

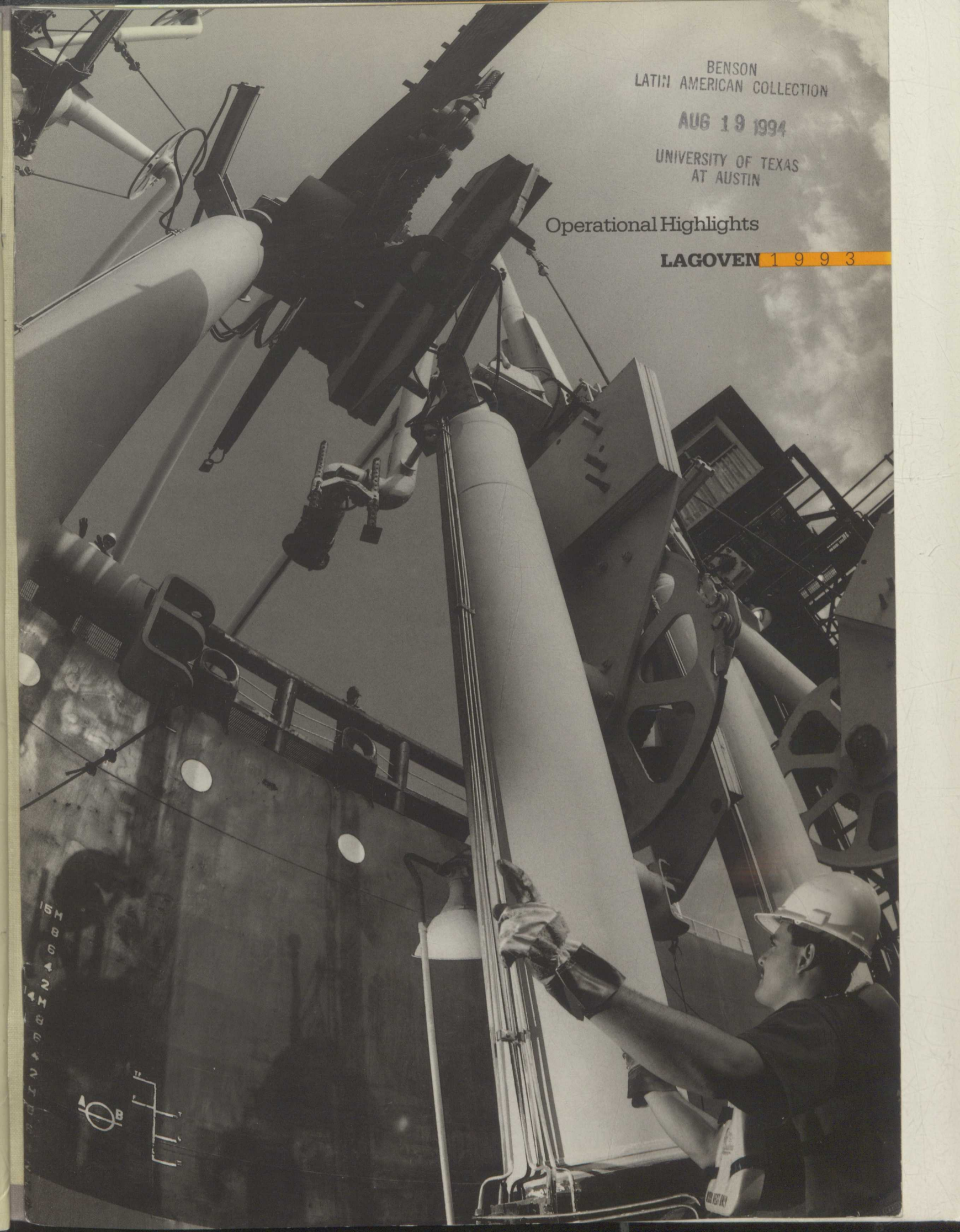
BENSON
LATIN AMERICAN COLLECTION

AUG 19 1994

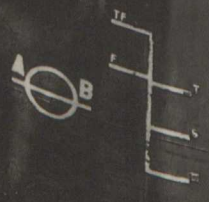
UNIVERSITY OF TEXAS
AT AUSTIN

Operational Highlights

LAGOVEN 1 9 9 3



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Operational Highlights

1 9 9 3 **LAGOVEN**

Lagoven S.A. is a subsidiary of Petróleos de Venezuela S.A.

Board of Directors

at 12/31/93

President

Julius Trinkunas

Vice President

Luis Urdaneta V.

Directors

Francisco G. Anzola

Gonzalo Castillo G.

Alfredo Essis B.

Ramón A. Mantellini Q.

