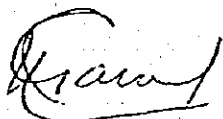


資料3 MINUTES OF MEETINGS

MINUTES OF MEETINGS  
ON  
SCOPE OF WORK  
FOR  
THE STUDY  
ON  
INTEGRATED RIVER IMPROVEMENT  
OF  
THE ORINOCO RIVER  
IN  
THE REPUBLIC OF VENEZUELA

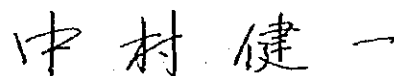
AGREED UPON BETWEEN  
THE MINISTRY OF ENVIRONMENT AND NATURAL RENEWABLE RESOURCES  
AND  
THE JAPAN INTERNATIONAL COOPERATION AGENCY

Caracas, April 22, 1998



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Mr. Juan Jose Garcia S.  
General Director, Direccion General Sectorial  
del Programa Orinoco-Apure (PROA),  
Ministerio del Ambiente y de los Recursos  
Naturales Renovables



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Mr. Kenichi Nakamura  
Leader of the Preparatory Study Team,  
Japan International Cooperation  
Agency (JICA)

## **1. Introduction**

In response to the request of the Government of the Republic of Venezuela (hereinafter referred to as "the Government of Venezuela"), the Preparatory Study Team (hereinafter referred to as "the Team") of Japan International Cooperation Agency (hereinafter referred to as "JICA") visited Venezuela from April 10 to April 29, 1998 to discuss the Scope of Work (hereinafter referred to as "S/W") for the Study on Integrated River Improvement of the Orinoco River in the Republic of Venezuela (hereinafter referred to as "the Study").

The Team carried out field surveys of the study area and held a series of discussions with the authorities concerned of Ministry of Environment and Natural Resources (hereinafter referred to as "the MARNR") and other organizations.

The list of attendants is mentioned in the Appendix I.

The Minutes of Meetings have been prepared for the better understanding of S/W agreed upon between the MARNR and the Team on April 22, 1998, summarizing main points of the discussions made in the course of the preparation of S/W.

## **2. Study Title**

Both sides agreed that the title of the Study would be "the Study on Integrated River Improvement of the Orinoco River in the Republic of Venezuela" as described in S/W.

## **3. Objectives of the Study**

Both sides agreed that the Study would be carried out of improving the river and stabilizing the navigation channels for transportation mainly from Ciudad Guayana to coastal area of the Orinoco delta.

## **4. Formulation on Alternatives for River Improvement**

The MARNR requested that alternatives for river improvement would be formulated based on mathematical models. The Team replied that the subject would be determined in the course of the Study.

## **5. Port Plan**

Both sides agreed that port plan including location and capacity relevant to the Study would be considered for formulation of the master plan within the minimum requirements. Further, the port plan would be confirmed based on the data and information provided from Venezuelan side.

## **6. Target Year for the Master Plan**

Both sides agreed that the target year for the Study would be approximately set in the year of 2020. The subject would be determined in the course of the Study.

## **7. Counterpart Agencies**

The MARNR shall act as the counterpart agency as described in the S/W.

Besides, both sides agreed that the MARNR would coordinate other ministries and organizations concerned to get maximum cooperation from these organizations as well as to avoid any duplicated works. Both sides also agreed that the MARNR would establish Working Group(s) to achieve the above mentioned coordination for the smooth implementation of the Study.

## **8. Undertakings of the Government of Venezuela**

(1) It was confirmed that the MARNR would secure the full support and participation of organizations concerned in the course of the Study.

(2) It was confirmed that the MARNR would assign the appropriate number of counterpart personnel to the JICA Study Team with the following fields. The numbers and fields of counterpart personnel will, however, be finalized by the MARNR and the JICA Study Team in discussions at the commencement of the Study.

- a. Supervision
- b. Hydrology
- c. Hydraulic Analysis
- d. River Engineering
- e. Coastal Engineering
- f. Port Engineering
- g. Dredging
- h. Transportation and Navigation
- i. Cost Estimation
- j. Construction Plan
- k. Environment
- l. Economic / financial analysis
- m. Institutional Development
- n. Coordination for the JICA Study Team
- o. Others

(3) The Team requested that the MARNR would provide suitable office space with necessary equipment in Caracas, and sufficient numbers of vehicles with drivers for the Study. The MARNR accepted to provide suitable office space with necessary equipment (desk, chairs, filing cabinets, and other appropriate office equipment), electricity and telephones, but the MARNR expressed concern that, due to budgetary constraints, it would be difficult to provide appropriate number of vehicles with drivers. The Team promised to convey the request to JICA Headquarters for consideration.

#### **9. Technology Transfer**

The MARNR expressed a strong wish of technology transfer relevant to river improvement such as mathematical models, analysis and planning methods, regulations, and management systems, through the implementation of the Study.

#### **10. Counterpart Training**

The MARNR requested JICA conduct counterpart training in Japan, in addition to on-the-job-training, for the purpose of the smooth transfer of technology during the Study. The Team agreed to convey the request to JICA Headquarters for consideration.

#### **11. Technology Transfer Seminars**

The MARNR requested JICA hold seminars based on the experience obtained from the Study as a part of the technology transfer in the course of the Study. The Team recognized the necessity and promised to convey the request to JICA Headquarters for consideration.

#### **12. Reports**

As for the Study reports, the MARNR agreed to make them open to the public in order to achieve maximum use of the Study results.

The MARNR requested JICA provide reports in Spanish for better understanding of the Study results. The Team recognized the necessity and promised to convey the request to JICA Headquarters for consideration.

### 13. JICA's Development Study Program

The Team explained JICA's Development Study Program and the MARNR fully understood the program.



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**List of Attendants**

Name	Organization / Official Title
<b>COORDIPLAN</b>	
Ricardo Veronelli Cruz	Direccion de Gestion de Cooperacion Tecnica
<b>MARNR / PROA</b>	
Rafael Martinez Monro	Minister of MARNR
Maria Rincones C.	General Director of MARNR
Juan Jose Garcia	Director General Sectorial de PROA
Luis Andres Mejia Montoya	Director de Ingenieria, PROA
Adalberto Nunez	Director de Planes y Gestion de Proyectos
Carmen Velasquez de Visbal	Directora de Coordinacion de Asuntos Internacionales, Oficina de Desarrollo Profesional y Relaciones Internacionales (ODEPRI)
Maria Josefina Rodriguez	Directora de Promocion y Cooperacion Inter-institucional, PROA
Antonio Esclapes	Consultor
<b>INC</b>	
Miguel Angel Alvarez	INC- DPI Director
Noema I Morales Rivera	INC- DPI Ing. Civil
Cruz Landaeta	INC- DPI Ing. Civil
Roberto Peralta	INC- DPI Geografo
Guillermo Leal	INC- DPI Ing. Mecanico
Maria Cueto	INC- P. Ordaz, Jefe. Division de Produccion
Juan Carlos Rojas	INC- P. Ordaz, Jefe. Dpto. Investigacion
Francisco Gonzalez	INC- P. Ordaz, Jefe. Dpto. Dragado
<b>LNH</b>	
Norberto Diaz	Director, LNH
<b>FERROMINERA</b>	
Cesar Del Castillo	Gerente Ope. Fluviales
<b>Embassy of Japan</b>	
Hiroyuki HIRAMATSU	Ministro Consejero
Masao KANDO	First Secretary
Ikuo TAKAHASHI	Depto. de Cooperacion Tecnica
<b>JICA Expert</b>	
Tatsuro FUKUDA	PROA
<b>JICA Preparatory Study Team</b>	
Kenichi NAKAMURA	Team Leader
Motoyuki AYAKI	Member
Ryuichi KUWAJIMA	Member
Katsuyoshi SAITO	Member
Seiichi YAMAKAWA	Member
Seizou YAMADA	Member
Tomoe FUJIMOTO	Member

資料4 主要面会者リスト

Name	Organization / Official Title
<b>COORDIPLAN</b>	
Ricardo Veronelli Cruz	Direccion de Gestion de Cooperacion Tecnica
<b>MARNR</b>	
Rafael Martinez Monro	Minister of MARNR
Maria Rincones C.	General Director of MARNR
Jose Montilla	Regional Director / Delta Amacuro- MARNR
<b>MARNR / PROA</b>	
Juan Jose Garcia	Director General Sectorial, PROA
Adalberto Nunez	Director de Planes y Gestion de Proyectos, PROA
Carmen Velasquez de Visbal	Directora de Coordinacion de Asuntos Internacionales, ODEPRI, PROA
Maria Josefina Rodriguez	Directora de Promocion y Cooperacion Inter-institutional, PROA
Antonio Esclapes Perez	Ing. Civil, Consultor, PROA
Luis Andres Mejia Montoya	Director de Ingenieria, PROA
Xiomara Graterol H.	Hidrometeorologista, Direccion de Hidrologia y Meteorologia
Piomaya Rosales de Gonzalez	Administrator, SAGECAN
Nieves Almeida	Ingeniero, SAGECAN
Guido Gonzalez	Perlodista, SAGECAN
Carmen Meneses	Ingeniero, SAGECAN
Wilmer Franco Marin	Geografo / coondivador, SAGECAN
Miguel Luna	Direction de Ordenacion del Territono, POR
Magdalena Teixeira	Jefe, Division de Estudios de IMPACTO AMBIENTAL
<b>INC</b>	
Gonzalo Jusus Gomez Jaen	Vicealmirante, Presidente
Miguel Angel Alvarez	DPI Director of Project Investigation Research
Noema I Morales Rivera	DPI Ing. Civil
Cruz Jose Landaeta	DPI Ing. Civil
Guillermo Leal	DPI Ing. Mecanico
Roberto Peralta	DPI Geografo
Maria Cueto	Jefe. Division de Produccion, Puerto Ordaz
Juan Carlos Rojas	Jefe. Dpto. Investigacion, Puerto Ordaz
Francisco Gonzalez	Jefe. Dpto. Dragado, Puerto Ordaz
<b>FERROMINERA</b>	
Cesar Del Castillo	Gerente de Operaciones Fluviales
<b>DELTA AMACRO PROVINCE</b>	
Emeri Mata Millan (Ing.)	Governor
Valerio D'amico	Secretario General de Gobierno. G.E.
Alcides Correa	Director de Politica Gobernacion
George Guzman (Ing.)	Director de Minas y Ambiente
<b>LNH</b>	
Norberto J. Diaz Garcia	Director
Robento Savelli	Ingeniero
Carlos Corrales B.	Ingeniero
Zorely Munoz	Ingeniera
<b>WORLD BANK</b>	
Keisgner Alfaro	Especialista Sectorial

Name	Organization / Official Title
<b>Embassy of Japan</b>	
Hiroyuki HIRAMATSU	Ministro Consejero
Masao KANDO	First Secretary
Ikuo TAKAHASHI	Depto. de Cooperacion Tecnica
<b>JICA Expert</b>	
Tatsuro FUKUDA	MARNR, PROA

資料 5 質問表及び回答

I. GENERAL (1/2)	ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
1. Background	The relationship between ;				
(1) The National Policy and the Project			Y	COORDIPLAN	The Ninth National Development Plan
(2) The National Development Plan and the Project			Y	CVG/Delta Amacro Province	
(3) The Regional / Provincial Development Plan and the Project			Y	PROA	Refer to the TOR
2. Outline of the Project			N	INC	
1) Area			Y		
2) Target Year			N		
3) River / Navigation Canal Improvement Plan			Y		
- Puerto Ordaz - Boca Grande					
- New Navigation Canal in the Orinoco Delta					
- Rehabilitation of the Macarao Canal					
- New Transportation System with New Deep Sea Transshipping Facility					
- Relevant Reports					
- Relevant Drawing & Survey Data					
4) Navigation System Improvement Plan		River Profile & Cross Section, Plan,	Y	CVG	
5) Flood Protection / Management Plan					
- Master Plan including Basinwide					
- Necessity of Formulation					
- Design Flood Discharge					
6) Delta Development Plan			Y	Delta Amacro Province	
- Drainage System					
- Industry					
- Energy & Water Supply					
- Transportation					
- Agriculture					
- Fisheries		Fishing Boat, Fish Market, etc.			
- Urban / Rural					
- New Sea Port					
7) Prospective Funding Source			N		
8) External Aid / Assistance to the Basin			N		



