PIRINC

Telephone: (212) 867-0052

Petroleum Industry Research Foundation, Inc.

122 EAST 42nd STREET

New York, N. Y. 10168

COMPANIES INCLUDED IN U.S. OIL AND GAS EXPLORATION SURVEY

Amerada Hess Corporation
American Petrofina, Inc.
Atlantic Richfield Company
Champlin Petroleum Company
Cities Service Company
Coastal Corporation
Conoco, Inc.
Diamond Shamrock Corporation
Exxon Corporation
El Paso Company
Getty Oil Company
Gulf Oil Corporation
Husky Oil Company
Kerr-McGee Corporation
Louisiana Land & Exploration Company
Marathon Oil Company
Mobil Corporation
Murphy Oil Corporation
Pennzoil Company
Phillips Petroleum Company
Shell Oil Company
Standard Oil Co. of California
Standard Oil Co. (Indiana)
Standard Oil Co. (Ohio)
Sun Company Inc.
Tenneco, Inc.
Texaco Inc.
Union Oil Co. of California

U.S. needs a maximum effort by both independents, majors

INDEPENDENTS, for years now, have been stereotyped as the industry's oil finders par excellence. They are the legendary wildcatters, the big gamblers. They find the most fields.

The majors, in the same vein, have been typed as the big landholders, who occasionally find a big field, but more often buy independent discoveries and develop them, adding to reserves by extensions and revisions.

Both independents and majors, according to this concept, have only the slightest working relationship.

EVEN if this picture were true in the free-wheeling days of the oil industry, the stereotype hasn't applied for many years.

A recent study by Petroleum Industry Research Foundation Inc. confirms anew the strong and long-standing interdependent relationship between independents and majors. The study shows their respective roles are not so simple as popularly thought. The independents are not just the big risk takers who find the new fields. The majors aren't just big landholders who buy up the independents' discoveries and develop them.

Pirinc's study found that 14 major firms found 60 of the 100 largest U.S. oil fields and 36 of the 50 largest gas fields. The majors also spent 48% of the industry's total exploration expenditures, although they drilled only 10% of the wildcats.

It's obvious from these statistics that both segments are large factors in exploration, even though the figures don't tell the whole story. Much of the independent exploration is carried out in partnership with majors. And majors, on the other hand, explore much of their acreage through various arrangements with independents. This is the only way in which independents can drill 90% of the wildcats while spending only 52% of the industry's exploration budget. The majors fund much of the lease acquisition, geological, and geophysical costs before farming out much actual drilling to the independents.

Places with staggering costs and big-league risks, like the North Slope and Gulf of Alaska, and even some Lower 48 offshore areas, aren't exclusively the domain of majors either. It's true the majors do predominate in these places. But independents, through joint ventures, are finding ways to participate even in such costly plays as the North Sea and in such remote spots as Indonesia.

THE REAL significance of the study is its demonstration of the close interdependence between independents and majors in the U.S. Neither can be hurt without doing damage to the other's exploration and development efforts.

The message should be clear to lawmakers and public-interest groups who would single out one segment of the industry for special action—either punitive or preferential. Legislation which seeks to harm one or to help one in isolation from the other fails to recognize the complementary relationship.

The Pirinc study makes clear what should have been known already. The country needs the maximum effort from both independents and majors. Nothing less will enable the industry to find and develop the oil and gas required for a sound economy and national independence in the future.

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New York, N. Y. 10168

The Petroleum Industry Research Foundation (PIRINC) is undertaking a study of the oil and gas exploration activities of large integrated companies. As you may recall, we completed a similar report in 1976 which was widely quoted at the time. A copy of an editorial from the Oil & Gas Journal which discusses the study is attached.

In spite of the many debates over the contribution of large integrated companies to the search for and location of oil and gas, there has been relatively little written on the subject since then. Our new report will update our previous one as well as add some new information on the subject. We hope thereby to give the public a better understanding of the role of this segment of the petroleum industry in the exploration for oil and gas. The study is funded in part by a grant from the American Petroleum Institute.

