

2025 Geological & Geophysical Data Inventory

U.S. Outer Continental Shelf

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Acknowledgements: This report was developed in coordination with subject matter experts across the entire bureau, including significant contributions from BOEM regional Resource Evaluation offices.

U.S. Department of the Interior
Bureau of Ocean Energy Management
Office of Strategic Resources
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Abbreviations

AVO	Amplitude Variation with Offset
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CDP	Common Depth Point Seismic Data
CFR	Code of Federal Regulations
COST	Continental Offshore Stratigraphic Test
CSEM	Controlled Source Electromagnetic survey
CY	Calendar Year
DOI	Department of the Interior
DST	Deep Stratigraphic Test (well)
FY	Fiscal Year
G&G	Geological and Geophysical
GOA	Gulf of America
GRAV	Gravity Data
HRD	High-Resolution Data
MAG	Magnetic Data
MMS	Minerals Management Service
NAMSS	National Archive of Marine Seismic Surveys
OBN	Ocean Bottom Nodes
OBS	Ocean Bottom Seismometers
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
USGS	United States Geological Survey
4-C	Four Component Seismic Data
2-D	Two-Dimensional Seismic Data
3-D	Three-Dimensional Seismic Data
4-D	Four-Dimensional Seismic Data

Introduction

This report catalogs the current and historical geological and geophysical (G&G) data permitting activities and G&G data purchases of the Bureau of Ocean Energy Management's (BOEM) Resource Evaluation Program. The report includes G&G data and information associated with both oil and gas activities and marine and strategic minerals activities, but does not include an inventory of G&G data associated with renewable energy activities.

BOEM's regulations (30 CFR § 551) govern the process for pre-lease G&G exploration for oil, gas, and sulphur resources on the Outer Continental Shelf (OCS). Part 551 applies to both G&G exploration and scientific research. The purpose of these regulations is to prescribe when a permit or the filing of a notice is required to conduct G&G activities on the OCS, the operating procedures for conducting exploration activities, requirements for disclosing data and information, conditions for reimbursing permittees for certain costs, and other conditions under which exploration must be conducted. Similar regulations addressing pre-lease prospecting activities for minerals other than oil, gas, or sulphur can be found in 30 CFR § 580.

BOEM's regulations at 30 CFR § 550 govern the acquisition of post-lease G&G data as an ancillary activity or as conducted under a plan. Similar to part 551, the regulations prescribe when the filing of a notice is required, the operating procedures for conducting exploration activities, requirements for disclosing data and information, and other conditions under which exploration must be conducted.

This report focuses primarily on the aggregation and summary of administrative data, such as the totals for permits issued, data acquired, and expenditures for these data. These items are influenced by a number of factors, including overall trends of oil and gas prices, access to OCS acreage, and the shift of industry investment to international and onshore opportunities.

This report tracks all data by fiscal year (FY) with the exception of permits issued, which is tracked by calendar year (CY) due to BOEM permit-issuance procedure. This report includes data and financial transactions through the end of FY 2025 (September 30, 2025) and G&G permitting information through the end of CY 2025 (December 31, 2025). All dollar amounts are reported in nominal United States dollar values and are not adjusted for inflation.

Permits, Data Acquisition, and Reimbursement

BOEM administers certain provisions of the Outer Continental Shelf Lands Act (OCSLA) through regulations found at Title 30 of the Code of Federal Regulations (CFR). These regulations govern permitting, data acquisition and release, pre-leasing, and post-lease operations on the OCS.

For administrative and planning purposes, BOEM has established four OCS regions - Alaska, Pacific, Atlantic, and Gulf of America (GOA) - comprised of 27 planning areas, as shown in Figure 1. While nine additional OCS areas were recently added surrounding U.S. territories in both the Atlantic and Pacific Oceans, this report only includes G&G data activities in the 27 OCS planning areas immediately adjacent to the Lower 48 states and Alaska.

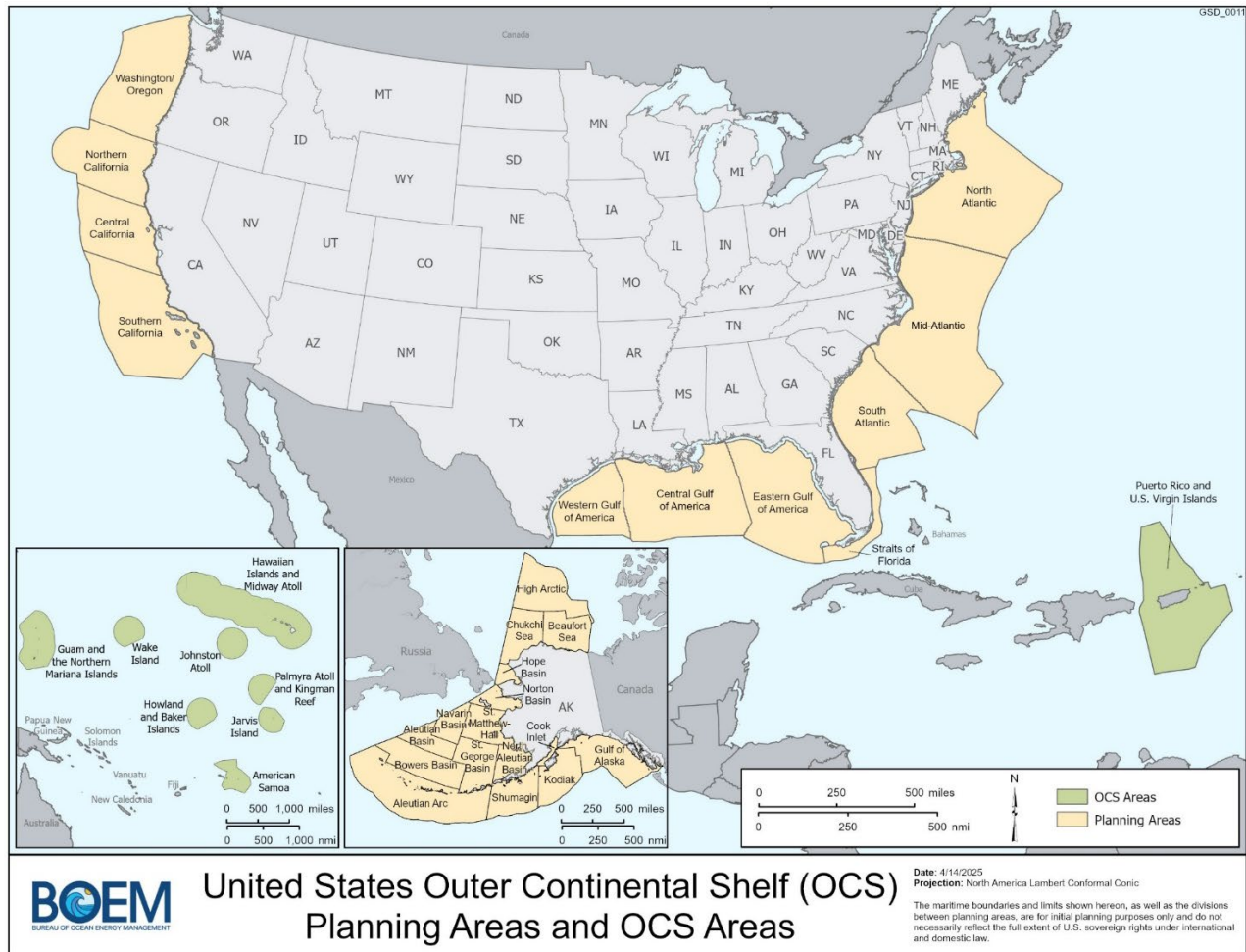


Figure 1: Outer Continental Shelf Planning Areas

BOEM issues permits to industry to allow for the collection of pre-lease and off-lease G&G data and approves the collection of post-lease G&G data on active leases. These G&G permits, issued by the regional Offices of Resource Evaluation, set forth the specific requirements for each data-gathering activity. These requirements include the area where the data may be collected, the timing of the activity, approved equipment and methods, environmental mitigation measures, and other relevant information.

