OCS STUDY
MMS 86-0014

INDICATORS OF THE DIRECT ECONOMIC IMPACTS DUE TO OIL AND GAS DEVELOPMENT IN THE GULF OF MEXICO
-EXECUTIVE SUMMARY-

-RESULTS OF YEAR I-

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Prepared for:

THE MINERALS MANAGEMENT SERVICE
GULF OF MEXICO REGION

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EXECUTIVE SUMMARY

The Minerals Management Service (MMS), by virtue of the Outer Continental Shelf Lands Act, the Submerged Lands Act, and subsequent amendments, is required to provide information needed for prediction, assessment, and management of impacts on the human, marine, and coastal environments of the Outer Continental Shelf and near shore areas which may be affected by OCS oil and Gas activities. As a result of these responsibilities, the OCS Environmental Studies Program was initiated in 1973. The Studies Program in the Gulf of Mexico Region is designed to provide information for both management decisions and monitoring of impacts As they relate to both the human and natural environment. This study represents a major step toward the collection of the economic information necessary to address many of the critical questions MMS is charged with addressing.

The purpose of this summary document is twofold. First it is designed to communicate the basic content of the study finding. A great deal of the study results is however, contained in lengthy and complex tables specifying employment and wages by county, work site or offshore lease area. The complexity and volume of this data preclude their full presentation in any summary document. Therefore, the second objective of this summary document is to introduce potential users of these data to both their availability and basic content. Full study results are documented in a two volume publication.

To assess the socioeconomic impacts of oil and gas development requires the estimation of the various economic impacts. The total economic impact in turn drives socioeconomic measures such as population and associated demographic impacts. The total economic impact has five components. Relative to this study, these are:

- The direct effect is traditionally considered the initial demand for the product. In this case, it is the actual purchase of oil and gas from the offshore producers in the Gulf of Mexico.

- The direct primary effect is the employment, wages and salaries associated with positions with the offshore oil and gas producers and processors. In short, these effects are the wages and salaries received by the employees of the oil and gas producers associated with their activities in the Gulf of Mexico region. The primary producers are the actual lease holders or operators which explore, develop, produce and subsequently process oil and gas.

- The secondary direct effect results from the purchase of inputs by the primary producers from the various businesses which supply them. For example, the purchase of an offshore platform or the purchase of crew boat transportation services represent a secondary direct effect.

- Indirect effects are the activities which result from the purchase of goods and services by the direct suppliers of the offshore producers. These indirect impacts extend throughout the economy as each supplier makes purchases from other suppliers.

- Induced effects result from the purchases of goods and services resulting from the wages paid by the primary, direct, and indirectly affected businesses. Induced household purchases have a component which reflects the additional indirect and induced effects of expenditures by households. This is known as the multiplier effect.

Only those activities designated above by shading are included within the scope of this study (specifically they are the primary direct and secondary direct effects). Exhibit 1 depicts these various impacts and shows the relationship between each. This exhibit designates those economic activities which are included in Phase I of this study. Throughout the remainder of this document the primary direct effects are referenced as "producer" impacts. All data referenced as producer employment or payroll thus refer to the primary direct effects. Secondary direct impacts are referenced as such and include only information relating to initial expenditures by the offshore producers. The wages and salaries associated with the transportation and processing of oil and gas are also included in the secondary direct effects.

Study Objectives

The study objective was to document the primary and direct economic impacts of offshore oil and gas activity in 1984 for the Gulf of Mexico. This study was also intended to determine impacts per unit of activity, for use in the environmental impact assessment process. To meet this objective, the study goals were:

- Measure the primary direct economic impact of offshore oil and gas exploration, development and production in 1984. Direct impact measurements include both wages and employment.

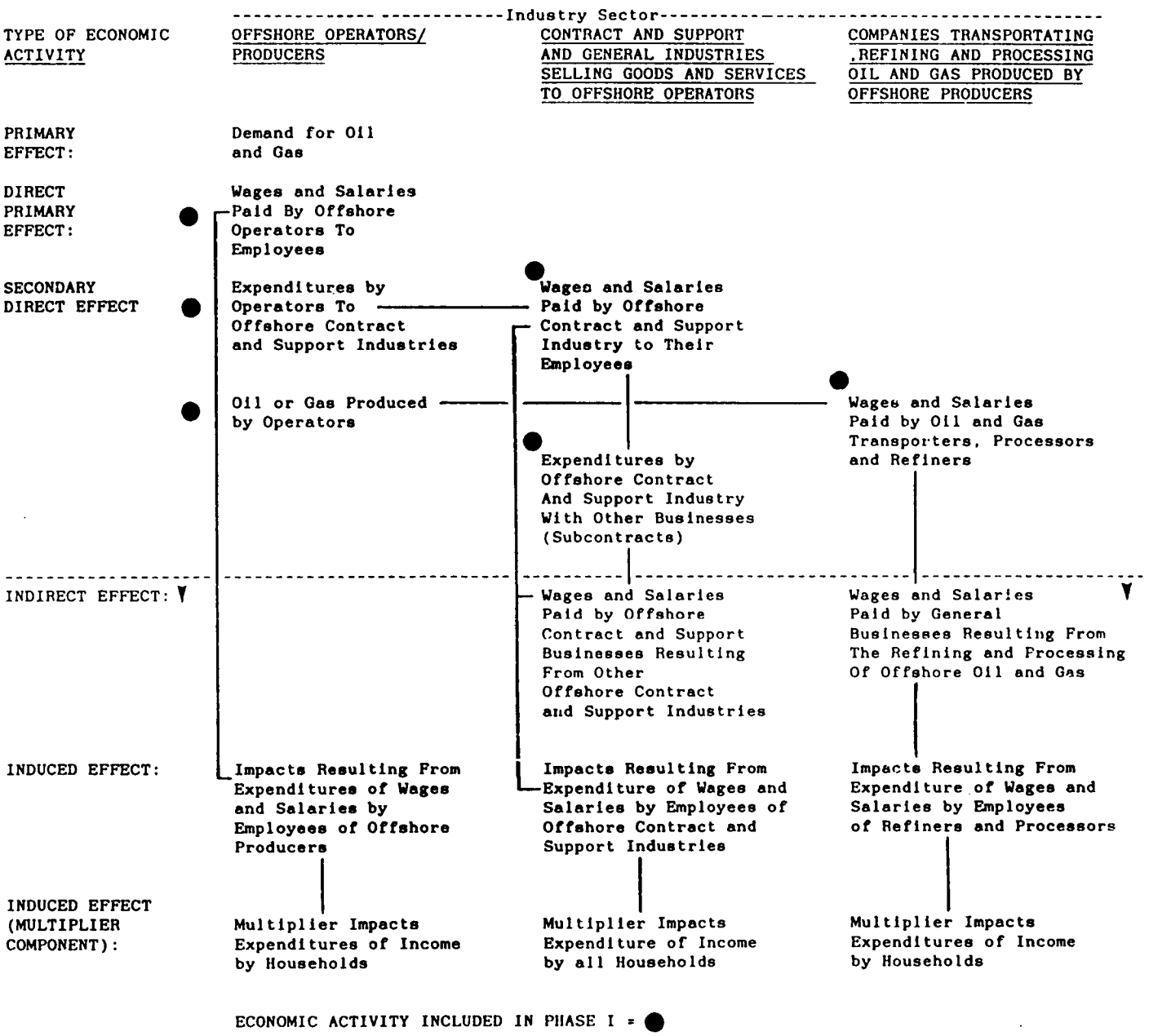
- Determine the geographic distribution of primary direct impacts of offshore oil and gas activity. Geographic distribution of the primary or producer impacts are to be determined at the county/parish level for locations in the coastal areas of the Gulf of Mexico.

- Document the relationship between place of work and place of residence for personnel employed by offshore producers.

- Measure the direct secondary economic impact of contract, service and other purchases made by offshore oil and gas exploration and production companies. These direct impacts are also measured in terms of both wages and employment.

EXHIBIT 1

SCHEMATIC REPRESENTATION OF THE ECONOMIC IMPACTS
OF OFFSHORE OIL AND GAS DEVELOPMENT



ECONOMIC ACTIVITY INCLUDED IN PHASE I = ●

- **Develop a framework and set of reference data for estimating the combined direct primary and direct secondary economic impacts per unit of activity.**

Information Sources and Data Types

Virtually none of the information necessary to address these questions was available from published or unpublished secondary sources. This was recognized by the Minerals Management Service in the early planning stages of the project and avenues were explored for the collection of this information directly from the firms involved in offshore oil and gas activities. The volume, confidential nature, and level of detail required in the socioeconomic information indicated that a major commitment from the companies in the industry would be required.

In mid 1984, the Offshore Operators Committee at the request of Minerals Management Service formed an ad hoc Socioeconomic Subcommittee expressly to supply the required data to Minerals Management Service. The Socioeconomic Subcommittee members were designated by the OOC in consultation with the Minerals Management Service. The Socioeconomic Subcommittee members were selected so that the largest volume of offshore activity throughout the Gulf could be included in the member companies. The nine offshore producers represented on the Socioeconomic Subcommittee were:

- AMOCO
- CHEVRON
- CONOCO
- EXXON
- GULF
- MOBIL
- ODECO
- SHELL
- TEXACO

The staff from each of these firms provided invaluable guidance in the development of a methodology. All firms represented on the Socioeconomic Subcommittee subsequently contributed extensive amounts of data at a significant cost to their respective firms. Without the assistance of each of these firms this project could not have been undertaken.

Unless expressly noted, all information presented in this document was derived by manipulations of information supplied by the OOC Socioeconomic Subcommittee. As such, many alternative methods of collecting information or a larger scale survey of the industry were specifically precluded under this contract.

Three types of data were assembled as part of this effort. The three data sets provided exclusively by the OOC Socioeconomic Subcommittee member companies follow.