**I. GENERAL (2/2)**

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
<p>3. Organization / Agency The relationship between :</p> <ul style="list-style-type: none"> <li>(1) Organization / Agency responsible for the Project               <ul style="list-style-type: none"> <li>- The Study</li> <li>- The Implementation / Construction</li> <li>- Operation / Maintenance</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1) River Improvement Facility</li> <li>2) Navigation Canal Facility</li> </ul>	<p>Y</p> <p>-</p> <p>-</p>	<p>PROA</p> <p>Not decided</p> <p>Not decided</p>	
<p>(2) Organization / Agency responsible for the Delta Development Plan</p>		<p>Y</p>	<p>CVG &amp; Delta Amacuro Province</p>	<p>River / INC, Land / MTC Respective CVG's Enterprises</p>
<p>(3) Organization / Agency responsible for the Relevant Projects</p>	<ul style="list-style-type: none"> <li>1) River / Land Transportation System</li> <li>2) Port Facility</li> <li>3) Deep Sea Transshipping Facility</li> <li>4) Mining Exploitation</li> </ul>	<p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p>	<p>CVG</p> <p>CVG-Ferrominera</p> <p>CVG</p>	
<p>(4) Chart of the Respective Organization / Agency</p>		<p>Y</p>	<p>PROA, INC, CVG, etc.,</p>	
<p>4. Existing River / Navigation Canal &amp; Facilities in the Orinoco Delta &amp; Vicinity</p>		<p>Y</p>	<p>PROA</p>	
<p>(1) Outline of River System</p> <p>(2) Outline of Navigation Canal System</p>	<ul style="list-style-type: none"> <li>1) Rio Grande - Boen Grande</li> <li>2) Macarico Canal</li> <li>3) Other Major Canals</li> </ul>	<p>Y</p> <p>Y</p> <p>-</p>	<p>INC</p> <p>INC</p> <p>-</p>	
<p>(3) Outline of Port and Transshipping System</p>	<ul style="list-style-type: none"> <li>1) On Orinoco River</li> <li>2) On Seashore</li> </ul>	<p>Y</p> <p>-</p>	<p>CVG</p> <p>-</p>	
<p>(4) Major Issues / Problems Relevant to the Projects</p>	<p>Including Flood Damage &amp; Drought</p>	<p>Y</p>	<p>PROA, INC, CVG, etc.,</p>	
<p>5. Others</p> <ul style="list-style-type: none"> <li>(1) Tariff (including Loading / Unloading) &amp; Anchorage (Charge)</li> <li>(2) Water Supply for Ports &amp; their Vicinity</li> <li>(3) Electricity Supply for Ports &amp; their Vicinity</li> </ul>	<p>Navigation Canal</p>	<p>Y</p> <p>Y</p> <p>Y</p>	<p>INC</p> <p>INC</p> <p>INC</p>	<p>Port Facility belongs to CVG's Enterprises</p> <p>Port Facility belongs to CVG's Enterprises</p> <p>Port Facility belongs to CVG's Enterprises</p>

## II. Annual / Statistical Report

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
1. Year Book / Statistical Report of Venezuela (Annual Report)	1) The Latest Report Partially available	Y	E.I.U.	Country Profile: Venezuela / 1996-97
2. Statistical Records of Orinoco River Basin	Economy, Industry, Population	Y	CVG	E.I.U. = Economist Intelligence Unit
3. Year Book / Annual Report on Flood & River Maintenance		N		
4. Year Book / Annual Report on Cargo Transportation & Navigation Activities	1) Domestic 2) International including Colombia	Y	MTC	
5. Annual Report on Sea / River Port including Transshipping Facility	1) Facility 2) Maintenance	Y	MTC/CVG	
		Y	MTC/CVG	

### III. Cargo Transportation (1/2)

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
(1) Movement of Outbound Cargo Vessel by Type of Cargo, Size of Vessel, Country (Destination), etc. - Scale of Export - Type of Shipment		Y Y	MTC MTC	
(2) Deposit of Major Mineral Resources in the Basin - Location of Major Mineral Resources - Plan of Exploitation - Product (Cargo) Transportation - Production Cost - Cost of End User (Destination Country) - International Market Price	Partially available	Y - - Y	Ministerio de Energia y Minas  E.I.U.	Country Profile: Venezuela / 1996- 97 E.I.U. = Economist Intelligence Unit
(3) Cargo Movement (Transportation) in the Basin by River Transportation - Present Situation (including Loading / Unloading System) - Forecast	Type of Cargo, Volume, Origin, Destination, etc.	Y Y -	INC INC -	
(4) Cargo Movement (Transportation) in the Basin by Land Transportation - Present Situation (including Loading / Unloading System) - Forecast	Partially available Partially available	Y Y -	CVG CVG -	
(5) Transshipping System of River Transportation in the River Basin - Previous Record - Main Issues on Implementation		Y Y Y	CVG CVG CVG	
(6) Transshipping System of Outbound Shipment - Previous Record - Main Issues on Implementation		Y Y Y	CVG CVG CVG	

III. Cargo Transportation (2/2)	ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
(7) Major Issues of Upgrading Efficiency of River Transportation System / Facility	<ul style="list-style-type: none"> <li>- Mode of Transportation System</li> <li>- Navigation Canal (River)</li> <li>- River Port Facility</li> <li>- Transshipping Facility</li> <li>- Request from the User (Shipping Agent)</li> </ul>	Chain Barges	Y		
(8) Major Issues of Upgrading Efficiency of Sea Transportation System / Facility	<ul style="list-style-type: none"> <li>- Navigation Canal (Sea)</li> <li>- Sea Port Facility</li> <li>- Transshipping Facility</li> <li>- Request from the User (Shipping Agent)</li> </ul>		Y	INC	
(9) Design Canal (Navigation) Capacity	<ul style="list-style-type: none"> <li>- Target Vessel (Scale, Draft, Cargo)</li> </ul>		Y	CVG-Ferrominera INC	
(10) Economic Justification for Upgrading of River Transportation System					

IV. Basic Data Collection (1/2)

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
<p>1. Maps</p> <p>1) Topographical Maps</p> <ul style="list-style-type: none"> <li>- 1/100,000</li> <li>- 1/50,000</li> <li>- 1/25,000</li> <li>- 1/10,000</li> </ul> <p>- 1/5,000 and so on</p> <p>2) Map of Coastal Area (Along Delta)</p> <p>3) Land Use Map</p> <p>4) Geological Map</p> <p>5) Soil Classification Map</p> <p>6) Inundation (Flood Damage) Map</p> <p>7) Design Map of River Control Facility, Flood Protection Facility, Road, Railway &amp; Bridges</p> <p>8) General Map of the Project Proposed by IDB (M/P for the Development of Navigation on the Orinoco-Apure Axis)</p>	<p>Some parts of coastal area are not covered</p> <p>Navy possess some maps of coastal area</p>	<p>Y</p> <p>N</p> <p>Y</p> <p>N</p> <p>N</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>N</p> <p>N</p>	<p>PROAJINC</p> <p>DCN</p> <p>DIGECAFA PRO</p> <p>Ministerio de Energia y Minas Ministerio de Energia y Minas</p>	<p>Direction de Cartografia Nacional</p> <p>Navy Mapping Section</p>
<p>2. Aero Photographs Covering the Lower Reaches of Orinoco River Basin</p>	<p>1) Scale</p> <p>2) Date of Survey</p> <p>3) Company / Agency conducted the Survey</p>	<p>Y</p>	<p>DCN</p>	<p>Scale 1: 20,000, 1974 &amp; 1983</p>
<p>3. Satellite Image Covering the Lower Reaches of Orinoco River Basin</p> <p>- if not available:</p> <ul style="list-style-type: none"> <li>* Most Probable Source</li> <li>* Costs</li> <li>* Time of Delivery</li> </ul>	<p>1) Date of Survey</p> <p>2) Relevant Agencies</p>	<p>Y</p>	<p>SAGECAN/INC</p>	
<p>4. Reference Point for Survey</p>	<p>Bench Marks, Triangulation Stations</p>	<p>Y</p>	<p>DCN</p>	<p>Tucupita in Delta Amacoro Province</p>
<p>5. Meteorological Data &amp; Records</p>	<p>Location Map of Observation, Observation Period etc.,</p> <p>1) Precipitation (Annually, monthly, daily &amp; hourly)</p> <p>2) Temperature</p> <p>3) Humidity</p>	<p>Y</p>	<p>MARNR- Direccion de Hidrologia y Meteorologia</p>	

IV. Basic Data Collection (2/2)

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
5. Meteorological Data & Records	4) Sunshine 5) Wind (Velocity, direction) 6) Evaporation / Evapotranspiration Location Map of Observation, Observation Period etc.,	Y	MARNR- Direccion de Hidrologia y Meteorologia	
6. Hydrological / hydrogeological Data	(1) Water Level & Discharge (2) Rating Curve (H - Q Curve) (3) Tidal Level at River Mouth (4) Groundwater Level (5) Sedimentation Data	Y	MARNR- Direccion de Hidrologia y Meteorologia	
7. Geological Data	1) Suspended Load 2) Bed-load 1) Geological Profile & Section 2) History of Geology 3) Land Subsidence	Y Y N	MARNR, INC MARNR, INC MARNR, INC INC, PROA Ministerio de Energia y Minas Ministerio de Energia y Minas	
8. River Bed Material Data	1) Location of Survey 2) Sieve Analysis 3) River Bed Profile	Y Y Y	MARNR, INC MARNR, INC MARNR, INC	
9. Hydropower Development Plan of The Basin	- Basinwide - Caroni River Basin - Operation Plan of Geni H.P., Reservoir & Discharge Data Including Columbia, if available Outline of Power Station, Dam & Reservoir H.P. = Hydropower Plant	Y Y	CVG-EDELCA CVG-EDELCA	
10. Natural Disaster	(1) Heavy Rainfall (2) Flooding / Inundation (3) Coastal Erosion (4) Tidal Waves (5) Earthquake History, Location, Damage, etc.	Y Y N Y	MARNR- Direccion de Hidrologia y Meteorologia PROA	

V. Major Flow Control / Flood Protection Facility

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
1. Major Flow Control Facility (1) Location (2) Design Capacity (3) Year of Construction & Cost (4) Drawing & Dimension (5) Record of Maintenance (6) Maintenance Cost	Jetty (Outgrown), Low Dike, Bed Paneling, Groyne & Low Water Control Structure	N		
2. Major Flood Protection Facility (1) Location (2) Design Capacity (3) Year of Construction & Cost (4) Drawing & Dimension (5) Record of Maintenance (6) Maintenance Cost	Dike, Embankment, etc.	N		
3. Major Intake / Weir (1) Location (2) Design Capacity (3) Year of Construction & Cost (4) Drawing & Dimension (5) Record of Maintenance (6) Maintenance Cost	For Irrigation, Water Supply, etc.	Y	PROA	Only Regulation Weir in Tucupita
4. Bridges on Orinoco River (1) Location (2) Year of Construction & Cost (3) Drawing & Dimension (4) Record of Maintenance (5) Maintenance Cost	Existing : Angostura (Orinoco), Maria Nieves (Apure)	Y	MTC/CVG	Ciudad Bolivar (Suspension Bridges)

