

Report to

Montana Board of Oil and Gas Conservation

Scope of Work

for the

Development of a Procedures Manual

and a

Field Inspection System

Work product of Montana DNRC Contract 128220,
this report is provided by

Montana Tech

and the Departments of:

Petroleum Engineering

Technical Communication

Computer Science and Software Engineering

Environmental Engineering

Safety, Health and Industrial Hygiene

30 June 2012

MontanaTech
THE UNIVERSITY OF MONTANA

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Introduction

The Montana Board of Oil and Gas Conservation (BOGC) is charged with regulation of the oil and gas industry within the state. As stated on the BOGC website:

The board's regulatory action serve three primary purposes: (1) to prevent waste of oil & gas resources, (2) to conserve oil & gas by encouraging maximum efficient recovery of the resource, and (3) to protect the correlative rights of the mineral owners, i.e., the right of each owner to recover its fair share of the oil & gas underlying its lands. The board also seeks to prevent oil and gas operations from harming nearby land or underground resources.

A performance audit of the Board of Oil and Gas Conservation Regulatory Program, with a report dated September 2011, was conducted by the Montana Legislative Audit Division. That document provided a total of seven recommendations designed to respond to the concerns stated in the audit report summary as follows:

“The Board of Oil and Gas Conservation must improve its inspections and enforcement processes to more effectively regulate the state’s 17,600 active oil and gas wells.”

This scoping project was initiated to assist the O&G Division in addressing the concerns stated in the audit report. Specifically, Montana Tech was contracted to provide the following services:

- Review pertinent documents
 - Existing procedures, documentation and forms
 - Report from the Legislative Audit Committee
 - EPA UIC manual
 - Applicable Montana Regulations
- Write specifications
 - Recommended deliverables
 - Estimate of effort
 - Draft of RFQ

These deliverables were presented first as an interim report to the BOGC at the April 26, 2012 meeting. The final report (this document) is to be submitted no later than June 30, 2012.

Definitions

Academic departments at Montana Tech of the University of Montana and associated personnel that were involved in the development of the document are referred to by their department names.

- *Petroleum Engineering*
- *Technical Communication*
- *Computer Science and Software Engineering*
- *Environmental Engineering*
- *Safety, Health and Industrial Hygiene*

COGCC refers to the Colorado Oil and Gas Conservation Commission.

FIPM refers to a Montana Field Inspection Procedures Manual that would be developed under proposed Path I.

LAD refers to the Legislative Audit Division of the State of Montana. This entity is the author of the report that includes recommendations for modifications to the business practices and field inspection procedures of the Oil and Gas Division of the Department of Natural Resources.

MBOGC refers to the Montana Board of Oil and Gas Conservation, the citizen board with supervisory responsibility of the O&G Division.

MTST refers to the Montana Tech Scoping Team, the faculty group organized to conduct this scoping study.

O&G Division refers to the Oil and Gas Division of the Montana Department of Natural Resources and Conservation. This organization is responsible for the day-to-day operation of the oil and gas interests of the State of Montana and is supervised by the Montana Board of Oil and Gas Conservation. The Montana Tech/DNRC contract 128220 that produced this report was initiated by the O&G Division.

RBDMS is the data base used by the O&G Division of Montana and 21 other states to store data about oil and gas well locations, permitting and production, and to meet EPA regulations for ground water protection in disposal (UIC) wells.

SITSD refers to Montana's State Information Technology Services Division

UIC refers to Underground Injection Control. A UIC well is used primarily for disposal of produced fluids with no commercial value, such as brine.

Methods

The Petroleum Engineering Department served as lead on a multidisciplinary team consisting of faculty from five different departments; Petroleum Engineering, Technical Communication, Computer Science and Software Engineering, Environmental Engineering and Safety, Health and Industrial Hygiene. The goal was to bring to the project a broad range of expertise to ensure that the final product was as complete as possible and that it would provide adequate consideration to aspects of the business, safety, environmental and design-for-usability that might make up a complete and effective field inspection system.

The Montana Tech Scoping Team (MTST) team started the research with the review of several documents including the audit report, the formal response to the audit from the MBOGC staff, the MBOGC inspection forms as well as the published Montana oil and gas regulations in Rule Chapter 36.22: Oil and Gas Conservation.

A ride-along was conducted on February 16, 2012 with Field Inspection Supervisor Gary Klotz. Meeting first in his Shelby office, Mr. Klotz familiarized the members of the MTST with terminology and inspection procedures. The group then engaged in several different types of inspections regularly conducted by the State including a plugged and abandoned (P&A) well, producing gas and oil wells and a disposal well.

Additional data collection methods included:

- Interviews with several O&G Division field inspectors. These face-to-face meetings permitted valuable additional feedback from the people on the ground.
- With the goal of aligning the MTST effort with the needs of the MBOGC, administrators were interviewed both via conference calls and in face-to-face meetings, including discussions about creating and implementing a risk-based inspection system.
- To clarify the position of the Legislative Audit Division (LAD), telephone interviews were conducted with both the head of the LAD and the primary author of the report.

In an effort to broaden the view as much as possible, the inspection authorities in several different states were interviewed about their inspection systems, including Texas, North Dakota and Colorado. The dual goals of this effort was to understand the various approaches used as well as to acknowledge and verify comparisons to other state inspection systems as reported by the Legislative Audit Division of the State of Montana.

Guiding the MTST efforts were two general questions:

1. Specifically, what must be done to respond to the concerns stated in the LAD report?
2. How can the response to the LAD concerns be leveraged to maximize the value to the State of Montana and its citizens.

Observations and Results

It is clear that the staff responsible for Montana field inspections and enforcement is deeply invested in ensuring that the interests of all are considered, including the land owners, mineral rights owners, the public and the environment. They take seriously their mandate of conserving our natural resources and work very hard to achieve that. The MTST commends the MBOGC and specifically the O&G Division personnel for creating an environment that supports a cohesive team.

The Scoping Team’s observations mirror many of those of the Legislative Audit Division with some caveats and additions.

It was observed that the existing system contains some significant redundancies that potentially contribute to sources of error and process inefficiencies. This current inspection process is diagrammed below in Figure 1.

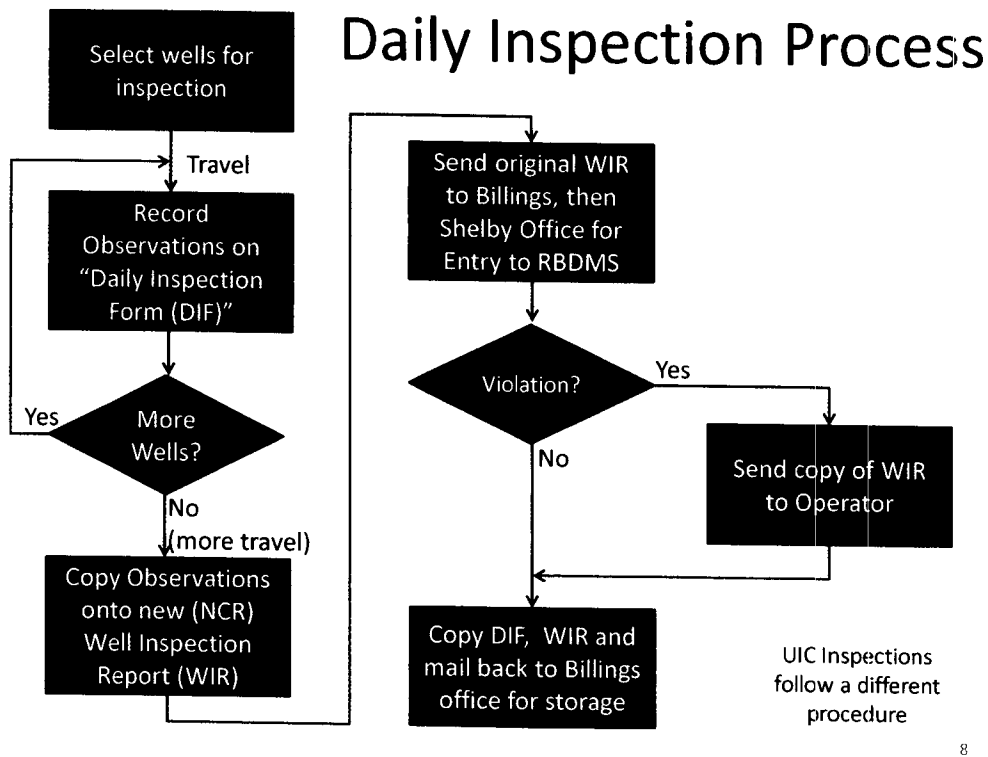


Figure 1 - Current Inspection Process

It was observed that the inspection process is inherently multi-media. GPS systems are used to guide the inspectors to the well locations. Cell phones provide a method to contact operator

field personnel. Hand-recorded notes of most inspection activities are documented on a Daily Inspection Form. Digital photography is used to assist in the documentation process.

O&G Division field personnel and administrators seem to be in agreement with respect to the need for some method of formal training for new inspectors. While the team has apparently enjoyed relatively low turnover, it was clear to the MTST that the process of matching observations in the field to regulatory rules is something that comes quickly only after an inspector gains substantial field

experience. The current process appears to involve considering simultaneously all of the regulations while making observations at the well site. The risks associated with achieving a 100% match between what is observed in the field and the entire suite of regulations seem to be substantial. The MTST interprets LAD recommendation number 2 to express a similar concern.

LAD Recommendation #2 We recommend the division, under the supervision of the Board of Oil and Gas Conservation:

- A. Develop formal policies and procedures pertaining to the inspection program.
- B. Ensure these policies and procedures are applied consistently by staff.

One of the recommendations of the LAD was to develop and implement a method to prioritize well inspections based on risk. Field Supervisor Gary Klotz was asked by the scoping team to provide a draft of how he would build such a priority list. He was happy to provide one, but made it clear that the list included only two broad categories and did not further specify a priority. This first-draft list is as follows:

LAD Recommendation #1 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, develop a formal risk-based inspection approach that establishes inspection priorities.

PRIMARY INSPECTION PRIORITIES

- Spills/Leaks/Emergencies – Inspections and followup.
- Dry Hole Plugging – Witnessing and issuing plugging orders.
- UIC Program – Witness Mechanical Integrity Tests & Routine Inspections.
- Witness cementing of surface casing in new wells.
- Drilling rig/drill site inspections – equipment and site construction.
- Witness plugging of existing noncommercial oil & gas wells.
- Complaint Responses.

SECONDARY INSPECTION PRIORITIES

Evaporation Pit Inspections.

Workover/Service Rig Activities.

Change of Well Ownership Compliance Inspections.

Seismic Operation Inspections.

Oil & Gas Wells/Lease Facility Inspections for General Rules Compliance.

Inspect P&A'd Well Sites for Surface Restoration & Bond Release.

Several states were contacted by the MTST to learn about their methods and discern if there was a model that could be used to support O&G Division field inspection efforts. Below is a short summary of these contacts.

Texas RRC The Railroad Commission of the State of Texas was contacted to request a copy of their inspection manual. This document was explicitly identified by LAD staff as a benchmark for evaluating the Montana field inspection program. However, according to those contacted by the MTST, the last Texas manual update occurred nearly ten years ago. Indeed, obtaining a copy of their inspection manual required that RRC personnel scan a printed copy, since no electronic version was available. By way of explanation for that, the Texas inspection authority indicates the manual has become redundant because of the adoption of a computer-guided inspection process.

North Dakota DMR The ND Department of Mineral Resources uses a computer-assisted data collection scheme that feeds the statewide database containing inspection reports. Contacting people within the inspection authority group however was found to be more difficult than other states and in the interest of efficiency was abandoned. Follow-on efforts in response to the LAD recommendations would probably benefit from re-opening communication with the North Dakota field inspection authority.