- Producer employment records for 1984. Approximately 12,500 employment records were obtained from the offshore producers in our sample. The data pulled from the personnel files were for all Gulf of Mexico employees of the nine producers participating. The data elements extracted from

each employee record were: 1984 wages/salary, job description or classification, residence zip code, work site (onshore or offshore), staging area (if applicable) and work schedule.

- Producer expenditure records for 1984. Detailed expenditure records were provided by each of the offshore producers participating in the study. These data consisted of an itemization of all expenditures for goods and services broken down by nineteen categories of activities (i.e., air transport, geophysical exploration, platform fabrication, etc.).

- Budget Documents for specific projects or activities undertaken in 1984. The activities for which budget data were obtained were: geophysical exploration, exploratory drilling, platform fabrication and installation, development drilling, pipeline installation, and production/operations/ maintenance. Physical characteristics of these activities were also provided so that expenditures could be calibrated with the physical measures used in the environmental impact statement process.

Exhibit 2 is a schematic representation of how the various data sources were used to determine the primary and secondary direct economic impacts of offshore oil and gas development.

Direct Impact of Offshore Producers

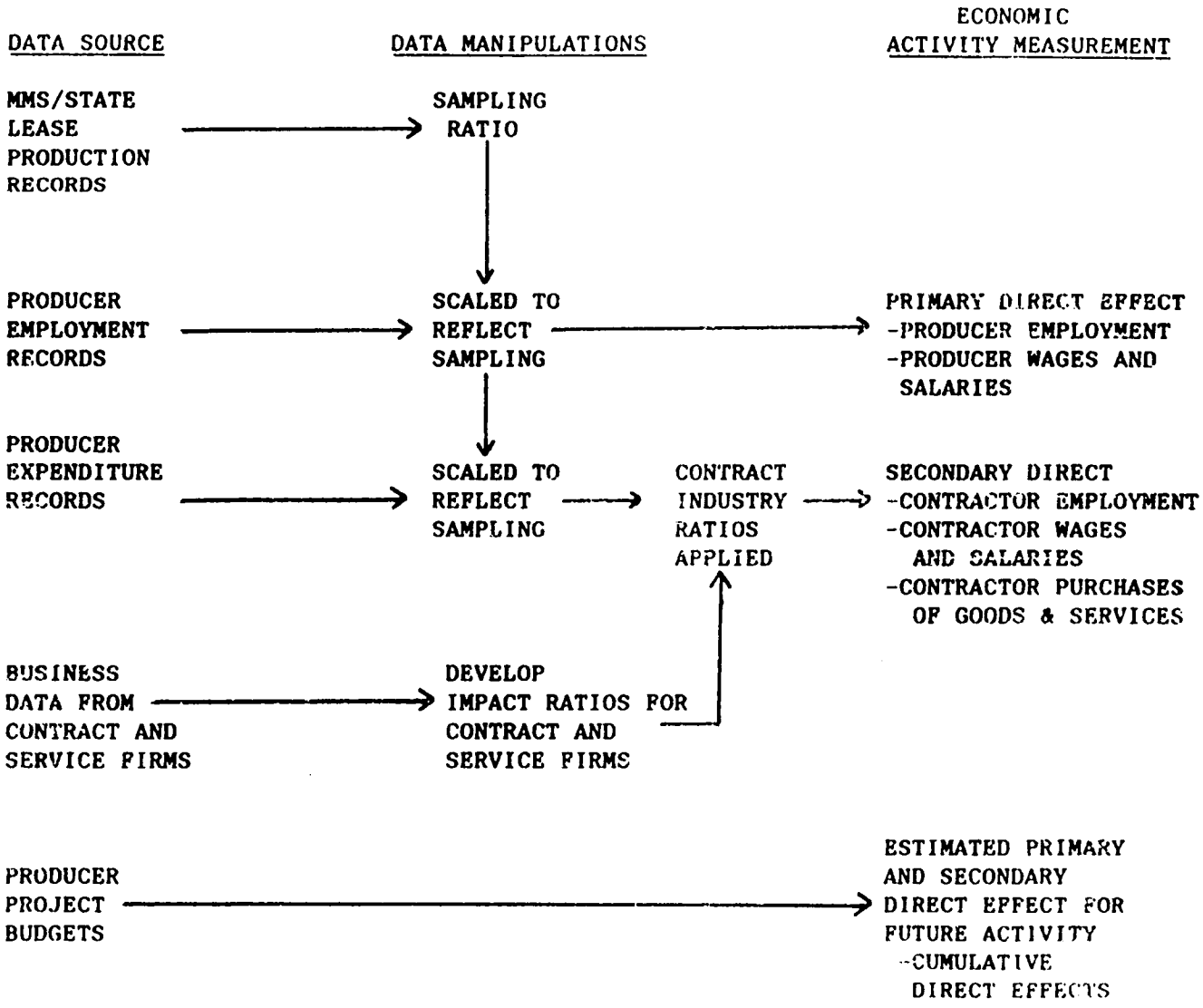
An estimated 23,935 person-years of employment at production companies were directly the result of offshore oil and gas leasing in the Gulf of Mexico in 1984. This estimate was derived by factoring and scaling a sample of 12,319 producer employee records. All producer employment is specified in person-years or full-time position equivalents. This was required because a limited number of workers were seasonal, temporary, or had offshore oil and gas responsibilities in geographic areas other than the Gulf of Mexico.

Direct producer employment and wages at the county/parish level were generated from manipulations of the personnel records. The county/parish allocations of employment and income were based on the residence zip code of each employee as indicated in their personnel records. Minerals Management Service and State lease production records for 1984 were used to adjust results to account for production from producers not in the OOC subcommittee sample.

The strength of estimating direct producer impacts by developing a data base of actual producer personnel records was that near perfect data was provided on wages, job description, place of residence, place of work, offshore work location, 1984 wages and salary for all employees of the producers in the sample.

EXHIBIT 2

REPRESENTATION OF PROJECT METHODOLOGY



The problems with this approach were:

- Producer employment data could not differentiate between activities in State waters and the Federal OCS except for offshore workers.

- Results required scaling. This had to be done using an index of offshore energy production for the producers in our sample. This was done by lease area.

- Survey results for the state of Texas are believed to be low. This resulted from the designation of OOC study participants which were all major producers headquartered in Louisiana. In addition, the study participants also appeared to be slightly over represented with respect to oil versus gas production. A greater proportion of offshore activity off Texas relates to gas rather than oil activity. These factors combined to overemphasis the economic activity off Louisiana and Mississippi and under represent Texas based operations.

Direct Producer Impacts by Work Location

Of the estimated 23,935 positions with offshore production companies, 9,881 were located offshore and 14,054 were located primarily onshore. The designated offshore positions include only individuals working exclusively "offshore". Offshore employees include personnel with no onshore work site. In all cases, employees designated as "offshore workers" in this report spend virtually all of their regular work week offshore.

All offshore employee records included in the study sample worked the standard industry work schedule in the Gulf of Mexico of one week on with one week off. Offshore personnel encountered in this study all worked 12 hour days while stationed offshore. It should also be noted that a significant number of the positions designated as 'onshore" may actually have spent some time offshore. For example, many engineers, members of the training staff, and managers make offshore trips on an occasional basis.

Exhibit 3 summarizes producer employment by work location for both onshore and offshore positions. Exhibit 3 also presents the percent of total estimated producer employment by work location. Work location is defined as the site to which the employee normally reports to work. For office workers this would be the location of the office not their residence location. For offshore workers this would be the location of the staging area to which they were assigned.

Thirty-three unique work sites were identified in the producer employment records. Many small work sites were collapsed into the predominant location or nearest town.

EXHIBIT 3

SUMMARY OF ESTIMATED PRODUCER EMPLOYMENT BY WORK LOCATION
(person years)

WORK LOCATION	OFFSHORE EMPLOYMENT	ON SHORE EMPLOYMENT	TOTAL EMPLOYMENT	PERCENT OF TOTAL EMPLOYMENT
MULTI-LOCATION	1,071	0	1,071	04.4746
ALABAMA				
MOBILE AREA	4	4	8	00.0334
FLORIDA				
PENSACOLA	0	6	6	00.0250
LOUISIANA				
ABBEVILLE	0	98	98	00.4094
AMELIA	0	5	5	00.0208
BATON ROUGE	3	94	97	00.4052
BURAS	123	26	149	00.6225
CAMERON	684	88	772	03.2254
COCODRIE	0	14	14	00.0584
DULAC	0	18	18	00.0752
EMPIRE	71	0	71	00.2966
FOURCHON	230	0	230	00.9609
GRAND CHENIER	82	2	84	00.3509
GRAND ISLE	785	116	900	03.7601
HOUMA	504	30	534	02.2310
INTRACOASTAL CITY	801	20	821	03.4301
LAFAYETTE	31	1,258	1,289	05.3854
LAKE CHARLES	72	148	220	00.9191
LA HABRA	0	2	2	00.0083
LEEVILLE	321	217	539	02.2519
MORGAN CITY	2,737	833	3,571	14.9195
NEW ORLEANS	10	10,209	10,219	42.6947
SULPHUR	0	4	4	00.0167
VENICE	1,848	371	2,218	09.2667
** Subtotal **	8,405	13,552	21,847	91.2763
MISSISSIPPI				
BILOXI	0	6	6	00.0250
** Subtotal **	0	6	6	
TEXAS				
BAYTOWN	0	30	30	00.1253
CORPUS CHRISTI	3	14	17	00.0710
DALLAS	0	2	2	00.0083
FREEPORT	388	0	388	01.6210
GALVESTON	97	40	137	00.5723
HOUSTON	0	301	301	01.2575
RODESSA	0	18	18	00.0752
SABINE PASS	0	82	82	00.3425
SAN ANTONIO	13	0	13	00.0543
** Subtotal **	501	486	988	04.1278
*** Total ***	9,881	14,054	23,935	

Note: Data includes economic activity associated with both the Federal OCS and State Waters. Unscaled data from OOC study participants is presented on the reverse side of this page.

