



THE WILDERNESS SOCIETY

A GIS Analysis of the Undiscovered Technically Recoverable Oil and Gas in the Little Snake Resource Area

February 8, 2007

Findings

- *The entire Little Snake Resource Area contains less than a year's worth of technically recoverable natural gas and a little over 3 hours' worth of oil compared base on current U.S. consumption; the percentage of these resources that are economically recoverable will be considerably less.*
- *The lands proposed for protection in the Citizens' Wilderness proposal make up only 6% of the Little Snake Resource area; these lands contain less than 5% of the technically recoverable gas in the Little Snake Resource Area and less than 1% of the oil.*
- *Vermillion Basin Proposed Wilderness Area contains only enough technically recoverable gas to supply U.S. energy needs for about 10 days, and less than 8 minutes' worth of oil.*

Background

The Bureau of Land Management's (BLM) Little Snake Resource Area is located in Moffat and Routt Counties in northwestern Colorado. The area includes all or portions of seven proposed wilderness areas, including Vermillion Basin, which have been nominated for protection by Colorado citizens. The area has also been targeted for oil and gas drilling. This analysis presents estimates of the technically recoverable undiscovered oil and gas resources in the Little Snake Resource Area, and therefore is an overestimate of the amount of gas and oil actually recoverable as it does not consider the economic and environmental costs associated with drilling.

Methods

Using United States Geological Survey (USGS) data, we completed a geographic information system (GIS) analysis of the overlap between the boundaries of USGS gas and oil assessment units and the following three study areas: 1) all lands within the Little Snake Resource Area; 2) lands within the Little Snake Resource Area which are included in the Citizens' Wilderness Proposal; and 3) the lands within the Vermillion Basin Proposed Wilderness Area.

Based on methods used in the government's recent Energy Policy and Conservation Act (EPCA) study, we assumed that resources are distributed evenly across assessment units.¹ Based on this assumption, we estimated the resources that underlie the Little Snake Resource Area and the proposed wilderness areas based on the overlap between these areas and the USGS assessment units. Our analysis utilized mean (average) estimates of technically recoverable gas and oil developed by the USGS in 2002. To put the oil and gas estimates into perspective, we divided them by the latest data on annual oil and gas consumption for Colorado and the United States. This gives us the amount of time that the gas and oil found in the Little Snake Resource Area would meet our state or national energy demands.

Results

Our analysis indicates that the Little Snake Resource Area contains 14.18 trillion cubic feet of **technically recoverable** natural gas and nearly 74 million barrels of **technically recoverable** oil. The lands proposed for wilderness designation under the Citizens' Wilderness Proposal contain only a fraction of these resources: 658 billion cubic feet of gas (4.6% of the total), and only 676 thousand barrels of oil (0.92% of the total). See Tables 1-3.

¹ U.S. Departments of Interior, Agriculture, and Energy. 2003. Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves and the Extent and Nature of Restrictions or Impediments to Their Development.

These estimates are based on current technology and do not consider economic factors that will limit the recovery of these resources. As such, they represent an upper bound on the potential resources that may exist in the Little Snake Resource Area. When such factors as the price of natural gas and oil, drilling costs, and the cost of transporting gas and oil to markets are included, the estimate will be lower than the technically recoverable estimates presented here.

Table 1. Estimates of Technically Recoverable Gas and Oil Resources for the Little Snake Resource Area

	Technically recoverable undiscovered resources	Resources compared to annual U.S. consumption
Gas	14.18 Tcf ^b	231.9 days
Oil	73.69 Million barrels	3.2 hours
Natural Gas Liquids ^a	367.96 MMBNGL ^c	

^a Natural gas liquids are secondary hydrocarbon products recovered from oil or gas drilling. Consumption estimates are not available for these by-products.

^b Trillion cubic feet

^c Million barrels of natural gas liquids

Table 2. Estimates of Technically Recoverable Gas and Oil Resources for the Little Snake Resource Area Lands within the Citizens' Wilderness Proposal (includes all or portions of 7 areas)

	Technically recoverable undiscovered resources	Resources compared to annual U.S. consumption
Gas	658.20 Bcf ^a	10.76 days
Oil	675.87 Thousand barrels	49.89 minutes
Natural Gas Liquids	16.03 MMBNGL	

^a Billion cubic feet

Table 3. Estimates of Technically Recoverable Gas and Oil Resources for Vermillion Basin Proposed Wilderness

	Technically recoverable undiscovered resources	Resources compared to annual U.S. consumption
Gas	636.13 Bcf	10.4 days
Oil	102 Thousand barrels	7.5 minutes
Natural Gas Liquids	15 MMBNGL	

Conclusion:

Under the current Resource Management Plan, 98% of the BLM mineral estate in the Little Snake Resource Area is open for oil and gas exploration and development, although this issue will be revisited under the plan revision process underway. If the proposed wild lands - amounting to only 6% of the surface acres - were protected, less than 5% of the gas and only about 1% of the oil resources would be off limits, leaving the vast majority of land and resources available for development.

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