

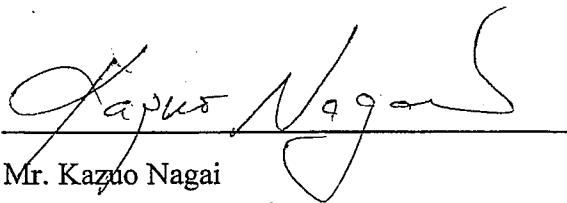
6. R/D及び協議議事録

RECORD OF DISCUSSIONS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF BOLIVIA
ON JAPANESE TECHNICAL COOPERATION
FOR THE MINING ENVIRONMENTAL RESEARCH CENTER PROJECT

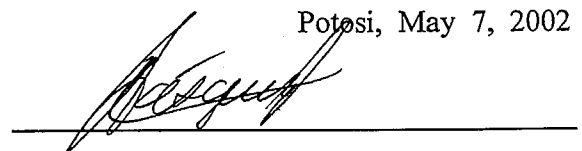
Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through the Resident Representative of JICA in the Republic of Bolivia, with the Bolivian authorities concerned with respect to desirable measures to be taken by both Governments for the successful implementation of the Mining Environmental Research Center Project in the Republic of Bolivia.

As a result of the discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and the Government of the Republic of Bolivia, signed in La Paz on March 22nd, 1978 (hereinafter referred to as "the Agreement"), JICA and the Bolivian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

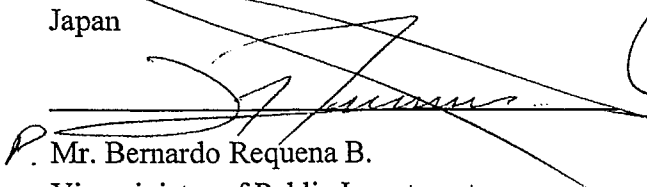
Potosi, May 7, 2002



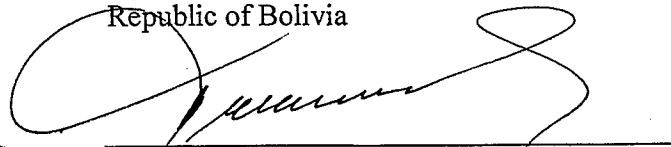
Mr. Kazuo Nagai
Resident Representative
Bolivia Office
Japan International Cooperation Agency
Japan



Mrs. María Rosario Vásquez
Governor
Potosi Prefecture
Republic of Bolivia



Mr. Bernardo Requena B.
Viceminister of Public Investment
and External Finance
Ministry of Finance
Republic of Bolivia



Mr. Hernán S. Cabrera F.
Viceminister of Environment, Natural
Resources, and Forest Development
Ministry of Sustainable Development
and Planning
Republic of Bolivia

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of the Republic of Bolivia will implement the Mining Environmental Research Center Project (hereinafter referred to as "the Project") in cooperation with the Government of Japan.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

In accordance with the laws and regulations in force in Japan and the provisions of Article II of the Agreement, the Government of Japan will take, at its own expense, the following measures through Japan International Cooperation Agency (herein after referred to as "JICA") according to the normal procedures of its technical cooperation scheme.

1. DISPATCH OF JAPANESE EXPERTS

The Government of Japan will provide the services of the Japanese experts as listed in Annex II. The provision of Article VIII of the Agreement will be applied to the above-mentioned experts.

2. PROVISION OF MACHINERY AND EQUIPMENT

The Government of Japan will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The provisions of Article IX-1 of the Agreement will be applied to the Equipment.

3. TRAINING OF BOLIVIAN PERSONNEL IN JAPAN

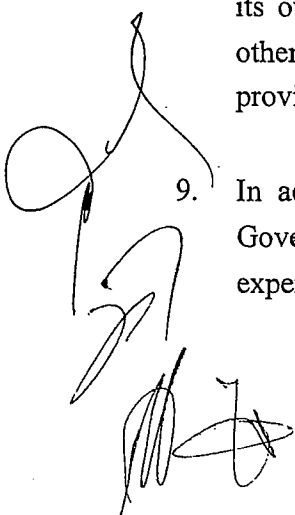
The Government of Japan will receive Bolivian personnel connected with the Project for technical training in Japan.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF BOLIVIA

1. The Government of the Republic of Bolivia will take necessary measures to ensure self-reliant operation of the Project during and after the period of Japanese technical cooperation,

through the full and active involvement in the Project by all related authorities, beneficiary groups and institutions in the Project.

2. In accordance with the provision of Article IV of the Agreement, the Government of the Republic of Bolivia will ensure that the technologies and knowledge acquired by the Bolivian nationals as a result of Japanese technical cooperation will contribute to the economic and social development of the Republic of Bolivia in the Project.
3. In accordance with the provisions of Article V and VI of the Agreement, the Government of the Republic of Bolivia will grant, in the Republic of Bolivia, privileges, exemptions, and benefits to the Japanese experts referred to in II-1 above and their families.
4. In accordance with the provisions of Article IX of the Agreement, the Government of the Republic of Bolivia will take the measures necessary to receive and use the Equipment provided through JICA under II-2 above and equipment, machinery and materials carried in by the Japanese experts referred to in II-1 above.
5. The Government of the Republic of Bolivia will take necessary measures to ensure that the knowledge and experience acquired by the Bolivian personnel through technical training in Japan will be utilized effectively in the implementation of the Project.
6. In accordance with the provision of Article V-1-(b) of the Agreement, the Government of the Republic of Bolivia will provide the services of the Bolivian counterpart personnel and administrative personnel as listed in Annex IV.
7. In accordance with the provision of Article V-1-(a) of the Agreement, the Government of the Republic of Bolivia will provide the buildings and facilities as listed in Annex V.
8. In accordance with the laws and regulations in force in the Republic of Bolivia, the Government of the Republic of Bolivia will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided through JICA under II-2 above.
9. In accordance with the laws and regulations in force in the Republic of Bolivia, the Government of the Republic of Bolivia will take necessary measures to meet the running expenses necessary for the implementation of the Project.




IV. ADMINISTRATION OF THE PROJECT

1. The Viceminister of Viceministry of Environment, Natural Resources and Forest Development, as the Project Supervisor, will bear responsibility for the coordination and implementation of the actions and proceedings from the viewpoint of national policy.
2. The Governor of Potosi Prefecture, as the Project Director, will bear overall responsibility for the administration and implementation of the Project.
3. The Director of the Mining Environmental Research Center, as the Project Manager, will be responsible for the managerial and technical matters of the Project.
4. The Chief Advisor will provide necessary recommendations and advice to the Project Supervisor, the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.
5. The Japanese experts will provide necessary technical guidance and advice to the Bolivian counterpart personnel on technical matters pertaining to the implementation of the Project.
6. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in Annex VI.


V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by the two Governments through JICA and the Bolivian authorities concerned, at the middle and during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS



In accordance with the provision of Article VII of the Agreement, the Government of the Republic of Bolivia shall bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Republic of Bolivia except for those arising from the willful misconduct or gross negligence of the Japanese experts.



VII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of the Republic of Bolivia, the Government of the Republic of Bolivia will take appropriate measures to make the Project widely known to the people of the Republic of Bolivia.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be five (5) years from July 1, 2002.

ANNEX I	MASTER PLAN
ANNEX II	LIST OF JAPANESE EXPERTS
ANNEX III	LIST OF MACHINERY AND EQUIPMENT
ANNEX IV	LIST OF BOLIVIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL
ANNEX V	LIST OF BUILDINGS AND FACILITIES
ANNEX VI	JOINT COORDINATING COMMITTEE



Super Goal

Administration and technology to decrease water pollution caused by mining industry, which are established in the Mining Environmental Research Center (hereinafter referred to as "the Center"), are disseminated to other regions in Bolivia.

Overall Goal

Water pollution caused by mining industry in Potosi is decreased and prevented.

Project Purpose

Administration system and technology suitable for Potosi to decrease water pollution caused by mining industry are established.

Outputs

1. The organization of the Center is established.
2. Facilities and equipment necessary for the activities of the Center are introduced and maintained properly.
3. Environment chemical analyses of mining pollution are carried out by the Bolivian counterpart (hereinafter referred to as "C/P")s.
4. Environmental situations in Potosi mining area are researched by the C/Ps and case studies are accumulated.
5. Mine-related wastewater treatment technology is developed and carried out by the C/Ps.
6. Basic technologies of mineral processing are carried out by the C/Ps.
7. Public relations and education for environmental conservation targeting Potosi people who work for mining, concentration, and the people related to the mining activity are conducted.

Activities

Necessary activities to achieve the above-mentioned outputs will be conducted.

ANNEX II LIST OF JAPANESE EXPERTS

(1) Long-term experts

- (a) Chief Advisor (5 years)
- (b) Coordinator (5 years)
- (c) Waste Water Treatment (5 years)
- (d) Chemical Analysis (2 years)
- (e) Environmental Research (2 years)

(2) Short-term experts

Short-term experts will be dispatched in fields related to technology transfer in accordance with necessity.



ANNEX III LIST OF MACHINERY AND EQUIPMENT

Machinery and equipment necessary for technology transfer by the Japanese experts are as follows:

1. Machinery and equipments for

- (1) Environmental research
- (2) Mine-related wastewater treatment
- (3) Chemical analysis

2. Other necessary equipments and materials to be mutually agreed upon for the effective implementation of the Project.



ANNEXIV LIST OF BOLIVIAN COUNTERPART AND
ADMINISTRATIVE PERSONNEL

1. Counterpart Personnel

Project Supervisor

Project Director

Project Manager

Technical counterparts (10 persons)

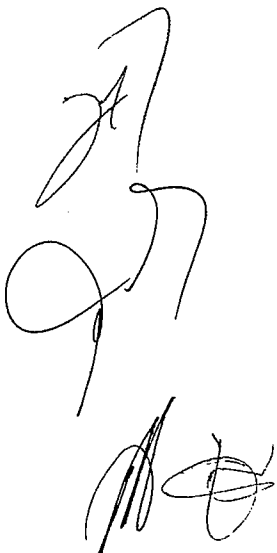
2. Administrative Personnel

Administrative staff

Technical support staff

Secretaries

Drivers (2 persons)



ANNEX V LIST OF BUILDINGS AND FACILITIES

1. Laboratories, lecture rooms, and meeting rooms necessary for technology transfer.
2. Buildings, facilities and space necessary for installation and storage of machinery, equipment and materials provided by the Government of Japan
3. Office space and necessary facilities for the Japanese experts
4. Other facilities mutually agreed upon as necessary




ANNEXVI JOINT COORDINATING COMMITTEE

1. Function

The Joint Coordinating Committee (JCC) will be held at least once a year and whenever necessity arises. Its functions are as follows:

- (1) To settle on the Annual Plan of Operation (APO) of the Project in line with the Tentative Schedule of Implementation (TSI) and the Plan of Operation formulated under the framework of the Record of Discussions;
- (2) To coordinate necessary actions to be taken by both sides;
- (3) To review the overall progress of the project;
- (4) To exchange views on major issues arising from or in connection with the PO

2. Composition

(1) Chairperson

Project Supervisor (Viceminister of Environment, Natural Resources and Forest Development)

(2) Members

(Bolivian Side)

- (a) Project Director (Governor of Potosi Prefecture)
- (b) Viceminister of the Mining and Metallurgy
- (c) Project Manager (Director of the Mining Environmental Research Center)
- (d) Counterparts of Long-term Experts designated by Project Director
- (e) President of Tomas Frias Autonomous University
- (f) Other personnel concerned to be decided by Project Director, if necessary

(Japanese Side)

- (a) Chief Advisor
 - (b) Coordinator
 - (c) Other Japanese Experts designated by the Chief Advisor
 - (d) Representative(s) of JICA Office in the Republic of Bolivia
 - (e) Other personnel concerned to be decided and dispatched by JICA, if necessary
- Note: Official(s) of the Embassy of Japan may attend the Joint Coordinating Committee meeting as observer(s).

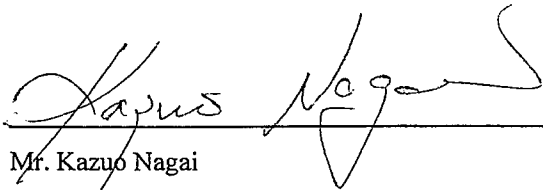
MINUTES OF MEETING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT
OF THE REPUBLIC OF BOLIVIA
ON THE JAPANESE TECHNICAL COOPERATION
FOR THE MINING ENVIRONMENTAL RESEARCH CENTER PROJECT
IN THE REPUBLIC OF BOLIVIA

Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through the Resident Representative of JICA in the Republic of Bolivia, with the Bolivian authorities concerned with respect to desirable measures to be taken by both Governments for the successful implementation of the Mining Environmental Research Center Project (hereinafter referred to as "Project") in the Republic of Bolivia.

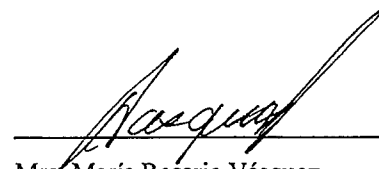
As a result of the discussions, JICA Bolivia Office and related organizations of the Republic of Bolivia signed the Record of Discussions (hereinafter referred to as "R/D") on Japanese Technical Cooperation for the Project.

The document attached hereto is intended to record the common understanding reached between both sides in regard to the provisions stipulated in the R/D and to supplement the content of R/D.

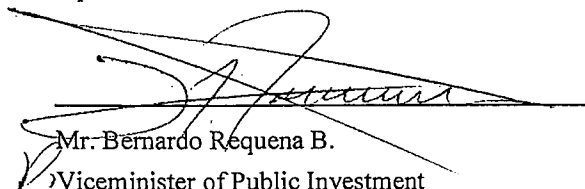
Potosi, May 7, 2002



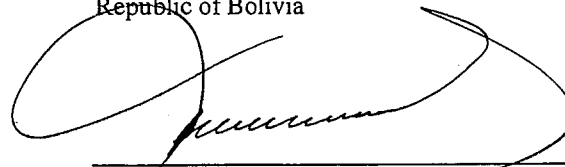
Mr. Kazuo Nagai
Resident Representative
Bolivia Office
Japan International Cooperation Agency
Japan



Mrs. María Rosario Vásquez
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Potosi Prefecture
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Viceminister of Environment, Natural
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Ministry of Sustainable Development
and Planning
Republic of Bolivia

ATTACHED DOCUMENT

1. Name of the Project

Both sides agreed to use “the Mining Environmental Research Center Project” as the name of the Project.