Fernando Octavio Márquez

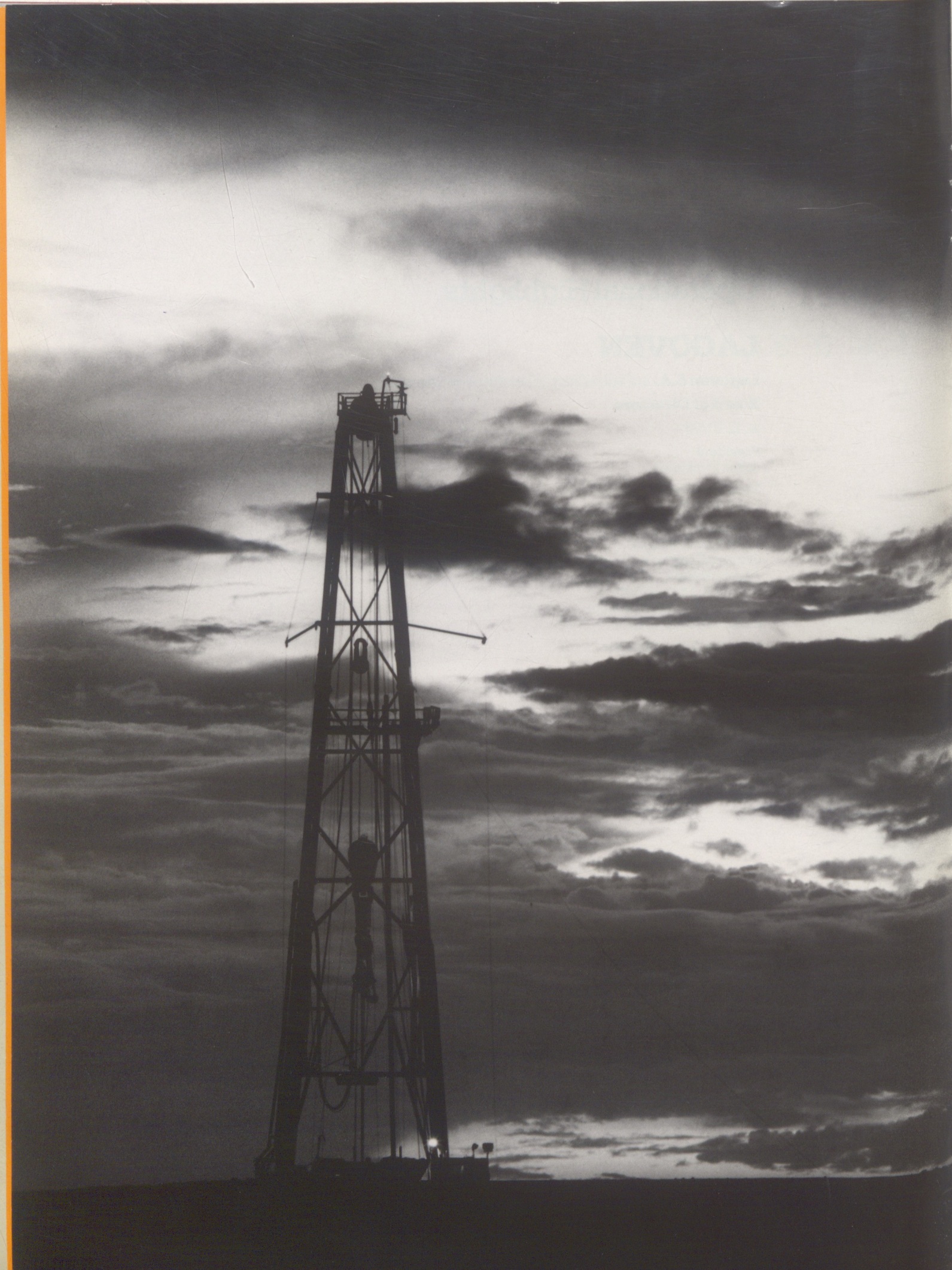
Gustavo Quintini A.

Principal Labor Director

Carlos Ortega

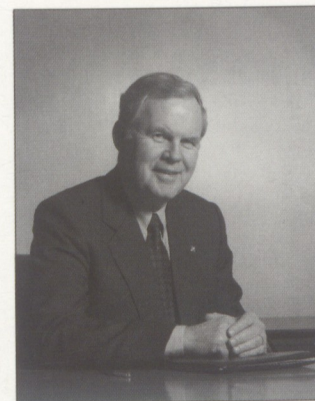
Alternate Labor Director

Homero Urribarri



Operational efforts, in all areas of the business, thoroughly carried out the scheduled plans and programs

President's Message



During 1993, despite a changing and difficult environment, Lagoven reached, and in some cases even exceeded, both its operational and its financial goals. Once again the year's results rank us squarely as the leading company in the oil sector: We maintained our position at the forefront in terms of production

and refining levels, earnings, return on net capital and our contribution in tax payments to the national treasury.

In real terms, both operational costs and per barrel costs were lower than they were in 1992, which boosted net profits to a substantially higher level. We also strengthened the company's financial position by applying strict austerity measures and more efficient administration, both of which contributed to a significant improvement in cash flow.

In terms of operational goals, we completely carried out our plans and programs in every area of the business. This demonstrates the desire and commitment of our employees to strive for productivity and excellence using the Total Quality philosophy, which we have successfully adopted. Now we are building on that commitment, using the ISO 9000 standards as a reference and guide.

Crude oil reserves, which totaled 26.168 billion barrels at the end of the year, show excellent promise of increasing as the result of exploration in East Maturín, where we started drilling the first stratigraphic well in order to determine the presence of oil in that region.

In terms of production, we attained an average of 1.011 million barrels per day of crude, condensates and liquid gas, which was 25,000 barrels per day more than we produced in 1992. At the same time, gas production

averaged 1.4 billion cubic feet. Our production capacity at the end of the year represented completion of our goal of 1.146 million barrels per day.

In 1993 we continued to complete production projects on schedule and in line with our forecasted goals. That was the case with secondary recovery projects at El Furrial in Monagas state and in Lake Maracaibo. That was true, as well, for implementation of programs to conserve and make use of natural gas resources in both eastern and western Venezuela.

In terms of refining volumes, we reached expected goals, processing an average of 440,000 barrels per day. The Amuay Refinery's processing units continued moving closer to the maximum added value they are theoretically capable of achieving, marking a new record in this aspect. This meant additional revenue of about Bs. 442 million.

Also at Amuay, we progressed according to plan on construction of a delayed coking plant, set for completion in 1994.

Compared to previous years, the prices of crudes and products dropped in 1993 due to a market characterized by oversupply.

Export sales were 855,000 barrels per day, which was 95,000 barrels per day more than in 1992. We were able to strengthen our position as the leading asphalt exporter to the East Coast of the United States, bringing in additional earnings.

Liquid hydrocarbons for sale on the domestic market increased by 5,000 barrels per day over 1992, reaching an average of 97,000 barrels per day. Of that, 11,000 barrels were aviation and marine products for international carriers.

In 1993, the National Congress approved a joint venture association between Lagoven and the international companies Shell, Exxon and Mitsubishi for developing the "Cristóbal Colón" natural gas project,

which without a doubt marks a new era in the history of Venezuela's oil industry. The project's development represents an opportunity to expand our participation in the energy market by 140,000 barrels per day of oil equivalent and makes it possible for us to diversify our earning base. The project will also be an important stimulus to Venezuela's industrial development.

