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**United States Government Accountability Office
Washington, DC 20548**

November 15, 2012

The Honorable Raúl M. Grijalva
Ranking Member
Subcommittee on National Parks, Forests, and Public Lands
Committee on Natural Resources
House of Representatives

The Honorable Tom Udall
United States Senate

Subject: *Mineral Resources: Mineral Volume, Value, and Revenue*

The Department of the Interior (Interior) administers minerals found in over 700 million acres of federal lands, 57 million acres on Indian lands, and 1.8 billion acres below offshore waters. Operators who lease these lands and extract these minerals pay billions of dollars annually that are shared among federal, state, and Indian tribal governments and are one of the largest nontax sources of revenue to the federal government. Some of these minerals, such as oil, gas, and coal, are available through leases requiring payments in the form of rents and bonuses, which are required to secure and maintain a lease, and royalties, which are based on the value of the minerals that are extracted. These minerals are generally known as leasable minerals. The Department of the Interior's Office of Natural Resources Revenue (ONRR) is responsible for compiling data on the volume and value of leasable minerals produced from all federal and Indian lands where there is a trust responsibility, and collecting the appropriate payments. In contrast, other minerals, such as gold, silver, and copper, are governed by the General Mining Act of 1872, which makes these minerals available to operators through a federal claim-patent system that provides the right to explore, extract, and develop the federal mineral deposit without having to pay a royalty.¹ These minerals are generally known as hardrock minerals.²

You asked us to review minerals extracted from federal lands. Our objectives were to provide information on the (1) volume and dollar value of leasable minerals extracted

¹Since 1995, under provisions in the annual appropriations act, Congress has enacted a series of 1-year moratoria on the issuance of mineral patents.

²In addition to leasable and hardrock minerals, there is a third category, known as saleable minerals, which include such materials as sand, stone, and gravel; these minerals are generally widespread, of low value, and available for sale through Interior's Bureau of Land Management. We do not discuss saleable minerals in this report.

from federal lands and waters in fiscal years 2010 and 2011; (2) amount the federal government collected for leasable minerals in royalties, rents, bonuses, and other revenue and how this amount was calculated; and (3) availability of data on the volume and dollar value of hardrock minerals extracted from federal lands in fiscal years 2010 and 2011. Enclosure I contains the briefing on the volume, value, and revenues from leasable minerals on federal and Indian lands that was given to your offices on June 26, 2012 (objectives 1 and 2). In addition, enclosure II presents information on the availability of data regarding the volume and value of hardrock minerals extracted from federal lands (objective 3).

To obtain data on leasable minerals, we analyzed data on leasable minerals maintained by ONRR. These data included sales year data on sales volume, royalties, rents, bonuses, and other revenue for fiscal years 2010 and 2011. These data, which ONRR updates annually, include all leasable mineral sales transactions that occurred in a given fiscal year. We focused our review on revenue data and did not collect data on administrative processing fees for services or fines paid to the federal government, such as those related to processing leases and hardrock mining claims. We identified the factors that were integral to calculating these revenues and the share retained by the federal government after disbursement to state and Indian recipients. To assess the reliability of these data, we reviewed our prior analyses of the database ONRR uses to record mineral sales and revenue data and interviewed officials familiar with the database's contents. We determined that ONRR's sales volume, sales value, and revenue data were sufficiently reliable for the purpose of describing the aggregate data that ONRR is reporting but did not assess the reliability of the individual transactions that make up those data.

To determine the availability of data on hardrock minerals, we reviewed reports and interviewed officials with Interior's U.S. Geological Survey and Bureau of Land Management and with the Department of Agriculture's U.S. Forest Service. We also reviewed reports from the 12 western states where the majority of hardrock mining occurs and interviewed state officials in Alaska and Nevada about their efforts to estimate the amount of hardrock minerals produced on federal lands. We reviewed hardrock mine production data contained in documents filed with the U.S. Securities and Exchange Commission by hardrock mine operators and interviewed Interior officials regarding their efforts to implement the Extractive Industries Transparency Initiative, an international effort to promote openness and accountability in the oil, gas, and mining sectors.

We conducted this performance audit from January 2012 to November 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In summary, there were nearly 70 different types of leasable minerals extracted from federal lands and waters in fiscal years 2010 and 2011, but their volume cannot be aggregated because they use different units of measure. For example, the volumes of the four most valuable of these minerals—oil, gas, natural gas liquids, and coal—are measured in barrels, million cubic feet (mcf), gallons, and tons, respectively. According to ONRR data, the total value of all leasable minerals extracted from federal and Indian land and sold in fiscal years 2010 and 2011 was \$92.3 billion and \$98.6 billion, respectively.

The resulting revenue to the federal government from mineral leasing activity on federal and Indian land in fiscal years 2010 and 2011 was \$11.3 billion and \$11.4 billion, respectively. Of this amount, oil, gas, and natural gas liquids accounted for the majority of the revenue—\$10.1 billion in each fiscal year. The bulk of this revenue comes from royalties, which accounted for 92.8 percent of total revenue in 2011. Table 1 shows the volume, value, and royalties for the most valuable leasable mineral commodities.

Table 1: Volume, Value, and Royalties of Oil, Gas, Natural Gas Liquids, and Coal Extracted from Federal and Indian Land, Fiscal Years 2010 and 2011

Dollars in billions

Commodity	Volume		Value		Royalties	
	2010	2011	2010	2011	2010	2011
Oil	739.0 million barrels	645.6 million barrels	\$53.2	\$61.7	\$5.4	\$6.6
Gas	5,415.2 mcf	4,859.2 mcf	\$24.4	\$20.5	\$2.8	\$2.4
Natural gas liquids	4,817.9 gallons	4,679.1 gallons	\$4.7	\$5.6	\$0.4	\$0.6
Coal	478.1 tons	470.0 tons	\$7.3	\$7.6	\$0.8	\$0.8

Source: GAO analysis of ONRR data.