BOEM does not typically acquire G&G data directly. Instead, BOEM often obtains G&G data from lessees and permittees. By regulation, BOEM has access to certain permitted seismic data and information (such as processed, analyzed, or interpreted

data) as soon as the data become available, and lessees and operators are required, upon request, to provide BOEM with data collected on their leases. For G&G data acquired by permit or on lease, BOEM reimburses permittees and lessees only for the cost of data reproduction. Should industry have data available in areas not under BOEM jurisdiction, e.g., state waters or adjacent foreign waters, and BOEM requests those data, BOEM pays a significantly higher “market price” for obtaining the information.

Geophysical Data Surveys

2-D Surveys

The two-dimensional (2-D) geophysical data in the BOEM inventory is common depth point (CDP) seismic information collected along a survey line. Also known as common midpoint or common reflection point data, the data are derived from a common location in the ocean sub-bottom where sound waves originating from a source near the ocean surface are reflected back to the surface. Table 1 shows an estimate of the amount of 2-D data in the BOEM inventory in miles, by BOEM planning area. Table 2 shows the total 2-D data purchased by BOEM per FY.

Prior to the mid-1990s, most data were collected in 2-D. Since that time, most geophysical data collected and most of the data added to the BOEM inventory have been three-dimensional (3-D) seismic; this is especially true for GOA OCS data collection.

3-D Surveys

The evolution of 3-D seismic data and information in conjunction with the advancement of interactive computer workstations has made it possible to more closely define and assess the potential for oil and gas occurrence on the OCS, especially with regard to subsalt prospects. Compared with the results of 2-D surveys, 3-D information provides greater detail and delineation of the subsurface geologic conditions associated with the occurrence of hydrocarbons. In recent years, most of the 3-D data collected on the OCS have transitioned from traditional towed streamer receivers to ocean bottom nodes (OBN) that rest directly on the seafloor. Table 3 shows the total amount of 3-D data purchased by BOEM per FY.

4-D Surveys

As 3-D seismic technology evolved, 3-D reflection techniques began to portray not only subsurface structure and stratigraphy but information about fluids within the subsurface as well. Three-dimensional seismic surveys that are shot over the same area at different times can now detect changes from one fluid or gas to another (where present), e.g., oil to water. Thus, time-lapse 3-D seismic surveys, known more commonly as 4-D seismic surveys, have been used to monitor fluid movement in producing reservoirs where changes in fluid content are imaged with seismic

techniques over an interval of time. To date, the primary objectives of these surveys have been for managing reservoirs, determining where and how long to drain hydrocarbon-bearing areas, and monitoring gas injection or water flooding during enhanced recovery operations. Many 4-D surveys utilize OBN technology.

AVO Surveys

A specialized processing technique that can be used with both 2-D and 3-D seismic data is Amplitude Variation with Offset (AVO). AVO involves the variation in amplitude of a seismic reflection with the angle of incidence or source-geophone distance and is processed using the raw data gathered. AVO data are often used as a direct hydrocarbon indicator.

4-C Surveys

Another type of data acquisition is 2-D or 3-D four component (4-C) surveys, which involve the recording of marine seismic data with ocean bottom seismometers (OBS) on the seafloor. Each OBS consists of a hydrophone recording pressure changes of passing primary waves (p-waves), and three orthogonal geophones recording movement in three components of direction (x, y, and z axes) of passing shear waves (s-waves). Three dimensional 4-C is a recording of multiple parallel lines of seismometers achieved by recording seismic waves from each line simultaneously or in sequence by recording a line of geophones, moving the line a short distance and parallel to the previous line, and repeating the process.

High Resolution Data

Up until 1982, all BOEM regional offices directly acquired pre-lease, tract-specific, shallow hazards data, or high-resolution data (HRD). After BOEM established the area-wide leasing program in 1982, the detailed shallow hazards analysis function was shifted to the post-sale phase, and it is now the responsibility of the lessee to collect site-specific hazards data.

A company must obtain a G&G permit from BOEM to conduct a pre-lease hazards survey. Shallow hazards survey data and information are available to BOEM and the Bureau of Safety and Environmental Enforcement (BSEE), as outlined in the applicable regulations and the terms of the permit or lease. These data are submitted to BOEM as part of the safety review process.

Magnetic and Gravity Surveys

Magnetic surveys measure the magnetic field or a component (such as the vertical component) at a series of different locations over an area of interest, usually to locate concentrations of magnetic anomalies or to determine depth to basement. Gravity surveys produce measurements of the gravitational field at a series of different locations over an area of interest and are used to identify density

differences that may indicate different rock types. Gravity data are usually displayed as anomaly maps.

CSEM Surveys

Controlled Source Electromagnetic (CSEM) surveys are being conducted in areas of the GOA and elsewhere. Although not a new technology, it is a relatively new application for the deeper water OCS provinces. The data gathered from these surveys are often used in conjunction with seismic reflection data to generate direct recognition of hydrocarbon fluid resistivity in potential subsurface reservoirs.

Geological Data Collection

Bottom Sampling and Shallow Coring

In general, bottom samples are obtained by dropping a weighted tube to the ocean floor and recovering it with an attached wire line. Shallow coring (no deeper than 500 feet) is performed by both conventional rotary drilling equipment and by wireline deployment of pressure core systems to obtain a sample of the sediments of the shallow subsurface.

Deep Stratigraphic Tests

A deep stratigraphic test, as defined in 30 CFR § 551.1, means, “drilling that involves the penetration into the sea bottom of more than 500 feet (152 meters).” These wells are sometimes known as Continental Offshore Stratigraphic Test (COST) wells and are drilled primarily to gather geological information. Conversely, shallow test drilling, as defined in the same regulatory provision, means, “drilling into the sea bottom to depths less than those specified in the definition of a deep stratigraphic test.” Three COST wells drilled on the OCS have encountered hydrocarbons: the COST B-3 (Atlantic Region), Point Conception No.1 (Pacific Region), and the Norton COST No. 2 (Alaska Region). A discussion of the deep stratigraphic test program is described in [OCS Report MMS-90-0028](#).

G&G Data Release

Section 351 of the Energy Policy Act of 2005 (cited as the “National Geological and Geophysical Data Preservation Program Act of 2005,” 42 U.S. Code § 15908) requires that the Secretary carry out a National Geological and Geophysical Data Preservation Program to archive geologic, geophysical, and engineering data, maps, well logs, and samples; and to provide a national catalog of such archival material. BOEM preserves and maintains a “National Catalog” of G&G data that are released to the public after the proprietary period has ended.

BOEM’s regulations at 30 CFR § 551.14(b)(1) and § 550.197 establish the release timeframes for proprietary G&G data and information. Pre-lease geophysical

information is not released to the public for 25 years and raw geophysical data is held for 50 years before it is released to the public. The proprietary term for geological information is 10 years. The Minerals Management Service (MMS), a BOEM predecessor agency, first released geophysical data sets in 2001, which included data sets from southern Alaska, the Arctic, the Bering Sea, Southern California through Washington/Oregon, the North, Mid, and South Atlantic planning areas, and the Eastern, Central, and Western GOA.

