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# Statement of Federal Financial Accounting Standards 38: Accounting for Federal Oil and Gas Resources

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## Status

<b>Issued</b>	April 13, 2010
<b>Effective Date</b>	For periods beginning after September 30, 2012
<b>Interpretations and Technical Releases</b>	None.
<b>Affects</b>	None.
<b>Affected by</b>	SFFAS 41, par. 2, amended the effective date in pars. 5 and 30.

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## Summary

This standard requires the value of the federal government's estimated petroleum royalties from the production of federal oil and gas proved reserves to be reported in a schedule of estimated federal oil and gas petroleum royalties. In addition, this standard requires the value of estimated petroleum royalty revenue designated for others to be reported in a schedule of estimated federal oil and gas petroleum royalties to be distributed to others. These schedules are to be presented in required supplementary information (RSI) as part of a discussion of all significant federal oil and gas resources under management by the entity.

This Statement is effective as RSI for periods beginning after September 30, 2011. Earlier implementation is encouraged. It is the Board's intent that the information required by this Statement transition to basic information after being reported as RSI for a period of three years. Prior to the conclusion of the three-year RSI period, the Board plans to make a determination as to whether the information will transition to basic information as financial statement recognition or note disclosure. This Statement will remain in effect until such time a determination is made.

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## Introduction

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### Purpose

1. Statements of Federal Financial Accounting Standards (SFFAS) 6, *Accounting for Property, Plant, and Equipment*; 8, *Supplementary Stewardship Reporting*; and 29, *Heritage Assets and Stewardship Land*, establish standards related to federal lands, but specifically exclude natural resources from the scope of those standards. Extensive **federal oil and gas resources**<sup>1</sup> exist on public lands throughout the country and on the **Outer Continental Shelf** (OCS). Currently, federal financial reporting does not provide information about the quantity or value of these assets.
2. The Board believes that federal oil and gas resources represent federal assets and accounting for and reporting information about these assets would enhance accountability for and stewardship over assets of the federal government.
3. This Statement provides for a more complete accounting for oil and gas resources available to the federal government. Accounting for the federal government's **royalty** share of **proved reserves** as an asset and reporting information on that asset as required supplementary information (RSI) would provide transparency regarding the value and changes in value of these significant assets and result in information that contributes to meeting federal financial reporting objectives.

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### Materiality

4. The provisions of this Statement need not be applied to immaterial items. The determination of whether an item is material depends on the degree to which omitting or misstating information about the item makes it probable that the judgment of a reasonable person relying on the information would have been changed or influenced by the omission or the misstatement.

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<sup>1</sup> Terms defined in Appendix D: Technical Terms or the Glossary are shown in **bold-face** the first time they appear.

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## Effective Date

5. The standards are effective as RSI for periods beginning after September 30, 2012. Earlier implementation is encouraged.
6. It is the Board's intent that the information required by this Statement transition to basic information after being reported as RSI for a period of three years. Prior to the conclusion of the three-year RSI period, the Board plans to make a determination as to whether the information will transition to basic information as financial statement **recognition** or note disclosure. This Statement will remain in effect until such time a determination is made.

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## Standards

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### Scope

7. This Statement applies to federal entities that report information about federal oil and gas resources in general purpose federal financial reports, including the consolidated financial report of the U.S. Government (CFR), in conformance with SFFAS 34, *The Hierarchy of Generally Accepted Accounting Principles, Including the Application of Standards Issued by the Financial Accounting Standards Board* (FASB).
8. This Statement articulates a general principle that should guide preparers of general purpose federal financial reports in accounting for federal oil and gas resources.
9. Federal lands contain a variety of natural resources other than oil and gas proved reserves that are not specifically addressed by this Statement. This Statement does not require or preclude entities from reporting information about other types of federally-owned natural resources; however, this Statement should be considered in conjunction with SFFAS 7, *Accounting for Revenue and Other Financing Sources*, when applying SFFAS 34 to other types of federally-owned natural resources.<sup>2</sup>

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<sup>2</sup> SFFAS 7, par. 45, requires, in instances where there are virtually no costs incurred in earning exchange revenue, that federal entities recognize the revenue as a financing source on the statement of changes in net position, rather than the statement of net cost.

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## Definitions

10. Definitions in paragraphs 11 and 12 are presented first in the accounting standards because they are new technical terms not previously defined in federal accounting standards.
11. **Federal oil and gas resources:** Oil and gas resources over which the federal government may exercise sovereign rights with respect to exploration and exploitation and from which the federal government has the authority to derive revenues for its use. Federal oil and gas resources do not include resources over which the federal government acts as a fiduciary for the benefit of a non-federal party.
12. **Regional estimated petroleum royalties:** Regional estimated petroleum royalties means the estimated end-of-period value of the federal government's royalty share of proved oil and gas reserves from federal oil and gas resources in each region.

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## Accounting and Reporting of Federal Oil and Gas Resources by Component Entities

### Schedule of Estimated Federal Oil and Gas Petroleum Royalties

13. Extensive federal oil and gas resources exist on public lands throughout the country and on the Outer Continental Shelf (OCS). These resources will provide economic benefits to the federal government through revenue from leasing activities and the collection of royalties on production. The federal government controls access to these resources.
14. Federal oil and gas resources are made up of two primary components – reserves and **undiscovered resources**. Reserves can be further defined as either proved or unproved while undiscovered resources can be further defined as either recoverable or non-recoverable. See *Figure 1 – Components of Federal Oil and Gas Resources* in the basis for conclusions for an illustration of the universe of federal oil and gas resources and a further breakdown of its components.
15. The value of the federal government's estimated petroleum royalties from the production of federal oil and gas proved reserves should be reported in a schedule of estimated federal oil and gas petroleum royalties by the component entity that is responsible for collecting royalties. This schedule should be presented in RSI as part of a discussion of all significant federal oil and gas resources under management by the entity.
16. The Board believes that the detailed estimation methodology for valuing federal oil and gas resources should be developed by federal entities. In an environment heavily affected by

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changes in prices, technological advancements, economic and operating conditions, and known geological, engineering, and economic data, estimation methodologies may need to be regularly updated to reflect these changing conditions.

17. The estimates that are developed should approximate the **present value** of future federal royalty receipts on proved reserves known to exist as of the reporting date. The estimates should be based on the best information available at fiscal year-end, or as close to the fiscal year-end as possible.
18. Discount rates as of the reporting date for present value measurements of federal oil and gas resources should be based on interest rates on **marketable Treasury securities** with maturities consistent with the cash flows being discounted.
19. The entity's estimates should reflect its judgment about the outcome of events based on past experience and expectations about the future. Estimates should reflect what is reasonable to assume under the circumstances. While the entity's own assumptions about future cash flows may be used, the entity should review assumptions used generally in the federal government as evidenced by sources independent of the reporting entity, for example, those used by the Bureau of Economic Analysis for the National Income and Product Accounts. If the entity's own assumptions do not reflect data that are consistent with sources independent of the reporting entity, an explanation of why the entity's own assumptions are preferred should be provided.
20. The value of the federal government's estimated petroleum royalties should be computed based on the calculation of federal oil and gas proved reserves on a regional basis. For purposes of these standards, the regions used in determining and reporting regional amounts or factors should be collaboratively developed by all the component entities involved in federal oil and gas resource activities. Regions used in calculating regional estimated petroleum royalties and in applying these standards should be consistent and aligned with regions used internally by the component entities in administering federal oil and gas resource activities.
21. The estimates of future federal royalty receipts on proved reserves known to exist as of the reporting date should be divided further by commodity and type (e.g., wet gas, **dry gas**, oil and **lease condensate**, onshore, offshore, etc.) and calculated separately if material differences would otherwise result. Each of the individual calculations should be reported separately and summed together to arrive at the federal government's total estimated petroleum royalties.
22. The preferred measurement method for valuing the federal government's estimated petroleum royalties is the present value of future federal royalty receipts on proved reserves using a risk-free discount rate as described in paragraph 17; however, alternative methods

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for measuring **fair value** or current price may be acceptable if it is not reasonably possible to estimate present value of future federal royalty receipts on proved reserves using the methodology described in paragraphs 17 through 19.<sup>3</sup>

23. Once established, the estimation methodology should be consistently followed and explained in the financial reports. If environmental or other changes would provide for the development of an improved methodology, the nature and reason for the change in methodology, as well as the effect of the change, should be explained.

#### Schedule of Estimated Federal Oil and Gas Petroleum Royalties to be Distributed to Others

24. The majority of the federal government's estimated petroleum royalties from the production of federal oil and gas proved reserves are distributed to state governments, other federal agencies, and the general fund of the U.S. Treasury in accordance with legislated allocation formulas. The legislated allocation formulas constitute a present obligation<sup>4</sup> of the component entity that is responsible for collecting royalties to provide assets to another entity, and the underlying legislation identifies the conditions under which these distributions will be made.
25. The value of estimated federal oil and gas petroleum royalty revenue designated for others should be reported in a schedule of estimated petroleum royalties to be distributed to others by the component entity that is responsible for collecting royalties. This schedule should be presented in RSI by type of entity as part of a discussion of all significant federal oil and gas resources under management by the entity.
26. The value of the revenue to be distributed to others should be estimated based on the portion of the royalty share of the federal proved oil and gas reserves designated to be distributed to others. For example, the average annual share of the revenue distributed to

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<sup>3</sup> Calculating the present value of future federal royalty receipts employs the use of a number of estimates including estimating when the proved reserves will be produced over time, future oil and gas prices, and the possibility and extent of royalty-free production. Unforeseen circumstances may result in situations where it is not possible for the entity to reasonably estimate the present value of future federal royalty receipts. In these situations, it may be possible to estimate current price. Current price, sometimes referred to as a "fresh-start" or "remeasured" price, is a general term for various attributes measured as of a financial statement date subsequent to the period of initial recognition, including replacement price, market price, and settlement price.

<sup>4</sup> The term obligation is used in this Statement with its general meaning of a duty or responsibility to act in a certain way. It does not mean that an obligation of budgetary resources is required for a liability to exist in accounting or financial reporting or that a liability in accounting or financial reporting is required to exist for budgetary resources to be obligated.



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others over the preceding twelve (12) months may be an acceptable basis for estimating petroleum royalties to be distributed. Other methodologies may also be acceptable.

### Annual Valuation of Estimated Petroleum Royalties and Petroleum Royalties to be Distributed to Others

27. The estimated petroleum royalties asset value and petroleum royalties to be distributed to others should be valued at the end of each fiscal year.