Colorado's OGCC Significant time was spent interviewing various people in the inspection group within the Colorado Oil and Gas Conservation Commission. The COGCC recently developed and implemented a computer-assisted inspection system that obviates the need for a field inspection manual and therefore they were not able to provide one for us to review. The manager of Colorado's field inspection unit, Margaret Ash, was most helpful in providing access to the IT people that created their system. They report that "substantial effort" was allocated to designing and implementing the current system, requiring about 300 hours of development and a \$350,000 budget to fund the project. Their system, implemented on "Tough-Books" with GPS, broadband access and a camera, uses branching techniques to guide the inspector through the regulations most likely to apply based on historical data and observations made at the well site. At least one operating company has automated a work-order generation

process based on the electronic inspection notification delivered electronically by the State of Colorado.

The technical director for the national Ground Water Protection Council, Paul Jehn, was tapped to provide some guidance on where the inspection process is headed with respect to disposal wells. Mr. Jehn made a couple of points. Several states (he cited specifically Oklahoma) are rolling out computer-aided data collection methods. However, he said that careful design of those systems is crucial to success, since the inspection process is too diverse for a flat, step-by-step process to be workable.

In interviews, both the O&G Division Administrator, Tom Richmond and the Petroleum Geologist, Jim Halvorson made convincing arguments for responding to the LAD concerns by creating first a field inspection manual and updating the paper-based business processes currently in use. The existing processes and the Risk Based Data Management System (RBDMS) serve as a strong foundation. The success of these processes supports their position that an incremental approach of developing a field inspection manual first can provide the shortest path to addressing the concerns of the LAD.

They also express concern about the process of implementing a computer solution prompting untenable mandates from the State of Montana information technology group, SITSD. The existing data base represents a significant investment on the part of the O&G Division. Leveraging this investment into the future is seen as crucial to realizing the O&G Division's mission, including satisfying on-going Federal regulations. If State IT rules are unbendingly applied to this resource, fitting this system into the existing State infrastructure represents a significant risk to that ongoing mission.

Discussion

In the opinion of the MTST the primary driver of the success of the inspection program has been the longevity and dedication of the current crop of field inspectors and their support and administrative staff. While this approach has worked well, there is risk to the system primarily because the current informal procedures for inspections appear to take a long time to learn. This is likely to be exacerbated by the expected retirement of several of the current inspectors, which also tend to be the most efficient. Aside from the risk, the MTST sees this as an opportunity for significant change in the procedures as well

The concerns of the department administration about implementing a smooth transition to a computer-assisted inspection system are, in the opinion of the scoping team, reasonable. A recent research paper on this topic put it quite succinctly:

“IT and business strategies should complement and support each other relative to the business environment. Strategy development should be a two-way process between IT and business. However, we have yet to learn how to do this.” (Smith, McKeen, and Singh 49-58)

In order to achieve the recommendations of the LAD, the O&G Division will be a need to develop and foster a collaborative environment with the SITSD. The MTST recognizes that significant buy-in, and indeed resources, from the SITSD will be required.

The MTST identified two distinct, but we believe interconnected, paths to address the concerns of the LAD. The first is to focus on updating the business processes currently in use for field inspections by developing a printed field inspection procedures manual and associated training system, augmented by a follow-on project to implement the system in computerized forms. The second is to focus initially on the development of a computer-assisted inspection system. The interconnection between these two paths is that both will require O&G Division resources to identify the individual processes that can and should be improved. While the end goals of both of these approaches are the same, that is, creating a computer-assisted field inspection system, the depth of the investment in the required elements would likely be quite different.

The outline below provides details.

Two paths to address the recommendations of the audit

- I. Paper inspection manual with follow on computer forms
 - A. Phase 1 - Montana paper Field Inspection Procedures Manual (FIPM) and associated study of computer forms
 - i. Research and write paper manual
 - ii. Research Colorado and other state's computer forms systems for similarities and difference with Montana procedures and regulations as embodied in the paper manual
 - B. Phase 2 - Adaptation/implementation of computer forms system with on-line help edited from manual
 - i. Write concept of operations document and get buy-in from all stake holders
 - ii. Write field inspectors user manual, system administration manual, and software requirements specification for Montana Computer Forms Oil and Gas Inspection System; and get approval and budget for adaptation/implementation.
 - iii. Software design document, implementation and usability testing. Write Installation and SysOps Manual for SITSD.
 - iv. Delivery of Montana Computer Forms Inspection system to SITSD.

- II. Computer forms with manual embedded in the help links
 - i. Research Colorado and other states computer forms systems, write concept of operations document and get buy-in from all stake holders
 - ii. Write field inspector's user manual, system administration manual, and software requirements specification for Montana Computer Forms Oil and Gas Inspection System; and get approval and budget for adaptation/implementation.
 - iii. Software design document, implementation and usability testing. Write Installation and SysOps Manual for SITSD.
 - iv. Delivery of Montana Computer Forms Inspection system to O&G Division and the SITSD.

Scoping Team Recommendations

It is clear to the Montana Tech Scoping Team that, regardless of the chosen path, a significant amount of work ranging into hundreds of hours will be required to achieve the recommendations of the LAD (see Table 1, below.) It is the recommendation of the MTST that

this workload, at least in part, be contracted out. This could be as simple as the temporary hiring of a technical writer, supervised by O&G Division personnel, to implement the first part of Path I.

However the members of the MTST and the O&G Division administrators appear to be in agreement that ultimately the field inspection process needs to become computer assisted. Significant efficiencies will be gained by doing so, both in the short term by achieving the LAD recommendations at lower initial cost and in the long term by gaining efficiency in the reporting process as shown in Figure 2 below.

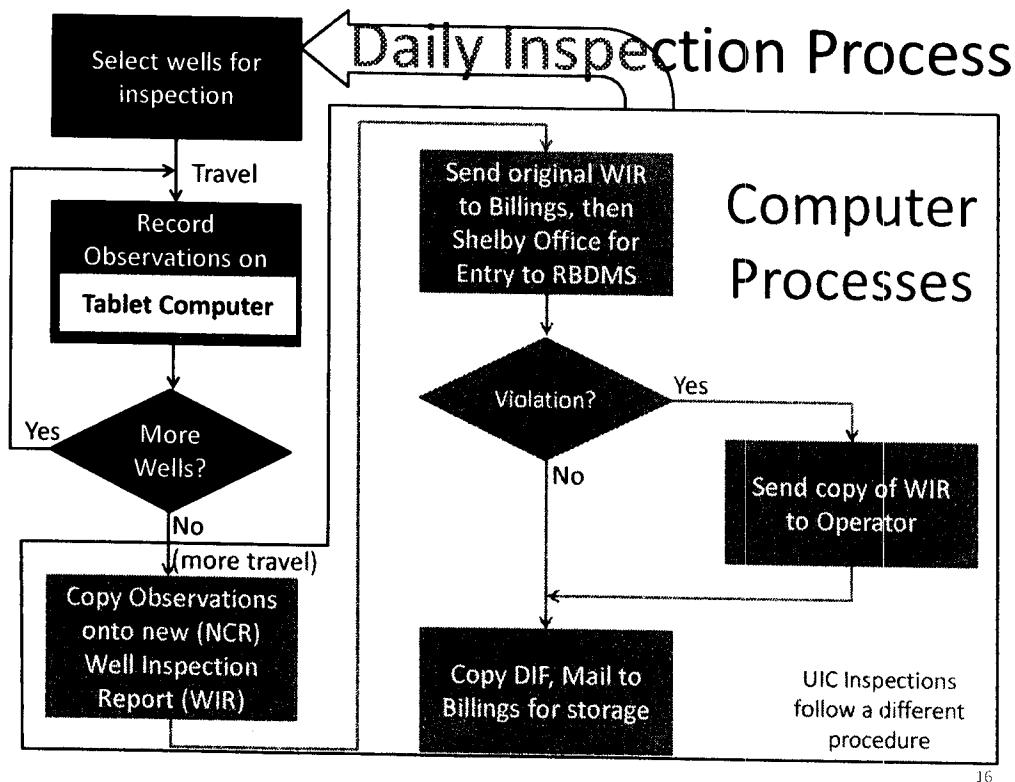


Figure 2 - Efficiencies are achieved via automation of the reporting process

While there is significant computer expertise within the O&G Division, the MTST recommends that outside consultants be contracted to design, develop and implement a computer-assisted inspection system. Several realities enter in to that recommendation, including the possibility of contracting support for the system. In any case it is expected to be a time consuming process, likely well beyond that currently available from the existing staff. Colorado was successful with a model in which one of the State information technology programmers was effectively placed on 100% assignment with their oil and gas conservation group. Leveraging

the experience gained by Colorado and others may significantly reduce the work effort required.

Based on conversations with states that have implemented a computer-assisted inspection system some desirable characteristics include the following:

- Tablet-based PC platform with a camera, GPS and broadband communication
- GPS based system to provide current location on a map of all the O&G wells in the state.
- Ability to click on a well and see all of the state-held data (inspection history, operator, depth, production history. . .)
- Ability to click on a well to be inspected and on command, have a tabbed branched, chick-listed and annotated inspection form for easy and complete entry of inspection data.
- Guided form selection, referenced to rule numbers, based on field observations.
- Ability to attach digital photographs to the well record.
- Ability to suggest other wells in the area that might be inspected, or are high risk.
- Batch update with the statewide data base after each inspection run.
- Integrated quality control structure, including computer and human verification.

Scope of Work

Table 1 below provides an estimate of the amount of time required to complete the various parts of the proposed solutions. These estimates are based on the current information available and MTST understanding of similar projects. For these reasons this scope-of-work does not represent a proposal on the part of Montana Tech to conduct the work.

This table is split into two parts, based on the path chosen to address the recommendations of the LAD. Path I is based on the development of a paper-based field inspection manual with the integrated development of a computer-assisted field inspection system. Path II assumes that training and field procedures are encoded in the software, eliminating the need for the paper procedures manual.

These estimates should be taken as a whole. Selecting items out of these tables without the recommended preceding work may under-estimate the final cost.

Table 1 – Estimate of Scope of Work for Field Inspection Manual and System

Path I - Develop Manual then Computer-assisted System		Est Hours			
Path	Proc	Task	Tech Writer	S/W Engr	O&G Div
		Develop inspection manual with following:			
A.		Montana paper Field Inspection Procedures Manual (FIPM) and associated study of computer forms			
	i.	Research and write paper manual	160	40	20
	ii.	Research Colorado and other state's computer forms systems for similarities and difference with Montana procedures and regulations as embodied in the paper manual	20	40	5
B.		Adaptation/implementation of computer forms system with on-line help edited from manual.			
	i.	Write concept of operations document and get buy-in from all stake holders		40	5
	ii.	Write field inspectors user manual, system administration manual, and software requirements specification for Montana Computer Forms Oil and Gas Inspection System; and get approval and budget for adaptation/implementation.	40	100	5
	iii.	Software design document, implementation (with Montana inspection help) and usability testing at Montana Tech. Write Installation and SysOps Manual for SITSD*	40	100	0
	iv.	Delivery of Montana Computer Forms Inspection system to O&G Division and SITSD	16	16	16
Total hours			276	336	51
Total Estimated Hours - Path I			663		

Path II - Develop Computer-assisted System		Est Hours				
Path	Proc	Sub-Proc	Task	Tech Writer	S/W Engr	O&G Div
II.			Computer forms with manual embedded in help links			
A.	i.		Research Colorado and other states computer forms systems, write concept of operations document and get buy-in from all stake holders	30	80	20
	ii.		Write field inspector's user manual, system administration manual, and software requirements specification for Montana Computer Forms Oil and Gas Inspection System; and get approval and budget for adaptation/implementation.	40	100	5
	iii.		Software design document, implementation (with Montana inspection help) and usability testing at Montana Tech. Write Installation and SysOps Manual for SITSD. *	40	100	0
	iv.		Delivery of Montana Computer Forms Inspection system to O&G Division and SITSD	16	16	16
Total Hours				126	296	41
Total Estimated Hours - Path II				463		

*These estimates made under the assumption that most of the software being used in Colorado, or another state that has modified the Colorado system, can be readily migrated to a Tech system and needs only to be changed to comply with the Montana inspection procedures.

