TECHNICAL REVIEW OF OPERATIONS AT MINERA VALLE CENTRAL

RANCAGUA REGION VI, CHILE

FOR

AMERIGO RESOURCES LTD.

May, 2003

AMEC INTERNATIONAL (CHILE) S.A.

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1.0 SUMMARY

Amerigo Resources Limited (Amerigo) is arranging to purchase Minera Valle Central (MVC). MVC is a private Chilean company that extracts copper from tailings discharged from CODELCO's El Teniente concentrators. The tailings are then returned to El Teniente's tailings disposal system. AMEC International (Chile) S.A. (AMEC) was contracted by Amerigo to provide a review of the past and future operation of MVC.

MVC currently has 18½ years remaining on its tailings supply contract with El Teniente. It has also negotiated a supplementary source of higher grade tailings from the Colihues tailings impoundent. MVC plans to treat 10,000 tpd of tailings from Colihues, mixed with the fresh tailings from El Teniente. El Teniente currently supplies approximately 90,000 tpd of fresh tailings and this is scheduled to increase to 126,000 tpd in 2004 and to 130,000 tpd from 2005 on completion of its expansion program.

AMEC's scope and hence also this report covers the technical and production aspects of the present and potential future operation. Legal, specific tax issues and economic analysis are not covered.

MVC's operation is located in Region VI in central Chile, approximately 8 km east of the city of Rancagua. The site is 36 km west of the El Teniente mine and adjacent to the Colihues tailings impoundment. The Colihues impoundment was used from 1977 to 1987, El Teniente now deposits its tailings in the Carén impoundment that is 50 km east of the MVC site.

MVC first started recovering copper by reprocessing El Teniente tailings in 1992. The plant was expanded in 1997 and the current design capacity is 100,000 tpd.

El Teniente has been in operation since 1904 and is the world's largest underground mine. Current production is around 90,000 tpd of ore (although it has been as high as 100,000 tpd) at an average grade of 1.16 %Cu. El Teniente has reported more than 3 billion tonnes in reserves and at the expanded production rate of 130,000 tpd of ore has more than 60 years life remaining. El Teniente has provided its production plan that shows it will produce 1,139 million tonnes of tailings over the next 25 years at an average grade of 0.112 $\%Cu_T$ (Total Copper) and 0.03 % Soluble Cu. AMEC recommends that the tonnage forecast be discounted by 3.5%. This will not significantly affect MVC's production.

Production records from El Teniente indicate that there are 213 million tonnes of tailings in the Colihues impoundment at an average grade 0.26 $\%Cu_T$. This represents a potentially significant additional supply of high grade tailings for MVC.

MVC plans to extract the tailings from the Colihues impoundment using a dredge pump on a floating platform. Pilot dredging trials have been carried out where up to 4,000 tpd of tailings were extracted at a sulphide copper grade of 0.2% Cu.

The existing MVC process plant is well designed and maintained and is in good condition. In 2002 it produced 10,650 tonnes of copper in concentrate. AMEC has estimated that the plant could produce 12,160 tonnes per annum of copper in concentrate from the expanded El Teniente production (122,000 tpd at 0.12% total copper). No plant modifications would be required.

AMEC has estimated (at rough order of magnitude level) that improvements to the primary classification and flotation sections of the plant plus the installation of a circuit to reprocess rougher tailings could potentially increase production to 15,490 tpa of copper in concentrate at a capital cost of US$3 million. The treatment of 10,000 tpd of Colihues tailings would increase production to an estimated 19,470 tpa of copper in concentrate at an additional cost of US$4.7 million.

MVC reported total cash operating costs to cathode of US$0.627 per pound for 2002. AMEC reviewed these costs and considers them reasonable. At the expanded production levels indicated above, AMEC has estimated the following operating costs.

- 12,160 tpa Cu in concentrate, US$0.582/lb.
- 15,490 tpa Cu in concentrate, US$0.534/lb.
- 19,470 tpa Cu in concentrate, US$0.522/lb.

An environmental review was carried out. The MVC plant was put into operation before the current environmental regulations were enacted. It was not required to obtain an environmental permit at that time. However, any planned expansion the entire plant must be submitted for approval. AMEC held discussions with the local environmental authority. The required permits can be obtained through the submission of an Environmental Impact Statement. This is a less exacting document than an Environmental Impact Assessment. Approval has already been received from the environmental authority (CONAMA) to treat Colihues tailings, however, approval will also be required from the National Service for Geology and Mining (SERNAGEOMIN) regarding stability aspects of the dam.

MVC is still awaiting receipt of its official operating permit from SERNAGEOMIN. All documentation has been submitted and no issues are expected.

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 Introduction

AMEC International (Chile) S.A. (AMEC) was contracted by Amerigo Resources Limited (Amerigo) to provide a review of the operation of Minera Valle Central S.A. (MVC) that would meet the requirements of National Instrument 43-101. This report is based on the information and observations from site visits and on information provided by MVC, Amerigo and CODELCO's El Teniente Division.

Amerigo is arranging to purchase MVC. MVC is a private Chilean company with an operation located in Region VI, central Chile that has been extracting copper from tailings discharged from CODELCO's El Teniente concentrators since 1992. MVC's processing facility produces copper concentrate by reprocessing the tailings. The tailings from the MVC plant are then returned to El Teniente's tailings launder and deposited in El Teniente's Carén tailings disposal facility.

In 2002 the MVC plant treated an average of 90,000 tpd tailings and produced approximately 10,650 t of copper metal in concentrate. El Teniente is currently expanding its mine and plant and will produce 130,000 tpd of tailings by 2005.

MVC currently has 19 years remaining on its tailings supply contract with El Teniente. MVC has negotiated a supplementary source of higher grade feed from the Colihues dam. Amerigo believes that by expanding the MVC plant so that it can treat 130,000 tpd tailings and by making improvements in the operation the overall profitability of the operation can be improved.

The author of this report is Anthony Maycock P. Eng., AMEC's Santiago office General Manager. Mining data from El Teniente was reviewed by Caupolicán Cofré, Senior Mining Consultant. Mr. Cofré visited the site on 7 April, 2003 and previously on 5 February, 2002. He is a graduate mining engineer in Chile with more than 40 years experience and was a senior manager at El Teniente. Jorge Arrueste, Senior Environmental Consultant, visited the MVC site on 10 April 2003 and previously on 19 February, 2002. Mr. Arrueste is a civil engineer with a Master of Science in environmental engineering and more than 25 years experience in Chile and other parts of the world.

The following MVC staff provided assistance during the site visits and information that was used in the preparation of this report:

- Raúl Poblete de la Cerda, Operations Manager
- Manuel Cartagena, Superintendent, Operation and Control
- Christian Cáceres, Engineering Manager

This report reviews the property, mineral processing and operating costs for the current MVC operation and potential expansions. Rough order of magnitude capital costs are provided for the potential expansions.

2.2 Terms of Reference

AMEC has been contracted by Amerigo to prepare a report that meets the standards of a Technical Report as defined by National Instrument 43-101 (NI 43-101) to be used by Amerigo to support financing its purchase of MVC.

AMEC's review addresses four areas

- Current and potential future operations at MVC
- Future tailings production from El Teniente's operations
- The operation of MVC's tailings processing plant
- Environmental status

The following areas are outside the scope of AMEC's work:

- Legal status of lease agreements, properties, contracts, etc.
- Financial/economic analysis

2.3 Sources

Climate, local resources and infrastructure were derived from Government of Chile published data.

Production data for the MVC plant and contracts with CODELCO and ENAMI were provided by Amerigo and MVC.

El Teniente production data was provided by El Teniente and MVC.

See Section 16 for a list of references.

2.4 Field Involvement of Qualified Persons

A field visit was made on 1st March, 2003, by Anthony Maycock, P.Eng., a qualified person, who prepared this report. The purpose of this visit was to inspect the installations at MVC. Mr Maycock previously visited the site on 5 February, 2002.

A certificate for Anthony Maycock, P.Eng., the qualified person, is included in Appendix A.

3.0 DISCLAIMER

This report was prepared exclusively for Amerigo Resources Limited by AMEC International (Chile) S.A. (AMEC). The quality of information, conclusions and estimates contained herein are consistent with the level of effort involved in AMEC services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions and qualifications set forth in this report. This report is intended to be used by Amerigo Resources Limited only, subject to the terms and conditions of its contract with AMEC. Any other use of this report by any third party is at that party's sole risk.

4.0 PROJECT DESCRIPTION AND HISTORY

4.1 Property Description and Location

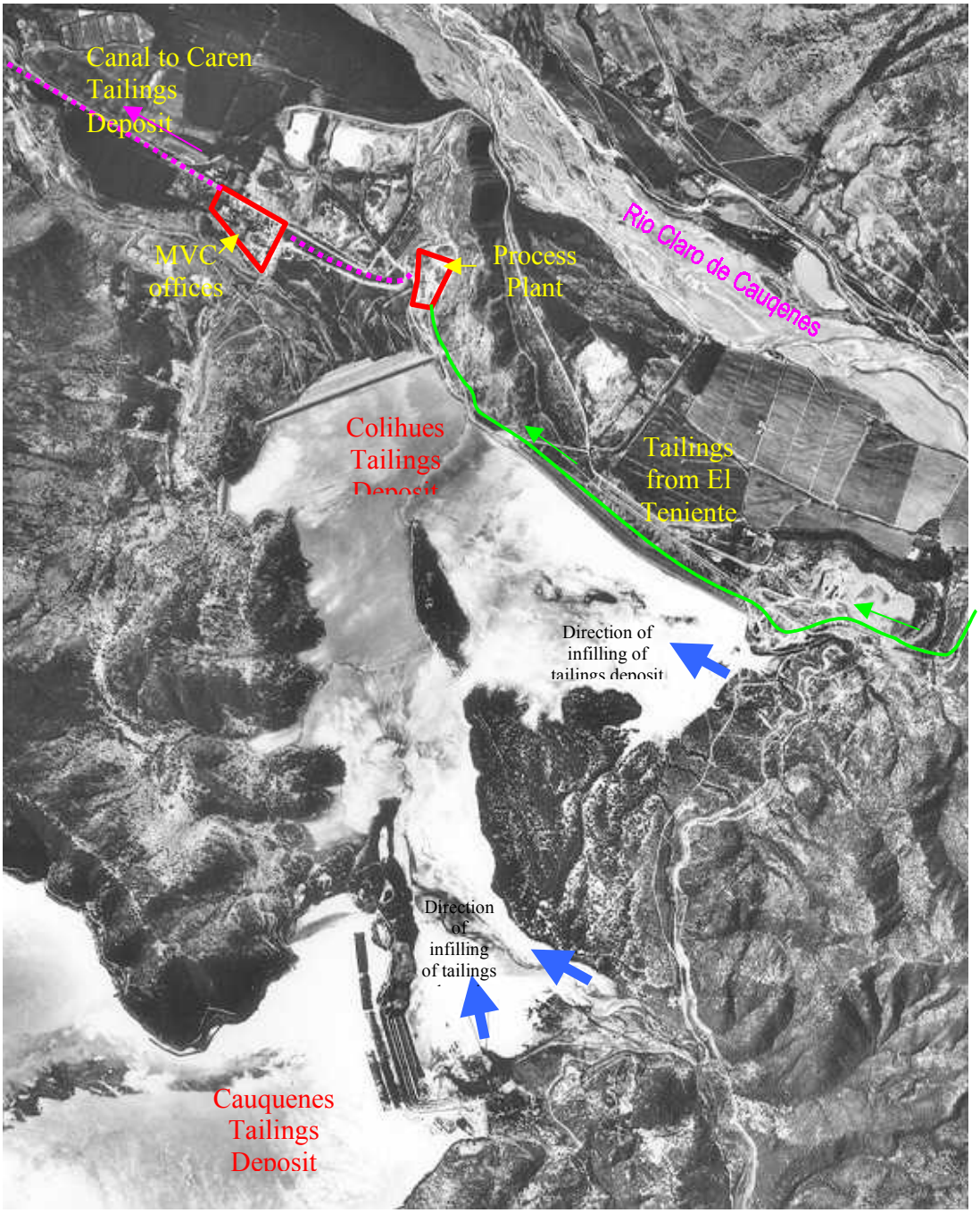
The MVC operation is located in Region VI (Libertador Bernardo O'Higgins Region) of central Chile at latitude 34° 14' south and longitude 70° 41' west (UTM 621000N, 345000E). The site is 8 km east of the city of Rancagua and 90 km south of Santiago (Figure 4-1). The process plant and offices are situated on property owned by Corporación Nacional del Cobre de Chile (CODELCO).