BOEM currently releases all geophysical data through the National Archive of Marine Seismic Surveys (NAMSS) (available at: <https://walrus.wr.usgs.gov/NAMSS/>). The NAMSS data portal¹ was developed by the United States Geological Survey (USGS) in the early 2000's² and BOEM began utilizing the portal for data release around 2011. By 2019, the total NAMSS database had grown to 7 TB. In FY25, BOEM released over five terabytes of geophysical data through the NAMSS portal and the total database had grown to 51.3 TB; over seven times as large compared to 2019. In total, the NAMSS portal includes 601 2-D surveys with 1,892,243 trackline km (1,175,785 mi) and 963 3-D surveys covering 697,446 km² (269,285 mi²). While NAMSS receives data from a number of sources, BOEM provides the overwhelming majority of OCS data that is made available on the NAMSS website.

Analysis of BOEM Data Coverage on the OCS

Mileage/Blocks

BOEM has amassed a large inventory of both 2-D and 3-D seismic data. Table 1 shows the coverage of 2-D seismic data, by region and planning area, that BOEM purchased through FY 2025. Tables 2 and 3 summarize the total amount of 2-D and 3-D data for all planning areas purchased annually through FY 2025. Figure 2 provides an illustrative representation of the data listed in Tables 2 and 3. Table 4 summarizes BOEM data inventory by type and by region through FY 2025. As noted in Table 4, BOEM currently has 427,203 blocks of 3-D seismic data and approximately 3.5 million line-miles of conventional 2-D seismic information. The additions to the BOEM inventory in FY 2025 represent a 1.2% increase in the cumulative 3-D seismic data inventory and a 1.0% increase in the cumulative 2-D seismic data inventory. Each block of 3-D data typically covers nine square miles and provides a more detailed view of the subsurface than a 2-D seismic line-mile.

¹ Triezenberg, P. J., Hart, P. E., and Childs, J. R., 2016, National Archive of Marine Seismic Surveys (NAMSS): A USGS data website of marine seismic reflection data within the U.S. Exclusive Economic Zone (EEZ): U.S. Geological Survey Data Release, doi: 10.5066/F7930R7P.

² Kluesner, J., Hart, P., Snyder, G., & Triezenberg, P., 2024, National Archive of Marine Seismic Surveys web portal provides public access to US Exclusive Economic Zone Marine Seismic Surveys. Perspectives of Earth and Space Scientists, 5, e2023CN000229. <https://doi.org/10.1029/2023CN000229>

Note that while BOEM reports 5,208 OCS blocks of new 3-D seismic data purchased in FY 2025 (Table 3), the true coverage of new reflection seismic data is only 985 unique OCS blocks. BOEM received 10 unique 3-D seismic surveys in FY 2025 with aerial coverage ranging from several OCS blocks to hundreds of OCS blocks, where each survey can contain between one to nearly 20 types of data volumes. In a case where there are ten data volumes from a single survey over a single OCS block, BOEM reports that as ten OCS blocks of data. The most common data volume types received in FY 2025 were pre- and post-stack depth migration; pre- and post-stack time migration; near, mid-, and far stacks for AVO; 3-D Kirchhoff pre-stack depth migration; reverse time migration; and velocity models.

BOEM has not purchased all the permit data shot and recorded by industry, primarily due to poor data quality or the redundancy in available data sets. Since the early 1990s, the volume of 3-D seismic data has increased in concert with the development and use of interactive computer workstations. For some areas where BOEM previously obtained 2-D or 3-D seismic information, BOEM continues to purchase new information as a result of the use of state-of-the-art acquisition methods and modern processing techniques, particularly for depth migration in subsalt areas of the GOA.

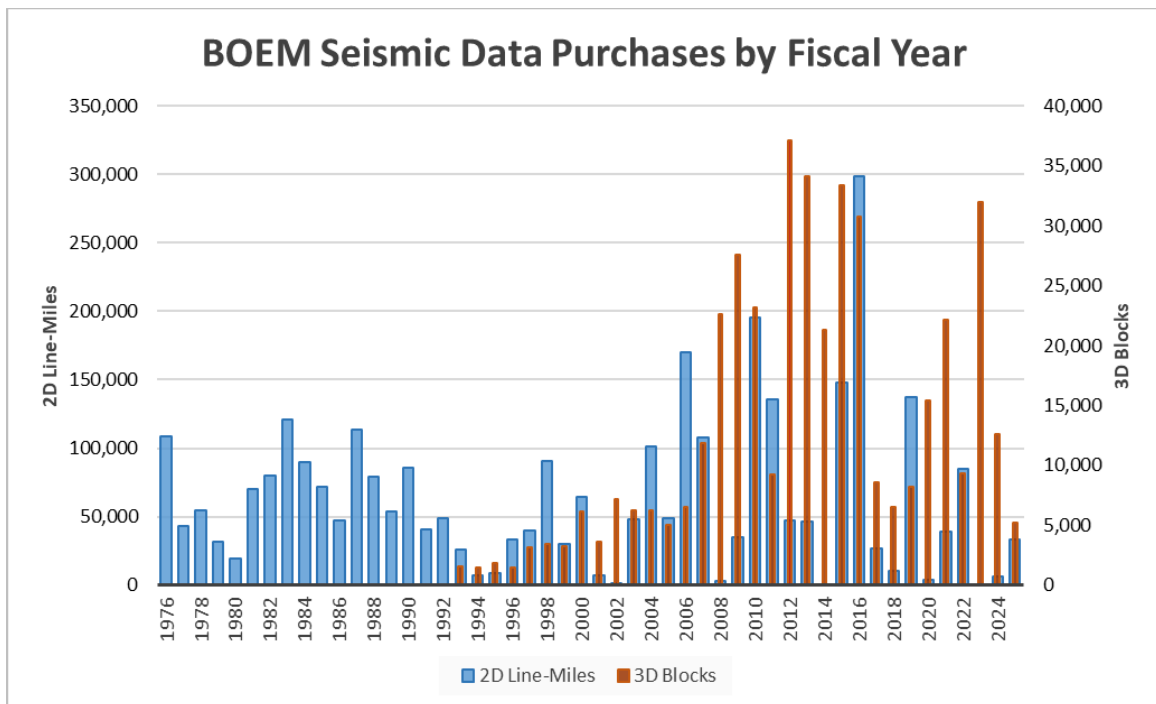


Figure 2: Seismic Data Purchases by Fiscal Year

Geological and Geophysical (G&G) Exploration Permits

Table 5 provides a summary of G&G exploration permitting for the OCS since 1960, with a differentiation between geological permits and geophysical permits

from 1969 to 2025. Figure 3 displays the permitting data by CY and shows a steady decline over the past 40 years, from over 500 permits in CY 1983 to 28 in CY 2025. The greatest number of permits issued in one year was 574 in 1983, during which time significant exploration activity was occurring in all four OCS regions as a result of area-wide leasing.

Tables A-2, A-5, A-8, and A-11 show total permits issued by OCS Region. The GOA Region has granted 84 percent of all BOEM permits issued, followed by the Alaska Region with eight percent, the Pacific Region with six percent, and the Atlantic Region with two percent. The regional differences can be attributed to factors such as leasing moratoria, operating conditions (e.g., arctic ice), the discovery of new hydrocarbon plays, and the presence of existing infrastructure.

Since 1969, approximately 94 percent of the permits issued have been for geophysical exploration, with geological exploration permits accounting for only five percent. Non-energy permits also account for over half of a percent of all permits. While the total number of 3-D seismic permits (including 4-D) issued only comprises 12 percent of all permits issued, over the past 10 years, 3-D permits (including 4-D) have comprised 33 percent of all geophysical permits issued. Permits for deep stratigraphic test wells or COST wells comprise about six percent of all geological permits issued.