More than 80% of the offshore Gulf of Mexico workers and over 90% of the onshore Gulf of Mexico workers reported to work sites located in Louisiana. An estimated 14,054 onshore producer employees reported to work sites located throughout the region. Approximately 13,500 of these persons were located in Louisiana and 500 were located in Texas. Within Louisiana, over ten-thousand onshore positions were located in the New Orleans area. This represents approximately 40 percent of total producer employment and 70 percent of onshore employment. Approximately 1,300 onshore positions were located in the Lafayette area. Total onshore employment in other areas totalled 2,000 persons. They were located at the following work sites: Intracoastal City, Grand Isle, Cameron, Houma, Leesville, Buras, Grand Chenier, Lake Charles, Empire, Baton Rouge, Abbyville, Dulac, and Cocodrie.

Approximately 500 onshore positions were found to be located in Texas. Approximately sixty percent of the onshore personnel in Texas reported to work sites in the greater Houston area. A greater percent of the producer positions in Texas were located offshore. This may be because many of the administrative functions for activity in the Texas are handled by the offshore divisions located in New Orleans or Lafayette.

The estimated 8,075 producer company offshore workers based in Louisiana were reporting to work in 18 locations. Morgan City is the largest work site for offshore workers with an estimated 2,737 persons reporting there. Venice is the second most significant work site for offshore workers with an estimated 1,848 producer personnel reporting there.

An estimated 500 offshore personnel report to locations in Texas. The significant work sites for offshore workers in Texas are Freeport and Galveston which had an estimated 388 and 97 offshore workers respectively.

Mississippi, Alabama and Florida had very few offshore workers reporting to work sites in these states. Given the level of activity in the Mobile Bay area and a Florida location in 1984 this number appears low. This may occur because persons associated with this work were still formally stationed in Louisiana and were only temporarily assigned to these locations as most of the exploration and development activity in these areas was being done by contractors and were supervised by staff positions located in the New Orleans area.

Workers classified as "Multi-location" workers, or workers with more than one work location to which they report made up 1,071 offshore employee positions. All onshore personnel could be linked to a specific work site, these multi-location workers represented about ten percent of all production company workers located offshore. This resulted primarily because they were not assigned to one specific offshore location and were required to use various staging sites depending on their work assignment that rotation. Examples of the types of personnel assigned to "multi-locations" are: maintenance specialists providing a specialized function on numerous offshore platforms, company drilling supervisors overseeing contract drilling operations on various contractor drill ships and at different locations during the year, and production well workover teams which are sent to numerous platforms depending on the specific need.

Wages and Salaries by Work Site

Payroll information by work site was developed from the producer employee records. Of the 23,900 positions with the production companies it was estimated that $854 million in wages, salaries and bonuses were generated in 1984. Producer payroll is summarized by work site in Exhibit 4. This exhibit also includes the distribution of producer payroll by work location. On average, employees at producing companies received $35,713 in wages, salary and bonuses per person annually in 1984. Average salaries ranged from a low of $16,250 in Sulphur, Louisiana to a high of $45,857 in La Habra, Louisiana. Production company employees with work sites in New Orleans received on average $38,048 in 1984.

Producer Position Types by Work Site

Exhibit 5 specifies producer employment by staff classification for each of the 33 work locations identified. Of the total number of positions with producer companies, 7,700 or 32 percent were classified as professional positions. Over seventy percent of these professional positions are located in the New Orleans area. Skilled labor positions totalled 4,564 person-year equivalent positions with production companies in 1984. This represented 19 percent of all positions with the offshore producers. Virtually all of these positions were located in staging sites or offshore. Supervisory personnel represented about 11 percent of the positions or 2,659 person-years of employment. These positions were found primarily in the staging ports. The clerical employment accounts for about seven percent of the total employment with producers and totalled an estimated 1,629 positions. Positions classified as skilled technical totalled 4,742 person-years of employment. This represents 20 percent of total employment with the producers in 1984. Only 144 out of the estimated 23,935 positions could not be classified. This represents less than one percent of all positions.

Personnel data files were also analyzed to determine the distribution and ranges of salaries by type of work site. This information is presented graphically in Exhibit 6.

Producer Employment and Payroll by Residence Location

While it is important to know the producer employment by work location, it is more important to know where these workers reside. These data are necessary for socioeconomic impact analysis because most impacts occur when the wages and salaries paid by the producers are spent by the employees in the counties/parishes in which they reside. The development of independent information on employment and wages and salaries received was necessary because many employees in the offshore industry do not reside in the same area where they work. A separate profile of direct producer impacts has been developed for employment by state of residence.

Data on producer employment by state of residence and the type of work location (i.e., staging area) is summarized in Exhibit 7. Employees of the offshore producers resided in 26 states. These states were located in all regions of the United States. Approximately 20 of these states had very slight employment impacts of two to eight persons. Several southern states such as Georgia, Oklahoma and Tennessee had slightly greater employment effects of approximately 20 persons each.

EXHIBIT 4

ESTIMATED DISTRIBUTION OF PRODUCER
PAYROLL BY WORK LOCATION

WORK LOCATION	AVERAGE SALARY (dollars)	TOTAL PAYROLL (dollars)	PERCENT OF PAYROLL (percent)
MULTI-LOCATION	41,198	44,110,459	05.1600
ALABAMA			
MOBILE AREA	43,415	347,320	00.0406
FLORIDA			
PENSACOLA	41,371	248,228	00.0029
LOUISIANA			
ABBEVILLE	30,999	3,028,583	00.3542
AMELIA	25,058	137,821	00.0161
BATON ROUGE	31,108	3,020,617	00.3533
BURAS	30,073	4,483,858	00.5245
CAMERON	31,025	23,948,251	02.8015
COCODRIE	31,459	440,430	00.0515
DULAC	19,437	347,918	00.0407
EMPIRE	29,451	2,105,775	00.2463
FOURCHON	31,621	7,269,690	00.8504
GRAND CHENIER	34,276	2,892,849	00.3384
GRAND ISLE	37,415	33,688,150	03.9409
HOUMA	29,652	15,839,972	01.8529
INTRACOASTAL CITY	37,407	30,722,613	03.5939
LA HABRA	45,857	91,715	00.0106
LAFAYETTE	37,740	48,646,394	05.6206
LAKE CHARLES	33,985	7,466,517	00.8734
LEESVILLE	31,064	16,734,239	01.9576
MORGAN CITY	32,842	117,276,746	13.7190
NEW ORLEANS	38,048	388,815,579	45.4844
SULPHUR	16,250	64,998	00.0076
VENICE	31,407	69,673,721	08.1500
** Subtotal **		776,696,436	90.8594
MISSISSIPPI			
BILOXI	45,326	271,954	00.0138
TEXAS			
BAYTOWN	29,031	868,032	00.1015
CORPUS CHRISTI	30,000	518,995	00.0607
DALLAS	29,708	59,415	00.0069
FREEPORT	31,693	12,293,802	01.4381
GALVESTON	31,607	4,320,700	00.5054
HOUSTON	38,980	11,736,904	01.3730
RODESSA	29,940	535,934	00.0626
SABINE PASS	29,590	2,417,532	00.2828
SAN ANTONIO	30,132	406,775	00.0475
**Subtotal **		33,158,089	03.8788
*** Total ***	35,713	854,832,486	100.0000

EXHIBIT 5

ESTIMATED PRODUCER EMPLOYMENT BY WORK LOCATION & STAFF CLASSIFICATION
(PERSON YEARS)

WORK LOCATION	UNSKILLED LABOR	SKILLED LABOR	SUPER-VISORY	CLERICAL	SKILLED TECHNICAL	PRO-FESSIONAL	UN-DETERMINED	TOTAL EMPLOYMENT
ABBEVILLE	18	48	6	6	8	12	0	98
AMELIA	1	0	0	0	0	4	0	6
BATON ROUGE	18	27	8	6	26	12	0	97
BAYTOWN	0	6	6	8	4	6	0	30
BILOXI	0	0	2	0	2	2	0	6
BURAS	26	88	14	0	12	10	0	149
CAMERON	206	365	89	4	84	23	0	772
COCODRIE	0	2	0	0	12	0	0	14
CORPUS CHRISTI	4	11	2	0	0	0	0	17
DALLAS	0	0	0	0	2	0	0	2
DULAC	10	0	0	0	8	0	0	18
EMPIRE	19	38	11	0	4	0	0	72
FOURCHON	38	148	24	14	6	0	0	230
FREEPORT	110	208	56	12	3	0	0	388
GALVESTON	13	29	14	6	59	16	0	137
GRAND CHENIER	16	31	19	0	19	0	0	84
GRAND ISLE	0	127	612	0	32	130	0	900
HOUMA	138	77	14	0	304	0	2	534
HOUSTON	0	0	0	38	64	199	0	301
INTRACOASTAL CITY	12	106	568	2	25	108	0	821
LA HABRA	0	0	0	0	0	2	0	2
LAFAYETTE	12	6	86	138	394	653	0	1,289
LAKE CHARLES	44	86	20	4	22	44	0	220
LEEVILLE	103	288	56	2	47	42	0	539
MOBILE AREA	0	0	4	0	0	4	0	8
MORGAN CITY	993	1,405	273	56	433	412	0	3, 571
NEW ORLEANS	20	120	251	1,307	2,733	5,647	142	10,219
PENSACOLA	0	0	0	0	2	4	0	6
RODESSA	8	6	2	0	0	2	0	18
SABINE PASS	22	44	8	0	8	0	0	82
SAN ANTONIO	0	14	0	0	0	0	0	14
SULPHUR	0	0	0	4	0	0	0	4
VENICE	509	1,188	231	10	212	68	0	2,218
VARIOUS	160	98	282	12	219	300	0	1,071
*** Total ***	2,499	4,564	2,659	1,629	4,742	7,700	144	23,936

Note: Data includes economic activity associated with both the Federal OCS and State Waters. Unscaled data from OOC study participants is presented on the reverse side of this page.