MVC produces copper concentrate by reprocessing tailings produced by the El Teniente mine, which is owned and operated by CODELCO. El Teniente mine is 44 km east of Rancagua and tailings are transported to MVC by a 36 km long launder. MVC also has obtained the rights to remove and process tailings from the Colihues tailings deposit which covers 368 hectares and is located less than one km south of the MVC plant (Figure 4-2).

Once the tailings have been reprocessed they are returned to the El Teniente tailings launder that deposits into the Carén tailings deposit located approximately 50 km to the west of the MVC site.

Figure 4-1
Location of the Minera Valle Central Operation

Figure 4-2
Aerial Photograph of the MVC Site Showing Location of Offices, Process Plant and Colihues Tailings Deposit



4.2 Access

The MVC site is accessed by driving approximately one hour (90 km) on the Pan American Highway south from Santiago to Rancagua and a further 15 minutes (8 km) east to the MVC offices. Approximately 7 km of the road from the highway is paved and the remaining 1 km is a well maintained, all-weather, dirt road to the MVC offices.

There are good road connections from Rancagua to Santiago (90 km) and the ports of San Antonio (159 km) and Valparaiso (207 km).

Personnel and supplies are transported by road between the site and Rancagua or Santiago (Figure 4-1). Concentrates are transported to ENAMI's Las Ventanas smelter via road.

Most of the MVC employees live in Rancagua which is the nearest large town with a population of approximately 190,500 inhabitants.

4.3 Climate

The MVC plant is located in an area that has a mediterranean-type climate with clearly defined seasons characterized by long, warm, dry summers (8 months) and mild, rainy winters (4 months). Road access and operations are not normally affected by adverse weather conditions.

In Rancagua (approximately 8 km to the west) the average annual precipitation is approximately 300 mm. The rainy months are May to August. The average day temperatures range from 7.5^0C in the winter to 30^0C in the summer.

Tables 4.1 and 4.2 show the temperatures and precipitation for Rancagua.

Table 4-1
Seasonal Temperatures in Degrees Centigrade

Season	Maximum	Minimum
Winter	21.3	2.1
Spring	29.6	6.1
Summer	32.5	7.6
Autumn	22.5	5.3

Table 4-2
Precipitation in mm

Season	Average
Winter	85.4
Spring	8.5
Summer	5.2
Autumn	188

4.4 Local Resources and Infrastructure

Rancagua is the capital of Chile's VIth Region, Region del Libertador General Bernardo O'Higgins. The region's main activities are agriculture, wine making and mining. The region has a population of approximately 700,000 inhabitants of which approximately 190,500 live in Rancagua.

Rancagua has many service companies oriented to the mining industry and most supplies and services are available there. More specialized items and services can be quickly obtained from Santiago. Chile has a long history of mining thus consumables, equipment and services are readily available. Community services, hospitals, etc. are available in Rancagua.

The operation obtains power from the national grid (Endesa). The plant has three emergency generators; 1 x 100 kVA and 2 x 150 kVA. These provide sufficient power for lighting and essential operations in the event of a power failure.

Management and senior staff are based at the MVC site and report to the General Manager. The Santiago corporate office provides contact with the shareholders and the coordination of government relations, legal and similar tasks. Personnel live in the local area and commute to the site each day by transportation provided by the company. Operations work a 12-hour shift. MVC was non-union until March 2002 when a labour union was formed. MVC has low personnel turnover.

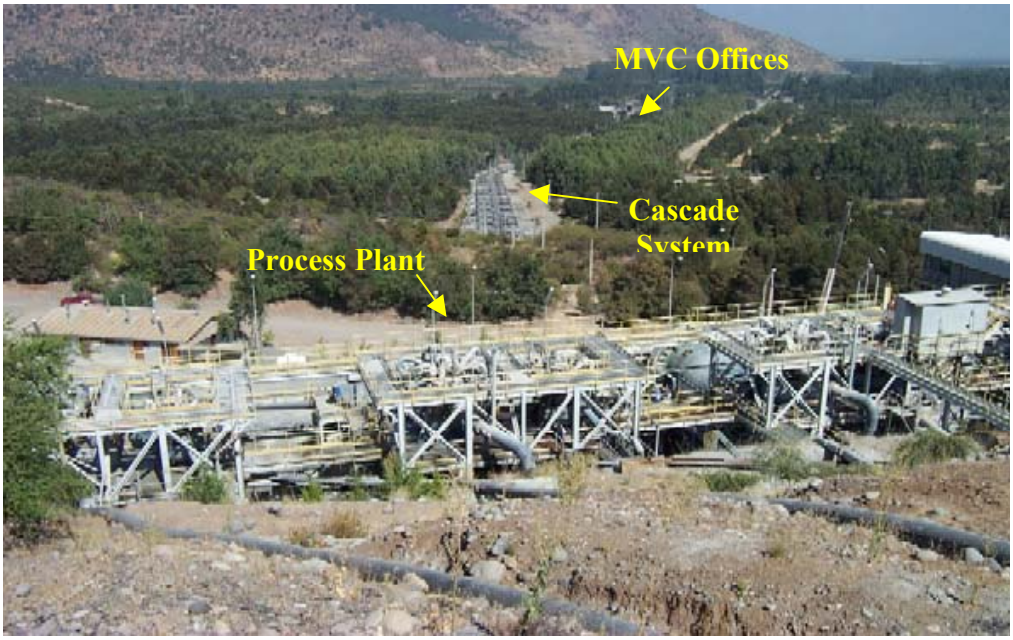
Process water consists of the slurry water that transports the tailings to the site, additional water that is decanted from the Colihues tailings impoundment and water from irrigation channels. Current water usage is between 500 and 600 l/s. Bottled water is used for drinking and water from underground sources is used for showers and bathrooms.

Telephone and data transmission at the site are provided by land lines.

4.5 Physiography

The site is on the south side of the Rio Claro de Cauquenes river valley (see Figures 4-2 and 4-3) and the physiography consists of rolling hills, foothills of the Andes Mountains. The process plant is at an elevation of 650 m above sea level (masl) and the offices are at 590 masl. The top of the Colihues tailings deposit is 670 masl.

Figure 4-3
Photograph of the MVC Plant, Cascade System and Offices



4.6 History

The following summary of the project history was compiled from information on the MVC website (2002) and verbal information from MVC shareholders:

- 1904, the El Teniente mine commenced production and has gradually increased production to the current 100,000 tpd.
- 1989, CODELCO issued a tender to bidders for the rights to operate a tailings retreatment plant for the tailings from El Teniente.
- 1989, MVC was the successful bidder.
- October 1992, MVC commenced operation with a simple cascade frothing and flotation cleaning circuit at a cost of US$8 million to recover copper from the fine fraction of the tailings.
- 1992, subsequent to the completion of MVC's processing plant the El Teniente supply contract commenced, valid for a period of twenty years.
- 1996, MVC added a new treatment plant to enhance the recovery of the metal contained in the coarse fraction of the tailings. An investment of $21 million was required to add sections for fine grinding and conventional flotation of the copper.
- 1997, once the plant expansion was completed MVC and El Teniente extended the term of the operating contract to 25 years, commencing at the start-up of the expanded operations and extending until January 2022.
- Current throughput (February 2003) at the MVC process plant is 86,000 tpd and design capacity is 100,000 tpd.

4.7 Adjacent Properties

Approximately 3 km from the MVC facility is the Cauqenes tailings dam. This tailings facility contains the tailings deposited by El Teniente from 1936 to 1975. This dam covers approximately 640 hectares with a total volume estimated to be 270 million m^3 (Dold and Fontboté, 2001). MVC does not have contractual rights to process this material.

Other than the Cauquenes tailings dam, this section is not applicable as this project involves the processing of tailings. All material processed by the MVC operation is received under a long-term contract with El Teniente. Please refer to Section 7.0 “Plant Feed Supply”.

5.0 GEOLOGY AND MINERALIZATION

This section is not applicable as this project involves the processing of plant tailings. All material processed by the MVC operation is received under a long-term contract with El Teniente. Please refer to Section 7.0 “Plant Feed Supply”.

6.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

This section is not applicable as this project involves the processing of plant tailings. All material processed by the MVC operation is received under a long-term contract with El Teniente. Please refer to Section 7.0 “Plant Feed Supply”.

7.0 PLANT FEED SUPPLY

7.1 El Teniente Tailings

AMEC has reviewed El Teniente's recent past production performance and also the future production schedules. The results and conclusions from this review are presented below.

As described in Section 4, MVC currently receives all of its tailings supply from El Teniente's two concentrators.

The Sewell Concentrator is located on the surface, below the Teniente Level 5 elevation, and is fed by a railroad which transports ore from an area known as the 'crater'. This concentrator is scheduled to cease operations in the year 2004.

The primary crushing plant located inside the mine at the Teniente Level 6 is fed with ore originating from Esmeralda and other sectors. The Colón Concentrator located in the Alto Colón area has secondary crushing and SAG Mill facilities.

Geomechanics
Currently, the ore is extracted mainly from primary mineralization, a small portion is extracted from secondary mineralization.

Initially, during the development of the Teniente Sub-level 6, there were several rock bursts that significantly effected the development and also caused loss of lives. Mine management resorted to mining other areas while they searched for technical solutions to control the rock bursts.

Using a different block caving direction along with pre-caving techniques and other pre-conditioning techniques, it has been possible to reduce the rock bursts and mining can continue.

Mine Production Statistics
From the daily average production figures (tonnage and Cu grade) versus the scheduled daily production provided by El Teniente the percentage differences shown in Table 7-1 were calculated.

Table 7-1
El Teniente Mine Production Variation Actual vs Planned

	1998	1999	2000	2001	2002
Daily average tonnage (actual/planned) %	99.1	98.4	97.1	98.0	96.5
Average Cu grade (actual/planned) %	96.0	98.0	105.0	101.97	102.72

For the years 2003 and 2004 the production plan schedules a total of 112,192 tpd and 126,000 tpd respectively. From 2005 to 2027 the daily production is planned to be 130,000 tpd. The production increases are the result of a US$740 million expansion program currently in progress for the mine and mill facilities.

Mining of secondary mineralization will finish by the year 2006. After that all production will originate from primary mineralized ore (data provided by El Teniente) and the grade will tend to vary less. Table 7-2 shows the planned average grades to the year 2027.

Table 7-2
El Teniente Planned Grades

Year	2003 - 2007	2008 - 2012	2013 - 2017	2018 - 2022	2023 – 2027
% CuT	1.10	1.11	0.98	0.97	1.02

From the information provided it can be concluded that the mine historically has not met the mining production plans, with tonnage shortfalls of up to 3.5% below that scheduled. However, by mining higher grade ore the total copper production has exceeded the plan.

After 2006, production will be from primary mineralized rock, it can therefore be assumed that annual variations in actual production tonnages will be similar to those experienced in the past. The achievement of the plan will depend on the success of mine development and pre-production. The primary ore contains an average of 0.03% oxide copper compared to approximately 0.05% in recent years.

Concentrator Production Statistics
Reviewing data for 1998 to 2002, it can be seen that production of copper in concentrate during 1998 and 1999 was below that scheduled. However, from 2000 to the first quarter of 2003 copper production exceeded the schedule. The following table shows ore tonnages received from the mine and processed by the concentrator, and concentrate and tailings tonnages and grades.

Table 7-3
El Teniente Recent Production and Tailings Statistics

	1999		2000		2001		2002	
	Schedule	**Actual**	**Schedule**	**Actual**	**Schedule**	**Actual**	**Schedule**	**Actual**
Mine Production (tpd)	98,200	97,067	97,583	95,002	97,002	95,714	96,994	94,236
Concentrator Feed (tpd)	98,183	96,791	97,612	94,487	97,032	95,746	97,032	94,758
Copper Conc. (tpd)	984	976	963	1,016	994	1,015	937	951
Cu in Conc. (%)	31.5	31.76	31.5	32.56	31.6	31.91	31.6	31.01
Recovery (%)	84.50	86.50	85.53	88.26	87.67	88.96	87.46	89.12
Tailings (tpd)	95,059	93,719	94,556	91,366	93,887	92,565	94,067	91,691
CuT in Tailings (%)	0.178	0.160	0.175	0.143	0.152	0.132	0.149	0.124

A detailed review of the tonnages processed in 2002 and the first quarter of 2003 shows that production tonnages and grades have been close to plan. From this information the average recovery was calculated at 89.11%.

