

Mr. Chairman Grijalva and Mr. Chairman Costa and members of the Subcommittees, my name is Claire Moseley, Executive Director of Public Lands Advocacy (PLA) based in Denver, Colorado. PLA is a nonprofit trade association whose members include independent and major oil and gas producers as well as nonprofit trade and professional organizations that have joined together to foster environmentally sound exploration and production on public lands. I would like to thank the Subcommittee on Parks, Forests and Public Lands and the Subcommittee on Energy and Mineral Resources for the opportunity to testify at this Oversight Hearing on "Land-Use Issues Associated with Onshore Oil and Gas Leasing and Development."

Natural gas is extremely important to the nation, not just to the petroleum industry or the states where the resources are produced. According to Energy Information Administration (EIA), the highest demand states for natural gas are: Texas, California, Louisiana, New York, Illinois, Michigan, Ohio, Florida, Pennsylvania, and New Jersey. Conversely, the Rocky Mountain States (or Public Land States) produce much of the natural gas required to keep the standard of living and economies of the rest of the nation at the levels they expect. Meeting American consumer demands for energy, which is expected to increase 23 percent by 2025, requires a tremendous investment by both industry and the Federal government to find and produce oil and gas, refine and distribute them and market the wide variety of products derived from them.

It should be noted that the energy we consume today is possible only through investments made years ago, which includes energy research and development, acquisition of 3D geophysical surveys, and development of new drilling, completion and production technologies; all of which have resulted in a smaller, less obtrusive footprint and improved environmental and reclamation practices. Our industry continues to pioneer the development of alternative energy and to expand the use of existing sources of energy. According to the American Petroleum Institute, from 2000 to 2005, the U.S. oil and natural gas industry invested an estimated \$98 billion in emerging energy technologies, including renewables, frontier hydrocarbons such as oil shale, tar sands, and gas-to-liquids. This represents almost 75 percent of the total \$135 billion spent on emerging technologies by all U.S. companies and the federal government. Industry is also actively investing in second generation biofuels research and research to find better ways to reduce greenhouse gases.

According to the United States Geological Survey (USGS) an estimated 69 percent of the nation's undiscovered oil and 51 percent of its natural gas resources lie beneath Federal public lands. However, for much of the last century, most of the oil and gas was produced from state and private lands. As these resources have become depleted, industry has been forced to seek out new sources on public lands to meet growing demand for energy supplies. It is important to our discussion today to put industry's activities on the public lands into proper context. Industry does not seek out new resources from withdrawn lands such as Wilderness Areas, National Parks, National Monuments, Wilderness Study Areas, Wild and Scenic Rivers or National Wildlife Refuges, which comprise nearly 50 percent of Federal land, but rather on those lands found compatible with oil and gas leasing and development through the federal land use planning process.

BLM is responsible for carrying out a variety of programs for the management and conservation of resources on 261.8 million surface acres, as well as 700 million acres of subsurface mineral estate. These public lands make up about 13 percent of the total land surface of the United States and more than 40 percent of all land managed by the Federal government. In FY 2005, the Federal Treasury collected over \$2.3 billion from mineral royalties, rents and bonuses, half of which went back to the States.

Onshore public lands, particularly those in the Rocky Mountain West, are vitally important to the energy future of the United States. According to the EIA, the Rocky Mountain region is on the verge of surpassing the Gulf Coast as the largest supplier of natural gas to the nation. The National Petroleum Council in its 2003 study, *Balancing Natural Gas Policy – Fueling the Demands of a Growing Economy*, found that “abundant natural gas resources exist in North America” and identified the Rockies region as the most prospective area for development of new natural gas supplies. The study cautions, however, that “the recent tightening of the natural gas supply/demand balance places greater urgency on addressing the future of this important energy source and resolving conflicting policies that favor natural gas usage, but hinder its supply” and points out that new and continued development of this vital resource can occur only if the importance of allowing reasonable access to natural gas reserves is recognized.