### Component Entity Reporting Requirements

28. The component entity responsible for collecting royalties should provide the following as narrative to the schedules presented as RSI:
- a. A concise statement explaining how the management of federal oil and gas resources is important to the overall mission of the entity.
  - b. A brief description of the entity's stewardship policies for federal oil and gas resources. The stewardship policies for federal oil and gas resources should describe the guiding principles established to: assess the oil and gas resource areas; offer those resources to interested developers; sell and assign **leases** to winning bidders; administer the leases; collect bonuses, **rents**, royalties, and **royalty-in-kind**; and distribute the collections consistent with statutory requirements, prohibitions, and limitations governing the entity.
  - c. A narrative describing future royalty rights identified for sale, if applicable. The narrative should provide the value of the rights identified for future sale, the location of the **field(s)** involved in the future sale, and the best estimate of when the rights would be sold. The calculated value reported for future royalty rights identified for sale should be based on the specific field to be sold and consistent with the valuation requirements of paragraph 22.
  - d. A narrative describing and a display showing revenue reported by category for the reporting period should be presented for offshore and onshore revenues for the following categories: royalty revenue for oil and gas; rent revenue; **bonus bid** revenue for leases; and total revenue from all the above categories.
  - e. A narrative describing and a display showing:
    - (1) the quantity of oil and gas proved reserves at the end of the reporting period;

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- (2) the average of the Regional Average **First Purchase Prices** for oil and the average of the Regional Average **Wellhead Prices** for gas for the reporting period; and,
  - (3) the average **royalty rate** for oil and gas for the reporting period.
- f. A narrative describing the estimation methodology used to calculate the value of the federal government's estimated petroleum royalties. At a minimum, the narrative explanation should include a "plain English" explanation of the measurement method (e.g., present value), the significant assumptions incorporated into the estimate (e.g., discount rates used to calculate present value, production decline curve, portion of proved reserves under federal lands, future oil and gas prices, inflation rates, etc), and any significant changes in the estimation methodology, including the underlying assumptions, from the prior year. As required by paragraph 23, the nature and reason for any changes, as well as the effect of the changes, should be explained.
  - g. A reference to the source reports used to calculate the value of the federal government's estimated petroleum royalties.
  - h. A narrative describing and a display showing the **sales volume**, the **sales value**, the royalty revenue, and the **estimated value for royalty relief** produced from federal oil and gas resources for the reporting period. To the extent that regional information is available and would contribute to understanding, the information for each region should be provided.
  - i. A narrative describing other significant federal oil and gas resources under management by the entity that are not addressed by this Statement because they are not currently under lease (e.g., coastal plain of the Arctic National Wildlife Refuge). The narrative should be sufficient to enable the financial statement reader to gain an understanding of the full extent of federal oil and gas resources under management by the entity.

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## Consolidated Financial Report (CFR) of the United States Government Reporting Requirements

29. The governmentwide entity should provide the following information related to federal oil and gas resources in RSI as part of a discussion of all significant federal oil and gas resources under management by the federal government:
  - a. A concise statement explaining the nature and valuation of federal oil and gas resources.

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- b. A narrative describing and a display showing:
- (1) the quantity of oil and gas proved reserves at the end of the reporting period;
  - (2) the average of the Regional Average First Purchase Prices for oil and the average of the Regional Average First Wellhead Prices for gas for the reporting period;
  - (3) the average royalty rate for oil and gas for the reporting period;
  - (4) the asset value for oil and gas by the commodities and types identified for use in calculating the federal government's total estimated petroleum royalties for the reporting period (see paragraph 21); and,
  - (5) the value of estimated petroleum royalties at the end of the reporting period.
- c. A reference to specific agency reports for additional information about federal oil and gas resources.

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## Effective Date

30. The standards are effective as RSI for periods beginning after September 30, 2012. Earlier implementation is encouraged.
31. It is the Board's intent that the information required by this Statement transition to basic information after being reported as RSI for a period of three years. Prior to the conclusion of the three-year RSI period, the Board plans to make a determination as to whether the information will transition to basic information as financial statement recognition or note disclosure. This Statement will remain in effect until such time a determination is made.

The provisions of this Statement need not be applied to immaterial items.
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## Appendix A: Basis for Conclusions

This appendix discusses some factors considered significant by Board members in reaching the conclusions in this Statement. It includes the reasons for accepting certain approaches and rejecting others. Individual members gave greater weight to some factors than to others. The standards enunciated in this Statement—not the material in this appendix—should govern the accounting for specific transactions, events, or conditions.

This Statement may be affected by later Statements. The FASAB Handbook is updated annually and includes a status section directing the reader to any subsequent Statements that amend this Statement. Within the text of the Statements, the authoritative sections are updated for changes. However, this appendix will not be updated to reflect future changes. The reader can review the basis for conclusions of the amending Statement for the rationale for each amendment.

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### Project History

- A1. The project began with the formation of a task force to conduct research. The task force produced a discussion paper in June 2000 entitled *Accounting for the Natural Resources of the Federal Government* (see <http://www.fasab.gov/pdf/files/natresrpt.pdf> to access the report). In 2002, the Board resumed active consideration of the issues raised by the task force after a deferral to address other issues.
- A2. The Board was interested in determining whether values for federal natural resources, or some surrogate, should be capitalized and reported on the balance sheet. The Board members believed that capitalizing federal natural resources could increase accountability for their management and improve the comprehensiveness, relevance, and consistency of federal financial statements. The Board members agreed to address each type of natural resource (e.g., fluid leasable minerals such as oil and gas, solid leasable minerals such as coal and timber, etc.) in separate phases. Federal oil and gas resources were addressed first because of the literature available in other domains, the extensive historical information on federal lease programs and royalty collections, and the large amount of revenue received in exchange for federal oil and gas resources.
- A3. The Board indicated that the pertinent questions were (1) what, if anything, should be recognized as an asset; and, (2) what is the source and reliability of quantity information. They believed the source and the reliability of the information would have a bearing on where information should be reported.
- A4. The extractive industries' activities for oil and gas can be divided into two categories—upstream activities (exploration and production activities) and downstream activities

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(transportation, refining, and marketing activities). Upstream activities can be divided into the following phases:

- a. Prospecting<sup>5</sup>
- b. Acquisition of mineral rights
- c. Exploration
- d. Appraisal and evaluation
- e. Development
- f. Production

A5. Downstream activities take place after the production phase of the upstream activities through to the point of sale and can be divided into the following phases:

- a. Supply and trading
- b. Shipping
- c. Refining
- d. Storage and distribution
- e. Marketing and retail

A6. The national assessment of federal oil and gas resources performed by the federal government is similar to the prospecting phase of the extractive industries' upstream activities. It is the only activity performed by the federal government that is similar to the extractive industries' activities.

A7. The Board noted that, based on discussions about oil and gas lease activities in the private sector, new models for accounting and reporting on the federal government's oil and gas activities would be needed because the current federal model is incomplete and federal activities are not similar to private sector activities.

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<sup>5</sup>Prospecting usually involves researching and analyzing an area's historic geologic data and carrying out topographical, geological, and geophysical studies.

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A8. The Board released two exposure drafts (EDs) to solicit comments on its proposed requirements for accounting for federal oil and gas resources. The original ED, *Accounting for Federal Oil and Gas Resources*, was released on May 21, 2007. A revised ED by the same name was released on July 6, 2009. The board considered the comments received on the two EDs and related field testing in reaching its current position.

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## Accounting for Other Types of Natural Resources

A9. Federal lands contain a variety of natural resources that are not specifically addressed by this Statement, including coal, gold, and silver, as well as timber and grazing rights. Originally, the Board intended to address each category of resources in separate phases as noted in paragraph A2. Although in principle a broader application was desirable to several Board members, the majority believes that the Board has already devoted a substantial amount of time to the oil and gas standard and developing additional guidance for the other types of resources would significantly delay implementation of a broad standard. Therefore, because federal oil and gas resources represent the most significant portion of all federal natural resources, the majority of members felt it was important to begin recognizing them as soon as possible.

A10. Nonetheless, the majority of the members believe that the substance of the standards developed for federal oil and gas resources may serve as a good analogy for other categories of federal natural resources.<sup>6</sup> Therefore, while this Statement does not specifically address other types of federal natural resources, the Board believes that this Statement should be considered when applying SFFAS 34, *The Hierarchy of Generally Accepted Accounting Principles, Including the Application of Standards Issued by the Financial Accounting Standards Board*, to other types of federal natural resources. As a result, while not explicitly encouraging agencies to recognize other categories of natural resources, the Board included paragraph 9 to explicitly state that this Statement does not require or preclude entities from reporting information about other types of federally-owned natural resources; however, members believe this Statement should be considered in conjunction with SFFAS 7, *Accounting for Revenue and Other Financing Sources*, when applying SFFAS 34 to other types of federally-owned natural resources.

A11. The Board directed staff to apply the requirements of this Statement to other types of natural resources through the issuance in the future of a technical bulletin.

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## Fiduciary Oil and Gas Resources

A12. SFFAS 31, *Accounting for Fiduciary Activities*, par. 12, states that “Fiduciary assets may include assets other than cash, e.g., real or personal property held temporarily pending

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<sup>6</sup> SFFAS 34, Paragraph 7.

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disposition, or held long-term in a fiduciary capacity.” Both the original and revised EDs included a paragraph on fiduciary oil and gas resources that required similar reporting for fiduciary proved oil and gas reserves. However, one of the respondents to the revised ED raised a question of whether fiduciaries are required to value non-monetary assets. In addition, the Board discussed whether there are currently any oil and gas reserve activities that would meet the definition of fiduciary activity.<sup>7</sup> Since this Statement requires RSI reporting for federal oil and gas proved reserves and would not trigger reporting under SFFAS 31, the Board is deferring the issue of whether reporting should be required for fiduciary proved oil and gas reserves. No reporting on fiduciary oil and gas resources is required as a result of this Statement. The Board will revisit the issue of reporting on fiduciary oil and gas resources either through the issuance of the technical bulletin mentioned in paragraph A11 or when the Board revisits accounting and reporting for federal oil and gas resources in three years as discussed in paragraph A38.

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## Overview of Federal Oil and Gas Resources

A13. *Figure 1, Components of Federal Oil and Gas Resources*, presented after paragraph A27 identifies the universe of federal oil and gas resources (total resources). Total resources incorporate “original in-place” resources, that is, resources in the earth before human intervention. The components are those used in the industry. Information is available in varying degrees and with varying reliability for each component. The components are first separated into “undiscovered resources” and “reserves.” Generally, undiscovered resources are not under lease, while reserves are under lease.

### Undiscovered Resources

A14. The first major component of total resources is undiscovered resources. The undiscovered resources component is divided into the following subcomponents:

- a. **undiscovered non-recoverable resources**
- b. **undiscovered recoverable resources**
  - (1) **undiscovered conventionally recoverable resources**
  - (2) **undiscovered economically recoverable resources.**

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<sup>7</sup> Members questioned whether the federal government currently assumes any fiduciary responsibility for non-federal oil and gas leases beyond the collection of royalties.

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- A15. Each component and subcomponent can be further divided between onshore and offshore resources. Onshore resources consist of resources on federal lands. Offshore resources consist of resources on the Outer Continental Shelf (OCS). This division between onshore and offshore resources is important operationally because the source and volume of information varies.
- A16. There is no information available on undiscovered non-recoverable resources. These resources are not addressed or included in any type of assessment. Undiscovered non-recoverable resources are referred to as resources that are beyond conventional technologies to be estimated and are not assessed. However, in the realm of “original in-place” resources they may exist.
- A17. Information on the two subcomponents of undiscovered recoverable resources is available for offshore oil and gas resources. This information is based on national assessments performed by the Minerals Management Service (MMS) approximately every five years, with updates on a yearly basis for certain geographic locations. The assessment considers recent geophysical, geological, technological, and economic information and uses a geologic **play** analysis approach for resource appraisal. Information on undiscovered conventionally recoverable resources and undiscovered economically recoverable resources is provided in the MMS assessment.
- A18. For the onshore portion of undiscovered recoverable resources, the U.S. Geological Survey (USGS) formerly conducted national assessments. The last comprehensive national assessment was completed by the USGS in 1995, and since 2000 the USGS has been re-assessing **basins** of the U.S. that are considered to be priorities for the new assessment rather than assessing all of the basins of the U.S. As each basin is re-assessed, the assessment results are added to the assessment tables, and these new values replace the assessment results from 1995. The USGS assessment provides information on undiscovered conventionally recoverable resources but not on undiscovered economically recoverable resources like the MMS does.
- A19. Under existing Federal Accounting Standards Advisory Board (FASAB) accounting standards, there are no requirements to provide or present information about the undiscovered resource components in the financial statements. Information about **technically recoverable resources** was gathered and maintained by the Energy Information Administration (EIA) in the past. However, EIA no longer reports on the technically recoverable resources under federal lands. Therefore, as there is no reliable source for this type of information, federal reporting on onshore and offshore undiscovered recoverable resources is not required.



