

**MINUTE ITEM**

This Calendar Item No. 25  
was submitted for information  
only, no action thereon  
being necessary.

**INFORMATIONAL  
CALENDAR ITEM**

25

A 57, 58

S 29

03/06/91  
W 17097  
G. Scott

**FIRST SEVEN MONTHS STATUS REPORT  
1990-91 PLAN OF DEVELOPMENT AND OPERATIONS AND BUDGET  
LONG BEACH UNIT, WILMINGTON OIL FIELD  
LOS ANGELES COUNTY**

At the end of the first seven months of the 1990-91 fiscal year (January 31, 1991), the latest approved Long Beach Unit Plan of Development and Operations and Budget remains unchanged at \$152,625,000 including administrative overhead costs and \$1.63 million carry-over from 1989-90. Seventy-five million dollars (\$75,000,000) has been spent through January 1991 and the expenditure trend, as shown on Exhibit 1, projects a total of \$146 million for the Plan year. This would be an increase of \$14 million over 1989-90 actual expenses. This trend increase is due to increased drilling and development activity and from short-term increase in producing activity as a result of the temporary increase in oil price.

The Long Beach Unit has experienced a significant improvement in revenue generation during this seven-month period. The increased revenue is a result of the marked increase in oil price, and higher than forecasted oil production rates, as shown in Exhibit 2. The increased oil rates are caused by increased drilling activity and improved operating practices in the field.

Oil prices for Long Beach Unit crude oil were at \$10.40/bbl. at the end of the 1989-90 fiscal year. Since that time, crude oil prices increased to record levels, and at the end of the first quarter of this fiscal year, prices were at \$29.35/bbl. During the second quarter of the fiscal year oil prices dropped again, to \$18/bbl. by the end of December 1990 and are currently below \$12/bbl, as seen in Exhibit 3. Because of the overall increase in price, revenue for the seven-month period has risen

significantly (Exhibit 4). The revenue during the period was \$210,295,000. Expenditures for the same period were \$75,029,000, which results in a net income of \$135,266,000 through the seven-month period. The Long Beach Unit activated a third drilling rig in mid-August to increase oil production rates in the best areas of the field. The third rig has been employed in the Upper Terminal Fault Block VI, which is an area of significant oil potential.

Drilling candidates presently exist to carry this third rig through the end of 1990-91 year. A modification to the Plan and Budget, which provides funds to allow continuation of the third drilling rig through June, 1991, was approved by the Commission in October 1990.

The State Lands Commission Reservoir Engineering staff has been aggressive in identifying areas where Long Beach Unit production and revenue can be enhanced to take advantage of the high oil price. The staff has identified several areas for implementation of work, and some of these areas have been addressed, and the work resulted in significant increases in oil production.

The State Lands Commission staff is also reviewing areas where operating cost reductions can occur. The operational expertise within the Mineral Resources Management group recognizes high cost areas that can be modified for more efficient operation which will result in reduced costs.

The State Lands Commission Reservoir Engineering staff is involved in an intense and aggressive evaluation of the performance of the Long Beach Unit under various development scenarios, in conjunction with the City staff. Already approved on the current drilling program is a project allowing for improved vertical conformance in Ranger 8A Fault Block. If successful, vertical conformance improvement could be expanded to other areas of the field. The State Lands Commission Reservoir Engineering staff is also evaluating well completion techniques and design which will be incorporated into the long range development of the Unit. New technology is available which can be applied to offer greater flexibility in the well design, allowing for longer lived wells, and adaptability to more selective use.

Operating expenses and trends are being more closely tracked so we can more closely and accurately anticipate the need to accommodate fund transfers or augmentations within the budget.

During the first seven months of the 1990-91 fiscal year, the Long Beach Unit experienced two planned island shut downs for scheduled maintenance. These occurred in September resulting in a reduction of the Unit oil production an average of 700 BOPD for that month. The third drilling rig commenced operations in mid-August, and completed its first well the second week of September. This well is presently producing over 200 BOPD. Thus far, drilling activity through January of this fiscal year has added 1,300 BOPD production to the Long Beach Unit which helped keep the oil production rate flat for the seven-month period.

Projecting the revenue trend through the remainder of this fiscal year assuming an average oil price of \$13/barrel and an average production rate of 46,000 BOPD for the remaining five months, a potential revenue of slightly less than \$300 million for the entire year is expected. Net income after expenses is forecasted to be approximately \$160 million for the entire fiscal year. This compares to the net income performance for the 1989-1990 fiscal year of \$124 million, and an original budgeted net income of \$72.7 million for the 1990-1991 fiscal year.

Significant activities and accomplishments in each Plan and Budget Program during the seven month period were:

**A. DRILLING & DEVELOPMENT PROGRAM**

Three drilling rigs were operated during the first seven months. Activity was on islands Grissom, White, Chaffee, Freeman, and Pier J. Four new water-injection wells were drilled, ten producers and ten injectors were redrilled, one idle producer was recompleted from the UP Ford to the Terminal Zone and placed on production. Three injection wells were worked over, and four producers were converted to injection. An active abandonment program is continuing and a total of 25 wells are expected to be abandoned by the end of the fiscal year. Drilling activity was in the Ranger, Upper Terminal and Lower Terminal Zones. Because of the need to optimize the current waterflood to increase the ultimate oil recovery of the Long Beach Unit, the State Lands Commission Reservoir Engineering staff has identified more economic opportunities.

The adjusted budget for the Drilling and Development Program for the entire 1990-91 fiscal year is \$31.8 million, an increase of \$11.3 million over the original budget (Exhibit 5). Funds expended through the first seven months were \$12.9 million, or 41 percent. This increase is a result of activating a third drilling rig as recommended by State Lands staff in Fiscal Year 1990-91 to accelerate field development and increase ultimate oil recovery.

B. OIL AND GAS PRODUCTION PROGRAM

The Unit produced 9.84 million barrels of oil and 1.9 billion cubic feet of gas during the seven month period. Average production rates were 45,800 barrels of oil per day and 8,300 MCF/D of gas versus projected rates of 43,300 BOPD oil and 8,100 MCF/D gas. Expenditures for the seven-month period plotted as dollars per barrel of oil produced are shown on Exhibit 6.

The principal function of this program is to fund the production of fluids. Gross production for the period averaged 501,000 barrels per day. The original budget projected rate was 470,000 barrels per day. The increase is a result of returning previously uneconomic wells to production because of the increase in oil price. The actual and proposed gross rates and program expenditures plotted as dollars per barrel of gross fluids are shown on Exhibit 7. The number of active producing wells is shown on Exhibit 8 and is increasing slightly after a downward trend experienced during the 1986 through 1988 period. This upward trend through 1990-91 is a result of the increase in oil price, and the activation of the third drilling rig. The trend through the next five months is expected to trend with oil price. Scheduled island shut-downs for complete electrical maintenance have been done on islands Freeman and Chaffee.

The State Reservoir Engineering staff has identified up to 2,000 barrels of oil per day of additional production from wells with high fluid levels. The City has implemented some of this work which has resulted in over 1,000 barrels of oil per day in additional production.

The adjusted budget for the Oil and Gas Production Program is \$61,075,000 of which \$31.2 million (51.1%) were expended at the end of the seven-month period. A plot of monthly expenditures is shown on attached Exhibit 9. The budget for 1990-91 of \$61.1 million dollars is a seven-percent increase over 1989-90 total program expenditures.

C. ENHANCED RECOVERY AND STIMULATION PROGRAM

No funds were budgeted for 1989-90 and no activity took place in this program.

D. WATER INJECTION PROGRAM

A total of 118 million barrels of water were injected during the seven-month period. The average rate was 548,000 BWPD per day, which is greater than the 520,000 BWPD projected. Produced fluids amounted to 107.7 million barrels so the Injection/Production fluids volume ratio averaged 109 percent for the seven-month period. A plot of water injection rates and program expenditures as dollars per barrel of water injected are shown on Exhibit 10.

We are concerned about the possible lack of make-up water for future Long Beach Unit operations. A variety of alternatives are being studied by City and State staff.

The adjusted budget for the Water Injection Program amounted to \$24.6 million of which \$12.9 million (52.4%) were expended at the end of the seven months. A plot of monthly expenditures is shown on attached Exhibit 11.

E. MANAGEMENT PROGRAM

The major portion of this program consists of expenditures for salaries, benefits and expenses of the Field Contractor, management and administrative personnel, engineering consultant services, data processing equipment purchases and operating costs, office expenses including rental, supplies and services, and the Unit Operator's billable costs. The computer reservoir modeling program initiated in 1985 is continuing and has resulted in the identification of many

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opportunities for field development and contributed significantly to a successful drilling and development program over the last two years.