2. Implementing Agency of the Project

The Ministry of Sustainable Development and Planning (Ministerio de Desarrollo Sostenible y Planificación, hereinafter referred to as “MDSP”) will supervise the Project through the Viceministry of Environment, Natural Resources and Forest Development (Viceministerio de Medio Ambiente, Recursos Naturales y Desarrollo Forestal, hereinafter referred to as “VMARNDF”).

Under supervision of MDSP, Potosi Prefecutural Government will bear overall responsibility for the implementation of the Project, through the Direction of Natural Resources and Environment (Dirección de Recursos Naturales y Medio Ambiente).

The present organization charts of VMARNDF, Potosi Prefecture and the Direction of Natural Resources and Environment are shown in ANNEX1, ANNEX2 and ANNEX3, respectively.

Tomas Frias Autonomous University (hereinafter referred to as “University”) will participate the Project as a cooperative organization under an agreement between Potosi Prefecture and the University.

The organization of implementing agency shall continue after the Project period to spread the outputs of the Project in Bolivia.

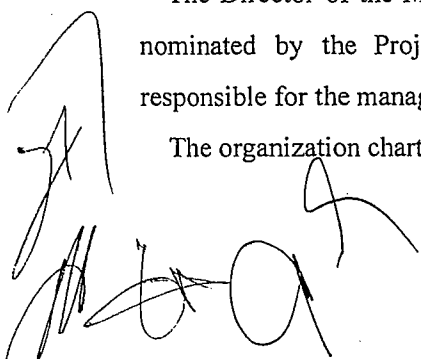
3. Administration of the Project

Viceminister of VMARNDF, as the Project Supervisor, will bear responsibility for the coordination and implementation of the actions and proceedings from the viewpoint of national policy.

The Governor of Potosi Prefecture, as the Project Director, will bear overall responsibility for the coordination and implementation of the actions and procedures in order to achieve the general goals of the Project.

The Director of the Mining Environmental Research Center (hereinafter referred to as “the Center”), nominated by the Project Supervisor and the Project Director, as the Project Manager, will be responsible for the managerial and technical matters of the Project.

The organization chart of the Project is shown in ANNEX4.

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4. Duration of the Project

The duration of the technical cooperation for the Project by the Government of Japan will be Five (5) years from the date agreed by both sides in the Record of Discussions (hereinafter referred to as "R/D") to be concluded between JICA and the Bolivian side.

5. Site of the Project

The Project will be implemented at the Center, which will be newly established in the premise of Faculty of Mining Engineering of Tomas Frias Autonomous University in Potosi Prefecture.

Address: Av. Villazon esq. Arce, Potosi

The location map of the Project site is as shown in ANNEX5.

6. Master Plan of the Project

(1) Super Goal

Administration and technology to decrease water pollution caused by mining industry, which are established in the Center, are disseminated to other regions of Bolivia.

(2) Overall Goal

Water pollution caused by mining industry in Potosi is decreased and prevented.

(3) Project Purpose

Administration system and technology suitable for Potosi to decrease water pollution caused by mining industry are established.

(4) Outputs

1. The organization of the Center is established.
2. Facilities and equipment necessary for the activities of the Center are introduced and maintained properly.
3. Environmental chemical analyses of mining pollution is carried out by the Bolivian counterpart (hereinafter referred to as "C/P")s.
4. Environmental situations in Potosi mining area are researched by the C/Ps and case studies are accumulated.
5. Mine-related wastewater treatment technology is developed and carried out by the C/Ps.
6. Basic technologies of mineral processing are carried out by the C/Ps.
7. Public relations and education for environmental conservation targeting Potosi people who work for mining, concentration, and the people related to the mining activity are conducted.

7. Fields, Schedule of Technology Transfer

(1) Fields

Both sides agreed that technology transfer from the experts, that are to be dispatched through JICA's Technical Cooperation Scheme under the Agreement on Technical Cooperation Between the Government of Japan and the Government of the Republic of Bolivia signed on May 26, 1978, (hereinafter referred to as "the Experts") to the C/Ps would be made in the following fields.

- 1.Environmental research
- 2.Mine-related wastewater treatment
- 3.Chemical analysis
- 4.Improvement of mineral processing
- 5.Mining environmental administration

(2) Schedule

The Tentative Schedule of Implementation, Plan of Operation and Annual Plan of Operation are as shown in ANNEX6, ANNEX7 and ANNEX8.

8. Measures to be taken by the Japanese Side

The Project will be carried out under the framework of Project-Type Technical Cooperation, which is the combination of the following three (3) components:

(1) Dispatch of the Experts

(Long-term experts)

Both sides agreed that long-term experts in the following fields (a), (b), (c) are expected to be dispatched, at the present moment, through the Project period, and long-term experts in the following fields (d), (e) are expected to be dispatched during first 2 years in relation to the fields of technology transfer.

JICA explained to Bolivian side that the following experts would be dispatched based on the schedule mentioned on section 7-2, but some of them would be behind schedule due to follow the necessary procedures in Japan.

- a. Chief Advisor
- b. Coordinator
- c. Wastewater Treatment
- d. Environmental Research
- e. Chemical Analysis

(Short-term experts)

Both sides agreed that short-term experts in specific fields would be dispatched in relation to the fields of technology transfer as necessity arises.

At this moment, the Experts in the following fields are expected to be dispatched:

- a. Environmental Research
- b. Wastewater Treatment
- c. Mining Environmental Administration
- d. Environmental Chemical Analysis
- e. Improvement of Mineral Processing

The following short-term experts will be dispatched first year period based on the schedule mentioned on section 7-2.

- a. Mining Environmental Administration
- b. Mining Environmental Technology
- c. Improvement of Mineral Processing

The requesting form for dispatch of the Experts should be submitted in Form A1(or in case of the Experts from third countries, Form A1-TCM) to the Government of Japan by the Bolivian side at least two (2) months prior to the scheduled arrival in the Republic of Bolivia.

JICA request Bolivian side to submit the Form A1 for long-tem experts immediately after mutual agreement of R/D to take necessary steps smoothly.

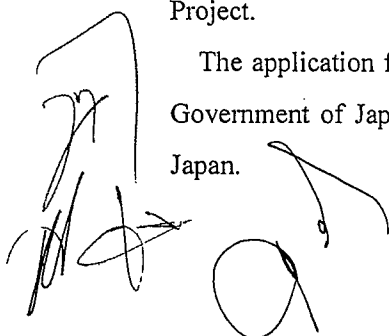
(2) Training of C/Ps in Japan

Both sides agreed that a certain number of C/Ps would be accepted for training in Japan during the cooperation period according to the following program:

- 1.Number : About one (1) or two (2) yearly
- 2.Term : About a couple of weeks to two (2) month, depending upon the fields as well as the C/Ps dispatched to Japan

JICA, further, requested the Bolivian side and the latter agreed that the C/Ps may apply to other training courses conducted by JICA, however, sufficient consultation should be held between the Experts and the C/Ps before the application to avoid impeding the smooth implementation of the Project.

The application form for the training program in Japan should be submitted in Form A2-A3 to the Government of Japan by the Bolivian side at least two (2) months prior to the scheduled arrival in Japan.



(3) Provision of Machinery, Equipment and Materials

The Bolivian side requested to JICA the provision of the machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for technology transfer in the Project as shown in the "list A" in ANNEX9.

JICA agreed to convey the request of the Bolivian side to the Japanese authorities concerned, stating that the actual provision will be subject to the budget appropriation of the Government of Japan. JICA explained that the schedule of procurement would depend on the schedule of technical transfer.

Both sides agreed that the request of "Inductively Coupled Plasma Atomic Emission Spectrometer (ICP or ICP-AES)" would be reconsidered as the Equipment under the condition that the Bolivian side secured the necessary cost of maintenance within the Project period and after the Project.

The requesting form for provision of machinery should be submitted in Form A4 to the Government of Japan by the Bolivian side.

The Japanese side requested the Bolivian side to submit the Form A4 immediately after signing of the R/D to take necessary steps smoothly.

9. Measures to be taken by the Bolivian Side

(1) Buildings and Facilities for the Project

The Bolivian side through Potosi Prefecture will prepare the building and facilities necessary for the implementation of the Project.

Office space for the Experts that are equipped properly with equipment such as phones, facsimiles, telephone lines with access to international lines and internet, electric wiring, desks and heaters will be prepared before the Project begins.

JICA requested Bolivian side to prepare the facilities of laboratory, such as air conditioners, lighting, equipment and plumbing for waste-gas, wastewater, sludge, and power source for the Equipment, etc., which shall be finished before the installation work of the Equipment.

The layout of the building and facilities is as shown in ANNEX10.

(2) Long Term Assignment of C/Ps

For the successful implementation of the Project, the Bolivian side through Potosi Prefecture will provide the full time and part time services of C/Ps who are listed in ANNEX11 and the administrative personnel.

Bolivian side should communicate to the Experts in case any C/P is thought to be removed. If there are any comments from the Experts regarding such removal, Bolivian side should pay the highest consideration on them when making removal decision. If it is on the removal, Bolivian side through

the Potosi Prefecture will immediately take necessary measures to assign an adequate C/P to fill the vacancy caused by the removal.

(3) Machinery, Equipment and Materials

The Bolivian side through Potosi Prefecture will supply at its own expense machinery, equipment, instruments, vehicles, tools, spare parts, consumption articles and any other materials for the implementation of the Project other than those provided by the Government of Japan through JICA.

Further, both sides agreed that the machinery, equipment and materials in the "List B", ANNEX9 is the part, which would be prepared by the Bolivian side.

(4) Local Costs

The necessary amount of local costs by the Bolivian side through Potosi Prefecture will be indispensable for the successful implementation of the Project.

In this regard, both sides confirmed that the cost necessary for operation of the Project, which is listed below, would be borne by the Bolivian side through Potosi Prefecture.

- a. Transportation for field research and meetings,
- b. Allocation of assistant staff for laboratory experiment, field research, etc.,
- c. Secretaries and drivers,
- d. Public relations and educational activities,
- e. Workshops and seminars,
- f. Consumable, electricity, etc.,
- g. Maintenance cost for the Equipment,
- h. Expense for vehicles.

The Bolivian side should submit the annual budgetary plan for these costs throughout the Project period, and JICA requests to secure the budgets certainly. The annual budgetary plan is as shown in Annex12.

(5) Privileges, Exemptions and Benefits to the Experts

In accordance with the provisions of Article V and VI of the Agreement on Technical Cooperation between the Government of Japan and the Government of the Republic of Bolivia, signed in La Paz on March 22, 1978, the Government of the Republic of Bolivia will grant in the Republic of Bolivia, privileges, exemptions and benefits to the Experts and their families.

(6) Sustainability of the Project

The Bolivian side, above all MDSP and Potosi Prefecture, will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of the

Japanese technical cooperation, through the full and active involvement in the Project of all related authorities, beneficiary groups and institutions so that the technologies and knowledge acquired by the counterpart personnel through the Project should ultimately contribute to the economic and social development of the Republic of Bolivia.

Both sides agreed to establish articles as a legal basis of the Center in the form of a law or a decree, which regulates the purpose, organizational role in the mining environmental sector, to secure the sustainability of the Center's activities through and after the Project period. The articles will be drawn up promptly and should obtain Joint Coordinating Committee's approval. Bolivian side will take necessary administrative and/or legislative procedure(s) to register the Center as a juridical person. The articles should stipulate the functions of the Center, including complementary roles of Bolivian mining environmental administration, as well as self-sustained activities such as supporting the Bolivian government in relation to mining environmental management and mining enterprises in accordance with the Bolivian government's mining environmental policies.

10. Project Cycle Management

(1) Application of Project Cycle Management Method

Both sides confirmed that project planning, monitoring and evaluating method entitled Project Cycle Management (hereinafter referred to as "PCM") would be applied to the Project to monitor and evaluate the level of the achievement and enhance the communication for its smooth implementation.

(2) Project Design Matrix

JICA explained and the Bolivian side agreed that the Project Design Matrix (hereinafter referred to as "PDM") ought to be designed at the planning stage of the Project, as a framework clarifying the multi-level chain of cause-to-effect such as input to output, output to project purpose, and project purpose to overall goal.

Then, both sides drew up the draft of PDM as shown in ANNEX13 and confirmed the following:

- (a) The C/Ps and the Experts should examine the indicators at the planning stage of the Project, which is scheduled in the first year of the cooperation period, so that indicators and/or targets for project purpose and outputs should be as objectively verifiable as possible.
- (b) PDM should continue to be reviewed and revised if necessary, with further discussion between both sides.

(3) Monitoring

JICA explained and the Bolivian side agreed the following:

- (a) Based on PDM, regular monitoring, whose periodicity should be defined at the beginning of the Project, on the achievement of the Project should be implemented primarily by C/Ps and the Experts, in order to grasp the progress and the achievement of the Project and to modify the plan

if necessary.

- (b) Within the first 6 months after the commencement of the Project, the monitoring system should be established by the C/P and the Experts, and every 6 months thereafter, monitoring should be done and the results should be distributed to the organization and/or personnel concerned with the Project.

(4) Evaluation

JICA explained and the Bolivian side agreed the following:

- (a) Evaluation of the Project is to be conducted, based on the five basic evaluation components as shown in ANNEX14.
- (b) The midterm evaluation will be conducted jointly by both sides in the middle of the cooperation period, in order to examine the achievement of the Project and modify the plan if necessary.
- (c) The final evaluation of the Project will be conducted jointly by both sides, approximately 6 months before the termination of the cooperation period, in order to examine of the Project.

11. Project Document

Both sides agreed that the Project Document would be finalized by mutual agreement by the commencement of the Project.

12. Joint Coordinating Committee of the Project

For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in ANNEX15.

Both sides agreed that practical regular meeting should be established to facilitate smooth conduct of the Project, after the commencement of the Project.

13. Common Language

Both sides confirmed that the common language used in formal documents of the Project should be English. Bolivian side requested JICA that the language used in the technology transfer activities of the Project should be Spanish, and JICA stated that Japanese side would take it into consideration in the process of assignment of the Experts as much as possible.

14. Activity Report

Both sides agreed that the Project should make activity report and submit to VMARNDF monthly.