EXHIBIT 6

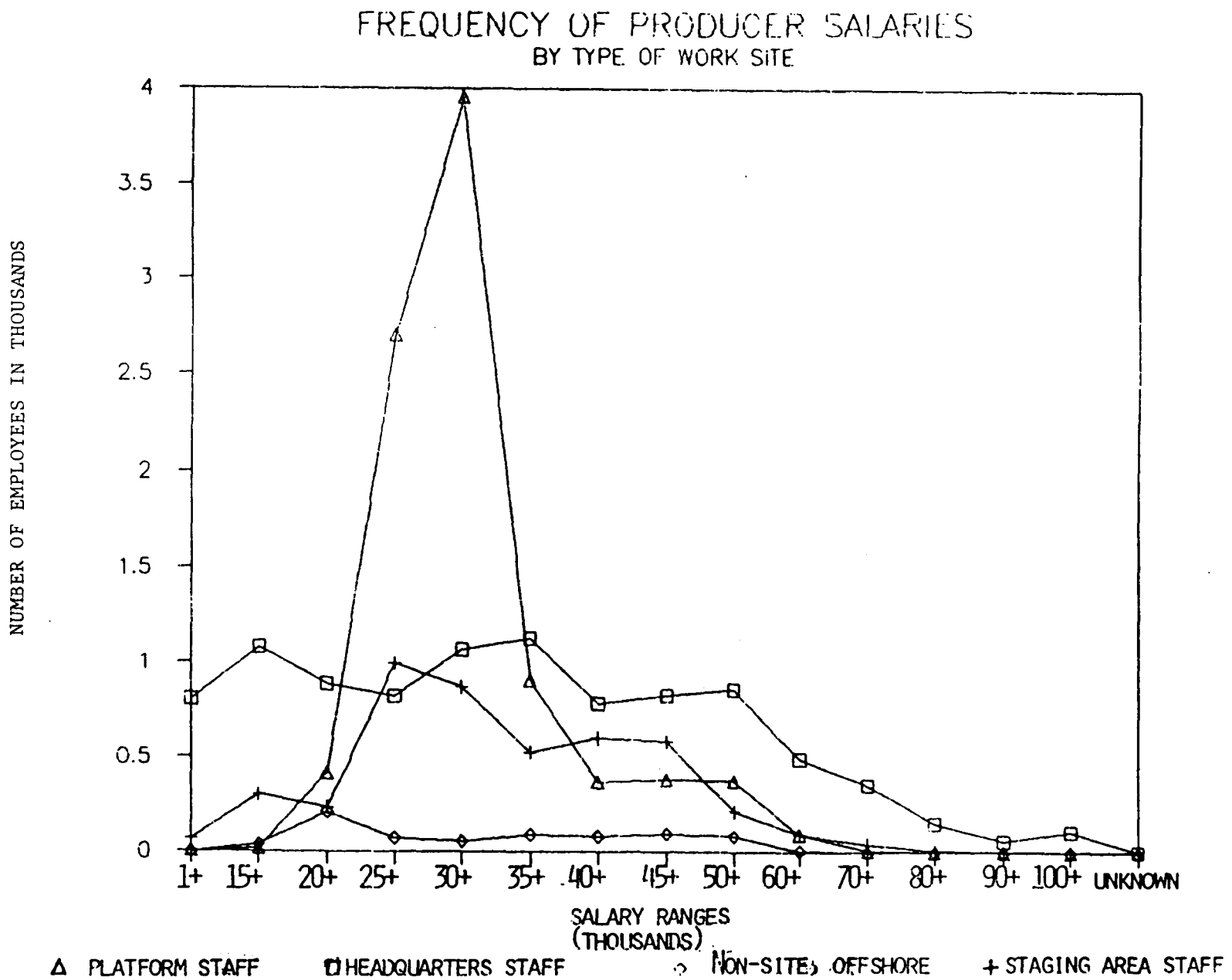

FREQUENCY OF PRODUCER SALARIES
BY TYPE OF WORK SITE
NUMBER OF EMPLOYEES IN THOUSANDS
4
3.5
3
2.5
2
1.5
1
0.5
0
1+ 15+ 20+ 25+ 30+ 35+ 40+ 45+ 50+ 60+ 70+ 80+ 90+ 100+ UNKNOWN
SALARY RANGES
(THOUSANDS)
PLATFORM STAFF
HEADQUARTERS STAFF
NON-SITE, OFFSHORE
STAGING AREA STAFF

EXHIBIT 7

ESTIMATED EMPLOYMENT BY STATE AND POSITION TYPE
(NUMBER OF PERSON-YEARS OF EMPLOYMENT)

STATE OF RESIDENCE	HEAD-QUARTERS	STAGING AREA	OFFSHORE PLATFORM	OFFSHORE NON-SITE	TOTAL
** STATE: ALABAMA	4	36	414	22	475
** STATE: ARIZONA	0	0	3	2	5
** STATE: ARKANSAS	0	4	43	8	54
** STATE: CALIFORNIA	0	2	4	2	8
** STATE: CONNECTICUT	0	0	3	0	3
** STATE: FLORIDA	1	20	152	32	205
** STATE: GEORGIA	2	2	19	2	25
** STATE: INDIANA	0	0	0	2	2
** STATE: LOUISIANA	8,694	4,048	6,556	383	19,680
** STATE: MAINE	0	0	0	4	4
** STATE: MARYLAND	2	0	0	0	2
** STATE: MASSACHUSETTS	0	0	0	2	2
** STATE: MICHIGAN	0	0	0	2	2
** STATE: MISSISSIPPI	123	245	1,488	104	1,960
** STATE: MISSOURI	0	0	2	2	4
** STATE: NEW JERSEY	4	0	0	0	4
** STATE: NEW MEXICO	0	0	0	2	2
** STATE: NEW YORK	0	0	0	2	2
** STATE: NORTH CAROLINA	2	0	0	0	2
** STATE: OHIO	2	0	0	4	6
** STATE: OKLAHOMA	0	4	9	0	13
** STATE: PENNSYLVANIA	0	0	0	4	4
** STATE: RHODE ISLAND	0	0	0	2	2
** STATE: TENNESSEE	1	0	15	2	18
** STATE: TEXAS	597	181	55	120	1,413
** STATE: WASHINGTON	0	0	0	2	2
** STATE: WYOMING	0	0	0	2	2
*** Total	9,433	4,540	9,224	705	23,902

Note: Data includes economic activity associated with both the Federal OCS and State Waters. Unscaled data from OOC study participants is presented on the reverse side of this page.

Almost 20,000 producer employees had their residence in Louisiana, 1,960 in Mississippi, 1,413 in Texas, 475 in Alabama, and 205 in Florida. This table also breaks out employment by residence for the various work location types (i.e., headquarters). This profile indicates that virtually all personnel working at headquarters reside in Louisiana or Texas.

Among staging area personnel most were again from Louisiana or Texas. Some greater proportion were however from bordering coastal states. For example, 245 staging area personnel commute from Mississippi and 20 commute from Florida. Among offshore platform staff 414 commuted from Alabama, 152 from Florida and 1,488 from Mississippi. Employees with residences in non Gulf Coast States were primarily found in offshore positions. For example, 15 persons were found commuting from Tennessee and 19 from Georgia to take offshore positions.

A similar, more detailed, profile of producer employment by residence was developed at the county/parish level. Employees with the producers reside in over 250 counties/parishes throughout the United States. Virtually every parish in the state of Louisiana has at least several person-years of employment with an offshore producer. The following are the estimated number of producer employees residing in some of the Louisiana Parishes:

- 4,524 employees Orleans Parish;
- 3,665 employees Jefferson Parish;
- 1,524 employees Lafayette Parish; and
- 1,489 employees St. Tammany.

Louisiana parishes with 200 to 1,000 employees with an offshore producer include: Calcasieu, Cameron, East Baton Rouge, Iberia, Lafourche, Livingston, Plaquemines, St. Bernard, St. Charles, St Mary, Tangipahoa, Terrebonne, and Vermilion.

Approximately 2,000 persons employed by the offshore production companies reside in Mississippi. Most of these persons appeared to live in counties adjacent to the two major highways feeding the coastal areas of Louisiana or in the Coastal counties of Mississippi. Additional residents of Mississippi who were employed with the offshore production companies came from a wide geographic range with virtually all counties having some employment with the offshore producers.

An estimated 1,400 Texas residents were employed by the offshore Gulf of Mexico production companies. With the exceptions of Marion and Harris counties, which had a large concentration of producer personnel, employees were from a broad geographic range within the state of Texas.

Almost 500 persons employed by the offshore production companies reside in Alabama. Half of the personnel reside in the coastal counties of Baldwin or Mobile, while most of the other half were found in the interior counties such as Coffee and Covington which were adjacent to the

coastal areas of the Florida Panhandle. An additional 25 counties located throughout the state had minor employment ties to producer company positions.

Approximately 200 producer employees reside in Florida. Most of these persons come from the coastal counties of Escambia, Okaloosa, and Santa Rosa.

Production Company Payroll by Location of Residence

Cumulative 1984 producer payroll by county/parish of residence and staff classification was also developed. This information is important in the analysis of the effect of oil and gas activity since it is actually the expenditures of the wages and salaries received by producer employees which drive the various local economies. Total wages and salaries paid by the offshore producers to residents of Gulf States were estimated as follows for 1984.

- Louisiana - $710 million;
- Mississippi - $64.7 million;
- Texas - $51.3 million;
- Alabama - $15.2 million; and
- Florida - $6.4 million.