During the last month of the 1989-90 fiscal year, the State Lands Commission Reservoir Engineering staff conducted a production improvement study to identify opportunities for increases oil production and recovery from the Long Beach Unit.

Other significant items include Unit equity expense, special management projects, townlot participation administration and special studies related to Unit waste management and disposal. A plot of the Management Program expenditure expressed as dollars per barrels of oil is shown on Exhibit 12. The trend of dollars per barrels of oil for this program is upward.

The adjusted budget at the end of January, 1991 amounted to \$21.3 million for the Management Program of which \$10.8 million (50.7%) was expended. A plot of monthly expenditures is shown on Exhibit 13.

F. TAXES, PERMITS AND LAND RENTAL PROGRAM

Adjusted budget funds for the Taxes, Permits and Land Rental Program on January 31, 1991, amounted to \$13.9 million of which \$6.7 million (48.2%) were expended. The major cash outflow in this program occurs with mining rights tax payments in December and April of the budget year. A plot of program expenditures is shown on Exhibit 14.

A summary of Long Beach Unit 1990-91 Plan and Budget activity during the first seven months ending January 31, 1991 (in thousands of dollars) is:

<u>Program</u>	<u>Original Budget</u>	<u>Adjusted Budget*</u>	<u>Expenditures to 1/31/91</u>
A. Drilling and Development	\$ 20,466	\$ 31,768	\$12,930
B. Oil & Gas Production	60,267	61,015	31,208
C. Enhanced Recovery & Stimulation	-0-	-0-	-0-
D. Water Injection	24,309	24,557	12,924
E. Management	20,974	21,331	10,835
F. Taxes, Permits & Land Rental	<u>13,889</u>	<u>13,889</u>	<u>6,661</u>
Total	\$139,905	\$152,625	\$74,558

\*Including 1.63 million in 1989-1990 carryover, and \$11.1 million in Budget Augmentation.

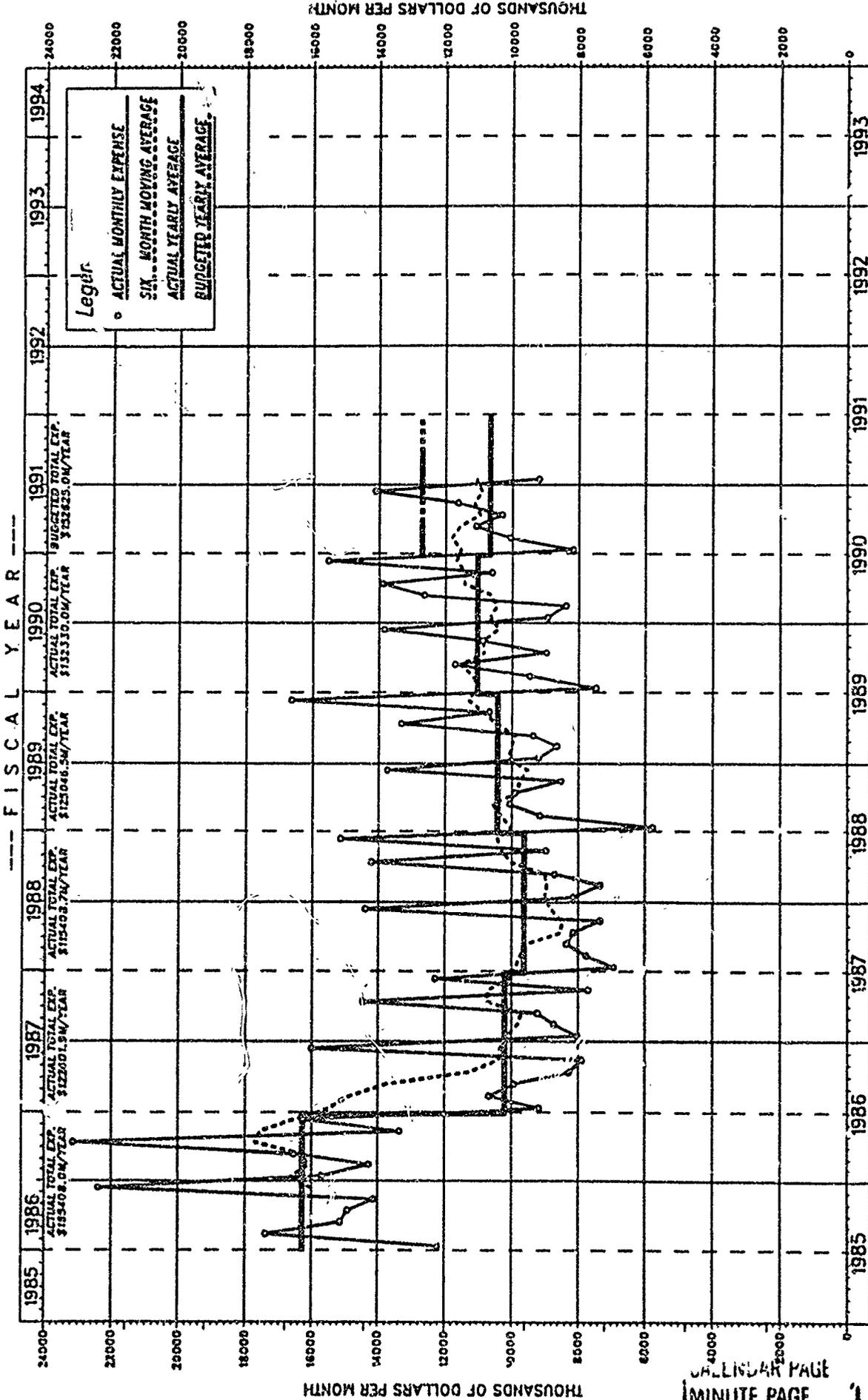
AB 884: N/A.

EXHIBITS:

1. Total Budget Expenditures.
2. Oil Production Rate.
3. Oil Price and Costs.
4. Oil Revenue and Costs.
5. Drilling and Development Program Expenditures (Program A).
6. Program B Costs Dollar Per Barrel Oil.
7. Program B Costs Dollar Per Barrel Gross Fluid.
8. Producing Well Count.
9. Oil and Gas Production Program Expenditures (Program B).
10. Program D Costs Dollar Per Barrel Injected Water.
11. Water Injection Program Expenditures (Program D).
12. Program E Costs Dollar Per Barrel Oil.
13. Management Program Expenditures (Program E).
14. Taxes, Permits and Land Rental Program Expenditures (Program F).