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## Reserves

A20. The second major component of total resources is **reserves**. The reserves component is divided into the following subcomponents as follows:

- a. **unproved reserves**
  - (1) **unproved possible reserves**
  - (2) **unproved probable reserves**
- b. **proved reserves**
  - (1) **proved undeveloped reserves**
  - (2) **proved developed reserves**
    - (a) **proved developed non-producing reserves**
    - (b) **proved developed producing reserves**

A21. Under existing FASAB accounting standards, there are no requirements to provide or present information about the unproved reserves components in the financial statements.

A22. Under the accounting standards proposed in the original ED, information about onshore and offshore unproved reserves would be included in the technically recoverable resources and reported as RSI. However, as noted in par. A19, although information about technically recoverable resources was gathered and maintained by the EIA in the past, EIA no longer reports on the technically recoverable resources under federal lands. Therefore, as there is no reliable source for this type of information, federal reporting on unproved reserves is not required.

A23. Quantitative information in relation to onshore and offshore proved reserves, including new discoveries, production, and **adjustments** is submitted to the EIA by oil and gas well operators once a year. The due date for operators to submit the information is April 15 for activities from the preceding calendar year.

A24. Under existing accounting standards, the bonus bid, rent (collected on the lease until oil and gas production begins), and royalty revenue (collected on production) are accounted for as a custodial activity (i.e., an amount collected for others) by MMS, the collecting entity. The collections and their distribution are reported on MMS's statement of custodial activities. Component entities receiving a distribution and the CFR of the United States government

recognize the revenue as a financing source in their respective statement of changes in net position or statement of operations and changes in net position.

A25. In addition to the above existing accounting standards, this Statement requires that the estimated federal royalty share of proved reserves be reported in RSI as estimated petroleum royalties by the component entity that is responsible for collecting royalties. The portion of the estimated petroleum royalty revenue designated to be distributed to others should also be reported in RSI.

A26. This Statement also requires that information on the quantity and consumption of proved reserves, including the sales volume, the sales value, the amount of royalty revenue, and the estimated value for royalty relief be provided as RSI.

A27. On the following page, *Figure 1 – Components of Federal Oil and Gas Resources* provides a summary of the information presented in the preceding paragraphs. The shaded boxes in the figure represent the availability of information as follows:

No quantity information available	
Technically recoverable resources quantity information provided by EIA at the national level <sup>8</sup>	
Proved reserves quantity information provided by EIA at the national level <sup>9</sup>	

The terms in Figure 1 are defined in Appendix D: Technical Terms under the subheading Definitions of Resource and Reserve Components and Subcomponents.

<sup>8</sup>Quantity information is currently only published at the national level; segregated information on the quantity of oil and gas resources under federal lands is not available.

<sup>9</sup>See footnote 8.

Figure 1 – Components of Federal Oil and Gas Resources

Accounting Standards	Components of Federal Oil and Gas Resources							
	Undiscovered Resources				Reserves			
	Undiscovered Non-Recoverable Resources	Technically Recoverable Resources			Proved Reserves			
		Undiscovered Recoverable Resources		Unproved Reserves				
		Undiscovered Conventionally Recoverable Resources	Undiscovered Economically Recoverable Resources	Unproved Possible Reserves	Unproved Probable Reserves	Proved Undeveloped Reserves	Proved Developed Reserves	
							Proved Developed Non-Producing Reserves	Proved Developed Producing Reserves
Existing Accounting Standards							Bonus bid, rent, royalty revenue accounted for as custodial activity by the component entity and recognized as a financing source on the CFR and component entity statement of operations and changes in net position	
New Accounting Standards							<ul style="list-style-type: none"> <li>Bonus bid, rent, royalty revenue accounted for as custodial activity by the component entity and recognized as a financing source on the CFR and component entity statement of operations and changes in net position                             <ul style="list-style-type: none"> <li>Asset value and revenue designated to be distributed to others reported as required supplementary information (RSI)</li> <li>Information on the quantity and consumption of proved reserves, including the sales volume, sales value, the amount of royalty revenue, and the estimated value for royalty relief reported as RSI</li> </ul> </li> </ul>	

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## Conceptual Aspects of Federal Oil and Gas Resources as an Asset for Estimated Petroleum Royalties and a Liability for the Portion of Revenue to be Distributed to Non-Federal Entities

### Recognition Criteria

A28. Statement of Federal Financial Accounting Concepts (SFFAC) 5, *Definitions of Elements and Basic Recognition Criteria for Accrual-Basis Financial Statements*, states that to be recognized as an element of the financial statements, an item must (a) meet the definition of an element of the financial statements and (b) be measurable. The term measurable means that a monetary amount can be determined with reasonable certainty or is reasonably estimable.<sup>10</sup>

A29. Measurement may require the use of estimates and approximations as well as an assessment, in a manner consistent with the attribute being measured, of the probability that future inflows or outflows of economic benefits or services will result from the item. Recognition decisions also incorporate the results of assessments of the materiality and benefit versus cost of recognizing the item measured. Thus, it is possible that an item that meets the basic recognition criteria would not be recognized due to measurement, materiality, or cost-benefit considerations.<sup>11</sup>

### Consideration of Asset Recognition or Disclosure

A30. Recognition of the federal government's estimated petroleum royalties from the production of federal oil and gas proved reserves as an asset was considered by the Board based on SFFAC 5, paragraphs 18 through 35.

A31. An asset for federal accounting purposes is a resource that embodies economic benefits or services that the federal government controls.<sup>12</sup>

A32. To meet the definition of an asset of the federal government, a resource must possess two characteristics. First, it must embody economic benefits or services that can be used in the

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<sup>10</sup>SFFAC 5, par. 5.

<sup>11</sup> SFFAC 5, par. 7.

<sup>12</sup>SFFAC 5, par. 18.

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future. Second, the government must control access to the economic benefits or services and, therefore, can obtain them and deny or regulate the access of other entities.<sup>13</sup>

- A33. First, the Board established which federal oil and gas resources were being considered. *Figure 1 – Components of Federal Oil and Gas Resources* presents the federal oil and gas resources that were considered. The two major components are “undiscovered resources” and “reserves.” All of the federal oil and gas resources qualify as federal government assets because the government can obtain economic benefits and regulate the access of other entities as provided under federal law.
- A34. Since all federal oil and gas resources controlled by the federal government are assets, the Board’s next step was to decide whether the federal oil and gas resources “asset” should be recognized on a federal component entity balance sheet. As noted in paragraph A28 above, the second criterion for recognition is that the asset “...be measurable.”
- A35. Estimates of the quantity of technically recoverable oil and gas resources were available through EIA in the past. With this quantity information, a monetary measure was technically feasible and, therefore, the asset qualified for consideration for recognition. However, the Board does not believe that the information is sufficiently reliable to be recognized in a cost-beneficial manner.
- A36. The EIA information on other than proved reserves is derived from sporadic and incomplete national assessments and annual submissions by oil and gas producers. This makes it particularly uncertain. In addition, since these reserves are not currently under lease, determining the royalty share may be misleading since it is a current value measure but the underlying asset may be restricted and production may never occur. For those resources that are not restricted, production may occur but the timing and amount of royalties are very uncertain. Thus, applying the same measurement technique to other than proved reserves may not result in a value that represents what it purports to represent. Therefore, federal oil and gas resources not yet in the “proved reserves” category would not be recognized on the federal balance sheet due to concerns regarding reliability of the proposed measure.
- A37. SFFAC 1, *Objectives of Federal Financial Reporting*, provides the following with respect to reliability:
160. Financial reporting should be reliable; that is, the information presented should be verifiable and free from bias and should faithfully represent what it purports to represent. To be reliable, financial reporting needs to be comprehensive. Nothing material should be omitted from the information necessary to represent faithfully the

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<sup>13</sup> SFFAC 5, par. 22.

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underlying events and conditions, nor should anything be included that would likely cause the information to be misleading to the intended report user. Reliability does not imply precision or certainty, but reliability is affected by the degree of estimation in the measurement process and by uncertainties inherent in what is being measured. Financial reporting may need to include narrative explanations about the underlying assumptions and uncertainties inherent in this process. Under certain circumstances, a properly explained estimate provides more meaningful information than no estimate at all.

A38. Concerning the proved oil and gas reserves from federal oil and gas resources, the Board believes that both the quantity and the estimated federal royalty share would be reliable. Thus, in this case, since the quantity of the estimated federal proved oil and gas reserves can be reliably estimated and converted to monetary terms (estimated federal royalty share), the Board believes the estimated federal royalty share of proved oil and gas reserves should be presented as basic information. However, members would like to have more information on the reliability of the valuation methodology before it makes a final decision on whether the information should be recognized on the face of the financial statements or disclosed in the notes to the financial statements. Therefore, the Board has decided to require the information to be reported in a schedule of estimated federal oil and gas petroleum royalties in RSI for three years. Before the end of the three-year period, the Board will make a determination as to whether the information will transition to basic information as financial statement recognition or note disclosure.

A39. The Board acknowledges that royalties received from federal oil and gas leases will continue to be recognized on the statement of changes in net position with non-exchange revenue rather than on the statement of net cost with other exchange revenue as long as the asset value is reported as RSI and not recognized in the financial statements with a corresponding depletion expense. However, as noted above, the Board would like to have more information before it makes a final decision regarding changes to revenue recognition.

A40. While the Board intends to require that the information transition to basic information as financial statement recognition or note disclosure, the Board acknowledges that new information might become available that would warrant continued reporting as RSI. The Board will consider its reporting options after additional information becomes available.

#### Measurement Attributes and Methods Considered

A41. The FASAB's projects to reexamine and expand its conceptual framework include a project on measurement attributes (i.e., the aspect of an item that is measured, such as, for example, its historical cost or replacement cost) for reporting purposes. This project follows logically from SFFAC 5, which states that an item's being measurable is a criterion for

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recognition in the financial statements but does not address measurement attributes or measurement methods.

- A42. As is true of other components of an expanded conceptual framework, the project on measurement attributes is expected to result in a concepts statement for the future guidance of, primarily, the Board itself. The statement may include definitions and a discussion of the features of different measurement attributes and methods as well as other concepts that should assist the Board in developing future standards. While the project on measurement attributes is underway, the Board will select the measurement attributes for each standard under deliberation based on available definitions.
- A43. Concerning the dollar amount to be reported for the estimated federal royalty share of proved reserves, the Board considered various measurement attributes and methods, including the following:
- a. Historical cost (historical proceeds) – The amount of cash, or its equivalent, paid to acquire an asset, commonly adjusted after acquisition for amortization or other allocations.
  - b. Fair value – The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.
  - c. Net realizable (settlement) value – The total non-discounted amount of cash, or its equivalent, into which an asset is expected to be converted in due course of business less direct costs, if any, necessary to make that conversion. The net realizable value requires a reasonable estimate of future flows (receipts and costs) associated with converting assets to cash.
  - d. Present (or discounted) value of future cash flows – The present or discounted value of future cash inflows into which an asset is expected to be converted in due course of business less present values of cash outflows necessary to obtain those inflows.
- A44. After deliberating on the above attributes and methods, the Board decided that defining a measurement attribute in terms that are common to the oil and gas industry would be the best approach. Therefore, the Board proposed to use a regional average first purchase price for oil and lease condensate, a regional average first purchase price for **natural gas plant liquids** (NGPLs), and a regional average wellhead price for gas to value federal estimated petroleum royalties. This measurement approach was included in the May 2007 ED.