For budgetary purposes, travel and other expenses should be estimated at an additional 20% above the expected hourly cost. Appropriate ruggedized field computers at government rates are about \$2,500 each, requiring an additional investment on the order of \$20,000.

Conclusion

The Performance Audit of the Board of Oil and Gas Regulatory Program conducted by the Legislative Audit Division (LAD) is viewed by the Montana Tech Scoping Team (MTST) as an opportunity to significantly enhance the efficiency and transparency of the oil and gas inspection program in Montana. However, this will not be accomplished without cost. The scope of the effort is sufficiently large that significant resources need to be allocated, which could be accomplished through hiring temporary workers or contracting the system out to an external vendor. The MTST recognizes a significant risk to the on-going operation of the O&G Division if no additional resources are allocated.

This Scoping Report provides an estimate of the time required to address the recommendations contained in the LAD report. These estimates (Table 1) assume current best-practices are used in both the computer-assisted and text-based portions of the project, from conceptualization through design and implementation. The individual elements from Table 1 may also be useful as a starting point for development of a request-for-quote. In any case, it is hoped these estimates will assist the Board of Oil and Gas Conservation in appropriately scaling resources to address the recommendations contained in the audit report from the of the Montana Legislative Audit Division.

The members of the Montana Tech Scoping Team would like to thank the Montana Department of Natural Resources and especially the Board of Oil and Gas Conservation and their administrative staff for this opportunity to be of service to Montana.

Appendix

Legislative Audit Division Recommendations

The final report of the Legislative Audit Division contained a total of seven specific recommendations.

Recommendation #1 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, develop a formal risk-based inspection approach that establishes inspection priorities.

Recommendation #2 We recommend the division, under the supervision of the Board of Oil and Gas Conservation:

- A. Develop formal policies and procedures pertaining to the inspection program.
- B. Ensure these policies and procedures are applied consistently by staff.

Recommendation #3 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, standardize how inspections and compliance activities are documented and tracked.

Recommendation #4 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, strengthen enforcement activities by:

- A. Ensuring compliance with existing administrative rule timelines.
- B. Identifying if additional corrective action timelines are needed.
- C. Establishing formal guidelines for corrective action activities.

Recommendation #5 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, comply with state information technology policy to ensure a segregation of duties over management of the Oil and Gas Information System.

Recommendation #6 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, comply with statute and state information technology policy by:

- A. Developing, documenting, and maintaining an Oil and Gas Information System security plan.
- B. Enforcing, through automated methods, the state information technology password policy for the Oil and Gas Information System.

Recommendation #7 We recommend the division, under the supervision of the Board of Oil and Gas Conservation, comply with state information technology policy by developing, documenting, testing, and maintaining an Oil and Gas Information System disaster recovery plan.

Board of Oil and Gas Conservation Response

In a July 26, 2011 letter to the Legislative Auditor Tori Hunthausen, the BOGC administrative staff provided a response to these recommendations as follows:

BOGC Response to R1, R2, R3

We concur with recommendations 1 through 3. Although we feel that these three recommendations are basically the same recommendation, we believe the division and the Board can implement the recommendations in same manner: by expanding the UIC program's inspection policies and procedures, including setting of inspection priorities, establishing standardized policies and standardizing the associated documentation. The current well inspection program has been successful in achieving compliance with the rules and regulations. It has been responsive to landowner complaints, spills, leaks and other emergencies, and it has provided the Board with reliable on-the-ground information and observations. However, improving the documentation and consistency of inspection results is desirable.

The inspection manual currently used in UIC will need to be reviewed and edited to reflect the broader scope of wells to be inspected. The UIC manual does not include oil and gas production facilities and some aspects of drilling including blow-out prevention and similar mechanical/safety requirements ordinarily inspected during drilling and those sections and other new sections will need to be written. The prioritization will also need editing to reflect more classes of wells than the injection well subset currently addressed. The use of standardized inspection forms is well on its way toward implementation; the outstanding non-standard reports and inspection priorities will be reviewed to determine if separate forms are truly needed as some other states use. It should be noted that the supervision by the Board will be policy direction and guidance to reflect the nature of the Board's meeting schedule and the available time of the minimally compensated volunteer Board.

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Administrative Rules of Montana (ARM), Title 36, Chapter 22, "Oil and Gas Conservations", <http://www.mtrules.org/gateway/ChapterHome.asp?Chapter=36.22>

Montana Code Annotated (MCA), various sections, http://data.opi.mt.gov/bills/mca_toc/index.htm

Oklahoma Corporation Commission, "Oil and Gas Field Inspector Operations Manual," (2012)

Railroad Commission of Texas, Oil and Gas Division, "Field Operations Handbook," (1996)

Biographical information on the members Montana Tech Scoping Team

Frank Ackerman, PhD.

Frank Ackerman has 50 years of experience in all phases of software development. In 1985 he founded the Institute For Zero Defect Software to do applied research, consulting, and training for software development organizations seeking to improve the quality of their software. His personal experience has led him to the conviction that today's development organizations can achieve significant improvement in software quality with increased effort. Some of his current research and educational activities are focused on improving current specification, coding, test, and review techniques for the development of high quality software. Dr. Ackerman has been active in either the Association for Computing Machinery or the IEEE Computer Society throughout his career. He is a Life Member of the IEEE. Presently he is an Associate Professor of Computer Science and Software Engineering at Montana Tech of the University of Montana. He is a graduate of the University of Chicago and holds a Ph.D. in computer science from the University of North Carolina at Chapel Hill.

Merle Benedict, PhD, MPH

Merle is an assistant professor in the Safety, Health and Industrial Hygiene department at Montana Tech. He teaches undergraduate courses in occupational safety and health and graduate courses in industrial hygiene. Merle possesses a bachelor's degree in health science from BYU-Idaho and a master's degree in industrial hygiene from the University of Michigan. He earned a Ph.D. in environmental health science also through the University of Michigan. Merle's research experience includes environmental epidemiology, reproductive health and exposure assessment. He also has industrial hygiene experience in the petroleum and healthcare industries.

William J. Drury, PhD.

Bill Drury has been on the faculty of Montana Tech of the University of Montana since 1992, where he is a Professor in the Environmental Engineering Department. He has a B.S. in Civil Engineering from Marquette University, a M.S. in Environmental Health Engineering from Northwestern University, and a Ph.D. in Civil Engineering from Montana State University. His expertise is in water and wastewater treatment and in the use environmental biotechnology for remediation purposes. He has researched the use of passive biological systems for mine drainage treatment. He is a member of the Water Environment Federation and the International Mine Water Association.

Kay Eccleston, MS

Katherine Eccleston has twenty years specialized communication and project management experience in industry and government settings. Her expertise includes technical writing and editing, document design and production, project management, and public relations. Katherine's industry experience includes researching, writing, editing, and producing technical reports, procedural documentation, software manuals, on-line documentation, proposals, and white papers. She is highly skilled in implementing communication standards and best practices. Her past work experience includes Senior Technical Writer for VLC Systems in Bozeman, Montana, Technical Writer/Editor for MSE, Inc., in Butte, Montana, Assistant Editor for the Montana Bureau of Mines and Geology, and adjunct instructor at Montana Tech. As a contract consultant, Katherine has also worked extensively with authors and subject matter experts to produce training material, technical reports and textbooks, and interpretive display materials.

For the past eight years, she has been employed as a full-time instructor in the Technical Communication Department at Montana Tech. worked at VLC, in Bozeman, Montana, Skilled at writing/editing proposals, press releases, technical reports, procedures, and white papers. Katherine holds a bachelor's degree in Society and Technology and a master's degree in Technical Communication.

John Getty, MS

John is an Instructor and Lab Director in the Petroleum Engineering Department at Montana Tech in Butte, Montana. He currently teaches Natural Gas and Production Engineering laboratory courses at Tech as well as managing the Proppant Research Division (PRD). The PRD focuses on advancing fracture stimulation technologies, providing initial evaluations of material for use as a proppant and proppant performance testing per ISO standards. After graduating from Colorado State University with a BS in Applied Physics, Mr. Getty worked in the oil and gas service sector for 10 years. Over the past 25 years he has been actively engaged in post-secondary engineering education. He recently completed a Master of Science degree in Science Education at Montana State University in Bozeman, Montana.

Montana Board of Oil and Gas Conservation

FINAL REPORT

Scope of Work

for the Development of a
Procedures Manuals
and a
Field Inspection System

DNRC MOU 128220

Montana Tech of the University of Montana

1

Concerns from the Audit

1. Inspection procedures, documentation and risk prioritization (Recommendations 1, 2, 3)
2. Timelines and guidelines for policy enforcement and corrective actions (Recommendation 4)
3. BOGC compliance with State of Montana IT policies (Recommendations 5, 6 and 7)

Proposed — Two-Phase Project

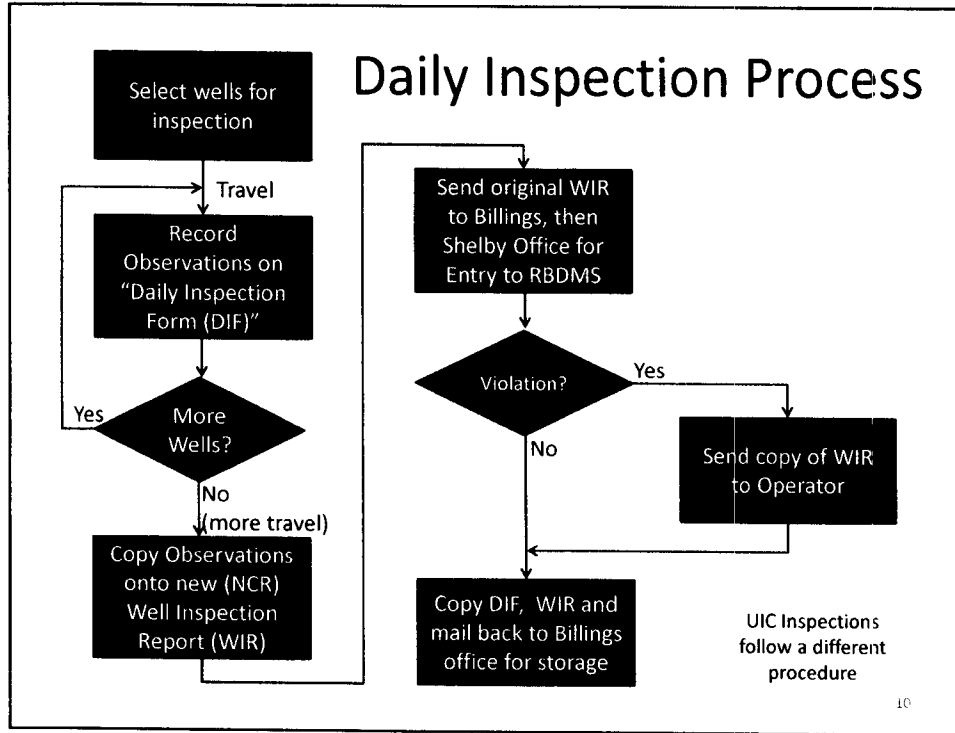
- Phase 1 – Develop scope-of-work
 - Review pertinent documents
 - Existing procedures documentation, forms
 - Report from the Legislative Audit Committee
 - EPA UIC manual
 - Applicable Montana Regulations
 - Write specifications
 - Recommended deliverables
 - Estimate of effort
 - Draft of RFQ
- Phase 2 – Implement

3

Methods

- Review of current BOGC documents
- Ride along – Field Supervisor Gary Klotz
- Conference calls – BOGC personnel
- Private interviews – Field inspection personnel
- Discussions with Lisa Blanford – LAD
- Contact with players in enforcement and inspection
 - Texas
 - Colorado
 - North Dakota
 - Ground Water Protection Council