The Nation is in desperate need of reasonable energy policies that provide access to conventional energy supplies, encourage energy efficiency, and promote continued development of new energy technologies and to expand the use of existing sources of energy. Clearly, there is a great need for reasonable access to public lands and minerals.

## **OIL AND GAS LEASING**

The Mineral Leasing Act of 1920, as amended, and the Mineral Leasing Act for Acquired Lands of 1947, as amended, give the Bureau of Land Management (BLM) responsibility for oil and gas leasing on public lands administered by BLM, National Forest, and other Federal lands, as well as private lands where mineral rights are retained by the Federal Government. Public lands are available for oil and gas leasing only after they have been evaluated through the BLM's multiple-use planning process. That is not, however, the only analysis that is conducted before a lease is issued and drilling activities are permitted.

- Before a lease can actually be issued, BLM conducts a Determination of NEPA Adequacy (DNA) to ensure resource conditions have not changed since the Resource Management Plan (RMP) was completed and that leasing is still an appropriate use of the area.
- After a lease has been issued and a company seeks to access its lease for exploration or development, a project level Environmental Assessment (EA) or Environmental Impact Statement (EIS) is prepared which analyzes and discloses the impacts of the proposed undertaking.
- When a specific well location is identified by an oil and gas operator, a subsequent site-specific NEPA analysis and onsite inspection is conducted before the drilling permit is approved.

As can be seen, before surface disturbance activities for oil and gas related activities can occur several levels of NEPA analysis have taken place, all of which are subject to public involvement. It must also be noted that during each level of analysis, new mitigation requirements to protect sensitive resource values are often identified and imposed by the land management agency.

Recently, disingenuous claims have been raised that BLM's predominant focus is on leasing for oil and gas. The oil and gas program is one of many priorities for BLM, ranging from cultural resources to water and wildlife, so it is simply untrue that oil and gas dominates over other programs despite the revenue it generates for the Federal Treasury. Moreover the BLM works

with states with respect to air and water quality issues. According to BLM figures, of the \$3.2 billion collected in revenue from BLM programs in FY 04, \$2.4 billion were received in mineral royalties, lease rentals and bonus bids. The remaining revenue of \$778,411,189 was received from grazing, recreation, timber, rights-of-way and other BLM programs.

Despite the huge revenue generated from oil and gas activities, producing oil and gas leases cover less than 1/2 of 1 percent of the 261.8 million acres of public lands and the additional 700 million acres of federal mineral estate. Oil and gas operations on these leases are subject to varying levels of restrictions imposed through the land use planning process to protect other resources associated with these leased lands. In addition, proposed activities are required to conform to with BLM supervised environmental analyses, either through an EA or an EIS, both of which are driven by public involvement.

In late 2006, the Departments of Interior, Agriculture and Energy, through their respective agencies, completed a study required by Congress through the Energy Policy Act of 2005, which expanded upon an earlier report published in 2003 pursuant to the Energy Policy and Conservation Act of 2000, or EPCA. In the 2003 report, the agencies were only required to analyze actual stipulations placed on leases. However, the agencies were directed by the Energy Policy Act of 2005 to also consider conditions of approval on specific projects or permits that are not included as lease stipulations. The eleven areas inventoried in the 2006 study included six new oil and gas basins in Alaska, the Rocky Mountain West and the East, in addition to the five basins studied in 2003. The newly inventoried area is estimated to contain 187 trillion cubic feet of natural gas and 21 billion barrels of oil, which represents 76 percent of onshore Federal oil and gas resources.

Within the 99 million acres inventoried, the 2006 study found that just 3 percent of onshore Federal oil and 13 percent of onshore Federal gas are accessible under standard lease terms, while 46 percent of onshore Federal oil and 60 percent of onshore Federal gas are subject to additional restrictions, including timing limitations for wildlife concerns, controlled surface use for cultural or other sensitive resources, as well as no surface occupancy which often renders the lease essentially useless. The study found that in the inventory areas, 51 percent of the oil and 27 percent of the natural gas reserves on federal lands are presently closed to leasing. These figures clearly demonstrate that while the oil and gas program is, indeed, a priority program for the agencies, the program is administered with overriding protection of other values.