The larger number of locations with resident producer employees precludes the presentation of this information at the county/parish level in this summary. An example of the level of detail available in the report is that residents of St. Mary Parish, Louisiana received wages and salaries from offshore producers totalling $30.1 million in 1984.

Exhibit 8 summarizes, graphically, producer payroll by state of residence and identifies payroll by staff classification (i.e. skilled labor).

Producer Payroll and Employment by Staging Area

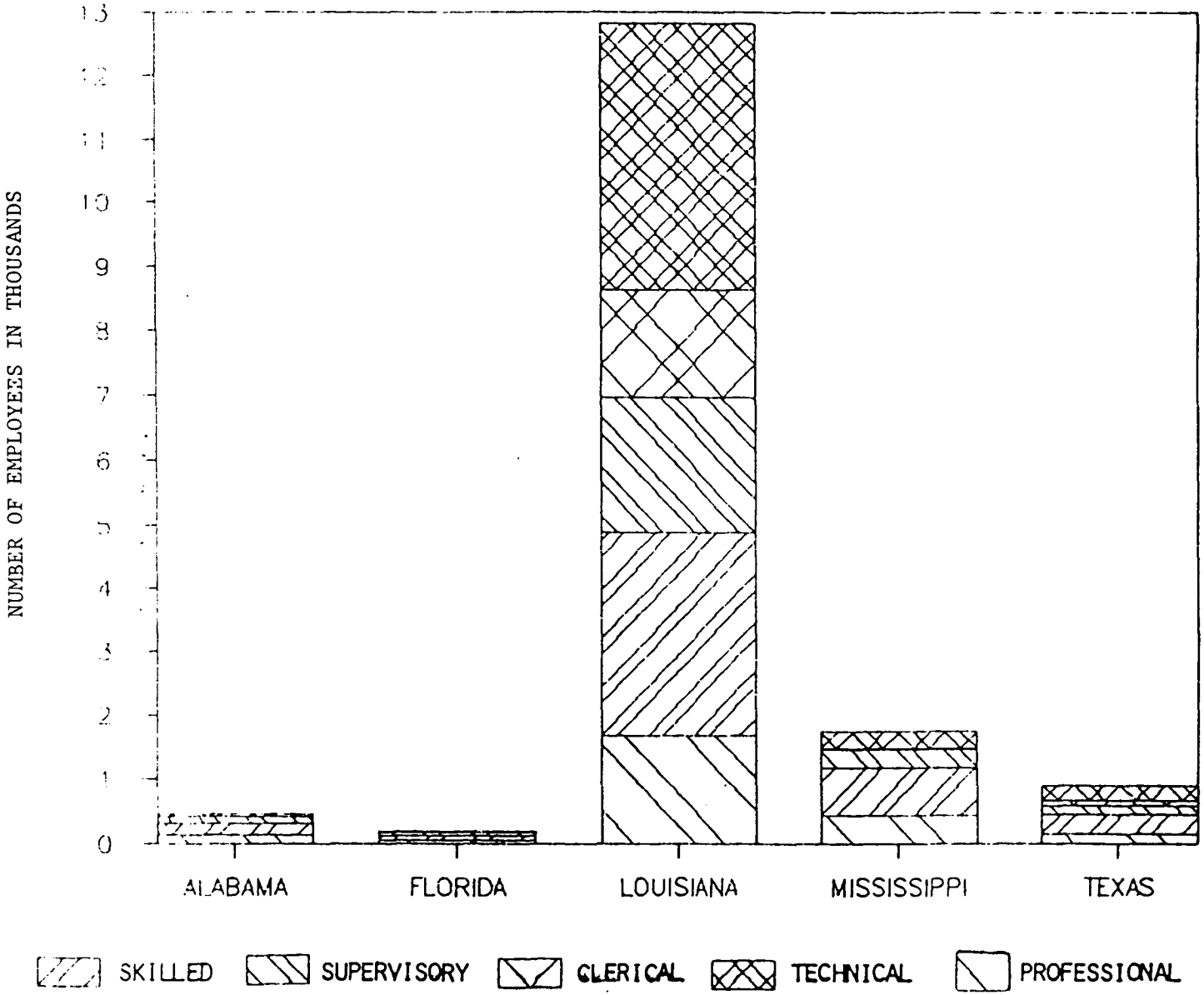
At the request of the Minerals Management Service the data were also analyzed to determine where producer personnel residing in each county/parish were reporting to work. This place-of-residence/place-of-work matrix includes total employment, average salary and total payroll by county. This information is available in the full report. A very detailed breakdown of employment and payroll information by county/parish of residence and actual work location was also developed.

An example of the type of data available in the full report is that Pearl River County, Mississippi had an estimated 209 producer employees residing locally. This southwest Mississippi county had 63 persons commuting daily to New Orleans. An additional 75 persons work out of staging sites in eastern Louisiana such as Venice, Grand Isle and Houma. Average salaries for each of the county/staging area categories is also available. For example, the 44 persons traveling from Pearl River County to Venice received an average wage of $40,306. Combined these 40 producer personnel received a total of $1.59 million in wages and salaries.

EXHIBIT - 8

PRODUCER PAYROLL BY STATE OF RESIDENCE

AND POSITION TYPE FOR COASTAL STATES



Personnel records were also manipulated to generate a place-of-residence/place-of-employment (work site or staging area) matrix for each of the counties/parishes which were providing the work force for the offshore producers. Using the data in this framework allows one to trace the payroll for any given work location directly back to the employees local residence. This is particularly relevant data for allocating local changes in employment back to the various areas supplying the local labor pool. This information provides a mechanism for tracing a staging area's payroll impact directly to the specific counties in which the workers reside. These matrices are again too lengthy for inclusion in a summary document.

An example of the type of information contained in the full report can be demonstrated by using the producer labor profile for Buras, Louisiana. The study results indicated that of the estimated 148 producer employees reporting to work at that staging location, 70 percent or 115 persons were from the local parish (Plaquemines Parish). Five persons commuted from Orleans Parish, nine from Jefferson Parish and 11 from other outlying Louisiana locations. Twelve additional persons had residences in Florida, Mississippi, Missouri, Tennessee and Texas.

Many socioeconomic analyses differentiate between producer employees and those personnel working exclusively offshore. The unique work schedule for offshore workers of one week on/one week off allows personnel in these positions to commute much greater distances than would be the case or employees commuting daily. Separate data were developed based exclusively on the personnel records of offshore workers.

Producer Employment and Payroll by Offshore Work Site

Employment and payroll data have also been analyzed using an additional dimension, the offshore work location. All platform locations have been standardized to one of sixty lease areas. The lease areas used for this assessment coincided with the standard MMS lease area designation such as "Ship Shoal Area" or "South Timbalier".

Additional lease areas were designated so that activity in State waters could be captured. Lease areas in State waters were simply designated by the MMS lease area name followed by the term "State Waters". Lease areas in State waters consist of offshore areas directly adjacent to the various MMS designated lease area divisions. State lands under lease in marshlands and lakes were not included in these State water areas. Information was obtained for all offshore workers in the sample on the physical location of their offshore assignment.

When using the information on the offshore locations of producer employees it should be remembered that the data is not necessarily closely tied to production in a lease area. This information simply reflects the physical location where producer employees were stationed. For example, production in a lease area which is piped to a larger near shore platform may have relatively few persons assigned to the platform at the point of production. On the other hand, a platform complex processing product which is piped from other areas may show a relatively large offshore staff and very little production at that location.

Exhibit 9 summarizes the estimated number of offshore producer personnel by lease area. Approximately 10,000 producer personnel were stationed offshore. These employees received wages and salaries totalling $330 million in 1984 and were located in 63 offshore lease areas.

Exhibit 10 graphically depicts the allocation of both producer employees and payroll between OCS waters, State waters, offshore exploration vessels and personnel working on numerous platforms. An estimated 7,370 offshore producer personnel were assigned to locations in the OCS. These personnel received an estimated $242 million in wages and salaries.

Producer personnel assigned to platforms in State waters totalled 1,244 persons and received wages and salaries totalling $38 million in 1984. This represents approximately 13 percent of all offshore producer positions. This number appears high given that in 1984 production from various State leases represented only about six percent of combined offshore oil and gas production. This may be explained by the fact that many of the near-shore platforms in shallow State waters are older and are more labor intensive than large and more recently constructed production platforms farther offshore. In addition, some platforms physically located in State waters receive and process products from wells located in the OCS farther offshore.

An additional 1,164 producer personnel reported to work offshore on "multiple platforms" in various areas. These personnel received an estimated $43.7 million in wages and salaries. Examples of the types of personnel assigned to this category include: maintenance specialists providing a specialized function on numerous offshore platforms, company drilling supervisors overseeing contract drilling operations on various contractor drillships and at different locations during the year, and production well workover teams which are sent to numerous platforms depending on the specific need. These personnel, although working offshore, could not be specifically tied to an individual work site in either State waters or the Federal OCS.

Eighty producer employees were assigned to offshore work on geophysical exploration vessels and received total wages and salaries of $2.9 million in 1984. These personnel represent a very small proportion of the total number of persons involved in geophysical exploration since this is typically a service supplied by contractors. A limited number of offshore producers do operate their own geophysical exploration vessels or vessels under long term leases.