L O N G B E A C H U N I T

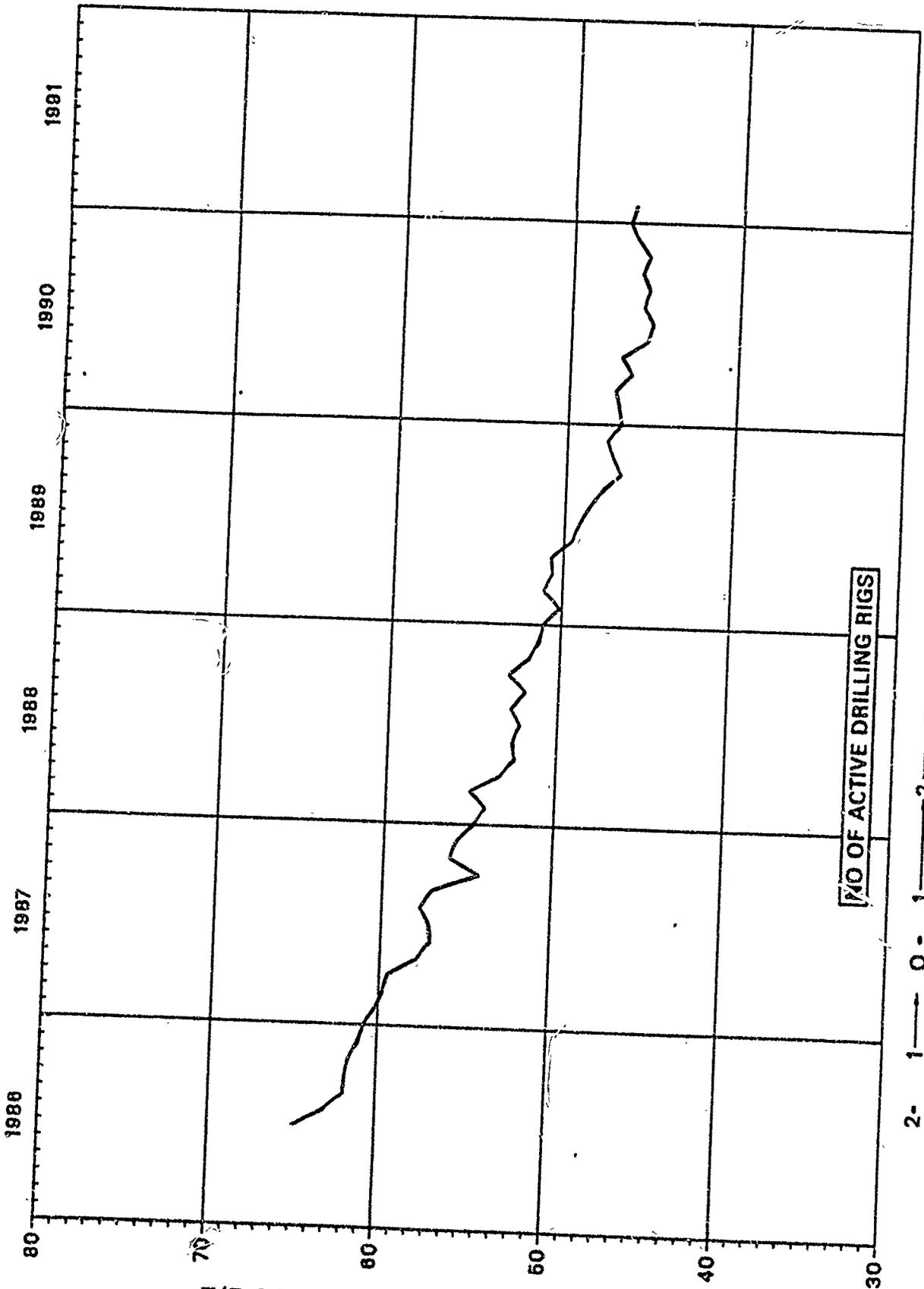
TOTAL BUDGET --- INCLUDING ADMIN. OVERHEAD



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# LONG EACH UNIT OIL PRODUCTION RATE