Conclusion: PLA urges that a balance between oil and gas exploration and development and the protection of the environment and other uses be maintained. Despite certain claims, in reality this has not yet occurred because only 3 percent of onshore Federal oil and 13 percent of onshore Federal gas are accessible under standard lease terms, while 46 percent of onshore Federal oil and 60 percent of onshore Federal gas are subject to additional restrictions, including timing limitations for wildlife concerns, controlled surface use for cultural or other sensitive resources, as well as no surface occupancy. Of greatest concern and according to BLM's own figures, 51 percent of the estimated oil and 27 percent of the gas on Federal lands are presently closed to leasing.

We acknowledge that the Federal government is following its multiple-use mandate from the Federal Land Policy and Management Act (FLPMA) by allowing oil and gas activities to occur. We strongly urge, however, that production of new oil and gas supplies, along with protection of

the environment and the interests of private landowners be better balanced for the sake of the country's future.

## SPLIT ESTATE

Surface owners and mineral owners are neighbors. Like many neighbors, they don't always agree. However, it must be recognized that multiple state and federal agencies regulate the oil and gas industry. As such, laws and rules are in place to protect land, water, air, humans and wildlife. Suggestions that federal minerals are developed without this oversight are patently false. Implications that problems exist between all surface and mineral owners are equally false. Where conflicts do exist, they constitute a very small percentage of the overall activity. Legislators and regulators should analyze the true magnitude of a perceived problem before reacting.

Existing federal mineral / private surface reclamation bonding requirements:

- 43 CFR 3104 – “Prior to commencement of surface disturbing activities...an operator shall submit a surety or personal bond...to ensure compliance with the act, including complete and timely plugging of the well(s), and the restoration of any lands or surface waters adversely affected by lease operations after the abandonment or cessation of oil and gas operations on the lease(s)...”
- 43 CFR 3104.2 – “A lease bond may be posted...in the amount of not less than \$10,000 for each lease conditioned with all of the terms of the lease...”
- 43 CFR 3104.3(a) – “In lieu of lease bonds...operators may furnish a bond in an amount of not less than \$25,000 covering all leases and operations in any one State.”
- 43 CFR 3104.3(b) – “In lieu of lease bonds or statewide bonds...operators may furnish a bond in an amount of not less than \$150,000 covering all leases and operations nationwide...”

In addition to posting a reclamation bond, the oil and gas industry is also required by regulation to make good faith efforts to gain consent from all surface owners who obtained their property in accordance with the Stock Raising Homestead Act before BLM will approve an APD. If permission cannot be obtained, operators must comply with certain bonding requirements before it can proceed with development, as required by 43 CFR 3814.

The Department of Interior recently revised its Onshore Order No. 1 (OO#1) which clarifies the policy, procedures, and conditions for approving oil and gas operations on split estate lands.

OO#1 directs that BLM will not consider an APD (Application for Permit to Drill) or SN (Sundry Notice) administratively or technically complete until the federal lessee or its operator certifies that an agreement with the surface owner exists, or until the lessee or its operator complies with bonding requirements under the Order. Compliance with the Order requires the Federal mineral lessee or its operator to enter into good-faith negotiations with the private surface owner to reach an agreement for the protection of surface resources and reclamation of the disturbed areas, or payment in lieu thereof, to compensate the surface owner for loss of crops and damages to tangible improvements, if any.

Under the Stock Raising Homestead Act, there is a bonding requirement that has a \$1,000 minimum at the discretion of the BLM officer to cover surface damages to tangible improvements or crops above and beyond the reclamation bond that is already in place. [43

CFR 3814] With this bonding mechanism and policy guidance in place, the process encourages landowners to negotiate with operators for acceptable surface damage payments verses the minimum bond.