5



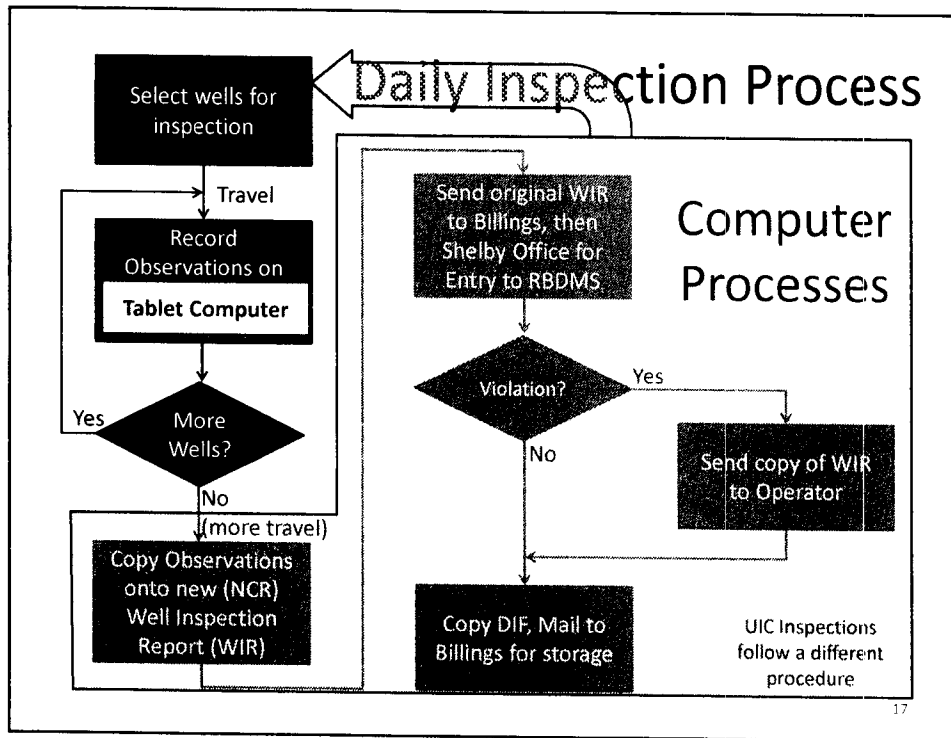
10

Recommended Alternatives

Path I - Develop Manual then Computer-assisted System				Est Hours		
Path & Sub-Proc	Task	Tech Writer	S/W Engr	O&G Div		
A.	Montana paper Field Inspection Procedures Manual (FIPM) and associated study of computer forms					
i.	Research and write paper manual	160	40	20		
ii.	Research Colorado and other state's computer forms systems for similarities and difference with Montana procedures and regulations as embodied in the paper manual	20	40	5		
B.	Adaptation/Implementation of computer forms system with on-line help edited from manual					
i.	Write concept of operations document and get buy-in from all stake holders		40	5		
ii.	Write field inspectors user manual, system administration manual, and software requirements specification for Montana Computer Forms Oil and Gas Inspection System; and get approval and budget for adaptation/implementation.	40	100	5		
iii.	Software design document, implementation (with Montana inspection help) and usability testing at Montana Tech. Write installation and SysOps Manual for SITSD*	40	100	0		
iv.	Delivery of Montana Computer Forms Inspection system to O&G Division and SITSD	16	16	16		
Total hours		276	336	51		
Total Estimated Hours - Path I		663				

Path II - Develop Computer-assisted System				Est Hours		
Path & Sub-Proc	Task	Tech Writer	S/W Engr	O&G Div		
ii.	Computer forms with manual embedded in help links					
A. i.	Research Colorado and other states computer forms systems, write concept of operations document and get buy-in from all stake holders	30	80	20		
ii.	Write field inspector's user manual, system administration manual, and software requirements specification for Montana Computer Forms Oil and Gas Inspection System; and get approval and budget for adaptation/implementation.	40	100	5		
iii.	Software design document, implementation (with Montana inspection help) and usability testing at Montana Tech. Write installation and SysOps Manual for SITSD.*	40	100	0		
iv.	Delivery of Montana Computer Forms Inspection system to O&G Division and SITSD	16	16	16		
Total Hours		126	296	41		
Total Estimated Hours - Path II		463				

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Board of Oil and Gas Conservation

Montana Tech
THE UNIVERSITY OF MONTANA

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SNaP

A Survey of *Native Proppant* Resources within Montana

A proposal to:

Oil and Gas Conservation Division
Department of Natural Resources and Conservation
PO Box 201601
Helena, MT 59620-1601

Proposed by:

Department of Petroleum Engineering
and
Montana Bureau of Mines and Geology
Montana Tech of the University of Montana
1300 W. Park St
Butte, MT 59701

MontanaTech
THE UNIVERSITY OF MONTANA

SNaP: A Survey of Native Proppant Resources within Montana

20 Jan 2012

Executive Summary

Hydraulic fracturing is the process of inducing conductive fractures in oil and gas reservoirs. The process is critical to the economic feasibility of more than 80% of oil and gas wells drilled today and without which the development, for example, of the Bakken Formation in eastern Montana would not have been possible.

The Petroleum Engineering Department, in collaboration with the Montana Bureau of Mines and Geology (MBMG), seeks to initiate a survey of the State of Montana for material suitable for use as a proppant in hydraulic fracture stimulation operations. This project would provide the State of Montana as well as players in the oil and gas industry with publicly-available information on the location and quality of potentially economic deposits of proppant-grade material.

If this effort is successful and deposits of appropriate material are located that are beyond those currently known, it is very likely that the effort will create a large positive impact on the economy of this State. The expected market for frac sand in just that portion of the Bakken formation within Montana is nearly \$25 million annually. The total annual market in the Bakken, including North Dakota, approaches a quarter of a billion dollars.

Background

Proppant is the name given to both natural and man-made sand-like materials used to hold open fractures created in oil and gas wells during fracture stimulation (“fracing”.) Many different types of proppants have been used in the process of hydraulic fracture stimulation ranging from walnut shells to sophisticated (and expensive) man-made materials. However, the most common proppant by far is naturally occurring sand.

Reports published by RigData indicate that a quarter of a million oil and gas wells were started in 2010, up from about 160,000 in the previous year. In order to be economic, most of those new wells require fracture stimulation. And, because large amounts of frac sand is required for each well — it is not uncommon for 100,000 lbs of material to be pumped into a well — a huge demand has developed for this material. In spite of the extraordinary costs, operators have been known to import material from China. Putting these numbers together leads to a conservative estimate that billions of pounds (10^9 lb) of frac sand were pumped into the ground in 2010. . . just in the United States.

Locating sources of proppant inside Montana would have the dual effect of reducing transportation costs to fields in Montana (such as the Bakken in the eastern part of the State) and it would stimulate significant economic growth. As our energy needs continue to grow, so too will the demand for this material. It is estimated that the potential market for proppant in the Bakken formation will surpass \$210 million in calendar year 2012. Detailed analysis is provided in the appendix.

The Petroleum Department and the MBMG have gained confidence that such deposits can be identified within Montana. Several unsolicited samples brought to us have proven to qualify per the American Petroleum Institute (API) standards.

There are a number of potential sources that deserve a look. The following list was compiled for this proposal by geologists at the MBMG.

High-energy marine deposits and marginal marine sand-dune deposits are the most likely possibilities for quartzose sandstone with well- rounded and spherical grains. The following are those types of deposits in Montana that can have variable degrees of cementation. Thicknesses are for the entire stratigraphic unit, not just the sandstone.

Virgelle Formation—White to light gray, fine- to coarse-grained, locally titaniferous, quartzose sandstone. Marine shoreface and foreshore environments. Central and northwestern Montana, but northwestern Montana Virgelle is probably better possibility. Thickness as much as 90 m.

Fall River Formation—Gray and brown, fine- to medium-grained, quartzose sandstone with thin interbeds of dark gray shale at top. Nearshore marine environment. South-central Montana. Thickness as much as 70 m.

Flood Member of Blackleaf Formation—Quartzose basal sandstone with interspersed limonite flecks. Nearshore marine environment. Central and southwestern Montana, but southwestern Montana Flood is probably better possibility. Thickness as much as 230 m.

Sunburst Member of Kootenai Formation—Well sorted, quartzose sandstone with interspersed limonite specks. Nearshore marine environment. Great Falls area. Thickness as much as 30 m.

Goose Egg Formation—Red shale and sandstone with some interbeds of anhydrite, gypsum, and limestone. Nearshore marine, marine, and restricted marine environments. Pryor and Bighorn Mountains. Thickness 30 m.

Quadrant Formation—Very light gray, yellowish or pinkish, well-sorted quartzose sandstone or quartzite, locally interbedded with subordinate limestone beds. Marine environment. Western Montana. Generally thickness as much as 140 m, but as thick as 800 m in southwesternmost Montana.

Tensleep Formation—Very light gray sandstone interbedded with subordinate carbonate, shale and anhydrite. Cyclical marine, eolian, and sabkha. Pryor and Bighorn Mountains. Thickness about 60 m.

Cameron Creek Member of Tyler Formation—Red, purple, and brown quartzose sandstone with subordinate gray shale and limestone. Central Montana. Thickness 25-65 m.

Greybull Member of Kootenai Formation—Light brownish gray, fine- to medium-grained, well sorted, clean quartzose sandstone with interspersed limonite flecks. Occurs as channel fill in Pryor and Bighorn Mountains. Thickness as much as 75 m.

A map showing the location of outcrops containing material potentially of interest to this survey is presented in the appendix.

SNaP Project Description and Methodology

The Petroleum Department, in cooperation with the Montana Bureau of Mines and Geology (MBMG), seeks funding to support a study to determine the quality, an estimate of the extent and location of deposits of proppant-grade material within Montana.

The project will consist of a total of five phases as identified below.

Part 1 – Initial Survey of Potential Sources (Year 1)

Phase I – Planning field work

The first step in the project will be to gather information on potential formations from the literature and subject experts at the MBMG. Geologic and topographic maps as well as any available imagery will be utilized to select areas for initial field examination. A very important component of this will be Susan Vuke's experience in mapping sandstones in central and eastern Montana and Dick Berg's experience along the Rocky Mountain Front.

Phase II – Initial field examination of potential formations

1. Those areas of best exposure and accessibility of the formations selected as determined in Phase I will be examined. This preliminary reconnaissance will involve examining outcrops for friability and assessment of the quartz content and sedimentary maturity of the sandstone.
2. Exposures will be photographed and selected grab samples will be collected. Field notes and photographic records will be up-loaded in near real time, to speed recordkeeping for later lab analysis.
3. Judgment will be made on sites suitable for obtaining channel samples. Permission to collect channel samples will be obtained if necessary.
4. Laboratory analysis will grade these initial samples as to their suitability for use as proppant.
5. Sites for additional sampling will be selected based on the potential for production of proppant-grade material.

Part 2 – Detailed Sampling to estimate deposit size, improve estimate of quality (Years 2 and 3)

Phase III – First round of channel sampling

1. At the sites selected in Phase II, channel samples will be collected in increments of 5 feet for either the thickness of the formation or through the interval that is sandstone.
2. The completed channel will be marked to identify channel breaks, photographed and the data linked to servers at Tech.
3. The resulting samples will be evaluated in the lab.
4. A comparison will be made between the grab samples obtained in Phase II and the channel samples collected in this Phase III. This will inform a review of the site selection to reduce the likelihood that economic deposits are overlooked.
5. Sites for additional sampling (Phase IV) will be selected with the goal of confirming the initial results and extending testing to identify the boundaries of the deposit.

Phase IV – Second round of channel sampling

1. After the samples gathered during the first round (Phase III) have been tested per the API procedures additional channels will be cut in those formations or areas that appear most promising. These sites will be picked not only on the basis of the test results, but also by going back to observations made during Phase II.
2. These new samples will be analyzed for appropriate characteristics.