EXHIBIT 2



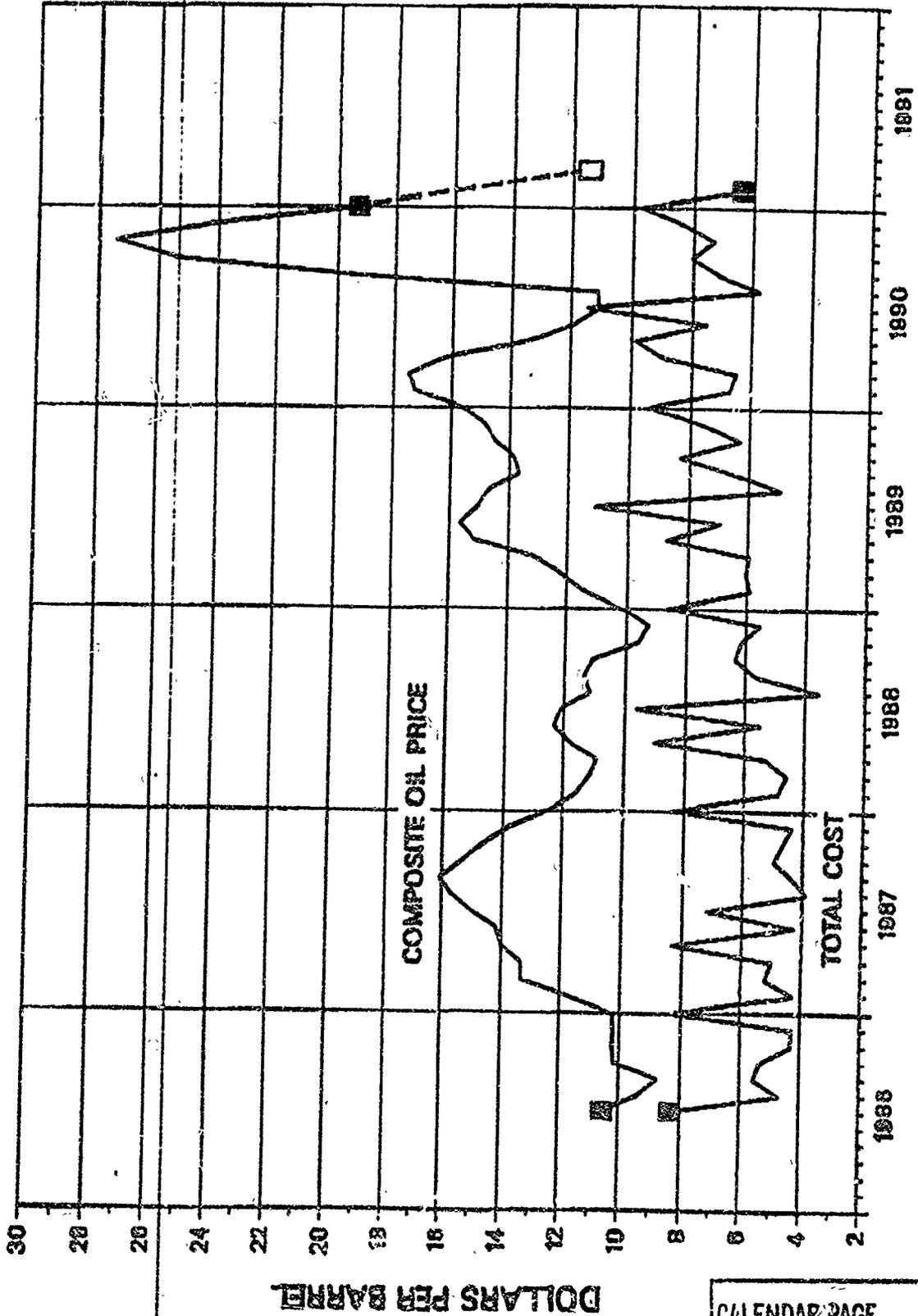
NET OIL PRODUCTION RATE - 1000 B/D

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EXHIBIT 3

# LONG BEACH UNIT

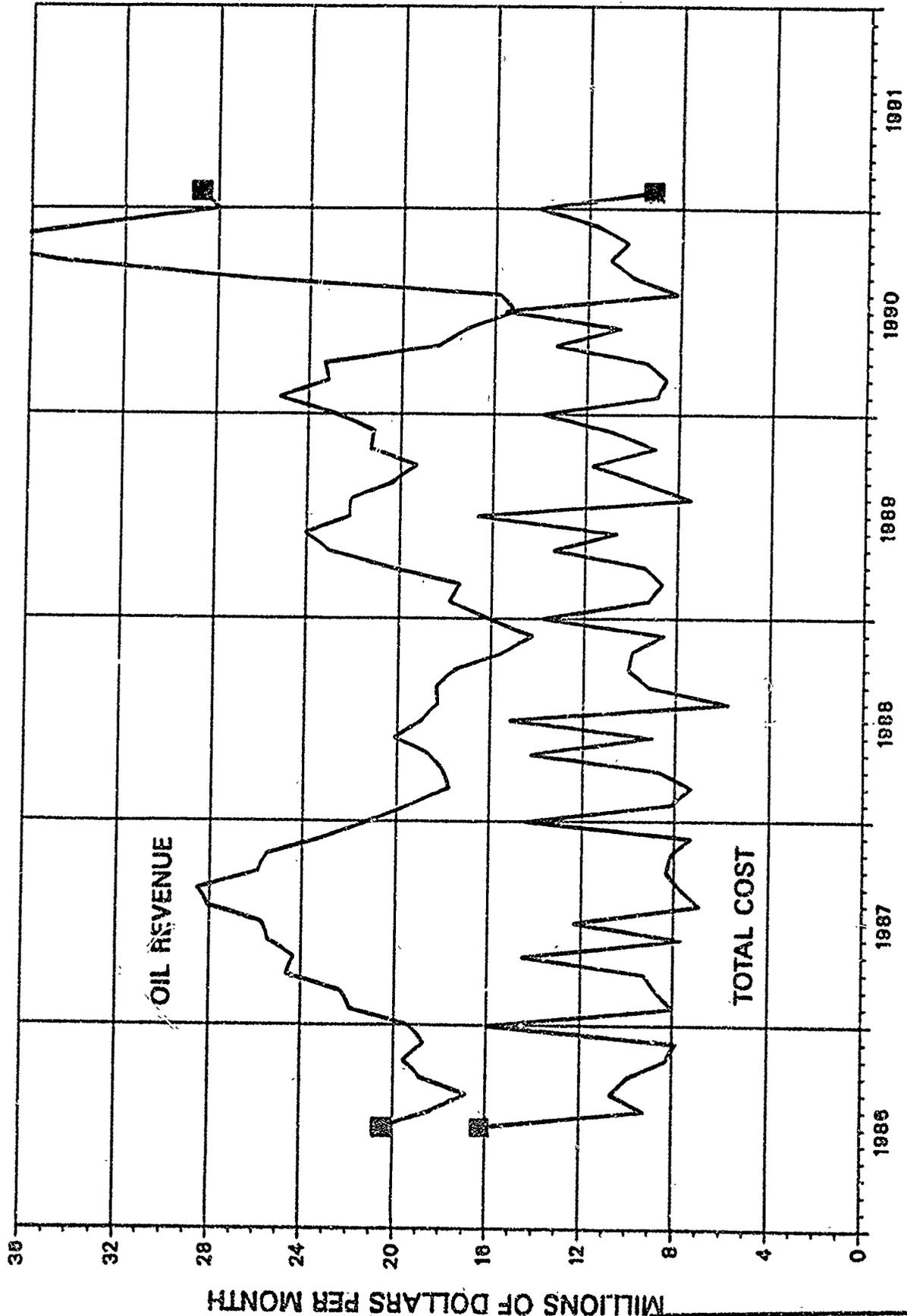


DOLLARS PER BARREL

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# LONG BEACH UNIT



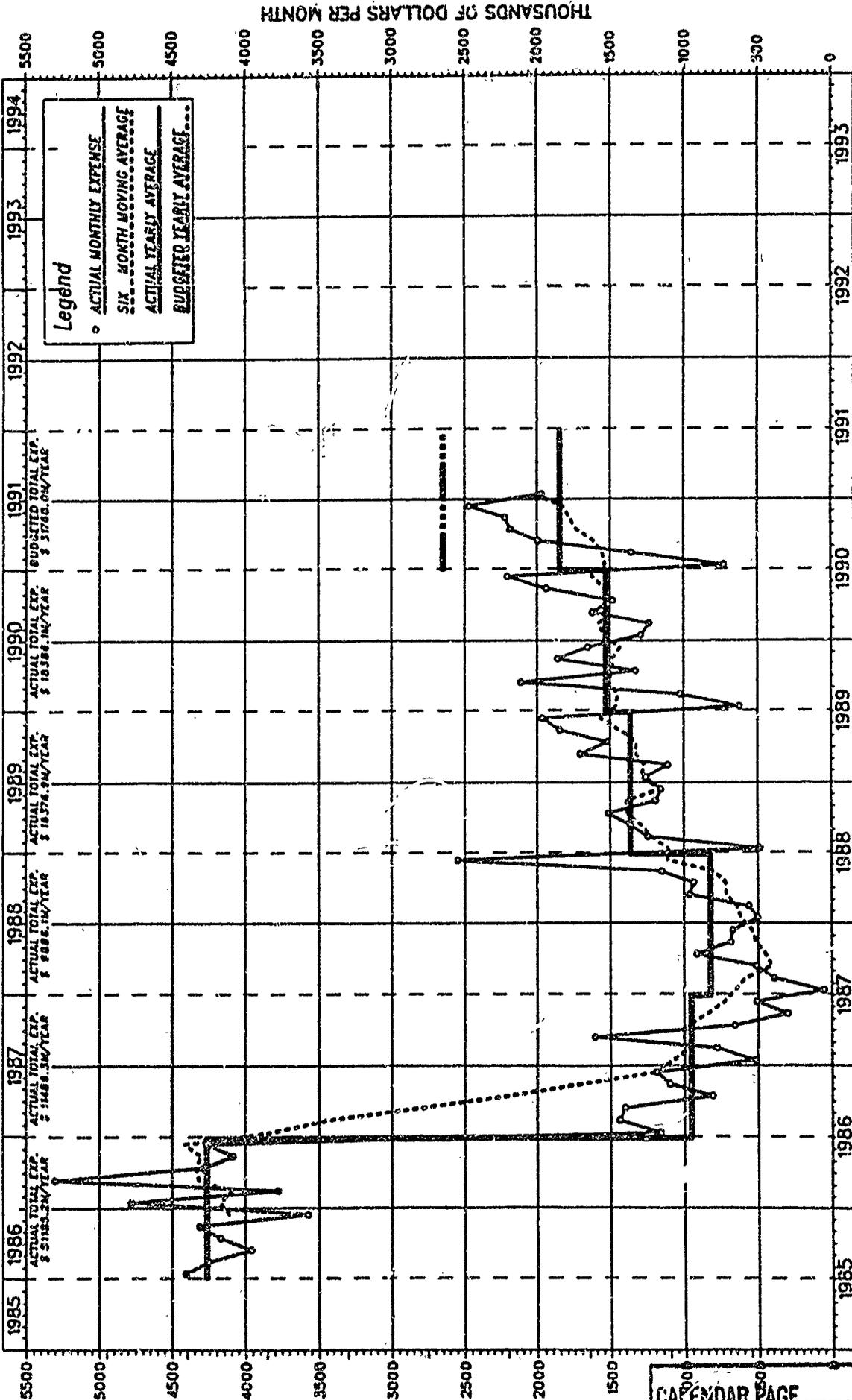
MILLIONS OF DOLLARS PER MONTH

CALENDAR PAGE 19615  
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DRILLING & DEVELOPMENT PROGRAM  
 LONG BEACH UNIT TOTAL

PROGRAM A

FISCAL YEAR



Legend  
 ○ ACTUAL MONTHLY EXPENSE  
 ..... SIX MONTH MOVING AVERAGE  
 - - - - ACTUAL YEARLY AVERAGE  
 - · - · - BUDGETED YEARLY AVERAGE

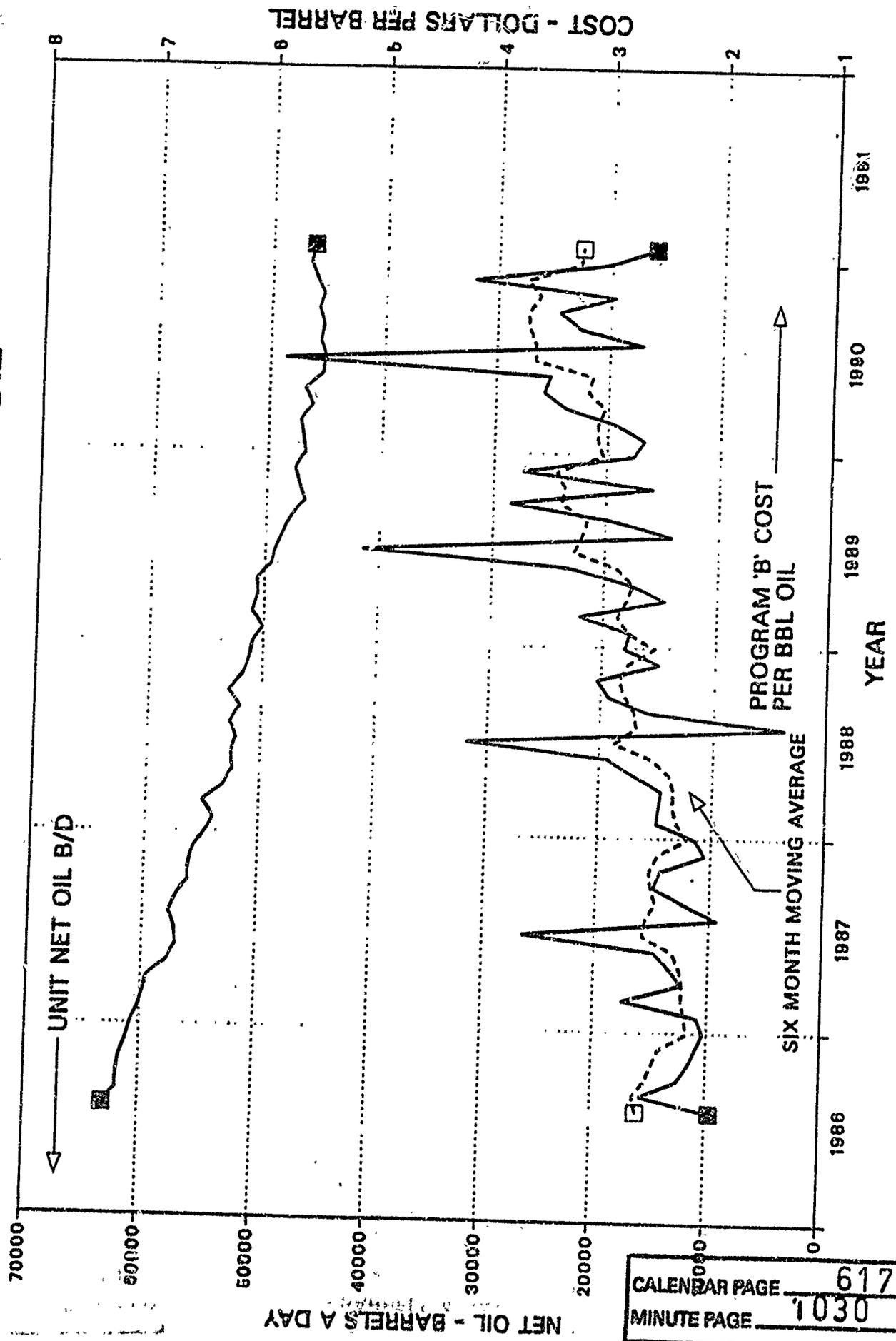
CALENDAR PAGE 6  
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# OIL & GAS PRODUCTION PROGRAM COSTS EXPRESSED AS \$/BBL OIL