Oil and gas operators are required to work through an exhaustive process that includes surface owners and multi-agency consultations or approvals before development may occur. Additionally, the federal permitting process provides the private landowner with the opportunity to participate in an on site inspection of the well location in order to accommodate the landowner's needs in conjunction with the federal decision to approve the well permit.

BLM has a statutory obligation to maximize the recovery of federal minerals, avoid waste and prevent drainage from occurring while providing protection for other resources.

### Wyoming Split Estate Initiative

The **Wyoming Split Estate Initiative** was established in the summer of 2002 with the purpose of developing protocols that both oil and gas operators and surface owners could use to minimize or alleviate conflicts, while fostering cooperation between the parties. The Initiative recognizes that Surface Use Agreements are a private contract between the landowner and the operator.

The partners involved in the initial organization of the Wyoming Split Estate Initiative include: Petroleum Association of Wyoming, Wyoming Wool Growers Association, Wyoming Stock Growers Association, and the Wyoming Farm Bureau Federation. The United States Department of Agriculture Natural Resources Conservation Service (NRCS), Wyoming Association of Conservation Districts (WACD), and the Wyoming Oil and Gas Conservation Commission (WOGCC) instrumental in developing this Protocol. The Wyoming Department of Agriculture Natural Resource and Mediation Board also participated. The overriding goals of this effort include:

- Minimizing or preventing conflict between landowners and operators while maximizing cooperation where oil and gas development occurs in areas of split ownership;
- Enhancing and encouraging responsible development of minerals and continued agricultural productivity while maintaining and promoting land, water, air, and wildlife resources;
- Providing a forum for conflict resolution.

The Wyoming Split Estate Initiative is quite comprehensive and provides for public education and information regarding split estates where oil and gas development occurs; an advisory (technical review), mediation (if necessary), and binding/non-binding arbitration process (if necessary); suggestions for improved communication between the landowner and operator; and options/alternatives to be considered by both parties during the Surface Use Agreement negotiations.

The final Wyoming Split Estate Initiative and implementation of educational programs and presentations were set in place July 7, 2003. The Initiative has been very successful in assisting parties to reach a successful negotiation. The Wyoming Department of Agriculture and Natural Resources Mediation Program, which was the basis of the Wyoming Split Estate Initiative, was also included in the Wyoming Surface Owners Accommodation law that was

recently passed. The legislature saw that program as being very beneficial to the parties to resolve conflict and has had an 80 percent success ratio.

### New Mexico “Good Neighbor” Initiatives

The New Mexico Oil and Gas Association and its members, working with the Petroleum Recovery Research Center at New Mexico Tech, established the ***Good Neighbor Initiatives*** which demonstrates their dedication to responsible development of New Mexico’s oil and gas resources. The Initiative acknowledges that responsible development includes good relationships with their neighbors and a commitment to environmental and human protection. NMOGA and member companies have pledged to be a “Good Neighbor” in the areas where they operate.

This policy describes specific areas where industry actions as “good neighbors” are especially important, i.e., companies will listen to the landowner, lessee permittee, and/or resident concerns and respond appropriately; personnel (company employees and contractors) must respect rights-of-way; protect livestock/wildlife; drive safely; report damages to public/private property to the appropriate parties; assure mechanical integrity of production systems; and ensure that personnel know and understand the rules and regulations applicable to our operations.

In order to achieve industry’s goals, a host of measures have been adopted:

- Companies will strive to increase communication with the landowner, lessee, permittee and/or residents
- Companies and company contractors will respect the property and the rights of others
- Companies will promote public safety
- Companies will promote the responsible maintenance and use of roads
- Companies will protect the environment
- Companies will emphasize education by educating our personnel about being a good neighbor
- Companies will communicate with appropriate government officials, including city and county officials
- The oil and gas industry will be proactive in building relationships with city, county, state and federal officials

Adoption of these principles has significantly improved the working relationship between New Mexico oil and gas operators, land owners, and State and Federal government officials.