Also successful was the completion of a second round of bidding for oil field reactivation. Through operating agreement contracts, we assigned the Jusepín unit to Total, the Western Urdaneta unit to Shell and the Quiquire unit to the consortium of Maxus/Otepi.

Regarding our community relations policy, we continue with our philosophy of progress through cooperation. Within that framework, Lagoven made advances on important long-term agreements, such as those we signed with entities in the states of Zulia, Monagas, Sucre and Falcón. The agreements involve government, scientific and academic agencies in each of those regions.

The Company focused its activities on developing plans and programs in land management, surveying,

infrastructure, training, civic support and farming, with the goal of promoting greater local proficiency in the areas where we operate.

We continue to carry out, by encouraging participation, activities aimed at the social and environmental development of communities in our operating areas. In that sense, we conducted programs supporting education, health, sports, culture, farming, animal husbandry and infrastructure.

We also continued to give our backing to Venezuela's industrial and commercial sectors. Of the Company's total materials and equipment purchases, 64 percent were made within the country, amounting to more than Bs. 28 billion.

In summary, we can say that in 1993, as in the past, the excellence of our employees was the key factor in achieving quality results, along with maximum efficiency and productivity.

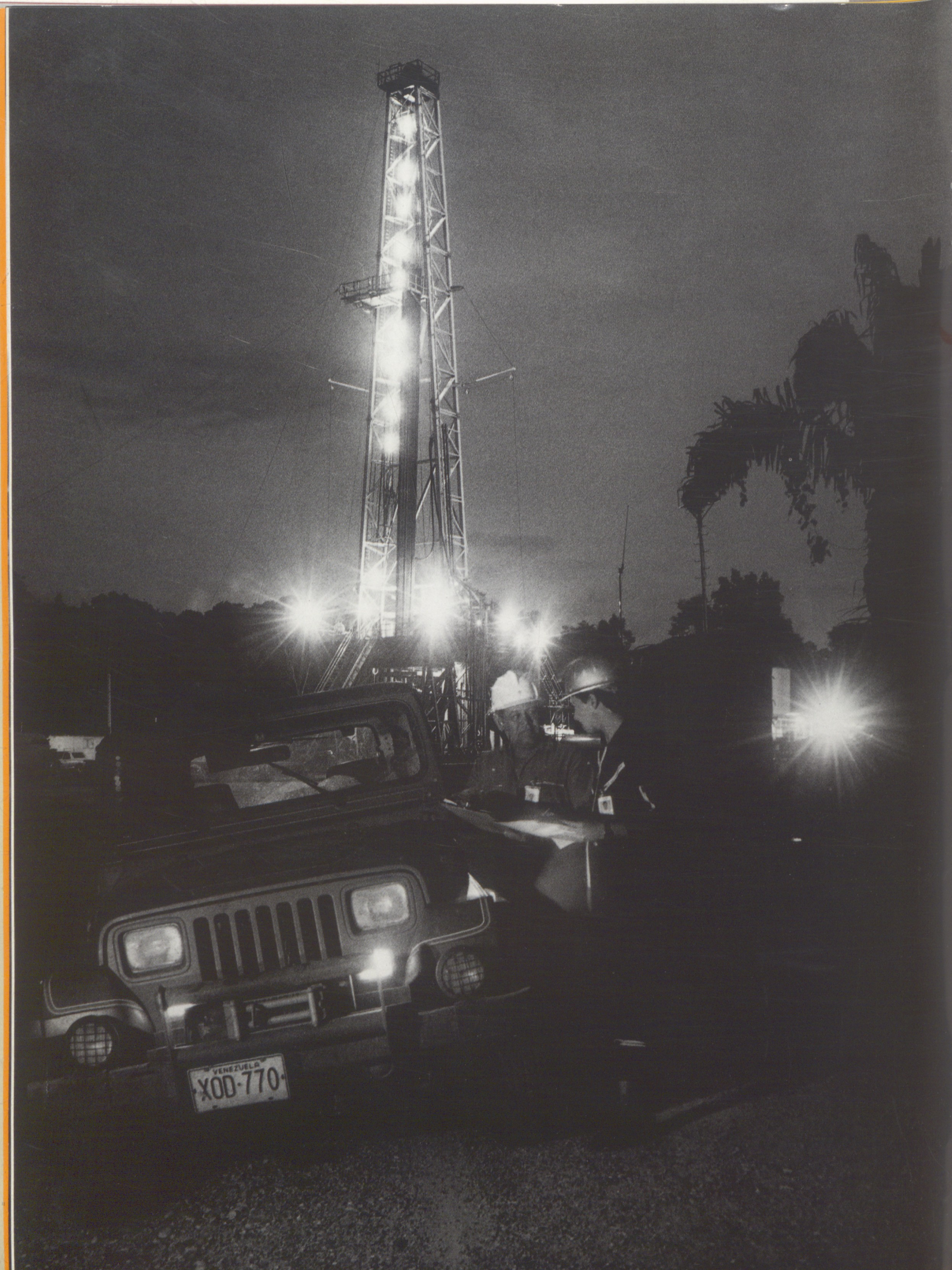
In 1994 we will continue plans to increase and optimize activity levels, seeking to maximize the revenues the country demands and to maintain the Company's leadership on the national as well as the international level.

J. Trinkunas

Julius Trinkunas



According to plan, progress was made on construction of a delayed coker plant at Amuay Refinery



In Eastern Maturín, drilling was started on stratigraphic well EML-1E, with the goal of obtaining subsoil lithological information. Lomberto Navarro and Leonardo Marciano proceed with work in the zone

Operating Results

9 9 3 Exploration

Oil reserves, which at the end of the year stood at 26.1 billion barrels, show excellent prospects for increasing as a result of exploration activity carried out in East Maturín in the state of Monagas. In line with the 1993 strategies, the Company focused its exploration activities on the traditional areas of Lake Maracaibo, Northern Monagas and Central Monagas. The goal was to use the most advanced techniques available to add as many new reserves as possible over the short term. For incorporating reserves in the long term, the Company also carried out intense exploration in the area

of East Maturín.