Phase V — Preparation of final report for publication

1. Using the laboratory test data provided by Petroleum Engineering and geologic information from the MBMG, a map will be created that will identify the formation, outcrop location, proppant characteristics and estimated extent of deposits.
2. Educational materials on working with developers and navigating the State of Montana regulations will be developed.
3. Results of the study will be forwarded to landowners and mineral rights owners who permitted sampling on their land.
4. Project results will be published electronically on the MBMG website.
5. The proppant data base will be advertised by submission of articles contributed to trade magazines, technical journals and conference presentations.

Much of the work for this project will be completed by students at Montana Tech under the guidance of academic faculty and MBMG personnel.

Budget

Funding is being requested for Part 1 (Phases I and II) to determine the existence of potential source formations. If potential source formations are identified, additional funding will be request for Part 2.

1. A majority of the requested funding is for support of field and lab personnel conducted primarily by students at Montana Tech. This portion makes up about half of the total personnel costs..

The two principle investigators, John Getty and Dick Berg will charge a total of 11 months of salary over the three year life of the project. Mr. Getty intends to continue teaching full time and will be charging two month's salary to the project over each of the three years. In each of the project fiscal years, one of those months will be in the summer and the other will be spread out as an overload during his regular 10-month-long academic contract. His primary responsibility will be directing and supervising lab analysis of the proppant samples.

The five month's salary for Dr. Berg (or his replacement upon his retirement) will be used as a buy-out from his regular duties at the MBMG over the three year life-span of the project. He will be primarily in charge of supervising the field crews that will be sampling the relevant formations.

Two weeks of time for Mr. Robin McCulloch are included to assist with training students in sample preparation.

Mapping and GIS services required for preparation of the results for public dissemination are budgeted for MBMG staff. One and ½ months salary in Year 3 is budgeted for this purpose.

2. Most of the travel budget will be used to offset the cost of the field sampling program. Sampling is expected to take a total of 100 days. An average of 200 miles per day is assumed to estimate motor vehicle costs. Sixty nights are planned at hotels to maximize the travel efficiency. The remainder will be set aside to cover costs for travel to conferences and presentations to publicize the study.
3. The supplies budget will be used to acquire the needed non-capital items. Channel samples will be obtained from formations in the field using a chisel hammer/generator set. Two are required since there will be two field teams working simultaneously. iPads will be utilized to provide both photographic and written descriptions of the samples.

The remainder of the items in the Supplies category will enhance the existing capacity of the proppant lab in Petroleum Engineering. Because of the large number of samples that are expected, some of the requested equipment will allow parallel processing to occur, maximizing the efficiency of the lab personnel.

4. The equipment budget includes capital items required to achieve a sample throughput capacity sufficient to keep up with the volume of material expected from the field. The storage unit is a cargo container, modified with a man-door at the center and storage racks. This unit will be used to provide long term storage for the samples acquired.

A budget spreadsheet detailing these expenditures is presented in the appendix of this document.

Summary

Demand for proppant-grade sand is increasing at an exponential rate. Proppant is in such short supply that oil and gas operators are seeing well completions constrained by the amount and the quality of the proppant that is available. Manufacturers are ramping up to meet demand using an artificial proppant material but the cost of this material is high and availability is still low.

The deliverables of this project will be educational materials made available to the students at Montana Tech, residents of the State of Montana and interested businesses worldwide.

If, as we suspect, suitable deposits within Montana can be located the burgeoning demand will spur both home-grown businesses and could even attract investment from out-of-state companies currently in the business. The Petroleum Engineering Department and the Montana Bureau of Mines and Geology are ideally situated to help make that happen.

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APPENDIX

Proposed Budget

SNaP Budget - Evaluating Proppant Sources within Montana

Item	Description	Qty	Monthly Rate	Base Salary	Part 2			Total
					Yr 1	Yr 2	Yr 3	
1 Personnel (amounts include benefits)								
1.1	John Getty, Pet Engr, Pl (1 month summer salary Yr 1, Yr 2 & Yr 3)	3	6,441	64,407	\$0	\$13,268	\$6,827	\$20,095
1.2	John Getty, Pet Engr, Pl (1 month AY Extra Compensation Yr 1, Yr 2 & Yr 3)	3	6,441	64,407	\$6,441	\$6,634	\$6,827	\$19,902
1.3	Dick Berg, MBMG, Co-PI (3.5 mo/Yr 1, 1mo/Yr 2, .5mo/Yr 3)	5	6,116	73,388	\$15,289	\$12,598	\$3,241	\$31,129
1.4	Robin McCulloch (.25mo/Yr 1 & .25mo/Yr 3)	0.5	4,982	59,778	\$1,245		\$1,320	\$2,565
1.5	GIS and graphics (1.5 months / Yr 3)	1.5	3,772	45,264			\$5,997	\$5,997
1.6	4 Students (10 hrs/wk @ \$10/hr during AY, 40 hrs/wk@10/hr Summer)				\$13,200	\$39,600	\$33,600	\$86,400
1.7	Benefits (46% Professionals)				10,569	14,950	11,138	\$36,657
1.8	Benefits (students 3 % AY & 10% Summer)				\$1,472	\$2,352	\$2,352	\$6,176
TOTAL SALARY & BENEFITS					\$48,216	\$89,402	\$71,303	\$208,921

2 Travel								
2.1	Field work, per diem (5 ppl, 100 days)	500	\$23		\$5,000	\$5,000	\$1,500	\$11,500
2.2	Field work, lodging (3 rooms, 60 nights)	180	\$77		\$6,000	\$6,000	\$1,860	\$13,860
2.3	Field work, mileage (200 miles/day)	20000	\$0.36		\$3,300	\$3,300	\$600	\$7,200
2.4	Presentations/Conferences (2 ppl)	2	\$2,500			\$1,500	\$3,500	\$5,000
TOTAL TRAVEL					\$14,300	\$15,800	\$7,460	\$37,560

3 Supplies								
3.1	Chisle Hammer and generator	2	\$1,500			\$3,000		\$3,000
3.2	Drying Oven	1	\$4,000		\$4,000			\$4,000
3.3	Crush cell	1	\$3,000		\$3,000			\$3,000
3.4	Lab Supplies (per year)	3	\$2,000		\$2,000	\$2,000	\$2,000	\$6,000
3.5	Sieve set	2	\$1,500		\$1,500	\$1,500		\$3,000
3.6	Gram scales	2	\$600		\$1,200			\$1,200
3.7	iPads for field notes and photo-documentation	3	\$600		\$1,800			\$1,800
TOTAL SUPPLIES					\$13,500	\$6,500	\$2,000	\$22,000

4 Equipment								
4.1	Load frame	1	\$25,000		\$25,000			\$25,000
4.2	Sieve Shaker	1	\$5,000			\$5,000		\$5,000
4.3	Storage Unit	1	\$8,000			\$8,000		\$8,000
TOTAL EQUIPMENT					\$25,000	\$13,000	\$0	\$38,000

5 Facilities & Administrative (25% of Total Direct Costs)								
5.1	F & A's	25%	TDCs		\$25,254	\$31,176	\$20,191	\$76,620
TOTAL EQUIPMENT					\$25,254	\$31,176	\$20,191	\$76,620

Project Expenses	101,016	124,702	80,763	306,481
Overhead (State rate 25%)	25,254	31,176	20,191	76,620
Project Cost	\$ 126,270	\$ 155,878	\$ 100,954	\$ 383,101
	Yr1	Yr2	Yr3	Total Project
	Part 1	Part 2		

Market analysis

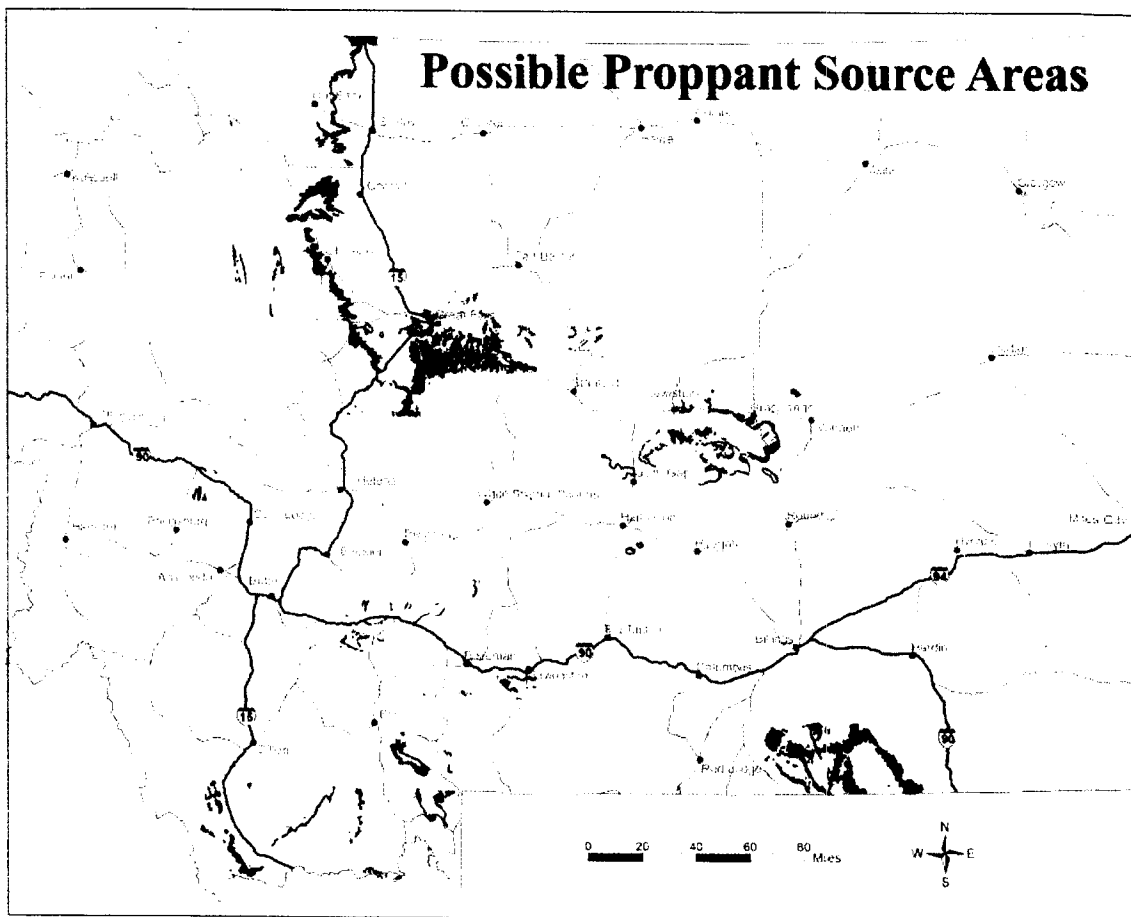
The table below provides an estimate of the size of the market for proppant in the Bakken field. Additional proppant requirements for wells that are outside of the Bakken are not included in the estimate and would increase the expected market size. The well and frac sand volume data was obtained from the North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division and the Montana Board of Oil and Gas Conservation.

Gross value estimates were obtained from US Silica and are for Ottawa White 20/40 proppant. The profit margin used in calculating net profit was estimated and is based on a profit level sufficient to make the enterprise attractive to industry.

Estimates on Frac sand requirements for Bakken drilling

	Unit			
	Cost	ND DNR*	MT BOGC	Total Mkt
new wells per year		1,667	200	1,867 wells/yr
frac sand per well (lbs)		3,000,000	3,000,000	
frac sand per well (tons)		1,500	1,500	
annual projected total consumption (tons)		2,500,000	300,000	2,800,000 tons
Gross value @ \$75 per ton	75	187,500,000	22,500,000	210,000,000 Processed
Net profit @ \$10 per ton (mine mouth)	10	25,000,000	3,000,000	28,000,000 Net Profit

Formations of interest



This map, prepared by MBMG personnel for this proposal, shows the locations of formations that will initially be considered for inclusion in the *SNaP* project. This map will likely expand as the survey identifies additional other potential sources of proppant materials. This map does not include fluvial deposits.