It is important to note that other industry trade groups are working to adopt similar initiatives in their states as well as at the national level. Clearly, industry has taken the issue of working closely with its neighbors, landowners, and government officials very seriously, thereby advancing good relationships. To that end, industry is committed to ensuring private landowners are treated with respect and given opportunities to work with oil and gas operators in a meaningful way in order to eliminate possible conflicts.

Conclusion: BLM has done a good job of soliciting feedback from landowners and industry alike in order to determine how best to address the split estate issue. Split-Estate Open Houses were held throughout the country in order to comply with directives contained in the Energy Policy Act of 2005 that required studies to be conducted on Split Estate Rights and Responsibilities under Existing Mineral and Land Laws and Surface Owner Consent Provisions under SMCRA. Through the open houses and comments received BLM found that very few actual conflicts existed and that the current process has proven to work reasonably well. This is supported by the fact that out of the thousands of wells drilled on split-estate lands, there are fewer than 25 cases, according to BLM, where surface use agreements could not be reached and operators were required to post a bond in accordance with the provisions of the Stock Raising Homestead Act.

As you can see, the energy industry has implemented several new programs whereby codes of conduct have been established to ensure improved relationships with private landowners. To date, these have proven successful. Moreover, some western states have passed (Wyoming and New Mexico) or are considering legislation to address perceived problems between surface owners and mineral operators. Therefore, PLA recommends that Congress let this issue be handled at the state level in accordance with the specific needs identified locally.

## CATEGORICAL EXCLUSIONS

Categorical Exclusions represent one of three possible avenues for fulfilling the requirements of the National Environmental Policy Act, the other two being Environmental Assessments (EAs) and Environmental Impact Statements (EISs). Categorical Exclusions (CX) have been in use for many years and are defined at 40 CFR § 1508.4:

*"Categorical exclusion' means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (§1507.3) and for which, therefore, neither an environmental assessment nor an environmental impact statement is required... . Any procedures under this section shall provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect."* [Emphasis Added]

Congress decided in the Energy Policy Act of 2005 to establish three statutory CXs associated with drilling of wells. Following is a discussion of these CXs and why they are appropriate.

1. *Individual surface disturbances of less than 5 acres so long as the total surface disturbance on the lease is not greater than 150 acres and site-specific analysis in a document prepared pursuant to NEPA has been previously completed.*

Before a lease can be issued, a land use plan specifying what stipulations are required to protect sensitive resource values will have been completed. The drilling permit would have to conform to these requirements and abide by any other conditions imposed by the agency to protect additional resource values. This provision would expedite minor drilling and permitting in areas outside an existing field. If a well is within an existing field, it would have to conform to the field development analysis.

2. *Drilling an oil or gas well at a location or well pad site at which drilling has occurred previously within 5 years prior to the date of spudding the well.*

A site-specific analysis of a well location/site will have already been completed and approved and conditions already implemented. Therefore, it is wasteful and duplicative to conduct another analysis simply because the operator wants to drill another well from same pad, reenter the well bore or move the bore a few feet on the same pad. Even if additional wells would require a minor expansion (less than an acre) of the original pad, it will still result in much less disturbance than a brand new well pad.

3. *Drilling an oil or gas well within a developed field for which an approved land use plan or any environmental document prepared pursuant to NEPA analyzed such drilling as a reasonably foreseeable activity, so long as such plan or document was approved within 5 years prior to the date of spudding the well.*

A cumulative impacts analysis in association with a field development NEPA document would have already been completed and as long as the well(s) is in conformance with the development analysis and the operating requirements prescribed therein there is no need for further analysis.