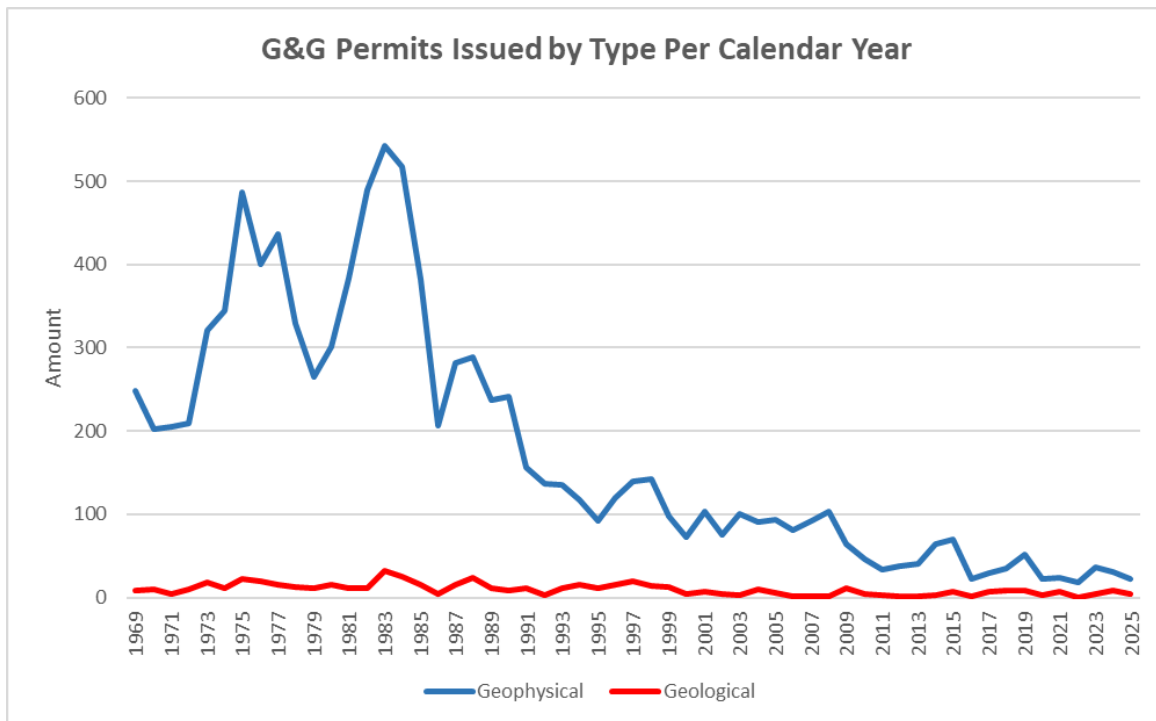


Figure 3: Permits Issued by Type per Calendar Year

Expenditures

Under 30 CFR § 551.13(a), BOEM can purchase OCS G&G data for the cost of data reproduction. As a result, BOEM purchases large amounts of data at costs much lower than market price.

BSEE's Acquisition Operations conducted a market survey and an analysis of occupational categories and associated labor rates and assessed an appropriate reimbursement rate of \$4.00 to \$5.00 per gigabyte of G&G data beginning in FY 2021. BSEE's prior assessment (after conducting a market survey in December 2015) resulted in a reimbursement rate of \$2/gigabyte for all G&G data. Prior to 2015, BSEE was using a reimbursement rate of \$20.48/gigabyte rate for G&G data.

Table 6 shows the total expenditures for G&G data since 1968 for the data inventory presented in Table 4, including the distribution of G&G data expenditures by region. The GOA and Alaska regions have the largest portion of the expenditures with 40 and 37 percent, respectively. The Alaska Region has over twice the offshore area of the other three regions combined. The GOA Region, with over 95 percent of OCS oil and gas production, represents the largest database of G&G data. The Atlantic Region (14 percent) and the Pacific Region (9 percent) are comparable in terms of expenditures, although the difference is primarily due to the purchases of high-resolution data in the Atlantic (see Table 6). The Pacific Region has the smallest expenditures for G&G data because much of the OCS offshore California, Washington, and Oregon was under moratoria from the 1980s to 2008. No new oil and gas leasing has occurred in the Pacific Region since 1984 nor in the Atlantic Region since 1983.

Figure 4 shows the total expenditures per year by region. Overall, the early to mid-1980s saw a dramatic increase in G&G data expenditures by BOEM, as more data was acquired to address area-wide leasing and a more aggressive proposed OCS leasing schedule. Due to regulatory changes in reimbursement procedures in 1986, the cost per mile dropped dramatically. This change, coupled with a general trend of fewer G&G permits issued each year, has led to a steady decrease in total expenditures from the 1980s to the present. Most larger spikes in recent expenditures are due to BOEM purchasing or reprocessing data for special purposes that are not covered by cost of reproduction. Presently, many companies decline reimbursement for cost of reproduction as the amount of reimbursement is much lower than it was in the past.

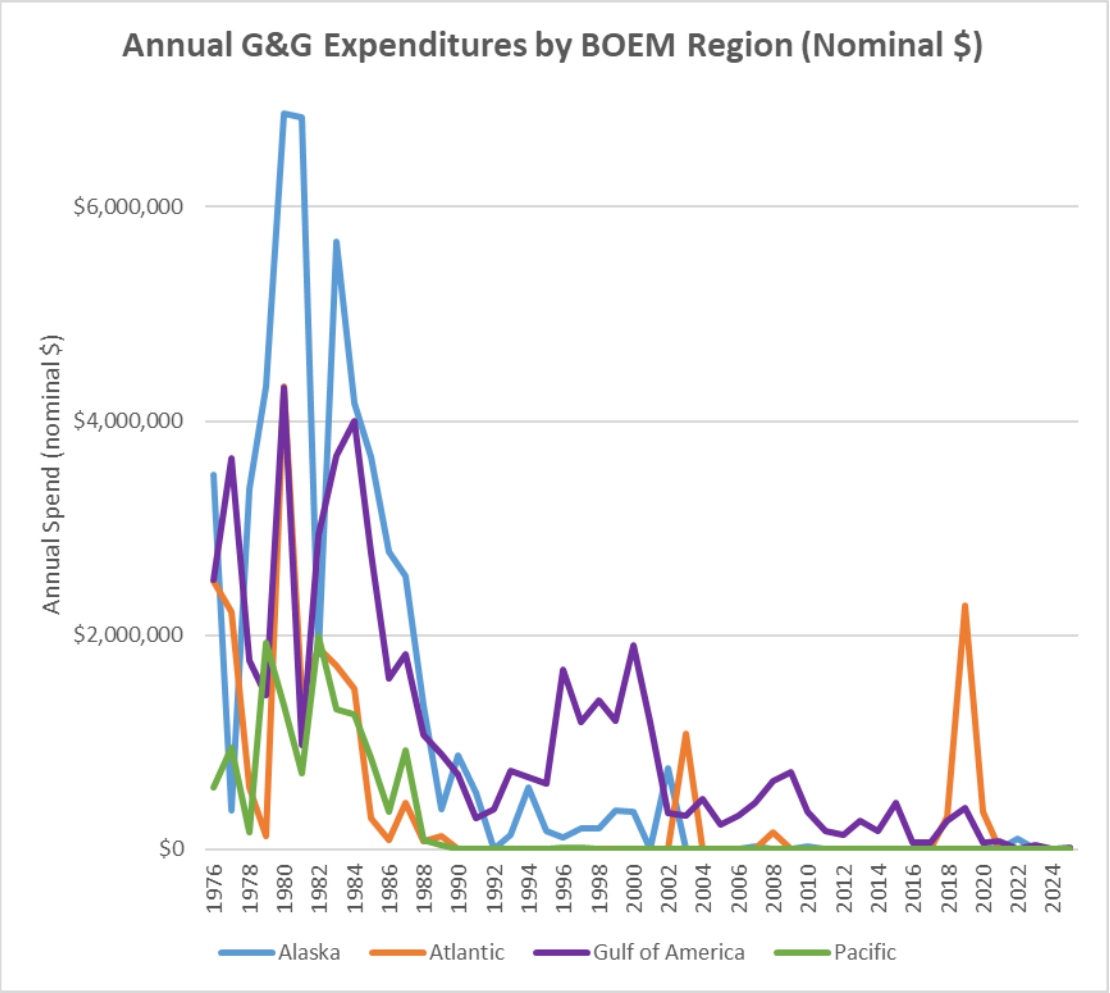


Figure 4: Expenditures by BOEM Region per Fiscal Year

Table 1. Summary of Estimates of 2-D Seismic Line Miles in the BOEM Inventory Through FY 2025 by Planning Area (Rounded to Nearest 1,000 Miles)