The production plan for 2003 to 2027 is provided in Table 7-4.

Table 7.4
El Teniente Production Plan to 2027

Year	Production (tpa)	$\%Cu_T$	Recovery Cu_T (%)
2003	40,613,504	1.13	88.32
2004	45,763,200	1.13	88.65
2005-2007	47,086,000	1.08 average	89.27
2008	47,216,000	1.15	89.24
2009-2011	47,086,000	1.12 average	89.38
2012	47,216,000	1.01	89.56
2013-2015	47,086,000	0.996 average	89.63
2016	47,216,000	0.97	89.52
2017-2019	47,086,000	0.937 average	89.67
2020	47,216,000	0.98	89.52
2021-2023	47,086,000	1.00 average	89.696
2024	47,216,000	1.03	89.73
2025-2027	47,086,000	1.01 average	89.887

The data in Table 7-4 show that the concentrator can achieve the planned production if the mine delivers the tonnage and grade of ore planned. However, the average recovery calculated between 2003 and 2027 is 89.49% and the concentrator recently has not achieved better than 89.11%. The lower oxide copper (acid soluble copper) content of the primary ore will benefit concentrator recovery and assist in attainment of the target.

Tailings
Historically there has been differences in the tonnages and grades of tailings delivered to MVC as stated by El Teniente and as measured by MVC. This is shown in Table 7-5. The $\%Cu_T$ differs only slightly, however, the tonnage reported by MVC is consistently lower than that reported by El Teniente by approximately 3% to 7%. The El Teniente figure is calculated from the concentrator metallurgical balances while the MVC figure is determined from flow and pulp density measurements. MVC takes pulp samples throughout the plant to provide shift composites according to normal industry practice. The samples are prepared and assayed in a on site laboratory. There appears to be good agreement between MVC's metallurgical balance for copper produced and the receipts of copper in concentrate at the ENAMI smelter.

The on site laboratory is operated by an independent company, Alfred H. Knight Chile S.A. (AHK). AHK is a reputable company which provides analytical services to the mining industry. The key plant samples are taken by automatic sample cutters approximately every 20 minutes. Every 3 hours the pulp composites of these samples are taken to the laboratory for filtration, drying, and analysis. Each truck load of concentrate dispatched to the smelter is sampled at various points in the load using a tube sampler. A composite sample from each load is dried and analysed.

AMEC has reviewed the protocols for sampling and analysis and considers that they meet recognized industry standards.

Table 7-5
Tonnage and Grade Differences for Tailings Received by MVC

Tailings tonnage (million t)	1998	1999	2000	2001	2002
Reported by El Teniente	33.9	33.7	33.2	33.4	32.4
Reported by MVC	33.0	32.0	31.4	31.2	30.4
Difference	(0.9)	(1.7)	(1.8)	(2.2)	(2.0)
Tailings Grade (%CuT)					
Reported by El Teniente	0.185	0.160	0.142	0.132	0.125
Reported by MVC	0.1940	0.1597	0.1415	0.1317	0.1210
Difference	0.0090	(0.0003)	(0.0005)	(0.0003)	(0.0004)

The planned tailings production from 2003 to 2027 is shown in Table 7-6 below. These values are very close to the projected numbers set out in MVC's contract with El Teniente, although the projected values of tonnes of copper in the tailings tend to be slightly higher than is set out in the contract. The contract values are shown in Table 9-1.

Table 7-6
El Teniente Planned Tailings Production to 2027

Tailings Production				
Year	tpa	%CuT	Fine Cu (tpa)	Fine Cu (tpd)
2003	39,311,612	0.136	53,600	148
2004	44,302,364	0.132	58,655	161
2005	45,613,719	0.124	56,382	156
2006	45,644,974	0.115	52,390	145
2007	45,594,558	0.119	54,390	150
2008	45,680,010	0.128	58,519	161
2009	45,543,537	0.129	58,863	163
2010	45,545,251	0.124	56,450	156
2011	45,604,006	0.116	53,030	146
2012	45,781,897	0.109	49,803	137
2013	45,687,105	0.106	48,378	134
2014	45,683,498	0.107	48,836	135
2015	45,703,935	0.107	48,746	135
2016	45,889,482	0.104	47,827	132
2017	45,818,519	0.100	46,002	127
2018	45,819,789	0.100	45,689	126
2019	45,796,105	0.099	45,328	125
2020	45,895,304	0.106	48,491	134
2021	45,764,896	0.105	48,112	133
2022	45,748,532	0.106	48,495	134
2023	45,738,446	0.107	49,147	136
2024	45,857,134	0.109	49,958	138
2025	45,744,415	0.107	48,949	135
2026	45,727,527	0.105	47,873	132
2027	45,711,090	0.104	47,455	131

Conclusions

It is concluded that any production shortfalls will most likely be due to lower than planned mine production. Historically the maximum production shortfall has been around 3.5%. The concentrator has the capacity to process the planned production. Hence the maximum shortfall in tonnage to MVC would be around 3.5% below that planned (provided that there are no abnormal labour or environmental conditions). This shortfall will not significantly affect MVC's production.

The El Teniente Planning Superintendent stated that the materials handling systems are capable of handling the planned production of 130,000 tpd, including the tailings launder to the Carén dam. He also stated that the mine has 85 million t of 'broken reserves' currently available. This is sufficient for 1.9 years operation at 126,000 tpd, which is considered good for the operation of a mine of this size.

The rock mechanics problems in the production levels are known and the instrumentation installed should allow good control of the geotechnical conditions. Therefore these conditions should not affect production.

The concentrator has sufficient capacity to treat the planned tonnage for the next 25 years. Both the mine and the concentrator have plans to expand to 150,000. However, this will not be implemented until at least 2008, and this expansion has not yet been approved by Codelco.

The tonnages of tailings over the next 25 years could fall as much as 3.5% below the plan, based on historical performance. Although the tonnages of tailings as recorded by El Teniente and MVC differ, this is thought to be due to different measurements procedures and the difference will not significantly affect MVC's production.

The grade (CuT) of the tailings should be according to plan over the next 25 years provided that El Teniente achieves its planned recovery of 89.48 %. Based on historical data this is possible however, the average recovery over recent years has been 89.11 %. The lower oxide content of the tailings compared to recent years will provide a small improvement in recovery in the MVC plant.

Table 7-7 shows the five year planned averages for tailings tonnages and grades based on the data provided by El Teniente.

Table 7-7
El Teniente Tailings Production 5 year Averages to 2027

	2003-2007	2008-2012	2013-2017	2018-2022	2023-2027
Tonnage (million tpa)	44.8	45.6	45.8	45.8	45.7
% CuT	0.125	0.121	0.105	0.103	0.106

7.2 Colihues Tailings

The amended tailings supply agreement between MVC and El Teniente enables MVC to supplement its tailings supply with up to 10,000 tpd of material from the Colihues tailings deposit. MVC may also apply for a higher daily extraction rate from the deposit.

The Colihues tailings impoundment is located approximately one kilometer south of the MVC plant and measures 5 km by 3 km with a surface area of approximately 368 ha. Production records indicate that 213 million tonnes of El Teniente tailings were deposited between June 1977 and February 1987 (Budinich, 2001; Table 7-8). The annual records show that the copper values range between 0.244 to 0.297 $\%Cu_T$ and average 0.265 $\%Cu_T$. Acid soluble copper values average 0.121 %Cu. Molybdenum values average 0.011 %Mo. The estimates of tonnages and grades in the Colihues dam are historic estimates and do not constitute a mineral resource calculated to CIM standards.

Note: In this report the terms "oxide copper" and "acid soluble copper" are used synonomously and refer to copper values assayed by a weak acid digestion technique. This method provides an approximation of the percentage of the non-sulphide or oxide copper present in a sample. The total copper assay of a sample is determined by a strong acid digestion technique. The sulphide copper content is approximated by taking the difference between the total copper assay

and the weak acid soluble assay. In general terms sulphide copper minerals respond well to recovery by flotation while non-sulphide or oxide minerals do not.

Figure 7-1
Photograph of the Colihues Tailings Deposit.
View Looking to the East

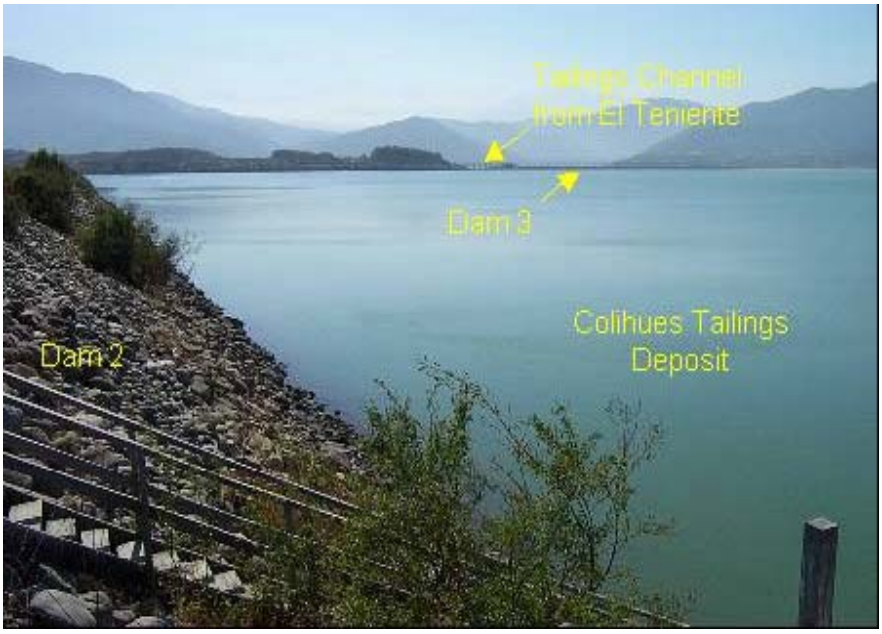


Table 7-8
Annual Tailings Deposition Summary for Colihues Deposit *

Year	Annual Deposition t	Cumulative Deposition t	Cu_T %	Cu Soluble %	Mo %
Started June 1997					
1977	9,756,956	9,756,956	0.249	0.11	0.013
1978	16,386,148	26,143,104	0.244	0.11	0.013
1979	19,776,693	45,919,797	0.257	0.12	0.006
1980	19,999,533	65,919,330	0.275	0.12	0.009
1981	18,745,922	84,665,252	0.271	0.12	0.009
1982	22,117,068	106,782,320	0.297	0.13	0.010
1983	22,433,838	129,216,158	0.271	0.11	0.013
1984	22,463,406	151,679,564	0.251	0.12	0.012
1985	26,124,664	177,804,228	0.247	0.11	0.013
1986	28,379,343	206,183,571	0.270	0.14	0.014
1987	6,625,060	212,808,631	0.292	0.16	0.016
Finished Feb 1987					
	212,808,631		0.265	0.12	0.011

** Based on metallurgical balances*

MVC has recently conducted dredging trials in the Colihues dam using a raft mounted dredge pump. Up to 4000 tpd of tailings have been extracted with copper sulphide assays of approximately 0.2% Cu. MVC has produced a preliminary design for a larger raft supporting a dredge pump capable of delivering up to 10,000 tpd of tailings. AMEC has not estimated the tonnage or grade of material that could be extracted by this method.