The Western Governors' Association (WGA) passed a resolution urging Congress to amend Section 390 of the Act to *"remove [the 3<sup>rd</sup>] categorical exclusion for NEPA reviews for exploration or development of oil and gas in wildlife corridors and crucial wildlife habitat on federal lands. By removing the categorical exclusion, appropriate environmental site analysis will be completed as necessary to protect crucial wildlife habitat and significant migration corridors in the field of development."*

In addition, the WGA has asked the *"Secretaries of Interior and Agriculture to consider placing a moratorium on such categorical exclusions in crucial habitat or migration corridors and to work collaboratively with the states to ensure that states' concerns in preserving wildlife migration corridors and crucial wildlife habitats are met."*

The criticism that this statutory CX bypasses adequate NEPA analyses in favor of oil and gas exploration and development at the expense of other resources is unfounded. Depending upon the CX that is applicable for a specific action, there must have been a NEPA analysis that addressed such an action as part of its reasonably foreseeable development scenario or full field development analysis. Moreover, multiple wells could be developed from a location that had already been approved through a NEPA review.

Conclusion: PLA believes the concern of the WGA may be eased by an understanding of the process used by BLM to grant CXs. It is not, by any stretch, a tool that can be used to elevate oil and gas uses over and above other uses or a policy that well permits will be approved without proper consideration of surface resource values. No CX can be approved unless the action meets the test of NEPA adequacy. It must also be recognized that all lease stipulations, conditions of approval, and operating standards are still in force. Furthermore, most of the CXs that have been approved were based upon project level environmental documentation rather than resource management plans. Nevertheless, even in situations where the RMPs are the basis for granting an exclusion, careful, site-specific consideration of all resources, including wildlife, is given before the exclusion is granted.



## MONTANA/WYOMING WATER ISSUES

My testimony this morning will focus on CBNG produced water in the Powder River Basin of Wyoming and Montana. Please do not infer my comments as being applicable to all oil and gas, especially CBNG produced water. CBNG produced water quality varies greatly throughout the producing basins in the United States.

The quality of groundwater produced by coalbed natural gas operations has become a hotly debated issue among the public, State and Federal agencies, special interest groups and industry. As background, methane natural gas can be recovered from wells when groundwater contained in coal seams is pumped to the surface to reduce pressure allowing the gas to be recovered. Coalbed natural gas (CBNG) water is naturally-occurring groundwater; no chemicals or sodium are added to the water by drilling or production activities.

According to studies conducted by independent researcher Schafer Limited LLC, using data supplied by the United States Geological Survey (USGS) and other agencies, the quality of Powder River Basin CBNG water is suitable for drinking, livestock, wildlife and crop irrigation uses. For example, water from coal seams is often used as drinking water because it is often of higher quality than other available water sources and meets primary Federal Safe Drinking Water Act and Montana Water Quality Act standards. Primary standards have been established for chemicals that may be harmful to public health. These standards consider the health effects of the chemicals as well as the feasibility of removing the harmful chemicals through treatment. There are other standards that apply to the esthetic value of water, i.e., taste, which does not mean the water isn't suitable for domestic uses; one just may not enjoy drinking it.

CBNG water, because of its low to moderate level of salinity, is either the same or better than many local water sources used for livestock operations. According to studies conducted by the National Academy of Sciences (NAS), CBNG water is appropriate for livestock use. In fact, in parts of southeast Montana, many surface waters contain such high concentrations of salt, that CBNG water is placed in storage ponds to provide a source of stock water for use by livestock operations.

The quality of irrigation water presents a more complex situation because water suitability rests with the types of crops being grown, the soil type and irrigation methods. Crops differ in their ability to tolerate salinity levels and soils differ in their ability to tolerate sodicity levels. Most of the forage crops (alfalfa) grown in the Powder River Basin are tolerant to the salinity ( $\pm 1500$ ppm TDS) of CBNG produced water. The main factor when using CBNG produced water for irrigation is the permeability of the soil to be irrigated. Permeability must be high enough so the soil can be revitalized by using flood or sprinkler irrigation methods. Due to the sodicity of CBNG water, there is a high permeability hazard which limits its use on many soils. However, several managed irrigation sites using soils amendments such as gypsum (a form of calcium) are demonstrating that CBNG-produced water can be used for irrigation while protecting soil quality.