EXHIBIT 6

LONG BEACH UNIT

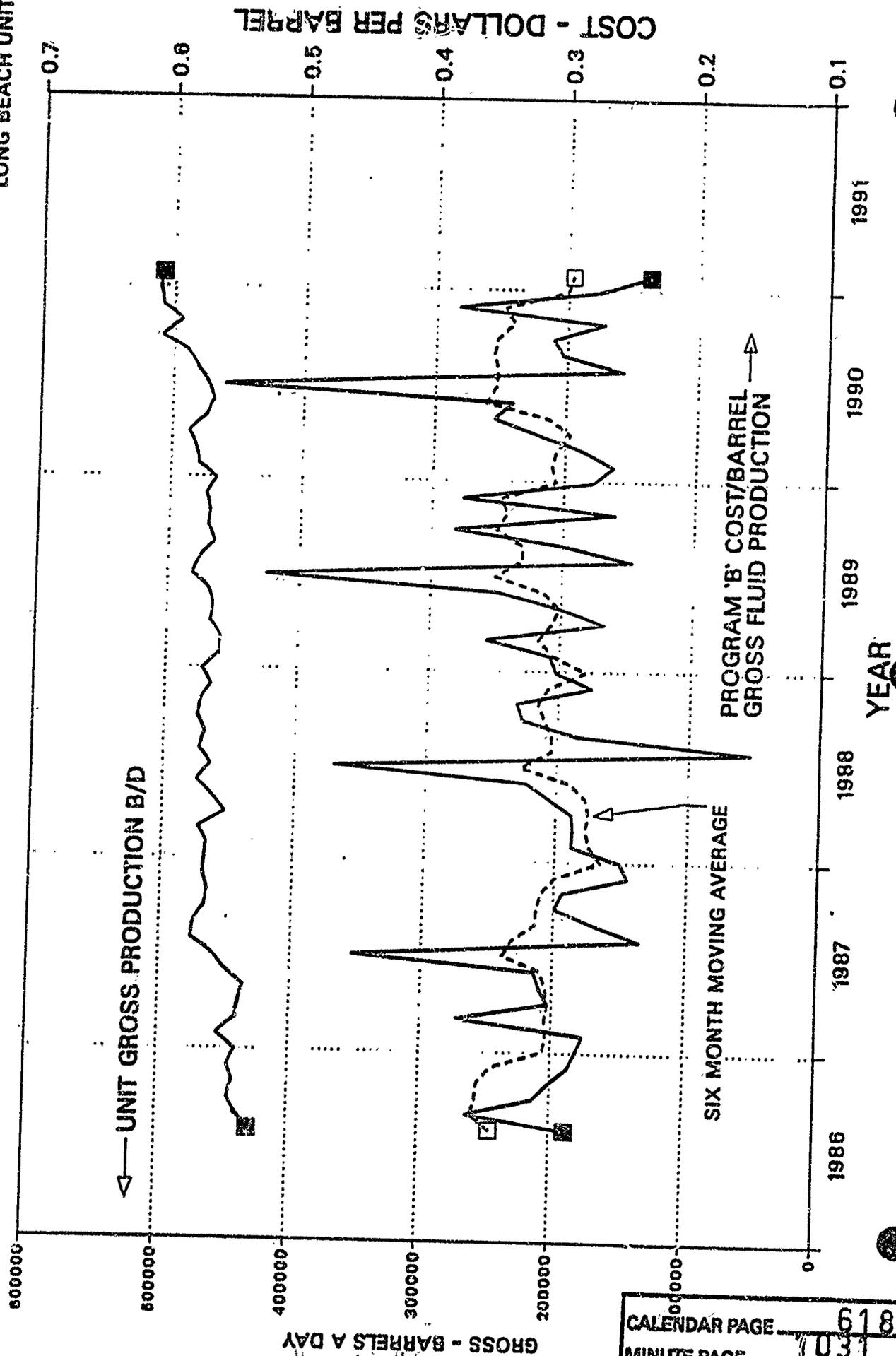


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# OIL & GAS PRODUCTION PROGRAM COSTS EXPRESSED AS \$/BBL GROSS FLUID

EXHIBIT 7

LONG BEACH UNIT

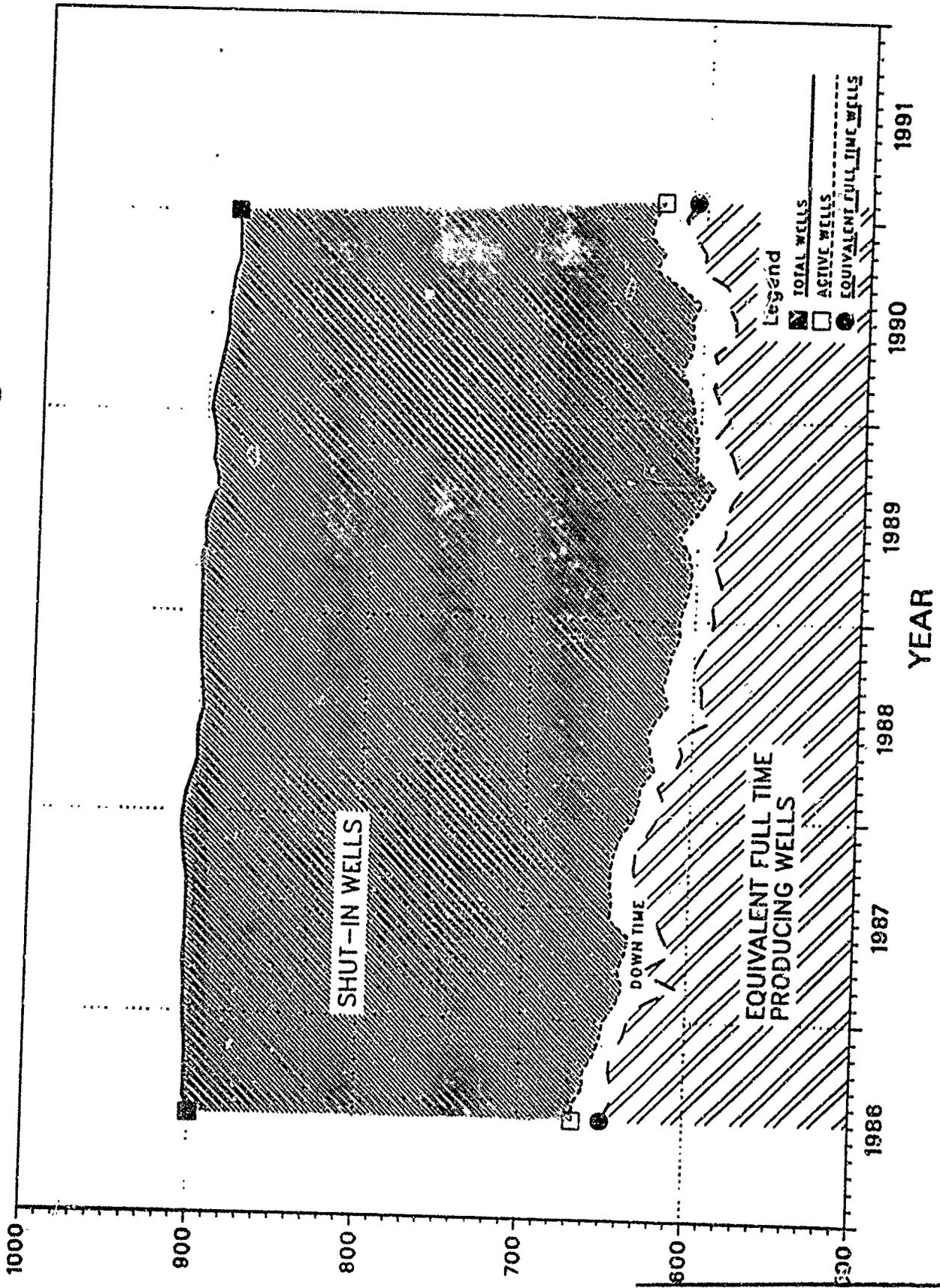


GROSS - BARRELS A DAY

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# LONG BEACH UNIT PRODUCING WELLS