Planning Area	Estimated Mileage
Alaska	
Gulf of Alaska	36,000
Cook Inlet	24,000
Kodiak	24,000
Shumagin	14,000
North Aleutian	67,000
St. George Basin	50,000
Aleutian Arc	< 500
Bowers Basin	<1,000
Aleutian Basin	<1,000
St. Matthew-Hall	10,000
Norton Basin	25,000
Navarin Basin	55,000
Hope Basin	9,000
Chukchi Sea	141,000
Beaufort Sea	97,000
Total	554,000
Atlantic	
North Atlantic	146,000
Mid Atlantic	95,000
South Atlantic	76,000
Straits of Florida	11,000
Total	328,000
Gulf of America	
Eastern GOA	269,000
Central GOA	1,522,000
Western GOA	656,000
Total	2,447,000
Pacific	
Southern California	85,000
Central California	21,000
Northern California	19,000
Washington/Oregon	8,000
Total	133,000

**Table 2. Summary of BOEM-Purchased
2-D Seismic Data for FY 1968-2025**

FY	Total Miles
1968-1979	507,459
1980	19,400
1981	69,904
1982	79,961
1983	120,743
1984	89,853
1985	71,521
1986	47,287
1987	113,680
1988	78,920
1989	53,494
1990	85,280
1991	40,513
1992	49,191
1993	25,482
1994	7,138
1995	8,930
1996	33,296
1997	39,682
1998	90,981
1999	30,135
2000	64,710
2001	6,668
2002	1,506
2003	48,154
2004	101,282
2005	48,829
2006	170,379
2007	108,080
2008	2,953
2009	35,130
2010	195,487
2011	135,884
2012	46,923
2013	46,694
2014	248
2015	147,555
2016	299,028
2017	26,318
2018	10,061
2019	137,695
2020	3,719
2021	38,851
2022	84,595
2023	0
2024	5,853
2025	33,036
Total	3,462,488

**Table 3. Summary of BOEM-Purchased
3-D Seismic Data for FY 1968-2025**

FY	Total OCS Blocks
1968-1992	0
1993	1,563
1994	1,420
1995	1,826
1996	1,470
1997	3,129
1998	3,460
1999	3,226
2000	6,161
2001	3,602
2002	7,182
2003	6,272
2004	6,193
2005	4,996
2006	6,495
2007	11,855
2008	22,606
2009	27,547
2010	23,137
2011	9,259
2012	37,092
2013	34,132
2014	21,294
2015	33,427
2016	30,764
2017	8,566
2018	5,686
2019	8,218
2020	15,450
2021	22,145
2022	9,276
2023	31,950
2024	12,596
2025	5,208
Total	427,203

Table 4. Summary of BOEM's G&G Data Inventory, by Data Type and Region, FY 1968-2025

Data Type	Region	Mileage*
2-D Seismic	Alaska	554,122
	Atlantic	328,513
	Gulf of America	2,446,990
	Pacific	<u>132,863</u>
	Total	3,462,488
High Resolution	Alaska	59,855
	Atlantic	49,509
	Gulf of America	176,693
	Pacific	<u>30,582</u>
	Total	316,639
CDP Interpretations	Alaska	84,683
	Atlantic	104,665
	Gulf of America	293,925
	Pacific	<u>42,365</u>
	Total	525,638
Gravity and Magnetics	Alaska	404,599
	Atlantic	15,783
	Gulf of America	856,253
	Pacific	<u>110,150</u>
	Total	1,386,785
3-D Seismic	Alaska	1,210
	Atlantic	0
	Gulf of America	425,941
	Pacific	<u>52</u>
	Total	427,203
3-D/4-C	Alaska	0
	Atlantic	0
	Gulf of America	9,005
	Pacific	<u>0</u>
	Total	9,005
3D-AVO	Alaska	81
	Atlantic	0
	Gulf of America	51,352
	Pacific	<u>0</u>
	Total	51,433
Deep Stratigraphic Tests	Alaska	14
	Atlantic	5
	Gulf of America	14
	Pacific	<u>2</u>
	Total	35

*3-D seismic, 3-D/4-C data, and AVO are measured in OCS blocks and Deep Stratigraphic Test units are wells drilled. 3-D Seismic includes 3-D AVO.

Table 5. Total Number of Permits Issued for G&G Exploration by CY

Year	A	B	C	D	E	F	G
1960-1969	2,611	249	9	0	0	0	0
1970-1979	3,339	3,201	138	18	0	0	0
1980	318	302	16	1	0	0	0
1981	394	383	11	0	0	0	0
1982	502	490	12	3	0	0	0
1983	574	542	32	1	16	0	0
1984	543	518	25	0	18	0	0
1985	398	382	16	0	38	0	0
1986	211	207	4	0	32	0	0
1987	298	282	16	0	42	0	0
1988	313	289	24	0	45	0	0
1989	249	237	12	1	47	0	0
1990	251	241	9	0	57	1	0
1991	170	156	12	0	45	2	0
1992	141	137	3	0	53	1	0
1993	147	135	11	0	70	1	0
1994	133	117	16	0	53	0	0
1995	104	92	11	0	50	1	0
1996	136	120	16	0	59	0	0
1997	159	139	20	0	69	0	1
1998	157	143	14	0	59	0	1
1999	111	98	13	0	44	0	0
2000	80	73	5	0	32	2	0
2001	110	103	7	0	33	0	0
2002	80	75	5	0	20	0	3
2003	107	100	3	0	29	4	2
2004	103	91	10	0	21	2	0
2005	101	93	6	0	25	2	0
2006	87	82	2	0	24	3	0
2007	95	92	2	0	32	1	0
2008	112	104	1	2	23	7	0
2009	84	64	12	4	9	8	1
2010	55	46	4	0	8	5	1
2011	42	33	3	0	19	6	0
2012	44	38	2	0	20	4	4
2013	47	40	2	0	15	5	4
2014	68	65	3	0	22	0	3
2015	77	70	7	0	15	0	4
2016	24	22	1	0	22	1	0
2017	37	29	7	1	8	1	1
2018	43	35	8	0	12	0	3
2019	66	52	9	0	21	5	3
2020	28	23	3	0	7	2	5
2021	31	24	7	0	2	0	5
2022	20	18	0	0	5	2	3
2023	46	37	5	1	6	4	5
2024	43	31	8	0	7	4	3
2025	28	22	5	0	9	1	3
Total	12,917	9,922	567	32	1,243	75	55

A=Total Number of Geological, Geophysical, and Strategic Minerals Permits Issued; B=Number of Geophysical Permits Issued; C=Number of Geological Permits Issued; D=Number of Geological Permits Issued for Deep Stratigraphic Tests; E=Number of Geophysical Permits Issued for 3-D Seismic Data; F=Number of Permits Issued for Strategic (Nonenergy) Minerals; G=Number of Permits Issued for 4-D Seismic Data