8.0 MINERAL PROCESSING

8.1 Current Process Description

According to the flowsheet, Figure 8-1, the current fresh tailings processing, at a rate of 3,760 dtph, begins with a primary classification stage using four ERAL cyclone batteries of five cyclones of 500 mm diameter with the underflow going to a desliming battery of two cyclones of 400 mm diameter. Both overflow slurries go to the cascade flotation circuit (four lines of concrete cascade flotation cells each 1.80 m x 0.70 m x 54 m in the first stage and four lines in the second stage each 1.80 m x 0.70 m x 126 m providing 148 cascades in total). The underflow from the desliming circuit (P_{80}= 231µ) goes to the primary mill feed box. In this box collector is added (35 - 40 g/t of Cytec 3477) then the slurry passes to four mills (14´ x 28´, 2,500 HP). The mill discharge feeds four ERAL 500 mm diameter cyclones. The cyclone underflow is returned to grinding. The overflow (P_{80}=177µ) is mixed with the tailings from the first cleaner flotation and the concentrate from the cascade circuit and fed to rougher flotation. The rougher section consists of 26 cells 38 m^3 each, in three parallel rows.

The rougher tailings are fed to cascade flotation. The rougher concentrate is fed to the regrind mill pump box where it is mixed with the second cleaner tailings and the mill circulating load. All this is pumped to the closed regrind circuit consisting of a 12’ x 16’ mill with a 1,500 HP motor and a cyclone battery with seven 400 mm polyurethane cyclones. The overflow (P_{80}= 98µ) feeds the first cleaner circuit, composed of six 1,550 ft^3.

The first cleaner concentrate passes to the second cleaner stage of column flotation (two columns, one 2.3 m diameter and the other 3.3 m diameter). The first cleaner tailings are fed back to the rougher circuit.

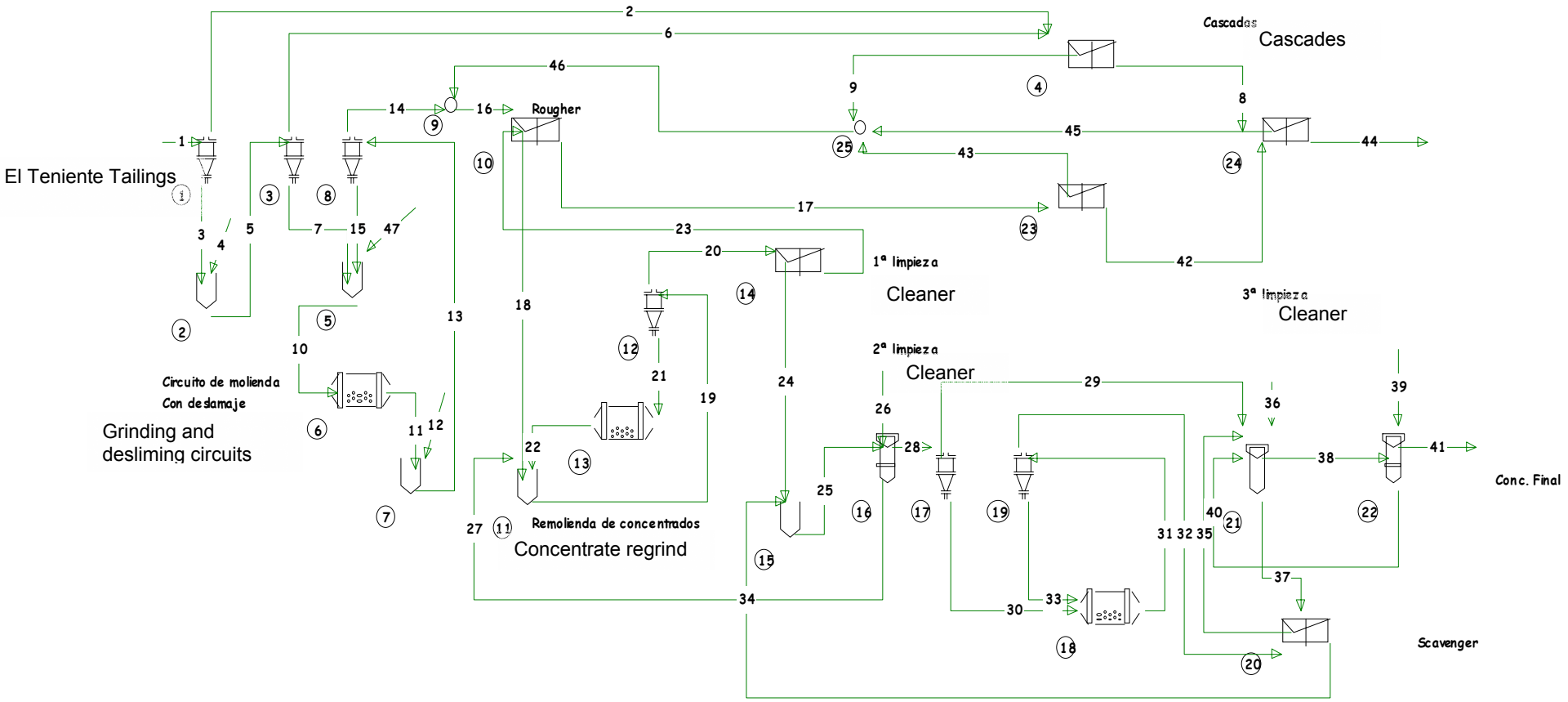
The second cleaner tailings are returned to the rougher concentrate regrind circuit. The second cleaner concentrate is fed to a desliming cyclone, the overflow reports to the third cleaner step, the underflow goes to a 200 HP Tricone mill. The third cleaners are two square 1.65 m x 1.65 m x 13 m high column cells. The reground product (P_{80}=76µ) goes, along with the third cleaner tailings, to a scavenger step consisting of six 300 ft^3 cells. The scavenger concentrate goes to the third cleaner column. The cleaner-scavenger tailings returns to the second cleaner columns.

The third cleaner concentrate is fed to the fourth cleaner column (square, 1.65 m x 1.65 m x 13 m high). The fourth cleaner tailings go back to the third cleaner step. The fourth cleaner concentrate goes to a Dorr Oliver thickener (18 m diameter), then to two Dorr Oliver disc filters (one with 7 x 8´ 9” diameter discs and the other with 8 x 8´ 6” diameter discs) and finally to two Enercom fuel oil rotary dryers (one 1.2 m diameter x 10 m long and one 1.9 m diameter x 14 m long).

MVC stated that the water consumption is between 500 and 600 l/s.

Tailings from the cascades are returned to El Teniente’s tailings launder and flow by gravity to the Carén tailings impoundment that is owned and operated by El Teniente. MVC does not possess independent tailings disposal facilities.

Figure 8-1
Current Process Flowsheet



8.2 Plant Design and Condition

The plant is well laid out to take advantage of the natural topography and maximize gravity flow of pulp through the process. Access to equipment for maintenance is good and lifting capacity is provided by mobile cranes as there is no building over the main process facilities. This approach has been very successful.

The main process equipment was purchased second hand, however, it appears to be in good condition. The standards of maintenance and general cleanliness also appear to be very good.

8.3 Current and Historical Plant Performance

In 1992 MVC commenced operation of a plant to recover copper from El Teniente tailings. The process then only recovered copper from the fine fraction of the tailings, using a cascade flotation system. In 1996 MVC built a grinding and flotation plant using conventional mechanical cells to recover copper from the coarse fraction of the tailings.

The historical performance of the MVC plant is shown in Table 8-1 and Figures 8-2 and 8-3.

Table 8-1
Historical Results

Year	Annual Production Fine Cu, t
1993	3,959
1994	6,338
1995	7,736
1996	7,847
1997	18,213
1998	13,975
1999	8,398
2000	10,361
2001	9,993
2002	10,651

Figures 8-2 and 8-3 show great variability in the recovery. The most dramatic changes are due to modifications to the recovery circuit. For example, the increase in recovery seen early in 1997 is due to the addition of the scalping cyclones and grinding circuit to treat the coarse fraction, in addition to the cascades for copper recovery from the fine fraction.

The MVC plant recovery is also influenced by the total copper content and distribution of copper between oxide and sulphide species in the El Teniente tailings. Figure 8-3 appears to show a relationship between recovery and El Teniente tailings grade.

Starting in 1998 problems in the El Teniente mine reduced the feed to the El Teniente concentrators. This resulted in a finer grind and hence better recovery at the El Teniente concentrators and, therefore, lower tailings grade fed to the MVC plant.

Figure 8-2
Historical Monthly Performance, 1992 to 2001 (Source: MVC)

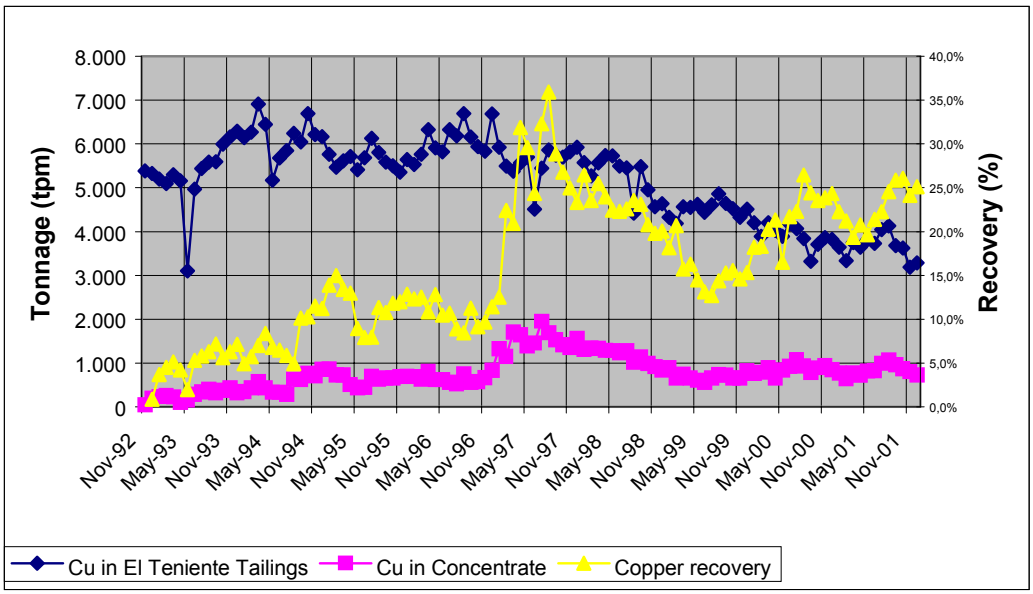
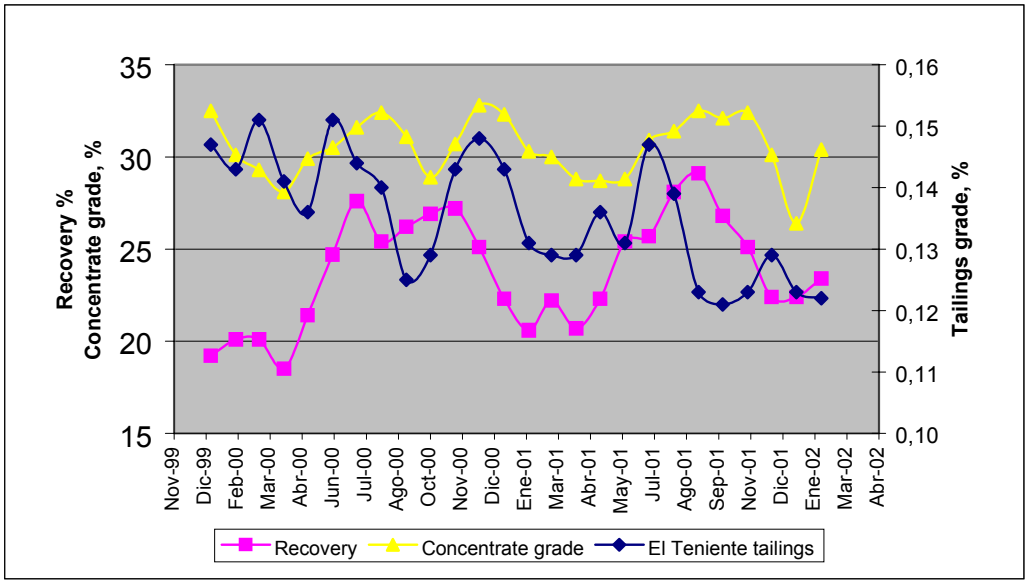


Figure 8-3
Recent Performance, 1999 to 2002 (Source: MVC)



In 1999, economic pressures forced the shut-down of two of the four primary grinding mills at MVC, lowering the achievable recovery from the coarse fraction of the tailings. This was partly compensated, in mid-1999, by the addition of the dual desliming stage ahead of the operating mills, sending more material to the cascades and increasing the grinding intensity on the retained coarse fraction.