In Lake Maracaibo, 330 square kilometers of three-dimensional (3-D) seismic data were recorded in South West Bachaquero. The data was processed with earlier data collected in 1992 from the Bachaquero area, for a total of 834 square kilometers. These efforts, along with previous 3-D surveys since 1985, cover 1,336 square kilometers; they form the main database for a multi-disciplinary analysis of the lake, which is the technological solution to optimizing exploitation of the reservoir by adding new reserves.

In the Southern Lake area, exploratory drilling started on well SLB-6X, with the goal of adding 24 million barrels of condensates and light crude from the Cretaceous zone. The well showed prospects in the samples from the Tertiary layer (Miocene and Eocene), which indicates a possible new discovery in the area.

In Northern Monagas, 3-D surveys were started in the Orocuai and Northern Monagas fields, recording 51 square kilometers and 29 square kilometers, respectively, during the year. These surveys, together with those made in Boquerón in 1992 and El Furríal in 1993, plus those planned for 1994, will map a total of 804

square kilometers in Northern Monagas in order to re-evaluate the area in 1995-1996 through integrated multi-disciplinary analysis of exploration and reservoirs.

In Central Monagas, two wells were drilled. The first, CCL-1X, confirmed the presence of significant thicknesses of sand with favorable features for the accumulation of hydrocarbons. The second, PTL-1X, brought in 3,007 barrels of crude measuring 26.6 degrees API. Studies indicate a volume of about 24 million barrels of proved and probable reserves.

In East Maturín, drilling was started on stratigraphic well EML-1E with the goal of collecting subsoil lithological data, strategically valuable for interpreting the area's geology.

For supporting new exploration ventures, two geological studies of significant strategic importance were started in areas bordering Trinidad: one with the company Amoco in the Delta Platform to assess and quantify the potential of gas and condensates; and the other with Petrotrin in the Gulf of Paria to establish the regional geological framework of the area.

Production

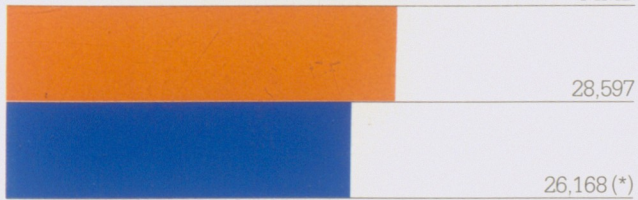
In 1993, Lagoven maintained an average production of 976,000 barrels per day of crude and 35,000 barrels per day of natural gas liquids. Gas production averaged 1.4 billion cubic feet per day. Crude and condensate production capacity reached 1,146,000 barrels per day by the end of 1993.

During the year, efforts to generate and maintain capacity went beyond traditional programs. Noteworthy are the results obtained by the Eastern Division, which applied new well-reconditioning techniques in the Orocuai and Chaguaramal fields, yielding a production increase of more than 50 percent.

Reserves at the year's close stood at 26.1 billion barrels.

The Company continued work on key projects, such as El Furríal Secondary Recovery. As part of that, four water injection units were installed and started up in

Total Volume of Proved Crude Reserves
MMB

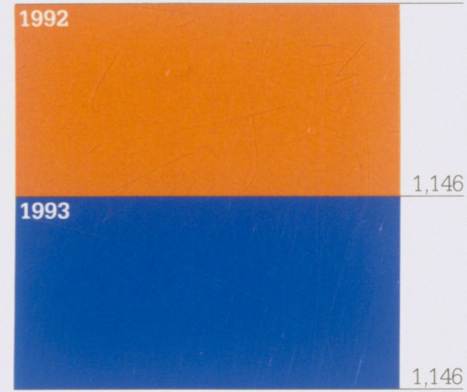


(*) 2,319 MMB transferred to other subsidiary

Total Volume of Proved Gas Reserves
Bcf



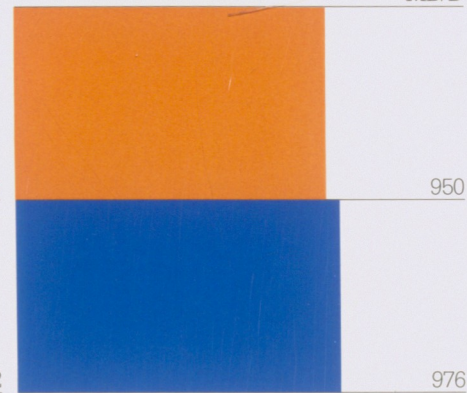
Production Potential
MB/D



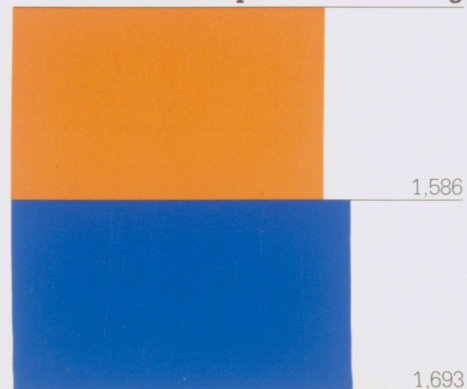
Development Wells



Average Crude Production
MB/D



Well Repair and Servicing



Abbreviations:

- MB/D: Thousand barrels per day
- MMB: Millions of barrels
- MMcf: Millions of cubic feet
- Bcf: Billions of cubic feet

order to maintain adequate pressure in the reservoir and thereby guarantee a capacity of 250,000 barrels per day of medium crude. In addition, the ACOGAS project came on line for processing up to 250 million cubic feet per day of gas and recovering 9,000 barrels per day of liquid hydrocarbons.

In terms of managing and conserving natural gas, three gas compression units were installed in Lake Maracaibo, each with a capacity of 100 million of cubic feet per day.

In the Western Division, three gas dehydration plants were completed in the Central Lake field.

The application of new technology led to innovative drilling and well-reconditioning activities. The re-drilling of wells, horizontal as well as vertical, delivered excellent results and proved to be the best exploitation option, given the substantial cost reduction and increased yield. In addition, 16 wells were drilled in the Bolívar Coastal field on the eastern shore of the lake, using a slim hole design, which generated savings of Bs. 280 million.