Table 6. Summary of G&G Data Expenditures by Data Type and Region, FY 1968-2025 (in nominal dollars)

Data Type	Region	Expenditures (\$)
Alaska		
2-D Seismic		41,056,137
High Resolution CDP		11,125,798
Interpretations		439,793
Gravity and Magnetics		1,027,238
3-D Seismic		1,511,327
3-D/4-C		0
AVO		28,048
Total		55,188,341
Atlantic		
2-D Seismic		11,774,315
High Resolution		9,751,232
CDP Interpretations		242,774
Gravity and Magnetics		2,902
3-D Seismic		0
3-D/4-C		0
AVO		0
Total		21,771,223
Gulf of America		
2-D Seismic		32,300,504
High Resolution CDP		12,740,402
Interpretations		1,096,580
Gravity and Magnetics		892,671
3-D Seismic (ex. AVO)		12,869,970
3-D/4-C		3,402
AVO		406,038
Total		60,309,567
Pacific		
2-D Seismic		9,563,176
High Resolution		3,696,394
CDP Interpretations		72,175
Gravity and Magnetics		534,363
3-D Seismic		27,925
3-D/4-C		0
AVO		0
Total		13,894,033

Detailed annual expenditures, by region, are shown in Tables A-3, A-6, A-9, and A-12.

Appendix

Alaska Region OCS

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Atlantic Region OCS

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Table A-1. Summary of G&G Data Inventory for Alaska by FY

Year	2-D	HRD	Interpretations	Grav/Mag	3-D*	3D-AVO
1968-1979	157,105	35,681	84,683	141,270	0	0
1980	10,109	7,703	0	0	0	0
1981	35,430	4,590	0	14,969	0	0
1982	16,624	0	0	0	0	0
1983	51,903	0	0	0	0	0
1984	30,961	7,904	0	5,850	0	0
1985	30,270	0	0	0	0	0
1986	21,603	1,600	0	0	0	0
1987	49,532	470	0	80,826	0	0
1988	14,963	1,741	0	0	0	0
1989	3,136	166	0	9,543	0	0
1990	8,557	0	0	11,046	0	0
1991	3,964	0	0	1,500	0	0
1992	0	0	0	0	0	0
1993	1,893	0	0	0	0	0
1994	2,422	0	0	102,845	0	0
1995	737	0	0	3,000	0	0
1996	315	0	0	0	0	0
1997	382	0	0	0	3*	0
1998	273	0	0	0	0	0
1999	0	0	0	0	7*	0
2000	0	0	0	0	12*	0
2001	0	0	0	0	0	0
2002	0	0	0	0	11*	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	32,281	0	0	1,915	204	0
2008	0	0	0	0	54	0
2009	0	0	0	0	20	0
2010	0	0	0	0	315	66*
2011	486	0	0	0	227	15*
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	3,662	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	2,253	0	0
2019	35,488	0	0	5,982	9	0
2020	1,410	0	0	0	174	0
2021	1,474	0	0	23,600	0	0
2022	253	0	0	0	174	0
2023	0	0	0	0	0	0
2024	5,853	0	0	0	0	0
2025	33,036	0	0	0	0	0
Total	554,122	59,855	84,683	404,599	1210*	81*

* Purchases for 3-D seismic data are measured in OCS blocks; all other purchases in this table are measured in line-miles.

Table A-2. Number of Permits Issued for G&G Exploration in Alaska by CY

Year	A	B	C	D	E	F
1960-1969	106	28	3	0	0	0
1970-1979	389	36	4	10	0	0
1980-1989	482	416	66	5	0	0
1990	19	15	3	0	0	1
1991	7	4	1	0	0	2
1992	7	6	0	0	0	1
1993	11	10	0	0	2	1
1994	3	3	0	0	1	0
1995	1	1	0	0	1	0
1996	6	6	0	0	5	0
1997	5	4	1	0	0	0
1998	2	2	0	0	2	0
1999	2	2	0	0	2	0
2000	1	1	0	0	1	0
2001	0	0	0	0	0	0
2002	1	1	0	0	0	0
2003	1	1	0	0	0	0
2004	1	1	0	0	1	0
2005	1	1	0	0	1	0
2006	4	4	0	0	3	0
2007	5	4	1	0	3	0
2008	4	4	0	0	4	0
2009	1	1	0	0	1	0
2010	2	2	0	0	1	0
2011	0	0	0	0	0	0
2012	2	1	0	0	0	1
2013	1	1	0	0	0	0
2014	3	3	0	0	3	0
2015	1	1	0	0	1	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	1	1	0	0	0	0
2019	1	1	0	0	1	0
2020	1	1	0	0	1	0
2021	1	1	0	0	1	0
2022	0	0	0	0	0	0
2023	0	0	0	0	0	0
2024	0	0	0	0	0	0
2025	0	0	0	0	0	0
Total	1,072	884	107	14	35	6

A=Total Number of Geological, Geophysical, and Strategic Minerals Permits; B=Number of Geophysical Permits; C=Number of Geological Permits; D=Number of Geological Permits Issued for Deep Stratigraphic Tests; E=Number of Geophysical Permits Issued for 3-D Seismic Data; F=Number of Permits Issued for Strategic (Nonenergy) Minerals.

Table A-3. Summary of Expenditures by BOEM for G&G Data by FY for Alaska (in nominal dollars)

Year	2-D	HRD	Interpretations	Grav/Mag	3-D	3D-AVO
1968-1979	9,840,107	3,774,474	439,793	590,792	0	0
1980	1,086,423	5,789,936	0	0	0	0
1981	5,231,130	1,531,458	0	69,286	0	0
1982	1,817,736	0	0	0	0	0
1983	5,673,514	0	0	0	0	0
1984	4,118,626	19,238	0	27,072	0	0
1985	3,669,129	0	0	0	0	0
1986	2,780,556	950	0	0	0	0
1987	2,301,780	400	0	249,951	0	0
1988	1,339,007	3,425	0	0	0	0
1989	347,872	5,917	0	21,851	0	0
1990	832,476	0	0	51,681	0	0
1991	518,613	0	0	15,573	0	0
1992	0	0	0	0	0	0
1993	139,117	0	0	0	0	0
1994	579,129	0	0	0	0	0
1995	167,170	0	0	750	0	0
1996	113,071	0	0	0	0	0
1997	195,855	0	0	0	0	0
1998	192,947	0	0	0	0	0
1999	0	0	0	0	358,155	0
2000	0	0	0	0	348,073	0
2001	0	0	0	0	0	0
2002	0	0	0	0	762,911	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	2,329	0	0	152	29,226	0
2008	0	0	0	0	9,401	0
2009	0	0	0	0	392	0
2010	0	0	0	0	3,106	28,048
2011	2	0	0	0	63	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	1,574	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	130	0	0
2019	8,260	0	0	0	0	0
2020	665	0	0	0	0	0
2021	264	0	0	0	0	0
2022	94,875	0	0	0	0	0
2023	0	0	0	0	0	0
2024	3,011	0	0	0	0	0
2025	899	0	0	0	0	0
Total	\$41,056,137	\$11,125,798	\$439,793	\$1,027,238	\$1,511,327	\$28,048

Table A-4. Summary of G&G Data Purchases for the Atlantic by FY

Year	2-D	HRD	Interpretations	Grav/Mag	3-D*
1968-1979	109,359	31,707	44,801	15,783	0
1980	585	10,660	0	0	0
1981	9,950	7,142	0	0	0
1982	19,074	0	0	0	0
1983	30,077	0	0	0	0
1984	9,386	0	0	0	0
1985	1,640	0	0	0	0
1986	424	0	0	0	0
1987	2,356	0	0	0	0
1988	827	0	0	0	0
1989	2,730	0	0	0	0
1990	31	0	0	0	0
1991	1,042	0	0	0	0
1992	2,377	0	0	0	0
1993	0	0	0	0	0
1994	0	0	0	0	0
1995	0	0	0	0	0
1996	0	0	0	0	0
1997	0	0	0	0	0
1998	0	0	0	0	0
1999	0	0	0	0	0
2000	0	0	0	0	0
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	23,109	0	0	0	0
2004	0	0	0	0	0
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	969	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	10,061	0	0	0	0
2019	102,207	0	59,864	0	0
2020	2,309	0	0	0	0
2021	0	0	0	0	0
2022	0	0	0	0	0
2023	0	0	0	0	0
2024	0	0	0	0	0
2025	0	0	0	0	0
Total	328,513	49,509	104,665	15,783	0

* Purchases for 3-D seismic data are measured in OCS blocks; all other purchases in this table are measured in miles.