The mechanisms used to calculate the three types of leasable mineral revenue—bonus bids, rents, and royalties—vary widely. For example, for oil and gas leases, bonus bids—up-front payments to obtain a lease—are determined by a competitive bidding process, with leases going to the highest bidder. Prior to the competitive bidding, Interior sets a minimum acceptable bonus bid for each offshore parcel and a minimum per acre bid amount for each onshore parcel offered for lease. Rent is charged annually for a lease until production begins or the lease is terminated or relinquished. Royalty rates depend on the mineral and are generally calculated based on a proportion of sales value, less allowable deductions, such as transportation and processing allowances.

Regarding the availability of data on hardrock minerals, we found that federal agencies generally do not collect data from hardrock mine operators on the amount and value of hardrock minerals extracted from federal lands because there is no federal royalty that would necessitate doing so. Furthermore, while many western states collect data on the hardrock minerals produced in their state for purposes of assessing a state royalty, they generally do not collect data on the volume of those minerals extracted from federal land within those states. The Department of the Interior is now working to implement an international initiative to promote openness and accountability in the oil,

gas, and mining sectors called the Extractive Industries Transparency Initiative. This initiative is currently in the beginning stages of implementation—consequently it is unclear what affect, if any, it will have on reporting requirements for operators of hardrock mines on federal lands. Interior officials told us that they expect to finish implementing this initiative in about 4 years.

Agency Comments

We provided a draft of this report to the Department of the Interior for review and comment. The department provided technical comments which we incorporated as appropriate.

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As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Secretary of the Interior, the Directors of the Office of Natural Resources Revenue and the Bureau of Land Management, and other interested parties. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions concerning this report, please contact me at (202) 512-3841 or fennella@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were Jeff Malcolm, Assistant Director; Casey L. Brown; David Brown; Michael Kendix; Marya Link; Cheryl Peterson; Mick Ray; Carol Herrstadt Shulman; and Walter Vance.



Anne-Marie Fennell
Director, Natural Resources and Environment

(Enclosures—2)

Briefing on Volume, Value, and Revenue of Leasable Minerals



Leasable Minerals on Federal and Indian Lands: Volume, Value, and Revenue

Briefing for Congressional Requesters

June 26, 2012



Introduction

- The Department of the Interior (Interior) administers over 700 million acres of minerals on federal and Indian lands and 1.8 billion acres below offshore waters.
- Certain minerals in these areas—such as oil and gas—are available through leasing systems that require payments from the lessees extracting or producing such minerals.
- These resources generate billions of dollars annually that are shared among federal, state, and tribal governments. Revenue generated from oil and gas production is one of the largest nontax sources of federal government funds.
- Interior’s Office of Natural Resources Revenue (ONRR) is responsible for collecting payments for minerals produced from federal and Indian leases and data on the volume and value of the related sales.



Objectives, Scope, and Methodology

- This final briefing is in response to your request for information on the following two objectives:
 1. the sales volume and value reported to Interior for onshore and offshore federal and Indian leasable minerals sold in fiscal years 2010 and 2011, and
 2. the amount the federal government collected for these minerals in royalties, rents, bonuses, and other revenue, and how this amount was calculated.



Objectives, Scope, and Methodology

- We focused our work on leasable minerals on federal and Indian lands and in offshore federal waters.
- For the first objective, we analyzed ONRR-maintained “sales year” data for fiscal years 2010 and 2011. These data include all transactions related to mineral sales that occurred in a given fiscal year, and ONRR updates these data annually.
- For the second objective, we analyzed ONRR-maintained sales year data on mineral royalties, rents, bonuses, and other revenue for fiscal years 2010 and 2011.
 - We determined the factors that were integral to calculations of these revenues.
 - We determined the revenue share retained by the federal government after disbursement to state and Indian recipients.



Objectives, Scope, and Methodology

- We interviewed Interior staff from several offices and spoke with industry representatives to gain their perspective on these issues.
- We reviewed prior GAO analyses of the database ONRR uses to record mineral sales and revenue data. We also interviewed officials familiar with the database's contents. We determined that ONRR's sales volume, sales value, and revenue data were sufficiently reliable for the purpose of describing the aggregate data that ONRR is reporting, but did not assess the reliability of individual observations that make up those data.
- Our data include dollar values for fiscal years 2010 and 2011. The reported values are in nominal dollars, not adjusted for inflation. Inflation for fiscal year 2011 was 2.6 percent.



Objectives, Scope, and Methodology

- We provided a draft of this briefing to Interior officials for their review and comment. Department officials provided technical comments that we incorporated as appropriate.
- We conducted this performance audit from January 2012 to June 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



Results in Brief

- About 70 different leasable mineral products were involved in royalty-related transactions in fiscal years 2010 and 2011.
- The total value of leasable minerals extracted from federal and Indian lands and sold in fiscal years 2010 and 2011 was \$92.3 billion and \$98.6 billion, respectively.
- The resulting revenue from mineral leasing activity on federal and Indian lands in fiscal years 2010 and 2011 was \$11.3 billion and \$11.4 billion, respectively.
- Oil, gas, and natural gas liquids accounted for the majority of this revenue—\$10.1 billion in each fiscal year.



Background

Types of minerals on federal lands

- Leasable
 - Include energy-producing substances, such as oil, coal, natural gas, and geothermal steam, and non-energy producing substances, such as phosphate and potassium.
 - The federal government collects revenues for leasable minerals primarily through lease bids, annual rents, and royalties.
- Locatable (hardrock)
 - Include substances such as gold, silver, copper, and uranium.
 - The federal government generally does not collect royalties or rent for locatable minerals. Instead, it charges miners an initial fee to locate a claim and an annual fee to maintain the claim.
- Saleable
 - Include building materials such as sand, stone, gravel, and clay. Saleable minerals are generally widespread and of low value.
 - Interior's Bureau of Land Management (BLM) makes saleable minerals available through contracts of sale and free use permits.



Background

Leasable minerals

- Classified as leasable based on
 - Mineral type, as discussed above, or
 - Type of land on which they are located. For example,
 - All minerals on Indian lands held in common are generally leasable.
 - Minerals on acquired federal lands are considered leasable.
- The most prominent leasable minerals in sales and revenue are oil, gas, natural gas liquids (NGL), and coal products.
- Others include carbon dioxide, copper concentrate, soda ash, lead concentrate, phosphate ore, and geothermal steam.