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- A45. Also included in the May 2007 ED was an alternative view from the Board member representing the Congressional Budget Office, expressing the view that fair value is the appropriate basis for valuing federal oil and gas resources. At the time, the other Board members had rejected fair value because of the lack of current transactions between market participants involving the sale of the federal royalty share for proved oil and gas reserves.
- A46. In conjunction with the comment period on the May 2007 ED, the Board requested that the proposal be field tested by the U.S. Department of the Interior (DOI). After reviewing the results of the field testing performed by DOI (see paragraphs A61 through A68) and talking with DOI representatives (see paragraphs A69 and A70) about the alternative methodology that it developed, the Board determined that the estimates that are developed should approximate the present value of future federal royalty receipts on proved reserves known to exist as of the reporting date. The estimates should be based on the best information available at fiscal year-end, or as close to the fiscal year-end as possible. In addition, discount rates as of the reporting date for present value measurements of federal oil and gas assets and liabilities should be based on interest rates on marketable Treasury securities with maturities consistent with the cash flows being discounted.
- A47. While present value is typically considered to be a method for measuring fair value, the present value measurement approach required by this standard is based on an entity-specific discount rate, specifically the interest rates on marketable Treasury securities, and does not consider the price that market participants demand for bearing the uncertainty inherent in the cash flows (i.e., neither the cash flows nor the discount rate is adjusted for a market risk premium). A typical fair value measurement (e.g., Statement of Financial Accounting Standards (SFAS) 157, *Fair Value Measurements*<sup>14</sup>) is determined based on the assumptions that market participants would use in pricing the asset. A measurement that does not include an adjustment for the market risk premium would not represent a fair value measurement since market participants would include one in pricing the petroleum royalties. Therefore, the present value measurement approach required by this standard is not a market-based fair value measure.
- A48. There is some concern that DOI may not be able to implement and/or obtain a favorable audit opinion on the present value methodology that it proposed as a result of its field testing. To permit additional flexibility in the measurement methods for valuing federal estimated petroleum royalties, the Board has also determined that market-based methods for measuring fair value or other methods for measuring current price will be acceptable. Fair value incorporates the effects of uncertainty that are inherent in the cash flows expected in the future from oil and gas activities, including the effects of the additional return demanded by market participants to assume the risk of that uncertainty. Therefore, the

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<sup>14</sup> FASB Accounting Standards Codification™ (ASC) 820-10.



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standard provides for a measurement method that is based on either (1) the present value of future federal royalty receipts on proved reserves known to exist as of the reporting date using a risk-free discount rate without incorporating market risk, (2) market-based methods for measuring fair value, or (3) other methods for measuring current price.

#### Asset Valuation Methodology

A49. The Board believes that the detailed estimation methodology for valuing federal oil and gas resources should be developed by federal entities. In an environment heavily affected by changes in prices, technological advancements, economic and operating conditions, and known geological, engineering, and economic data, estimation methodologies may need to be regularly updated to reflect these changing conditions. Sources of information that were once available to preparers may be replaced or become obsolete. On the other hand, new and more reliable data sources may become available. Permitting the preparers flexibility in developing an estimation methodology that keeps pace with the environment will prevent the accounting standards from becoming outdated.

A50. EIA has been used as the source of information on proved reserves data in the past and may prove to continue to be the appropriate source for such information in the future. However, the Board has chosen not to explicitly designate EIA as the source of information; an explicit designation of the source of information would prevent the preparer from fully complying with the standards if the source were no longer available at some point in the future.

#### Use of Regional Data to Value the Federal Asset “Estimated Petroleum Royalties”

A51. The Board believes that the most relevant, reliable, and cost-beneficial measurement of “estimated petroleum royalties” would be obtained by using regional information. The Board believes this approach would provide conservative, representative regional values of estimated petroleum royalties without having to calculate the value on a field-by-field basis. The Board believes it would not be practicable to make calculations on a field-by-field basis. There are more than 60,000 leases maintained by DOI with approximately 115,000 producing wells.

#### Consideration of Liability Recognition or Disclosure

A52. Recognition of royalty distributions to non-federal entities as a liability was considered by the Board based on SFFAC 5 paragraphs 36 through 48.

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A53. A liability is a present obligation<sup>15</sup> of the federal government to provide assets or services to another entity at a determinable date, when a specified event occurs, or on demand.<sup>16</sup>

A54. A liability of the federal government has two essential characteristics. First, a liability constitutes a present obligation to provide assets or services to another entity. Second, either a law or an agreement or understanding between the government and another entity identifies conditions or events that will determine when the obligation will be settled.<sup>17</sup>

A55. Paragraph 15 requires that the component entity responsible for collecting royalties report the value of the federal government's estimated petroleum royalties in a schedule of estimated federal oil and gas petroleum royalties. The value of the estimated petroleum royalties would be based on the royalty share of the federal oil and gas resources classified as "proved reserves." In addition to the royalties that the component entity collects on proved reserves that are produced, it also collects lease sale and rent revenue from federal government oil and gas leases. The component entity distributes nearly all of these proceeds to others (e.g., the general fund of the U.S. Treasury, other federal agencies, and state governments) in accordance with legislated allocation formulas. The component entity also receives a very small portion of the revenue collected to fund its operations. The amount used to fund its operations is legislated by Congress as part of the component entity's annual appropriation. For example, the amount received by the component entity was approximately one percent (1%) of annual revenues collected in 2006.<sup>18</sup>

A56. The Board believes that in addition to presenting a schedule of the estimated petroleum royalties to be received, the component entity responsible for collecting royalties should also present a schedule of the estimated petroleum royalties to be distributed to others because nearly all of the revenue from royalties, lease sales, and rent are ultimately distributed to others (e.g., the general fund of the U.S. Treasury, other federal agencies, and state governments).

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<sup>15</sup> The term obligation is used in this Statement with its general meaning of a duty or responsibility to act in a certain way. It does not mean that an obligation of budgetary resources is required for a liability to exist in accounting or financial reporting or that a liability in accounting or financial reporting is required to exist for budgetary resources to be obligated.

<sup>16</sup> SFFAC 5, par. 39.

<sup>17</sup> SFFAC 5, pars. 41 through 48.

<sup>18</sup> The one percent was derived by dividing [Note 23. Custodial Distributions to MMS, Revenues to Fund Operations] by [Total Revenue on the Statement of Custodial Activity] for 2006.

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## Future Rights to Royalty Streams Identified for Sale

A57. When rights to a future royalty stream are identified to be sold, the value of those rights should be reported in RSI as “future royalty rights identified for sale.” Reporting the approximate value at the balance sheet date alerts the reader to the pending sale and the potential value of the asset to be sold.

A58. The value of the future royalty rights identified for sale is based on the specific field identified for sale. Because the fields are known, this provides a more field specific value for the rights identified to be sold.

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## Original Exposure Draft

A59. The original ED, *Accounting for Federal Oil and Gas Resources*, was issued May 21, 2007 with comments requested by September 21, 2007. However, because the Board received a request for the comment period to be extended and because few responses had been received, the Board agreed to extend the comment period until January 11, 2008.

## Comment Letters

A60. Eight comment letters were received on the original ED. The following points present a high-level summary of the comments received:

- a. The majority of respondents agreed with the overall concept of recognizing an asset for the federal government’s natural resources and a liability for the related royalty revenues designated to be distributed to others.
- b. Two of the eight respondents stated that standards on federal natural resources should include all federal natural resources and not be limited to only oil and gas resources.
- c. One of the eight respondents commented on the complex nature of the original ED.
- d. No respondents supported the use of the probabilistic method of estimation as proposed in the alternative view of the original ED.
- e. Two respondents supported the use of present value or fair value with discounting (similar to the alternative view proposal) instead of the valuation method as proposed in the original ED that utilizes the average first purchase or wellhead price.

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- f. The majority of respondents agreed that the numerous disclosures proposed in the original ED appeared excessive and might not pass a cost/benefit test.
  - g. There was general support for royalty relief disclosures.
  - h. Of the five respondents that directly addressed the question on fiduciary disclosures, four stated that the cost of such disclosures would outweigh any perceived benefits.
  - i. The majority of respondents supported the recommendation for more limited disclosures in the CFR. However, one respondent stated that because natural resources are sovereign assets, the major disclosures would more appropriately appear in the CFR and not agency financial statements.

## Field Testing

A61. In addition to the comment letters received on the original ED, the Board also considered the results of a field test of the proposed standards performed by a DOI field test team. The field test team consisted of MMS Offshore Minerals Management Economics and Resource Evaluation experts and petroleum engineers; Bureau of Land Management petroleum engineers and resource evaluation experts; and MMS Custodial Reporting Branch senior accountants with expertise in financial reporting.

A62. Field tests are part of FASAB's due process and help FASAB to establish effective standards. Participating federal entities volunteer to go through the exercise of "implementing" the proposed standards as if they were in place and then provide feedback to FASAB regarding the process. Field tests can proactively identify potential problems related to the implementation of proposed standards and allow FASAB to gather valuable information about implementation costs.

A63. The field test team presented the Board with a number of significant considerations, including the lack of availability of quantity information on proved reserves under federal lands. The original ED had proposed that the valuation of federal oil and gas resources be based on information to be provided by EIA on quantity of proved reserves under federal lands. However, this information has not been made available as of the date of the revised ED, and does not appear to be forthcoming.

A64. In addition to the reliance on proved reserves data required to be provided by EIA, the field test team noted a number of other concerns, including:

- a. the desire to divide proved reserves by type of commodity (e.g., **crude oil**, lease condensate, and natural gas) and compute the asset value separately;

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- b. the need to develop a methodology for determining what portion of all proved reserves fall under federal domain;
  - c. the need to exclude royalty relief volumes and estimate the value of commodities received in kind and delivered to the Department of Energy to fill the Strategic Petroleum Reserve;
  - d. the effect of intermediate production between the effective date of the reserves estimate and the effective date of the booked value;
  - e. the effect of estimates such as the royalty accrual and prior year production adjustments made in the current year;
  - f. how to distinguish between long and short-term liabilities for the associated liability for revenue distributions to others;
  - g. appropriate treatment of interest payments related to oil and gas or commodities other than oil and gas once the custodial provisions are deleted from SFFAS 7 (paragraphs 45, 275, and 277);
  - h. the impact of material intragovernmental transactions and eliminations on the year-end reporting process; and,
  - i. the need to revise all, or almost all, of the existing posting models in the accounting system.

A65. The field test team also completed a field test questionnaire using a present value approach. This questionnaire included many of the same concerns as noted in paragraphs A63 and A64 above. In addition, the present value approach also incorporated present value calculations for factors such as the present value of royalties received over time, estimates of future gas prices, transportation allowances, and discount and inflation rates.

A66. In both estimates (the ED view as well as the present value view), the field test team used share of production as a proxy for share of proved reserves. One of the members expressed concerns about the use of production as a proxy for underlying reserves because it assumes (1) the same percentage of reserves are brought to market each year from all locations (or at least, on average between federal and non-federal) and (2) too much year to year variance in production patterns makes underlying reserve estimates fluctuate by an equal amount.

A67. Staff asked an oil and gas analyst at the Congressional Budget Office for his thoughts on the methodology. He responded that he understands the concern with the first assumption

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because it is likely that not the same fraction of reserves will be accessed in each year. However, he stated that averaging between federal and non-federal would control for some of that variance, though it is not possible to know just how much. He stated that this simplifying assumption is fairly reasonable given the approximate nature of the analysis. The analyst noted that with the second assumption, the variance might be eliminated or reduced by using a moving average rather than a year-to-year measure. For example, a 5-year or 10-year moving average of total federal production over total production would control some of the yearly differences between federal and non-federal.

A68. The field test questionnaires were extremely useful in helping the Board develop the standards proposed in the revised ED.

#### Discussion with DOI Representatives

A69. In addition to the Board's consideration of the comment letters received and the field test questionnaires, three members of the field test team and two representatives from DOI's Office of the Secretary met with the Board at the October 23, 2008, meeting to discuss issues raised in its comment letter on the original ED and the related field test questionnaires.

