

Information Quality Challenge to Oil and Gas Lease Utilization

In accordance with DOI Information Quality Guidelines (<http://www.doi.gov/ocio/guidelines/515Guides.pdf>), I am challenging the information quality of a statement within Oil and Gas Lease Utilization - Onshore and Offshore (<http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&pageid=239255>). The specific statement is on top of page 4:

Approximately 70% of the Undiscovered Technically Recoverable Resources currently under lease in all areas of the Federal Gulf of Mexico are not producing or not subject to approved or pending exploration or development plans.

My Background

I am retired from the Mineral Management Service (MMS). At MMS I was the senior Mathematical Statistician. In my early years at MMS my duties included the statistical aspects of oil and gas resource estimates.

Why the statement does not meet the Information Quality guidelines

The document points out there are 34.0 million acres under lease in the Gulf of Mexico. Further that 23.8 million acres are inactive, that is without exploration or development plans. The percentage share of inactive leases of the whole is $23.8/34.0 = 70\%$. I suspect this the basis of the assertion that approximately 70% of the Undiscovered Technically Recoverable Resources are located on the inactive leases. There are two reasons why this assertion is incorrect.

First oil and gas resources are not uniformly located across the region. In 2009 1,462 leases produced oil in the Gulf of Mexico. However just 24 leases accounted for over 50% of the oil production. This shows that most oil and gas is located in a comparatively few locations and is not equally distributed as implied by the challenged statement.

Second there is a large portfolio of leases in the Gulf of Mexico. The lease owner must make decisions selecting which leases will be explored and developed. This decision making is a complicated process. Clearly the larger the potential resource should increase the likelihood a lease will be explored and produced. That means the those inactive leases not selected for exploration and development will have lower oil and gas resource estimates. The inactive leases will have a lower than average resource per acre as compared to the other leases. This is an assertion on my part, but I describe how to prove it's correctness later in this paper.

The DOI Information Quality Guidelines list utility as a key part of quality. Here is the description from the guidelines:

Utility refers to the usefulness of the information to its intended users, including the public. In assessing the usefulness of information that the Department disseminates to the public, the agency needs to reconsider the uses the information not only from perspective of the Department but also from the perspective of the public.

The primary user of the challenged information is the President and the Secretary of the Interior. They are concerned with implementing policies supporting domestic production of oil and gas resources. The challenged statement implies that inactive leases are a good place to look for resources, while an accurate statement would indicate that it is not the case. As a member of the public I need the policy makers to have correct information for a basis for decisions.

How to create a statement which will meet the information quality guidelines.

It is possible to calculate the portion of the Undiscovered Technically Recoverable Resources in the inactive leases. It is a considerable effort and takes time. I have done such calculations during my tour at MMS. Given a comparative short time frame of the Presidential request such an approach may not have been feasible.

There is a simple way to obtain a characterization of oil and gas potential of the inactive leases. During the fair market value process MMS makes an assessment of the oil and gas potential of every lease. Those leases which are considered non-viable have their bids accepted without additional consideration. Non-viable means in the professional judgement of MMS there is not economically recoverable resources on the lease. There are many non-viable leases in the Gulf of Mexico. Take the Sales in 2009. In Sale 208, 256 of the 328 leases issued were classified as non-viable. That is 78%. In Sale 210, 130 of the 155 leases issued were classified as non-viable. That is 84%. To obtain a proper characterization of the inactive leases, that is what is non-viable share of the inactive leases is a simple database query. This type of query would confirm my previous assertion that exploration and development primarily occurs with leases with economic resources (viable leases).

A High Quality Statement

A statement that meets the Information Quality Guidelines would have this form:

Approximately 70% of the Leases in the Gulf of Mexico are not producing nor have a pending exploration plan. Of those leases X% have been previously determined as not having viable economic oil and gas resources.

Contact Information

If I can be of further assistance in this important matter, please contact me.

Ted Tupper

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