SNaP

A Survey of Native Proppant Resources within Montana

A proposal by the
Department of Petroleum Engineering
and
Montana Bureau of Mines and Geology

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Types of proppant

Three general categories:

1. Natural (sands)
 - Northern White (Ottawa)
 - Brown (Brady)
2. Ceramics (manufactured)
 - LWC
 - ISP, HSP (and high density)
3. Other
 - Light weight polymers

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US Silica 20/40 Ottawa White

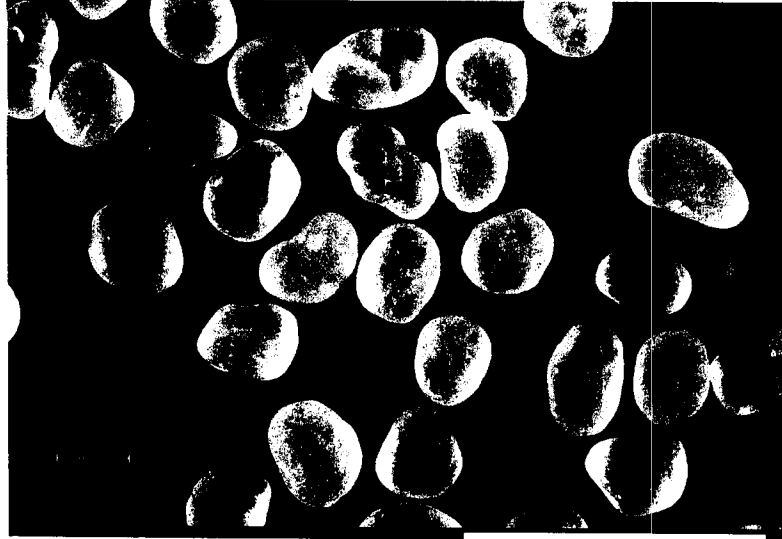
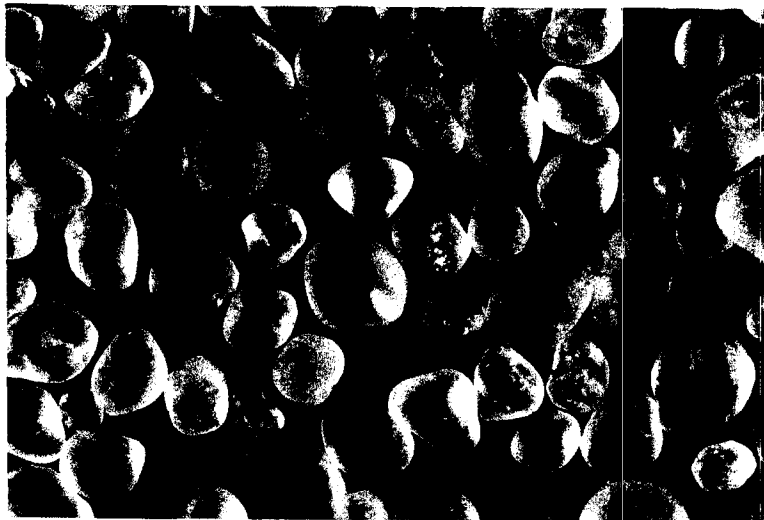


Photo: Rory Lapka, Montana Tech, 2011

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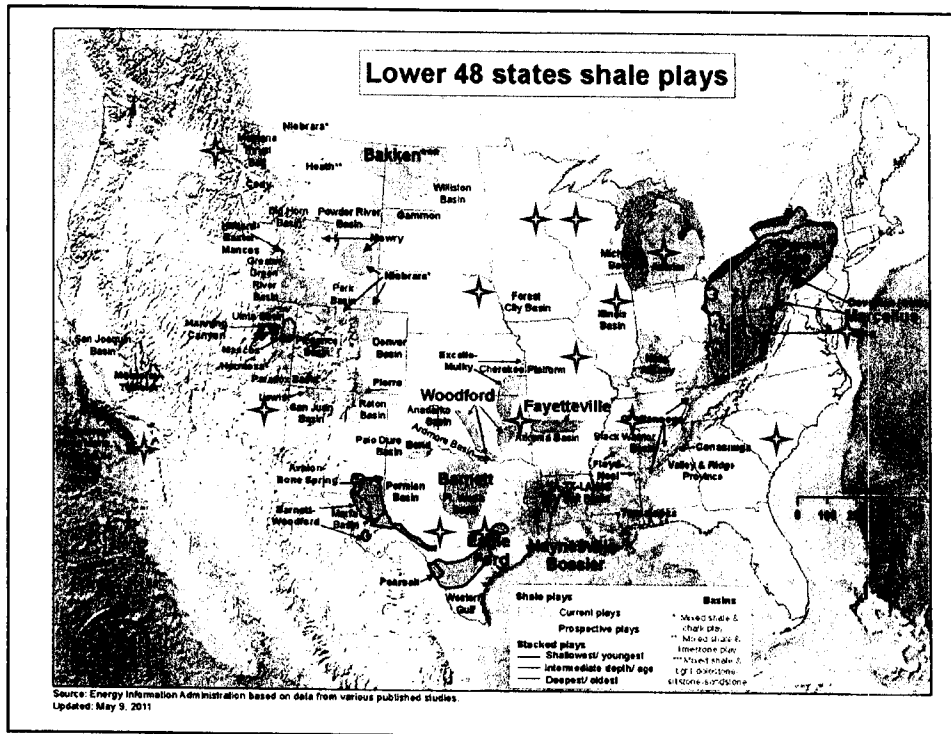
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Mc-110612 Montana



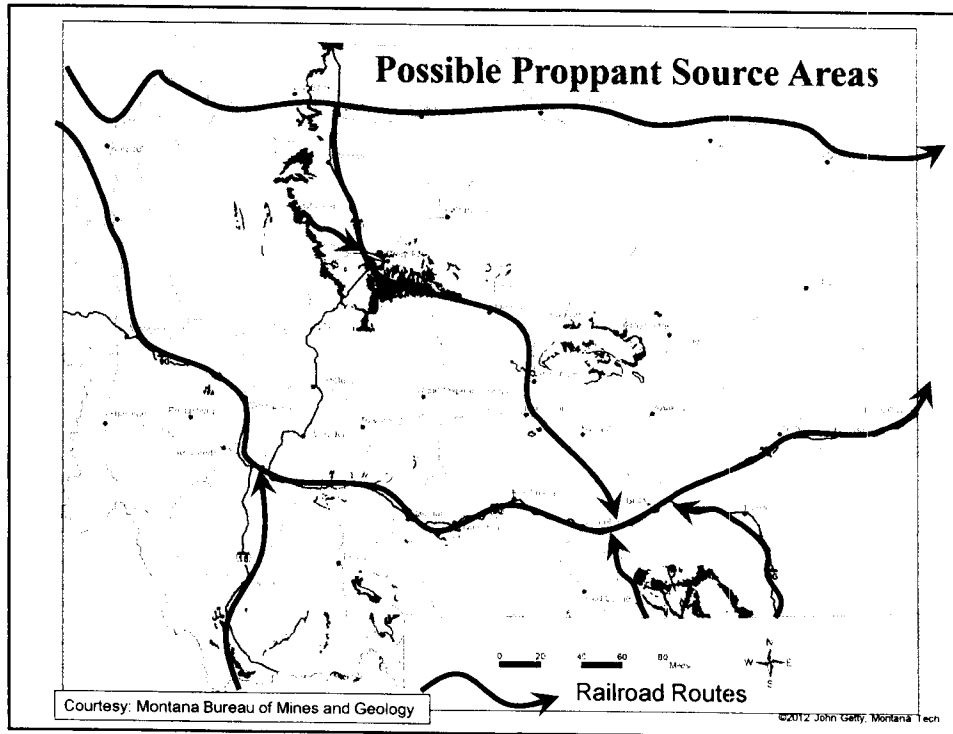
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Sand, Sand Everywhere

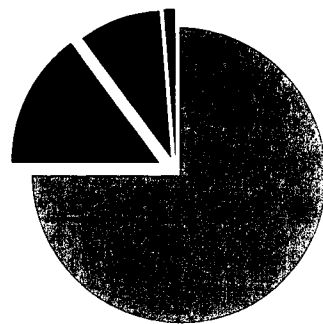
- There are currently no fully-developed proppant sources within Montana
- Demand is outstripping supply
- Demand is expected to increase
 - Bakken is bigger than Prudhoe Bay
 - Other plays are being evaluated
- Montana is ideally situated if sources of frac sand are found



Bigger than a Bread Box

One major service company expects to pump about 6,000,000,000 lb of proppant in 2012 in just the Rocky Mountain Region.

Product Mix



- Sand
- Ceramic
- Resin
- Other

Economics of Frac Sand in the Bakken

	ND DNR	MT BOGC	Total Mkt	
New wells per year	1,667	200	1,867	wells/yr
frac sand per well (lbs)	3,000,000	3,000,000		lbs
annual projected total consumption (tons)	2,500,000	300,000	2,800,000	tons
Gross value @ \$30 /ton (Mine mouth)	\$75,000,000	\$9,000,000	\$84,000,000	Processed for sale
Net profit @ \$5/ton (Mine mouth)	\$12,500,000	\$1,500,000	\$14,000,000	Net Profit

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Two Part Project

Expenditure	Part 1	Part 2	
	Yr1	Yr2	Yr3
Personnel	\$48,216		
Travel	\$14,300		
Supplies	\$13,500		
Equipment	\$25,000		
Fac & Admin (IDC 25%)	\$25,254		
Totals	\$126,270		

Part 1 – Initial Survey of Potential Sources (Year 1)

Part 2 – Detailed Sampling to estimate deposit size, improve estimate of quality (Years 2 and 3)

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SNaP

Survey of Native Proppant

Collaborative effort between Montana
Bureau of Mines and Geology, Petroleum
Engineering

- Use existing geological maps to identify access to outcrops
- Collect and evaluate samples
- Produce and publish a map product that can be used for development of resources.

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Contact Information

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CONCERNING SPACING UNIT SIZE AND ALIGNMENT

I AM MAKING THIS STATEMENT ON BEHALF OF NUMEROUS PEOPLE AND OTHER FRIENDS AND FAMILY TRUSTS THAT HAVE MINERAL INTERESTS IN MONTANA, PRIMARILY PEOPLE IN M.F.B., NEMLMOA.

WE WOULD LIKE TO SEE SPACING UNITS COMPRISED OF TWO HALF SECTIONS, ESPECIALLY WHEN GEOLOGISTS SAY LATERALS ONLY DRAIN 500 FT. PERPENDICULAR TO LATERAL BORES. IT WOULD STILL ACCOMMODATE TWO MILE LATERALS WITHOUT TIEING UP EXCESSIVE ACREAGE FOR LONG PERIODS, THAT COULD OTHERWISE BE RELEASED. REASON IS THAT IT COULD BE A LOT OF YEARS BEFORE THE ORIGINAL DRILLER GETS BACK TO COMPLETE THE INFILLS.

IN A RECENT CASE THE COMPANY THAT DRILLED A WELL IN EACH OF THREE SPACING UNITS (3840 acres) --SUBSEQUENTLY SOLD OUT TO ANOTHER COMPANY THAT INTENDS TO USE THE INCOME FROM THOSE WELLS TO FINANCE THEIR DEVELOPMENT OF NEW LEASES IN THE BASIN. THEIR LAND DEPARTMENT EXPECTS THAT THEIR NEWLY ACQUIRED DEVELOPMENTS WILL TAKE YEARS TO COMPLETE, BASED ON PRESENT TIME LINES OF PROGRESS.