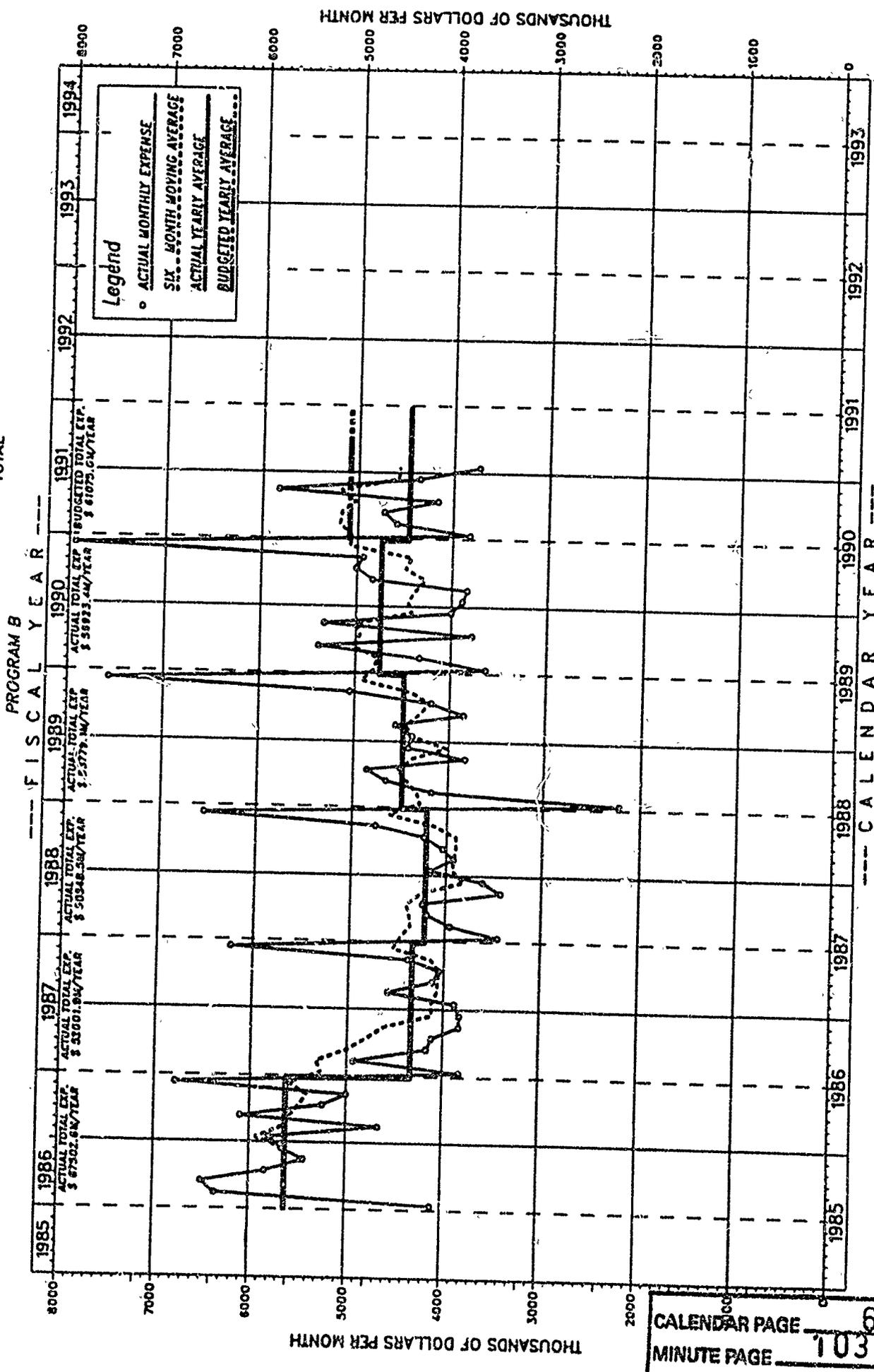
EXHIBIT



NUMBER OF WELLS

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LONG BEACH UNIT  
OIL & GAS PRODUCTION PROGRAM

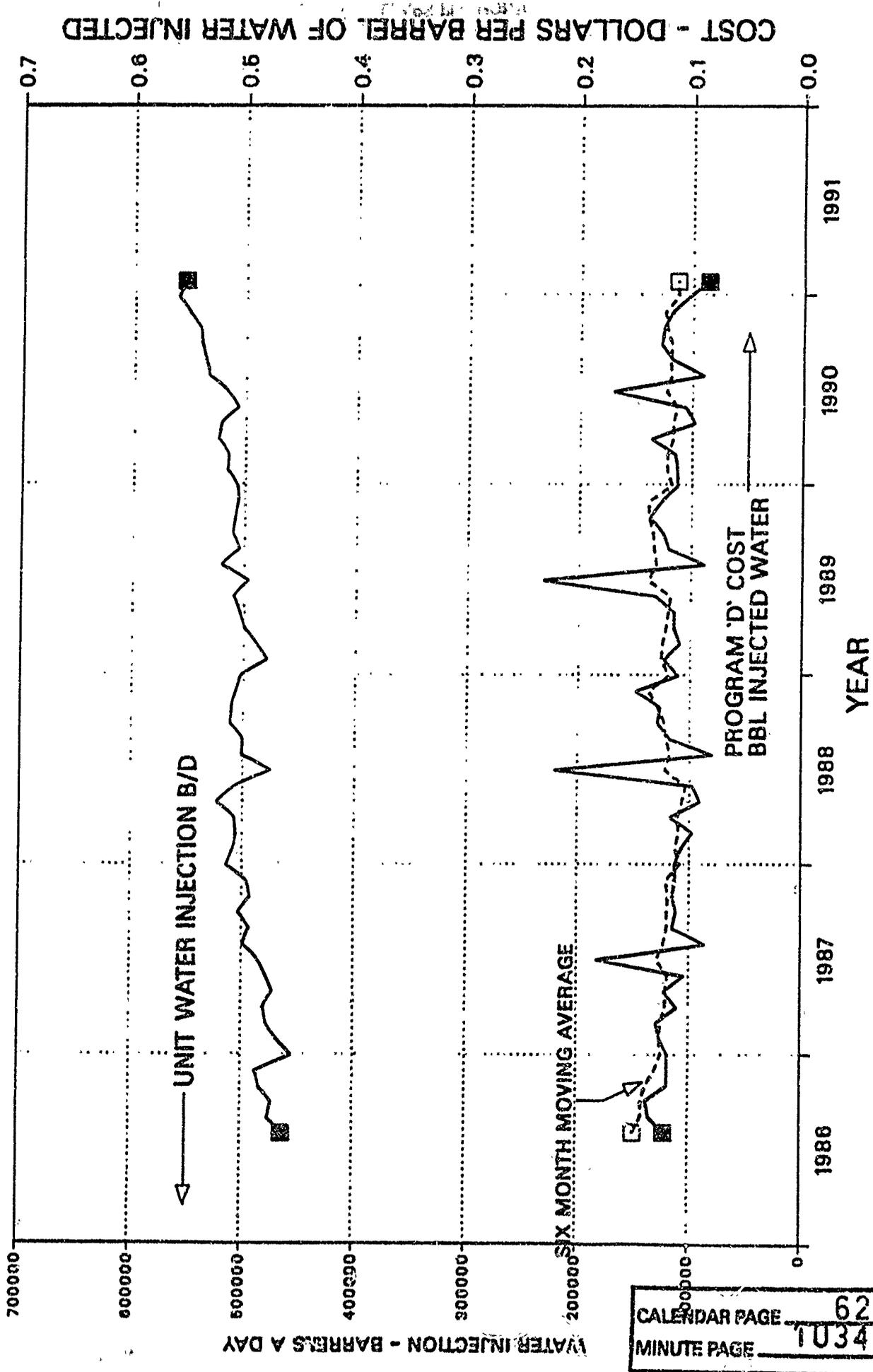


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# WATER INJECTION PROGRAM COSTS EXPRESSED AS \$/BBL OF INJECTED WATER INJECTION