A70. At that meeting, DOI representatives indicated that they would be open to having less detailed implementation guidance in the standards if they were given a longer implementation period (two to three years) with a phase-in from RSI to basic information, and the ability to return to FASAB for implementation guidance if a reasonable methodology could not be agreed to by the auditors.

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#### Revised Exposure Draft

A71. The revised ED, *Accounting for Federal Oil and Gas Resources*, was issued July 6, 2009, with comments requested by September 8, 2009.

A72. Upon release of the revised ED, notices and press releases were provided to The Federal Register, *FASAB News*, *The Journal of Accountancy*, *AGA Today*, *the CPA Journal*, *Government Executive*, *the CPA Letter*, *Government Accounting and Auditing Update*, the CFO Council, the Council of Inspectors General on Integrity and Efficiency, the Financial Statement Audit Network, and committees of professional associations generally commenting on exposure drafts in the past.

A73. This broad announcement was followed by direct mailings or e-mails of the revised ED to:

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- a. Relevant congressional committees: Senate Committee on Energy and Natural Resources, Senate Committee on Finance, Senate Committee on Indian Affairs, House Committee on Financial Services, and House Committee on Natural Resources;
  - b. Public interest groups and think tanks: National Congress of American Indians (NCAI), national and regional; Alliance to Save Energy; Brookings Institution; Cato Institute; Center on Budget and Policy Priorities; Citizens Against Government Waste; The Concord Coalition; The Heritage Foundation; National Parks Conservation Association (NPCA); Natural Resources Defense Council (NRDC); OMB Watch; Resources for the Future (RFF); Sierra Club; Urban Institute; and World Resources Institute (WRI);
  - c. Respondents to the prior ED (or their successors);
  - d. Agencies that manage and/or account for federal natural resources: DOI; Department of Agriculture (USDA), Deputy CFO; USDA Forest Service; and DOI Bureau of Land Management;
  - e. The Oil and Gas Industry: World Petroleum Council (WPC), American Petroleum Institute (API), Society of Petroleum Engineers (SPE), and Ryder Scott Company; and,
  - f. Other: DOI, Office of the Special Trustee (OST); Energy Information Administration (EIA); Department of Energy, Deputy CFO; Securities and Exchange Commission; U.S. Geological Service (USGS); and KPMG (DOI's financial statement audit partner).

A74. In addition, the ED was publicized during the FASAB Update session at the Financial Statement Audit Network monthly meeting on July 21, 2009, and at the Department of the Treasury's 19th Annual Government Financial Management Conference on August 5, 2009.

A75. To encourage responses, reminder notices were sent to the FASAB Listserv and each of the above individuals/organizations on August 20, 2009.

### Comment Letters

A76. Nine comment letters were received from the following sources:

	<b>FEDERAL (Internal)</b>	<b>NON-FEDERAL (External)</b>
Users, academics, others		2
Auditors	1	
Preparers and financial managers	6	

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A77. The following provides a high-level summary of the comments received on the revised ED:

- a. The majority of respondents agreed that federal entities should be provided with flexibility in developing the asset valuation estimation methodology. DOI also agreed with the provision of flexibility with the caveat that a more detailed implementation guide be developed.
- b. The majority of respondents agreed with the board's selection of present value of future federal royalty receipts on proved reserves known to exist as of the reporting date as the preferred measurement method. DOI also agreed with the preferred measurement method but noted that the proposed valuation from their field test questionnaire was based upon OMB's economic assumptions about future Treasury marketable security rates.
- c. Half of the respondents agreed with the board's proposal to permit an alternative market-based fair value measurement consistent with FASB SFAS 157, *Fair Value Measurement*, if it is not reasonably possible to estimate using present value. One of the respondents disagreed with the use of fair value based on SFAS 157 because the oil and gas market is so volatile. DOI also agreed with the provision of an alternative measurement method but disagreed with the use of fair value based on SFAS 157 because they do not think the asset should be measured at a market exit price<sup>19</sup> since it is extremely unlikely that the asset would ever be sold.
- d. The majority of respondents agreed that federal entities should be permitted to change their methodology for valuing the federal government's estimated petroleum royalties if environmental or other changes would provide for the development of an improved methodology. One respondent disagreed on the basis that it could impair the government's ability to prepare consolidated financial statements for the federal government.
- e. The majority of respondents agreed that it would be appropriate to provide guidance regarding reporting gains and losses from changes in assumptions and selecting the discount rates similar to that provided in SFFAS 33. DOI also agreed with the provision of guidance on reporting gains and losses with the caveat that a more detailed implementation guide be developed.
- f. Half of the respondents agreed with the disclosure requirements for oil and gas fiduciary activities. Two respondents disagreed because they have cost/benefit concerns. One respondent disagreed partly because of cost/benefit concerns and

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<sup>19</sup> Exit price is the price that would be received to sell an asset or paid to transfer a liability (FASB ASC 820-10-20).



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partly because fiduciaries are generally not required by other standards-setters to value non-cash assets. DOI agreed with the disclosures and indicated that the information could be fairly readily reported.

- g. All of the respondents agreed with the three-year phase-in of information from RSI to basic information. However, as discussed more in number A77i below, the majority of respondents would prefer that, following the three-year phase-in period, the information be presented as basic information in the notes rather than recognized on the face of the financial statements.
- h. There was not a consistent view among respondents regarding application of the standard to other types of natural resources. Two of the respondents agreed with the inclusion of paragraph 9 relating to other types of natural resources. One respondent did not believe that the ED provided enough detail to form a response. Another respondent preferred that FASAB explicitly require agencies to use valuation, accounting, and financial reporting methods consistent with the provisions of the final standard for all types of natural resources. Another respondent—DOI—provided some clarifying language that they believed would help fill a void in guidance that could lead to potentially inaccurate or inconsistent reporting.
- i. The majority of respondents agreed with the alternative view contained in the July 2009 revised ED, which proposed that, following the three-year transition period as RSI, the value of federal oil and gas resources and annual changes be disclosed as basic information in the notes, rather than recognized on the face of the financial statements. One respondent disagreed with the alternative view in the revised ED because they supported the eventual presentation of all natural resources on the face of federal financial statements. Another respondent disagreed with the alternative view in the revised ED on the basis that the quantity and value of oil and gas resources and related revenues and depletion expenses would be material to the financial statements of the entities reporting those items; therefore, the omission or misstatement of that information makes it probable that the judgment of a reasonable person relying on the information would be changed or influenced.

A78. The Board did not rely on the number in favor of or opposed to a given position. Information about the respondents' majority view is provided only as a means of summarizing the comments. The Board considered the arguments in each response and weighed the merits of the points raised.

A79. After deliberating the comments received on the revised exposure draft, the majority of the Board voted to require the information as RSI for three years and then put the project back on the agenda after two years to decide whether the asset would be recognized in the financial statements or disclosed in the notes. The Board plans to utilize the experience

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gained by DOI and others during the RSI period to inform their decision regarding financial statement recognition versus note disclosure.

A80. After considering respondents' views on applying the standard on accounting for federal oil and gas resources to other types of natural resources, the Board directed staff to apply the requirements of this Statement to other types of natural resources through the issuance of a technical bulletin. A technical bulletin will provide another opportunity for respondents to directly comment on the standards as they relate to other types of natural resources.

A81. After debating the advantages and disadvantages of limiting the alternative measurement method to SFAS 157 fair value, as had been proposed in the revised ED, the Board unanimously agreed to broaden the acceptable alternative measurement methods during the RSI phase to allow for greater flexibility in development of a valuation methodology.

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## Board Approval

A82. This statement was approved for issuance by all members of the Board. The written ballots are available for public inspection at the FASAB's offices.

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Appendix B: Illustrations

**PLEASE NOTE:** The examples in this Appendix are illustrative only; they are populated with *hypothetical* amounts and do not represent authoritative guidance. Illustrations are not provided for all requirements.

## REQUIRED SUPPLEMENTARY INFORMATION

<b>Schedule of Estimated Federal Oil and Gas Petroleum Royalties Asset Value as of September 30, 20X3 (in thousands)</b>						
<b>Offshore</b>	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	<b>Region 4</b>	<b>Region 5</b>	<b>Total</b>
Dry Gas	\$4,500,000	\$3,960,000	\$2,880,000	\$3,240,000	\$3,420,000	\$18,000,000
Wet Gas	500,000	440,000	320,000	360,000	380,000	2,000,000
NGPLs	500,000	440,000	320,000	360,000	380,000	2,000,000
Oil	5,500,000	4,840,000	3,520,000	3,960,000	4,180,000	22,000,000
Condensate	250,000	220,000	160,000	180,000	190,000	1,000,000
<b>Total Offshore</b>	<b><u>\$11,250,000</u></b>	<b><u>\$9,900,000</u></b>	<b><u>\$7,200,000</u></b>	<b><u>\$8,100,000</u></b>	<b><u>\$8,550,000</u></b>	<b><u>\$45,000,000</u></b>
<b>Onshore</b>	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	<b>Region 4</b>	<b>Region 5</b>	<b>Total</b>
Dry Gas	\$2,625,000	\$2,310,000	\$1,680,000	\$1,890,000	\$1,995,000	\$10,500,000
Wet Gas	250,000	220,000	160,000	180,000	190,000	1,000,000
NGPLs	250,000	220,000	160,000	180,000	190,000	1,000,000
Oil	3,000,000	2,640,000	1,920,000	2,160,000	2,280,000	12,000,000
Condensate	125,000	110,000	80,000	90,000	95,000	500,000
<b>Total Onshore</b>	<b><u>\$6,250,000</u></b>	<b><u>5,500,000</u></b>	<b><u>\$4,000,000</u></b>	<b><u>\$4,500,000</u></b>	<b><u>\$4,750,000</u></b>	<b><u>\$25,000,000</u></b>
<b>Total Offshore and Onshore</b>	<b><u>\$17,500,000</u></b>	<b><u>\$15,400,000</u></b>	<b><u>\$11,200,000</u></b>	<b><u>\$12,600,000</u></b>	<b><u>\$13,300,000</u></b>	<b><u>\$70,000,000</u></b>

**Schedule of Estimated Federal Oil and Gas Petroleum Royalties**  
**Asset Value as of September 30, 20X2**  
(in thousands)

<b>Offshore</b>	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	<b>Region 4</b>	<b>Region 5</b>	<b>Total</b>
Dry Gas	\$5,250,000	\$4,620,000	\$3,360,000	\$3,780,000	\$3,990,000	\$21,000,000
Wet Gas	1,000,000	880,000	640,000	720,000	760,000	4,000,000
NGPLs	1,000,000	880,000	640,000	720,000	760,000	4,000,000
Oil	7,250,000	6,380,000	4,640,000	5,220,000	5,510,000	29,000,000
Condensate	500,000	440,000	320,000	360,000	380,000	2,000,000
<b>Total Offshore</b>	<b><u>\$15,000,000</u></b>	<b><u>\$13,200,000</u></b>	<b><u>\$9,600,000</u></b>	<b><u>\$10,800,000</u></b>	<b><u>\$11,400,000</u></b>	<b><u>\$60,000,000</u></b>
<b>Onshore</b>	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	<b>Region 4</b>	<b>Region 5</b>	<b>Total</b>
Dry Gas	\$4,000,000	\$3,520,000	\$2,560,000	\$2,880,000	\$3,040,000	\$16,000,000
Wet Gas	500,000	440,000	320,000	360,000	380,000	2,000,000
NGPLs	500,000	440,000	320,000	360,000	380,000	2,000,000
Oil	4,750,000	4,180,000	3,040,000	3,420,000	3,610,000	19,000,000
Condensate	250,000	220,000	160,000	180,000	190,000	1,000,000
<b>Total Onshore</b>	<b><u>\$10,000,000</u></b>	<b><u>\$8,800,000</u></b>	<b><u>\$6,400,000</u></b>	<b><u>7,200,000</u></b>	<b><u>\$7,600,000</u></b>	<b><u>\$40,000,000</u></b>
<b>Total Offshore and Onshore</b>	<b><u>\$25,000,000</u></b>	<b><u>\$22,000,000</u></b>	<b><u>\$16,000,000</u></b>	<b><u>\$18,000,000</u></b>	<b><u>\$19,000,000</u></b>	<b><u>\$100,000,000</u></b>