After the report obtains VMARNDF's approval, the report should be submitted to JICA Bolivia office and JICA Headquarters.

15. Attendants at Meetings

The list of attendants at the meetings is as shown in ANNEX16.

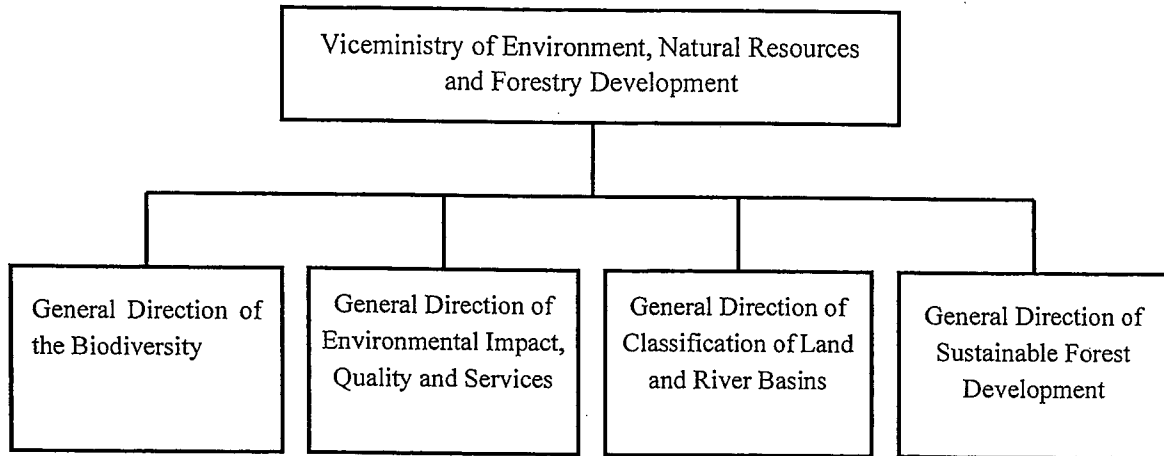
Handwritten signatures in black ink, appearing to be initials or names, located in the bottom left corner of the page.

LIST OF ANNEXES

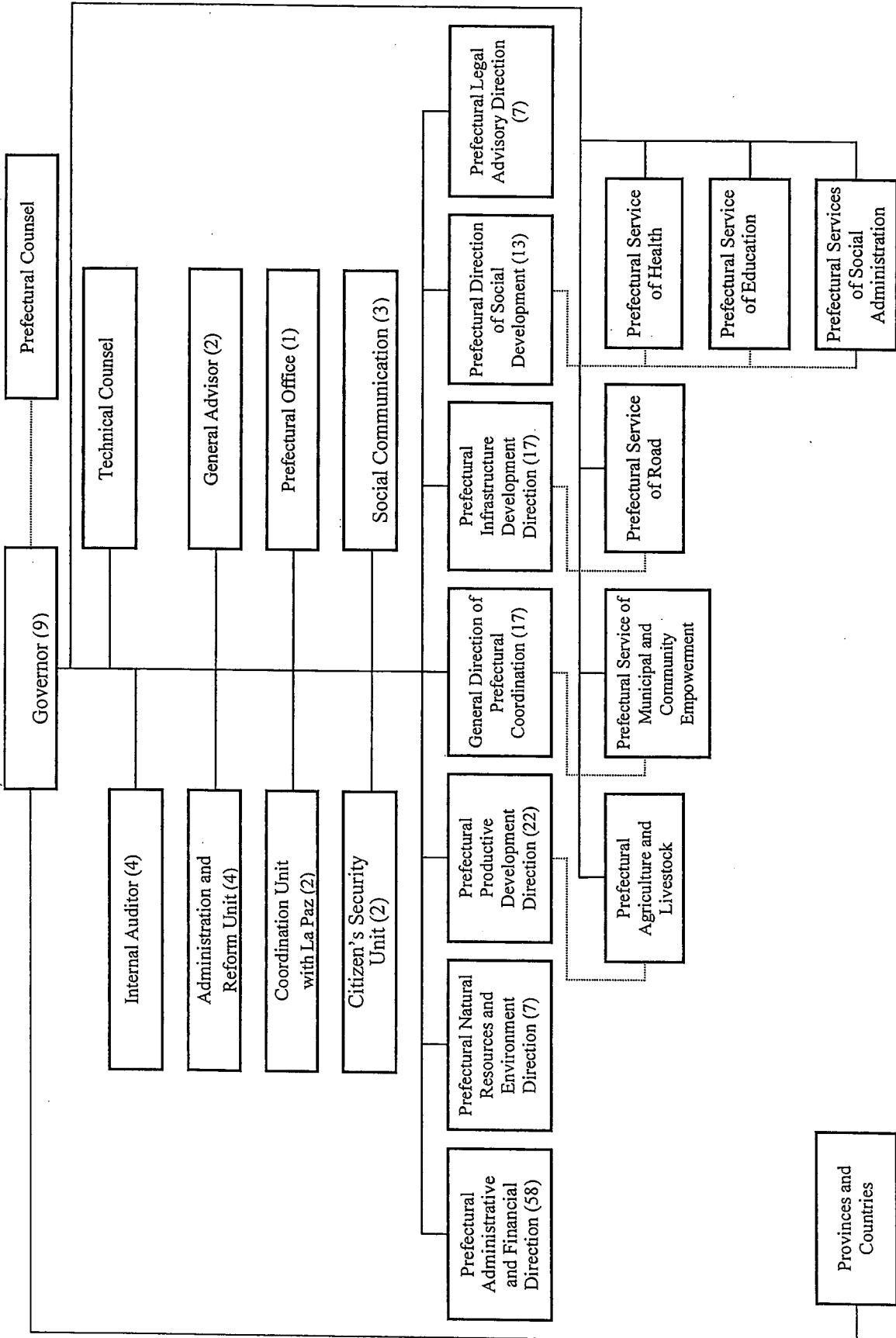
- ANNEX 1 Present organization chart of VMARNDF
- ANNEX 2 Present organization chart of Potosi Prefecture
- ANNEX 3 Provisional organization chart of the Direction of Natural Resources and Environment
- ANNEX 4 Organization chart of Project
- ANNEX 5 Location map of the Project site
- ANNEX 6 Tentative Schedule of Implementation (TSI)
- ANNEX 7 Plan of Operation (PO)
- ANNEX 8 Annual Plan of Operation (APO) for FY2002
- ANNEX 9 Machinery, Equipment and Materials necessary for Technology Transfer in the Project
- ANNEX 10 Layout plan of the new building and rooms
- ANNEX 11 List of Fulltime Counterparts
- ANNEX 12 Annual budgetary plan of local cost
- ANNEX 13 Project Design Matrix (PDM)
- ANNEX 14 Five basic evaluation components
- ANNEX 15 Joint Coordinating Committee (JCC)
- ANNEX 16 List of attendants at the meetings



Present Organization Chart of
the Viceministry of Environment, Natural Resources
and Forestry Development (VMARNDF)

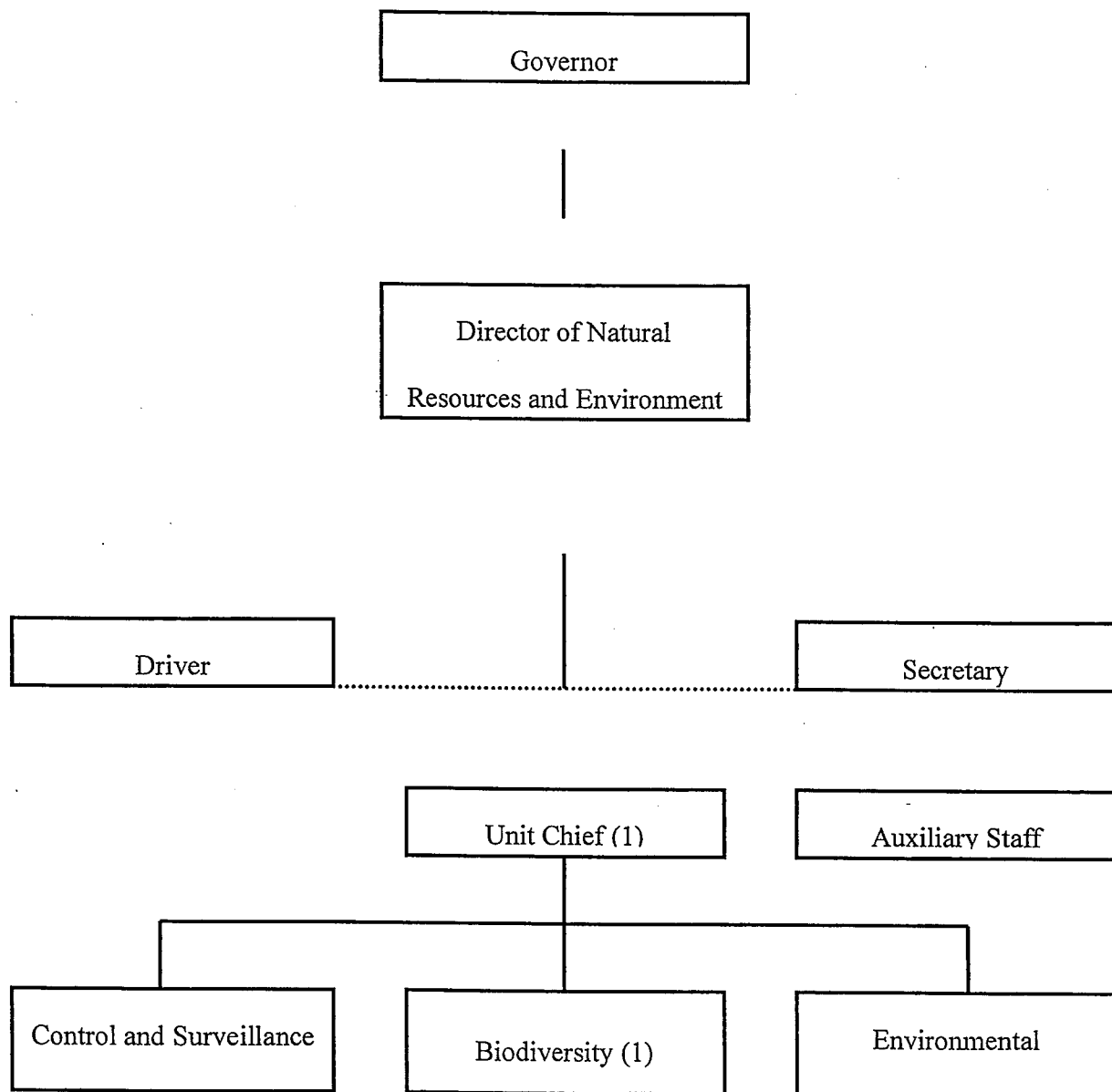


Present Organization Chart of Potosi Prefecture



[Handwritten signature and initials]

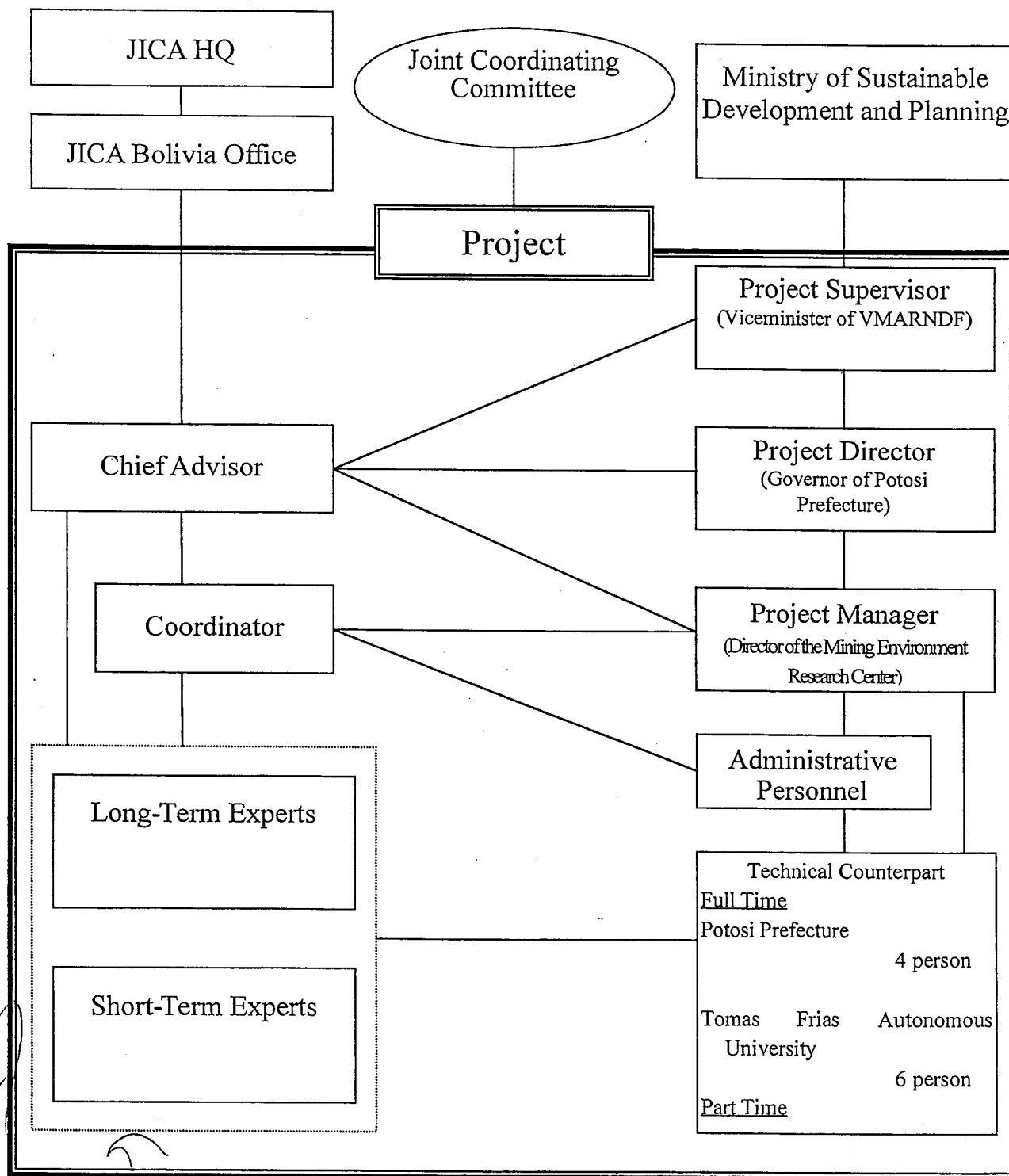
Present Organization Chart of
the Direction of Natural Resources and Environment
of Potosi Prefecture