As an essential part of our research, we must obtain from integrated companies data which are not generally available, and thus, we must ask for your cooperation. We have designed a questionnaire which requests information on several aspects of oil and gas exploration operations. We have sent the questionnaire to 28 companies which are generally recognized as "large integrated" companies; a list of these companies is attached. The responses will be aggregated, and only the aggregate figures will be compared to various sources of industry-wide data for analogous information. All individual company responses will be destroyed as soon as we have tabulated them to obtain our aggregate responses.

In designing the questionnaire, we have attempted to minimize the work required to complete it. Thus, we have requested information on changes in proved oil and gas reserves in a format similar to that provided in companies' Annual Reports since 1978. Because we need the information for 1976 and 1977 as well, however, we ask that you fill out our questionnaire with comparable data for the entire 1976-1980 period.

Likewise, we have requested information on exploration and development expenditures and drilling activity in a format similar to that reported each year by your company to the Bureau of the Census on Form MA-13K, "Annual Survey of Oil and Gas." Use of the Bureau of the Census format not only eases the task of filling out our questionnaire; it also assures that our respondents' aggregated data will be directly comparable to a consistent published source of industry-wide figures.

We have also requested information on your company's acreage holdings and the acreage assigned to others under farm-out agreements. When we completed our report in 1976, we found that lack of information on farm-out agreements was an important gap in our data. This will be a significant addition to the available data and an important aspect of our analysis of the integrated companies' overall contribution to the search for domestic oil and gas supplies. These survey responses, like all others, will be published in the aggregate only.

We would greatly appreciate your cooperation in this important project. A copy of our questionnaire is enclosed; we would appreciate its return within 30 days.

Sincerely,

John H. Lichtblau
President

JHL/jg
Enclosures

U.S. OIL AND GAS EXPLORATION SURVEY

NAME OF COMPANY: NAME OF INDIVIDUAL CONTACT: TELEPHONE:

Please report all data on a net company interest basis. Include natural gas liquids with crude oil and lease condensate figures. S
tionnaire requests data on changes in proved oil and gas reserves (both developed and undeveloped) analogous to that currently prov
Reports and to the Securities and Exchange Commission. Please report the reserves data consistently with those reports. Section B
directly references selected items of the Bureau of the Census Form MA-13K, "Annual Survey of Oil and Gas." In filling out Section
data previously reported to the Bureau of the Census on Form MA-13K to the extent possible. In reporting "Drilling Activity" infor
basis consistent with reports on the MA-13K for 1977-1980. Section C requests data on holdings of oil and gas acreage. See other r

SECTION A

TOTAL UNITED STATES, NET COMPANY IN

	1980	1979	1978	1977
I. PROVED CRUDE OIL, CONDENSATE AND NATURAL GAS LIQUIDS RESERVES, DEVELOPED AND UNDEVELOPED, IN THOUSANDS OF BARRELS				
A. Total Proved Reserves at January 1	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
B. Revisions of Earlier Estimates				
C. Improved Recovery				
D. Extensions, Discoveries and Other Additions				
E. Production				
F. Net Change Due to Purchases (Sales) of Proved Reserves				
G. Total Proved Reserves at December 31				
II. PROVED NATURAL GAS RESERVES, DEVELOPED AND UNDEVELOPED, IN MILLIONS OF CUBIC FEET				
A. Total Proved Reserves at January 1	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
B. Revisions of Earlier Estimates				
C. Improved Recovery				
D. Extensions, Discoveries and Other Additions				
E. Production				
F. Net Change Due to Purchases (Sales) of Proved Reserves				
G. Total Proved Reserves at December 31				

E:

Section A of this ques-
ovided in company Annual
B of this questionnaire
on B, please repeat the
ormation for 1976, use a
r notes on page 4.