VI. Major Ports / Navigation Facility

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
1. Major Port Facility (1) Location (2) Year of Construction & Cost (3) Drawing & Dimension (4) Record of Maintenance (5) Maintenance Cost	1) River Port 2) Sea Port	Y N	CVG	
2. Major Navigation Canal (1) Location (2) Year of Construction & Cost (3) Drawing & Dimension (4) Profile & Cross Section of Canal (4) Record of Maintenance (5) Maintenance Cost		Y	INC	
3. Major Navigation Facility (1) Location (2) Year of Construction & Cost (3) Drawing & Dimension (4) Record of Maintenance (5) Maintenance Cost		Y	INC	
4. Operation & Maintenance Cost of Respective System - River Port Facility - Sea Port Facility - Navigation Canal - Navigation Facility	Amount, expenditure, etc.	Y Y N Y Y	INC CVG INC INC	
5. Dredging of Navigation Canal - Plan - Previous Dredging Record - Main Issues on Implementation		Y Y Y Y	INC INC INC INC	



VII. Local Consultants in Venezuela

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
1. Name of Experienced Consultants for River Engineering & Port Facility (1) River Engineering	List of Consultants with Capital, Job Carrier, Number of Engineers, etc.	Y	MARNR/CVG	
(2) Flood Damage Survey - Cost of Flood Damage Survey	List of Consultants with Capital, Job Carrier, Number of Engineers, etc. Unit Cost, etc.	Y	MARNR	
(3) Port Engineering	List of Consultants with Capital, Job Carrier, Number of Engineers, etc.	Y	MARNR	
2. Name of Experienced Consultants for Geodetic Survey (1) Aerial Photogrammetric Mapping - Cost of Aerial Survey - Cost of Aerial Mapping	List of Consultants with Capital, Job Carrier, Capability, Number of Engineers, etc. Unit Cost, etc. Unit Cost, etc.	Y Y	MARNR MARNR	
(2) Ground Survey - Cost of River Survey - Cost of Relevant Survey	River, canal, etc. Unit Cost, etc. Unit Cost, etc.	Y	MARNR	
3. Soil / River Bed Material Investigation - Cost of Soil Investigation	List of Consultants with Capital, Job Carrier, Number of Engineers, etc.	Y	MARNR	
4. Survey Equipment & Machinery Available in Venezuela - List of Agent - Catalogues				

VIII. Laws and Regulations in Venezuela

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
1. River Laws	Laws concerning River Improvement, Flood Protection	N		
2. Navigational Laws	Laws concerning Canal Maintenance, Navigation	Y	INC	
3. Facility Design Standard	For River Structure, Navigation Canal, Port	Y	INC/CVG	

VIII. Environmental Issues (1/2)

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
<p>1. Legislation Related to Environmental Policies &amp; Standard</p> <p>(1) Ministry / Agency in Charge</p> <p>(2) Laws and Guidelines</p> <ul style="list-style-type: none"> <li>- Type / Size of Activities for EIA</li> <li>- Procedure</li> </ul> <p>(3) Environmental Quality Standard</p> <ul style="list-style-type: none"> <li>- Allowable Values &amp; Penalties</li> <li>- Monitoring System &amp; Responsible Agency</li> </ul>	<p>For Environmental Impact Assessment (EIA)</p> <ol style="list-style-type: none"> <li>1) Air Pollution</li> <li>2) Water Pollution</li> <li>3) Soil Pollution</li> <li>4) Noise</li> <li>5) Vibration</li> <li>6) Offensive Odor</li> </ol>	<p>Y</p> <p>Y</p> <p>Y</p>	<p>MARNR-Division de Estudios de IMPACTO AMBIENTAL</p> <p>MARNR-Division de Estudios de IMPACTO AMBIENTAL</p> <p>MARNR-Division de Estudios de IMPACTO AMBIENTAL</p>	
<p>2. International Conventions on Environmental Conservation</p> <p>(1) Affiliation to bilateral or Multilateral Conventions</p> <p>(2) Name of Convention</p> <p>(3) Date of Affiliation</p>	<p>e.g. Ramsar / Washington Convention</p>	<p>Y</p>		
<p>3. Present Situation of Orinoco Lower Reaches</p> <p>(1) Socioeconomic Environment</p> <ul style="list-style-type: none"> <li>- Plan of Resettlement, if any</li> <li>- Experience of Resettlement, if any</li> <li>- Number &amp; Distribution of Public Facilities</li> <li>- Cultural Property or Archaeological Sites, if any</li> <li>- Location of Community to be Affected by the Project</li> <li>- Main Industry or Source of Income of Residents</li> <li>- History of Epidemic Disease</li> <li>- Source of Water Supply</li> <li>- Existence of Common Land</li> <li>- Solid Waste Collection &amp; Disposal System</li> <li>- Waste Water Treatment System</li> </ul>	<p>1) Number of People to be Resettled</p> <p>2) Compensation</p> <p>In Previous Projects</p> <p>School, Hospital, Religious Facilities</p> <p>Domestic, Industry, Irrigation</p>	<p>Y</p>	<p>MARNR</p>	<p>Diagnostica Ambiental par la Consolidation Economica en el Delta Informa Final</p>

VIII. Environmental Issues (2/2)

ITEM	DESCRIPTION	AVAILABILITY	PLACE OF ISSUE	MATERIAL TITLE
<p>(2) Natural Environment</p> <ul style="list-style-type: none"> <li>- Location of Particular Areas Officially Protected (such as National &amp; Natural Parks)</li> <li>- Location of Environmentally Vulnerable Areas (such as Mangrove Forest, Coral Reef, Wetland &amp; Tideland)</li> <li>- Species of Valuable Animals &amp; Plants in the Area</li> <li>- History of Natural Disaster</li> <li>- Change of Water Level of River</li> <li>- Oceanological Data</li> <li>- Distribution of Important Landscape or Scenery for Tourism or Religion</li> </ul>	<ul style="list-style-type: none"> <li>Endangered Species (flora &amp; fauna)</li> <li>Flood, Tidal Wave, High Tide, Earthquake, etc. In Recent Years</li> <li>Oceanological Map, Littoral Drift</li> <li>Distribution of Important Landscape or Scenery for Tourism or Religion</li> </ul>	Y	MARNR-Division de Estudios de IMPACTO AMBIENTAL	Diagnostica Ambiental par la Consolidation Economica en el Delta Informa Final
<p>(3) Present Situation</p> <ul style="list-style-type: none"> <li>- Air Quality, Water Quality, Soil Contamination, Noise &amp; Vibration</li> </ul>	<ul style="list-style-type: none"> <li>Air Quality, Water Quality, Soil Contamination, Noise &amp; Vibration</li> </ul>	Y	PROA	
<p>4. Environmental Issues on the Project</p> <ul style="list-style-type: none"> <li>- River Improvement</li> <li>- Navigation Canal Improvement</li> <li>- New Canal</li> <li>- Transshipping Facility</li> <li>- Port Facility</li> </ul>		Y	MARNR-Division de Estudios de IMPACTO AMBIENTAL	Diagnostica Ambiental par la Consolidation Economica en el Delta Informa Final
<p>5. Consultants &amp; Surveyors</p> <p>(1) List of Registered Consulting Firm</p>	<p>Environmental Survey</p>	Y	MARNR	
<p>(2) Cost of Investigation &amp; Survey</p>	<p>1) Environmental Survey 2) Water Quality 3) Others</p>	Y	MARNR	
<p>(3) Bidding Rates for Consultants</p>	<p>Environmental Specialist</p>	Y	MARNR	
<p>(4) List of NGO &amp; their Activity</p>		Y		As attached

資料6 収集資料リスト

収集資料リスト

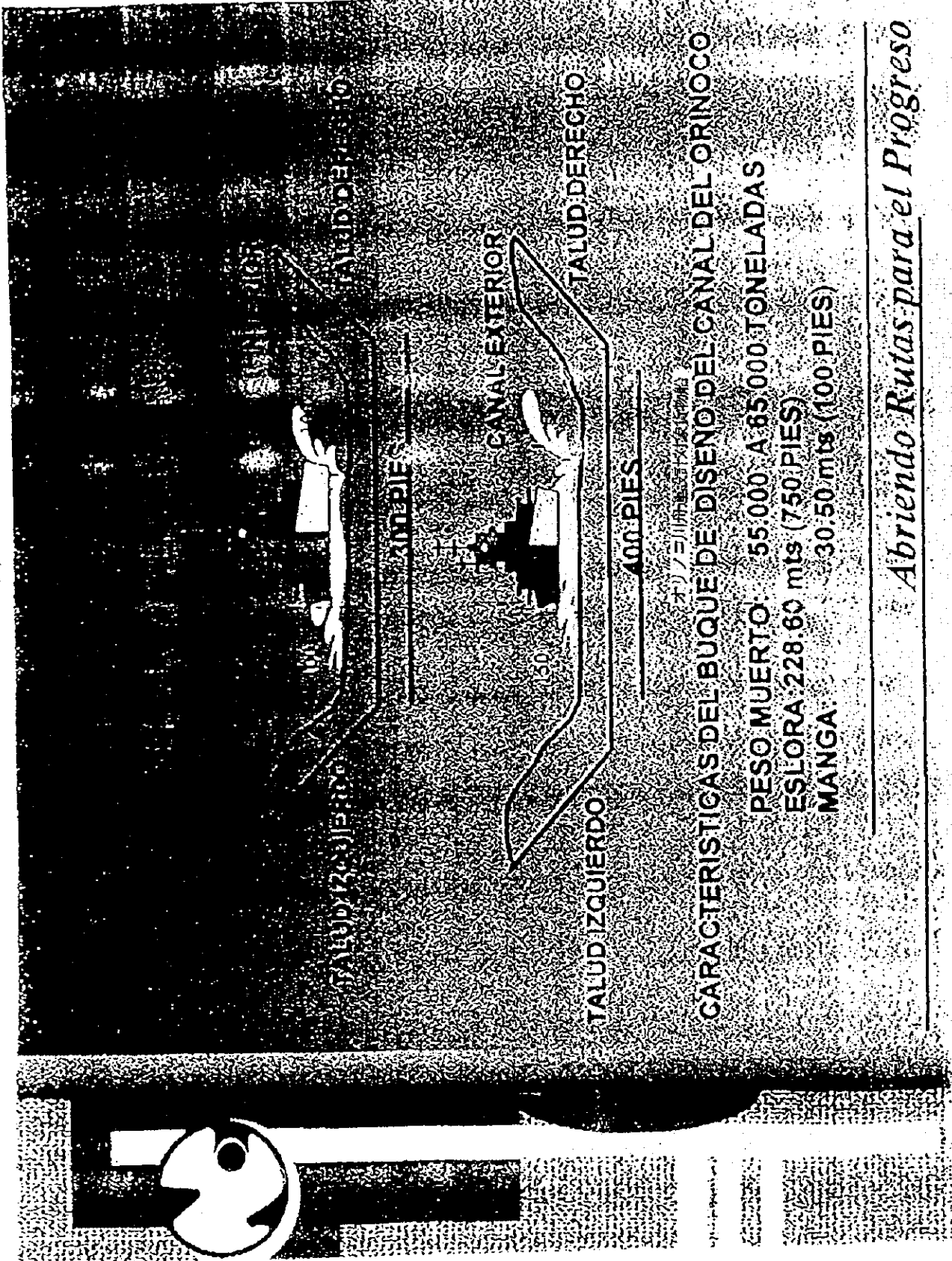
番号	種別	資料名	形態	版型	ページ	初出年/更新年	部数	収集先名称又は発行機関
1	PROA の P-7701 一式		西文	不明		初出年	1	PROA
2	1 航路・しゅんせつ 2 運河序概要 3 リオオロノコ河床深計画 4 リオオロノコ河床深計画 5 維持管理	INSTITUTO NACIONAL DE CANALIZACIONES VIA FLUVIAL DEL ORINOCO TRAMO MATANZAS -BOCA GRANDE (S = 1:300,000) DERPOTERO PARA LA NAVEGACION EN EL CANAL DEL RIO ORINOCO: TRAMO MATANZAS -BOCA GRANDE (MARZO DE 1997) ATLAS DE NAVEGACION - RIO ORINOCO (1:100,000) I. SEMINARIO SEGURIDAD EN LOS CANALES DE NAVEGACION	西文 西文 西文 西文 西文	A4 A4 A1 A4 A4	12 25 3	20°- 初出年 20°- 初出年 20°- 初出年	1 1 1 1 1	INC. INC. Puerto Ordaz INC. PROA INC.
3	1 舟運 2 舟運 3 舟運 4 舟運 5 舟運	PLAN MAESTRO PARA EL DESARROLLO DE LA NAVEGACION EN EL EJE ORINOCO- APURE ESTUDIO PRELIMINAR DE VIABILIDAD DEL TRANSPORTE DE GRANOS Y OTRAS CARGAS PERECEDERAS A TRAVES DEL EJE FLUVIAL ORINOCO APURE EL ORINOCO APROVECHADO Y RECORRIDO THE GUAYANA REGION INSTALLED PORT CAPACITY (AND TRANSFER STATIONS) CIUDAD GUAYANA- PLAN MAESTRO DE DESARROLLO URBANO PARA 1.300.000 HABITANTES (ESCALA 1:50,000)	第5巻 西文 表紙・目次 77枚綴じ 英文、西文 西文 西文	A4 不明 A4 A4 不明		20°- 20°- 20°- 20°- 初出年	1 1 1 1 1	PROA Autor: Ramon Salvador Garcia Itriago PROA/CVG CVG CVG
4	1 輸送 2 CVG の説明書 3 鉄鉱石 4 鉄鉱石の歴史 5 半製品 6 輸送実績 7 投資ガイド	CVG towards its 31 years... ベネズエラ鉄鉱石概要 (1997.9) La Historia del Hierro OPCO HBI OPCO の輸送実績 (1990-1997) Venezuelan Trade CVG- GUIA DEL INVERSIONISTA	英文 小冊子 小冊子 パンフレット A4 A4	不明 A5 不明 A4 A4	40 66 80 6 1	初出年 初出年 初出年 初出年 20°- 初出年	1 1 1 1 1	CVG 丸紙 (株) SIDOR OPCO OPCO
5	1 投資ガイド 2 投資ガイド	Venezuelan Trade CVG- GUIA DEL INVERSIONISTA	英、西文 西文	A4 A5	40 122	初出年 初出年	各1 1	CONAPRI CVG
6	1 地形図等 2 地形図 3 地形図 4 地形図 5 地形図	INDICE DE CUBRIMIENTO CARTOGRAFICO CUBRIMIENTO DE MAPAS IMAGEN A ESCALA (1: 100,000) CAV- NE PLANO DE CARACAS/ MAPA DE CARRETERAS DE VENEZUELA MAPA DEL ESTADO BOLIVAR Y AMAZONAS	折込み図面 パンフレット 図面 図面 図面	不明 不明 不明 不明 不明		初出年 20°- 初出年 初出年 初出年	1 1 1 1 1	MARNR/SAGECAN MARNR/SAGECAN 福田専門家 福田専門家 福田専門家