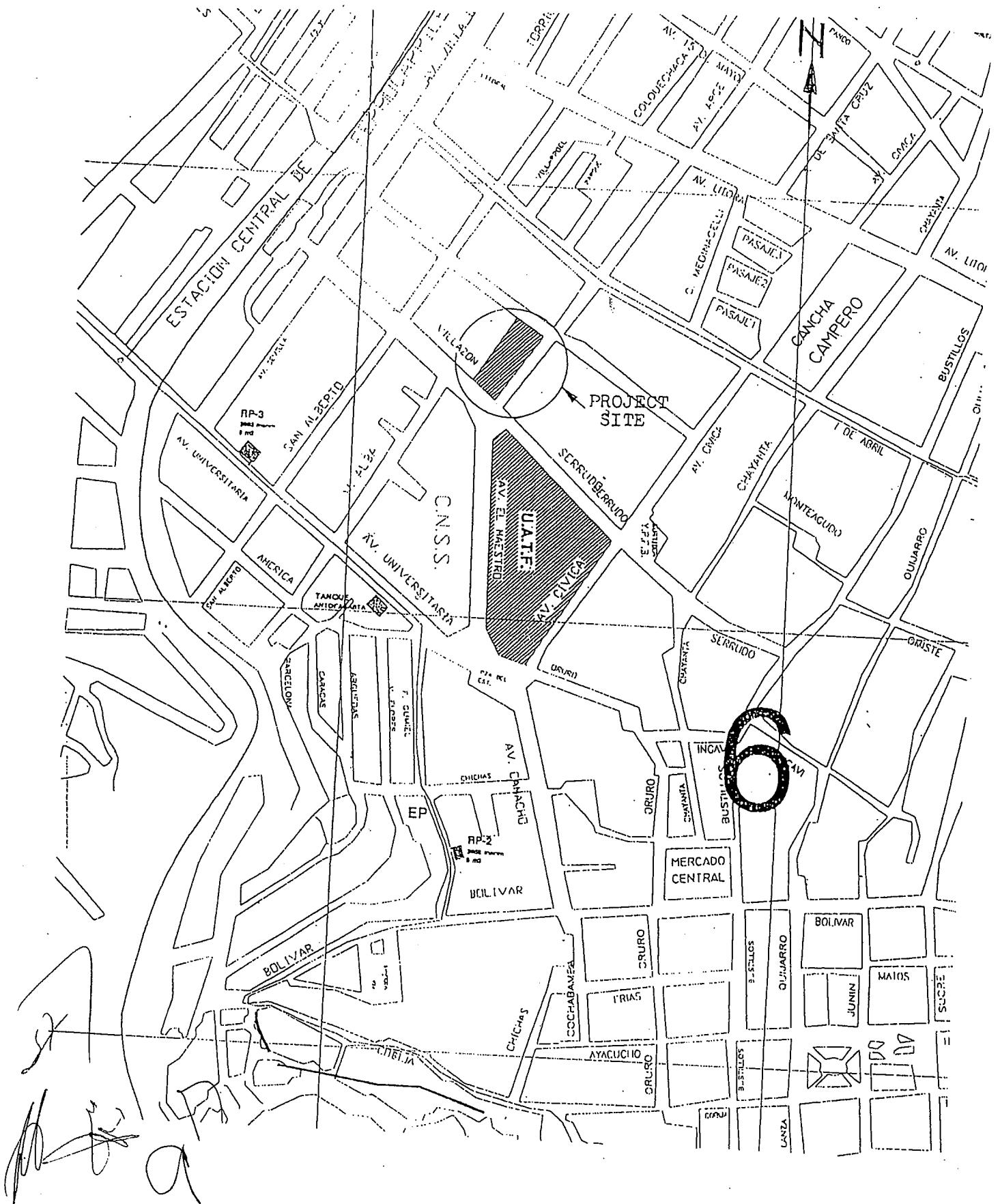


Provisional Organization Chart of
the Mining Environmental Research Center Project

Japanese Side

Bolivian Side





Tentative Schedule of Implementation (TSI)

Calendar Year	2001				2002				2003				2004				2005				2006				2007				
	2001		2001		2002		2002		2003		2003		2004		2004		2005		2005		2006		2006		2007		2007		
Japanese Fiscal Year	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV		
Term of Technical Cooperation																													
Japanese Side																													
1. Dispatch of Mission																													
(1) Preliminary Study	-																												
(2) Implementation Study																													
(3) Evaluation																													
2. Dispatch of Long-Term Experts																													
(1) Chief Advisor																													
(2) Coordinator																													
(3) Waste Water Treatment																													
(4) Environmental Research																													
(5) Environment Chemical Analysis																													
3. Dispatch of Short Term Experts																													
(1) Environment Research																													
(2) Waste Water Treatment																													
(3) Mining Environment Administration																													
(4) Environment Chemical Analysis																													
(5) Mineral Processing																													
4. Training of C/P in Japan																													
5. Provision of Machinery and Equipment																													
Bolivian Side																													
1. Building and Facilities																													
2. Machinery and Equipment																													
3. Allocation of C/P and Administrative																													
4. Budgetary Allocation																													

Note: Japanese fiscal year starts in April and ends in March

Plan of Operation "Mining Environmental Research Center"

Output	Activities	Person in charge		Schedule						Post project		
		Bolivian side	Japanese side	1st year	2nd year	3rd year	4th year	5th year	Short term	Long term		
1 The establishment of the organization	a Study and establish organization and institutional arrangement											
	b Assign researchers and engineers											
2 The Procurement of facilities and equipment	c Secure the budget.											
	d Procure equipment and materials.											
3 Environment. Chem. Analysis	e Install the equipment.											
	f Learn the equipment operation.											
4 The environment situation research	g Carry out the equipment maintenance.											
	h Analyze are done in accordance with the manual.											
1 Basic Technology	i The analysis of the standard sample. The confirmation of the precision by the reference material.		CA									
	j Investigate the origin of the pollution.		CA									
2 Sample Analysis	k Analyze the pollution level.											
	l Investigate the pollution mechanism.											
1 Investigation of current situations	m Compare the investigation result with the environmental quality standards.											
	n Survey the effect of the pollution.											
2 Water Pollution monitoring plans are made.	o Make monitoring plan.											
	p Examine water quality analysis program.											
3 Monitoring	q Simulate water quality analysis.											
	r Conduct monitoring.											
5 Mine wastewater treatment	s Introduction of mining environment administration											
	t Best practice environmental management in mining.											
1 Introduction of mining environment administration	u Importance of mining pollution prevention administration for sustainable production.											
	v Role of the national and/or local government (introduction of legal system, inspection, etc)											
2 Introduction of mining pollution prevention technology	w Support by government (introduction of subsidy and financing)											
	x Measures against the shutdown or abandoned mines											
3 Master Plan	y Overview of the basic technology for mining pollution prevention.											
	z Explain the technology and regulations for mining pollution and preventions in Japan.											
4 Development of wastewater treatment	aa Make the master plan (technical and for the measures against the mining wastewater).											
	ab Overview of the basic technology.											
5 Plan for introduction of the technology	ac Decide the applicable technology.											
	ad Research and develop the technology											
1 Measures against tailing and wastewater	ae Experiment in the laboratory.											
	af Design the wastewater treatment total system.											
2 Guideline for improving mineral processing productivity to deal with the environmental cost.	ag Examine the most suitable treatment condition for each origin of the pollution.											
	ah Estimate cost for the treatment.											
3 Improve productivity	ai Sum up the environmental impact.											
	aj Examine how to implement the treatment.											
6 Basic technology of mineral processing	ak Make the conceptual design of the treatment plant(s)											
	al Make the detailed design of the treatment plant(s)											
7 Public information and education toward Potosi mining people	am Construct the plant(s)											
	an Operate the plant(s)											
1 Measures against tailing and wastewater	ao Construct embankment and/or natural rainfall covers with the established vegetation.											
	ap Construct tailing dam and/or natural rainfall covers with the established vegetation.											
2 Guideline for improving mineral processing productivity to deal with the environmental cost.	aq Construct tailing dam and/or natural rainfall covers with the established vegetation.											
	ar Construct tailing dam and/or natural rainfall covers with the established vegetation.											
3 Improve productivity	as Construct tailing dam and/or natural rainfall covers with the established vegetation.											
	at Construct tailing dam and/or natural rainfall covers with the established vegetation.											
7 Public information and education toward Potosi mining people	au Holdings of the public information journal.											
	av Press release											

TFAU: Tomas Frias Autonomous University PP: Potosi Prefecture KfW: The German Development Bank EP: Environment Research WT: Wastewater Treatment MEA: Mining Environment Administration CA: Chemical Analysis MP: Mineral Processing

Activities in shadowed rows should be done by Bolivian side, independently. (Excluded from this project)

Annual Plan of Operation of Year 2002(APO)

Output 1. The Establishment of the Organization

Activities	Target	Japanese Fiscal Year 2002												Responsible Person in the project			Input	Remarks			
		2002												Bolivia	Japan						
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	PP	TFAU	LE					
1-1. Study and establish organization and institutional arrangement in MERC	Secure the suitable organization and institutional arrangement in MERC	■														PP	TFAU	LE			
1-2. Allocation of the Staff of MERC as planned	Secure the necessary number of C/P																				
1-2-1. Review of the Staff allocation plan.																PP	TFAU	LE			
1-2-2. Assignment of the staff		■	■	■	■	■	■	■	■	■	■	■	■	■	■	PP	TFAU	LE			
1-3. Confirmation of the Job Description at MERC	Secure the responsibility of the staff															PP	TFAU	LE			
1-4. Formulation of the Work Plan of MERC	Secure the implementation of the project as planned	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
1-4-1. Preparation of the work plan of MERC		■	■	■	■	■	■	■	■	■	■	■	■	■	■	PP	TFAU	LE			
1-4-2. Review of the work plan half-yearly																PP	TFAU	LE			
1-4-3. Discussion on and preparation of the APO for the next year (2003)																PP	TFAU	LE			
1-5. Formulation of the budget plan of MERC	Secure the necessary budget for smooth implementation of the project																				
1-5-1. Execution of the budget plan for 2002																PP	TFAU	LE			
1-5-2. Discussion on and formulation of the budget plan for the next year (2003)																PP	TFAU	LE			
1-6. Joint Coordinating Committee																PP	TFAU	LE			
1-7. Opening Ceremony of MERC																PP	TFAU	LE			

TFAU: Tomas Frias Autonomous University PP: Potosi Prefecture Kfv: The German Development Bank ER: Environment Research WT: Wastewater Treatment MEA: Mining Environment Administration CA: Chemical Analysis MP: Mineral Processing SE: Short Term Expert LE: Long Term Expert C/P: Counterpart Personnel MERC: Mining Environment Research Center

Annual Plan of Operation (APO)

Output 2. The Procurement of Facilities and Equipment

Activities	Target	Japanese Fiscal Year 2002												Responsible Person in the project		Input	Remarks			
		2002												Bolivia	Japan					
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar							
2-1. Formulation of the preparation, procurement & maintenance plans of the equipment and the appropriate measures for these plans	Secure the necessary tools for technology transfer																			
2-1-1. Preparation of the procurement plan of facilities and equipment																		PP TFAU	LE	
2-1-2. Procurement of facilities and equipment																		PP TFAU	LE	
2-1-3. Preparation of laboratory utilities, air conditioner and exhaust gas treatment																		PP TFAU	LE	
2-1-4. Planning of the measures for maintenance																		PP TFAU	LE	
2-2. Implementation of the installation, operation guidance & maintenance of the equipment	Secure the smooth operation & maintenance of the equipment																			
2-2-1. Installation of the equipment																		PP TFAU	LE	
2-2-2. Guidance on the operation of the equipment																		TFAU	LE	
2-2-3. Guidance on the maintenance of the equipment																		TFAU	LE	
2-3. Formulation of the manuals on maintenance of the equipment	Secure the smooth maintenance of the equipment																			After April 2003
2-3-1. Preparation of the manuals in English																				
2-3-2. Preparation of the manuals in Spanish																				
2-4. Ceremony for hand over the equipment																		PP TFAU	LE	

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Annual Plan of Operation (APO)

Output 3. Environmental Chemical Analysis

Activities	Target	Japanese Fiscal Year 2002												Responsible Person in the project		Input	Remarks		
		2002												Bolivia	Japan				
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar						
3-1.Introduction of the analytical equipments																			
3-1-1.Installation and trial run of equipments																			
3-1-2.Instruction of basic operation																			
3-1-3.Preparation of the manuals																			
3-2.Lecture of chemical analysis																			
3-2-1.Outline of chemical analysis																			
3-2-2.Decomposition method for the samples																			
3-2-3.Separation and concentration method for analytical equipments																			
3-2-4.Measuring method for each equipment																			
3-3.Technical transfer of analytical operation																			
3-3-1.Investigation of current technical situation																			
3-3-2.Instruction of basic operation of analysis																			
3-3-3.Instruction of preparation of standard solutions																			
3-3-4.Instruction of samples decomposition technique																			
3-3-5.Instruction of separation and concentration technique of analytical elements																			
3-3-6.Instruction of separation and concentration technique of analytical elements																			
3-3-7.Precision check by analysis of reference materials																			
3-3-8.Chemical analysis of actual environmental samples																			

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Annual Plan of Operation (APO)

Output 4. The Environment Situation Research

Activities	Target	Japanese Fiscal Year 2002												Responsible Person in the project			Input	Remarks				
		2002												Bolivia	Japan							
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar									
4-1. Investigation of current situations	Clarify the current situation of mining water pollution in Potosi																					
4-1-1. Investigate the origin of pollution																		TFAU	ER			Until Japanese fiscal year 2004
4-1-2. Investigate the pollution level																		TFAU	ER			Until Japanese fiscal year 2004
4-1-3. Analyze the pollution mechanism																		TFAU	ER			Until Japanese fiscal year 2003
4-1-4. Compare the investigation results with the environmental quality standards																		TFAU	ER			Until Japanese fiscal year 2003
4-1-5. Survey the effect of the pollution																		TFAU	ER			
4-2. Water pollution monitoring plan	Formulate monitoring plan																					
4-2-1. Make monitoring plan																		PP TFAU	ER			Until Japanese fiscal year 2004
4-2-2. Examine water quality analysis program																		TFAU	ER			Starts Japanese fiscal year 2003
4-2-3. Simulate water quality analysis																		TFAU	ER			Starts Japanese fiscal year 2005