INTEREST BASIS

	1976
XX	
XXX	

NAME OF COMPANY: ______________________

SECTION B

These questions correspond directly to the referenced items in the Bureau of the Census Form
the data previously reported to the Bureau of the Census on that form, to the extent possibl

TOTAL UNITED

III. EXPENDITURES, CAPITALIZED AND EXPENSED, IN THOUSANDS OF DOLLARS Form MA-13K Reference Line / Item #	1980	1979
13 III.A. A. Total Exploration Expenditures		
14 III.A.1. 1. Total drilling and equipping wells		
26 III.B. B. Total Development Expenditures		
27 III.B.1. 1. Total drilling and equipping wells		

IV. DRILLING ACTIVITY: PHYSICAL DATA FOR WELLS COMPLETED DURING THE YEAR, NUMBER OF WELLS AND THOUSANDS OF FEET DRILLED	1980		1979	
Form MA-13K Reference Line / Item #	On-shore	Off-shore	On-shore	Off-shore
A. Exploration				
1. Dry holes				
60 VI.A.1.a. a. Number of wells				
61 VI.A.1.b. b. Total footage drilled				
2. Oil wells				
62 VI.A.2.a a. Number of wells				
63 VI.A.2.b. b. Total footage drilled				
3. Gas wells				
64 VI.A.3.a. a. Number of wells				
65 VI.A.3.b. b. Total footage drilled				
B. Development				
1. Dry holes				
66 VI.B.1.a. a. Number of wells				
67 VI.B.1.b. b. Total footage drilled				
2. Oil wells				
68 VI.B.2.a. a. Number of wells				
69 VI.B.2.b b. Total footage drilled				
3. Gas wells				
70 VI.B.3.a. a. Number of wells				
71 VI.B.3.b. b. Total footage drilled				

SECTION B

renced items in the Bureau of the Census Form MA-13K. Please repeat
ne Census on that form, to the extent possible.

TOTAL UNITED STATES, NET COMPANY INTEREST BASIS

	1980	1979	1978	1977	1976
es					
es					

LS	1980		1979		1978		1977		1976	
	On-shore	Off-shore	On-shore	Off-shore	On-shore	Off-shore	On-shore	Off-shore	On-shore	Off-shore
d										
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U.S. OIL AND GAS EXPLORATION SURVEY (CONT'D)

NAME OF COMPANY: ______________________

SECTION C

TOTAL UNITED STATES, NET COMPANY INTEREST BASIS

	1980	1979	1978	1977
V. OIL AND GAS ACREAGE, IN THOUSANDS OF ACRES				
A. Net Acreage in which Respondent Holds an Interest				
1. Developed				
2. Undeveloped				
3. Total				
B. Net Acreage Assigned to Another Party Under a Farm-Out Agreement				
1. Developed				
2. Undeveloped				
3. Total				

If you have any questions concerning this survey, please contact

Cheryl J. Trench
Petroleum Industry Research Foundation, Inc.
122 East 42nd Street
New York, N.Y. 10168
(212) 867-0052

We welcome comments on the questionnaire or explanatory notes on your responses. Please attach a separate sheet.

Please return completed questionnaire to the address above no later than October 19, 1981.

977	1976

NOTES

Net Company Interest Basis: Consistent with your company's historical accounting practices include the interests of your company, affiliates, and subsidiaries, according to your share in a given operation. Report without regard to the operator's identity.

Proved Reserves and Related Questions: Use accepted industry definitions. Terminology has been chosen based on industry practice in reporting data to shareholders, and should not be construed as deliberately deviating from other standard industry methods of reporting.

Expenditures, Capitalized and Expensed:

Total Exploration Expenditures - Repeat the amount previously reported to the Bureau of the Census on Line 13 of Form MA-13K for the appropriate year. This figure includes expenditures for "Total drilling and equipping wells" (Line 14 of Form MA-13K), "Lease and land acquisitions of non-producing acreage" (Line 19), "Land department, leasing and scouting" (Line 20), "Geological and geophysical" (Line 21), "Lease rents" (Line 22), "Test hole contributions" (Line 23), "Other exploration expenditures" (Line 24), and "General and administrative overhead" allocable to exploration activities (Line 25). The figure excludes depletion, depreciation and amortization, except as depreciation might be included as an element in general and administrative overhead.