The increase in recovery in March, 2000 is due to the addition of 10,800 ft^3 of rougher flotation capacity by installing eight cells from the old fines treatment plant. The increase in the grade of the concentrate in November, 2000 is due to the addition of the Tricone regrind mill. The reduction in recovery in October, 2000 is due to reduction in quantity and grade of the tailings from El Teniente. The increase in recovery in May, 2001 can be explained by the addition of the transverse launders in rougher flotation at that time. This was followed in August by the implementation of the fourth cleaning stage by changing one of the three third cleaner columns to this duty. Starting in October, 2001 recovery dropped due to increased alteration of the minerals, abnormally high pyrite content and low copper content in the coarse fraction. This was partly compensated by the 44% increase in residence time resulting from the start-up of the second cleaner stage in December of that year. This occurrence is unlikely in the future as mining moves mainly into primary ore at higher production rates.

8.4 Effect of Increased Tonnage of El Teniente Tailings

The current MVC primary cyclone circuit has the capacity to treat approximately 90,000 tpd of fresh El Teniente tailings. Any excess passes directly to the cascades which have a total capacity of about 100,000 tpd. This will result in approximately 30,000 tpd of coarse material at about 0.15% Cu reporting to the grinding circuit. On average, the cascades produce approximately 4,500 tpd of low grade concentrate at about 0.42% Cu. This concentrate is pumped directly to the rougher flotation feed as shown in Figure 8-1. The flotation plant achieves a stage recovery of 52%. Overall recovery is approximately 23% as shown in the summarized metallurgical balance in Table 8-2. Based on 362 operating days per year, the annual production in this case is estimated to be 12,163 tonnes of copper contained in concentrate. This can be considered as the base line against which to evaluate improvement projects. For comparison, in March 2003, the MVC plant produced 960 tonnes of copper in concentrate (i.e. an annual rate of approximately 11,400 tonnes) from an average of 92,000 tpd of tailings at 0.103% total copper.

8.5 Potential Improvement Projects

AMEC reviewed eight potential plant improvement projects. These are listed below.

Project Number	Description	Increase in Copper Production (tpa)
Project 1	Increase primary cyclone capacity	290
Project 2	Preclassify El Teniente entire tailings stream	640
Project 3	Preclassify a portion of El Teniente tailings stream	440
Project 4	Increase rougher and first cleaner residence time	1,900

Project Number	Description	Increase in Copper Production (tpa)
Project 5	Classify rougher tailings	724
Project 6	Treatment of Colihues tailings, Phase 1	2,170
Project 7	Treatment of Colihues tailings, Phase 2	1,800
Project 8	Treatment of Colihues tailings, Phase 3	3,980

Brief details of each project are provided below:

Increase in Primary Cyclone Capacity (Project 1)

MVC currently classifies the El Teniente tailings using four batteries of cyclones each containing five ERAL 500 mm diameter cyclones. The four batteries provide a maximum capacity of approximately 90,000 tpd. Any excess El Teniente tailings passes directly to the cascades. As El Teniente increases its tailings production above 90,000 tpd the coarse material in the excess is not recovered in the cascades and represents a loss that could be recovered in the MVC plant.

The 3.2 km long launder that connects the El Teniente launder system to the MVC plant has a maximum capacity of approximately 115,000 tpd. Additional primary cyclone capacity would be required to classify all of this material. The capacity of the existing grinding circuit is 30,000 tpd. Two additional batteries each containing five 500 mm diameter cyclones would permit the entire 115,000 tpd to be classified and also a coarser separation to be made to limit the coarse product to 30,000 tpd. This would result in a higher grade coarse product fed to the grinding circuit.

An analysis was made of MVC's monthly results in 2002 for periods when El Teniente was supplying at least 90,000 tpd of tailings. This shows that the coarse material fed to the grinding circuit was consistently 32% to 33% by weight of the El Teniente tailings tonnage. The copper upgrading factor varied over the range 1.18 to 1.32 with an average of 1.24. If 30,000 tpd is taken from 115,000 tpd of tailings, this upgrading factor could be expected to increase to a range of 1.3 to 1.35 which would provide feed grades to the grinding circuit in the range of 0.15% to 0.16% Cu. This would result in annual copper production in the range of 12,200 to 12,700 tonnes, depending on the grade of the El Teniente tailings (an average increase of 290 tpa over the base line).

An order of magnitude capital cost for the installation is US$ 300,000.

Preclassification of El Teniente Tailings (Projects 2 and 3)
MVC has studied the possibility of preclassifying El Teniente tailings to reduce the volume to the carrying capacity of the 3.2 km long connecting launder referred to above. From the data provided in Section 7, the probable average annual tonnage of the El Teniente tailings is:

(45.7 mtpa x 0.965 probability) / 362 operating days = 121,800 tpd

The preclassification project can be done in one of two ways:

a) **Preclassify the whole tailings stream to produce 90,000 tpd of coarse material (i.e. the current capacity of the primary cyclones) (Project 2).** This would provide three stages of classification ahead of grinding and Project 1 would not be necessary. The overall classification efficiency and hence the copper upgrading factor would be expected to improve slightly compared to the case described as Project 1. AMEC does not have sufficient data to calculate with precision the upgrading factor but we expect that it would be in the range 1.32 to 1.37. This would provide mill feed grades of 0.16 to 0.167% Cu. Annual copper production would be in the range 12,600 t to 13,000 t contained in concentrate (an average increase of 640 tpa over the base line).

   The preclassification stage would require approximately twenty 500 mm cyclones operating plus associated pumping, piping, electrical and instrumentation installations. AMEC estimates the rough order of magnitude cost to be US$1 million.

b) **Preclassify a part of the tailings stream (Project 3).** A part of the tailings stream could be classified to reduce the tonnage passed to the MVC plant to 115,000 tpd. In this case the project described as Project 1 would also be required. Conceptually, the classification of only 37,500 tpd of El Teniente tailings would give 12,500 tpd of fines and 25,000 tpd of coarse material. The coarse material would be combined with the remaining 90,000 tpd of El Teniente tailings to give a total of 115,000 tpd of feed to the MVC primary cyclone circuit.

   This process would not provide the same improvement in classification efficiency as that described in Project 2, but would prevent coarse material passing untreated to the cascades and would increase copper production compared to the case described in Section 8.4. The annual production is estimated to be in the range 12,400 t to 12,800 t of copper in concentrate. (an annual average increase of 440 tpa over the base line).

   This project would require six or seven 500 mm cyclones as opposed to the twenty required for Project 2. Hence the capital cost will be reduced and is estimated at US$ 450,000. The combined cost of Project 1 plus Project 3 is therefore US$ 750,000.

AMEC recommends that detailed size/assay analyses and cyclone simulation modelling be carried out to select the optimum process configuration in terms of copper recovery and capital cost.

Increase in First Cleaner and Rougher Flotation Residence Time (Project 4)

Tests carried out by MVC indicate that the copper recovery in the first cleaner circuit is 85% and that overall cleaner circuit recovery (four stages) is 64%. The grade of the first cleaner tailings is approximately 1% Cu and the tailings are recirculated to the rougher circuit, creating a large circulating load. MVC has suggested that the total plant copper recovery could be improved by increasing the first cleaner circuit recovery. An increase in the copper recovered in the first cleaner circuit is likely to result in an increase in the circulating loads in all the cleaning stages and ultimately in a further increase in the load recirculated to the roughers.

Modern copper flotation circuits usually operate an open circuit first cleaner circuit to produce final tailings. It is recommended that this approach be considered by MVC. The benefit would be improved rougher circuit performance due to the lower copper loading and potentially a significant increase in overall recovery. Laboratory cleaner flotation testwork has shown that 85% cleaner recovery is achieved after 5 minutes and 95% recovery is achieved after 8 minutes. In the plant 15 minutes residence time provides 85% recovery, hence approximately 25 minutes would be required to reach 95% recovery. This would yield first cleaner tailings of approximately 0.3% Cu which could be discarded to the cascades.

MVC has estimated that overall plant recovery could be increased to 60% by increasing the first cleaner residence time as indicated above and also by increasing the rougher circuit residence time from 25 minutes to 35 minutes. No data has been provided to substantiate this increase. AMEC recommends that a detailed metallurgical sampling campaign be carried out in all sections of the plant to provide the information necessary to make improvements. If overall recovery was increased to 60% then annual copper production would increase by approximately 1,900 t. AMEC agrees that the potential exists for considerable improvement but does not have the data to confirm MVC's estimates.

MVC proposes to increase the first cleaner circuit residence time by adding one 160 m^3 tank flotation cell. Three similar cells are proposed to increase the rougher residence time. Based on recent quotations, AMEC estimates an installed cost of US$ 1 million.

Classify Rougher Tailings (Project 5)

The +48 mesh and -48 mesh + 65 mesh fractions of the rougher tailings contain 0.20% Cu and 0.125% Cu respectively. MVC has suggested that a portion of this be cycloned to produce about 3,500 tpd of material that could be returned to the rougher concentrate regrind mill that currently has excess capacity. The proposed circuit considers one stage of cycloning located sufficiently downstream of the plant to enable gravity flow to the cyclones. This would require cycloning approximately 11,500 tpd of rougher tailings to produce 3,500 tpd of coarse material. An upgrading factor of 1.25 would yield a cyclone underflow grade of 0.119% Cu. Using a conservative recovery of 48%, the treatment of this material could produce approximately 720 tpa more copper in concentrate.

AMEC does not recommend that this material be added to the regrind mill as it is probable that the improvements to the flotation circuit discussed above will utilize the full capacity of the mill. It is also not recommended that the material be added to the primary grinding circuit as higher grade material should always be available. A small independent circuit is reommended. This would require three 500 mm diameter cyclones, a 1,250 HP ball mill and approximately 160 m^3

of rougher flotation capacity plus associated pumps, piping, electrical and instrumentation installations. Based on used equipment it is estimated that this installation would cost US$ 1 million.

Treatment of Colihues Tailings at 10,000 tpd (Projects 6 and 7)

Amerigo Resources initially requested that AMEC consider this project in two phases as follows;

a) Phase 1 (Project 6)

This entails dredging 10,000 tpd of tailings and pumping the material to one of the four existing grinding circuits and providing additional rougher flotation capacity (approximately 450 m^3 for 35 minutes residence time).

The dredging trials have consistently produced material at 0.3% CuT and 0.2% sulphide Cu. Laboratory flotation testing has shown that 55% to 60% sulphide copper recovery can be achieved. This would produce an additional 11 tpd copper in concentrate. However, the use of an existing mill would displace El Teniente tailings from this circuit, reducing copper recovery and hence production from this source by 5 tpd. The net gain in copper production from this project would be 6 tpd (2,170 tpa).

In this first phase one dredge pump and shore facilities would be installed. The cost for this is estimated at US$1.2 million. The cost for the additional flotation capacity based on new tank cells is estimated at US$ 1 million.

b) Phase 2 (Project 7)

This phase entails the installation of a used 2,500 HP primary ball mill to replace the 'lost' grinding capacity for El Teniente tailings and hence recover the 5 tpd copper 'lost' in Project 6. This would produce an additional 1,800 tpa of copper in concentrate. Amerigo Resources also wishes to incorporate a thickener into the Colihues grinding circuit to stabilize the pulp density of material received from the dredging operation. This would enable better control of the circuit water balance. A conventional thickener of approximately 40 m diameter would be required. Based on used equipment the cost of this project would be approximately US$ 2.5 million.

For comparative purposes, the base line is the treatment of the El Teniente expanded throughput but without modifications to the MVC plant as indicated in paragraph 8.4.

AMEC evaluated the above projects on a stand alone basis, however, additional benefits can be obtained by combining projects e.g. if Projects 2 and 4 were carried out in parallel then the additional copper produced would be greater than the sum of the individual projects because the additional copper recovery obtained through Project 4 would also apply to the incremental amount of copper entering the circuit from Project 2. Amerigo Resources reviewed the above analyisis and indicated that it wishes to consider Projects 2, 4 and 5 in parallel as a first development followed by Projects 6 and 7 also in parallel. The results are summarized below. Project 8 would be considered at some point in the future and is not discussed further here.