With respect to protection of aquatic life, management opportunities exist where CBNG water is discharged into surface water. It must be noted that any such discharge must meet

the requirements of the Federal Clean Water Act and the standards implemented by the Wyoming and Montana Departments of Environmental Quality, which require non-degradation of water in order to preserve it at its current levels. As such, concentrations of metals in produced water discharged into other waters are typically kept at levels that are lower than for personal drinking water. It is acknowledged that concern was raised by some researchers regarding the potential toxicity of bicarbonate ions in CBNG water that may be discharged into rivers. However, toxicity testing over time using CBNG water showed a much lower toxicity than was predicted by research models, indicating that discharge of CBNG water into Montana and Wyoming Rivers appears not to be harmful to aquatic organisms.

### Tongue River

There have been recent claims that CBNG discharge into the Tongue River has had a detrimental impact on the river's water quality. This charge is unfounded. The USGS has been collecting daily streamflow data and periodic water quality samples at 12 monitoring sites, ranging from Monarch, WY (just north of Sheridan, WY) all the way up to Miles City, MT along the Tongue River since the early 1970s. These monitoring stations cover 7 mainstem sampling sites and 5 tributary sampling sites. The State of Montana and EPA have also conducted a major investigation of the Tongue, Powder and Rosebud Creek watershed as part of their Total Maximum Daily Load (TMDL) assessment program. As part of the assessment, a basin-wide predictive water quality model was developed for the Tongue River. The model uses climate data, land use and the quality and quantity of discharged water, including CBNG water.

Results of these studies have found that the Tongue River above the T&Y Irrigation Diversion Dam where the CBNG development takes place is currently meeting water quality standards. In fact, it was found that even if all permitted discharges operated at their maximum allowable level (which rarely occurs) the River would continue to meet water quality standards established by both Federal and State laws.

However, it has also been revealed that below the T&Y Irrigation Diversion Dam water quality standards are often exceeded during the irrigation season when nearly all the water in the Tongue River is diverted into the T&Y Canal. During this time, the water in the lower Tongue River is limited that which is accumulated from localized groundwater inflows and irrigation return flow, which does not derive from CBNG water that was discharged above the T&Y Diversion Dam.

Clearly this information demonstrates that the water quality of the Tongue River above the T&Y Diversion Dam was found unimpaired by CBNG development or any other use, while below the T&Y Diversion Dam impairment due to salinity and/or sodium exists and is caused by irrigation water uses.

Additional data generated by the USGS Montana Water Science Center along the Tongue River Surface-Water-Quality Monitoring Network has also been collected through the Tongue River Agronomic Monitoring and Protection Program (AAMP) The AMPP study involved the identification of soil characteristics and the monitoring of soil quality and crop yields. The Study's finding indicated that soils physical and chemical characteristics did not change as a result of CBNG development but rather, differences in crop yields were the result of farming practices.

Conclusion: All water produced from CBNG must meet specific narrative and numeric standards. According to data and studies conducted by independent researchers as well as USGS Montana Water Science Center and EPA it has been shown unequivocally that CBNG water discharged into the Tongue River and its tributaries has had no impact on the water quality of the River. Rather, it appears water quality problems associated with the Tongue River are caused by farming and irrigation practices. In addition, many landowners in the Powder River Basin have found that CBNG water provides many beneficial uses, including drinking water, livestock water and irrigation when it is coupled with various treatments. Consequently, there is no need for Congress to consider legislative measures to fix a problem that does not exist.

Thank you for this opportunity to provide you with testimony this morning. I will be happy to answer any questions.