Background

Commodities and mineral products

- For reporting purposes, ONRR aggregates some similar minerals together into groups called commodities.
- Each commodity may consist of several distinct mineral products or categories.
- ONRR groups twenty-nine mineral products into the following key commodities: oil, gas, NGL, and coal.
 - Seventeen of those mineral products were involved in royalty-related transactions in fiscal year 2010 and/or 2011.



Background

Commodities and mineral products (cont'd)

Commodities	Mineral products involved in royalty-related transactions, fiscal years 2010-2011
Oil	Condensate, Drip or Scrubber Condensate, Fuel Oil, Inlet Scrubber, Oil, Other Liquid Hydrocarbons
Gas	Coal Bed Methane, Flash Gas, Fuel Gas, Gas Hydrate, Gas Lost-Flared or Vented, Nitrogen, Processed (Residue) Gas, Unprocessed (Wet) Gas
NGL	Gas Plant Products
Coal	Coal, Coal-Bituminous-Raw
Other	Anhydrous Sodium Sulfate, Borax-Anhydrous, Borax-Decahydrate, Borax-Pentahydrate, Boric Acid, Brine Barrels, Carbon Dioxide Gas, Caustic, Cinders, Clay, Cobalt Concentrate, Copper, Copper Concentrate, Ferro Phosphorous Slag, Geothermal-Direct Utilization (2), Geothermal-Electrical Generation (3), Gilsonite, Gold, Gold Ore, Gold Placer, Gypsum, Helium, Langbeinite, Lead Concentrate, Leonardite, Limestone, Magnesium Chloride Brine, Manure Salts, Molybdenum Concentrate, Muriate Of Potash-Granular, Muriate Of Potash-Standard, Phosphate Raw Ore, Potash, Purge Liquor, Quartz Crystal, Salt, Sand/Gravel (2), Silver, Soda Ash, Sodium Bi-Carbonate, Sodium Bisulfite, Sodium Decahydrate, Sodium Sesquicarbonate, Sulfide, Sulfur, Sylvite-Raw Ore, Trona Ore, Wavellite, Zinc Concentrate

Source: ONRR.

Note: Individual mineral products that were sold in different ways were reported as multiple products in ONRR's data and in this table. For example, Sand/Gravel was sold both by the ton and by the cubic yard.



Background

Reorganization of the Minerals Management Service (MMS)

- Beginning in 2010, the Secretary of the Interior reorganized the MMS into three new agencies to separate its missions of promoting offshore resource development, enforcing safety regulations offshore, and collecting revenue from both onshore and offshore operations.
- The three agencies are:
 - **Bureau of Ocean Energy Management.** BOEM manages the development of the nation's offshore resources.
 - **Bureau of Safety and Environmental Enforcement.** BSEE enforces safety and environmental regulations offshore.
 - **Office of Natural Resources Revenue.** ONRR manages revenue associated with federal and Indian mineral leases both onshore and offshore.



Background

ONRR's management of leasable minerals revenue

- ONRR collects nearly all of the data and payments for minerals leased from federal and Indian lands.
- Much of this information is self-reported by lessees who, according to ONRR, have up to 6 years to make adjustments to their submitted data.
- ONRR audits a portion of all lessee data and payments after 3 years. For example, in 2012 ONRR is auditing information reported by lessees in fiscal year 2009.



Background

Types of leasable mineral revenue commonly collected by ONRR

- Bonus bids (Bonuses)
 - Up-front cash payments to secure a lease. Mineral leases generally are awarded based on competitive bidding, with leases going to the highest bidder. Interior determines a minimum acceptable bonus bid for each onshore and offshore parcel offered for lease.
- Rents
 - Rent per acre leased is charged annually until production begins unless the lease is terminated or relinquished.
- Royalties
 - Payments based on a proportion of sales value, less allowable deductions.
- Other revenues
 - Miscellaneous fees and other payments. For example, ONRR collects interest on late royalty payments.



Background

Key legislation governing leasable minerals

Mining Law of 1872

- Authorizes and governs prospecting and mining for locatable minerals on federal lands, originally ranging from gold to fossil fuels.

Mineral Leasing Act of 1920

- Authorizes and governs leasing on federal lands for development of deposits of fossil fuels, fertilizer minerals, and chemical minerals on federal lands, which were previously governed by the Mining Law of 1872.

Mineral Leasing Act for Acquired Lands of 1947

- Authorizes and governs mineral leasing on federal acquired lands. Federal acquired lands may be leased under the provisions of the Mineral Leasing Act of 1920.



Background

Key legislation governing leasable minerals (cont'd)

Outer Continental Shelf Lands Act of 1953

- Serves as the basis for most federal regulation governing offshore minerals and development activities within U.S. coastal waters generally from 3 to 200 miles offshore.

Federal Land Policy and Management Act of 1976

- Governs wind and solar projects, which are authorized by obtaining a right-of-way from BLM.

The Federal Oil and Gas Royalty Management Act of 1982

- Affirms the authority of the Secretary of the Interior to administer and enforce all rules and regulations governing oil and gas leases on federal or Indian land.

Indian Mineral Development Act of 1982

- Authorizes tribes to enter into agreements with private companies to develop the mineral resources on their lands.



Objective 1

Volume and Value of Leasable Minerals



Objective 1: Volume and Value of Leasable Minerals

Sales volume in fiscal years 2010 and 2011

- Calculations or comparisons of total volume sold across commodities or individual mineral products are not meaningful because measurement units often differ.
 - For example, oil sales are measured in barrels (bbl); gas sales in thousands of cubic feet (mcf); coal sales in tons; and NGL sales in gallons (gal).
- However, we can compare sales volumes for key commodities across time.



Objective 1: Volume and Value of Leasable Minerals

Total sales volume by key commodity and source for fiscal years 2010 and 2011 (Quantities in millions)

Commodity	Fiscal year	Federal onshore	Federal offshore	Indian lands	Total
Oil (bbl)	2010	107.8	617.9	13.2	739.0
	2011	111.8	514.4	19.4	645.6
Gas (mcf)	2010	3,068.0	2,097.7	249.4	5,415.2
	2011	2,955.1	1,654.1	250.0	4,859.2
Coal (ton)	2010	456.5	N/A	21.6	478.1
	2011	448.0	N/A	22.0	470.0
NGL (gal)	2010	2,272.4	2,415.4	130.0	4,817.9
	2011	2,484.3	2,054.8	140.0	4,679.1

Source: GAO analysis of ONRR data.