Project Number	Total Plant Copper Production (tpa)
2, 4, 5	15,491
6, 7	19,473

In the case of the cyclone projects (Projects1, 2 and 3), AMEC recommends that size/assay analysis and cyclone simulation modeling be carried out to determine the optimum circuit configuration. For Project 4, flotation testwork is required to more accurately quantify the improvements that could be obtained. For Projects 6, 7 and 8 a sulphide copper assay of 0.2% Cu has been used, this is the average for the material extracted in dredging trials.

Table 8-2
Summary Metallurgical Balance, Years 2004 – 2014 with No Modifications to the MVC Plant

Description	1 (1) Fresh Tailing	7 Cyclone U'flow	12 Colihues Tailings	14 Regrind O'flow	16 Rougher Feed	41 Final Conc.	42 Scavenger Tailings	44 Final Tailings	46 [2] Total Pre-concentrate
Mass flow, dmtd	121,594	30,500	0	30,500	35,000	112.1	34,888	121,482	4,500
Feed wt, fraction overall %	100	25.1	-	25.1	28.8	0.1	28.7	99.9	3.7
% Cu_T	0.118	0.150	-	0.150	0.185	30	0.089	0.09	0.42
Copper, tpd	143.5	45.8	-	45.8	64.7	33.6	31.1	109.9	18.9
Overall Recovery,%	100	31.9	-	31.9	45.1	23.4	21.7	76.6	13.2
Stage Recovery,%	-	-	-	-	-	52.0	48.0	-	-

NOTES : **(1)** El Teniente data

(2) Average MVC results for 2002

(3) The numbers above the stream description indicate stream numbers from Figure 8-1.

9.0 MARKET AND CONTRACTS

9.1 Tailings Supply Contract

The El Teniente tailings are processed by MVC pursuant to a contract originally completed in 1991, and amended in 1996 and 2002. MVC currently has 18½ years remaining on its tailings supply contract with El Teniente. Pursuant to the amendment made in 2002, MVC has also negotiated a supplementary source of higher grade tailings from the Colihues tailings impoundment which could be treated at up to 10,000 tpd. The possibility exists to negotiate a treatment rate of up to 20,000 tpd. The supply of fresh El Teniente tailings is scheduled to increase to 126,000 tpd by 2005, as shown in Table 7-6. AMEC has recommended the tonnages be discounted by 3.5%. The discounted values are very similar to the values set out in the contract between El Teniente and MVC (Table 9-1).

Table 9-1
Future Fresh Tailings Projection Table

Year	Tons of Tailings (TPD)	Copper Grade (% Cu T)	Tons of Copper (fmt)
2001	94,207	0.15	52,632
2002	95,129	0.15	52,827
2003	110,664	0.15	58,982
2004	121,677	0.12	52,668
2005	121,694	0.11	50,289
2006	121,709	0.12	52,504
2007	121,591	0.12	51,123
2008	121,539	0.12	52,572
2009	121,454	0.13	55,113
2010	121,468	0.13	55,637
2011	121,477	0.12	53,746
2012	121,617	0.11	49,667
2013	121,606	0.11	48,381
2014	121,685	0.11	48,759
2015	121,724	0.11	50,140
2016	121,878	0.11	47,219
2017	122,020	0.11	47,858
2018	122,049	0.11	46,900
2019	122,122	0.10	45,922
2020	122,122	0.10	44,862
2021	122,338	0.10	45,679
2022	122,338	0.10	44,449
2023	122,179	0.11	47,794
2024	122,157	0.11	50,913
2025	111,574	0.11	43,068

Codelco El Teniente has agreed to provide a total of 1,063,480 fmt of copper for the period from January 1, 2001 to December 31, 2021. If the total copper content over the period falls below that amount by more than 10%, the term of the contract shall be extended by the proportion corresponding to the fine copper deficit exceeding such 10%. Otherwise, the contract terminates on December 31, 2021.

A royalty is payable if the price of copper exceeds US$0.80 per pound.

9.2 Concentrate Smelting and Refining Contract

MVC currently sells all of its concentrate production to ENAMI's Las Ventanas smelter in Chile (approximately 250 km away). A contract (ENAMI contract CP-CF-05-03) was signed by ENAMI and MVC on 27 December, 2001. The contract is valid until 31 December, 2003, and provides for ENAMI's purchase of 2,800 (+10%) dmt of concentrate per month (33,600 dmt per year).

AMEC has seen the contract between MVC and ENAMI and confirms the above information.

The contract is a typical ENAMI contract for small/medium producers. Charges are levied for concentrate treated and for contained impurities, payment is made for recovered metal.

MVC is free to sell its concentrate elsewhere on the world market if it wishes. AMEC has not carried out an analysis of the commercial terms of the ENAMI contract, however, current terms available on the spot market or for longer term international contracts are more favourable.

10.0 ENVIRONMENTAL AND PERMITS

10.1 Summary and Conclusions

AMEC carried out a review of the environmental and permitting status of the MVC operation as part of the scope of this report. A site visit was made in April 2003 by an environmental specialist who had produced a similar report in April 2002.

No significant liabilities were identified in the environmental compliance and permitting process. Although MVC has not taken a strong position on environmental issues no major environmental problems were observed during the plant inspection.

MVC did not present a voluntary Environmental Impact Statement (DIA) to the CONAMA, Region VI (local environmental authorities) for its plant expansion in 1995 because at that time it was not legally obliged to do so. For this reason, the plant is not currently being inspected or monitored by CONAMA. All future projects will require the submission of a DIA and will be subject to monitoring.

In December 2002, MVC submitted an "Environmental Protection Plan" to El Teniente as part of El Teniente's ISO 14001 environmental compliance program.

Current plant water requirements (600 l/s) are pumped from the Colihues tailings dam, however, MVC's agreement with El Teniente allows a maximum of 300 l/s. This situation needs to be formalized with El Teniente. MVC has water rights from private irrigation canals (150 l/s) that are not currently being used and could purchase additional rights if necessary.

Bottled water is used for drinking purposes. Chlorinated underground water is used for showers and kitchen use and this complies with Chilean standards. The sewage treatment system also complies with the law.

The concentrate drying system presents a potential air contamination problem. A dust filtration system is recommended. It is also recommended that the area around the dryers be paved to reduce dust.

MVC is still awaiting its official operating permit from the National Service for Geology and Mining (SERNAGEOMIN). The necessary documentation has been submitted and no liability is anticipated.

The project to treat Colihues tailings has been submitted to CONAMA through a DIA that has been approved. A dam stability analysis has been submitted to SERNAGEOMIN who will have to approve the project prior to start up. Prior to project close-out a dam closure and abandonment plan will be required. MVC should clarify with El Teniente who should present this plan.

10.2 Introduction

Amerigo requested AMEC to provide a report on the environmental and permitting status of the MVC operation as part of the scope of this report. This section of the report has been prepared by Mr. Jorge Arrueste, a civil engineer with a Master of Science in environmental engineering

and more than 25 years experience in the field in Chile and other parts of the world. The report was reviewed by Mr. Anthony Maycock, P. Eng., President of AMEC International (Chile) S.A. Mr. Arrueste is familiar with the MVC operation through visits to the plant in February 2002 and April 2003.

Chilean Environmental Law (1994) and its application through the Environmental Impact Assessment System (SEIA, 1997) are administered by national and regional environmental commissions, CONAMA and COREMA, respectively.

The SEIA procedure became mandatory when the SEIA was enacted in 1997, about two years after the last MVC plant expansion in 1995.

The MVC facilities are located on land designated for industrial use that is owned by CODELCO's El Teniente Division. Environmental and permitting matters at the site are administered by the CONAMA for the VI Region with offices based in Rancagua. Safety matters are administered by the National Service of Geology and Mining (SERNAGEOMIN) for the VI Region.

During a visit to the MVC plant and Colihues impoundment in April, 2003 a meeting was held with MVC's Engineering Manager, Mr. Christian Caceres, who is also responsible for environmental coordination, and with the Superintendent, Operation & Control, Mr. Manuel Cartagena. A review of environmental and permitting documentation was carried out during the visit

A conversation was held with the Deputy Director of CONAMA for the VI Region, Dr. Jorge Lisboa, in order to clarify the status and complement the permitting information and data with regard to the existing MVC operation and the future treatment of tailings from the Colihues impoundment. A telephone conversation was also held with the Head of the Safety Department of SERNAGEOMIN, Mr. Exequiel Yanes.

Environmental information and data were reviewed and evaluated to assess compliance with Chilean regulations and standards. The permitting compliance program being implemented by MVC was reviewed in order to verify the status and any potential unresolved permits or problems with the regional environmental authorities and SERNAGEOMIN.

10.3 Environmental Review

The project area is characterized as having a mediterranean-type climate with winter rains, perennial surface water courses, groundwater, native and imported plant and animal species and human population. Water for industrial use (600 l/s) is pumped from El Teniente's Colihues tailings impoundment. The agreement between MVC and El Teniente allows for the pumping of 300 l/s from Colihues. This issue needs to be formalized between the parties. Currently, water rights purchased from private irrigation canals (150 l/s) are not being used.

Chilean environmental law (Ley de Bases del Medio Ambiente No. 19,300; 1994) and its application through the Environmental Impact Assessment System (Reglamento del SEIA; 1997) became mandatory when the SEIA Regulation came into force in 1997. This system is the key element in the environmental approval of a project.

In 1995 when MVC put the current plant into operation, the SEIA was voluntary for mining projects and MVC did not present an environmental study to CONAMA for that plant expansion. MVC's operation was not evaluated according to the above procedures, and therefore, MVC is not required to report. However, the expansion was correctly coordinated legally at the time through documented communication and a Project Description Report was submitted to the environmental authorities.

The environmental law requires that monitoring plans for specific environmental variables and parameters be described in the permit application, following internationally accepted procedures for sampling and analysis. Results must be reported to CONAMA once per quarter. Since MVC's operation was not evaluated within the existing environmental system, it is not currently included in the facilities being monitored by the environmental authorities. Any future projects implemented by MVC must be permitted according to the current procedures and will be monitored.

MVC has committed to comply with El Teniente's environmental policy which is linked to its ISO 14001 program. An environmental protection plan was submitted to El Teniente in December 2002. The monitoring currently being performed by MVC includes visual site and facilities checking and quality control of the underground water used in the washrooms (according to Chilean drinking standards, NCh No. 409, Ministry of Health). These results show good compliance with standards. For bathrooms, showers and kitchens chlorinated water from underground sources is used. Bottled water is used for drinking purposes. Sewage treatment and disposal is by septic tanks and infiltration, in accordance with Chilean law.

The concentrate drying system represents a potential for air contamination in the immediate vicinity, as described below.

- When the dryers are turned on and off black smoke and odours are emitted to the atmosphere for a period of about 10 minutes. The same emissions are occasionally produced when operations diverge from the normal range. On January 12, 2001, a resident of the Colihues area presented a claim to the Environmental Division of El Teniente. El Teniente sent a letter to MVC on January 22, 2001. A reply was sent by MVC explaining the technical situation and making a commitment to avoid future occurrences of this type. No new complaints have been received. The installation of a filtration system on the exhaust to control emissions is the recommended solution. It is estimated that this will cost US$40,000. MVC has recently committed to the Health Authorities and SERNAGEOMIN to perform measurements of emissions. A quotation for these services including the design of a filtration system by an experienced Chilean firm is in the process of being approved by MVC.

- Concentrate dust is emitted to the atmosphere in the vicinity of the drying system because of vehicle movement. The area is not paved and is covered with concentrate that is difficult to clean up.

MVC does not have a professional whose sole responsibility is environmental matters. The Engineering Manager has responsibility for environmental coordination in addition to his other duties. It is recommended that he be sent for training in environmental management. Courses are run regularly by academic institutions in Chile. Such training will allow him to develop the required procedures and verify that the necessary permits are in place for the current and future facilities

Although MVC has not taken a strong position on environmental permitting and monitoring, no major environmental problems were observed during the plant inspection.

A possible future consideration is a change in the law regarding the levels of molybdenum and sulphates in effluents discharged to the environment. The discharge from El Teniente's Carén tailings dam contains levels of molybdenum and sulphates in excess of the proposed new standard. CONAMA is currently processing a resolution requested by El Teniente to exempt the Carén dam from the new requirements. This should not affect MVC under the terms of its present agreement with El Teniente.