Offshore Work Site by Staging Area

Data for the offshore personnel were also assessed by staging location. These data are again very lengthy and can not be presented here. This information can be used to answer questions on the physical place of work for all personnel reporting to work at a given staging site. An example of the type of information available can be demonstrated using the port of Buras, Louisiana. This location has 149 producer personnel reporting to work. Twenty six remain onshore and the remaining 123 depart to platforms located offshore. Offshore personnel using Buras were located in the Brenton Sound Area (28 persons), Brenton Sound State Waters

EXHIBIT 20

ESTIMATED PRODUCER EMPLOYMENT, AVERAGE SALARY
AND PAYROLL BY OFFSHORE AREA
-OFFSHORE PERSONNEL ONLY-

OFFSHORE AREA	EMPLOYMENT (person years)	TOTAL PAYROLL (dollars)	PERCENT OF OFFSHORE EMPLOYMENT	PERCENT OF OFFSHORE PAYROLL
OCS LOCATIONS				
BRAZOS AREA	88	2,984,223	0.8912	0.9041
BRAZOS AREA SOUTH	16	533,392	0.1620	0.1615
BRENTON SOUND AREA	59	1,829,868	0.5975	0.5542
CHANDELEUR	6	189,227	0.0608	0.0573
EAST BREAKS	8	384,405	0.0810	0.1163
EAST CAMERON	95	2,946,265	0.9621	0.8926
EAST CAMERON SOUTH	39	1,162,254	0.3950	0.3521
EUGENE ISLAND	647	20,893,606	6.5526	6.3304
EUGENE ISLAND SOUTH	441	15,399,405	4.4700	4.6658
GALVESTON	76	2,758,587	0.0770	0.8357
GALVESTON SOUTH	44	1,578,825	0.4456	0.4781
GRAND ISLE	184	5,941,327	1.8635	1.8001
GRAND ISLE SOUTH	30	958,143	0.3038	0.2903
HIGH ISLAND	141	4,672,709	1.4280	0.1416
HIGH ISLAND EAST	3	113,000	0.0304	0.0342
HIGH ISLAND EAST/SOUTH	190	7,402,573	1.9242	2.2427
HIGH ISLAND SOUTH ADDITION	264	8,781,401	2.6737	2.6606
MATAGORDA ISLAND	75	2,542,797	0.7596	0.7702
MUSTANG ISLAND	2	107,441	0.0203	0.0324
MUSTANG ISLAND EAST	1	37,846	0.0101	0.0112
MISSISSIPPI CANYON	90	3,129,200	0.9115	0.9481
MAIN PASS	280	8,838,049	2.8357	3.0111
MAIN PASS SOUTH EAST	84	2,733,092	0.8507	0.8281
NORTH PADRE ISLAND	12	405,560	0.1215	0.1227
NORTH PADRE ISLAND EAST	13	430,388	0.1317	0.1303
SOUTH MARSH ISLAND	190	6,333,510	1.9242	1.9188
SOUTH MARSH ISLAND NORTH	69	2,280,644	0.6988	0.6908
SOUTH MARSH ISLAND SOUTH	62	2,365,014	0.6279	0.7166
SOUTH PASS	352	11,123,699	3.5649	3.3702
SOUTH PELTO AREA	51	1,565,402	0.5165	0.4742
SOUTH PASS EAST AND SOUTH	438	15,221,187	4.4359	4.6118
SABINE PASS TEXAS	19	616,350	0.1924	0.1866
SHIP SHOAL	1,037	31,677,980	10.5023	9.5979
SHIP SHOAL SOUTH	379	11,253,467	3.8384	3.4096
SOUTH TIMBALIER	342	11,379,148	3.4636	3.4477
SOUTH TIMBALIER SOUTH	27	862,955	0.2734	0.2612
VIOSCA KNOLL AREA	18	576,568	0.1823	0.1745

EXHIBIT 20 (Cont.)

ESTIMATED PRODUCER EMPLOYMENT, AVERAGE SALARY
AND PAYROLL BY OFFSHORE AREA
-OFFSHORE PERSONNEL ONLY-

OFFSHORE AREA	EMPLOYMENT (person years)	TOTAL PAYROLL (dollars)	PERCENT OF OFFSHORE EMPLOYMENT	PERCENT OF OFFSHORE PAYROLL
OCS LOCATIONS (CONT.)				
VERMILION AREA	123	3,823,844	1.2457	1.1583
VERMILION AREA SOUTH	165	5,949,229	1.6711	1.8025
WEST CAMERON	526	16,925,222	5.3271	5.1281
WEST CAMERON SOUTH	108	3,911,550	1.0938	1.1850
WEST CAMERON SOUTH WEST	129	4,150,498	1.3065	1.2574
WEST CAMERON WEST	41	1,328,863	0.4152	0.4024
WEST DELTA	382	12,857,285	3.8687	3.8956
WEST DELTA SOUTH	24	800,682	0.2431	0.2424
OCS subtotal	7,370	241,756,680	74.6405	73.2501
STATE WATER LOCATIONS				
BRAZOS AREA STATE WATERS	17	560,060	0.1722	0.1697
BRENTON SOUND STATE WATERS	120	347,298	1.2153	1.1353
EAST CAMERON STATE WATERS	2	72,956	0.0203	0.0218
EUGENE ISLAND STATE WATERS	80	2,915,881	0.8102	0.8832
GALVESTON STATE WATERS	89	3,234,887	0.9014	0.9801
GRAND ISLE STATE WATERS	123	4,758,345	1.2457	1.4417
HIGH ISLAND STATE WATERS	23	767,531	0.2329	0.2325
MATAGORDA ISLAND STATE WATERS	44	1,488,893	0.4456	0.4511
MUSTANG ISLAND STATE WATERS	1	65,883	0.0101	0.0200
MOBILE BAY STATE WATERS	4	203,766	0.0405	0.0617
MAIN PASS STATE WATERS	69	2,208,410	0.6988	0.6691
SOUTH MARSH ISLAND STATE WATERS	4	122,867	0.0405	0.0370
SOUTH PADRE ISLAND STATE WATERS	7	250,143	0.0709	0.0757
SOUTH PASS STATE WATERS	358	11,271,385	3.6257	3.4150
SABINE PASS TEXAS STATE WATERS	4	129,409	0.0405	0.0391
SHIP SHOAL STATE WATERS	14	428,621	0.1418	0.1297
SOUTH TIMBALIER STATE WATERS	139	4,227,814	1.4077	1.2807
VERMILION AREA STATE WATERS	2	75,174	0.0203	0.0228
WEST DELTA STATE WATERS	144	5,139,175	1.4584	1.5571
** State Water Subtotal**	1,244	38,158,498	12.5987	11.5616
EXPLORATION VESSEL	80	2,911,746	0.8102	0.8822
MULTIPLE PLATFORMS [1]	1,164	43,715,062	11.7900	13.2453
OFFSHORE TOTAL	9,874	330,042,110		

1.The multiple platforms classification was assigned to personnel know to be working offshore but with no specific offshore work site. This category also includes personnel reporting to numerous offshore fields. These personnel often had responsibilities which placed them in both federal and state waters during 1984.

(58 persons) and West Delta State Waters (34 persons). The data also indicated that this location was also used on a very limited basis for three other locations.

EXPENDITURE AND PRODUCER PROCESSING IMPACTS OF OFFSHORE PRODUCERS

Offshore producers have a major economic impact on both the regional and national economy through their use of contracting for offshore services and the purchase of materials. These expenditures make up what are referred to as the direct secondary effects. In addition the transportation, refining and processing of oil and gas produced offshore has additional impacts.

Data were collected on the total 1984 purchases and expenditures by the nine study participants. This information was developed by the nine study participants through a sorting of their general payments ledgers. Such accounting systems essentially itemized all non-payroll checks issued. Payroll related expenses, taxes of all types, offshore lease payments and royalty payments to MMS and the various States and financial costs such as interest. Expenditure information in these accounting systems included all capital and operating expenditures which were paid for in 1984. By summarizing expenditures on a cash flow basis, impacts are correctly attributed to the period in which they actually took place.

No financial or cost accounting data were used in the development of this section. For example, if borrowed funds were used to purchase capital goods, the entire expense was included in 1984 expenditures provided that it was paid for in 1984.

The offshore operators make extensive purchases of contract services, materials and products. These expenditures include everything from the purchase of utilities, drilling contract costs, engineering consulting services and airplane rentals. The summarized results of the survey of producer expenditures are presented in Exhibit 11. Total expenditures by offshore producers resulting from offshore oil and gas exploration, development and production in the Gulf of Mexico region were estimated to have totaled $8.75 billion in 1984. Examples of these expenditures made as part of producers offshore activities are:

- Air transportation - $264 million;
- Boat, barge and marine transportation - $506 million;
- Catering services - $76 million;
- Cement and cementing services - $178 million;
- Contract labor and engineering services - $1.3 billion;
- Contract exploratory drilling - $717 million;
- Contract development drilling - $835 million;
- Contract diving services - $28 million;

EXHIBIT - 11

ESTIMATED EXPENDITURES AND CONTRACTS BY ALL OFFSHORE PRODUCERS FOR GULF OF MEXICO OFFSHORE OIL AND GAS ACTIVITIES

REFERENCE NUMBER	CONTRACT OR EXPENDITURE CATEGORY	PROJECTED TOTAL 1984 EXPENDITURES BY PRODUCERS FOR GULF OF MEXICO OFFSHORE DEVELOPMENT	AVERAGE PERCENTAGE OFFSHORE PRODUCER EXPENDITURES
1	AIR TRANSPORT	264,299,451	3.02%
2	BOAT,BARGE,MARINE EQ. & TRANSPORTATION.	506,135,401	5.79%
3	CATERING SERVICES	76,036,431	0.87%
4	CEMENT	178,106,270	2.04%
5	CONTRACT LABOR AND ENGINEERING SERVICES	1,330,317,193	15.21%
6	CONTRACT EXPLORATORY DRILLING	717,452,382	8.20%
7	CONTRACT DEVELOPMENT DRILLING	835,766,141	9.55%
8	DIVING	27,985,908	0.32%
9	DRILLING FLUIDS,MUD LOGGING, & CHEMICALS	388,881,867	4.45%
10	FUEL, UTILITIES	289,485,974	3.31%
11	PIPELINE & PIPELAYING CONTRACTING	189,593,673	2.17%
12	PLATFORM INSTALLATION	118,447,227	1.35%
13	PRODUCTION ENHANCEMENT	227,982,430	2.61%
14	PLATFORM & EQUIPMENT FABRICATION	489,397,441	5.59%
15	TUBULAR	628,936,216	7.19%
16	SEISMIC AND GEOPHYSICAL SERVICES	279,637,578	3.20%
17	WELL LOGGING,WIRELINE AND PERFORATION	478,474,390	5.47%
18	FIELD OPERATING EXPENSES, OTHER OIL FIELD SERVICES & TOOL RENTALS	1,065,109,305	12.17%
19	ALL OTHER	656,343,235	7.50%
	TOTAL	8,748,388,433	

- Drilling fluids, mud logging and chemicals - $389 million;
- Fuel and utilities - $289 million;
- Pipeline and pipelaying contracting - $190 million;
- Platform fabrication $489 - million;
- Platform installation - $118 million;
- Production enhancement services - $227 million;
- Tubular (drilling and casing pipe) - $630 million;
- Seismic and geophysical services - $280 million;
- Well logging, wireline and perforation services - $478 million;
- Field operating expenses, other oil field services and tool rental - $1 billion; and
- "Other" purchases and expenditures - $656 million.