In terms of well rehabilitation operations, there was more demand for greater reservoir stimulation, which doubled production in treated wells. In providing well service, the use of continuous tubing was introduced, yielding significant cost reduction.

To optimize profits from heavy and extra-heavy crudes, the Company identified and tested the following projects: special finishing for horizontal wells, well stimulation with electromagnetic waves, selective steam injection by adding foam, use of multi-port gate valves to substitute "Christmas trees," well-packing with bauxite and the use of rod rotators.

The Company continued manufacturing Orimulsion® in the amounts required by Lagoven's sister subsidiary Bitor. In 1993, more than two million tons of Orimulsion® were produced at Production and Emulsification Unit 1 (MPE-1).

Strategic Associations and Operating Agreements

In 1993, Venezuela's Congress authorized a strategic association agreement between Lagoven and the companies Shell, Exxon and Mitsubishi for carrying out the "Cristóbal Colón Project" for exploiting and selling natural gas from offshore reserves lying north of Sucre state. The next stage of the project is confirming the reserves before starting up the investment program.

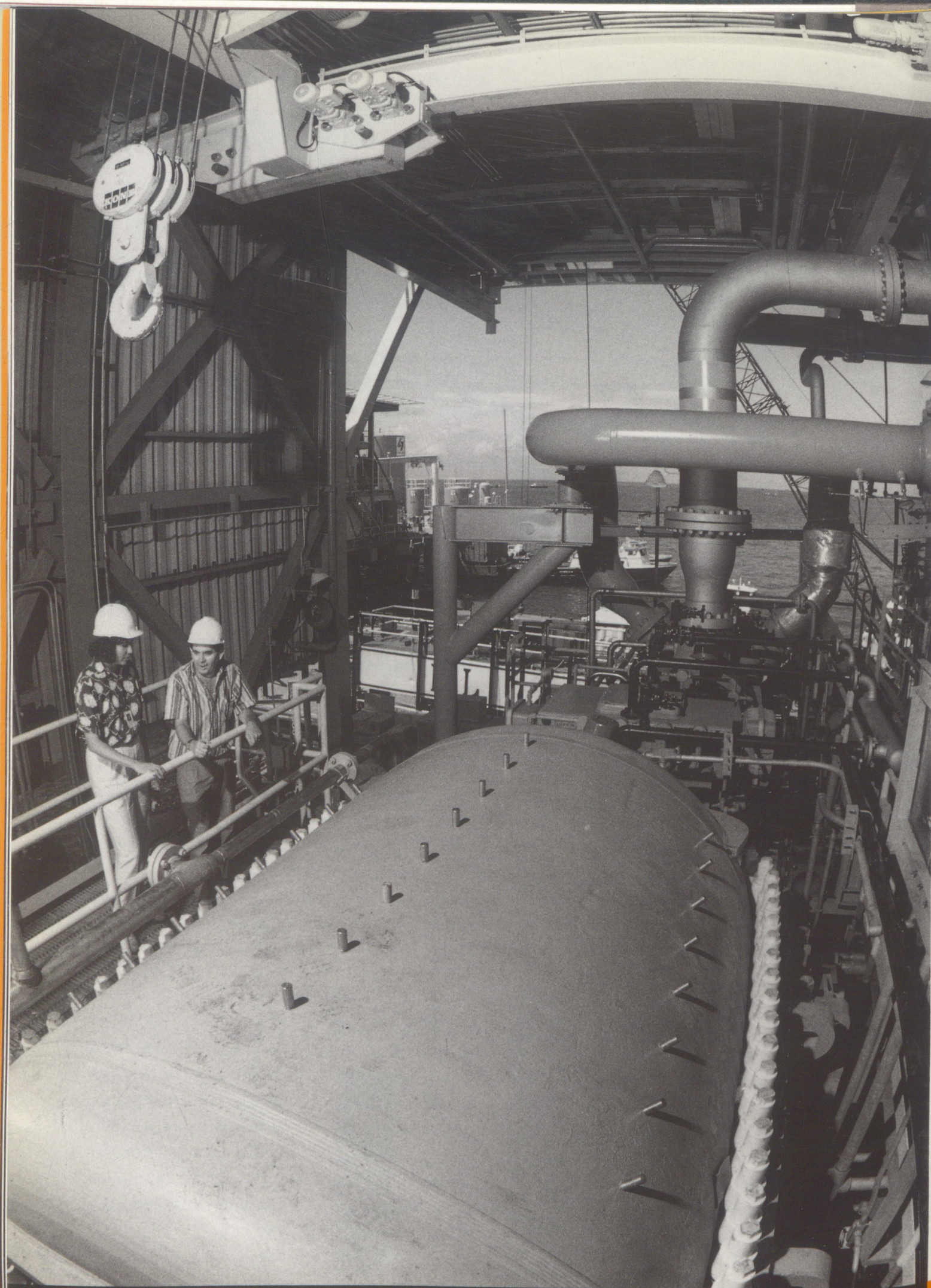
During the year, simulation studies were developed using modern systems and advanced techniques for making more accurate geological maps and designing the most efficient procedure for exploiting these reserves. The interpretation of 3-D seismic data collected in 1991 and 1992 was continued in 1993 and will be completed in mid-1994.

Regarding the oil field reactivation policy, Lagoven brought to a close the second round of bidding for signing new operating agreements. In northern Monagas state, the Jusepín unit was assigned to Total, a French company, and Quiriquire was assigned to Maxus/Otepi, a Venezuelan-American consortium. Shell won the West Urdaneta unit located in Lake Maracaibo.