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Annual Plan of Operation (APO)

Output 5. Mine Waste Water Treatment

Activities	Target	Japanese Fiscal Year 2002												Responsible Person in the		Input	Remarks		
		2002						2003						project	Japan				
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar						
5-1. Introduction of Mining environment administration	Understand administration system for mining pollution																		
5-1-1. Best practice environmental management in mining																			
5-1-2. Importance of mining pollution prevention administration for suitable production																			
5-1-3. Role of national and/or local government (introduction of legal system, inspection, etc.)																			
5-1-4. Support by government (introduction of subsidy and financing)																			
5-1-5. Measures against the shutdown or abandoned mines																			
5-2. Introduction of mining pollution prevention technology	Understand technology for mining pollution prevention																		
5-2-1. Overview of the basic technology for mining pollution prevention																			
5-2-2. Explain the technology and regulations for mining pollution and prevention in Japan																			
5-3. Examination of master plan for mining pollution prevention	Establishment of master plan for Potosi area (technical and for the measure against the mining waste water)																		Starts in Japanese fiscal year 2003
5-4. Development of waste water treatment	Secure the efficient waste water treatment																		
5-4-1. Overview of the basic technology																			
5-4-2. Decide the applicable technology																			
5-4-3. Research and develop the technology																			Starts in Japanese fiscal year 2003
5-4-4. Experiment in the laboratory																			Starts in Japanese fiscal year 2003
5-5. Plan for introduction of the technology	Design practical waste water treatment system in Potosi																		
5-5-1. Design the waste water treatment total system																			Starts in Japanese fiscal year 2004
5-5-2. Examine the most suitable treatment condition for each origin of the pollution																			Starts in Japanese fiscal year 2004
5-5-3. Estimate cost for the treatment																			Starts in Japanese fiscal year 2005
5-5-4. Sum up the environment impact																			Starts in Japanese fiscal year 2006
5-5-5. Examine how to implement the treatment																			Starts in Japanese fiscal year 2006
5-5-6. Make the conceptual design of the treatment plant(s)																			Starts in Japanese fiscal year 2006

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Annual Plan of Operation (APO)

Output 6. Basic Technology of Mineral Processing

Activities	Target	Japanese Fiscal Year 2002												Responsible Person in the project		Input	Remarks		
		2002												Bolivia	Japan				
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar						
6-1. Measures against tailing and waste water	Design practical waste water treatment system in Potosi																		
6-1-1. Construct tailing dam and tailing transportation system																			KFW
6-1-2. Examine the technology for neutralization with mine waste water																	TFAU	WT	Starts in Japanese fiscal year 2003
6-2. Guideline for improving mineral processing productivity to deal with the environmental cost.	Secure the smooth and efficient waste water treatment in Potosi																		
6-2-1. Investigate the process and efficiency of existing ingenious																	TFAU	SE	
6-2-2. Grasp the problems of existing ingenious																	TFAU	SE	
6-2-3. Examine the measures to improve productivity																	PP	TF AU	SE
6-2-4. Make and disseminate the guideline																	PP	TF AU	SE

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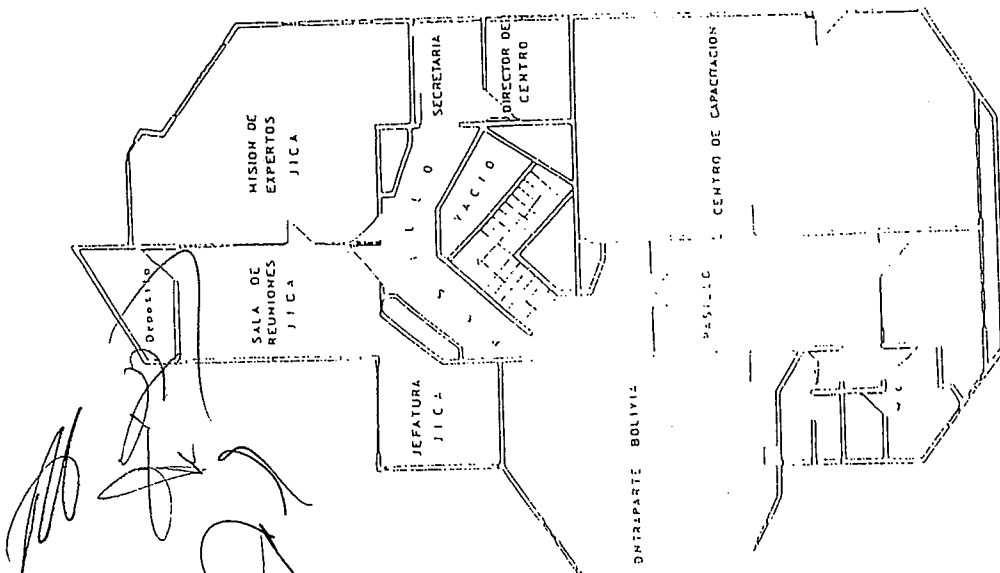
Machinery, Equipment and Other Materials necessary for Technology Transfer in the Project

(List A) List of Machinery, Equipment and other materials requested by the Bolivian Side

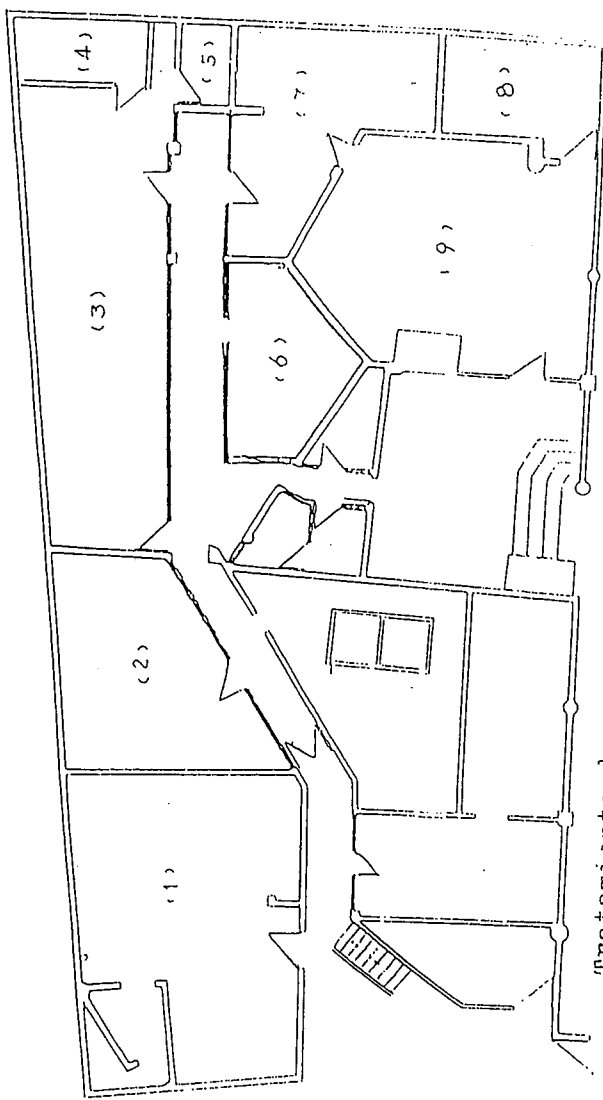
	Equipment	
1.Environmental Research	1	Four-wheel Drive Vehicle (×2)
	2	Sampler for Water and Soil/Sedimentation of River
	3	Portable Water Quality Tester
	4	Rainfall Measuring Instrument
2.Wastewater Treatment	1	Neutralization Test Equipment (Batch Type)
	2	Neutralization Test Equipment (Continuous Type)
	3	Laboratory Wastewater/Sludge treatment equipment
3.Chemical Analysis	1	X-Ray Diffractometer (XRD or XD)
	2	Atomic Absorption Spectrophotometer (AA or AAS) with As/Hg analyzer
	3	Inductively Coupled Plasma Atomic Emission Spectrometer (ICP or ICP-AES)
	4	Ultraviolet and Visible Spectrometer (UV-VIS)
	5	Ion Chromatograph
	6	Ion Selective Electrode Type Concentration Measuring Instrument
	7	Photoelectric Photometer and Colorimeter
	8	Cyanide (CN) Analyzer
	9	Chemical Oxygen Demand (COD) Meter
	10	Biochemical Oxygen Demand (BOD) Meter
	11	Leaching Test Shaker
	12	Precision Electronic Analytical Balance
	13	Precision Distillation Water Apparatus
	14	Draft
4.Others	1	Office Equipment, in addition to "2.others" of List B, if necessary

(List B) List of Machinery, Equipment and other Materials prepared by the Bolivian Side

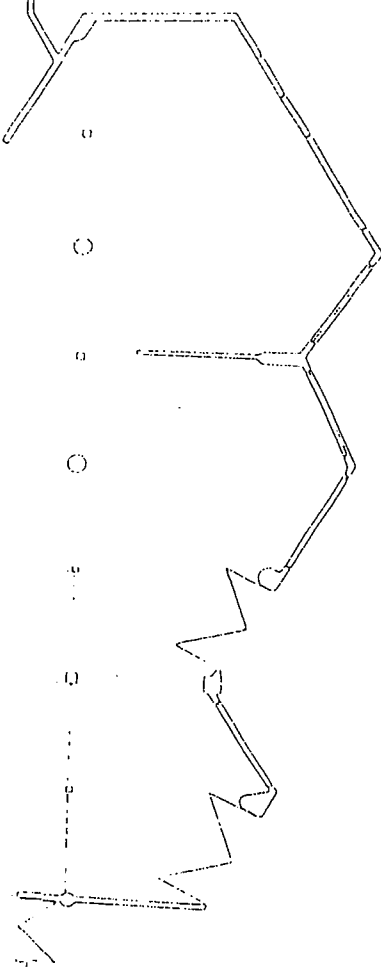
	Equipment	
1.Chemical Analysis	1	Distillation Water Apparatus
	2	Air Conditioner
	3	Laboratory Exhaust Gas Treatment Equipment
	4	Laboratory Wastewater Treatment Equipment
2.Others	1	Whiteboard
	2	Overhead Projector
	3	Liquid Crystal Display (LCD) Projector
	4	Slide Projector
	5	Personal Computer
	6	Printer
	7	Copy Machine
	8	Facsimile
	9	Experiment Instrument
	10	Consumable Supplies



SEGUNDO PISO



Tratamiento de Aguas Residuales
Análisis Químico (1) - (9)



CENTRO DE INVESTIGACIONES MINERO AMBIENTAL

UNIVERSIDAD AUTONOMA TOMAS FRI
FACULTAD DE MINAS
SEGUNDO PISO
Superficie
SUB 905,23 m ²
SUB. Tratando pmas 362,65 m ²

List of Full-time Counterparts

(Potosi Prefecture)

1. Mr. Noel Mercado R Director of the Center
2. Mr. Primo Choque Cruz Agricultural Engineer
3. Mr. Rolando Torres R..... Chemical Engineer
4. Mr. Jorge Venegas..... Mineral Processing Engineer
5. Mr. Carlos Delgado M..... Mining Engineer

(Tomas Frias Autonomous University)

1. M. Sc. Ing. Freddy S. Llanos Lopez..... Mining Engineer
2. Ing. Franz F. Mamani Yucra..... Environmental Engineer
3. M. Sc. Ing. Javier Flores Delgado..... Mining & Mineral Processing Engineer
4. Ing. Heman Rios Montero Geologist
5. M. Sc. Ing. Carlos Salas Casado Metallurgist
6. Ing. Waldo Aramaryo Escaray..... Chemical Engineer

COSTOS DE OPERACIÓN DEL PROYECTO
(en \$US americanos)

ITEM	Año 2002	Año 2003	Año 2004	Año 2005	Año 2006	Año 2007	Total
SALARIOS	72.851	145.703	145.703	145.703	145.703	72.851	728.514
MATERIALES Y REACTIVOS	13.397	26.801	26.797	26.797	26.797	13.397	133.986
MANTENIMIENTO	41.300	41.300	41.300	41.300	41.300	41.300	247.800
ADUANA		30.000					30.000
INSTALACION		30.000					30.000
INFRAESTRUCTURA	30.000						30.000
SUBTOTAL	157.548	273.804	213.800	213.800	213.800	127.548	1.200.300

TOTAL	1.200.300 \$US	Presupuesto contraparte Bolivia
		Primer año 2002, julio - diciembre
		Ultimo año 2007, enero - junio

SISTEMA NACIONAL DE INVERSIÓN PÚBLICA
 SISTEMA DE GERENCIA DE PROYECTOS
 PROGRAMACION DE CAJA DE LA IMPLEMENTACION DEL PROYECTO

S.M.I.P.
SGP
Parte 3A

NOMBRE DEL PROYECTO: CENTRO DE INVESTIGACION MINERO AMBIENTAL Y DE SEGURIDAD

FECHA: 18/1/02

AÑO: 2002

CODIGO S I S I N :

Fuente de Ingresos	Organismo Financiado	M E S E S												Total Gestión	Por Ejecutar Gest. Futuras	Total Proyecto						
		Acumulado Gest. Anteriores	Ene	Feb	Mar	Abr	May	Jun	Jul	Agosto	Septiembre	Octubre	Noviembre				Diciembre					
80516	JICA																					
	pc. Especifico Otros Rec. Es						151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	7,549,598	8,460,000	
TOTAL INGRESOS							151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	151,674	7,549,598	8,460,000	
GASTOS																						
Sueldos y Salarios							85,600	85,600	85,600	85,600	85,600	85,600	85,600	85,600	85,600	85,600	85,600	85,600	85,600		513,600	
Gastos Administrativos							30,824	30,824	30,824	30,824	30,824	30,824	30,824	30,824	30,824	30,824	30,824	30,824	30,824		184,944	
Equipos e insumos							35,290	35,290	35,290	35,290	35,290	35,290	35,290	35,290	35,290	35,290	35,290	35,290	35,290		211,500	
Infraestructura																						
TOTAL GASTOS																						211,500