番号	種別	資料名	形態	版型	ページ	寸法/追加ページ	部数	収集先名称又は発行機関
7	気象・水文							
1	デルタ・アマゾン州内 月別雨量気温蒸発 等資料	・ DATOS MENSUALES Y ANUALES DE PRECIPITACION Y TEMPERATURA (1969 - 1996) ・ RECOPIACION DE INFORMACION REGION DELTA AMADURO (1997 : ING. XIOMARA GRATEROL) MEDICIONES HIDROMETRICAS DEL RIO ORINOCO -1996 Sedimentacion del Cano Manamo Sector Boca Grande el Cierre (1990 Delta Amocuro)	西文 A4	A4	180	31°-	1	MARNR, Direccion de Hidrologia y Meteorologia
2	流量観測(デルタ・州 ガス, Nカラカ等)		西文 A4	A4	48	31°-	1	MARNR, Direccion de Hidrologia y Meteorologia MARNR
3	ヤマ水路の堆砂量		表紙・目次	A4	8	31°-	1	MARNR
8	利ノ川浸水状況	ASPECTOS DE LA INUNDACION DE LA CUENCA DEL RIO ORINOCO EN EL AÑO 1976						PROA/GALシア局長より
9	シムンペヤ行ル							
4		TELEMAC - 2 D						
5		TRISULA						
6		SVTRENCA						
10	デルタアマゾン国勢	TERRITORIO FEDERAL DELTA AMADURO (AÑO 1990)						COMISION DE ORDENA- CION DEL TERRITORIO CVG-EDELCA
12	ケリノ川発電所概要	GURI : Central Hidroeléctrica > Raul Leoniz						
13	環境							
1	環境リク	BALANCE AMBIENTAL DE VENEZUELA (1994 - 95, 1996)						MARNR
2	利ノ・デルタ3水路 環境調査	DIAGNOSTICA AMBIENTAL PARA LA CONSOLIDACION ECONOMICA EN EL DELTA. INFORME FINAL (MARZO DE 1998) デルタ・アマゾン植生別土地利用図 (S=1/500,000) Fauna de Venezuela (1947~1998: Raul Weidmann)	5枚1セット					MARNR/DGSPROA
3	土地利用図							MARNR
4	野生動物写真集							Oscar Todtmann Editores
5		Ambiente (No.2 AÑO9, 1986)						MARNR
6	その他環境図説	Ambiente (No.54 AÑO20, 1997) PROFAUNA (NO.5 AÑO3, 1995) PROFAUNA (NO.2 AÑO9, 1991) PROFAUNA (NO.6 AÑO9, 1990) NATURA (NO.109, 1997)						MARNR MARNR MARNR MARNR MARNR MEARJ MARNR 出版
14	環境調査報告集	MANUAL DE REVISION DE ESTUDIOS DE IMPACTO AMBIENTAL (E.I.A) "Normas Sobre Evaluacion Ambiental de Actividades Susceptibles de Degradar el Ambiente" "Normas para la Clasificacion y el Control de la Calidad de los Cuorpidos de Agua y Derivados o Efluentes Liquidos"						
1								
2								
3								

番号	種別	資料名	形態	版型	ページ	初出年月日	部数	収策先名称又は発行機関
15	4	"Normers Sobre Calidad de Aire y Control de la Contaminacion Atmosferica"						
5		Estudios de Impacto Ambiental de Proyectos Turisticas						
6		PROCESO DE ADECUACION CONTENIDO EN ALAS NORMAS DE CALIDAD AMBIENTAL						
16		RMD RHEIN - MAIN - DONAU (Wasserkraft und Joeserbau Leistung und Kompetenz)						
17		森林・土地・水に関する法律と規則						MARNR
18		その他						
1		オリノコ・アブレ川事業について (ORINOCO-APURE PROGRAM)	和文	A4	2	21.11.80	1	JICA 福田専門家
2		オリノコ水路 (マタンサス〜ボカ・グランデ) 航行のための案内書/JICE 藤本通訳 翻訳	西文	A4			1	NOTIDIARIO
3		4月18日付け 新聞・デルタ・アマクロ州知事との会見についての記事	西文	A4	11	21.11.80	1	CORDIPLAN
4		CORDIPLAN - DIRECTORIO TELEFONICO / ENERO 1997	和文	A4	1	21.11.80	1	不明
5		マクロ経済指標の動向		A4	3	21.11.80	1	日本大使館
6		各省大臣名						

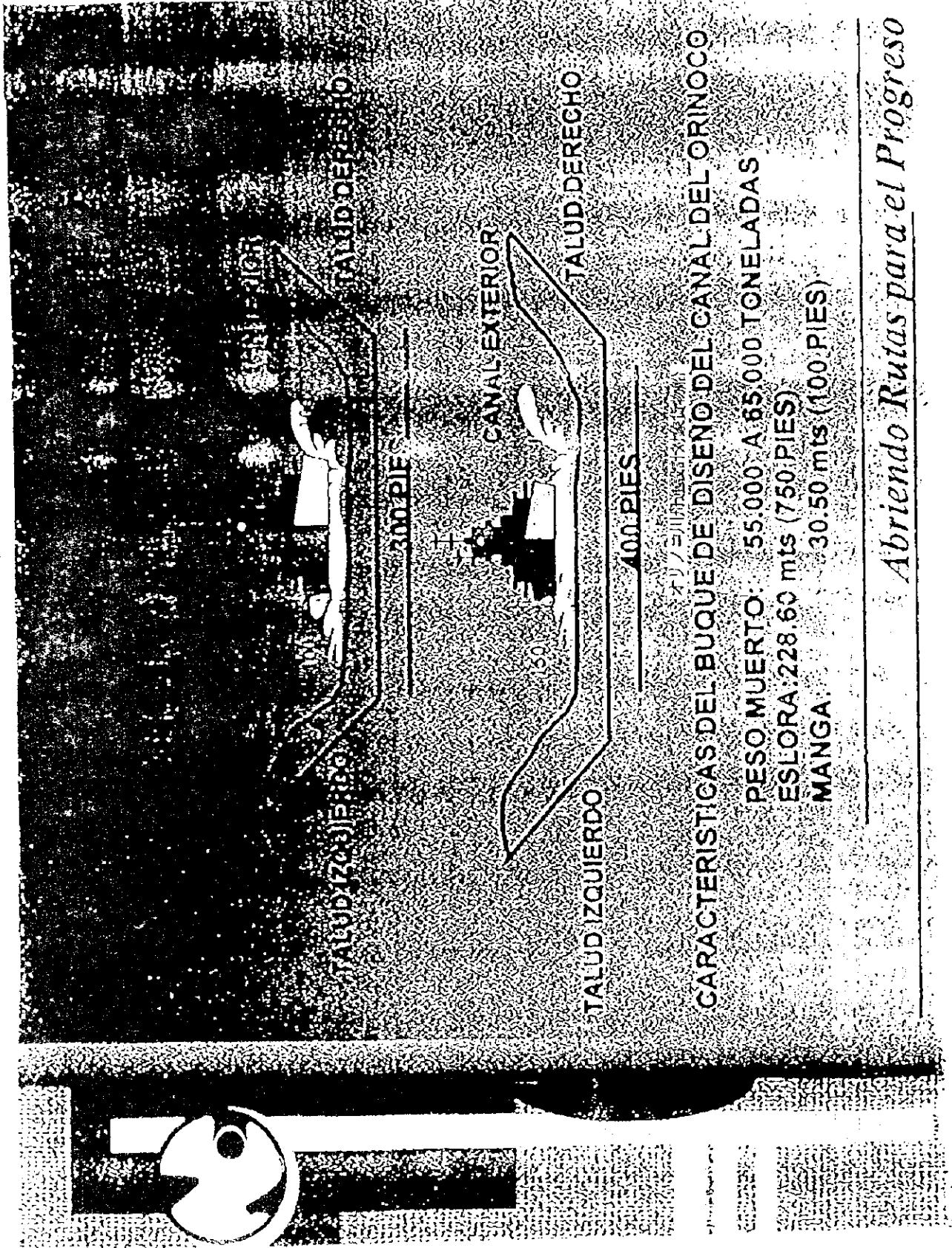
資料7 ローカルコンサルタントリスト

会社名	代表者名	住所	電話 / FAX	備考
<p>[環境関連 - 環境測量も含む] ECODIPLA CONSULTORES, C.A.</p>	<p>Presidente Hector Bracho C.</p>	<p>Av. Intercomunal El Hatillo, Centro Medico Docente La Trinidad, Centro Cientifico, Torre USI II, I, Piso, Urb. La Trinidad, Edo. Miranda, Venezuela. 80474</p>	<p>From Tokyo 001-582 Telefax; 941-2261 93-4313 Email; ecodipla@true.net</p>	<p>・同社は、JICA実施のアプリ (Apure) 川河川改修計画(1992)及びツイ (Tuy) 川河川環境計画(1996)の実績 ・ MARRNR(環境・天然資 源省)発注の オリノコ川下流域(今回調査区域3 水路)のIEE調査を実施 ・ 本格調査EIAのプロポーザ ル提出</p>
<p>Proyecto INPARVES</p>	<p>NGO Coordinator Deborah Biggio (女性; ヲ国NGOの元締 め)</p>		<p>Tel. 237-6406 237-9947</p>	<p>・ ヲ国においてNGOは環境評価に当 たつて 最優先に協議をする対象となつてい る。NGO への折衝は世銀ヲ国事務所を通じて 行うと 良い(日本大使館 - 高橋職員に連絡し て) ・ 環境現地委託の一部分をNGOに発注す るこ とを配慮することが賢明と考へる</p>
<p>FUDENA</p>	<p>NGO・WWFの会員 Diego Diaz</p>		<p>Tel. 238-1724</p>	<p>・ Proyecto INPARVES の Deborah Biggio さんと相談した上で折衝のこと</p>