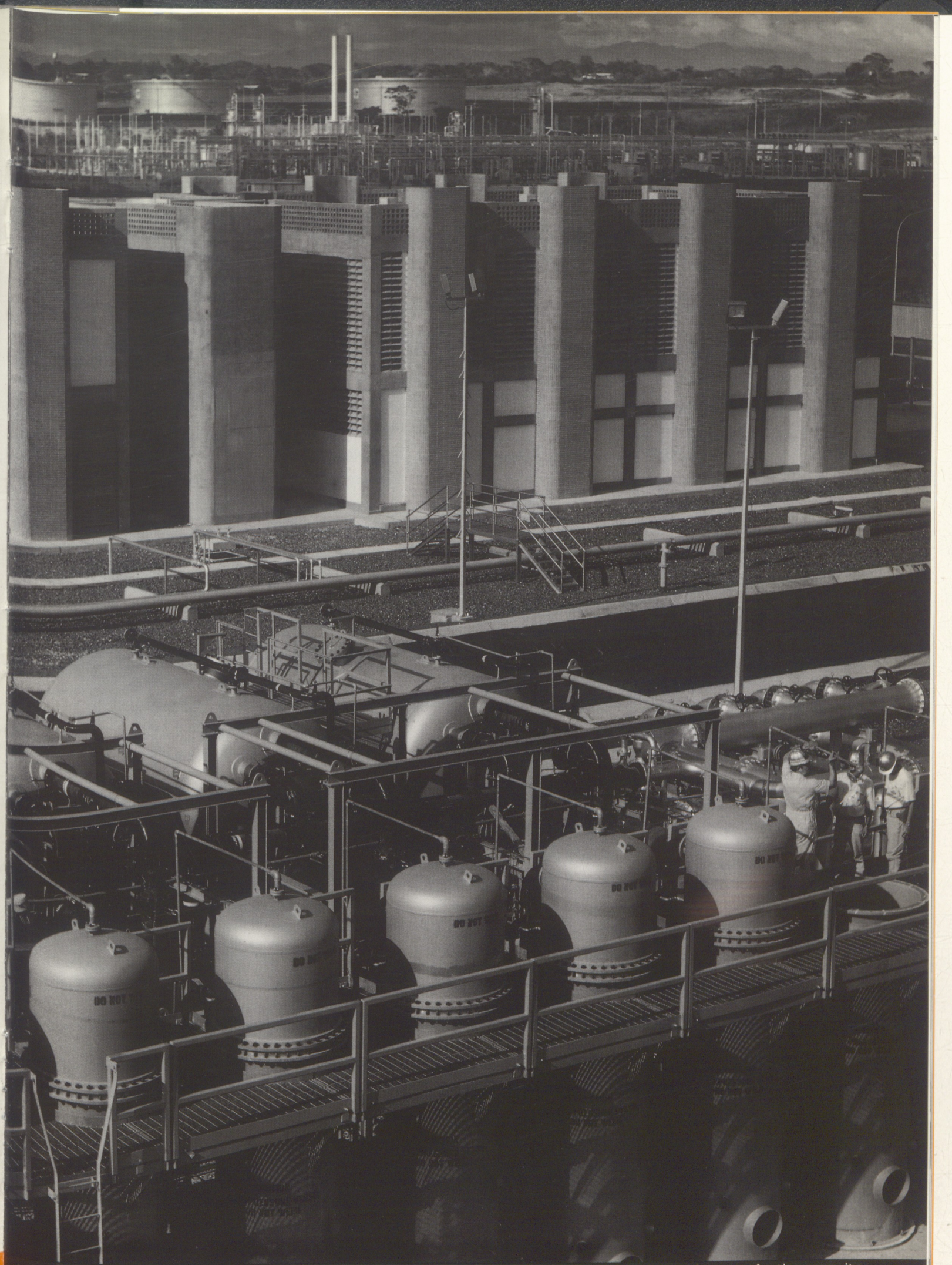
Refining

The Amuay Refinery processed an average of 440,000 barrels per day of crude, including 51,000 barrels per day of heavy crude, which is the highest level in the past 10 years. That volume made it possible for the Company to meet domestic demand of 147,000 barrels per day of products and to supply 282,000 barrels per day for export, taking advantage of deep conversion capacity during the year.

The total volume of products was 429,000 barrels per day. As part of the strategy to capture new markets for



Three gas compression units were put into operation in Lake Maracaibo, each one with a capacity of 100 MMcfd



Secondary recovery operations were started up in the El Furrial field in Monagas state, guaranteeing a production capacity of 250 MB/D of medium crude in the zone.

high quality hydrocarbons, the Company manufactured 450,000 barrels per day of automotive diesel with 0.05 percent sulphur content.

In 1993, the Amuay Refinery continued moving closer to operating its processing units at the maximum added value they are theoretically capable of, reaching 93.9 percent optimum value. This generated additional revenue of Bs. 442 million.

The refinery's Flexicoker Unit, the largest of its kind in the world, exceeded its own operating record. At the close of the year, the unit had operated without interruption for 646 days, which is the longest run in its 11 years of service. Top operating condition not only facilitated postponing the refinery's scheduled maintenance shut-down from December 1993 to March 1994, but also made it possible to step up its conversion use to 95 percent, which meant greater productivity and earnings.

Among investment projects, advances in the construction of the Delayed Coking Unit and its related infrastructure are noteworthy. This unit will come on stream in September 1994. By processing 34,000 barrels per day of pitch, it will yield products of higher commercial value such as naphthas, diesel and gas oils, with annual earnings on the order of Bs. 4.88 billion.

Trade and Supply

Lagoven attained an export sales volume of 855,000 barrels per day in 1993 as a result of its placement strategies for crudes and products. An agreement with Lyondell-Citgo Refinery Co., a United States company, secured additional placement of 200,000 barrels per day of heavy crudes in the long term.

Total deliveries amounted to 592,000 barrels per day of crudes and 263,000 barrels per day of products.

The company expanded its presence in the Carib-

bean market, as well as in Mexico and Western Europe, developing agreements for placing gasoline components. Market opportunities were opened in China, Japan, India, Singapore and the Mediterranean.

The Amuay Refinery's flexibility enabled the Company to sell diesel with 0.05 sulphur content, in accordance with new environmental restrictions in certain parts of the United States.

Lagoven also consolidated its position as the largest asphalt exporter to the East Coast of the United States.

National Marketing

Sales of products on the domestic market reached a total of 97,300 barrels per day, not including natural gas and liquefied petroleum gas.

The Company continued to pursue service improvement through the construction by third parties of three new service stations and the remodeling of 18. In addition, four service stations were incorporated into the electronic sales system. In 1993, gasoline sales with credit cards increased by 20 percent, from 85 million liters to 102 million.