A mechanism was developed for translating these expenditures by the primary offshore producers into the corresponding employment and payroll effects. This was done through the application of key economic impact ratios to the data on producer expenditures. These ratios were developed with the cooperation of approximately 50 offshore contractors. The information supplied by the contract and support firms were exclusively for 1984 and offshore oil and gas in the Gulf of Mexico. Ratios developed included: wages and salaries paid as a percent of revenues, revenues per employee, average payroll per employee, percent of revenues purchasing goods and services from other firms, and percent of company employees working offshore.

The impact ratios for the various contract and service industries were multiplied by the total estimated producer expenditures to derive the impacts associated with the expenditures made by the offshore producers.

Combined 1984 producer purchases, expenditures and contracts for offshore activities in the Gulf of Mexico resulted in an estimated $2.59 billion in wages and salaries with contractors and other businesses serving the offshore producers. Exhibit 12 presents the estimated payroll generated by the expenditures of the producers. The secondary direct wage and salary effects were highly concentrated in the specialized oil service industries such as contract drilling (both exploratory and development), contract labor, platform fabrication, and well logging and testing.

Contractors and businesses supplying goods and services to the offshore producers in the Gulf of Mexico generated approximately 95,400 full-time equivalent positions. Estimated employment impacts associated with producer expenditures are also itemized in Exhibit 12. The major employment impacts with the offshore oil and gas contractor industries in the Gulf of Mexico are as follows:

EXHIBIT - 12

ESTIMATED EXPENDITURE IMPACTS ASSOCIATED WITH OFFSHORE
OIL AND GAS DEVELOPMENT IN THE GULF OF MEXICO

REFERENCE NUMBER	CONTRACT OR EXPENDITURE CATEGORY	ESTIMATED WAGES AND SALARIES GENERATED	ESTIMATED NUMBER OF EMPLOYEES	ESTIMATED PURCHASES OF OUTSIDE GOODS AND SERVICES
1	AIR TRANSPORT	86,690,220	4,005	97,790,797
2	BOAT,BARGE,MARINE EQ. & TRANSPORTATION.	119,954,090	6,074	275,843,794
3	CATERING SERVICES	32,695,665	1,901	31,783,228
4	CEMENT	47,305,025	1,594	88,875,029
5	CONTRACT LABOR AND ENGINEERING SERVICES	478,914,189	19,005	518,823,705
6	CONTRACT EXPLORATORY DRILLING	260,650,450	7,748	286,263,500
7	CONTRACT DEVELOPMENT DRILLING	303,633,839	9,026	333,470,690
8	DIVING	10,438,744	630	8,115,913
9	DRILLING FLUIDS,MUD LOGGING, & CHEMICALS	72,720,909	2,528	174,996,840
10	FUEL, UTILITIES	16,790,186	550	162,691,117
11	PIPELINE & PIPELAYING CONTRACTING	52,252,016	2,560	77,354,218
12	PLATFORM INSTALLATION	42,641,002	1,421	45,009,946
13	PRODUCTION ENHANCEMENT	80,135,824	2,211	90,281,042
14	PLATFORM & EQUIPMENT FABRICATION	198,303,843	7,170	194,780,182
15	TUBULAR	93,082,560	2,987	408,808,541
16	SEISMIC AND GEOPHYSICAL SERVICES	76,341,059	3,207	140,657,702
17	WELL LOGGING, WIRELINE, PERFORATION ETC.	111,963,007	3,828	234,930,925
18	FIELD OPERATING EXPENSES, OTHER OIL FIELD SERVICES & TOOL RENTALS	309,946,808	13,656	0 435,629,706
19	ALL OTHER	193,384,242	7,285	290,140,173
	TOTAL	2,587,843,679	97,386	3,896,247,049

- Boat, barge and marine equipment - 6,074 employees;
- Contract labor and engineering - 19,005 employees;
- Contract exploratory drilling - 7,748 employees;
- Contract development drilling - 9,026 employees;
- Platform and equipment fabrication - 7,170 employees; and
- Other oil field services and tool rentals - 13,656 employees.

Out of a total of 97,400 positions created by producer expenditures, an estimated 28,955 are located primarily offshore, 20,085 have an offshore component and 48,347 are located exclusively on land. The 20,085 employees with both onshore and offshore responsibilities include positions such as pilots and boat crews which return home daily and specialized workers who spend several days offshore as part of a specific assignment and then return to shore. This class of employees also included individuals such as divers, who may spend extended periods both onshore and then offshore. Exhibit 13 identifies the estimated number of contractor employees working offshore and onshore.

The expenditures by producers inturn resulted in purchases by the contract and support firms of $3.8 billion. These expenditures included purchases of raw materials, operating expenses, capital purchases and subcontracts with other offshore support industries. These expenditures are significant since many are made locally and result in subsequent indirect and induced impacts. These expenditures are summarized in Exhibit 12.

Examples of expenditures made by the various contract and support industries are:

- Boat, barge, and marine transportation companies made purchases of $275 million directly to support their sales to the offshore producers.
- Contract exploratory drilling companies made capital and operating purchases totalling $286 million as a result of their activities in the Gulf of Mexico.
- Platform fabrication yards purchased $195 million in materials and services in conjunction with sales going to Gulf of Mexico.

The major weakness with the available information on the impacts of expenditures by producers was the inability to assign them to geographic areas. Numerous mechanisms for determining the geographic distribution of the economic impacts associated with the offshore oil and gas producer expenditures were investigated. Expenditures could not be identified by location by any of the offshore operators. Numerous other public and private data sources were investigated to determine if they were applicable for allocating contractor impacts between the various

EXHIBIT - 13

ESTIMATED NUMBER OF CONTRACTOR
EMPLOYEES BY PRIMARY WORK LOCATION

REFERENCE NUMBER	CONTRACT OR EXPENDITURE CATEGORY	ESTIMATED NUMBER OF CONTRACT EMPLOYEES WORKING OFFSHORE	ESTIMATED NUMBER CONTRACT EMPLOYEES OFFSHORE DAILY	ESTIMATED NUMBER OF ONSHORE CONTRACT EMPLOYEES	ESTIMATED TOTAL CONTRACTOR EMPLOYEES
1	AIR TRANSPORT	0	1,602	2,403	4,005
2	BOAT,BARGE,MARINE EQ. & TRANSPORTATION.	0	5,466	607	6,074
3	CATERING SERVICES	1,635	0	266	1,901
4	CEMENT	96	0	1,498	1,594
5	CONTRACT LABOR AND ENGINEERING SERVICES	10,452	0	8,552	19,005
6	CONTRACT EXPLORATORY DRILLING	5,346	0	2,402	7,748
7	CONTRACT DEVELOPMENT DRILLING	6,228	0	2,798	9,026
8	DIVING	126	378	126	630
9	DRILLING FLUIDS,MUD LOGGING, & CHEMICALS	177	0	2,351	2,528
10	FUEL, UTILITIES	0	0	550	550
11	PIPELINE & PIPELAYING CONTRACTING	845	0	1,715	2,560
12	PLATFORM INSTALLATION	1,094	0	327	1,421
13	PRODUCTION ENHANCEMENT	774	0	1,437	2,211
14	PLATFORM & EQUIPMENT FABRICATION	0	287	6,883	7,170
15	TUBULAR	0	60	2,928	2,987
16	SEISMIC AND GEOPHYSICAL SERVICES	2,181	0	1,026	3,207
17	WELL LOGGING, WIRELINE, PERFORATION ETC.	0	1,914	1,914	3,828
18	FIELD OPERATING EXPENSES, OTHER OIL FIELD SERVICES & TOOL RENTALS	0	10,379	3,278	13,656
19	ALL OTHER	0	0	7,285	7,285
	TOTAL	28,955	20,085	48,347	97,386

coastal counties/parishes. The only promising data source for this task was the Bureau of the Census, County Business Patterns data series. Unfortunately this information could not be used since it aggregated all oil and gas field services regardless of whether they are located on land or offshore and would have assigned many offshore related impacts to interior counties with onshore oil and gas economies. In addition this data source presented many disclosure problems and did not present most information at the county level.

Estimated Impacts Associated with Processing, Refining and Storage of Offshore Produced Oil and Gas

Additional impacts occur from the handling, storage, processing and refining of oil and gas which originates offshore in the Gulf of Mexico. Some preliminary processing of oil and gas occurs offshore on the actual offshore platform or near the location the product makes landfall. This "processing" consists primarily of the separation of raw oil and gas from other materials. The payroll and employment impacts due to this preliminary processing of oil and gas handling and storage are captured in the "direct producer impacts".

Total 1984 refinery capacity was 784 million barrels within Louisiana and 1,436 million barrels within Texas. When this was adjusted to reflect unused capacity and account only for product refined from offshore sources, it was estimated that Louisiana refineries processed 452 million barrels of offshore Gulf oil and Texas refineries processed 47 million barrels of offshore Gulf oil in 1984.