Objective 1: Volume and Value of Leasable Minerals

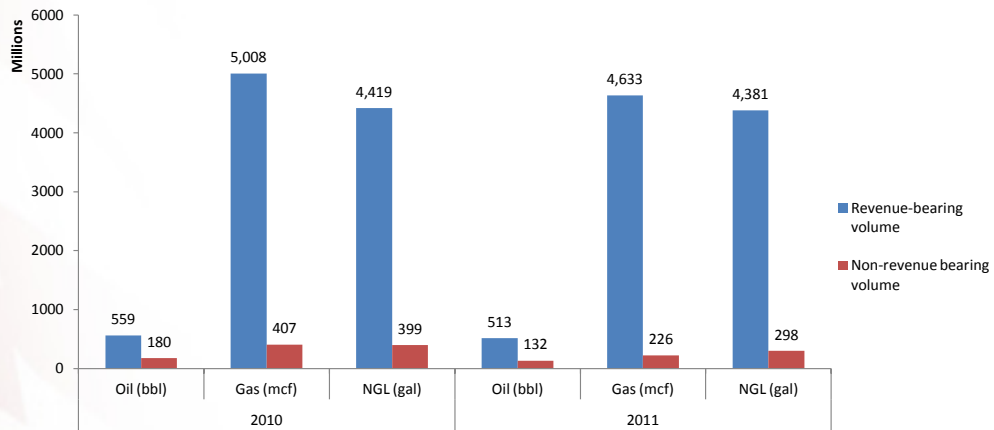
Non-revenue volume, fiscal years 2010 and 2011

- Certain leasable mineral sales are exempt from royalty payments under specific royalty relief programs.
- In 2010 and 2011, these exemptions applied to some offshore oil, gas, and natural gas liquid sales.
- Royalty relief programs include those for minerals located in deep water, for minerals buried deep in shallow water, and for wells where production is no longer profitable.
- In fiscal year 2010, 2.2 million barrels of oil were accepted into the U.S. Strategic Petroleum Reserve in lieu of royalty payments, but this royalty-in-kind program was no longer active in 2011.
- Other volumes never make it to market because they are used as fuel on the lease site or, in the case of gas, vented or flared into the air.



Objective 1: Volume and Value of Leasable Minerals

Revenue-bearing versus non-revenue volume, fiscal years 2010 and 2011 (Quantities in millions)



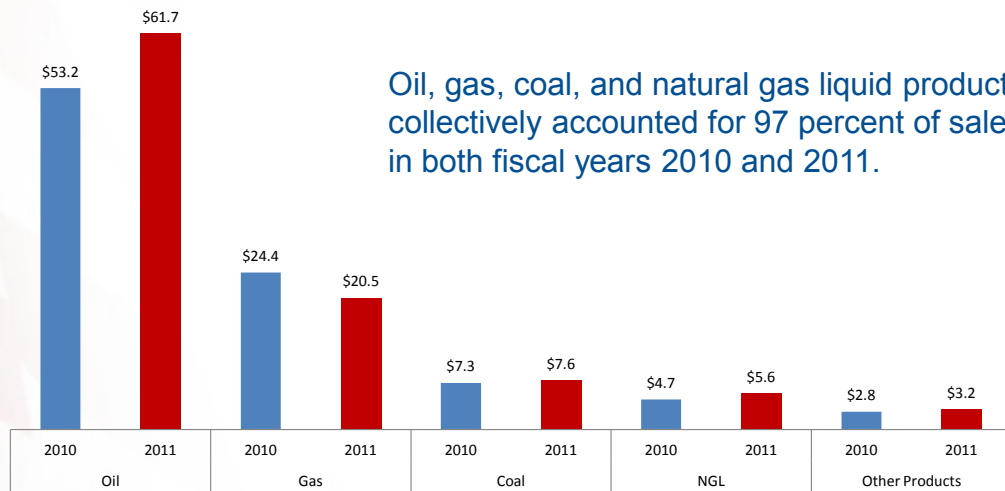
Source: GAO analysis of ONRR data.

Note: According to ONRR officials, oil, gas, and NGL were the only minerals that had non-revenue sales in 2010-2011, and all were from offshore leases.



Objective 1: Volume and Value of Leasable Minerals

Total sales value by key commodity, fiscal years 2010 and 2011 (Dollars in billions)



Oil, gas, coal, and natural gas liquid products collectively accounted for 97 percent of sales in both fiscal years 2010 and 2011.

Source: GAO analysis of ONRR data.



Objective 1: Volume and Value of Leasable Minerals

Total sales value by key commodity and source, fiscal years 2010 and 2011 (Dollars in billions)

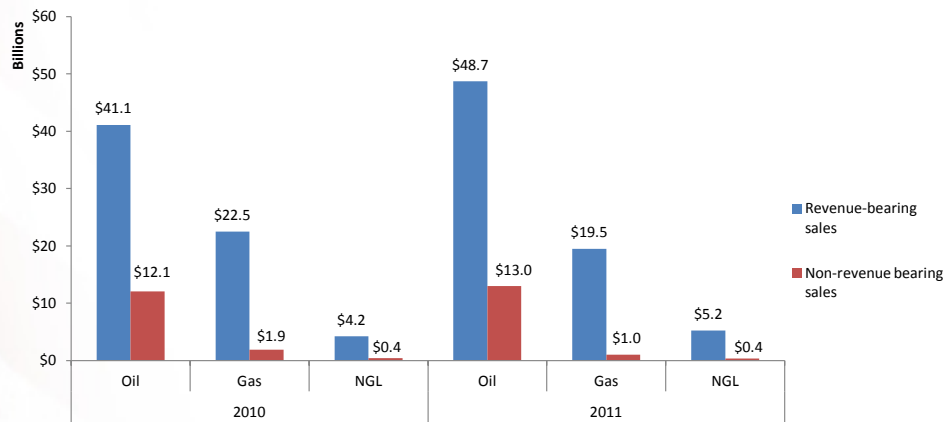
Commodity	Fiscal year	Federal onshore	Federal offshore	Indian lands	Total
Oil	2010	\$7.5	\$44.8	\$0.9	\$53.2
	2011	9.6	50.5	1.6	\$61.7
Gas	2010	13.5	9.9	1.0	\$24.4
	2011	12.4	7.1	1.0	\$20.5
Coal	2010	6.7	N/A	0.6	\$7.3
	2011	7.0	N/A	0.6	\$7.6
NGL	2010	2.0	2.5	0.1	\$4.7
	2011	2.8	2.6	0.2	\$5.6
All other	2010	2.6	0.0	0.2	\$2.8
	2011	3.1	0.0	0.1	\$3.2
Total	2010	\$32.3	\$57.2	\$2.8	\$92.3
	2011	\$34.9	\$60.2	\$3.5	\$98.6