EXHIBIT

LONG BEACH UNIT



WATER INJECTION - BARRELS A DAY

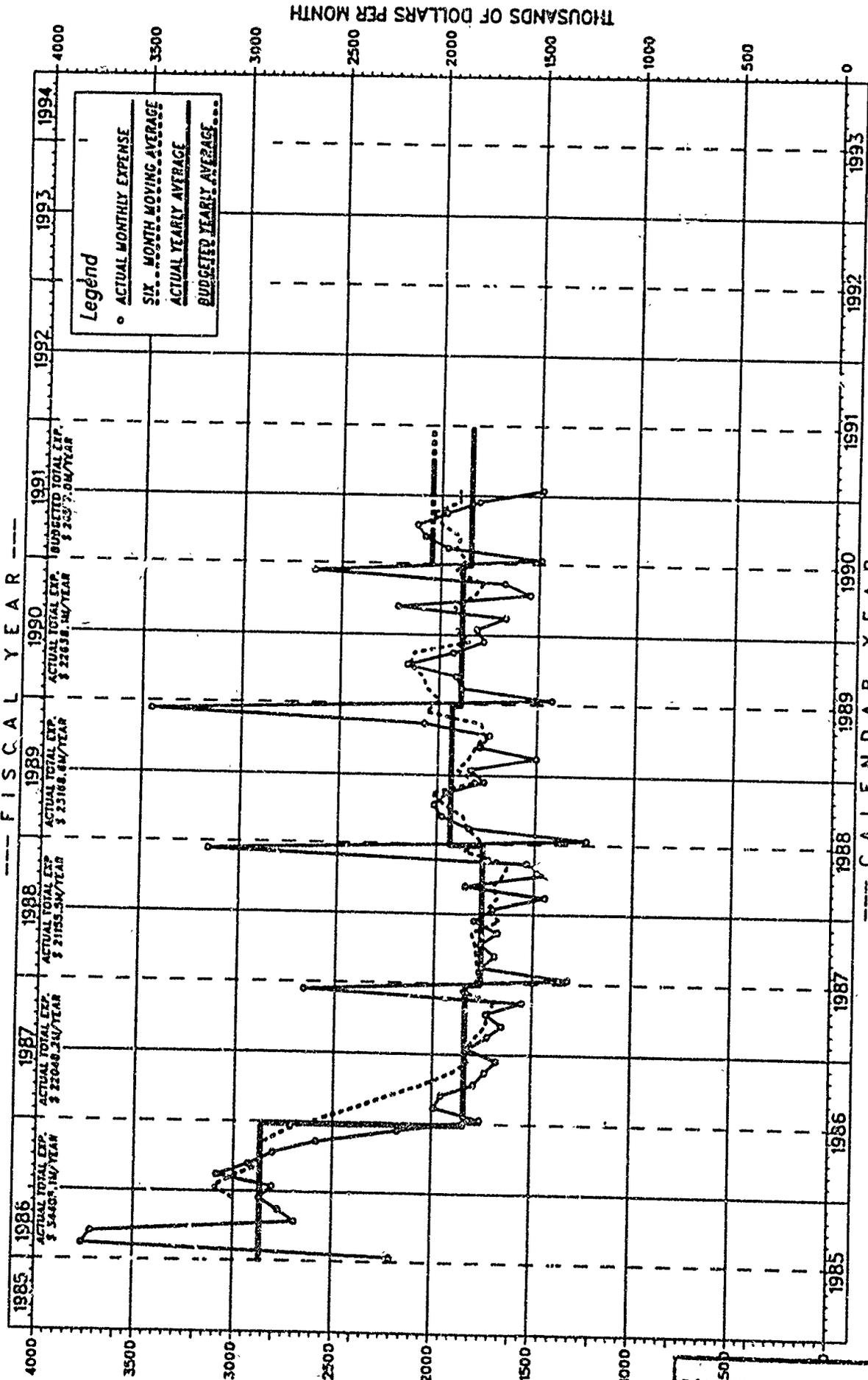
COST - DOLLARS PER BARREL OF WATER INJECTED

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WATER INJECTION PROGRAM  
 LONG BEACH UNIT  
 TOTAL

PROGRAM D



THOUSANDS OF DOLLARS PER MONTH

THOUSANDS OF DOLLARS PER MONTH

Legend

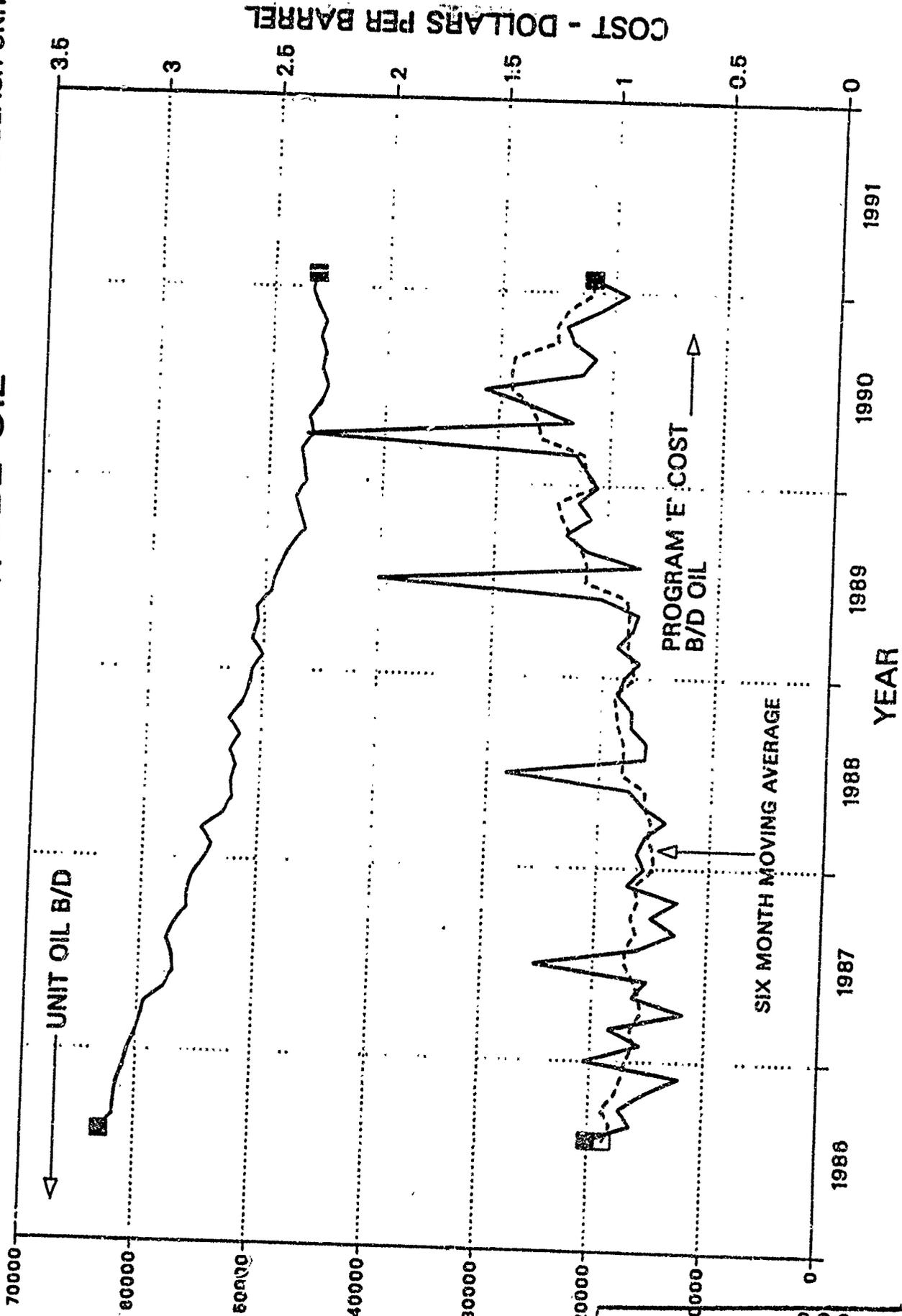
- ACTUAL MONTHLY EXPENSE
- ..... SIX MONTH MOVING AVERAGE
- ACTUAL YEARLY AVERAGE
- · - · - BUDGETED YEARLY AVERAGE