ANOTHER COMPANY CEO STATED THAT HIS COMPANY EXPECTS THAT IT WILL TAKE ABOUT 11 YEARS TO COMPLETE THEIR INITIAL DRILLING IN EASTERN MONT--MAINLY ROOSEVELT, RICHLAND AND SHERIDAN CO. IN THAT CASE A SMALL PRODUCING WELL COULD TIE UP GREATER PRODUCTION IN SAME SPACING.

DWIGHT E. VANNATTA
6740 HWY 327
BAINVILLE, MT 59212

406-769-2156 HOME
406-769-7156 CELL

**CONCERNING NOTIFICATION OF PEOPLE OR ENTITIES THAT HAVE SURFACE OR MINERAL
INTERESTS IN SPACING UNITS OR DRILLING PERMIT APPLICATIONS**

**NUMEROUS PEOPLE THINK THAT THE PRESENT NOTIFICATION RULE OUGHT TO BE
AMENDED BY ADDING THAT ALL SURFACE AND MINERAL OWNERS IN, AND ADJACENT
TO, SPACING UNITS OR DRILLING PERMIT APPLICATIONS, BE NOTIFIED IN WRITING
SIMULTANEOUS TO THE PUBLIC NOTICE. THE TIME FRAME SHOULD BE AT LEAST
THIRTY(30)DAYS INSTEAD OF TEN (10) DAYS. EVEN THOUGH THEY MAY NOT HAVE
EQUAL SHARES,THEY DO HAVE AN EQUAL RIGHT TO KNOW. THIS STATEMENT COMES
BECAUSE THERE HAVE BEEN INSTANCES WHERE THE SMALLER INTEREST OWNERS HAVE
BEEN IGNORED UNTIL OIL COMPANIES WERE FORCED TO NOTIFY OR TO CONTACT THEM,
HOPING NOT TO HAVE TO PAY THEM FOR ANYTHING.**

**DWIGHT VANNATTA
6740 HWY 327
BAINVILLE, MT. 59212**

**HOME 406-769-2156
CELL 406-769-7156**

**THIS COMMENT AND REQUEST IS ALSO ON BEHALF OF VIRGINIA NILES OF BILLINGS, MT
AND ROCKY NILES OF FAIRVIEW, MT.**

COMMENT

QUESTION

IT WAS MY UNDERSTANDING THAT A WATER PERMIT FOR OIL OR GAS EXPLORATION OR IN HIGHWAY CONSTRUCTION COULD BE ISSUED VERY QUICKLY, BUT THE D.N.R.C. INFORMED ME THAT IT COULD TAKE UP TO SIX (6) MONTHS OR MORE, AND TO CHECK WITH ONE OF THE SEVEN STATE ENTITIES THAT PLAY A ROLE IN ADMINISTERING MONTANA WATER RIGHTS AND STATEWIDE WATER ADJUDICATION. THAT PROCESS LED TO A "TEMPORARY PERMIT" FOR WATER USED FOR OIL OR GAS EXPLORATION OR IN HIGHWAY CONSTRUCTION, BUT IT HAS A PREDETERMINED EXPIRATION DATE.

MAYBE, AN "INTERIM PERMIT" COULD BE ISSUED SOONER WHILE THE "PROVISIONAL PERMIT" IS PROCESSED UNDER 85-2-311 MCA. HOWEVER, IT MAY BE POSSIBLE FOR A STATE AGENCY TO INFLUENCE THE D.N.R.C. TO PRIORITIZE AND EXPEDITE THE WATER PERMIT APPLICATIONS FOR OIL OR GAS EXPLORATION, LIKE THE HIGHWAY DEPT EXPEDITES WATER PERMITS FOR HIGHWAY CONSTRUCTION.

WOULD THE BOARD CONSIDER WRITING A LETTER TO THE D.N.R.C. AND REQUEST THEM TO PRIORITIZE AND EXPEDITE WATER APPLICATIONS FOR OIL OR GAS EXPLORATION BECAUSE THERE IS A BACK LOG FOR FRACING AND A DIRE NEED FOR FRAC WATER?

PLEASE SERIOUSLY CONSIDER THIS REQUEST, BECAUSE SOME OF THE WATER WELLS THAT HAVE BEEN USED FOR FRACING ARE NOW BEING USED FOR IRRIGATION, THUSLY LESS FRAC WATER. ALSO, COMPOUNDING THIS SITUATION, IS THE SHORTAGE OF WATER IN ND THAT WILL EVENTUALLY STOP WATER COMING FROM ND TO FRAC MONTANA OIL WELLS.

THANK YOU

DWIGHT VANNATTA
6740 HWY 327
BAINVILLE, MT

HOME 406-769-2156
CELL 406.769-7156

FINANCIAL STATEMENT
As of 8/1/12
Percent of Year Elapsed: 92

OIL AND GAS DIVISION FY12 Budget vs Expenditures																	
		2012 Regulatory Budget	Expend %	Expend % of Budget	2012 UIC Budget	Expend %	Expend % of Budget	2012 Education Outreach	Expend %	Expend % of Budget	2012 EPA CO2 Primacy	Expend %	Expend % of Budget	2012 TOTAL BUDGET	2012 TOTAL EXPENSES	Expend %	Expend % of Budget
FTE		17.0			3.5									20.5			
Obj																	
1000	General PS	(2,133)												(2,133)			
1100	Salaries	1,075,334	752,143	0.70	185,181	158,362	1.11							1,322,355	963,169	0.73	
1300	Other Comp		4,889	0.00	322	481											
1400	Benefits/Ins				61,518	47,295											
1600	Vacancy Savings				(9,884)									(9,884)			
2100	Contracted Svcs	531,225	97,561	0.18	66,135	12,948	0.20	1,500,000	6,556	0.004	250,000			2,347,360	110,508	0.05	
2200	Supplies	53,019	48,745	0.92	9,526	10,049	1.05							62,545	58,794	0.94	
2300	Communications	39,482	44,315	1.12	7,228	7,502	1.04							46,710	51,818	1.11	
2400	Travel	32,092	29,205	0.91	6,612	4,956	0.75							38,704	34,161	0.88	
2500	Rent	17,769	15,668	0.88	2,353	3,100	1.32							20,122	18,768	0.93	
2600	Utilities	11,908	15,081	1.27	2,464	3,232	1.31							14,372	18,313	1.27	
2700	Repair/Maint	9,722	13,932	1.43	2,896	3,321	1.15							12,618	17,253	1.37	
2800	Other Expenses	28,857	28,893	1.00	16,909	9,465	0.56							45,766	38,358	0.84	
3100	Equipment	35,575	14,509	0.41	12,500	11,211								48,075	25,720		
6000	Grants																
Total		1,832,850	1,064,942	0.58	363,760	271,921	0.75	1,500,000	6,556	0.004	250,000			3,946,610	1,343,419	0.34	
FUNDING																	
	State Special	1,819,114	1,064,942	0.59	256,209	244,171	0.95	1,500,000	6,556	0				3,839,059	1,315,669	0.34	
	Federal				107,551	27,750	0.26							107,551	27,750		
Total Funds		1,819,114	1,064,942		363,760	271,921								3,946,610	1,343,419		

FY10 Carryforward Org 2018		FY 11 Carryforward Org 2021	
start balance	122,991	start balance	191,319
less exp	(1,250)		
current bal	121,741		

REVENUE INTO STATE SPECIAL REVENUE ACCOUNT 6/1/12			
	FY12	FY11	Percentage FY12:FY11
Oil Production Tax	1,892,587	1,562,946	1.21
Gas Production Tax	233,675	265,464	0.88
Drilling Permit Fees	62,850	54,300	
UIC Permit Fees	219,400	208,650	
Enhanced Recovery Filing Fee		-	
Interest on Investments	11,281	40,332	0.28
Insurance Proceeds	1,160	-	
Accommodations Tax Rebate		491	
Copies of Documents	6,821	7,496	0.91
Miscellaneous Reimbursemts	246	25,300	
TOTALS	\$ 2,428,019	\$ 2,164,979	1.12

REVENUE INTO DAMAGE MITIGATION ACCOUNT as of 6/1/12	
	FY11
Transfer in from Orphan Share	0
RIT Interest	0
Bond Forfeitures	0
Reimburse for Fencing (Segelman)	2,800
Interest on Investments	833
TOTAL	\$ 3,633

BOND FORFEITURES AS OF 6/1/12		
Go into Damage Mitigation Account		
North American Technical Trading Compan	0	60,000
MSC Exploration		10,000
TOTAL		70,000

REVENUE INTO GENERAL FUND FROM FINES as of 6/1/12	
	FY12
Brandon Oil	20
Kelly Oil & Gas LLC	10
Hofland, James D	20
Hofland, James D	80
Slohcic Inc.	10
Slawson Exploration Co	5,000
McOil Montana One LLC	120
Misc. Oil Co	10
Phoenix Energy Inc.	90
Mountain Pacific General	4,900
Justice Oilfield Water Service Inc	20
Valerie Wadman (Frank Miller)	10
ECA Holdings LP	10
Coalridge Disposal & Petroleum	10
SBG Sheridan Facility	1,000
Southside Oil & Gas LTD	40
Hawley Oil	340
Native American Energy Group	100
Grey Wolf Production Company	50
August Energy Services LLC (Jake O)	30
Grey Wolf Production Company	50
Phoenix Energy Inc.	90
Mountain Pacific General Inc	1,040
Lyon Oil	120
Bensun Energy	5,000
August Energy Services LLC (Jake O)	1,100
Frank Baxter	5,000
Brandon Oil	70
R.F. Parsell Partnership	60
JH Oil Co	80
James D. Hofland	130
Quinque Oil	80
Harry Knaup	70
Roland Oil & Gas	30
Bensun Energy LLC	60
Slohcic Inc	70
Refund Frank Baxter	(5,000)
ECA Holdings LP	60
CW Shay	70
Hawley Oil	300
Jack Grynberg	70
Cut Bank Gas	100
L&B Well Service (Poor Boy Oil)	2,500
Native American Energy Group	200
Brent Zimmerman	1,000
HiLine Partners	500
Hunter Energy LLC	60
TOTAL	\$ 24,780

INVESTMENT ACCOUNT BALANCES 6/1/12	
Oil & Gas ERA	3,405,537
Damage Mitigation	377,688

GRANT BALANCES - 6/1/12			
<u>Name</u>	<u>Authorized Amt</u>	<u>Expended</u>	<u>Balance</u>
2009 Northern	300,000	0	300,000
2009 Southern	300,000	0	300,000
2007 Tank Battery	304,847	166,048	138,799
2011 Southern - TankBattery2	204,951	0	204,951
TOTALS	\$1,109,798	\$166,048	\$738,799

CONTRACT BALANCES - 6/1/12			
2012 Teachers Workshop	43,000	-	43,000
EOR Study - MT Tech	179,091	8,054	171,037
Scope of Work - MT Tech	6,250	715	5,535
Automated Maintenance Services, Inc.	27,458	16,078	11,380
Agency Legal Services - Legal	60,000	26,933	33,067
Central Avenue Mall	400	400	0
Liquid Gold Well Service, Inc. - 09 Northern	165,000	0	165,000
Liquid Gold Well Service, Inc. - 09 Southern	165,000	0	165,000
C-Brewer - 07 & 11 Southern Tank Battery	424,650	166,048	258,602
TOTALS	1,070,849	218,229	852,620

Agency Legal Services Expenditures in FY12		
<u>Case</u>	<u>Amt Spent</u>	<u>Last Svc Date</u>
BOGC Duties	26,933	04/12
Total	26,933	