別添参考資料 -1

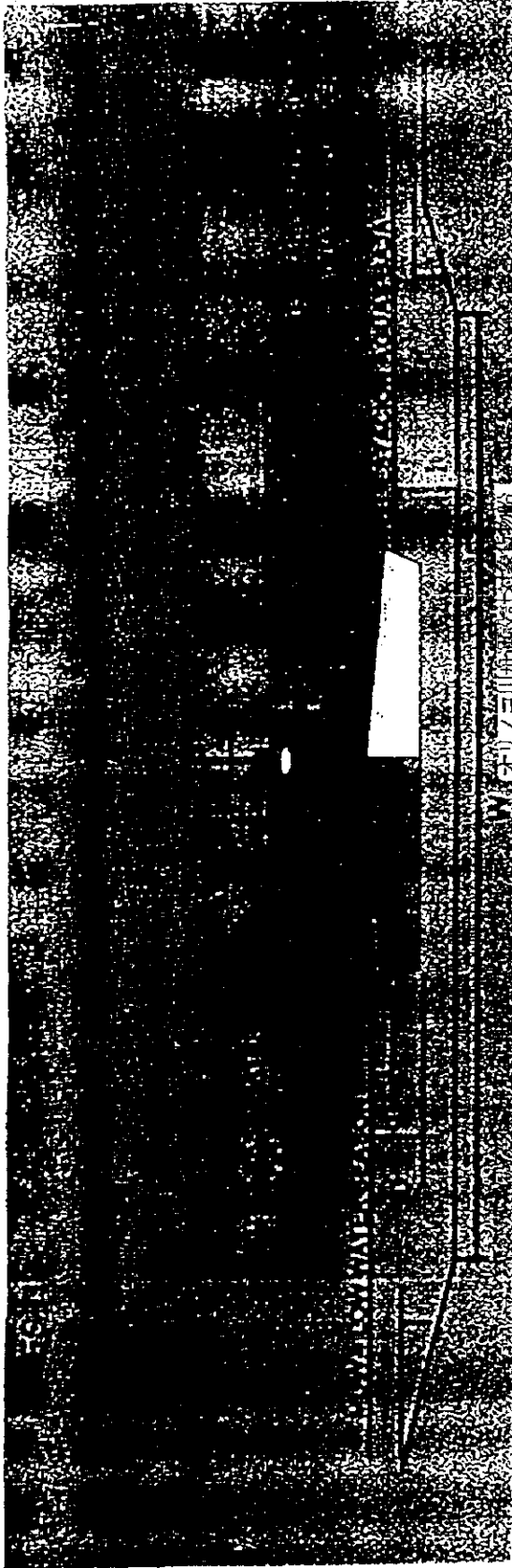




CARACTERÍSTICAS DEL BUQUE DE DISEÑO DEL CANAL DEL ORINOCO

- PESO MUERTO: 55.000 A 65.000 TONELADAS
- ESLORA: 228.60 mts (750 PIES)
- MANGA: 30.50 mts (100 PIES)

*Abriendo Rutas para el Progreso*



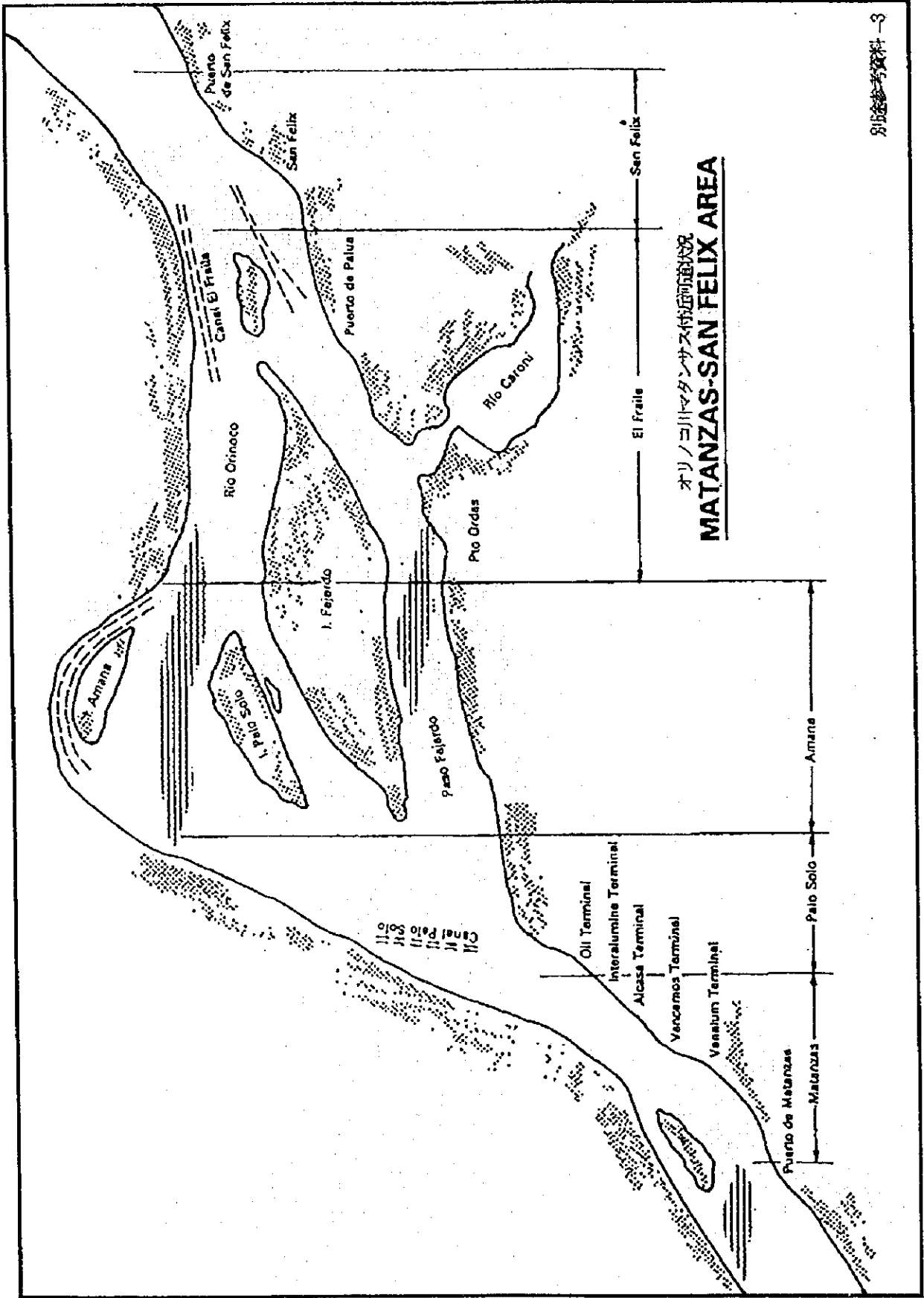
TAMAÑO DEL BARCO VESSEL SIZE TONS	DIMENSIONES DEL BARCO - PIES VESSEL DIMENSIONS - FT				DIMENSIONES DEL BARCO - PIES VESSEL DIMENSIONS - FT					
	ESLORA L.O.A.	MANGA BEAM	CALADO - DRAFT *		ANCHO - WIDTH (W)	PROFUNDIDADES - DEPTH (H)		PUERTO - PORT AGUA FRESCA FRESH WATER		
			CARGADO LOADED	LIVIANO LIGHT		BOCA - BAR MATERIAL SECCIONES RECTAS	RIO - RIVER MATERIAL CONSOLIDADO		BOCA - BAR MATERIAL SECCIONES RECTAS	
	L	B	*D <sub>s</sub>	*D <sub>l</sub>	d	RIO - RIVER SECCIONES RECTAS	BOCA - BAR MATERIAL SECCIONES RECTAS	RIO - RIVER MATERIAL CONSOLIDADO	BOCA - BAR MATERIAL SECCIONES RECTAS	
15000	480	70	30.2	30.7	12	200	250	32.5	33.7	31.7
24000	580	75	33.1	33.8	15	225	255	36.2	36.8	34.3
38000	650	90	36.9	37.7	16	270	310	40.2	40.8	38.7
45000	660	95	38.0	38.8	17	285	325	41.4	42.0	39.9
55000	750	100	39.5	40.3	17	300	340	43.1	43.7	41.6
65000	800	110	41.0	41.9	18	340	400	44.9	45.4	42.3
82000	840	125	44.0	45.0	20	375	425	48.0	48.6	46.5
100000	850	130	48.0	49.1	23	390	440	52.2	52.7	50.3
125000	940	140	52.0	53.3	24	420	480	56.6	56.8	55.1
150000	950	150	55.0	56.5	26	450	510	60.1	60.1	58.5
175000	1050	155	61.0	62.6	28	470	530	66.4	66.1	64.8
210000	1100	165	63.0	64.8	30	500	565	68.8	68.5	67.2

別添資料 -2



TAMAÑO DEL BARCO VESSEL SIZE TONS	DIMENSIONES DEL BARCO - PIES VESSEL DIMENSIONS - FT				DIMENSIONES DEL BARCO - PIES VESSEL DIMENSIONS - FT					
	ESLORA MANGA		CARGADO - DRAFT*		ANCHO WIDTH(W)		PROFUNDIDADES - DEPTH(H)			
	L.O.A. L	BEAM B	CARGADO LOADED	LIVIANO LIGHT	RIO-RIVER SECCIONES RECTAS	BOCA-BAR MATERIAL SECCIONES RECTAS	RIO-RIVER MATERIAL SECCIONES CONSOLIDADO	BOCA-BAR MATERIAL SECCIONES RECTAS	PUERTO-PORT AGUA FRESCA FRESH WATER	
15000	480	70	30.2	30.7	12	200	250	32.5	33.7	31.7
24000	580	75	33.1	33.8	15	225	255	36.2	36.8	34.9
38000	650	90	35.9	37.7	16	270	310	40.2	40.8	38.7
45000	650	95	38.0	38.8	17	285	325	41.4	42.0	39.9
55000	750	100	39.5	40.3	17	300	340	43.1	43.7	41.6
55000	800	110	41.0	41.9	18	340	400	44.9	45.4	42.3
62000	840	125	44.0	45.0	20	375	425	46.0	46.5	45.5
100000	850	130	49.0	49.1	23	390	440	52.2	52.7	50.9
125000	940	140	52.0	53.3	24	420	480	55.5	55.8	55.1
150000	950	150	55.0	56.5	25	450	510	60.1	60.1	58.5
175000	1050	155	61.0	62.5	28	470	530	66.4	66.1	64.8
210000	1100	165	63.0	64.8	30	500	565	68.8	68.5	67.2