CALENDAR PAGE 622  
 MINUTE PAGE 1035

# MANAGEMENT PROGRAM COSTS EXPRESSED AS \$/BBL OIL

EXHIBIT 2

LONG BEACH UNIT

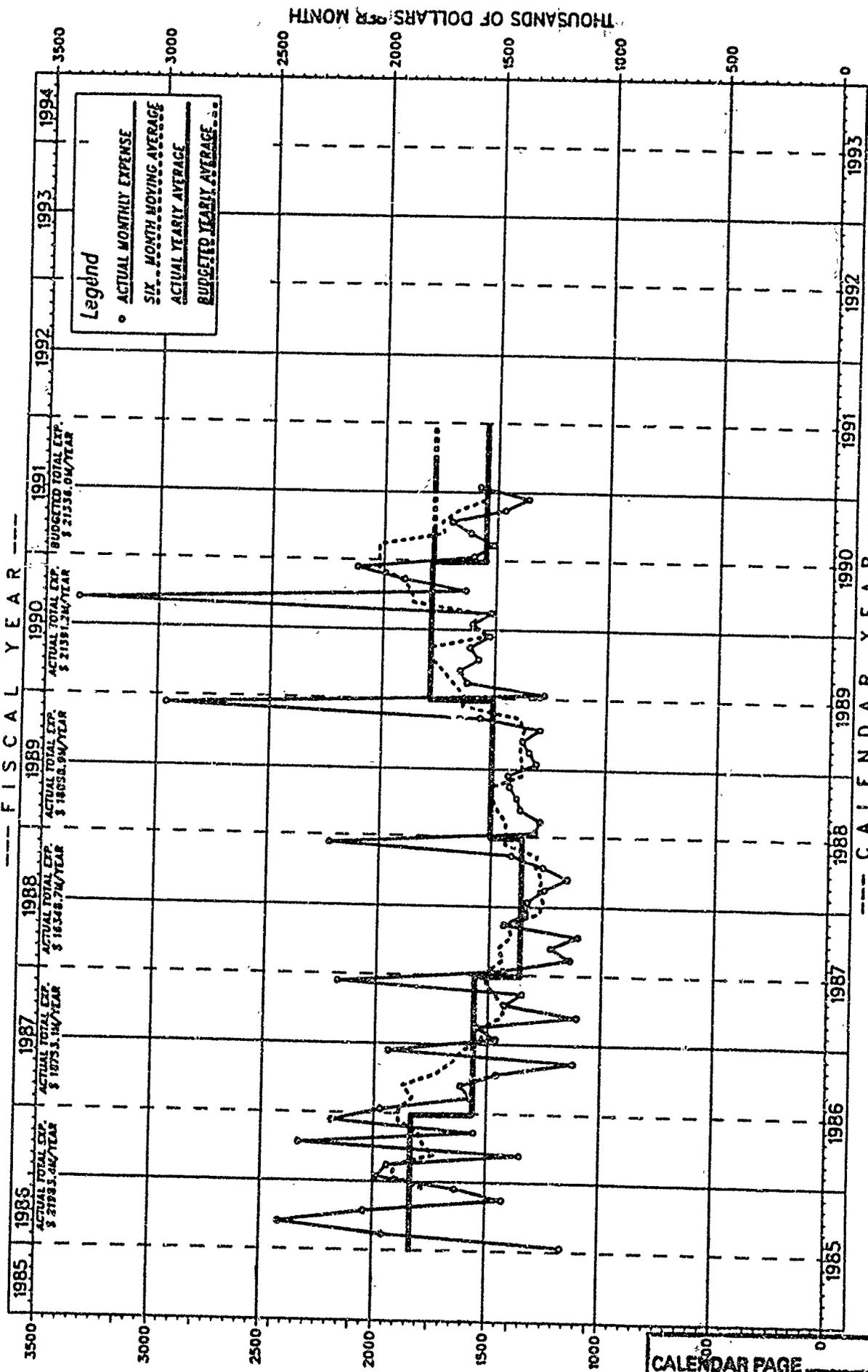


NET OIL - BARRELS A DAY

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MANAGEMENT PROGRAM  
**L O N G B E A C H U N I T**  
 TOTAL

PROGRAM E  
 FISCAL YEAR



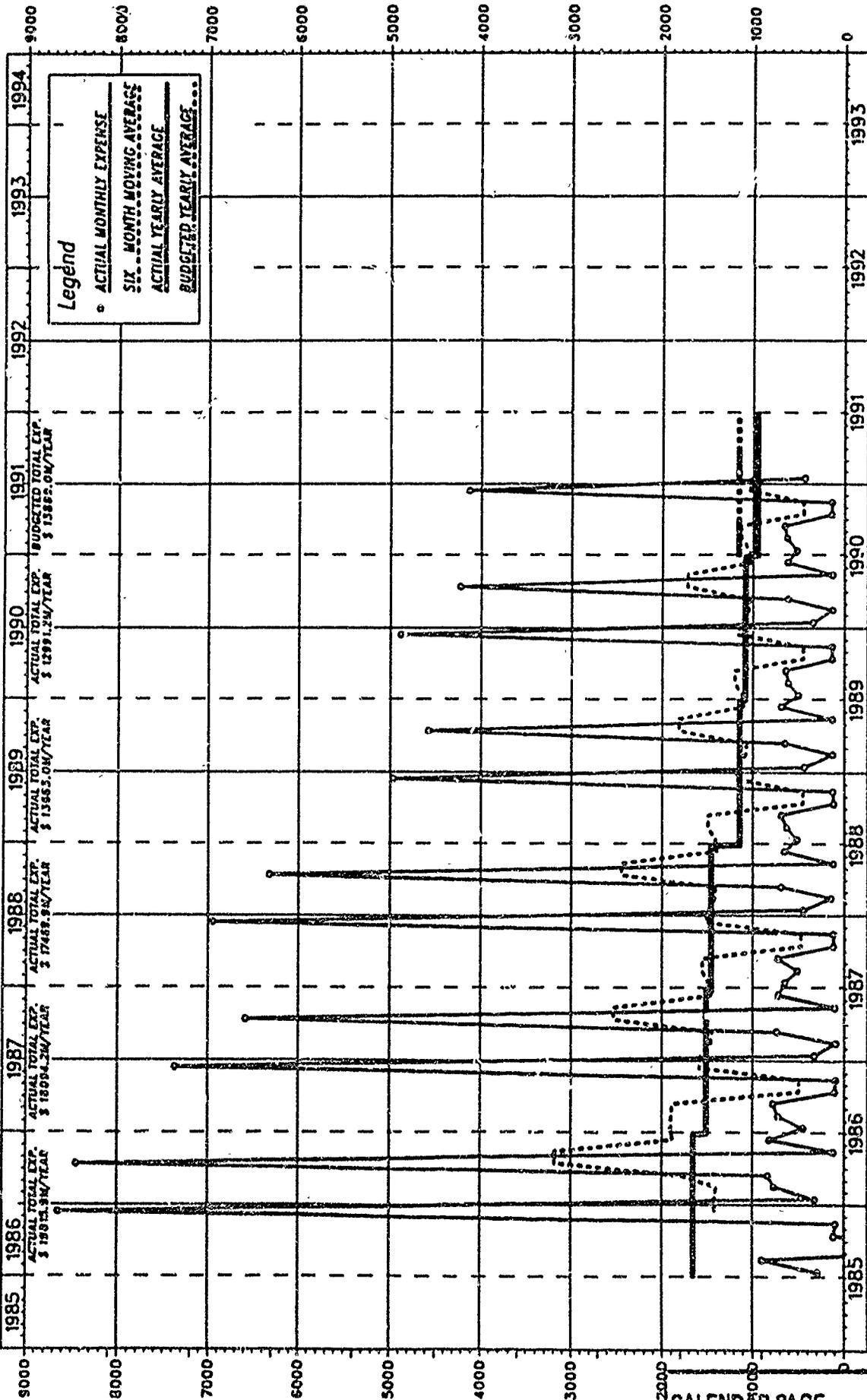
THOUSANDS OF DOLLARS PER MONTH

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LONG BEACH UNIT  
TAXES, FRIMTS, & RENTAL PROGRAM

PROGRAM F

FISCAL YEAR



Legend

- ACTUAL MONTHLY EXPENSE
- SIX MONTH MOVING AVERAGE
- ACTUAL YEARLY AVERAGE
- BUDGETED YEARLY AVERAGE

THOUSANDS OF DOLLARS PER MONTH

CALENDAR PAGE  
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