000	0	0	85,000	95,000	85,000	0	0	0	8,579,000		