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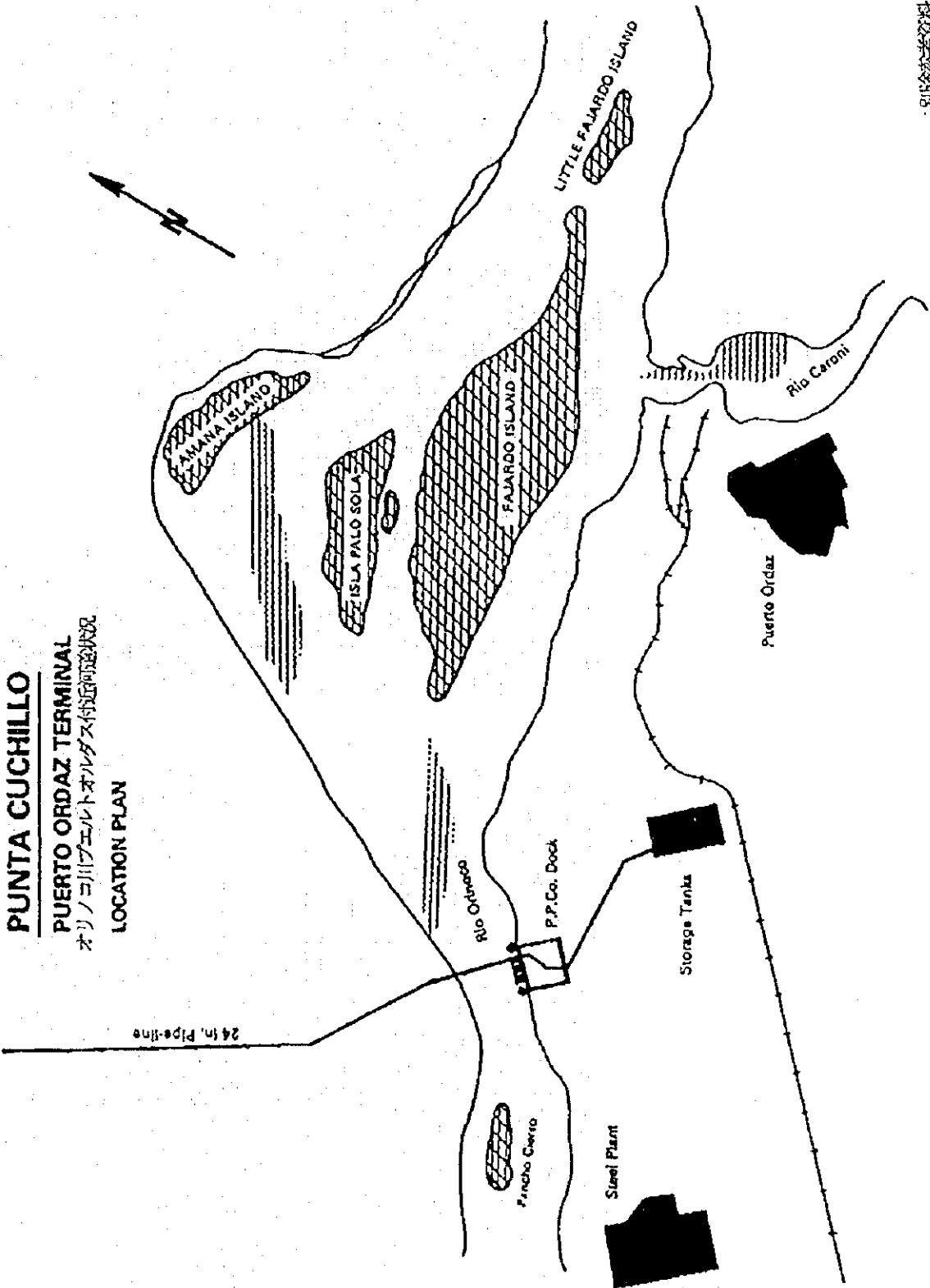


# PUNTA CUCHILLO

## PUERTO ORDÁZ TERMINAL

ホリノコ川プエルトオルダズ付近河況状況

### LOCATION PLAN



オリノコ川月別貯留水深(1989-1997)  
CANAL DE NAVEGACION DEL RIO ORINOCO  
Tramo Mananzas - Boca Grande

PROMEDIO MENSUAL 1989-1998

(単位 feet)

MES	1989		1990		1991		1992		1993		1994		1995		1996		1997		1998	
	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)	NIVEL RIO (msl)	CALADO AUTO (msl)
ENERO	7.22	10.1	1.51	5.0	30.65	2.07	10.1	23.15	1.89	6.2	30.21	1.39	4.6	30.95	1.25	4.1	23.07	2.27	7.4	30.26
FEBRERO	7.43	7.3	1.79	5.9	30.30	1.22	4.0	30.21	1.05	3.4	29.42	1.28	4.2	31.18	1.16	3.6	23.77	1.34	4.4	30.19
MARZO	1.15	4.4	3.17	4.5	30.55	1.23	4.0	30.25	1.12	3.7	30.03	4.52	7.3	34.98	1.81	5.9	30.87	1.14	3.7	31.05
ABRIL	2.96	9.7	3.17	6.6	32.30	1.29	4.2	31.40	2.52	8.3	33.19	6.97	14.8	36.89	4.17	13.7	35.47	2.92	9.6	34.29
MAYO	6.39	21.0	3.20	17.1	38.10	3.29	10.8	35.47	4.75	15.6	36.23	9.55	22.9	34.87	6.69	21.9	36.80	5.87	19.3	38.42
JUNIO	4.32	27.0	2.79	25.6	38.65	5.31	17.4	37.98	7.52	24.7	39.84	10.61	34.3	39.77	9.01	29.6	37.08	8.77	24.8	41.18
JULIO	9.25	30.3	10.70	35.1	39.92	7.79	25.6	38.77	9.84	32.3	40.30	10.56	34.6	37.94	10.56	34.6	37.94	9.96	32.7	43.10
AGOSTO	7.75	26.1	9.48	31.1	39.90	10.45	34.3	39.80	9.72	31.9	39.80	10.68	35.0	39.83	10.68	35.0	39.83	9.18	30.1	42.17
SEPTIEMBRE	6.53	24.0	7.04	23.1	37.92	9.10	29.9	39.87	7.63	25.0	38.35	8.29	27.2	38.02	9.54	31.3	40.00	6.49	21.3	37.69
OCTUBRE	4.16	13.6	4.97	16.3	36.57	5.66	18.6	35.55	4.91	16.1	35.97	6.97	22.9	35.40	6.91	22.7	37.90	5.39	17.7	34.47
NOVIEMBRE	4.16	13.6	4.61	15.1	36.85	5.76	12.3	33.19	4.03	13.2	35.19	5.13	16.3	35.11	4.93	14.1	34.94	3.69	12.1	35.86
DICIEMBRE	5.05	16.0	5.51	18.1	35.9	5.22	17.1	35.1	4.68	15.3	33.8	5.77	18.4	35.5	5.77	18.4	35.1	4.84	15.9	35.1
PROMEDIO	5.05	16.0	5.51	18.1	35.9	5.22	17.1	35.1	4.68	15.3	33.8	5.77	18.4	35.5	5.77	18.4	35.1	4.84	15.9	35.1
SEMESTRE I	5.05	16.0	5.51	18.1	35.9	5.22	17.1	35.1	4.68	15.3	33.8	5.77	18.4	35.5	5.77	18.4	35.1	4.84	15.9	35.1
SEMESTRE II	5.05	16.0	5.51	18.1	35.9	5.22	17.1	35.1	4.68	15.3	33.8	5.77	18.4	35.5	5.77	18.4	35.1	4.84	15.9	35.1

NOTA: NIV. DEL RIO REFERIDO AL PROMEDIO MENSUAL DE LA ESTACION PASIVA

*Calado Auto = Calado Autorizado en pies*

*A.*

ホリノコ川浚渫計画(SECTORS 別) - 1998 年

SECTORES DEL CANAL DE NAVEGACIÓN DEL RÍO ORINOCO  
TRAMO MATANZAS - BOCA GRANDE

別添参考資料-6

SECTORES	TRAMO (MILLA)	TRAMO DRAGABLE	CANT. MILLAS	ANCHO(PIES)	VOLUMEN A DRAGAR
MATANZAS	194 - 183	190.0 - 189.0	1.0	300	300.000
SAN FELIX	183 - 178	181.0 - 178.0	3.0	300	800.000
ARAMAYA	178 - 165	171.0 - 166.0	5.0	300	2.000.000
LOS CASTILLOS	165 - 150	164.3 - 163.3	1.0	300	0,000
GUARGUAPO	150 - 146	149.4 - 146.5	2.9	300 y 400	2.700.000
BARRANCAS	146 - 140	144.1 - 140.3	3.8	300	600.000
YA-YA	140 - 133	139.2 - 137.6	1.6	300	1.400.000
ARAGUITO	133 - 120	132.0 - 131.0	1.0	300	80.000
PORTUGUESA	120 - 112	CANAL NATURAL		CANAL NATURAL	0,000
SACUPANA	112 - 107	111.3 - 109.0	2.3	300	350.000
GUASINA	107 - 98	106.6 - 99.0	7.6	300	2.500.000
PALOMA	98 - 86	CANAL NATURAL		CANAL NATURAL	0,000
REMOLINO	86 - 74	CANAL NATURAL		CANAL NATURAL	0,000
IMATACA	74 - 62	CANAL NATURAL		CANAL NATURAL	0,000
CURIAPO	62 - 52	54.1 - 52.3	1.8	525	700.000
NOIMA	52 - 42	CANAL NATURAL		CANAL NATURAL	0,000
BOCA GRANDE	42 - 0	42.0 - 0.0	42.0	400	12.200.000