Source: GAO analysis of ONRR data.



Objective 1: Volume and Value of Leasable Minerals

Revenue-bearing versus non-revenue sales value, fiscal years 2010 and 2011 (Dollars in billions)



Source: GAO analysis of ONRR data.

Note: According to ONRR officials, oil, gas, and NGL were the only minerals that had non-revenue sales in 2010-2011, and all were from offshore leases.



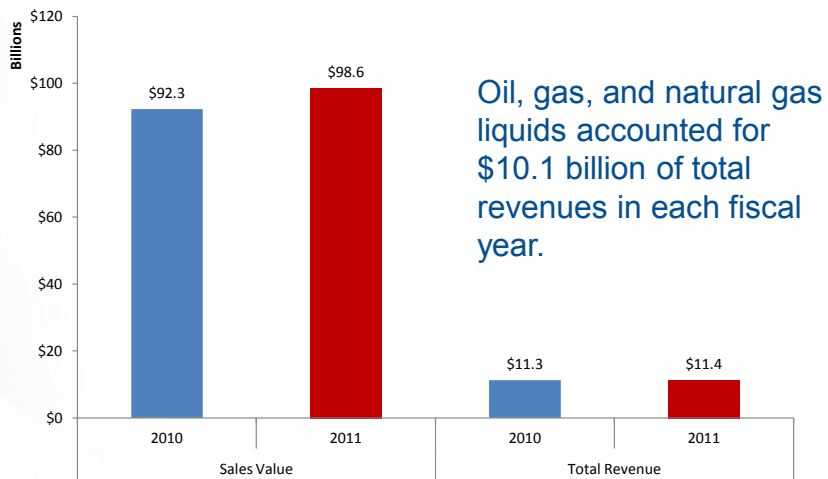
Objective 2

Leasable Minerals Revenue



Objective 2: Revenue from Leasable Minerals

Total sales value and total revenue, fiscal years 2010 and 2011 (Dollars in billions)

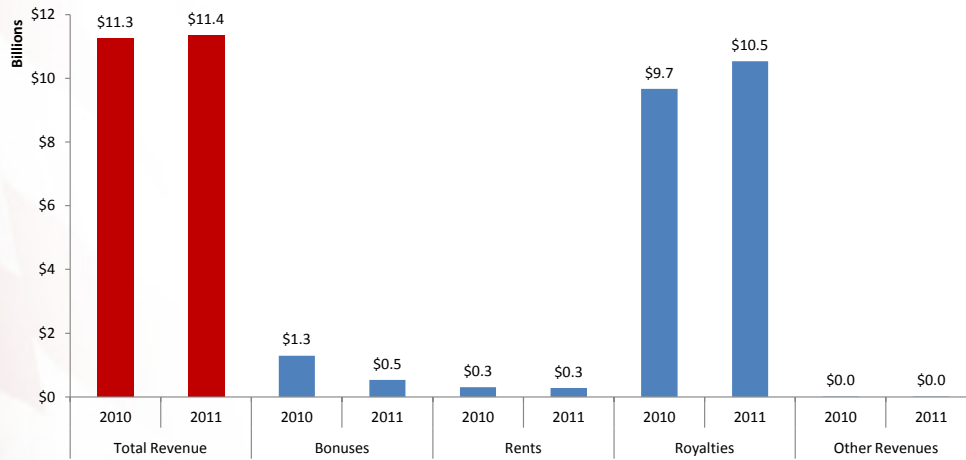


Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

Total revenue and revenue by category, fiscal years 2010 and 2011 (Dollars in billions)



Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

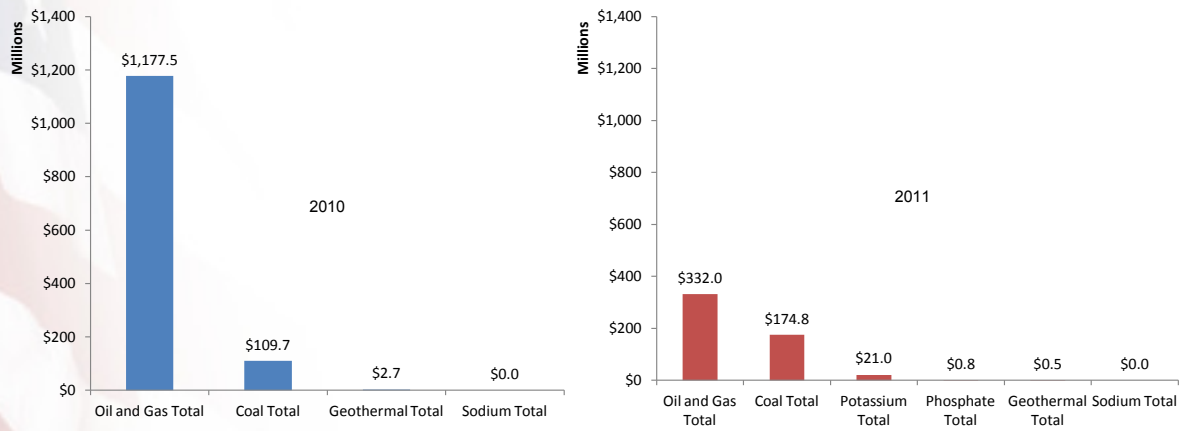
Bonus bids to obtain mineral leases

- Pricing mechanisms for land and resource leases vary widely.
- Competitive bidding is generally used for onshore lease sales, with leases awarded to the highest bidder. Interior determines a minimum acceptable “bonus bid” for each tract offered. Successful bidders must pay a portion of the bonus bid on the date of auction and then must pay the balance within 10 business days.
- Competitive bidding is also used for offshore lease sales. As with onshore sales, if no bids match or exceed the minimum, the lease is withheld and offered again at a later sale.