RESPONSABLE DE LA INFORMACIÓN

NOMBRE: Ing. Ramiro Zanabria
 INSTITUCIÓN: PREFECTURA
 CARGO: Técnico de Proyectos
 TELEFONOS: 27344
 FIRMA:

SISTEMA NACIONAL DE INVERSIÓN PÚBLICA
SISTEMA DE GERENCIA DE PROYECTOS
PROGRAMACIÓN DE CAJA DE LA IMPLEMENTACIÓN DEL PROYECTO

NOMBRE DEL PROYECTO : CENTRO DE INVESTIGACION MINERO AMBIENTAL Y DE SEGURIDAD CODIGO S I S I N : _____

FECHA : 18/10/2003 AÑO : 2003

Fuente de Ingresos	Organismo Financiador	Acumulado Gest. Anteriores	M. E. S. E. S.												Total Gestión	Por Ejecutar Gest. Futuras	Total Proyecto											
			Ene	Feb	Mar	Abr	May	Jun	Jul	Agosto	Septiembre	Octubre	Noviembre	Diciembre														
80516	JICA											142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822			8.400.000		
	TGN		142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	6.746.132	8.400.000
TOTAL INGRESOS			142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	142.822	6.746.132	5.032.285
GASTOS																												
Sueldos y Salarios			85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	1.027.200	
Gastos Administrativos			1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	1.908	23.616	
Equipos e insumos							7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	7.872	58.104	58.104	
Mantenimiento																												
TOTAL GASTOS		0.87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	607.844	607.844

RESPONSABLE DE LA INFORMACIÓN

NOMBRE : Ing. Ramiro Zambúa CARGO : Técnico de Proyectos TELEFONOS : 27344 FRMA : _____

INSTITUCIÓN : PREFECTURA

SISTEMA NACIONAL DE INVERSIÓN PÚBLICA
SISTEMA DE GERENCIA DE PROYECTOS
PROGRAMACIÓN DE CAJA DE LA IMPLEMENTACIÓN DEL PROYECTO

NOMBRE DEL PROYECTO: CENTRO DE INVESTIGACIÓN MINERO AMBIENTAL Y DE SEGURIDAD CODIGO S I S I N :

FECHA: 18/10/02

AÑO: 2004

INGRESOS		M E S E S												Total Gestión	Por Ejecutar Gest. Futuras	Total Proyecto		
Fuente de Financiamiento	Acumulado Gest. Anteriores	Ene	Feb	Mar	Abr	May	Jun	Jul	Agosto	Septiembre	Octubre	Noviembre	Diciembre					
80516 JICA																		
TCN		104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	1.251.504	7.206.486	8.458.000
TOTAL INGRESOS		104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	1.251.504	7.206.486	5.904.992	
GASTOS																		
Sueldos y Salarios	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	85.000	1.027.200	1.027.200	-
Gastos Administrativos	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	23.616	23.616	-
Equipos e Instrumentos																55.104	55.104	-
Mantenimiento																145.588	145.588	-
TOTAL GASTOS	0 87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	87568	152688	1.251.508	1.251.508	-

RESPONSABLE DE LA INFORMACIÓN

NOMBRE: Ing. Ramiro Zanabria

CARGO: Técnico de Proyectos

INSTITUCIÓN: PREFECTURA

TELEFONOS:

27344

FRMA:

S.M.I.P.
SGP
Parte 3A

SISTEMA NACIONAL DE INVERSIÓN PÚBLICA
SISTEMA DE GERENCIA DE PROYECTOS
PROGRAMACIÓN DE CAJA DE LA IMPLEMENTACIÓN DEL PROYECTO

NOMBRE DEL PROYECTO: CENTRO DE INVESTIGACIÓN MINERO AMBIENTAL Y DE SEGURIDAD

CODIGO S I S I N :

FECHA: 18/10/2004

AÑO: 2004

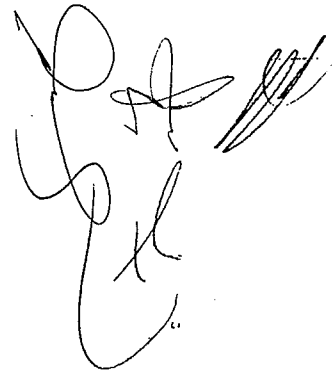
INGRESOS		M E S E S												Total	Por Ejecutar	Total
Fuente de Ingresos	Organismo Financiado	Ene	Feb	Mar	Abr	May	Jun	Jul	Agosto	Septiembre	Octubre	Noviembre	Diciembre	Gestión	Gest. Futuras	Proyecto
80516	JICA															
	TGN	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	1.251.504	7.208.496	8.460.000
	TOTAL INGRESOS	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	104.292	1.251.504	7.208.496	5.950.992
GASTOS																
	Salarios y Salarios	85.600	85.600	85.600	85.600	85.600	85.600	85.600	85.600	85.600	85.600	85.600	85.600	1.027.200	1.027.200	-
	Gastos Administrativos	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	1.968	23.816	23.816	-
	Equipos e insumos													55.104	55.104	-
	Mantenimiento						88.339					57.229		145.568	145.568	-
	TOTAL GASTOS	87568	87568	87568	87568	87568	183799	95440	95440	95440	95440	132069	95440	1.251.508	1.251.508	-

RESPONSABLE DE LA INFORMACIÓN

NOMBRE: Ing. Ramiro Zanabina
INSTITUCIÓN: PREFECTURA

CARGO: Técnico de Proyectos
TELEFONOS: 27344

FRMA:



SISTEMA NACIONAL DE INVERSIÓN PÚBLICA
 SISTEMA DE GERENCIA DE PROYECTOS
 PROGRAMACIÓN DE CAJA DE LA IMPLEMENTACIÓN DEL PROYECTO

CODIGO S I S T E M :

NOMBRE DEL PROYECTO : CENTRO DE INVESTIGACION MINERO AMBIENTAL Y DE SEGURIDAD

AÑO :

FECHA :

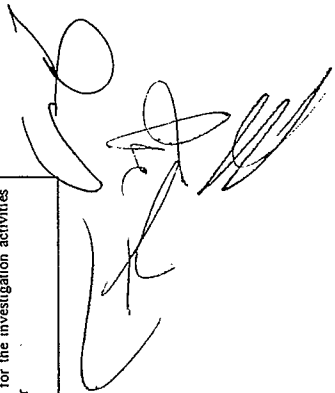
INGRESOS Fuente de Financiamiento	Organismo Financador	Acumulado Gest. Anteriores	M E S E S												Total Gestión	Por Ejecutar Gest. Futuras	Total Proyecto				
			Ene	Feb	Mar	Abr	May	Jun	Jul	Agosto	Septiembre	Octubre	Noviembre	Diciembre							
80516	JICA																				
	TGN		118.424	118.424	118.424	118.424	118.424	118.424	118.424	118.424	118.426	118.426					698.546		7.761.464	8.460.000	
			118.424	118.424	118.424	118.424	118.424	118.424	118.424	118.426	118.426						698.546		7.761.464	7.052.908	
TOTAL INGRESOS																					
GASTOS																					
	Sueldos y Salarios		85.900	85.900	85.900	85.900	85.900	85.900	85.900	85.900	85.900						513.000		513.000	-	
	Gastos Administrativos		1.969	1.969	1.969	1.969	1.969	1.969	1.969	1.969	1.969						11.808		11.808	-	
	Equipos e Insumos		28.856	28.856	28.856	28.856	28.856	28.856	28.856	28.856	28.856						173.138		173.138	-	
	Mantenimiento																			-	
																				-	
																				-	
																				-	
																				-	
TOTAL GASTOS			0	118.424	118.424	118.424	118.424	118.424	118.424	118.426	118.426	0	0	0	0	0	0	0	0	0	698.546

RESPONSABLE DE LA INFORMACIÓN

NOMBRE : Ing. Remiro Zanabria CARGO : Técnico de Proyectos
 INSTITUCIÓN : PREFECTURA TELEFONOS : 27344 FRMA : _____

Project Design Matrix (Ver.1.0)
 Duration : 2002.7.1~2007.6.30 (5 years)

Project Name : Mining Environment Research Center Project

Project Area : Potosi Prefecture	Target group : The inhabitants of the lower reaches of rivers in Potosi mining area.	Means of Verification	Important Assumptions
Narrative Summary	Objectively Verifiable Indicators		
<p>Super/Gōai Administration and technology to decrease water pollution caused by mining industry, which are established in the Center, are disseminated to other regions in Bolivia.</p> <p>Oxeraji Gōai Water pollution caused by mining industry in Potosi is decrease and prevented.</p> <p>Project Purpose Administration system and technology suitable for Potosi to decrease water pollution caused by mining industry are established.</p>	<p>1. Monitoring plan, mine-wastewater treatment master plan are adopted in Potosi environmental administration</p> <p>2. Guideline and technology of the mine wastewater treatment are applied in Potosi mining sector.</p> <p>3. The role of the center is established in Bolivia mining environmental sector.</p>	<p>1. The number of application to the mining environmental administration in Potosi</p> <p>2. The number of inquiry from mining sector</p>	<ul style="list-style-type: none"> The mining environment policy is not changed drastically. The research result of the center is incorporated in mining environmental administration. The tailing dam is to work properly.
<p>Outline</p> <p>1. The organization of the Center is established.</p> <p>2. Facilities and equipment necessary for the activities of the Center are introduced and maintained properly.</p> <p>3. Environmental chemical analysis of mining pollution are carried out by the C/Ps.</p> <p>4. Environmental situations in Potosi mining area are researched by the C/Ps and case studies are accumulated.</p> <p>5. Mine-related wastewater treatment technology is developed and carried out by the C/Ps.</p> <p>6. Basic technologies of mineral processing are carried out by the C/Ps.</p> <p>7. Public relations and education for environmental conservation targeted Potosi people who works for mining, concentration, and the people related to the mining activity are conducted</p>	<p>1.1. Counterparts, administrative personnel are arranged continuously within project period.</p> <p>1.2. Local cost is allocated in each quarter of the year without delay.</p> <p>1.3. Regular meeting hold continuously every 3 month with related organization include VMARNDF.</p> <p>1.4. The article of the center and sustainable development plan are draw up within 1 year.</p> <p>2.1. Equipment and test working is done within 3 months after procured.</p> <p>2.2. Maintenance cost for Equipment is allocated without delay.</p> <p>2.3. Manuals are prepared for the equipment within 6 months after installation.</p> <p>2.4. Operation and maintenance of equipment can be done by C/Ps within 1 year after installation.</p> <p>3.1. Knowledge and method of chemical analysis is acquired within 2 years.</p> <p>3.2. Sample of mine-related wastewater are analyzed.</p> <p>4.1. The environmental map of Potosi is made within 3 years.</p> <p>4.2. The water monitoring plan of Potosi is made within 3 years.</p> <p>5.1. The mine waste water master plan (administration, technology) is made within 2 years.</p> <p>5.2. Conceptual plan of wastewater treatment are made within 3 years</p> <p>6.1. Knowledge and method of wastewater treatment is acquired within 2 years.</p> <p>6.2. Guideline for improving mineral processing productivity is made.</p> <p>7.1. The seminar is held more than one time in each year.</p> <p>7.2. The press release is made more than one time in each year.</p> <p>7.3. Contract research of government and private sector can be undertook.</p>	<p>1.1. Number of Counterpart</p> <p>1.2. Quarterly report</p> <p>1.3. Regular meeting report</p> <p>1.4. Article of the center, sustainable development plan</p> <p>2.1. Installation, assembling, adjustment report.</p> <p>2.2. Manual, daily report, (maintenance, measure)</p> <p>2.3. Manuals of equipment</p> <p>2.4. Monitoring sheet of technical transfer</p> <p>3.1. Monitoring sheet of technical transfer</p> <p>3.2. Number of report of analysis.</p> <p>4.1. Environmental map</p> <p>4.2. Monitoring plan</p> <p>5.1. Mine wastewater master plan (administration, technology)</p> <p>5.2. Conceptual plan</p> <p>6.1. Monitoring sheet of technical transfer</p> <p>6.2. Guideline of mineral processing</p> <p>7.1. The number of seminar</p> <p>7.2. The number of press release</p> <p>7.3. The number of contract research, Number of examination of FA, MA</p>	<ul style="list-style-type: none"> C/Ps continue working for the Center Necessary information is provided by related organization. Customs clearance and transport procedure is not delayed. <p>Preconditions Mining industries and inhabitants are cooperative for the investigation activities of the center</p>
<p>Activities See next page</p>	<p>Bolivian Side</p> <p>1. Building and the facilities for the Project, Machinery, Equipment and other materials</p> <p>2. The arrangement of the 10 C/Ps (fulltime) administrative people and others</p> <p>3. Local cost (. Transportation for field research and meetings . Allocation of assistance staff for laboratory experiment, field researches, etc. . Secretary and drivers, . Public relations and educational activities, . Workshop and seminar, . Consumable, electricity, etc., . Expenses for vehicles)</p> <p>Japanese side</p> <p>1. Experts (Long-term experts (Chief advisor, Coordinator, Wastewater Treatment, Environment Research, Chemical Analysis) and Short-term experts)</p> <p>2. C/Ps training in Japan (One or two person(s) yearly, and a couple of weeks to two months).</p> <p>3. Provision of Machinery, Equipment, and Materials (Car, Environmental research equipment, Neutralization Equipment, X-Ray Diffractometer, Atomic Absorption Spectrophotometer, Ion Chromatograph, etc.)</p>	<p>• C/Ps continue working for the Center</p> <p>• Necessary information is provided by related organization.</p> <p>• Customs clearance and transport procedure is not delayed.</p> <p>Preconditions Mining industries and inhabitants are cooperative for the investigation activities of the center</p>	