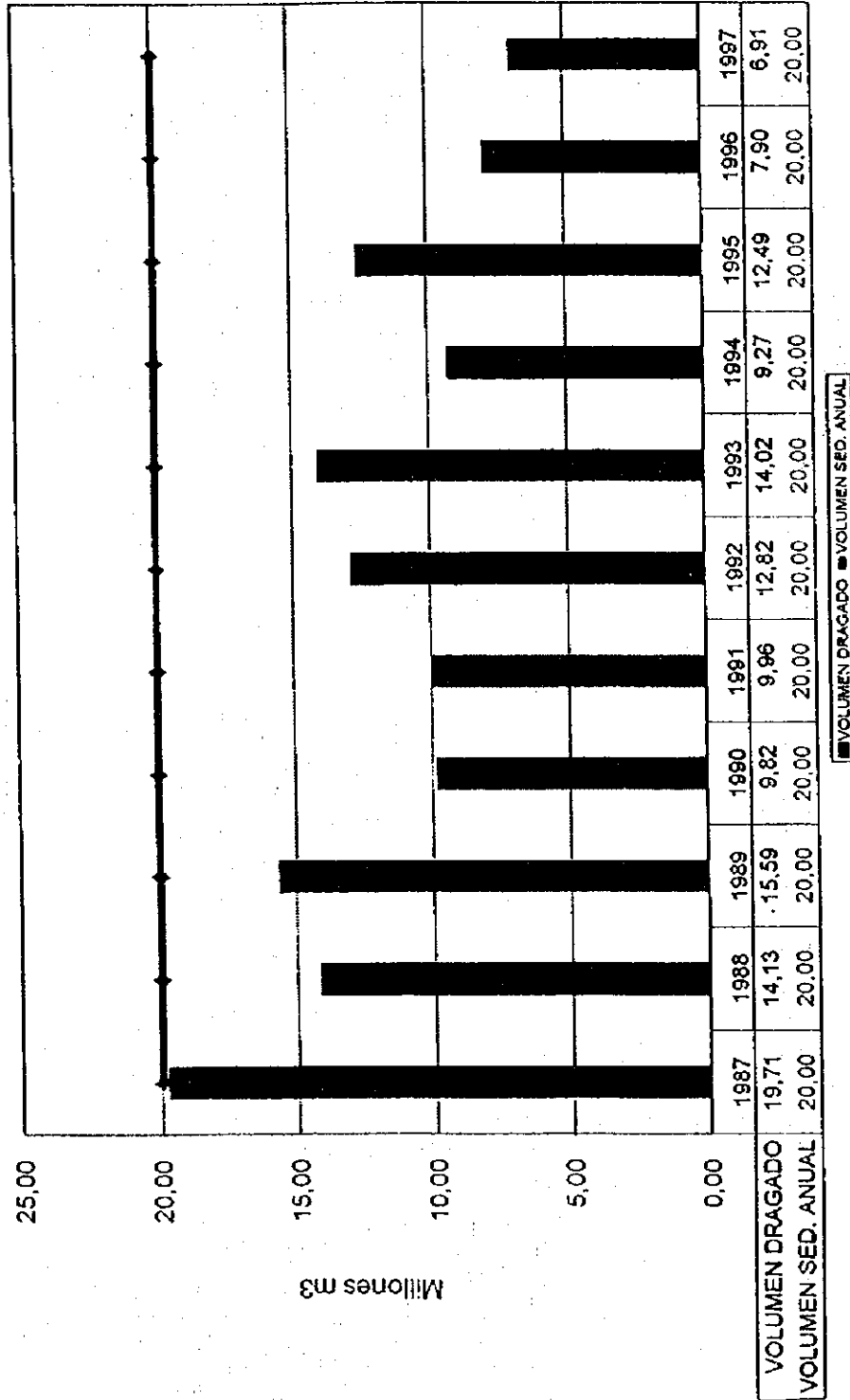
VOLUMEN A DRAGAR: 23.630.000 M<sup>3</sup>/ANUAL

INSTITUTO NACIONAL DE CANALIZACIONES

DIRECCION DE PROYECTOS E INVESTIGACION

CANAL ORINOCO

VOLUMENES DRAGADOS 1987-1997





フェロミニネーラ社 運搬船及び積替え船

種別	HAULING VESSEL		TRANSFER VESSEL		適用
船名	Rio Orinoco	Rio Caroni	Boca Grande		
建立				1973	
稼働開始	1988.8	1993.11			
総トン数	85,507 DWT	85,160 DWT	227,500 DWT		
LOA	240m	241m	314m		
BEAM	38m	38m	50m		
DRAFT	13.7m	14.0m	20.4m		
船倉	9 Holds/ 9 Hatches		5 Holds/ 10 Hatches		
設備	Self-Unloading System 2,500Mt / Hr (3,500Mt / Hr*)		Iron Ore Recuperation System (185,000Mt) from Hoppers 3,500-4,000Mt / Hr Cargo Equipment for Vessels Anchored Nearby		
容量	67,500Mt (45,000-70,000Mt*)		185,000Mt		
対象船舶	Ferrominera Orinoco Transfer Vessel		Bulk Cargo up to 250,000 DWT (Clear Height: 17.2m, Max. Beam: 52m*)		
位置			Deep Waters in Boca de Serpiente (North of the Delta Amacuro State)		
距離			100N. Miles (185km) from Boca Grande 328N. Miles from Puerto Ordaz		
主要取扱貨物	Iron Ore		Iron Ore		
物流(年間)	Coasting: 4,000,000Mt		Export: 4,000,000Mt		
運行ルート	Puerto Ordaz/Pahua/Boca de Serpiente				
所有者	CVG- Ferrominera Orinoco		CVG- Ferrominera Orinoco		

出典: The Guayana Region Installed Port Capacity (And Transfer Stations), \* ペネズエラ鉄鉱石概要



INSTITUTO NACIONAL DE CANALIZACIONES

Dirección de Planificación y Presupuesto

División de Planificación Estratégica y Programación

1997 年における船舶数と輸送量の実績

Cerencia Canal Orinoco

Relación de Volúmenes Transportados e Ingresos

Año 1997

積み荷別輸送量

積み荷別船舶数

Meses	Número de Buques.										Volúmen Transportado									
	Pet.	Hier.	Alum.	C. Gral.	Baux.	Mat. Pri.	Total	Petróleo Barriles	Petróleo T.M.	Hierro T.M.	Aluminio T.M.	Mat. Prima T.M.	Bauxita T.M.	Carga Gral T.M.	Total T.M.					
Enero	8	19	3	2	24	36	92	2,166,882	310,804	764,146	11,753	384,345	671,272	30	2,142,350					
Febrero	11	21	5	2	0	21	60	2,368,801	339,769	747,923	38,611	279,449		14	1,405,766					
Marzo	11	26	2	6	0	39	84	2,431,388	348,746	958,768	18,106	441,554		76	1,787,190					
Abril	7	23	4	5	0	32	69	2,032,262	291,497	727,337	16,481	376,641	0	289	1,412,246					
Mayo	9	22	3	5	1	38	78	2,571,342	368,820	967,948	17,125	390,770	34,474	168	1,779,306					
Junio	9	23	4	2	16	33	87	2,379,161	341,255	967,452	26,773	331,670	442,974	19	2,110,143					
Julio	7	29	7	3	40	33	119	2,469,733	354,246	1,156,983	18,162	456,415	1,322,663	22	3,308,491					
Agosto	7	21	2	5	16	34	85	2,215,718	317,811	1,006,346	9,122	437,247	471,192	44	2,241,762					
Septiembre	8	25	4	4	29	42	112	2,073,218	297,372	1,154,715	20,684	315,948	873,404	42	2,662,165					
Octubre	8	22	6	6	30	34	106	2,687,851	386,966	958,910	38,962	289,206	869,627	57	2,537,729					
Noviembre	6	15	3	7	29	29	89	1,896,480	272,022	713,729	12,294	352,413	807,826	89	2,158,372					
Diciembre	10	38	4	7	10	43	112	2,164,755	310,502	1,298,538	24,357	384,222	295,002	82	2,222,715					
TOTAL	101	282	47	54	195	414	1093	27,467,571.00	3,939,810.52	11,419,734.57	249,430.74	4,439,890.96	5,698,433.75	931.79	25,748,252.33					

単位：t、但し重油（バレル）を除く



INSTITUTO NACIONAL DE CANALIZACIONES  
 Dirección de Planificación y Presupuesto  
 División de Planificación Estratégica y Programación

1994 ~ 1998 年における船舶数と輸送量の実績

El Total  
 ~ マシンカス

Gerencia Canal Orinoco  
 Relación de No. de Barcos y Volúmenes Transportados  
 1994 - 1998

積み荷別輸送量

積み荷別船舶数

Período	Número de Buques							Volumen Transportado						Total T.M.
	Pet.	Hier.	Alum.	C. Gral.	Baux.	Total	Petróleo Barriles	Petróleo T.M.	Hierro T.M.	Aluminio T.M.	Carga Gral T.M.	Bauxita T.M.		
1998 (*)	24	52	8	77	7	168	6,491,966.84	931,175.14	2,869,634.00	69,598.08	1,012,685.19	153,902.00	5,096,994.47	
1997	101	282	47	468	195	1093	27,467,571.00	3,939,810.52	17,419,734.67	249,430.74	4,440,822.75	5,698,433.75	25,748,232.33	
1996	86	280	74	389	51	880	20,679,928.00	2,366,225.08	11,563,065.00	305,203.00	4,168,915.00	4,546,227.00	23,549,635.08	
1995	64	279	55	462		860	14,154,971.00	2,030,318.00	12,270,960.00	344,403.00	5,916,150.00	-	20,561,831.00	
1994	59	293	65	391		808	15,252,247.00	2,187,705.76	12,324,354.00	399,387.00	3,163,624.00	-	18,075,070.76	

単位：トン、バレル、リットルを除く

FUENTE: I.A.C. Gerencia Canal Orinoco.

NOTA: (\*) El número de buques se refiere a los meses de Enero y Febrero  
 El Volumen transportado se refiere al primer trimestre del año 1998

# Arco chief remains optimistic

By Reuters

The \$3.5 billion Hamaca oil mega-project in Venezuela's Orinoco basin looks "reasonable" at current oil prices and should receive the final investment go-ahead by the end of the year, a major partner said.

Financing for the extra heavy oil deal has slipped by over six months from the original date, but partners Atlantic Richfield Co (Arco), Phillips, Texaco and state oil company Petróleos de Venezuela (PDVSA) are still expecting initial oil flows by

the end of 1999, ARCO Latin America president Stephen Mut told Reuters in an interview. "I would be extraordinarily shocked if we did not go forward. It is a highly front-loaded project, but it has low capital costs and low operating costs per unit and those things are extremely important in the long term." Arco has 30 percent of the venture intended to produce 200,000 barrels per day of extra heavy crude oil and upgrade it to a lighter, synthetic oil for export to the United States.

PDVSA slashed its spending on some of these Orinoco

ventures after oil prices fell late last year, but Mut said Hamaca was not one of them.

The partners pushed back financing until early next year simply to ensure they were all in sync before going ahead.

"When we signed the agreement last summer ... we were signing a document about a single project which was half the size of the Ecuadorean oil industry," he said.

"This is not an investment you make on your own and not without partners with pretty strong balance sheets and stomachs to withstand good times and poor times."

Oil prices have slumped 25 percent since the Hamaca partners signed the deal in July, and benchmark West Texas Intermediate oil is now at about \$15.50 per barrel.

"There are some projects that look terrible at \$15 and look reasonable at \$18.

Hamaca is a project that looks good at \$18 and looks less good, but reasonable, at \$15," Mut said.

In a release issued with the interview, Arco stated: "Although costs in Venezuela are increasing, we still view the project as having sufficiently robust economics."

オリマルジョン (重質油) の動向について

## Enron wants to buy Orimulsion

Nation '98. Apr. 25

By Carlos Camacho  
Bloomberg News

Enron Corp. said it may buy a coal substitute from Venezuela to burn in power plants in Asia and Africa, a purchase that could boost the fortunes of a fuel that's met stiff opposition in England and Florida.

Feasibility studies for the use of the mixture of water and bitumen known as Orimulsion are underway, Enron said. No timetable for a decision being taken was given.

"We are interested in purchasing Orimulsion for our electricity plants," said Jim Bannantine, head of Enron's South American operations.

A decision by Enron to buy

the heavy oil fuel would be a big boost for Orimulsion, which is manufactured by Bitúmenes Orinoco SA, a unit of state oil company Petróleos de Venezuela S.A. Use of the fuel was rejected in 1996 by the state of Florida, which had questioned the environmental soundness of the fuel. National Power Plc in Britain also turned down plans to use Orimulsion.

Enron has about 12 plants in Asia and Latin America, either in operation or under construction. The company isn't interested in producing Orimulsion with PDVSA.

"We have no upstream plans for Orimulsion right now," Bannantine said.

Still, Bitor's long-term suc-

cess will likely depend on whether companies like Florida Power & Light Co. are given permission to burn the fuel.

Venezuela's plans to push Orimulsion world-wide as an alternative to coal were bolstered by last week's recommendation by a Florida administrative judge that FPL be allowed to burn Orimulsion at its Manatee power plant in Tampa Bay. A final decision by the state's executive board is expected by June. Bitor produces 4 million tons a year of its heavy oil fuel, exporting its entire production. There are plans to build at least two more plants over the next two years.