Total Drilling and Equipping Wells - Repeat the amount previously reported to the Bureau of the Census on Line 14 of Form MA-13K for the appropriate year.

Total Development Expenditures - Repeat the amount previously reported to the Bureau of the Census on Line 26 of Form MA-13K for the appropriate year. This figure includes expenditures for "Total drilling and equipping wells" (Line 27), "Lease equipment" (Line 32), "Lease and land acquisitions of producing acreage" (Line 33), "Fluid injection and improved recovery programs" (Line 34), "Other development expenditures, including direct overhead" (Line 35), and "General and administrative overhead" allocable to development activities (Line 36).

Total Drilling and Equipping Wells - Repeat the amount previously reported to the Bureau of the Census on Line 27 of Form MA-13K for the appropriate year.

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s, according to your share in a given operation. Report
to the operator's identity.

nd Related Questions: Use accepted industry definitions.
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lders, and should not be construed as deliberately
other standard industry methods of reporting.

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Expenditures - Repeat the amount previously reported to
he Census on Line 13 of Form MA-13K for the appropriate
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), "Test hole contributions" (Line 23), "Other
enditures" (Line 24), and "General and administrative
able to exploration activities (Line 25). The figure
ion, depreciation and amortization, except as
ght be included as an element in general and
overhead.
g and Equipping Wells - Repeat the amount previously
Bureau of the Census on Line 14 of Form MA-13K for
year.

Expenditures - Repeat the amount previously reported
f the Census on Line 26 of Form MA-13K for the appro-
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ells" (Line 27), "Lease equipment" (Line 32), "Lease
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covery programs" (Line 34), "Other development expend-
ng direct overhead" (Line 35), and "General and admin-
ead" allocable to development activities (Line 36).
g and Equipping Wells - Repeat the amount previously
Bureau of the Census on Line 27 of Form MA-13K for
year.

Drilling Activity: Aggregate the data previously reported to the Bureau o
the Census on Form MA-13K for the appropriate year, as shown below. Rep
1976 on a consistent basis.

To aggregate, add the reported figure in column d of the MA-13K ("Alas
Onshore") to the figure in column f ("Lower 48, Onshore"); report the su
as "Onshore" for the appropriate year. Similarly, add the figure in col
e ("Alaska, Offshore") to the figure in column g ("Lower 48, Offshore");
report the sum as "Offshore" for the appropriate year. The sum of the
figures reported to us as "Onshore" and "Offshore" should equal your tot
U.S. drilling completions.

Offshore - Offshore is defined for the purposes of the MA-13K to inclu
leases seaward from the coastline. In general, the term "coastline" mea
the line of ordinary low water along that portion of the coast which is
direct contact with the open sea and the line marking the seaward limit
inland waters. For Louisiana the coastline is defined as the "Chapman L
as modified by subsequent adjudication. For Alaska, offshore is defined
as including Cook Inlet.

For the purposes of this questionnaire and the Form MA-13K the classificat
of exploratory and development wells and expenditures should be based or
the AAPG well classifications as follows:

Exploratory wells include new-field wildcats, new-pool wildcats, deepe
pool tests, shallower-pool tests, and outposts (extensions).

Development wells are those wells drilled to produce oil or gas from
pools discovered by previous drilling.

Wells completely successfully in both oil and gas reservoirs should be
reported as oil wells. Classification of completed wells as between oi
and gas should be based on the appropriate State regulatory requirements

Farm-Out Agreement: An agreement by which drilling rights for a given lea
or portion thereof are assigned by the lease holder to another party.
Report the net interest in acreage assigned away under farm-out agreeme
without regard to whether you retain an overriding royalty or production
payment.