Within the region there were an estimated 10,566 person-years of employment generated at oil refineries as a result of offshore Gulf oil. Of this total 9,054 were estimated to be in Louisiana and 1,512 were in Texas. It was estimated that refineries within Louisiana generated an estimated $306 million in wages and salaries as a result of processing offshore oil in 1984. Texas refineries generated an estimated $51 million in wages and salaries as a result of offshore oil refined in the state.

Total 1984 gas plant processing throughput in Louisiana was 8.4 billion cubic feet and 3.9 billion cubic feet in Texas in 1984. When this was adjusted to account for gas processed from non-offshore sources, it was estimated that Louisiana gas processing plants handled 5.4 billion cubic feet of offshore gas and Texas gas processing plants handled 1.07 billion cubic feet of offshore gas.

Within the region there were an estimated 11,006 person-years of employment generated at gas processing plants as a result of offshore oil activities. Of this total, 5,650 were estimated to be in Louisiana and 5,355 were in Texas. Within Texas there were over 100 counties with significant gas processing impacts.

It was estimated that gas processing plants in Louisiana generated $137 million in wages and salaries as a result of processing gas which originated offshore in 1984. Texas processing plants generated an estimated $142 million in wages and salaries as a result of offshore gas processed in the state.

It should be noted the employment to gas processing throughput ratio for Texas is significantly higher than that of Louisiana. The Census Bureau data used to derive this estimate indicate that a unit of gas processed in Texas has a greater employment and payroll impact that gas processed in Louisiana. This is believed to result from the fact that many of the gas processing and distribution companies are headquartered in Texas. Thus the employment to gas processing impact ratios for Texas reflects additional gas processing activities such as storage, distribution and managerial activities which are not found as extensively in Louisiana.

Cumulative Economic Impacts

Exhibit 14 summarizes the estimated total direct and secondary direct employment by state, directly resulting for offshore oil and gas activities in 1984. There were an estimated 142,860 person years of employment directly associated with Gulf of Mexico offshore oil and gas operations in 1984. These employment impacts consist of the following:

- Producer headquarters personnel - 9,433 employees;
- Producer staging area personnel - 4,540 employees;
- Producer personnel located on platforms - 9,224 employees;
- Producer personnel stationed offshore on vessels or locations which are designated on an as needed basis - 705 employees;
- Gas processing plant personnel - 11,006 employees;
- Oil refinery personnel - 10,556 employees;
- Contractor and supplier offshore personnel - 28,955 employees;
- Contractor and supplier personnel working offshore on a daily or temporary basis - 20,085 employees; and
- Contractor and supplier personnel working onshore- 48,347 employees.

Of the total employment impacts producer headquarters personnel make up 6.6 percent. Producer staging area personnel make up 3.2 percent, producer personnel stationed on platforms make up 6.4 percent, producer personnel stationed offshore on vessels make up 0.4 percent, gas processing plant personnel make up 7.7 percent, oil refinery personnel 7.4 percent, and contractors and suppliers to the offshore producers 68.1 percent.

Exhibit 15 summarizes the estimated direct payroll effects resulting from offshore oil and gas activities. In 1984 there were an estimated $4.08 billion in wages and salaries paid by offshore producers and the businesses directly associated with offshore oil and gas operations. These payroll effects breakdown into the following:

ESTIMATED EMPLOYMENT BY STATE DIRECTLY RESULTING FROM
OFFSHORE OIL AND GAS ACTIVITIES IN THE GULF OF MEXICO REGION
(NUMBER OF PERSON-YEARS OF EMPLOYMENT)

	PRODUCER PERSONNEL					REFINING AND GAS PROCESSING		CONTRACTORS	
STATE OF RESIDENCE	HEAD-QUARTERS	STAGING AREA	OFFSHORE PLATFORM	OFFSHORE NON-SITE	TOTAL PRODUCER	GAS PROCESS	OIL PROCESS	CONTRACT/ SUPPLIERS	TOTAL
ALABAMA	4	36	414	22	475	0	0	-	475
ARIZONA	0	0	3	2	5	0	0	-	5
ARKANSAS	0	4	43	8	54	0	0	-	54
CALIFORNIA	0	2	4	2	8	0	0	-	8
CONNECTICUT	0	0	3	0	3	0	0	-	3
FLORIDA	1	20	152	32	205	0	0	-	32
GEORGIA	2	2	19	2	25	0	0	-	25
INDIANA	0	0	0	2	2	0	0	-	2
LOUISIANA	8,694	4,048	6,556	383	19,680	5,650	9,054	-	34,384
MAINE	0	0	0	4	4	0	0	-	4
MARYLAND	2	0	0	0	2	0	0	-	2
MASSACHUSETTS	0	0	0	2	2	0	0	-	2
MISSISSIPPI	123	245	1,488	104	1,960	0	0	-	1,960
MISSOURI	0	0	2	2	4	0	0	-	4
NEW JERSEY	4	0	0	0	4	0	0	-	4
NEW MEXICO	0	0	0	2	2	0	0	-	2
NEW YORK	0	0	0	2	2	0	0	-	2
NORTH CAROLINA	2	0	0	0	2	0	0	-	2
OHIO	2	0	0	4	6	0	0	-	6
OKLAHOMA	0	4	9	0	13	0	0	-	1
PENNSYLVANIA	0	0	0	4	4	0	0	-	4
RHODE ISLAND	0	0	0	2	2	0	0	-	2
TENNESSEE	1	0	15	2	18	0	0	-	1
TEXAS	597	181	55	120	1,413	5,355	1,512	-	8,280
WASHINGTON	0	0	0	2	2	0	0	-	2
WYOMING	0	0	0	2	2	0	0	-	2
*** Total ***	9,433	4,540	9,224	705	23,902	11,006	10,566	97,386	142,860

EXHIBIT - 15

ESTIMATED WAGES AND SALARIES DIRECTLY RESULTING FROM OFFSHORE OIL AND GAS ACTIVITIES IN THE GULF OF MEXICO REGION, 1984

(WAGES AND SALARIES IN THOUSANDS OF DOLLARS)

STATE OF RESIDENCE	PRODUCER	GAS PROCESS	OIL REFINING	CONTRACT/ SUPPLIERS	TOTAL
ALABAMA	15,158	0	0	-	15,158
ARIZONA	176	0	0	-	176
ARKANSAS	1,781	0	0	-	1,781
CALIFORNIA	258	0	0	-	258
CONNECTICUT	100	0	0	-	100
FLORIDA	6,398	0	0	-	6,398
GEORGIA	871	0	0	-	871
INDIANA	47	0	0	-	47
LOUISIANA	710,027	137,344	306,036	-	1,153,407
MAINE	170	0	0	-	170
MARYLAND	77	0	0	-	77
MASSACHUSETTS	42	0	0	-	42
MISSISSIPPI	64,742	0	0	-	64,742
MISSOURI	114	0	0	-	114
NEW JERSEY	171	0	0	-	171
NEW MEXICO	43	0	0	-	43
NEW YORK	55	0	0	-	55
NORTH CAROLINA	112	0	0	-	112
OHIO	203	0	0	-	203
OKLAHOMA	489	0	0	-	489
PENNSYLVANIA	157	0	0	-	157
RHODE ISLAND	43	0	0	-	43
TENNESSEE	670	0	0	-	670
TEXAS	51,310	142,134	51,498	-	244,942
WASHINGTON	42	0	0	-	42
WYOMING	94	0	0	-	94
Total	853,389	279,478	357,534	2,587,843	4,078,244

Note: Payroll associated with the contractors and suppliers supporting the producers directly involved in offshore oil and gas production can not be attributed to individual counties or states.

- Oil and gas producers and operator personnel - $853 million in wages and salaries;
- Gas processing plant personnel - $279 million in wages and salaries;
- Oil refinery personnel - $357 million in wages and salaries; and
- Contractors and suppliers to the offshore producers- $2,587 million in wages and salaries.

Analysis of Producer Activity Budget Data

The nine OOC member firms making up the Socioeconomic Subcommittee supplied itemized budget summaries for the six major types of activities conducted in offshore oil exploration, development and production.

These budgets were analyzed to develop a mechanism for converting physical activity measures, such as number of platforms, into estimated economic activity impacts. The following models were developed for estimating the expenditures associated with basic physical or descriptive characteristics of offshore oil and gas activities in the Gulf of Mexico.

Geophysical surveying:

$Y = (\$745.730X + \$38,407.00)$
where Y = total survey costs
and X = survey miles covered

or

$Y = (\$22,307.90X - \$19,166.40)$
where Y = total survey cost
and X = survey duration (days)

Exploratory and delineation drilling:

$Y = (\$31.57X + \$57,836)$
where Y = cost per day
and X = water depth in feet

or

Total cost = ($2,634 x water depth in feet)
+ $492 x drilling depth in feet
+ $51,845 x duration of drilling in days)

Platform construction and installation:

Total Cost = (-$3,457,000
+ $50,195 x water depth in feet
+ $3,134,733 if on board processing
+ $363,850 x the number of well slots)

Development Drilling:

Total Cost = (-$3,801,761
+ $1,604 x water depth in feet
+ $244 x drilling depth in feet
+ $61,591 x drilling days
+ $1,251,040 if completed
- $363,451 if semi sub
+ $1,251,040 if jackup rig
+ 1,636,428 if platform

or

Total Cost = ($1,910,429
+ $168 x drilling depth in feet
+ $71,420 x days)

Pipelaying:

Total Cost = ($78.111X + $94,373)
where X = pipeline length
and $94,373 = fixed costs

or

Total Cost = (-$1,496,030
+ $59.7 length in feet
+ $257,872 x diameter in inches)

Production, operations and maintenance:

Average Operation and Maintenance Cost:
$6.52 per barrel equivalent unit of energy

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.