石油価格について

## Nation's oil price drops 70 cents

Nation '98. Apr. 25

By Daily Journal Staff

Still unable to conquer the glut in global crude supply, world oil producers watched prices falter again this week to erase last week's gains caused by increasing tension over weapons inspections in Iraq.

The price of the Venezuelan oil basket closed at \$12 per barrel on Friday, down 70 cents from last week, accord-

ing to the Energy and Mines Ministry. The Venezuelan basket slid a dramatic 55 cents on the last two days of the week, making April's average oil price \$12.14 per barrel, far below last year's average of \$16.32 per barrel.

Despite last month's landmark Riyadh pact, in which world oil producers agreed to slash some 1.7 million barrels per day from global crude sup-

ply, world oil prices remain stubbornly low.

The six-month slump has repeatedly taken its toll on the national economy.

On Wednesday, the Caldera administration lowered its 1998 economic growth forecast to two percent and announced new budget cuts of Bs. 166 billion after revising its budgetary oil price estimate to \$13 a barrel.

原油の生産量について

**More oil production cuts** *Nation 58 Apr 22*

Venezuela has not ruled out making more cuts in oil production surpassing those already agreed to in the Riyadh pact to reduce the world oil supply and raise still sluggish prices, Energy Minister Ervin Arrieta said Tuesday.

But he said the decision would depend on the support from the other members of the Riyadh agreement - in which OPEC and non-OPEC oil producing countries agreed to slash 1.7 million bpd from the world's saturated petroleum markets.

"Venezuela cannot (make cuts) without having the whole group of producers behind them," Arrieta said. "But Venezuela thinks that if it is necessary, we wouldn't mind reducing."

Venezuela cut some 200,000 barrels per day (bpd) from its 3.37 million bpd production as part of the Riyadh pact on April 1. Since then the price of the Venezuelan oil basket has risen over \$2 to around 12.70 per barrel. While a substantial increase over last month's record lows, the current price is still below the government's proposed forecast of \$13 per barrel. According to Arrieta, with the cuts having been made only three weeks ago, it is still too early to witness the effect of the Riyadh pact on markets. But he said that in a month or so, the pact members would be ready to review the situation.

"It's too early to say anything..." he said. "The June meeting will be an opportunity to evaluate the whole scenario in the ordinary conference of OPEC. But don't forget that this not only OPEC. It is also independents."

Arrieta said that ministers from non-OPEC countries, along with "anyone who we consider to be useful" to the effort to lift world oil prices, will be invited to the June OPEC conference to take part as observers.

CVG 企業の民営化関連

**Alcasa will shut down two lines**

By Alex Kennedy  
Daily Journal Staff

In an attempt to make the second auction of the state's aluminum holdings more attractive to potential bidders, state heavy industry company Venezuelan Corporation of Guayana (CVG) confirmed on Monday it would be shutting down lines 1 and 2 of the Alcasa aluminum plant.

The move, which should come "very soon" according to Alcasa production manager Jose Sequea, will cut production at the plant by 25 percent. In 1997, Alcasa produced 213,000 metric tons of primary aluminum.

Last month, three consortiums pulled out of the bidding process in the week leading up to the initial auction, forcing the government to cancel the privatization. Among the contract terms the consortiums had been seeking, but the government had been unwilling to grant, was the closing of lines 1 and 2 at Alcasa.

Sequea said the soon-to-be closed lines were simply "too costly." He explained that each metric ton of aluminum from lines 1 and 2 cost \$1,500 to produce while production at lines 3 and 4 at Alcasa cost just \$1,200 per metric ton with world-wide industry standards at \$1,000 to \$1,050 per metric ton.

Sequea also cited unspecified environmental concerns for the closure. "These lines (1 and 2) were the first to be installed at the plant and now there are some worries about the environmental impact of the lines," he said.

The majority of the 500 workers who currently man the lines would be integrated into the rest of the plant's operation, according to Sequea.

ベネズエラ通貨：ボリバルについて

**The bolivar closes softer at US\$:Bs.532/533** *Nation 58 Apr 22*

By Reuters

Venezuela's bolivar closed softer at 532.00/533.00 per dollar, but brokers said trade was calm and devaluation fears had eased from last week despite continuing strong dollar demand and countervailing Central Bank intervention.

The bolivar closed Monday at 531.00/532.00 per dollar.

"The market opened with strong corporate demand, which was completely met by the Central Bank," said one trader who estimated the bank sold between \$80 and \$120 million dollars over the session.

Venezuela's currency market is unusual in that the Central Bank is the main foreign currency supplier to the market, blurring the distinction between the Central

Bank intervening and supplying liquidity. Recent heavy dollar sales have "dispersed all expectations there might be a devaluation and ratified there will be no policy change," one trader said.

But brokers added that while devaluation fears might have eased, investors and businesses continued to hedge Venezuela's growing political uncertainty by turning to dollars.

CVG 企業の民営化関連

**Causa R party calls on CVG top executives to step down**

*Nation 58 Apr 21*

By José Figueredo  
Daily Journal Staff

Labor-based Causa Radical on Monday called for the resignation of Elías Nadim Ynaty as president of the state heavy industries company Corporación Venezolana de Guayana (CVG) and Pablo Morales as president of the CVG unit Venalum after the complex entered a critical operational situation.

Deputy Jorge Roig, Causa R's parliamentary leader,

warned that the aluminum complex made up by Alcasa, Bauxilum, Venalum and Carbonorca are on the verge of a complete breakdown because over the weekend some 120 aluminum ore production cells had to be put out of work, and some \$20 million are needed for their replacement.

"The absolute abandonment of the complex is the reason why not many foreign investors are interested in its privatization," said Roig.

He called for the creation

of an auditing and watchdog commission because the complex urgently requires repairs. "(Planning minister) Teodoro Petkoff should do something about that. Venalum is in critical condition. If the government does nothing there will be nothing left to privatize. Those cells failed because there is an absolute lack of maintenance, although there is a huge white-collar bureaucracy," he added.

Roig said both Ynaty and Morales should resign as nei-

ther of them has done a good job.

"Both of them are very poor managers and must be replaced right away," he added.

According to figures provided by Roig, Alcasa closed last year some Bs.40 billion in losses, while coal-unit Carbonorca produced Bs.1.8 billion, and Venalum, some Bs.2.5 billion.

In addition, he said on April 17 a crane was derailed and nearly caused the shutdown of Venalum line 5.

CVG 企業の民営化関連

# Chávez: Investors welcome, but ...

By Reuters

Venezuela's leading presidential candidate Hugo Chávez said he welcomed foreign investment but would review privatization contracts already awarded if elected.

"I'm giving all (foreign investors) the message that they are welcome. But we're going to work according to the country's sovereignty and interests," Chávez told a news conference late Monday.

Chávez, who spoke after a meeting with leading business chamber Fedecamaras, said he did not agree with the present government's efforts to privatize basic industries such as steel company Sidor and the aluminum sector complex.

Sidor was sold to a consortium of Latin American compa-

nies last year and would not be re-nationalized by a Chávez government, he said.

But if the President Rafael Caldera's government failed to sell its state aluminum complex as planned, it would remain in state hands, Chávez added.

"The framework of the (privatization) contracts will have to be reviewed ... If changes have to be made we will make them through talks with the multinational companies which have bought these companies," he said.

Chávez, who was jailed and later pardoned for leading the 1992 coup attempt, recently overtook former Miss Universe Irene Sáez in opinion polls for the December presidential vote.

His rising popularity has

caused concern among local and foreign investors who fear a Chávez government would reverse market-led policies.

But Chávez stressed that he was not opposed to slimming down Venezuela's large state bureaucracy.

"The state has to be reduced to solve the fiscal deficit but we do not agree with throwing hundreds of workers onto the streets.

The reduction would have to go hand-in-hand with the creation of employment in the private sector," he said.

Chávez also said he was opposed to the creation in Venezuela of a currency board, a policy which has been associated with his chief rival Sáez.

"It's a basic principle of sovereignty. We cannot eliminate the Venezuelan Central Bank

and depend on the U.S. Federal Reserve," he said.

Under a currency board, as used in Argentina and Hong Kong, the local currency is pegged to the dollar.

Governments thus effectively surrender their exchange rate policy to the Federal Reserve, but also import its low inflation and interest rates, and gain exchange rate stability. Fedecamaras members who listened for three hours to Chávez's proposals, were cautiously receptive to the candidate's platform.

"He presented a series of very dense and profound ideas ... Now we can see that with Chávez the productive sector will not be persecuted," said Carlos Sequera Yépez, head of Fedecamaras' investment committee.

CVG 企業の民営化関連

## □ Venalum smelter partly down

A short circuit late last week blew out about 13 percent of the 900 reduction cells at Venezuela's Venalum aluminum smelter, the company said, adding to its woes as the government struggles to privatize the industry.

Venalum president Pablo Morales said in a statement Tuesday that half of the cells that went down Thursday would be running again within the month. But he gave no details how production would be affected at the 430,000 metric tons per year smelter.

Sources at Venalum, part of the huge four company aluminum complex that failed a first privatization attempt last month, said between 109 and 120 cells had been affected. Thumbnail calculations suggest the plant will lose around 150 metric tons per day of production.

The government was forced to postpone the sale of the aging aluminum complex in March after prospective bidders dropped out, citing an excessive base price of \$2.1 billion and onerous sale terms given the complex's condition.

The government has said it will hold a new auction with revised conditions in about two months.

But last week a court agreed to hear a multi-million dollar lawsuit brought by workers seeking compensation for health problems. And reports said repairs to the damaged cells will cost upwards of \$20 million, further complicating the privatization of a loss-making industry the government says it can no longer afford to support. (Reuters)

Nation  
198 Apr. 22

## Unions block Alcasa pot line closures

Nation 198 Apr. 25

By Reuters

Venezuela's plans to close two high-cost, highly-contaminating pot lines at its Alcasa aluminum smelter are being jeopardized by fierce opposition by labor unions, a top government official said.

The government wants to close the lines, which produce about 50,000 metric tons of Alcasa's 210,000 metric tons per year output, as part of a major restructuring to make the state aluminum complex more attractive to potential buyers.

But despite offers to retrain and re-locate workers affected by closure of the lines, "we are confronted with enormous resistance which is damaging the process," said Elías Ynaty, president of state holding Corporación Venezolana de Guayana.

If union opposition does not abate, closure of the pot lines will be left to the aluminum complex's new owners following privatization which is due to take place within the next two months.

Ynaty said there was also resistance to the closure of Alcasa's loss-making lamination plant which employs about 250 workers.

As part of the restructuring plan, 50 executive posts,

or about half of the aluminum complex's top management, will be eliminated from April 30. Further management positions will be cut in coming weeks, he said.

"This is an important sacrifice which the aluminum sector has to make to put it in the best possible condition," for privatization, Ynaty said.

The Venezuelan government was forced to postpone the sale of a 70 percent controlling stake in its aluminum complex last month when all of the interested bidders dropped out citing an excessive base price of \$2.1 billion and onerous sale conditions.

In the run-up to last month's aborted auction three consortiums were lining up to bid for the aluminum complex: U.S.'s Alcoa with Canada's Alcan; U.K.'s Billiton with France's Pechiney, Century Aluminum Co. and Venezuela's Sural and Alentuy; U.S.'s Reynolds Metals Co. with Norway's Norsk Hydro.

In addition, the following companies showed early interest in the complex: U.S.'s Ormet Corp, Alumax Corp. and Kaiser Aluminum Corp., South Korea's Daewoo, Japan's Mitsubishi Corp. and Marubeni Corporation.









JICA