Activities	
1 The establishment of the organization.	<ul style="list-style-type: none"> a. Study and establish organization and institutional arrangement. a. Assign researchers and engineers. a. Secure the budget.
2. The procurement of facilities and equipment.	<ul style="list-style-type: none"> a. Procure equipment and materials. b. Install the equipment c. Learn the equipment operation. d. Carry out the equipment maintenance.
3. An environment chemical analysis is acquired.	<ul style="list-style-type: none"> a. Analysis is done in accordance with the manual. 1) Basic Technology 2) Sample analysis
4. The environment situation research	<ul style="list-style-type: none"> 1) Investigation of current situations <ul style="list-style-type: none"> a. Investigate the origin of the pollution. b. Investigate the pollution level. c. Analyze the pollution mechanism d. Compare the investigation result with the environmental quality standards. e. Survey the effect of the pollution. → Environmental mapping. 2) Water pollution monitoring plans are made. <ul style="list-style-type: none"> a. Make monitoring plan b. Examine water quality analysis models. c. Simulate water quality analysis. → Simulate selected area.
5. Mine wastewater treatment	<ul style="list-style-type: none"> 1) Introduction of mining environment administration <ul style="list-style-type: none"> a. Best practice environmental management in mining b. Importance of mining pollution prevention administration for sustainable production c. Role of the national and/or local governments (introduction of legal system, inspection, etc.) d. Support by government (introduction of subsidy and financing). e. Measures against the shutdown or abandoned mines (introduction of the law for special measures against metal mining pollution) 2) Introduction of mining pollution prevention technology. <ul style="list-style-type: none"> a. Overview the basic technology for mining pollution prevention. b. Explain the technology and regulations for mining pollution and preventions in Japan. → The master plan of the Potosi area is settled on and reviewed every year. 3) Master Plan <ul style="list-style-type: none"> a. Make a master plan (technical and for the measures against the mining wastewater) 4) Development of wastewater treatment <ul style="list-style-type: none"> a. Overview of the basic technology b. Decide the applicable technology. c. Research and develop the technology. d. Experiment in the laboratory. → Main pollution sources are selected, and put the sources through the test. 5) Plan for introduction of the technology <ul style="list-style-type: none"> a. Design the wastewater treatment total system. b. Examine the most suitable treatment condition for each origin of the pollution. c. Estimate cost for the treatment. d. Sum up the environmental impact. e. Examine how to implement the treatment (e.g. participation of national and/or local government, financial measures such as reserve fund, subsidy, donation, maintenance system) f. Make the conceptual design of the treatment plant(s). → Concept design toward the worst pollution source.
6. Basic technologies of mineral processing	<ul style="list-style-type: none"> 1) Measures against tailing and wastewater <ul style="list-style-type: none"> a. Examine the technology for neutralization with mine wastewater 2) Environmental chemical analysis <ul style="list-style-type: none"> a. Conduct environmental chemical analysis 3) Guideline for improving mineral processing productivity to deal with the environmental cost. <ul style="list-style-type: none"> a. Investigate the process and efficiency of the existing ingenios. b. Grasp the problems of the existing ingenios. c. Examine the measures to improve productivity d. Make and disseminate the guideline
7. Public relations and education for environmental conservation targeted Potosi people who works for mining, concentration, and the people relate to the mining activity... are conducted	<ul style="list-style-type: none"> a. The issue of public information manual. b. Holding of the seminar. c. Press release.

Five (5) Basic Evaluation Components

1. Five(5) Basic Evaluation Components

The five basic components defined by JICA as mentioned below are in line with those used for the evaluation works by DAC and other international assistance organization. Introduction of these components has enabled a consistent, well-balanced evaluation, which minimizes evaluator bias. Further, it allows us to share the results, knowledge and lessons with other aid organizations, since we are using common components and can discuss with them from same viewpoints.

(1) Efficiency

Evaluate the method, procedure, term and cost of the project with a view to productivity.

(2) Effectiveness

Evaluate the results in comparison with the goals (or revised ones) defined at the initial or intermediate stage, and evaluate the attributes (factor and conditions) of the results.

(3) Impact

Evaluate the positive and negative effects of the project, extent of the effects and beneficiaries.

(4) Relevance

Preliminary evaluate whether the needs in the country have been correctly identified, and whether the design is consistent with the national and/or master plan.

(5) Sustainability

Evaluate the autonomy and sustainability of the project after the termination of cooperation, from the perspective of operation, management, economy, finance and technology.

2. Relation between Five Basic Components and PDM

The following five components are used for the evaluation and a selection of a project.

(1) Efficiency

(2) Effectiveness

(3) Impact

(4) Relevance

(5) Sustainability

These components are directly connected to the elements of PDM as shown in the Figure in the following page.

The component "Efficiency" is a measure to qualitatively and quantitatively compares all resource (input) to the results (output) of the project in order to evaluate the economic efficiency

or conversion from input to output.

The parameter “Effectiveness” is a measure to evaluate whether the purpose has been achieved or not, or to evaluate how much the outputs contributed to the achievement of the purpose, or to evaluate whether or not the characteristics of the outputs were as expected.

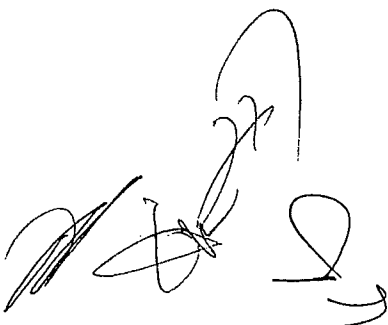
The parameter “Impact” is a foreseeable or unforeseeable, and a favorable or adverse effect of the project society. The evaluate impact, both the goal and project purpose should be referred to in beginning of the evaluation. Evaluation with this component could lead to more than the confirmation as whether or not the goals have been obtained. Evaluation with this component requires comprehensive surveys in many cases.

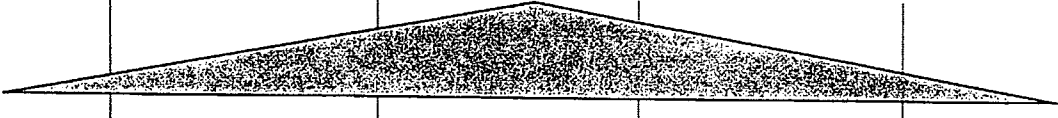
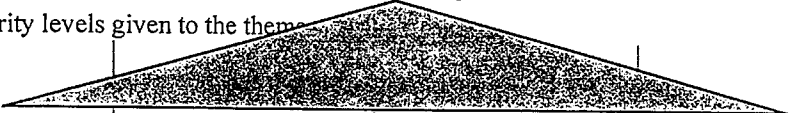
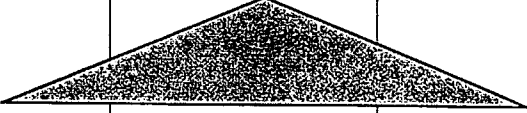

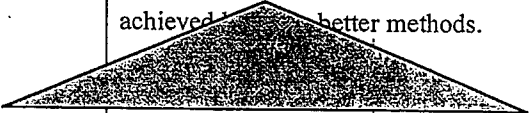
The parameter “Relevance” is to comprehensively evaluate whether or not the project meets the overall goals, politics of both the donor and recipient, local needs and given priority levels, in order to decide whether the project should be continued, reformulated or terminated.

The parameter “Sustainability” is to comprehensively evaluate how long the favorable effect as a result of the project can continue after the project has been terminated. Evaluation with this component is required to decide how much the local resources should continue to be used for the project, and to evaluate how much the country receiving the assistance has been considering important. According to OECD(1989), “Sustainability” is a component to be used for the final test of the success of a development project.

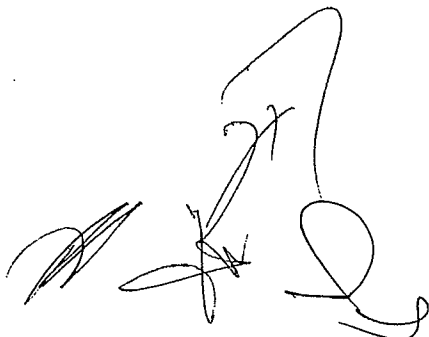
All five components are essential for any of the projects and programs. The five components give necessary information to the direction maker so that he/she can decide how to approach the next step. Since each of the five components build on the intervention strategy, they also lay the foundation for standardization in monitoring and information handling within and among organizations and agencies.

In practice, each of the five parameters should also contain project-specific information.

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<p>Sustainability: Evaluate the extent to which the positive effect as a result of the project will still continue after external assistance has been concluded.</p> 			
<p>Relevance: Evaluate the degree to which the project can still be justified in relation to the national and regional priority levels given to the theme.</p> 			
<p>Impact: Foreseeable or unforeseeable, and favorable or adverse effect of the project upon the target groups and persons possibly affected by the project.</p> 			
<p>Effectiveness: Evaluate the extent to which the purpose has been achieved or not, and whether the project purpose can be expected to happen on the basis of the outputs of the project.</p> 			
<p>Efficiency: Evaluate how the results stand in relation to the efforts and resources, how economically the resources were converted to the outputs, and whether the same results could have been achieved by better methods.</p> 			

Input	Output	Project Purpose	Overall Goals
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Function and Composition of Joint Coordinating Committee (Plan)

1. Function

The Joint Coordinating Committee (JCC) will be held at least once a year and whenever necessity arises. Its functions are as follows:

- (1) To settle on the Annual Plan of Operation (APO) of the Project in line with the Tentative Schedule of Implementation (TSI) and the Plan of Operation formulated under the framework of the Record of Discussions;
- (2) To coordinate necessary actions to be taken by both sides;
- (3) To review the overall progress of the project;
- (4) To exchange views on major issues arising from or in connection with the PO

2. Composition

(1) Chairperson

Project Supervisor (Viceminister of Environment, Natural Resources and Forest Development)

(2) Members

(Bolivian Side)

- (a) Project Director (Governor of Potosi Prefecture)
- (b) Viceminister of the Mining and Metallurgy
- (c) Project Manager (Director of the Mining Environmental Research Center)
- (d) Counterparts of Long-term Experts designated by Project Director
- (e) President of Tomas Frias Autonomous University
- (f) Other personnel concerned to be decided by Project Director, if necessary

(Japanese Side)

- (a) Chief Advisor
- (b) Coordinator
- (c) Other Japanese Experts designated by the Chief Advisor
- (d) Representative(s) of JICA Office in the Republic of Bolivia
- (e) Other personnel concerned to be decided and dispatched by JICA, if necessary

—Note: Official(s) of the Embassy of Japan may attend the Joint Coordinating Committee meeting as observer(s).

List of Attendants at the Meetings

Bolivian Side

(1) Potosi Prefecture

Mrs. María Rosario Vásquez

Governor

Mr. Ramiro B. Burgos

Director of Natural Resources and Environment

Mr. Noel Mercado Rodriguez

Unit Chief, Direction of Natural Resources and Environment

Mr. Rolando Torrez Romero

Technician Direction of Natural Resources and Environment

(2) VMARNDF

Mr. Hernán S. Cabrera F.

Viceminister

(3) VIPFE

Mr. Bernardo Requena B.

Viceminister

(4) Tomas Frias Autonomous University

Mr. German Lizarazu Pantaja

Principal, Tomas Frias University

Mr. Edwin Bejarano M.

Dean, Faculty of Mining Engineering

Mr. Freddy Llanos

Professor, Faculty of Mining Engineering

Japanese Side

(1) JICA Bolivia Office

Mr. Kazuo Nagai

Resident Representative

Mr. Tatsuaki Inoue

Assistant Resident Representative

Mr. Carlos Omoya

Chief Clerk

REGISTRO DE DISCUSIONES
ENTRE LA AGENCIA DE COOPERACION INTERNACIONAL DEL JAPON
Y
LAS AUTORIDADES CONCERNIENTES DEL GOBIERNO DE
LA REPUBLICA DE BOLIVIA
SOBRE LA COOPERACION TECNICA JAPONESA PARA
EL PROYECTO DEL CENTRO DE INVESTIGACION MINERO AMBIENTAL
EN LA REPUBLICA DE BOLIVIA

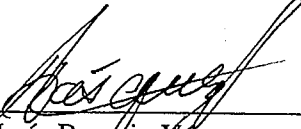
La Agencia de Cooperación Internacional del Japón (en adelante referida como "JICA") a través de su Director Representante Residente en Bolivia, tuvo una serie de conversaciones con las autoridades bolivianas competentes con relación a las medidas convenientes a ser adoptadas por ambos gobiernos para la implementación exitosa del Proyecto de "Centro de Investigación Minero Ambiental en la República de Bolivia" (en adelante referido como "el Proyecto").

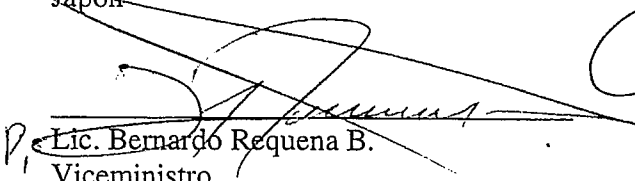
Como resultado de las conversaciones, y en conformidad con las disposiciones del Convenio de Cooperación Técnica suscrito entre el Gobierno del Japón y el Gobierno de la República del Bolivia, en fecha 22 de Marzo de 1978 en la ciudad de La Paz(en adelante referido como "El Convenio"), JICA y las autoridades bolivianas competentes acordaron recomendar a sus respectivos gobiernos los puntos mencionados en el documento adjunto.

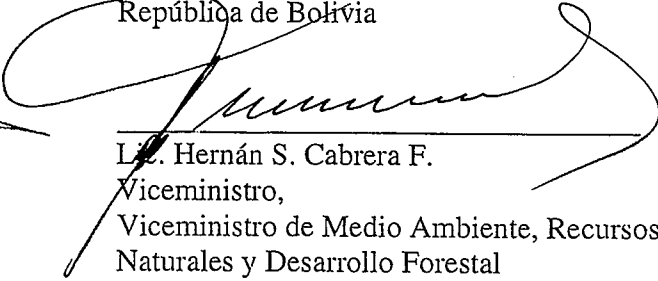
Este Registro de Discusiones ha sido elaborado en inglés y en español, siendo ambos válidos y auténticos. En caso de divergencia en su interpretación, el texto en inglés prevalecerá sobre el español.

Potosí, 7 de mayo de 2002


Ing. Kazuo Nagai
Director Representante Residente en Bolivia
Agencia de Cooperación Internacional del Japón
Japón


Lic. María Rosario Vázquez
Prefecto y Comandante
Prefectura del Departamento de Potosí
República de Bolivia


Lic. Bernardo Requena B.
Viceministro,
Viceministerio de Inversión Pública y
Financiamiento Externo
Ministerio de Finanzas
República de Bolivia


Lic. Hernán S. Cabrera F.
Viceministro,
Viceministerio de Medio Ambiente, Recursos
Naturales y Desarrollo Forestal
Ministerio de Desarrollo Sostenible y
Planificación
República de Bolivia

DOCUMENTO ADJUNTO

I. COOPERACION ENTRE AMBOS GOBIERNOS

1. El Gobierno de la República de Bolivia implementará el Proyecto del "Centro de Investigación Minero Ambiental en la República de Bolivia" (en adelante referido como "el Proyecto") en cooperación con el Gobierno de Japón.
2. El Proyecto será implementado de conformidad con el Plan Maestro que se indica en el Anexo I.