Information Technology

As support for exploration and production activities, the Company completed the Exploration and Exploitation Integrated Database, which facilitates sharing data for special applications and minimizes search time for geological data and interpretations. Improvement of this service will result in annual savings of Bs. 100 million.

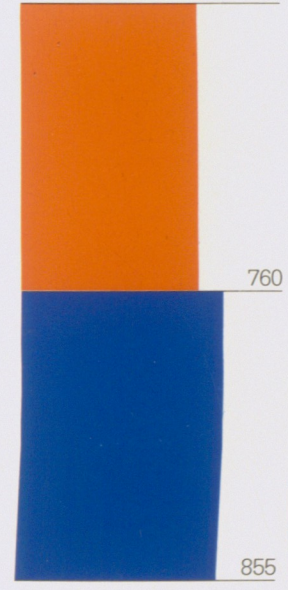
One of the most important achievements was completion of a digital transmission infrastructure for the Computing Center Rationalization Project. Further, the centers in eastern and western Venezuela were closed as these areas are now served by the existing

International Sales	Product Supplies to
MB/D	Domestic and Export Markets
MB/D	MB/D

Crudes	Products
---------------	-----------------

Light	LPG
28	4.4
42	5.4
Medium	Naphtha/Gasoline
208	137.7
266	142.3
Heavy	Turbojet Fuel
247	31.7
276	32.5
Reconstituted	Distillates
8	134.8
8	147.9
Total	High Sulphur Residuals
491	96.8
592	76.0

Total Exports



Products

Gasoline/Naphtha	75
82	
Distillates	104
109	
Residuals/Other(*)	90
72	
Total	269
263	

(*) Includes asphalts

Lubricants	0.9
0.7	
Asphalt	24.3
23.1	
Other	1.3
1.2	

1992	431.9
1993	429.1



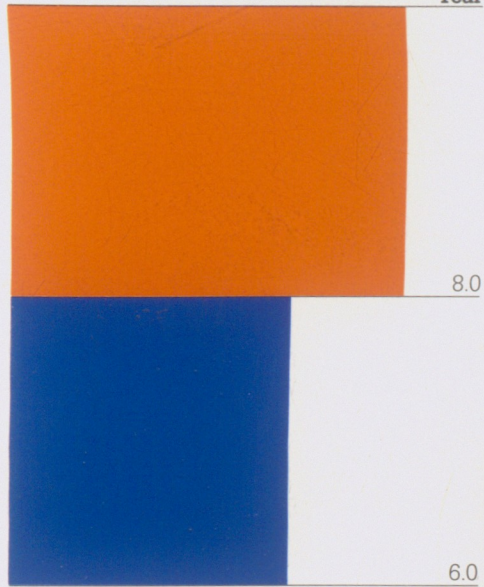
During 1993, the Amuay Refinery processing units continued moving closer to the maximum added value they are theoretically capable of achieving.



Alfredo Mindiola and Luis Rodríguez supervise construction progress on two plants at Amuay: one for treatment of biological waste water and the other for secondary treatment of oily water.

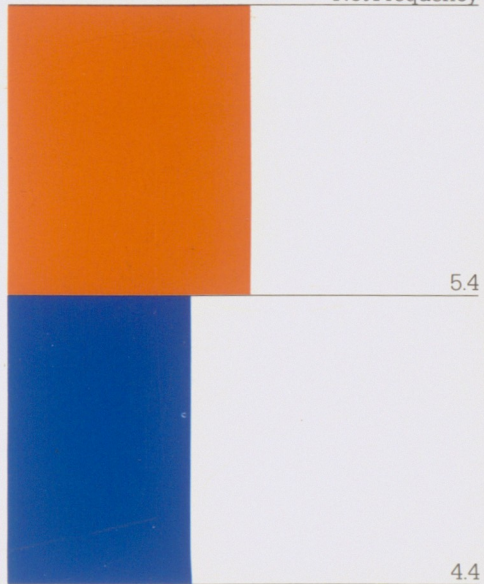
Comparative Index of Industrial Injuries