Table A-5. Number of Permits Issued for G&G Exploration in the Atlantic by CY

Year	A	B	C	D	E	F
1960-1969	52	7	---	---	---	---
1970-1979	128	110	18	5	0	0
1980-1989	70	65	5	0	0	0
1990	1	1	0	0	0	0
1991	0	0	0	0	0	0
1992	0	0	0	0	0	0
1993	0	0	0	0	0	0
1994	0	0	0	0	0	0
1995	1	0	0	0	0	1
1996	0	0	0	0	0	0
1997	2	1	1	0	0	0
1998	0	0	0	0	0	0
1999	0	0	0	0	0	0
2000	1	0	0	0	0	1
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	2	0	0	0	0	2
2005	2	0	0	0	0	2
2006	0	0	0	0	0	0
2007	1	0	0	0	0	1
2008	2	0	0	0	0	2
2009	2	0	0	0	0	2
2010	0	0	0	0	0	0
2011	5	0	0	0	0	5
2012	2	0	0	0	0	2
2013	3	0	0	0	0	3
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	2	0	1	0	0	1
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	4	1	0	0	0	3
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	2	0	0	0	0	2
2023	3	0	0	0	0	3
2024	2	0	0	0	0	2
2025	0	0	0	0	0	0
Total	287	185	25	5	0	32

Dashed lines = Individual breakouts not established; A=Total Number of Geological, Geophysical, and Strategic Minerals Permits; B=Number of Geophysical Permits; C=Number of Geological Permits; D=Number of Geological Permits Issued for Deep Stratigraphic Tests; E=Number of Geophysical Permits Issued for 3-D Seismic Data; F=Number of Permits Issued for Strategic (Nonenergy) Minerals.

Table A-6. Summary of Expenditures by BOEM for G&G Data by FY for the Atlantic (in nominal dollars)

Year	2-D	HRD	Interpretations	Grav/Mag	3-D
1968-1979	1,449,396	4,229,580	55,274	2,902	0
1980	51,096	4,278,448	0	0	0
1981	179,682	1,243,204	0	0	0
1982	1,882,723	0	0	0	0
1983	1,718,584	0	0	0	0
1984	1,500,298	0	0	0	0
1985	287,135	0	0	0	0
1986	87,307	0	0	0	0
1987	438,792	0	0	0	0
1988	71,510	0	0	0	0
1989	120,042	0	0	0	0
1990	150	0	0	0	0
1991	2,790	0	0	0	0
1992	1,933	0	0	0	0
1993	0	0	0	0	0
1994	0	0	0	0	0
1995	0	0	0	0	0
1996	0	0	0	0	0
1997	0	0	0	0	0
1998	0	0	0	0	0
1999	0	0	0	0	0
2000	0	0	0	0	0
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	1,080,000	0	0	0	0
2004	0	0	0	0	0
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	156,100	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	307,629	0	0	0	0
2019	2,092,983	0	187,500	0	0
2020	346,165	0	0	0	0
2021	0	0	0	0	0
2022	0	0	0	0	0
2023	0	0	0	0	0
2024	0	0	0	0	0
2025	0	0	0	0	0
Total	\$11,774,315	\$9,751,232	\$242,774	\$2,902	\$0

Table A-7. Summary of G&G Data Purchases for the Gulf of America by FY

Year	2-D	HRD	Interpretations	Grav/Mag	3-D (All)*	3-D/4-C*	3D-AVO*
1968-1979	192,286	129,328	139,418	75,942	0	0	0
1980-1989	313,535	16,440	0	0	0	0	0
1990	76,692	0	0	0	0	0	0
1991	35,507	0	0	0	0	0	0
1992	46,814	0	0	0	0	0	0
1993	23,589	0	0	0	1,563	0	0
1994	4,416	0	0	0	1,420	0	0
1995	8,193	0	0	0	1,826	0	0
1996	32,797	0	0	0	1,458	0	0
1997	39,300	0	0	0	3,105	0	0
1998	90,708	0	0	178,305	3,452	0	0
1999	30,135	0	0	52,000	3,219	0	0
2000	64,710	0	0	284,084	6,138	0	0
2001	6,668	0	0	0	3,602	0	0
2002	1,506	0	0	0	7,171	0	0
2003	25,045	0	0	0	6,272	0	1,492
2004	101,282	0	0	0	6,193	37	67
2005	48,829	0	0	0	4,996	0	0
2006	170,379	0	0	0	6,495	0	0
2007	75,799	0	0	0	11,651	0	0
2008	1,984	0	0	79,082	22,552	0	0
2009	35,130	0	0	0	27,527	0	0
2010	195,487	0	0	0	22,822	0	0
2011	135,398	0	0	0	9,032	0	0
2012	46,923	0	0	0	37,092	3,846	0
2013	46,694	0	0	0	34,132	420	0
2014	248	0	0	0	21,294	3,651	1,896
2015	143,893	0	0	3,175	33,427	541	3,248
2016	299,028**	0	0	0	30,764	0	9,095
2017	26,318	0	0	0	8,566	0	1,990
2018	0	30,825	154,507	0	5,686	164	2,935
2019	0	19	0	183,665	8,209	0	4,477
2020	0	15	0	0	15,276	0	6,125
2021	37,377	0	0	0	22,145	274	9,340
2022	84,320	66	0	0	9,102	72	2,336
2023	0	0	0	0	31,950	0	4,423
2024	0	0	0	0	12,596	0	2,970
2025	0	0	0	0	5,208	0	958
Total	2,446,990	176,693	293,925	856,253	425,941	9,005	51,352

*Purchases for 3-D seismic, 3-D/4-C data, and AVO data are measured in OCS blocks; all other purchases, in this table are measured in miles. The 3-D seismic category includes all 3-D seismic including 4-C and 3-D AVO.