10.4 Permits and Approvals

10.4.1 Existing Facilities and Operation

Global Environmental Permit

As stated previously, according to the environmental law and regulations, every project that has the potential to impact the environment must be submitted to the environmental authorities for a Global Environmental Permit through an EIA or a DIA.

MVC did not present the voluntary (at that time) DIA to the COREMA for the VI Region in 1995 when it expanded the plant. The expansion was correctly coordinated legally by the presentation to the environmental authorities of a Project Description Report.

Sectorial Permits and Authorizations

Sectorial Permits from other government agencies (Health Services; SERNAGEOMIN) related to construction and operation are required. This entails submission of project technical descriptions, drawings and specifications.

MVC does not have a systematic method of follow-up (tracking) of permits approved or required. MVC has obtained permits when they were specifically requested by the authorities but does not monitor compliance and submission of these data to the authorities. The status of the main sectorial permits as of April 2003 is as follows:

- Health Services
  MVC does not send regular chemical and bacteriological reports of potable water quality to the Health Services, as required by law. The Health Service takes samples to monitor the chlorination level on a sporadic basis.

  The potable water system supplies chlorinated underground water to the potable water network (bathrooms, showers and laboratory). This water is also transported to the kitchen where it is stored and later used. Water for potable use must be approved by and regularly reported to the Health Authorities. Although this water is not used for drinking (bottled water is used) it is used for showers and kitchen needs and therefore must be approved as potable.

  Authorizations under the Sanitary Code (D.F.L. 725/67) must be obtained by and required from subcontractors (e.g. for transport of concentrate and chemicals, use of remote toilets).

- SERNAGEOMIN
  The main operating permit required from the National Service of Geology and Mining (SERNAGEOMIN) has not yet been received. SERNAGEOMIN requested compliance through the presentation of a plant description report. MVC submitted this report in February 2002. MVC presented supplemental information on 2 April 2003. SERNAGEOMIN indicated that no liabilities are expected.

When the main SERNAGEOMIN operating permit is received, other authorizations will be required from this agency regarding the various safety procedures used by MVC (e.g. crane use; loading and transporting; protective devices; work with high tension equipment).

10.4.2 Future Projects

General

Future projects must be presented to the environmental authorities (CONAMA for the VI Region) according to Law No. 19,300.

The law demands that an environmental impact assessment (EIA) or an environmental impact statement (DIA) must be submitted for every production facility. Article 10 of the statute stipulates that every activity that may impact the environment must be submitted to an evaluation to determine the possible size of the impact and the steps that will be taken to prevent or mitigate any potentially negative impact.

The EIA is mandatory only if the planned project or activity involves a risk to health due to the quantity and quality of the effluents, emissions or wastes generated or produced (established in Articles 7 to 11). The DIA, a simpler document, must be presented if the project or activity is included in those listed in Article 11 and does not present a significant health risk. For example, MVC presented a DIA to CONAMA for the use of a new flotation reagent. Approval was received on 29 October, 2002. It is anticipated that new expansions would require only a DIA.

Colihues tailings treatment project

The SEIA sets forth the requirements for submissions and community participation under Law No. 19,300. Based on Article 3, items i and j, MVC submitted the above project for evaluation by the regional environmental authorities. Based on the type of project and the low potential environmental impacts, the project was presented as an Environmental Impact Statement (DIA). The project was approved on 18 February 2003 in Resolution Nº 021.

The DIA document for the Colihues treatment project included:

1. A definition of the type of project.
2. A description of the project proposed.
3. The background information used to determine the potential environmental impact that would be generated by the project and hence the need for a DIA only.
4. The necessary documentation to assess that the project will meet the environmental standards.

MVC also sent technical information to SERNAGEOMIN in April 2003. This information was mainly related to a Colihues dam stability study carried out by MVC. Approval will be required before the project commences. A dam closure and abandonment plan will also be required

before the project is completed. It should be clarified whether MVC or El Teniente is responsible for this.

Other Future Projects

It is anticipated that future expansion of the existing MVC plant capacity will require only a DIA. The maximum evaluation time required by the regional authorities for this is 60 days (not including Sundays).

11.0 TAXES

AMEC has not carried out a review of MVC's tax situation, however, the following taxes are generally applicable to a mining company in Chile.

- Tax on Corporate Profits

  Any company in Chile (mining or otherwise) that is not entitled to special tax treatment authorized by the Government must pay tax at 16.5% of its profit (increasing to 17% in 2004). Dividends are taxed at source to bring the total level of tax to 35% (i.e. 18.5% in 2003 falling to 18.0% in 2004). Dividend tax is applicable equally to dividends payed in Chile or those remitted to a foreign country.

- Foreign Services Tax

  Services provided to a Chilean company either within or outside Chile, that must be paid outside Chile are subject to 35% tax. Engineering or technical services are subject to a lower tax of 20%. To reimburse a foreign company in full for its services, the invoice must therefore be grossed up by 25%. This tax does not apply to services provided from countries that have a tax treaty with Chile e.g. Canada, Argentina and Mexico.

- Value Added Tax (IVA)

  This tax is applied at 18% to good and services provided by companies within Chile. Companies can effectively deduct this tax from their sales related to these same goods and services.

- Import Duties

  Import duties for 2003 are levied at 6% of the value of goods. No duty is applied to goods from Canada or Mexico. For goods from MERCOSUR countries, duties are applied at 0 to 4% depending on the country.

12.0 OPERATING COSTS

12.1 Current Operating Costs

MVC provided operating cost data for 2001 and 2002 and January 2003. The average operating costs for 2002 are shown in Table 12-1.

In summary, the average direct operating costs for the MVC plant for 2001 and 2002 were US$0.45 /lb copper and US$0.40 /lb copper respectively. Adding the costs for concentrate transportation, ENAMI's smelting and refining charges (excluding smelter deduction, the royalty to El Teniente and the marketing costs), the 2001 and 2002 total costs were US$0.687 /lb copper and US$0.627/lb copper respectively. This excludes the smelter deduction of US$0.026 /lb and the sustaining capital expenditures which amounted to US$0.006/lb and US$0.0004 /lb respectively.

MVC pays royalties to El Teniente for the right to treat the tailings. The royalty payable is calculated on a complex sliding scale that depends on the grade of the tailings received from El Teniente and the prevailing LME price of copper. No royalty was paid to El Teniente after the month of May 2001 because the LME price fell below and stayed below the threshold where a payment is required according to the contract. In MVC's current contract, this threshold price has been increased from US$0.75 to US$0.80 per pound.

ENAMI charges for treating the concentrate to produce cathodes and imposes a smelter deduction on the total copper content and certain impurities. This cost represents the largest single item of the operating cost. It is also the most variable since it varies according to the copper production rate, which depends on both the plant throughput and the El Teniente tailings grade. Significantly better smelting and refining terms could be obtained from international smelters and the spot market.

12.2 Operating Costs for Potential Improvement Projects

AMEC has estimated the operating costs for Projects 2, 4 and 5 in parallel followed by Projects 6 and 7 in parallel (see Section 8.5). The results are shown in Table 12-1. Operating costs for the base case are included for comparison. The base case is considered to be the treatment of the expanded El Teniente tailings supply without modifications to the MVC plant. Below are brief comments and assumptions made to calculate the operating costs for each project:

Project 2
Labour, maintenance and power costs have been increased to account for the operation of a pump and cyclone installation upstream of the MVC plant.

Project 4
No additional labour would be required but power, reagents and maintenance costs have been increased to account for the operation of the additional flotation capacity.

Project 5
Labour, power, maintenance and reagent costs have been increased to account for the operation of a cyclone and pumping station downstream of the MVC plant plus a small additional milling and flotation circuit.

Project 6
Dredging costs of US$0.15 per tonne have been included for recovery of Colihues tailings at a rate of 10,000 tpd. This includes labour, power and maintenance. Plant power, reagents and maintenance costs have been increased to account for the operation of an additional flotation circuit.

Project 7
This project is the same as Project 6 but with the addition of a grinding and thickener circuit. Labour, power and maintenance costs have been increased accordingly.

Based on the technical assumptions contained in Section 8 of this report, Table 12-1 shows that the implementation of Projects 2, 4 and 5 reduces operating cost by US$0.048/lb compared to the base case. This is reduced by a further US$0.022/lb after the implementation of Projects 6 and 7. As noted above, further improvement can be obtained through more favourable smelting and refining terms. The 2002 costs have been verified on behalf of Amerigo by an independent auditor.

Table 12-1
Operating Cost Comparison

	2002 Average		Base Case		Projects 2, 4 and 5		Projects 2, 4, 5, 6 & 7	
ITEM	**US$/mo**	**cUS/lb**	**US$/mo**	**cUS/lb**	**US$/mo**	**cUS/lb**	**US$/mo**	**cUS/lb**
Labour	128,295	6.6	128,295	5.7	141,695	5.0	148,395	4.1
Power	286,633	14.6	320,020	14.3	349,026	12.3	421,296	11.8
Lime	25,271	1.3	25,271	1.1	25,271	0.9	25,271	0.7
Reagents	41,444	2.1	41,444	1.9	49,444	1.7	59,444	1.7
Grinding balls	151,763	7.8	158,932	7.1	178,800	6.3	218,533	6.1
Maintenance and Spares	71,627	3.7	71,627	3.2	89,625	3.1	105,950	3.0
Process Control	25,442	1.3	25,442	1.1	25,442	0.9	25,442	0.7
Subcontracts	16,942	0.9	16,942	0.8	16,942	0.6	16,942	0.5
Mechanical Equipment	9,328	0.5	9,328	0.4	9,328	0.3	9,328	0.3
Fuel	10,400	0.5	12,046	0.5	15,342	0.5	19,286	0.5
Other	16,688	0.9	16,688	0.7	16,688	0.6	16,688	0.5
Industrial Water	7,417	0.4	7,417	0.3	7,417	0.3	7,417	0.2
Dredging	-	-	-	-	-	-	45,250	1.3
Total Plant Cost	**791,251**	**40.4**	**833,452**	**37.3**	**925,020**	**32.5**	**1,119,242**	**31.3**
ENAMI (excluding smelter deduction)	399,661	20.4	424,641	19.0	540,830	19.0	679,851	19.0
Marketing	36,523	1.9	42,464	1.9	54,083	1.9	67,985	1.9
Royalties to El Teniente	0	0.0	0	0.0	0	0.0	0	0.0
Total Cash Cost to Cathode	**1,227,436**	**62.7**	**1,300,557**	**58.2**	**1,519,933**	**53.4**	**1,867,079**	**52.2**
Copper Production (tpa)	**10,654**		**12,163**		**15,491**		**19,473**	

13.0 CAPITAL COST

13.1 Current Position

The MVC plant requires capital expenditure in three main areas:

a) to take full advantage of El Teniente's increased tailings supply
b) to optimize the existing process plant circuits
c) to treat Colihues tailings dam material

AMEC has made a production estimate for a base case that assumes no capital expenditure is made and that El Teniente delivers 122,000 tpd of tailings (See table 8-2). In this case, approximately 30,000 tpd of El Teniente tailings would by-pass the MVC plant.

13.2 Potential Improvement Projects

Amerigo requested AMEC to estimate the capital costs, at a rough order of magnitude level, for a series of potential projects to address the areas indicated in 13.1 a, b and c above.

These are described briefly as follows:

a) Improved Classification of El Teniente Tailings.

This would enable the entire expanded El Teniente tailings supply to be cycloned and the coarse fraction to be treated in the existing grinding circuit. AMEC studied two ways of doing this i.e. increasing the primary cyclone capacity in the existing plant (project 1) plus preclassification of a part of the El Teniente tailings supply (project 3) or preclassification of the entire El Teniente tailings supply (project 2).

b) Flotation Circuit Improvements

MVC has estimated that flotation circuit copper recovery could be improved from the current 50-52% to 60% with increases in the rougher and first cleaner circuit retention times i.e. the addition of more cells (project 4)

c) Classification, Regrinding, Flotation of Rougher Tailings

The copper grade of the +65 mesh fraction of the rougher tailings is approximately 0.2% Cu. Additional copper recovery could be obtained by cycloning regrinding and refloating a part of this material (project 5).

d) Treatment of Colihues Tailings

Amerigo requested that this be considered in three phases:

- Phase I, treatment of 10,000 tpd of Colihues tailings through the existing plant i.e. displacement of some El Teniente material (project 6).
- Phase II, installation of additional plant to avoid displacement of El Teniente material (project 7).
- Phase III, installation of additional dredging equipment and plant to treat an additional 10,000 tpd of tailings.