<b>Schedule of Estimated Federal Oil and Gas Petroleum Royalties to be Distributed to Others as of September 30 (in thousands)</b>			
		<b>20X3</b>	<b>20X2</b>
<i>Other Federal Agencies</i>			
	Department of the Treasury	\$56,000,000	\$80,000,000
	Department of Energy	420,000	600,000
	Other <sup>20</sup>	1,330,000	1,900,000
<i>Indian Tribes and Agencies</i>		350,000	500,000
<i>States and Others</i>		10,500,000	15,000,000
<b>Total Estimated Petroleum Royalties to be Distributed to Others</b>		<b><u>\$68,600,000</u></b>	<b><u>\$98,000,000</u></b>

### Management of Federal Oil and Gas Resources

The Minerals Management Service (MMS) plays an integral part in the implementation of the President's national energy policy (NEP). The NEP is a comprehensive strategy designed to secure America's energy future by reducing dependence on foreign sources, increasing domestic fossil fuel production, improving energy conservation efforts, and developing alternative and renewable energy sources. The MMS is responsible for managing the nation's oil and natural gas resources on the Outer Continental Shelf (OCS) and the mineral revenues from the OCS and federal lands. The MMS management process can be broken down into six essential analysis components: pre-leasing, post-leasing and pre-production, production and post-production, revenue collection, fund disbursement, and revenue compliance.

### Stewardship Policies for Federal Oil and Gas Resources

The MMS's responsibilities as stewards of the physical oil and gas resources on the OCS begin when the MMS conducts pre-leasing analysis activities, which include the assessment of oil and gas resources that may be offered for lease. Following the pre-leasing assessment, the MMS develops a plan for offering those resources to developers. In the case of oil and gas

<sup>20</sup>Material distributions should be listed separately by entity.

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development, this planning process is designed to consider both the environmental and economic concerns of the nation by providing opportunities for input from the public, the private sector, states, and Congress. The MMS conducts public planning processes for each individual lease sale.

Once a sale is completed, the MMS evaluates the bids to ensure that the government will receive fair market value. The evaluation determines whether the bid can be accepted and a lease issued. Once a lease is assigned to a winning bidder, the MMS begins post-leasing and pre-production activities. These activities include a permitting and approval process for all exploration, development, and production activities proposed by the lease operators. MMS staff inspects each operation in order to confirm that all activities are conducted in an environmentally and physically safe manner. Similar inspections also occur during the production and post-production activities to help ensure the federal government is receiving accurate royalties from production and facilities are decommissioned in a manner that protects the environment.

Once a lease is in place, the federal government's share of production from both offshore and onshore operations may be recovered as royalty-in-value (RIV) or royalty-in-kind (RIK). Federal oil and gas leasing laws and lease terms provide the government with the option of receiving production royalty payments either in money ("in value") or oil and gas production ("in kind"). Through royalty revenue collection and fund disbursement, the MMS achieves optimal value by ensuring that all revenues from federal oil and gas leases are efficiently, effectively, and accurately collected, accounted for, and disbursed to states, other federal component entities, and the U.S. Treasury. The MMS also performs revenue compliance activities to ensure the federal government has received fair market value and that companies comply with applicable laws, regulations, and lease terms.

Through this mineral asset management process, the MMS serves as a leading mineral asset manager for the federal government, the states, and the American people.

### **Future Royalty Streams Identified for Sale**

Future royalty streams from two specific oil fields have been identified to be sold.

The estimated value of the future royalty stream identified to be sold from field number one in the Gulf of Mexico is \$4.8 million based on the following calculation: The royalty stream from one million barrels are to be sold at a \$40.00 sale price per barrel per field number one first purchase price for oil with a 12 percent royalty rate for field number one.

The estimated value of the future royalty stream identified to be sold from field number two in the Gulf of Mexico is \$2.7 million based on the following calculation: The royalty stream from 750 thousand barrels are to be sold at a \$30.00 sale price per barrel per field number two first purchase price for oil with a 12 percent royalty rate for field number two.

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The future royalty streams are expected to be sold sometime during the next fiscal year.



**Revenue Reported by Category**  
**Fiscal year 20X3**  
**(in thousands)**

	Federal Offshore	Federal Onshore	Total
Dry Gas Royalty	\$900,000	\$200,000	\$1,100,000
Wet Gas Royalty	600,000	100,000	700,000
NGPLs Royalty	300,000	100,000	400,000
Oil Royalty	1,500,000	300,000	1,800,000
Lease Condensate Royalty	<u>100,000</u>	<u>40,000</u>	<u>140,000</u>
<b>Subtotal</b>	\$3,400,000	\$740,000	\$4,140,000
Rent	\$200,000	\$40,000	\$240,000
Bonus Bid	<u>2,000</u>	<u>0</u>	<u>2,000</u>
<b>Subtotal</b>	<u>\$202,000</u>	<u>\$40,000</u>	<u>\$242,000</u>
<b>Total</b>	<u><b>\$3,602,000</b></u>	<u><b>\$780,000</b></u>	<u><b>\$4,382,000</b></u>

**Revenue Reported by Category**  
**Fiscal year 20X2**  
(in thousands)

	Federal Offshore	Federal Onshore	Total
Dry Gas Royalty	\$1,000,000	\$225,000	\$1,225,000
Wet Gas Royalty	700,000	150,000	850,000
NGPLs Royalty	400,000	150,000	550,000
Oil Royalty	1,600,000	325,000	1,925,000
Lease Condensate Royalty	<u>100,000</u>	<u>60,000</u>	<u>160,000</u>
<b>Subtotal</b>	<b>\$3,800,000</b>	<b>\$910,000</b>	<b>\$4,710,000</b>
Rent	\$200,000	\$50,000	\$250,000
Bonus Bid	<u>3,000</u>	<u>0</u>	<u>3,000</u>
<b>Subtotal</b>	<b><u>\$203,000</u></b>	<b><u>\$50,000</u></b>	<b><u>\$253,000</u></b>
<b>Total</b>	<b><u>\$4,003,000</u></b>	<b><u>\$960,000</u></b>	<b><u>\$4,963,000</u></b>

The above tables of revenue reported by category presents royalty revenue for dry gas, wet gas, natural gas plant liquids (NGPLs), oil and lease condensate, as well as rent revenue and bonus bid revenue, by offshore leases and by onshore leases for the current and prior reporting periods. In addition, totals for the dry and wet gas royalty revenue categories, NGPLs royalty revenue category, oil and lease condensate royalty revenue categories, the rent revenue category, and the bonus bid revenue category are reported, with a total for all revenue reported.

**Estimated Petroleum Royalties  
End of Fiscal Year 20X3**

	Quantity (in thousands)	Purchase Price (\$)	Royalty Rate (%)
Dry Gas (Mcf)	60,100,000,000	\$4.00/Mcf	14.0%
Wet Gas (Mcf)	40,000,000,000	\$4.00/Mcf	15.0%
NGPLs (Bbl)	2,000,000	\$23.00/Bbl	9.0%
Oil (Bbl)	11,000,000	\$40.00/Bbl	13.0%
Lease Condensate (Bbl)	2,100,000	\$29.00/Bbl	15.0%

**Estimated Petroleum Royalties  
End of Fiscal Year 20X2**

	Quantity (in thousands)	Purchase Price (\$)	Royalty Rate (%)
Dry Gas (Mcf)	58,100,000,000	\$5.00/Mcf	12.0%
Wet Gas (Mcf)	36,800,000,000	\$5.00/Mcf	13.0%
NGPLs (Bbl)	1,900,000	\$24.00/Bbl	8.0%
Oil (Bbl)	10,000,000	\$42.00/Bbl	11.0%
Lease Condensate (Bbl)	2,000,000	\$30.00/Bbl	13.0%

The tables above provide the quantity, purchase price, and royalty rate by category of estimated petroleum royalties at the end of the current and prior reporting periods.

**Federal Regional Oil and Gas Sales Information**

The tables on the following pages reflect sales volume, sales value, royalty revenue earned, and estimated value for royalty relief information for fiscal year 20XX.

Sales volume represents the quantity of a mineral commodity sold during the reporting period. Sales value represents the dollar value of the mineral commodity sold during the reporting period. Royalty revenue earned represents a stated share or percentage of the value of the mineral commodity produced.

Royalty relief is the reduction, modification, or elimination of any royalty payment due to promote development, increase production, or encourage production of marginal resources on certain leases or categories of leases. The estimated value for royalty relief is an approximated calculation of royalty relief. The estimated value for royalty relief is calculated based on a formula developed by the Department of the Interior.

The sales volume, sales value, royalty revenue earned, and the estimated value for royalty relief are presented on a regional basis. The information is presented on a regional basis to provide users of the financial statements with the regional variances in the prices of oil and gas for decision-making purposes, to reflect the amount of royalty relief granted and to forecast future royalty revenue.

**Federal Regional Oil and Gas Information**  
**FY 20XX Dry Gas Information**  
(in thousands)

Region	Sales Volume (Mcf)	Sales Value (\$)	Royalty Revenue Earned (\$)	Estimated Value for Royalty Relief (\$)
[Region 1]	2,800,000	\$8,100,000	\$1,200,000	N/A
[Region 2]	2,900,000	7,300,000	1,100,000	N/A
[Region 3]	3,000,000	7,700,000	1,200,000	4,000,000
[Region 4]	2,800,000	6,200,000	900,000	N/A
[Region 5]	<u>2,700,000</u>	<u>4,500,000</u>	<u>700,000</u>	<u>N/A</u>
<b>Totals</b>	<b><u>14,200,000</u></b>	<b><u>\$33,800,000</u></b>	<b><u>\$5,100,000</u></b>	<b><u>\$4,000,000</u></b>

**FY 20XX Wet Gas Information**  
(in thousands)

Region	Sales Volume (Mcf)	Sales Value (\$)	Royalty Revenue Earned (\$)	Estimated Value for Royalty Relief (\$)
[Region 1]	1,800,000	\$5,400,000	\$800,000	N/A
[Region 2]	1,900,000	4,800,000	700,000	N/A
[Region 3]	2,000,000	5,100,000	800,000	N/A
[Region 4]	1,800,000	4,100,000	600,000	N/A
[Region 5]	<u>1,800,000</u>	<u>3,000,000</u>	<u>400,000</u>	<u>N/A</u>
<b>Totals</b>	<b><u>9,300,000</u></b>	<b><u>\$22,400,000</u></b>	<b><u>\$3,300,000</u></b>	<b><u>N/A</u></b>

**FY 20XX Natural Gas Plant Liquids (NGPLs) Information**  
 (in thousands)

Region	Sales Volume (Bbl)	Sales Value (\$)	Royalty Revenue Earned (\$)	Estimated Value for Royalty Relief (\$)
[Region 1]	500,000	\$7,100,000	\$1,000,000	N/A
[Region 2]	400,000	5,700,000	800,000	N/A
[Region 3]	500,000	10,200,000	1,400,000	3,200,000
[Region 4]	400,000	8,900,000	1,300,000	N/A
[Region 5]	<u>300,000</u>	<u>7,200,000</u>	<u>1,100,000</u>	<u>N/A</u>
<b>Totals</b>	<b><u>2,100,000</u></b>	<b><u>\$39,100,000</u></b>	<b><u>\$5,600,000</u></b>	<b><u>\$3,200,000</u></b>