Objective 2: Revenue from Leasable Minerals

Bonuses by lease type, fiscal years 2010 and 2011 (Dollars in millions)



Source: GAO analysis of ONRR data.
Note: Sodium bonuses totaled \$120.00 in both 2010 and 2011.



Objective 2: Revenue from Leasable Minerals

Customary rental rates to maintain leases prior to generating royalties¹

Types of leases	Annual rental terms for new leases
Oil and gas leases	
on federal onshore lands	\$1.50 per acre for the first 5 years and \$2 per acre thereafter.
on federal offshore lands	Starts at \$7 or \$11 per acre in the Gulf of Mexico with increases beginning in the sixth year of the lease.
on Indian lands	\$2 per acre or greater as prescribed in the lease.
Coal leases	
on federal lands	\$3 per acre not credited against royalty payments.
on Indian lands	Varies with lease; not less than \$2 per acre.
Geothermal leases on federal lands	Competitive leases are \$2 per acre for the first year, \$3 per acre for the second through tenth years; non-competitive leases are \$1 per acre through the tenth year. Both types of leases increase to \$5 per acre after the tenth year.
Lead, zinc, copper, and other hardrock mineral leases on federal lands	\$1 per acre on acquired lands; minimum per permit or lease is \$20.

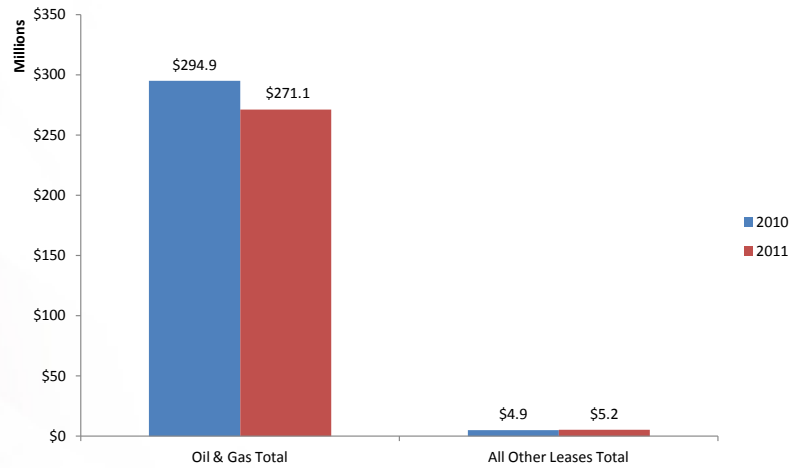
Source: Interior.

¹ These are rental terms for new leases. Rental terms have varied over time.



Objective 2: Revenue from Leasable Minerals

Rents by lease type, fiscal years 2010 and 2011 (Dollars in millions)



Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

Customary royalty rates for new mineral leases¹

Types of leases	Customary royalty rates for new leases
Oil and gas leases	
on federal onshore lands	12.5 percent for both competitive and non-competitive leases.
on federal offshore lands	18.75 percent in Gulf of Mexico; 12.5 percent in Alaska and other frontier areas. BOEM can use other royalty rates of no less than 12.5 percent.
on Indian lands	Varies; in most cases the minimum rate is 16.67 percent.
Coal leases	
on federal lands	8 percent of the value of production for underground mines and 12.5 percent of value of production of surface mines.
on Indian lands	Varies; not less than 8 percent of value of production for underground mines and 12.5 percent of value of production for surface mines.
Geothermal leases on federal lands	For electricity production, 1 to 2.5 percent of the value of geothermal steam in the first 10 years; not more than 2 to 5 percent annually thereafter.
Lead, zinc, copper, and other hardrock mineral leases on federal lands	No minimum royalty rate on acquired lands, but usually 5 percent.

Source: Interior.

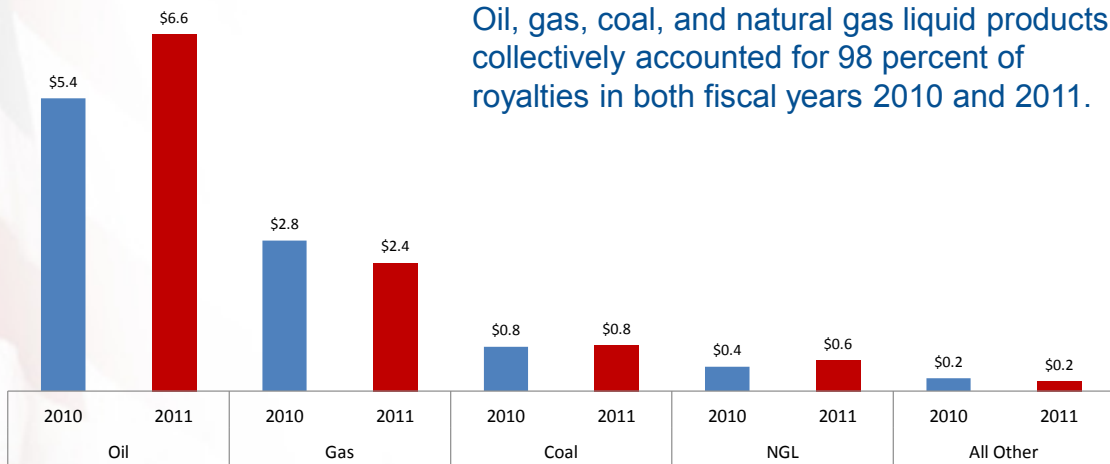
¹ These are royalty rates for new leases. Royalty rates have varied over time.