The estimated capital costs for each of these projects are shown below:

Project Number	Description	Estimated Capital Cost (US$ million)
Project 1	Increase primary cyclone capacity	0.3
Project 2	Preclassify El Teniente entire tailings stream	1.0
Project 3	Preclassify a portion of El Teniente tailings stream	0.45
Project 4	Increase rougher and first cleaner residence time	1.0
Project 5	Classify rougher tailings	1.0
Project 6	Treatment of Colihues tailings, Phase 1	2.2
Project 7	Treatment of Colihues tailings, Phase 2	2.5
Project 8	Treatment of Colihues tailings, Phase 3	4.6

The above costs are based on data and estimates provided by MVC and have, in some cases, been adjusted upward by AMEC. Additional plant testwork is recommended as indicated in Section 8 to confirm the optimum circuit configurations and the equipment required.

Amerigo has indicated that, subject to the above qualifications, it wishes to consider projects 2, 4 and 5 in parallel followed by projects 6 and 7 also in parallel. The estimated capital costs for these two stages of development would be US$3 million and US$4.7 million respectively.

13.3 Payback

Payback on the project has been calculated using a copper price of US$0.80 per pound, an acquisition cost of US$20million, and assuming that historic losses and tax planning methods are sufficient to offset any tax. No detailed tax review has been undertaken for the purpose of this calculation, and no interest rate has been used in the calculation.

Base Case
At the base case, estimated cost per pound of copper produced is US$0.582, with estimated annual copper production of 12,163 tonnes, or 26,758,600 pounds. This case results in an annual return of US$5,833,374. Payback would occur in 3.42 years.

Projects 2, 4 and 5
After the implementation of projects 2, 4 and 5 the estimated cost per pound of copper produced is US$0.534 with estimated annual copper production of 15,491 tonnes or 34,121,100 pounds. This case results in an annual return of US$9,076,213. Assuming an acquisition cost of US$20 million and a project cost of US$3 million, the payback would occur in 2.53 years.

Projects 6 and 7

After the implementation of projects 2, 4, 5, 6 and 7, the estimated cost per pound of copper produced is US$0.522 with an estimated annual copper production of 19,473 tonnes or 42,892,000 pounds. This case results in an annual return of US$11,923,976. Assuming an acquisition cost of US$20 million and a project cost of US$7.7 million, the payback would occur in 2.32 years.

14.0 CONCLUSIONS AND RECOMMENDATIONS

14.1 Conclusions

El Teniente Fresh Tailings
AMEC has reviewed past and projected production at the El Teniente mine using data provided by El Teniente. In recent years, the mine has fallen short of its tonnage targets but has achieved its copper production targets by mining higher grade ore. After 2006, the mine will extract mainly primary sulphide ore which is more homogenous in grade and, therefore, the possibility will be diminished to compensate lower tonnage with higher grade.

The tonnage of tailings reported by MVC has been consistently 3-7% lower than that reported by El Teniente although the grades have been very similar. AMEC considers that a discount of 3.5% should be applied to the tonnage of tailings forecast by El Teniente. After 2004 the predicted tonnage received by MVC would be 122,000 tpd at 0.12% total copper. The application of this discount will not significantly affect MVC's production.

Colihues Tailings
MVC has negotiated the rights to treat up to 10,000 tpd of Colihues tailings in addition to El Teniente tailings. El Teniente's production records show that 213 million tonnes of material at an average grade of 0.26% total copper were deposited in the Colihues dam between 1977 and 1987. Recent pilot dredging trials carried out by MVC extracted up to 4000 tpd of material at an average of 0.2% sulphide copper. The Colihues material represents a potential additional source of production for MVC.

MVC Plant Operations
In 2002 MVC produced 10,650 tonnes of copper in concentrate from the treatment of approximately 32 million tonnes of tailings at 0.125% Cu. The total cash operating cost to cathode was US$0.627 per pound.

The existing plant is well designed, well maintained and in good condition. At the expanded El Teniente tailings production of 122,000 tpd at 0.12% Cu, AMEC estimates that MVC production would reach 12,160 tonnes of copper in concentrate per year without modifications to the plant. The total cash operating cost to cathode is estimated at US$0.582 per pound.

Environmental
No significant liabilities were identified in the environmental and permitting process. Although MVC has not taken a strong position on environmental permitting and monitoring, no major issues were observed during the site visit.

MVC is currently in the process of receiving its operating permit form SERNAGEOMIN. AMEC is not aware of any issues regarding this permit.

MVC is currently permitted to withdraw 300 l/s of water from the Colihues dam and is actually using 600 l/s. This needs to be formalized with El Teniente. MVC has access to other water rights if required.

MVC has received approval from CONAMA for the project to treat Colihues tailings. A dam stability report has been presented to SERNAGEOMIN. Approval of this will be required before the project can start.

Potential Improvement Projects
The potential exists to increase production and lower operating costs through the implementation of a series of improvement projects. Expansions to the primary classification circuit, flotation circuit improvements and retreating rougher tailings have the potential to increase copper production in concentrate to 15, 490 tpa. At a rough order of magnitude level AMEC estimates that the capital cost would be US$3 million and the total cash operating cost to cathode would be US$0.534 per pound.

Production could be further increased by the dredging and treatment of Colihues tailings. It is estimated that the treatment of 10,000 tpd of tailings at 0.2% sulphide copper would increase production to 19,470 tpa of copper in concentrate. The rough order of magnitude capital cost for the dredging equipment and additional process plant is estimated at US$4.7 million. The total plant cash operating cost to cathode would fall to US$0.522 per pound.

14.2 Recommendations

MVC Plant Operations
AMEC considers that the potential exists to increase copper production through the implementation of a series of plant improvement projects as discussed in 15.1. Cyclone simulation modelling is recommended to design a classification circuit to preclassify the expanded El Teniente tailings supply. This would provide a coarser, higher grade feed to the existing grinding circuit. Flotation circuit testwork is recommended to optimize the circuit configuration for improved copper recovery.

Colihues
It is recommended that the dredging trials be continued to gain experience with the system and provide information for design of a larger system capable of extracting 10,000 tpd of tailings. The trials will also provide information on the grade of the tailings.

Environmental
MVC should train staff responsible for environmental coordination so that they can institute a tracking system for permits and put in place a monitoring program to show continued compliance.

A dust filtration system should be installed on the dryer exhaust system to reduce particulate emission during unsteady state operation.

The area around the dryers should be paved to reduce concentrate dust in the area.

It is recommended that MVC formalize with El Teniente the amount of water that can be extracted from the Colihues dam.

15.0 REFERENCES

- Budinich B., N., 2001: Informa Proyecto Aumento Capacidad de Beneficio: Letter dated January 15, 2001 reference PE – 012/01 to Juan M. Torres, Gerente General, MVC from Nicolas Budinich Basoain, Jefe Departamento, Programacion y Embarques, Division El Teniente, Corporacion Nacional del Cobre de Chile, 4 pages.
- Dold, B. and Fontboté L., 2001: Element cycling and secondary mineralogy in porphyry copper tailings as a function of climate, primary mineralogy, and mineral processing. Journal of Geochemical Exploration Volume 74 (2001), pages 3 to 55.
- Gutiérrez C., G., 1983: Informe Anual Departamento Concentrador, Internal Memorandum of the General Superintendent of the Concentrator Department, Division El Teniente, Corporacion Nacional del Cobre de Chile, January 31, 1983, 71 pages.
- Gutiérrez C., G., 1992: 20.3.8 Case Studies, 20.3.8.1 El Teniente Mine, CODELCO, Rancagua, Chile. SME Mining Engineering Handbook, 2nd Edition, Howard L. Hartman, Senior Editor, Pages 1826-1830.
- Fuerza Aérea de Chile Servicio Aerofotogrametrico, 1997: Photograph 103/239 Geotec 1:50,000 S31 El Palomo L02 SAF 97 No. 004787 taken on February 25, 1997.
- Henriquez U., L., 2002: Deposito Embalse Colihues; unpublished email from Luis Henriques Urzúa, El Teniente to Raul Poblete, Minera Valle Central, 2 pages.
- Minera Valle Central, 2002: Website www.mvc-sa.cl with 7 pages of html format content regarding the company and operation.
- Project Description, 1995. Antecedentes Proyecto Tratamiento de Gruesos submitted to CONAMA VI Region dated 26 October,1995.
- Internal memo to Raul Poblete from Christian Caceres, Sistema de Evaluacion de Impacto Ambiental, dated 13 February, 2002.
- Autoriza cambio de uso de suelos de parte del predio denomindao hacienda Laguna de Cuaquenes de la comuna de Requinoa, rol de avaluo No. 38-7, de propiedad de CODELCO, Division El Teniente, dated 21 December, 1994. Change of land use for MVC plant area.
- Letter from El Teniente to MVC PE-017/01 dated 22 January, 2001, Denuncia Incidente Ambiental.
- Letter from MVC to El Teniente MVC-IP-001/2001 dated 24 January, 2001, response to PE-017/01.
- Internal MVC document produced by Manuel Cartagenas, “Proyectos MVC que aumentan la capacidad de producción actual”, email to Anthony Maycock, 8 April, 2003.
- MVC production data, 2002, email Manuel Cartagenas to Anthony Maycock, dated 18 March 2003.
- MVC flowsheet, email Manuel Cartagenas to Anthony Maycock, dated 18 March, 2003.
- El Teniente presentation material, production tonnes and grades, 8 April 2003.
- Alfred H. Knight assay laboratory protocols, email Manuel Cartagenas to Anthony Maycock dated 20 May, 2003.

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APPENDIX A

CERTIFICATE OF QUALIFIED PERSON FOR TECHNICAL REPORT

CERTIFICATE OF QUALIFIED PERSON FOR TECHNICAL REPORT

I, **Anthony R. Maycock P.Eng.**, currently resident in the city of Santiago, in the country of Chile, certify that:

2. I am a practicing engineer with a B.Sc. (Hons.) (1969) from the University of London, England, and am a member of The Association of Professional Engineers and Geoscientists of the Province of British Columbia (13275).
3. I have practiced my profession as an engineer for a period of thirty three years and have experience relevant to the topic of the technical report.
4. I am a Member of the Institution of Mining & Metallurgy and a Member of the Canadian Institute of Mining & Metallurgy.
5. Based on these qualifications and experience, I am a "Qualified Person" for purposes of National Instrument 43-101.
6. I am currently employed as President, AMEC International (Chile) S.A. and work in the Santiago office.
7. I have authority to sign the technical report prepared for Amerigo Ltd. by AMEC International (Chile) S.A.
8. I visited the Minera Valle Central property on 1 March 2003 and 5 February, 2002.
9. As of the date of this certificate, I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the technical report, the omission of disclosure of such would make the technical report misleading.
10. Neither I, nor any entity affiliated with me:
    - is, or under an agreement, arrangement or understanding, expects to become, an insider, associate, affiliated entity or employee of Amerigo or of an insider or affiliated entity of Amerigo;
    - is, or under an agreement, arrangement or undertaking, expects to become, a partner of Amerigo or of an insider or affiliated entity of Amerigo;
    - owns, or under an agreement, arrangement or understanding expects to acquire, any securities of Amerigo or of an affiliated entity of Amerigo or an interest in the property that is the subject of the technical report or in an adjacent property; or
    - has received a majority of my or its income during the three years preceding the date of the technical report from any one or more of Amerigo and insiders and affiliated entities of Amerigo.
11. I have no prior involvement with the property that is the subject of the technical report.
12. I have read the proposed National Instrument 43-101 and Form 43-101F1, and the technical report has been prepared in compliance with the proposed National Instrument 43-101 and Form 43-101F1.
13. The technical report has been prepared in conformity with generally accepted Canadian industry practice.

Anthony Ralph Maycock P. Eng. (B.C.)