**FY 20XX Oil Information**  
 (in thousands)

Region	Sales Volume (Bbl)	Sales Value (\$)	Royalty Revenue Earned (\$)	Estimated Value for Royalty Relief (\$)
[Region 1]	300,000	\$4,500,000	\$700,000	N/A
[Region 2]	300,000	5,600,000	800,000	N/A
[Region 3]	100,000	1,800,000	100,000	N/A
[Region 4]	4,500,000	11,500,000	1,800,000	N/A
[Region 5]	<u>4,500,000</u>	<u>9,100,000</u>	<u>1,700,000</u>	<u>N/A</u>
<b>Totals</b>	<b><u>9,700,000</u></b>	<b><u>\$32,500,000</u></b>	<b><u>\$5,100,000</u></b>	<b><u>N/A</u></b>

**FY 20XX Lease Condensate Information**  
 (in thousands)

Region	Sales Volume (Bbl)	Sales Value (\$)	Royalty Revenue Earned (\$)	Estimated Value for Royalty Relief (\$)
[Region 1]	80,000	500,000	70,000	N/A
[Region 2]	70,000	600,000	90,000	N/A
[Region 3]	50,000	200,000	20,000	N/A
[Region 4]	500,000	1,200,000	200,000	N/A
[Region 5]	<u>500,000</u>	<u>1,000,000</u>	<u>190,000</u>	<u>N/A</u>
<b>Totals</b>	<b><u>1,200,000</u></b>	<b><u>\$3,500,000</u></b>	<b><u>\$570,000</u></b>	<b><u>N/A</u></b>

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## Appendix C: Abbreviations

ASC	FASB Accounting Standards Codification™
Bbl	Barrels
CFR	Consolidated Financial Report
DOI	Department of the Interior
ED	Exposure Draft
EIA	Energy Information Administration
FASAB	Federal Accounting Standards Advisory Board
FASB	Financial Accounting Standards Board
Mcf	Thousand Cubic Feet
MMS	Minerals Management Service
OCS	Outer Continental Shelf
NGPLs	Natural Gas Plant Liquids
RSI	Required Supplementary Information
SFFAC	Statement of Federal Financial Accounting Concepts
SFAS	Statement of Financial Accounting Standards
SFFAS	Statement of Federal Financial Accounting Standards
U.S.	United States
USGS	U.S. Geological Survey

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## Appendix D: Technical Terms

The terms explained in Appendix D have specific technical meanings within the oil and gas industry and may be useful in applying the requirements of this Statement.

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### Definitions of Resource and Reserve Components and Subcomponents

Provided below are definitions used by federal entities to describe oil and gas resource and reserve components and subcomponents.<sup>21</sup> This section of Appendix D defines the terms used in *Figure 1 – Components of Federal Oil and Gas Resources*.

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### Undiscovered Resources

Resources estimated from broad geologic knowledge or theory and existing outside of known fields or known accumulations are undiscovered resources. Undiscovered resources can exist in untested prospects on unleased acreage, or on undrilled lease acreage, or in known fields. In known fields, undiscovered resources occur in undiscovered **pools** that are controlled by distinctly separate structural features or stratigraphic conditions.

The Mineral Management Service (MMS) and the U.S. Geological Survey (USGS) formerly conducted national assessments of undiscovered oil and gas resources together. The former was responsible for the offshore while the latter was responsible for onshore and state waters. The last such assessment was in 1995. MMS updates their assessment approximately every five years in accordance with DOI's five-year leasing program, with the last update in 2006.<sup>22</sup> Since 1995, the USGS has not conducted an overall update for onshore and state waters, but has conducted assessments updates on a basin or area level.

The assessment considers recent geophysical, geological, technological, and economic information and uses a geologic play analysis approach for resource appraisal.

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<sup>21</sup> Unless otherwise noted, the definitions in this section were adapted from (1) the OCS Report, Estimated Oil and Gas Reserves, Gulf of Mexico, December 31, 2000, MMS 2003-050; available online at <https://www.gomr.mms.gov/PDFs/2003/2003-050.pdf>; last accessed December 2, 2009 and (2) the OCS Report, Estimated Oil and Gas Reserves Pacific Outer Continental Shelf as of December 31, 1997, MMS 99-0023; available online at <http://www.mms.gov/omm/pacific/offshore/oil-gaspdfs/99-0023.pdf>; last accessed December 2, 2009.

<sup>22</sup> MMS Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006 (MMS 2006 Assessment); available online at <http://www.mms.gov/revaldiv/PDFs/2006NationalAssessmentBrochure.pdf>; last accessed December 2, 2009.

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Undiscovered resources are **hydrocarbons** estimated on the basis of geologic knowledge and theory to exist outside of known accumulations. They are presumed to occur in unmapped and unexplored areas. The speculative and hypothetical resource categories comprise undiscovered resources. Undiscovered resources are classified as either undiscovered non-recoverable resources or undiscovered recoverable resources.

- Undiscovered Non-Recoverable Resources

The portion of undiscovered petroleum-initially-in-place quantities not currently considered to be recoverable. A portion of these quantities may become recoverable in the future as commercial circumstances change, technological developments occur, or additional data are acquired.

- Undiscovered Recoverable Resources

An assessment provides estimates of undiscovered recoverable resources in two categories for federal offshore oil and gas resources. However assessments for federal onshore oil and gas resources provide information for only one, the undiscovered, conventionally recoverable resources. Both are described below:

1. Undiscovered, conventionally recoverable resources: The portion of the hydrocarbon potential that is producible, using present or reasonably foreseeable technology, without any consideration of economic feasibility.<sup>23</sup>
2. Undiscovered, economically recoverable resources: The portion of the undiscovered conventionally recoverable resources that is economically recoverable under imposed economic scenarios.

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## Reserves

In accordance with the Society of Petroleum Engineers (SPE), the World Petroleum Congresses (WPC), and the American Association of Petroleum Geologists (AAPG), the definition for “reserves” and the following explanatory paragraphs are presented as follows:<sup>24</sup>

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<sup>23</sup>MMS Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation’s Outer Continental Shelf, 2003 Update; available online at <http://www.mms.gov/revaldiv/PDFs/2003NationalAssessmentUpdate.pdf>; last accessed December 2, 2009.

<sup>24</sup> WPC/SPE/AAPG Petroleum Reserves Definitions – 1997; available online at [http://www.spe.org/spe-site/spe/spe/industry/reserves/Petroleum\\_Reserves](http://www.spe.org/spe-site/spe/spe/industry/reserves/Petroleum_Reserves); last accessed December 2, 2009.



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Reserves are those quantities of petroleum which are anticipated to be commercially recovered from known accumulations from a given date forward. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data.

The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either 1) unproved or 2) proved.

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## Unproved Reserves

After a lease qualifies under Title 30, Section 250.115/116 of the Code of Federal Regulations, the MMS Field Naming Committee reviews the new producible lease to assign it to an existing field or, if the lease is not associated with an established geologic structure, to a new field. Regardless of where the lease is assigned, the reserves associated with the lease are initially considered to be unproved reserves. Unproved reserves are based on geologic or engineering information similar to that used in estimates of proved reserves, but, technical, contractual, economic, or regulatory uncertainties preclude such reserves from being classified as proved.

Unproved reserves may be divided into two subclassifications, possible and probable, which are similarly based on the level of uncertainty.

Unproved possible reserves are less certain than unproved probable reserves and can be estimated with a low degree of certainty, which is insufficient to indicate whether they are more likely to be recovered than not. **Reservoir** characteristics are such that a reasonable doubt exists that the project will be commercial. After a lease qualifies under Title 30, Section 250.115/116 of the Code of Federal Regulations, the reserves associated with the lease are initially classified as unproved possible.

Unproved probable reserves are less certain than proved reserves and can be estimated with a degree of certainty sufficient to indicate they are more likely to be recovered than not. Reserves in fields for which a schedule leading to a Development and Production Plan (DPP) has been submitted to the MMS have been classified as unproved probable.

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## Proved Reserves

Proved reserves can be estimated with reasonable certainty to be recoverable under current economic conditions, such as prices and costs prevailing at the time of the estimate. Proved reserves must either have facilities that are operational at the time of the estimate to process and

transport those reserves to market or a commitment or reasonable expectation to install such facilities in the future. Proved reserves can be subdivided into undeveloped and developed.

Proved undeveloped reserves are classified proved undeveloped when a relatively large expenditure is required to install production and/or transportation facilities, a commitment by the operator is made, and a timeframe to begin production is established. Proved undeveloped reserves are reserves expected to be recovered from (1) yet undrilled wells, (2) deepening existing wells, or (3) existing wells for which a relatively large expenditure is required for recompletion.

Proved developed reserves are classified as proved developed when the reserves are expected to be recovered from existing wells (including reserves behind pipe). Reserves are considered developed only after necessary production and transportation equipment have been installed or when the installation costs are relatively minor. Proved developed reserves are subcategorized as producing or non-producing. This distinction is made at the reservoir level and not at the field level.

- Any developed reservoir in a developed field that has not produced or has not had sustained production during the past year is considered to contain proved developed non-producing reserves. This category includes reserves contained in non-producing reservoirs, reserves contained behind-pipe, and reservoirs awaiting well workovers or transportation facilities.
- Once the first reservoir in a field begins production, the reservoir is considered to contain proved developed producing reserves, and the field is considered on production. If a reservoir had sustained production during the last year, it is considered to contain proved developed producing reserves.

End of the terms in Figure 1 that are defined under the subheading **Definitions of Resource and Reserve Components and Subcomponents**

### Other Definitions

**Adjustments:** The quantity which preserves an exact annual reserves balance within each State or State subdivision. These adjustments are the yearly changes in the published reserve estimates that cannot be attributed to the estimates for other reserve change categories because of the survey and statistical estimation methods employed. For example, variations as a result of changes in the operator frame, different random samples or imputations for missing or unreported reserve changes, could contribute to adjustments.<sup>25</sup>

<sup>25</sup> Energy Information Administration, U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report, Glossary (EIA 2007 Annual Report Glossary); available online at [http://www.eia.doe.gov/oil\\_gas/natural\\_gas/data\\_publications/crude\\_oil\\_natural\\_gas\\_reserves/cr.html](http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/crude_oil_natural_gas_reserves/cr.html); last accessed December 2, 2009.

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**Basin:** A depression in the Earth's surface that collects sediment (loose, uncemented pieces of rock or minerals).<sup>26</sup>

**Bonus Bid:** Leases issued in areas known to contain minerals are awarded through a competitive bidding process. A bonus bid, as used in this Statement, represents the cash consideration paid to the United States by the successful bidder for a mineral lease. The payment is made in addition to the rent and royalty obligations specified in the lease.<sup>27</sup>

**Crude Oil:** A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Crude oil may also include: 1) small amounts of hydrocarbons that exist in the gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well gas in lease separators, and that subsequently are commingled with the crude oil stream<sup>28</sup> without being separately measured; and, 2) small amounts of nonhydrocarbons produced with the oil.<sup>29</sup>

**Dry Gas:** The actual or calculated volumes of natural gas which remain after: 1. The liquefiable hydrocarbon portion has been removed from the gas stream (i.e., gas after lease, field, and/or plant separation) 2. Any volumes of nonhydrocarbon gases have been removed where they occur in sufficient quantity to render the gas unmarketable.<sup>30</sup>

**Estimated Petroleum Royalties:** The estimated end-of-period value of the federal government's royalty share of proved oil and gas reserves from federal oil and gas resources.

**Estimated Production:** The volumes of oil and gas that are extracted or withdrawn from reservoirs during the report year.

**Estimated Value for Royalty Relief:** The estimated value for royalty relief is the calculated approximation of royalty relief based on a formula developed by DOI.