**High figure is due to purchase of reprocessed old data that is purchased at full price.

Table A-8. Number of Permits Issued for G&G Exploration in the Gulf of America by CY

Year	A	B	C	D	E	F	G
1960-1969	2,278	204	3	0	0	0	0
1970-1979	2,601	2,544	57	2	0	0	0
1980-1989	2,908	2,860	48	1	238	0	0
1990	227	222	5	0	57	0	0
1991	163	152	11	0	45	0	0
1992	134	131	3	0	53	0	0
1993	136	125	11	0	68	0	0
1994	130	114	16	0	52	0	0
1995	102	91	11	0	49	0	0
1996	130	114	16	0	54	0	0
1997	152	134	18	0	69	0	1
1998	155	141	14	0	57	0	1
1999	109	96	13	0	42	0	0
2000	78	72	5	0	31	1	0
2001	110	103	7	0	33	0	0
2002	79	74	5	0	20	0	3
2003	106	99	3	0	28	4	2
2004	100	90	10	0	14	0	0
2005	98	92	6	0	24	0	0
2006	82	77	2	0	21	3	0
2007	89	88	1	0	29	0	0
2008	106	100	1	2	19	5	0
2009	81	63	12	0	8	6	1
2010	53	44	4	0	7	5	1
2011	37	33	3	0	19	1	0
2012	40	37	2	0	20	1	4
2013	43	39	2	0	15	2	4
2014	65	62	3	0	19	0	3
2015	76	69	7	0	15	0	4
2016	22	22	0	0	22	0	0
2017	37	29	7	0	8	1	1
2018	42	34	8	0	12	0	3
2019	61	50	9	0	20	2	3
2020	27	22	3	0	6	2	5
2021	30	23	7	0	1	0	5
2022	18	18	0	0	5	0	3
2023	43	37	5	1	6	1	5
2024	40	31	8	0	7	1	3
2025	28	22	5	0	9	1	3
Total	10,816	8,358	351	6	1,202	36	55

A=Total Number of Geological, Geophysical, and Strategic Minerals Permits; B=Number of Geophysical Permits; C=Number of Geological Permits; D=Number of Geological Permits Issued for Deep Stratigraphic Tests; E=Number of Geophysical Permits Issued for 3-D Seismic Data; F=Number of Permits Issued for Strategic (Nonenergy) Minerals; G=Number of Permits Issued for 4-D Seismic Data.

Table A-9. Summary of Expenditures by BOEM for G&G Data by FY for the Gulf of America (in nominal dollars)

Year	2-D	HRD	Interpretations	Grav/Mag	3-D
1968-1979	8,146,798	8,770,344	856,526	514,734	0
1980	388,329	3,926,990	0	0	0
1981	939,506	31,805	0	0	0
1982	2,936,727	0	0	0	0
1983	3,678,684	0	0	0	0
1984	3,999,326	0	0	0	0
1985	2,768,574	0	0	0	0
1986	1,600,031	0	0	0	0
1987	1,824,927	0	0	0	0
1988	1,075,515	0	0	0	0
1989	885,748	0	0	0	0
1990	704,670	0	0	0	0
1991	289,266	0	0	0	0
1992	376,893	0	0	0	0
1993	200,407	0	0	0	537,908
1994	26,946	0	0	0	647,592
1995	21,535	0	0	0	592,223
1996	1,151,587	0	0	0	526,471
1997	44,103	0	0	0	1,150,050
1998	96,771	0	0	12,000	1,289,773
1999	42,227	0	0	3,000	1,154,577
2000	83,359	0	0	10,070	1,816,038
2001	457,463	0	0	0	729,196
2002	3,185	0	0	0	341,756
2003	24,902	0	0	0	288,443
2004	185,470	0	0	0	283,346
2005	10,445	0	0	0	216,934
2006	29,071	0	0	0	281,331
2007	10,126	0	0	0	429,173
2008	965	0	0	9,679	628,018
2009	217,613	0	0	0	507,389
2010	16,170	0	0	0	341,090
2011	15,307	0	0	0	155,123
2012	2,672	0	0	0	134,734
2013	7,146	0	0	0	256,756
2014	300	0	0	0	172,454
2015	5,935	0	0	0	430,741
2016	5,922	0	0	0	56,485
2017	3,292	6,092	0	0	60,108
2018	0	4,695	240,054	0	29,188
2019	0	476	0	343,188	49,421
2020	0	0	0	0	60,910
2021	22,591	0	0	0	49,735
2022	0	0	0	0	2,715
2023	0	0	0	0	37,745
2024	0	0	0	0	695
2025	0	0	0	0	21,292
Total	\$32,300,504	\$12,740,402	\$1,096,580	\$892,671	\$13,279,41

Table A-10. Summary of G&G Data Inventory for the Pacific by FY

Year	2-D	HRD	Interpretations	Grav/Mag	3-D*
1968-1979	42,709	26,112	42,365	93,438	0
1980	3,948	4,470	0	0	0
1981	8,070	0	0	3,662	0
1982	15,563	0	0	13,050	0
1983	12,473	0	0	0	0
1984	8,678	0	0	0	0
1985	8,181	0	0	0	0
1986	2,644	0	0	0	0
1987	18,719	0	0	0	0
1988	6,865	0	0	0	0
1989	4,507	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
1994	300	0	0	0	0
1995	0	0	0	0	0
1996	184	0	0	0	12
1997	0	0	0	0	21
1998	0	0	0	0	8
1999	0	0	0	0	0
2000	0	0	0	0	11
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	0	0	0	0	0
2004	0	0	0	0	0
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	0	0	0	0	0
2019	0	0	0	0	0
2020	0	0	0	0	0
2021	0	0	0	0	0
2022	22	0	0	0	0
2023	0	0	0	0	0
2024	0	0	0	0	0
2025	0	0	0	0	0
Total	132,863	30,582	42,365	110,150	52

* Purchases for 3-D seismic data are measured in OCS blocks; all other purchases in this table are measured in line miles.

Table A-11. Number of Permits Issued for G&G Exploration in the Pacific by CY

Year	A	B	C	D	E	F
1960-1969	175	10	3	0	0	0
1970-1979	221	190	31	2	0	0
1980	31	6	5	0	0	0
1981	40	38	2	0	0	0
1982	62	59	3	0	0	0
1983	45	36	9	0	0	0
1984	56	42	14	0	0	0
1985	33	30	3	0	0	0
1986	20	19	1	0	0	0
1987	20	16	4	0	0	0
1988	33	25	8	0	0	0
1989	0	0	0	0	0	0
1990	4	3	1	0	0	0
1991	0	0	0	0	0	0
1992	0	0	0	0	0	0
1993	0	0	0	0	0	0
1994	0	0	0	0	0	0
1995	0	0	0	0	0	0
1996	0	0	0	0	0	0
1997	0	0	0	0	0	0
1998	0	0	0	0	0	0
1999	0	0	0	0	0	0
2000	0	0	0	0	0	0
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	1	1	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0
2010-2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
2023	0	0	0	0	0	0
2024	0	0	0	0	0	1
2025	0	0	0	0	0	0
Total	741	495	84	2	0	1

A=Total Number of Geological, Geophysical, and Strategic Minerals Permits; B=Number of Geophysical Permits; C=Number of Geological Permits; D=Number of Geological Permits Issued for Deep Stratigraphic Tests; E=Number of Geophysical Permits Issued for 3-D Seismic Data; F=Number of Permits Issued for Strategic (Nonenergy) Minerals

Table A-12. Summary of Expenditures by BOEM for G&G Data by FY for the Pacific (in nominal dollars)

Year	2-D	HRD	Interpretations	Grav/Mag	3-D
1968-1979	1,857,168	2,597,440	72,175	444,984	0
1980	249,048	1,098,954	0	0	0
1981	689,372	0	0	20,029	0
1982	1,918,891	0	0	69,350	0
1983	1,309,608	0	0	0	0
1984	1,262,030	0	0	0	0
1985	848,777	0	0	0	0
1986	356,700	0	0	0	0
1987	921,422	0	0	0	0
1988	93,748	0	0	0	0
1989	44,273	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
1994	443	0	0	0	0
1995	0	0	0	0	0
1996	1,714	0	0	0	10,452
1997	0	0	0	0	13,479
1998	0	0	0	0	3,344
1999	0	0	0	0	0
2000	0	0	0	0	650
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	0	0	0	0	0
2004	0	0	0	0	0
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	0	0	0	0	0
2019	0	0	0	0	0
2020	0	0	0	0	0
2021	0	0	0	0	0
2022	9,982	0	0	0	0
2023	0	0	0	0	0
2024	0	0	0	0	0
2025	0	0	0	0	0
Total	\$9,563,176	\$3,696,394	\$72,175	\$534,363	\$27,925



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