II. MEDIDAS A SER ADOPTADAS POR EL GOBIERNO DEL JAPON

En conformidad con las leyes y reglamentaciones vigentes en el Japón y las disposiciones del Artículo II del Convenio, el Gobierno del Japón tomará, por su propia cuenta, las siguientes medidas a través de JICA, de acuerdo con los procedimientos normales del esquema de Cooperación Técnica del Japón.

1. ENVIO DE EXPERTOS JAPONESES

El Gobierno de Japón proporcionará los servicios de los Expertos Japoneses como se menciona en el Anexo II. Las disposiciones del Artículo VIII del Convenio se aplicarán a los expertos arriba mencionados.

2. SUMINISTRO DE MAQUINARIA Y EQUIPAMIENTO

El Gobierno de Japón suministrará maquinaria, equipamiento y otros materiales (en adelante referido como "el Equipamiento") necesarios para la implementación del Proyecto, del modo indicado en el Anexo III. Las disposiciones del Artículo IX - 1 del Convenio serán aplicadas al Equipamiento.

3. CAPACITACION DEL PERSONAL BOLIVIANO EN JAPON

El Gobierno de Japón recibirá al personal boliviano relacionado con el Proyecto para su capacitación técnica en el Japón.

III. MEDIDAS A SER ADOPTADAS POR EL GOBIERNO DE LA REPUBLICA DE BOLIVIA

1. El Gobierno de la República del Bolivia adoptará las medidas necesarias para asegurar que la operación autónoma del Proyecto pueda ser mantenida durante y después del período de la cooperación técnica japonesa, a través de la participación plena y activa en el Proyecto de todas las autoridades, grupos beneficiarios e instituciones relacionadas.
2. En conformidad con las disposiciones del Artículo IV del Convenio, el Gobierno de la República de Bolivia asegurará que las tecnologías y conocimientos adquiridos por los nacionales bolivianos, como resultado de la cooperación técnica japonesa, contribuyan al desarrollo económico y social de la República de Bolivia.
3. En conformidad con las disposiciones de los Artículos V y VI del Convenio, el Gobierno de la República de Bolivia otorgará, en el territorio de ésta última, los privilegios, exenciones y beneficios a los Expertos Japoneses mencionados en el Artículo II-1, así como a sus familiares.
4. En conformidad con las disposiciones del Artículo IX del Convenio, el Gobierno de la República de Bolivia tomará las medidas necesarias para recibir y usar el Equipamiento suministrado a través de JICA, bajo el Artículo II-2 arriba mencionado, y el equipamiento, maquinaria y material introducidos por los Expertos Japoneses, referidos en el Artículo II-1 arriba mencionado.
5. El Gobierno de la República de Bolivia tomará las medidas necesarias para asegurar que los conocimientos y experiencias adquiridos por el personal boliviano que participará de la capacitación técnica en el Japón, será utilizado eficazmente para la ejecución del Proyecto.
6. En conformidad con las disposiciones del Artículo V – 1 – (b) del Convenio, el Gobierno de Bolivia proveerá los servicios del personal de contraparte boliviano y personal de soporte, como se detalla en el Anexo IV.
7. En conformidad con lo estipulado en el Artículo V – 1 – (a) del Acuerdo, el Gobierno de la República de Bolivia suministrará los edificios e instalaciones listados en el Anexo V.

8. En conformidad con las leyes y reglamentos vigentes en la República de Bolivia, el Gobierno de Bolivia tomará las medidas necesarias para suministrar o reemplazar por su cuenta las maquinaria, equipamientos, instrumentos, vehículos, herramientas, repuestos y cualquier otro material necesario para la ejecución del Proyecto, salvo el Equipamiento proporcionado mediante JICA de acuerdo con el inciso II-2 arriba mencionado.
9. En conformidad con las leyes y reglamentos vigentes en la República de Bolivia, el Gobierno de la República Bolivia tomará las medidas necesarias para cubrir los gastos corrientes de operación necesarios para la ejecución del Proyecto.

IV. ADMINISTRACION DEL PROYECTO

1. El Viceministro de Medio Ambiente, Recursos Naturales y Desarrollo Forestal, como el Supervisor del Proyecto, asumirá la responsabilidad de la coordinación e implementación de las acciones y procedimientos desde el punto de vista de la política nacional.
2. El Prefecto del Departamento de Potosí, como Director del Proyecto, asumirá la responsabilidad global de administración y ejecución del Proyecto.
3. El Director de Centro de Investigación Minero Ambiental, como Administrador del Proyecto, asumirá la responsabilidad en los aspectos administrativos y técnicos del Proyecto.
4. El líder del equipo japonés (Jefe Asesor) proveerá recomendaciones y consejo necesarios al Supervisor del Proyecto, al Director del Proyecto y al Administrador del Proyecto, sobre cualquier aspectos correspondientes a la ejecución del Proyecto.
5. Los expertos japoneses proporcionarán orientación y asesoramientos técnicos necesarios al personal boliviano de contraparte, sobre aspectos técnicos concernientes a la ejecución del Proyecto.
6. Para la ejecución efectiva y exitosa de la cooperación técnica del Proyecto, el Comité de Coordinación Conjunta será constituido, con las funciones y composición que se describen en los Anexos VI y VII respectivamente.

V. EVALUACION CONJUNTA

La evaluación del Proyecto será realizada conjuntamente por los dos Gobiernos, a través de JICA y de las autoridades bolivianas competentes, a la mitad y el último semestre del período de cooperación, para examinar el nivel de cumplimiento.


VI. RECLAMOS A LOS EXPERTOS JAPONESES

En conformidad con las disposiciones del Artículo VII del Convenio, el Gobierno de la República de Bolivia, se hará cargo de los reclamos, en caso que surgieren contra los Expertos Japoneses dedicados a la cooperación técnica del Proyecto, resultantes o emergentes o de otro modo relacionados con el desempeño de sus funciones oficiales en la República de Bolivia, a excepción de los derivados debido a la conducta ilícita, deliberada o negligencia culpable de los Expertos Japoneses.

VII. CONSULTA MUTUA

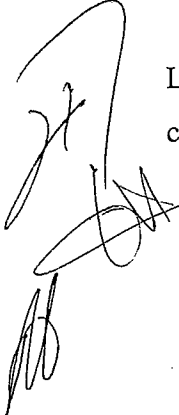
Habrá consulta mutua entre ambos Gobiernos, sobre cualesquiera cuestiones importantes emergentes de o en conexión con este Documento Adjunto.

VIII. MEDIDAS PARA PROMOVER ENTENDIMIENTO Y RESPALDO PARA EL PROYECTO



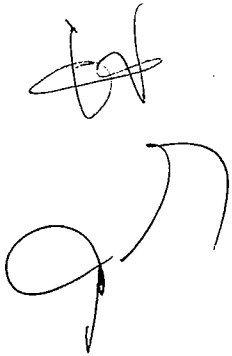
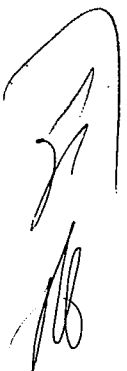
Con el fin de promover el respaldo del pueblo boliviano al Proyecto entre los ciudadanos de la República de Bolivia, el Gobierno de la República de Bolivia tomará las medidas apropiadas para que el Proyecto sea divulgado ampliamente entre los ciudadanos de la República de Bolivia.

IX. PERIODO DE COOPERACION



La duración de la cooperación técnica para el Proyecto bajo este Documento Adjunto será de cinco (5) años a partir del primero de julio de 2002.

ANEXO I	PLAN MAESTRO
ANEXO II	LISTA DE EXPERTOS JAPONESES
ANEXO III	LISTA DE MAQUINARIA Y EQUIPAMIENTO
ANEXO IV	LISTA DE PERSONAL CONTRAPARTE Y DE SOPORTE BOLIVIANO
ANEXO V	LISTA DE INFRAESTRUCTURA E INSTALACIONES
ANEXO VI	COMITE DE COORDINACION CONJUNTA

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ANEXO I PLAN MAESTRO

OBJETIVO SUPERIOR

La Administración y tecnología establecidas en el Centro para reducir la contaminación de agua causada por la industria minera, están difundidas en otras regiones en Bolivia.

OBJETIVO GLOBAL

La Contaminación de agua causada por la industria minera está reducida y prevenida.

PROPOSITO DEL PROYECTO

El Sistema de administración y tecnología apropiados para Potosí para reducir la contaminación de agua causada por la industria minera están establecidos.

LOGROS ESPERADOS DEL PROYECTO

1. La organización del Centro está establecida.
2. Las instalaciones y equipos necesarios para las actividades del Centro están introducidos y mantenidos apropiadamente.
3. La contraparte boliviana realiza análisis químicos de la contaminación minera.
4. La situación ambiental en el área minera de Potosí está investigada por contraparte y estudios de caso están acumulados.
5. La tecnología para tratamiento de aguas de deshecho relacionada con las actividades mineras está elaborada y llevada a cabo por contraparte.
6. La tecnología básica de procesamiento de minerales está realizada por la contraparte.
7. Relaciones públicas y educación para conservación ambiental hacia el pueblo de Potosí, que trabaja en minería, concentración, y actividades con relación a la minería están realizadas.

ACTIVIDADES DEL PROYECTO

Las actividades necesarias para alcanzar los logros serán ejecutadas

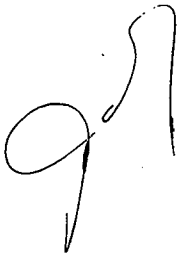
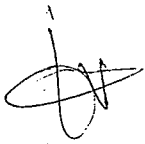
ANEXO II LISTA DE EXPERTOS JAPONESES

(1) Expertos de largo plazo

- (a) Jefe Asesor (5 años)
- (b) Coordinador (5 años)
- (c) Tratamiento de Aguas de deshecho (5 años)
- (d) Análisis Químico (2 años)
- (5) Estudios Ambientales (2 años)

(2) Expertos de corto plazo

Expertos de corto plazo serán despachados en las áreas relacionadas con la transferencia de tecnología según necesidades.

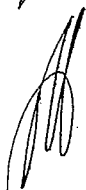
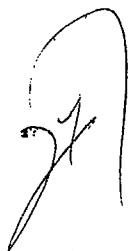
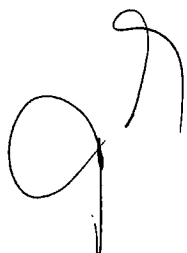


ANEXO III LISTA DE MAQUINARIA Y EQUIPAMIENTO

La maquinaria y equipamiento necesarios para la transferencia de tecnología realizada por los Expertos japoneses son:

1. Maquinaria y equipamiento para
 - (1) Estudios ambientales
 - (2) Tratamiento de aguas de deshecho relacionado con minería
 - (3) Análisis químico

2. Otros equipamiento y materiales que serán acordados mutuamente para la implementación ejecutiva del Proyecto.



ANEXO IV LISTA DE PERSONAL CONTRAPARTE Y DE SOPORTE BOLIVIANO

1. Personal de Contraparte

Supervisor del Proyecto

Director del Proyecto

Administrador del Proyecto

Contraparte Técnicos (10 personas)

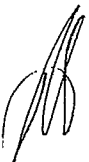
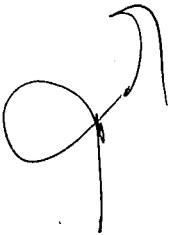
2. Personales de Soporte

Funcionarios administrativos

Funcionarios para apoyo técnico

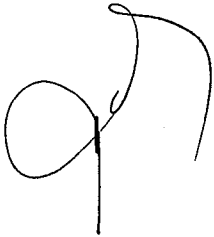
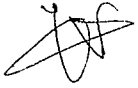
Secretarias

Choferes (2 personas)



ANEXO V LISTA DE INFRAESTRUCTURA E INSTALACIONES

1. Laboratorios, aulas y salas de reunión necesarias para transferencia de tecnología
2. Infraestructura, instalaciones y espacio necesarios para instalación y almacenamiento de maquinaria, equipamiento y materiales proveídos por el gobierno del Japón
3. Espacio de oficina e instalaciones necesarias para Expertos japoneses
4. Otras instalaciones cuya necesidad sea acordada mutuamente



ANEXO VI COMITE DE COORDINACION CONJUNTA

1. Funciones

El Comité de Coordinación Conjunta se reunirá por lo menos una vez al año y cualquier momento necesario;

- (1) Formular el plan anual de trabajo del Proyecto dentro del marco del Cronograma Tentativo de Ejecución y del Plan de Operación formulado bajo el marco del Registro de Discusiones;
- (2) Coordinar acciones necesarias que sean asumidas por ambas partes
- (3) Revisar el avance global del Proyecto
- (4) Intercambiar puntos de vista sobre los aspectos de mayor importancia surgidos por o en relación con el Plan de Operación

2. Composición

(1) Presidente:

Supervisor del Proyecto (Viceministro de Medio Ambiente, Recursos Naturales y Desarrollo Forestal)

(2) Miembros

(Parte boliviana)

- (a) Director del Proyecto (Prefecto del Departamento de Potosí)
- (b) Viceministro de Minería y Metalurgia
- (c) Administrador del Proyecto (Director del Centro de Investigación Minero Ambiental)
- (d) Contraparte de Expertos de largo plazo, designados por Director del Proyecto
- (d) Rector de la Universidad Autónoma Tomás Frías
- (e) Otros personales correspondientes que sean nominados por el Director del Proyecto, en caso de necesidad

(Parte Japonesa)

- (a) Jefe Asesor
- (b) Coordinador
- (c) Otros expertos japoneses nominados por el Jefe Asesor
- (d) Representante(s) de la Oficina de JICA en la República de Bolivia
- (e) Otros personales correspondientes que sean nominados y despachados por JICA cuando sea necesario

-Nota: Oficial(es) de la Embajada del Japón en Bolivia podrán asistir a las reuniones del Comité de Coordinación Conjunta como observador(es).