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<sup>26</sup> The USGS "Geologic Glossary"; available online at <http://www.nature.nps.gov/Geology/usgsnps/misc/glossaryAtoC.html>; last accessed December 2, 2009.

<sup>27</sup> Glossary of Mineral Terms, Minerals Revenue Management, Minerals Management Service, U.S. Department of the Interior (MRM Glossary of Mineral Terms); available online at <http://www.mrm.mms.gov/Stats/pdfdocs/glossary.pdf>; last accessed December 2, 2009.

<sup>28</sup> A crude oil stream is crude oil produced in a particular field or a collection of crude oils with similar qualities from fields in close proximity, which the petroleum industry usually describes with a specific name, such as West Texas Intermediate (EIA-182 Domestic Crude Oil First Purchase Report Instructions; available online at [http://www.eia.doe.gov/pub/oil\\_gas/petroleum/survey\\_forms/eia182i.pdf](http://www.eia.doe.gov/pub/oil_gas/petroleum/survey_forms/eia182i.pdf); last accessed December 2, 2009).

<sup>29</sup> EIA 2007 Annual Report Glossary.

<sup>30</sup> EIA Glossary, available at <http://www.eia.doe.gov/glossary/>; last accessed December 1, 2009.

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**Extensions:** The reserves credited to a reservoir because of enlargement of its proved area. Normally the ultimate size of newly discovered fields, or newly discovered reservoirs in old fields, is determined by wells drilled in years subsequent to discovery. When such wells add to the proved area of a previously discovered reservoir, the increase in proved reserves is classified as an extension.<sup>31</sup>

**Federal Oil and Gas Resources:** Oil and gas resources over which the federal government may exercise sovereign rights with respect to exploration and exploitation and from which the federal government has the authority to derive revenues for its use. Federal oil and gas resources do not include resources over which the federal government acts as a fiduciary for the benefit of a non-federal party.

**Field:** An area consisting of a single reservoir or multiple reservoirs all grouped on, or related to, the same general geological structural feature and/or stratigraphic trapping condition. There may be two or more reservoirs in a field that are separated vertically by impervious strata, laterally by local geologic barriers, or by both. The area may include one lease, a portion of a lease, or a group of leases with one or more wells that have been approved as producible.<sup>32</sup>

**First Purchase Price:** The actual amount paid by the first purchaser for crude oil as it leaves the lease on which it was produced.<sup>33</sup> A “first purchase” constitutes a transfer of ownership of crude oil during or immediately after the physical removal of the crude oil from a production property for the first time.

**Gas:** A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in natural underground reservoirs at reservoir conditions.<sup>34</sup>

**Hydrocarbon:** An organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, a constituent of natural gas) to the very heavy and very complex.<sup>35</sup>

**Lease:** Any contract, profit-share arrangement, joint venture, or other agreement issued or approved by the United States under a mineral leasing law that authorizes exploration for, extraction of, or removal of oil or gas.<sup>36</sup>

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<sup>31</sup> EIA 2007 Annual Report Glossary.

<sup>32</sup> MMS OCS Estimated Oil and Gas Reserves Gulf of Mexico, December 31, 2005 (MMS 2009-022); available online at <http://www.gomr.mms.gov/PDFs/2009/2009-022.pdf>; last accessed December 2, 2009.

<sup>33</sup> Adapted from Form EIA-182 Domestic Crude Oil First Purchase Report Instructions.

<sup>34</sup> EIA 2007 Annual Report Glossary.

<sup>35</sup> EIA Glossary.

<sup>36</sup> 30 U.S.C. §1702 (5).

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**Lease Condensate:** A mixture consisting primarily of pentanes and heavier hydrocarbons which is recovered as a liquid from natural gas in lease or field separation facilities. This category excludes natural gas plant liquids, such as butane and propane, which are recovered at downstream natural gas processing plants or facilities.<sup>37</sup>

**Natural Gas Plant Liquids (NGPLs):** Those hydrocarbons in natural gas that are separated as liquids at natural gas processing plants, fractionating and cycling plants, and, in some instances, field facilities. Lease condensate is excluded. Products obtained include ethane; liquefied petroleum gases (propane, butanes, propane-butane mixtures, ethane-propane mixtures); isopentane; and other small quantities of finished products, such as motor gasoline, special naphthas, jet fuel, kerosene, and distillate fuel oil.<sup>38</sup>

**Net of Sales and Acquisitions<sup>39</sup>:** The net change in the quantity of reserve estimates, either positive or negative, as a result of reserves gained through purchase and deducted through sale during the report year.

**New Discoveries in Old Fields:** The volumes of proved reserves of crude oil, natural gas, and/or natural gas liquids discovered during the report year in new reservoir(s) located in old fields.<sup>40</sup>

**New Field Discoveries:** The volumes of proved reserves of crude oil, natural gas and/or natural gas liquids discovered in new fields during the report year.<sup>41</sup>

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<sup>37</sup> EIA 2007 Annual Report Glossary.

<sup>38</sup> EIA Glossary.

<sup>39</sup> Acquisitions are the volume of proved reserves gained by the purchase of existing fields or properties, from the date of purchase or transfer (EIA 2007 Annual Report Glossary).

<sup>40</sup> EIA 2007 Annual Report Glossary.

<sup>41</sup> Ibid.

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**Oil:** See Crude Oil.

**Outer Continental Shelf (OCS):** All submerged lands seaward and outside the area of lands beneath navigable waters. Lands beneath navigable waters are interpreted as extending from the coastline 3 nautical miles into the Arctic Ocean, the Atlantic Ocean, the Pacific Ocean, and the Gulf of Mexico, excluding the coastal waters off Texas and western Florida. Lands beneath navigable waters are interpreted as extending from the coastline 3 marine leagues into the Gulf of Mexico off Texas and western Florida.<sup>42</sup>

**Play:** A group of pools that share a common history of hydrocarbon generation, migration, reservoir development, and entrapment.<sup>43</sup>

**Pool:** A discovered or undiscovered accumulation of hydrocarbons, typically within a single stratigraphic interval.<sup>44</sup>

**Proved Reserves:** For crude oil and gas, proved reserves are the estimated quantities that geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. For lease condensate and natural gas plant liquids, proved reserves are the estimated quantities demonstrated with reasonable certainty to be recoverable in future years in conjunction with the production of proved gas reserves, under existing economic and operating conditions.<sup>45</sup> The total quantity of proved reserves is calculated by adding the quantity of reserves reported as **revisions and adjustments, net of sales and acquisitions**, total recoveries and deducting **estimated production** during the report year.<sup>46</sup>

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<sup>42</sup> MRM Glossary of Mineral Terms.

<sup>43</sup> MMS 2006 Assessment.

<sup>44</sup> Ibid.

<sup>45</sup> EIA 2007 Annual Report Glossary.

<sup>46</sup> For a more detailed explanation of proved reserves and its components, see the section of Appendix D titled Definitions of Resource and Reserve Components and Subcomponents.

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**Region:** *The term region or regional refers to the geographic area or areas for which estimated petroleum royalties are calculated.*<sup>47</sup>

**Regional Estimated Petroleum Royalties:** Regional estimated petroleum royalties means the estimated end-of-period value of the federal government's royalty share of proved oil and gas reserves from federal oil and gas resources in each region.

**Rent:** Annual payments, normally a fixed dollar amount per acre, required to preserve the rights to a lease while the lease is not in production. A rent schedule is established at the time a lease is issued.<sup>48</sup>

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<sup>47</sup>For example, offshore federal oil and gas resources have typically been classified into regions such as: Alaska Region – the Federal Outer Continental Shelf Alaska; Pacific Region – the Federal OCS Pacific (Washington, Oregon, and California); Gulf of Mexico (GOM) Region – the Federal OCS Gulf of Mexico (Texas, Louisiana, Mississippi, Alabama, and GOM portion of Florida); and Atlantic Region – the Federal OCS Atlantic portion of all East Coast States.

For onshore federal oil and gas resources, the U.S. Department of Energy typically divides the United States into regions, which are referred to as Petroleum Administration for Defense Districts (PADD), for planning purposes. The result is a geographic aggregation of the 50 States and the District of Columbia into five Districts, with PADD I further split into three sub-districts, as follows:

PADD I (East Coast): PADD IA (New England) – Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; PADD IB (Central Atlantic) – Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania; and, PADD IC (Lower Atlantic) – Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia.

PADD II (Midwest) – Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, and Wisconsin.

PADD III (Gulf Coast) – Alabama, Arkansas, Louisiana, Mississippi, New Mexico, and Texas.

PADD IV (Rocky Mountain) – Colorado, Idaho, Montana, Utah, and Wyoming.

PADD V (West Coast) – Alaska, Arizona, California, Hawaii, Nevada, Oregon, and Washington.

<sup>48</sup>MRM Glossary of Mineral Terms.

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**Reservoir:** A porous and permeable underground formation containing an individual and separate natural accumulation of producible hydrocarbons (oil and/or gas) which is confined by impermeable rock or water barriers and is characterized by a single natural pressure system.<sup>49</sup>

**Revisions:** Changes to prior year-end proved reserves estimates, either positive or negative, resulting from new information other than an increase in proved acreage (extension). Revisions include increases of proved reserves associated with the installation of improved recovery techniques or equipment. They also include correction of prior report year arithmetical or clerical errors and adjustments to prior year-end production volumes to the extent that these alter reported prior year reserves estimates.<sup>50</sup>

**Revisions and Adjustments:** The net change in the quantity of reserve estimates, either positive or negative, as a result of adding changes reported as revisions and adjustments during the report year.

**Royalty:** Any payment based on the value or volume of production which is due to the United States on production of oil or gas from the Outer Continental Shelf or federal lands, or any minimum royalty owed to the United States under any provision of a lease.<sup>51</sup>

**Royalty-In-Kind:** A program operated under the provisions of the Mineral Leasing Act of 1920 and the Outer Continental Shelf Lands Act of 1953. The federal government, as lessor, may take part or all of its oil and gas royalties “in kind” (a volume of the commodity) as opposed to “in value” (money). Under the oil royalty-in-kind program, the government sells oil at fair market value to eligible refiners who do not have access to an adequate supply of crude oil at equitable prices.<sup>52</sup>

**Royalty Rate:** A proportionate interest in the production value of mineral deposits due the lessor from the lessee in accordance with a lease agreement.<sup>53</sup>

**Royalty Relief:** Existing statutes authorize MMS to grant royalty relief to operators on the production of oil and gas resources from federal oil and gas leases. Royalty relief is the reduction, modification, or elimination of any royalty to operators to promote development,

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<sup>49</sup> EIA 2007 Annual Report Glossary.

<sup>50</sup> Ibid.

<sup>51</sup> Adapted from 30 U.S.C. § 1702 (14).

<sup>52</sup> MRM Glossary of Mineral Terms.

<sup>53</sup> Ibid.



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increase production, or encourage production of marginal resources on certain leases or categories of leases.<sup>54</sup>

**Sales Value:** The proceeds received for the sale of a product. Sales value is calculated by multiplying the sales volume by unit price.

**Sales Volume:** The volume, or quantity, of the product that is sold. The sales volume is measured in thousand cubic feet (Mcf) for gas and in barrels (Bbl) for oil.

**Technically Recoverable Resources:** The term used to describe the total quantity of undiscovered recoverable resources and unproved reserves. Proved reserves are not included in the estimated quantity of technically recoverable resources.

**Wellhead Price:** The value of the purchased natural gas at the mouth of the well. In general, the wellhead price is considered to be the sales price obtainable from a third party in an arm's length transaction. Posted prices, requested prices, or prices as defined by lease agreements, contracts, or tax regulations should be used where applicable.<sup>55</sup>

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<sup>54</sup> 43 U.S.C. § 1337(a).

<sup>55</sup> EIA Glossary.