Objective 2: Revenue from Leasable Minerals

Royalties by key commodity, fiscal years 2010 and 2011 (Dollars in billions)

Oil, gas, coal, and natural gas liquid products collectively accounted for 98 percent of royalties in both fiscal years 2010 and 2011.

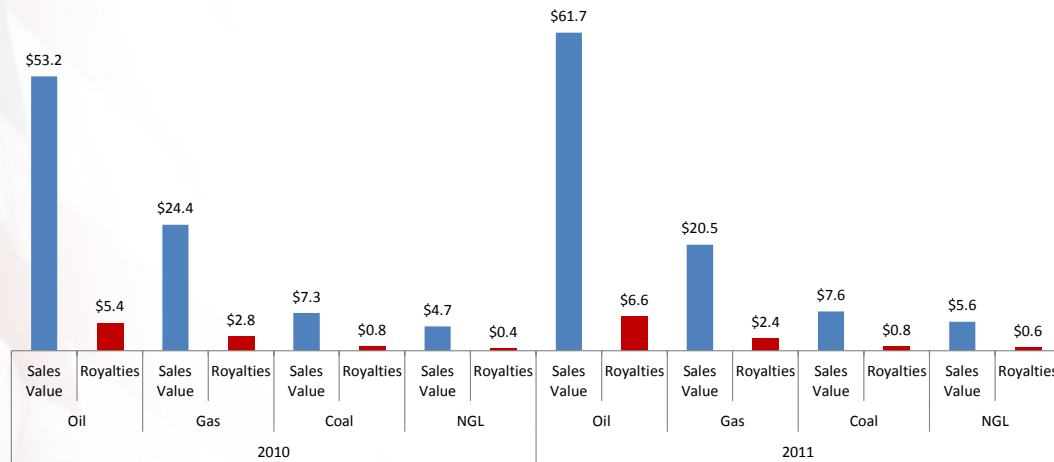


Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

Sales values versus royalties for key commodities, fiscal years 2010 and 2011 (Dollars in billions)



Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

Allowable deductions from royalty payments

- **Transportation.** Transportation allowances are granted for reasonable, actual, and necessary costs to transport oil, gas, or gas plant products to an off-lease point, such as a sales point, a delivery point, or a gas processing plant.
- **Processing.** Processing allowances are granted for costs incurred by the lessee in the extraction and recovery of gas plant products from a gas stream.
- **Effective royalty rate.**
 - The rate actually paid by lessees, once non-revenue volumes and deductions for transportation and processing have been factored in. It is expressed as a percentage that is calculated by dividing the actual royalty payment by the sales value.



Objective 2: Revenue from Leasable Minerals

Effective royalty rate paid for offshore oil at common lease rates, fiscal years 2010-2011 (dollars in millions)

Fiscal year	Royalty rate specified in lease	Total sales value	Non-revenue sales value	Royalty value prior to allowances	Transportation and processing allowances	Royalty value less allowances	Effective royalty rate
2010	12.50%	\$34,557.4	\$11,985.9	\$2,755.0	(\$51.5)	\$2,703.5	7.82%
	16.67%	\$9,635.6	\$53.9	\$1,578.8	(\$15.0)	\$1,563.8	16.23%
	18.75%	\$54.4	\$1.1	\$10.0	(\$1.6)	\$8.4	15.36%
2011	12.50%	\$37,770.8	\$12,797.3	\$3,122.0	(\$52.6)	\$3,069.4	8.13%
	16.67%	\$12,081.3	\$136.5	\$1,984.2	(\$17.7)	\$1,966.4	16.28%
	18.75%	\$41.1	\$1.8	\$7.3	(\$0.1)	\$7.3	17.70%

Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

Effective royalty rate paid for offshore gas at common lease rates, fiscal years 2010-2011 (dollars in millions)

Fiscal year	Royalty rate specified in lease	Total sales value	Non-revenue sales value	Royalty value prior to allowances	Transportation and processing allowances	Royalty value less allowances	Effective royalty rate
2010	12.50%	\$4,965.6	\$1,776.5	\$398.0	(\$42.4)	\$355.6	7.16%
	16.67%	\$4,782.9	\$124.3	\$765.4	(\$18.5)	\$746.9	15.62%
	18.75%	\$15.0	\$8.3	\$1.3	(\$0.0)	\$1.2	8.27%
2011	12.50%	\$3,421.5	\$935.4	\$310.9	(\$34.8)	\$276.0	8.07%
	16.67%	\$3,574.3	\$61.1	\$583.3	(\$14.3)	\$569.0	15.92%
	18.75%	\$33.9	\$7.8	\$4.8	(\$0.2)	\$4.6	13.72%

Source: GAO analysis of ONRR data.



Objective 2: Revenue from Leasable Minerals

Disbursement of revenues from onshore leasable minerals

- 50 percent of federal receipts are disbursed to the states, with 2 percent of the states' share (i.e., 1 percent of total receipts) retained to cover the administrative costs of the leasing program.¹
- 40 percent of federal receipts are deposited in the Reclamation Fund for water project and program activities in the 17 western states.²
- 10 percent of federal receipts are deposited in the Treasury.
- All revenues from Indian lands are returned to the appropriate tribal entities or individual Indians.

¹ 90 percent of receipts from Alaska are permanently appropriated to that state, with 1.8 percent of total receipts retained to cover administrative costs.

² No receipts from Alaska are deposited in the Reclamation Fund.