Gross Frequency
Year

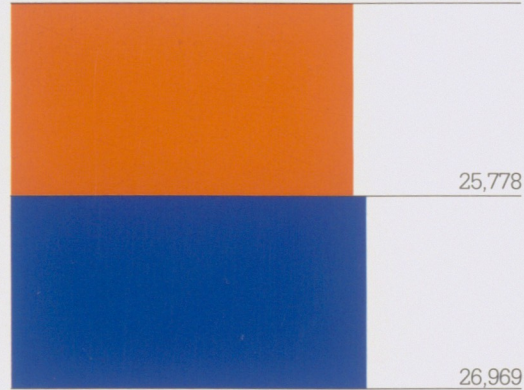


Comparative Index of Industrial Injuries

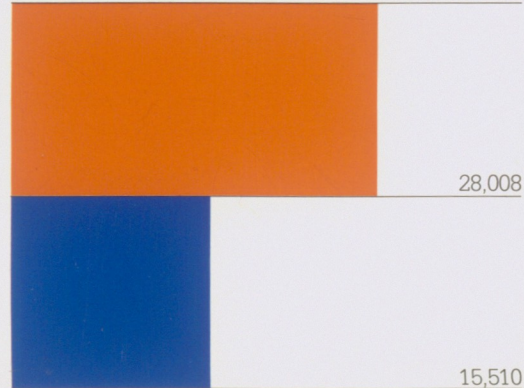
Net Frequency



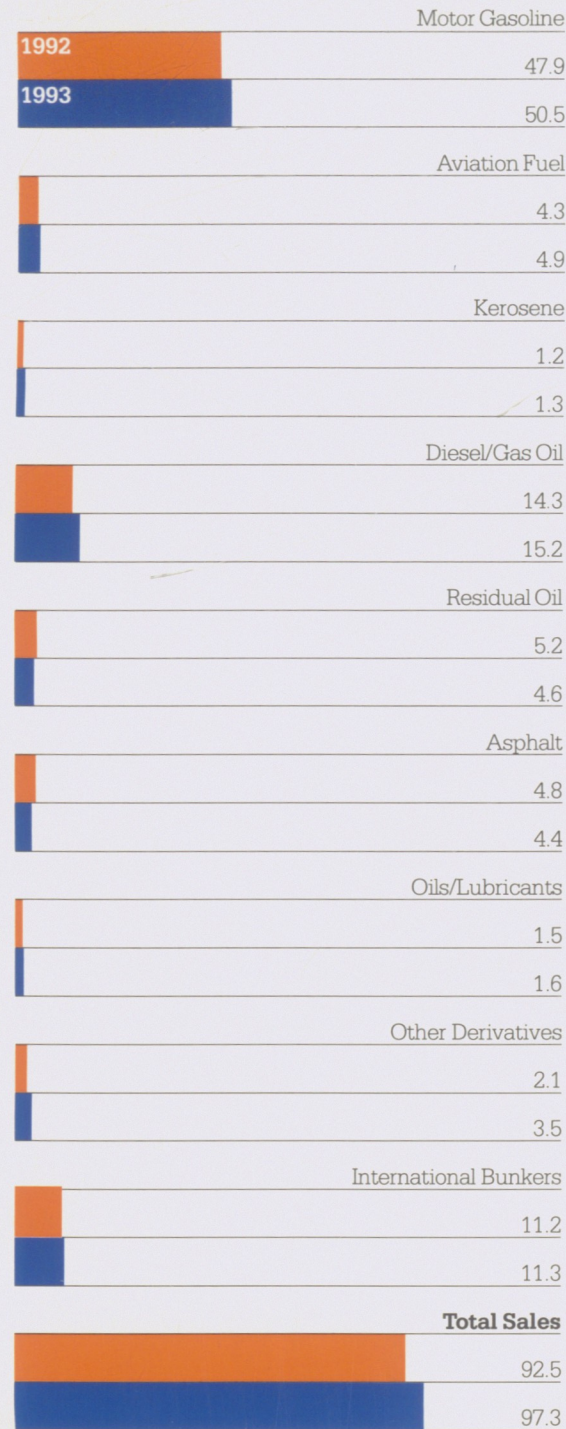
Purchases in Venezuela (Billions of Bolivars)



Purchases Abroad (Billions of Bolivars)



Domestic Sales (MB/D)



Caracas Center. This move yielded savings on the order of Bs. 129 million a year.

Also completed was the National Marketing Department's Plant Control and Administration System (SICAP), which speeds processes such as billing, cash flow and inventory credit control at fuel distribution plants.

Materials

In 1993, Lagoven purchased 64 percent of all its materials and equipment within the country, equivalent to Bs. 26.969 billion. The total amount of purchases was Bs. 42.479 billion.

Applying the Total Quality philosophy and a rationalization program for materials and equipment, the inventory was reduced 27 percent from the start of the year. This resulted in a significant contribution to improving cash flow.

The Company took active part in promoting, developing and conducting corporate programs offering advice to Venezuelan suppliers and industries regarding production and supply of materials and equipment for the oil industry.

Industrial Safety

As a result of employee efforts in both safety and the control and prevention of accidents, the gross frequency index obtained in 1993 was the lowest in the history of either Lagoven or its predecessor. The net frequency index was the lowest in the last four years. The severity index and combined gross index were also lowest on record for man-hours by contractors. In terms of the combined accident index, which includes contractors, Lagoven's Exploration and Production Section obtained the coveted "PDVSA Golden Hard Hat" safety award for the second year in a row.

The National Marketing Department was distin-

guished by PDVSA and the Inter-American Industrial Safety Council for accumulating one million man-hours without disabling accidents. The Western Division's Drilling Department was also commended for setting a new record of one million man-hours without any disabling accidents, equivalent to 286 consecutive days.

Environmental Protection

Lagoven's environmental program was guided by national and international environmental regulations. Among efforts worthy of mention were the undertaking of environmental impact studies for new projects, as well as environmental evaluations of operating activities.

In the Eastern Division, progress continued on a survey of ecological information and a geographical information system for the East Maturín project. The environmental study for exploratory well EML-1E in northern Monagas state was completed.

As part of the marginal fields reactivation program, an integral protection audit was completed for the Pedernales field in Delta Amacuro and others were started in Quiriquire and Jusepín in Monagas state and West Urdaneta in Zulia.

People First

One of the most basic premises of Lagoven's management philosophy is "people first." Because of that there is an emphasis on developing projects in the area of health and welfare. Outstanding among these in 1993 were construction of the Gustavo Quintini Clinic in La Salina and expansion of the Coromoto Hospital, which as of 1993 is being administered as a non-profit civil association with participation by the Lagoven Workers Foundation.

The Contributory Health System was reworked to



Sabas Giménez and José Luis Chirinos supervise work at the La Salina materials yard



During the year, environmental evaluations were carried out on exploratory well EML-1E in Monagas state



Ongoing supervisory preparation and vocational training are part of formal instruction activities

provide better service and obtain more efficient output for both employees and the Company. As part of formal training activities, 562,829 man-hours of courses were given, with emphasis on supervisory skills and a vocational technical program. A new Collective Labor Contract was signed, introducing incentives for personal improvement and incorporating additional employee benefits. At the close of the year, Lagoven's work force totaled 14,994 employees. In terms of employee housing, the Company focused its supportive efforts in 1993 on identifying, analyzing, promoting and continuing to meet housing needs. In that sense, 334 housing units were completed through civic associations. Currently 233 units are in development while another 478 are under consideration.

Lagoven Quality

Introduction of an ISO 9000 certification plan for the 1994-1996 period marks the final phase of the Quality Assurance corporate process. The plan proposes Lago 9000 in-house certification for 25 corporate processes, with the respective outside testing being done according to client requirements. The Fifth Lagoven Quality Seminar was held in 1993. At that event, results were presented on the application of continuous improvement methods in 13 operating processes out of 350 being advanced throughout the Company. The improvements contributed to raising Lagoven's cash flow by approximately Bs. 3.5 billion.

Operational Highlights

1 9 9 3 **Lagoven**

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