Objective 2: Revenue from Leasable Minerals

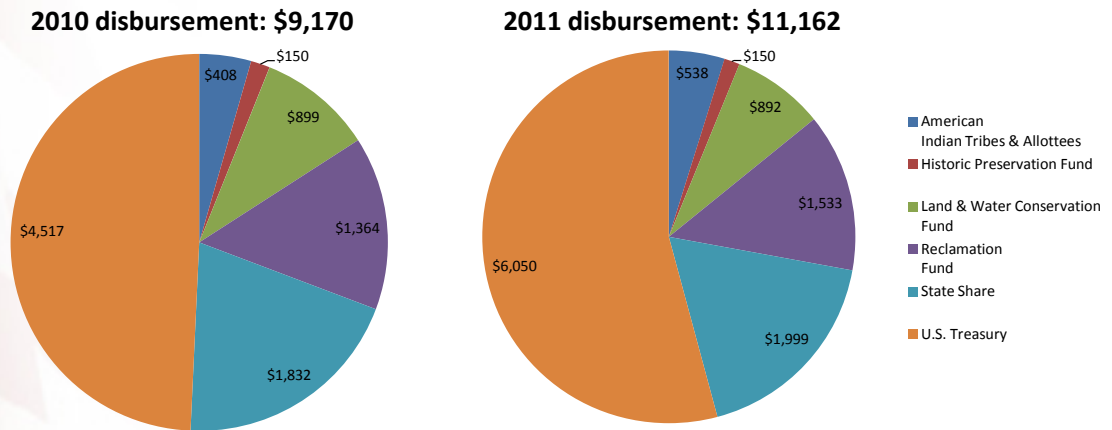
Disbursement of revenues from offshore leasable minerals

- Up to \$900 million is allocated annually to the Land and Water Conservation Fund from sources including offshore mineral leasing.
- When appropriated by Congress, \$150 million is allocated annually to the National Historic Preservation Fund from Outer Continental Shelf lease receipts.
- 27 percent of receipts from Section 8(g) leases are allocated to the states. These leases are located in federal waters within 3 miles of the offshore boundary of coastal states.
- 37.5 percent of receipts from specified oil and gas leases off the coasts of selected Gulf Coast states are allocated annually to those states (Alabama, Louisiana, Mississippi, and Texas).
- \$250 million of annual spending for fiscal years 2007-2010 is permanently appropriated for the Coastal Impact Assistance Program.
- Any remaining funds are deposited in the Treasury.



Objective 2: Revenue from Leasable Minerals

Disbursement of total revenues from onshore and offshore leases, fiscal years 2010-2011 (in millions)



Source: GAO analysis of ONRR data.

Note: Total disbursement amounts are not directly comparable to the total revenue amounts presented earlier because of different accounting and reporting practices for the two values.



Objective 2: Revenue from Leasable Minerals

A 2011 Interior report identifies payments other than bonuses, rents, and royalties that companies are required to remit to various levels of government.¹ For example, according to this report, oil companies operating in the United States may also be subject to:

Income tax. This is the most common levy. A few jurisdictions, however, exempt the oil industry from the generally applicable corporate income tax and impose a petroleum income tax. Incentives are often provided in the form of accelerated recovery of development costs, depletion allowances, infrastructure credits, and other benefits. A state income tax may be levied in addition to the federal income tax with appropriate deductions.

Severance tax. Common in the United States, this tax is usually levied by states on the same basis as royalty. Different rates may apply to oil and gas.

Property tax. A property tax may be levied by counties.

¹ Agalliu, Irena. *Comparative assessment of the federal oil and gas fiscal systems*. A special report prepared at the request of the U.S. Department of the Interior, Bureau of Ocean Energy Management. October 2011. Interior commissioned this report in response to a GAO recommendation. See GAO, *Oil and Gas Royalties: The Federal System for Collecting Oil and Gas Revenues Needs Comprehensive Reassessment*, GAO-08-691 (Washington, D.C.: Sept. 3, 2008).



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Data Are Not Available on the Volume or Value of Hardrock Minerals Extracted from Federal Land

Federal agencies generally do not collect data from hardrock mine operators on the amount and value of hardrock minerals extracted from federal land because there is no federal royalty that would necessitate doing so. For example, as we reported in 2008, Interior's U.S. Geological Survey collects extensive data on mineral production through its annual surveys, but it does not collect data that would allow it to determine what proportion of this production came from federal land.³ In addition, publicly traded hardrock mine operators frequently include production information as part of their filings with the U.S. Securities and Exchange Commission, but they do not consistently report the amount of minerals produced from federal lands. Similarly, many western states collect data on the hardrock minerals produced in their state for purposes of assessing a state royalty, but they generally do not collect data on the volume of those minerals extracted from federal land within those states.

While the United States has committed to implementing the Extractive Industries Transparency Initiative—an international effort to promote openness and accountability in the oil, gas, and mining sectors—it is unclear if this will affect reporting on hardrock mineral production on federal land. To comply with the initiative, extractive companies operating in a country must comprehensively disclose all material payments to the government, and government agencies must disclose all material revenues received from extractive industries. President Obama announced in September 2011 that the United States would implement the initiative and named the Secretary of the Interior as the government official responsible for its implementation. However, because this effort is in the early stages of implementation, it is currently unclear if hardrock mine operators will ultimately be required to disclose the amount of minerals produced from federal land, as is required in some of the other countries that have implemented the initiative. Interior officials told us that they expect to finish implementing this initiative in about 4 years.

Even though overall data are not available on federal hardrock production, Interior and some western states have used the limited data available to roughly estimate the amount and value of hardrock minerals produced from federal land. For example, in 1993, Interior estimated that 15.3 percent of the total U.S. production value of hardrock minerals came from federal land. Using this percentage and 2011 survey data on nonfuel minerals from the U.S. Geological Survey, Interior estimated that the sales value of hardrock minerals extracted from federal land in fiscal year 2011 was about \$6.41 billion.⁴ In addition, officials with the Nevada Division of Minerals, using estimates provided by mine operators, told us that that roughly two-thirds of metallic

³GAO, *Hardrock Mining: Information on State Royalties and Trends in Mineral Imports and Exports*, GAO-08-849R (Washington, D.C.: July 21, 2008).

⁴U.S. Department of the Interior, Task Force on Mining Royalties, *Economic Implications of a Royalty System for Hardrock Minerals* (Aug. 16, 1993); and U.S. Department of the Interior, *The Department of the Interior's Economic Contributions, Fiscal Year 2011* (Washington, D.C.: July 9, 2012).

Enclosure II

minerals—a subgroup of hardrock minerals—produced in Nevada comes from federal land, and about one-third comes from private land.⁵

(361417)

⁵According to the U.S. Geological Survey, Nevada has the highest value of nonfuel mineral production in the United States, with a total value of about \$10.4 billion in 2011. See U.S. Geological Survey, *Mineral Commodity Summaries 2012* (Reston, VA: Jan. 21, 2012).

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