**Montana Board of Oil and Gas Conservation
Summary of Bond Activity**

4/24/2012 Through 6/12/2012

Approved

Antelope Resources, Inc. Billings MT	365 L1	Approved	5/18/2012
		Amount:	\$4,500.00
		Purpose:	Limited Bond
Certificate of Deposit	\$4,500.00	FIRST STATE BANK OF SHELBY	
Comet Ridge Resources, LLC Denver CO	714 M1	Approved	5/15/2012
		Amount:	\$50,000.00
		Purpose:	Multiple Well Bond
Surety Bond	\$50,000.00	RLI INSURANCE COMPANY	
Continental Resources Inc Oklahoma City OK	1550 T1	Approved	4/24/2012
		Amount:	\$10,000.00
		Purpose:	UIC Single Well Bond
Surety Bond	\$10,000.00	RLI INSURANCE COMPANY	
Continental Resources Inc Oklahoma City OK	1550 T2	Approved	4/24/2012
		Amount:	\$10,000.00
		Purpose:	UIC Single Well Bond
Surety Bond	\$10,000.00	RLI INSURANCE COMPANY	
East Outlook Operations, LLC Bozeman MT	712 G1	Approved	5/10/2012
		Amount:	\$10,000.00
		Purpose:	Single Well Bond
Certificate of Deposit	\$10,000.00	Stockman Bank of Montana	
Hawley & Desimon Conrad MT	3360 G1	Approved	5/29/2012
		Amount:	\$5,000.00
		Purpose:	Single Well Bond
Letter of Credit	\$5,000.00	Stockman Bank of Montana	
Iver J. Johannesen Loring MT	717 D1	Approved	6/4/2012
		Amount:	\$5,000.00
		Purpose:	Domestic Well Bond
Certificate of Deposit	\$5,000.00	The First State Bank of Malta	
Legacy Reserves Operating LP Midland TX	713 T2	Approved	6/5/2012
		Amount:	\$10,000.00
		Purpose:	UIC Single Well Bond
Surety Bond	\$10,000.00	U.S. Specialty Insurance Co.	
Legacy Reserves Operating LP Midland TX	713 T1	Approved	6/1/2012
		Amount:	\$10,000.00
		Purpose:	UIC Single Well Bond
Surety Bond	\$10,000.00	U.S. Specialty Insurance Co.	
Legacy Reserves Operating LP Midland TX	713 M1	Approved	5/11/2012
		Amount:	\$50,000.00
		Purpose:	Multiple Well Bond
Surety Bond	\$50,000.00	U.S. Specialty Insurance Co.	

Montana Board of Oil and Gas Conservation Summary of Bond Activity

4/24/2012 Through 6/12/2012

Approved

Shale Bakken Investment Corporation Clearmont WY	711 M1	Approved	5/7/2012
		Amount:	\$50,000.00
		Purpose:	Multiple Well Bond
Surety Bond	\$50,000.00	Liberty Mutual Insurance Company	
Three Forks Resources, LLC Denver CO	593 G4	Approved	5/14/2012
		Amount:	\$5,000.00
		Purpose:	Single Well Bond
Surety Bond	\$5,000.00	Lexon Insurance Company	

Released

El Paso E&P Company, L.P. Houston TX	624 M1	Released	5/16/2012
		Amount:	\$50,000.00
		Purpose:	Multiple Well Bond
Surety Bond	\$50,000.00	RLI INSURANCE COMPANY	
El Paso E&P Company, L.P. Houston TX	624 T1	Released	5/16/2012
		Amount:	\$10,000.00
		Purpose:	UIC Single Well Bond
Surety Bond	\$10,000.00	RLI INSURANCE COMPANY	
Petro-Canada Resources (USA) Inc. Denver CO	475 M1	Released	6/8/2012
		Amount:	\$50,000.00
		Purpose:	Multiple Well Bond
Surety Bond	\$50,000.00	FIDELITY & DEPOSIT CO. OF MD	
Quaneco, LLC Woodland Hills CA	594 M1	Released	5/23/2012
		Amount:	\$50,000.00
		Purpose:	Multiple Well Bond
Surety Bond	\$50,000.00	Markel Insurance Company	
Surety Bond	\$50,000.00	American Safety Casualty Insurance Company	

Docket Summary

6/14/2012 Hearing

Exhibit 10

242-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 20N-59E-3: all, 4: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	(Two sections)	<input checked="" type="checkbox"/>
243-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 20N-60E-4: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
244-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 21N-59E-17: all, 20: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Continued (Two sections) Continued to August, fax rec'd 5/31/2012.	<input checked="" type="checkbox"/>
245-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 21N-59E-27: all, 28: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	(Two sections)	<input checked="" type="checkbox"/>
246-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formations, 21N-59E-32: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
247-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formations, 21N-59E-33: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
248-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 21N-59E-36: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
249-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 22N-56E-4: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
250-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formations, 22N-57E-28: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
251-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formation, 22N-58E-34: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
252-2012	Slawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formations, 24N-52E-28: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	<input type="checkbox"/>
253-2012	Slawson Exploration Company Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-53E-20: all (Rover 1-20H).		<input type="checkbox"/>
254-2012	Slawson Exploration Company Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-53E-22: all (Cutthroat 1-22H).	Additional wells requested in Docket 260-2012.	<input type="checkbox"/>
255-2012	Slawson Exploration Company Inc	Permanent spacing unit, Bakken/Three Forks Formation, 26N-59E-2: all, 11: all (Citadel 1-11H-2H).	Pooling requested in Docket 264-2012.	<input type="checkbox"/>
256-2012	Slawson Exploration Company Inc	Permanent spacing unit, Bakken/Three Forks Formation, 26N-59E-14: all, 15: all (Squadron 1-15-14H).	Pooling requested in Docket 263-2012.	<input type="checkbox"/>

257-2012	Slawson Exploration Company Inc	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-53E-2: all, 200' heel/toe, 660' lateral setbacks. Default request.	Default	PSU, Order 456-2006.	<input type="checkbox"/>
258-2012	Slawson Exploration Company Inc	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-53E-4: all, 200' heel/toe, 660' lateral setbacks. Default request.	Default	PSU, Order 199-2007.	<input type="checkbox"/>
259-2012	Slawson Exploration Company Inc	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-53E-10: all, 200' heel/toe, 660' lateral setbacks. Default request.	Default	PSU, Order 194-2007, Pooling by 195-2007.	<input type="checkbox"/>
260-2012	Slawson Exploration Company Inc	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-53E-22: all, 200' heel/toe, 660' lateral setbacks. Default request.		PSU requested in Docket 254-2012.	<input type="checkbox"/>
261-2012	Slawson Exploration Company Inc	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 24N-52E-24: all, 200' heel/toe, 660' lateral setbacks. Default request.	Default	PSU by Order 455-2006.	<input type="checkbox"/>
262-2012	Slawson Exploration Company Inc	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 24N-53E-30: all, 200' heel/toe, 660' lateral setbacks. Default request.	Continued	PSU by Order 140-2007. Continued to August, fax recd 5/31/2012.	<input type="checkbox"/>
263-2012	Slawson Exploration Company Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 26N-59E-14: all, 15: all (Squadron 1-15-14H). Non-consent penalties requested.		PSU requested in Docket 256-2012.	<input type="checkbox"/>
264-2012	Slawson Exploration Company Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 26N-59E-2: all, 11: all (Citadel 1-11-2H). Non-consent penalties requested.		PSU requested in Docket 255-2012.	<input type="checkbox"/>
265-2012	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 23N-58E-3: all, 10: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Withdrawn	380-2011 DOESN'T APPLY - EXISTING BAKKEN PSU COMPRISED OF SECTION 10. Withdrawn, ltr recd 5/31/2012.	<input checked="" type="checkbox"/>
266-2012	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 24N-58E-17: all, 20: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default w/ Auto Cont.	660' offset in PSU to west (Section 19).	<input type="checkbox"/>
267-2012	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 24N-60E-19: all, 30: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default w/ Auto Cont.		<input type="checkbox"/>
268-2012	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 25N-56E-23: all, 26: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default w/ Auto Cont.	PSU to south (Enerplus) with no authorized additional wells.	<input type="checkbox"/>

269-2012	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 26N-56E-27: all, 34: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default w/ Auto Cont.	Continued to August, ltr recd 6/6/2012.	<input type="checkbox"/>
270-2012	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 26N-57E-28: all, 33: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Continued	? Protest - Carpenter /Cattaneo [Validity? - protesting spacing, not well location as is noticed.]	<input type="checkbox"/>
271-2012	Cirque Resources LP	Temporary spacing unit, Heath and/or Bear Gulch, 12N-27E-21: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default	Replaces original application under withdrawn Dockete 191-2012.	<input type="checkbox"/>
272-2012	Cirque Resources LP	Pool, permanent spacing unit, Heath Formation, 11N-30E-33: all (Rock Happy 33-3H). Non-consent penalties requested.	Continued	PSU established at April hearing (Docket 193-2012). Continued to August, fax recd 5/31/2012.	<input type="checkbox"/>
273-2012	XTO Energy Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 23N-58E-13: all, 23N-59E-18: all (Peterson 42X-18).		TSU, Order 256-2010. Pooling requested in Docket 277-2012; additional wells in 280-2012.	<input type="checkbox"/>
274-2012	XTO Energy Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 23N-59E-16: all, 17: all (Beagle 12X-17).		TSU, Order 255-2010. Pooling requested in Docket 278-2012; additional wells in 283-2012.	<input type="checkbox"/>
275-2012	XTO Energy Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 26N-52E-25: all, 26: all (Headington 43X-25B).	Continued	TSU, Order 386-2005. Additional wells requested in Docket 284-2012. Continued, ltr recd 5/31/2012.	<input type="checkbox"/>
276-2012	XTO Energy Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 23N-58E-1: all, 12: all (Panasuk 34X-12). Non-consent penalties requested.		PSU approved in April (Docket 217-2012).	<input type="checkbox"/>
277-2012	XTO Energy Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 23N-58E-13: all, 23N-59E-18: all (Peterson 42X-18). Non-consent penalties requested.		PSU requested in Docket 273-2012.	<input type="checkbox"/>
278-2012	XTO Energy Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 23N-59E-16: all, 17: all (Beagle 12X-17). Non-consent penalties requested.	Withdrawn	PSU requested in Docket 274-2012. Withdrawn, fax of ltr dated 6/10/2012.	<input type="checkbox"/>
279-2012	XTO Energy Inc.	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-58E-1: all, 12: all, 200' heel/toe, 500' lateral setbacks. Default request.	Default	PSU established at April hearing (Docket 217-2012).	<input type="checkbox"/>
280-2012	XTO Energy Inc.	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-58E-13: all, 23N-59E-18: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU requested under Docket 273-2012.	<input type="checkbox"/>
281-2012	XTO Energy Inc.	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-58E-24: all, 23N-59E-19: all, 200' heel/toe, 500' lateral setbacks. Default request.	Default	PSU bu Order 321-2011.	<input type="checkbox"/>

282-2012	XTO Energy Inc.	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-58E-25: all, 23N-59E-30: all, 200' heel/toe, 500' lateral setbacks. Default request.	Default	PSU by Order 227-2011.	<input type="checkbox"/>
283-2012	XTO Energy Inc.	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 23N-59E-16: all, 17: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU requested in Docket 274-2012.	<input type="checkbox"/>
284-2012	XTO Energy Inc.	Exception to drill up to three additional wells, Bakken/Three Forks Formation, permanent spacing unit, 26N-52E-25: all, 26: all, 200' heel/toe, 500' lateral setbacks. Default request.	Continued	PSU requested in Docket 275-2012. Continued, ltr recd 5/31/2012.	<input type="checkbox"/>
285-2012	TAQA North USA, Inc.	Permanent spacing unit, Bakken Formation, 37N-57E-11: all (Flat Lake 11-13H).	Continued	Additional wells requested in Docket 287-2012. Continued to August, ltr recd 6/4/2012	<input type="checkbox"/>
286-2012	TAQA North USA, Inc.	Permanent spacing unit, Bakken Formation, 37N-57E-13: all (Hjelm 13-1H).	Continued	Additional wells requested in Docket 288-2012. Continued to August, ltr recd 6/4/2012.	<input type="checkbox"/>
287-2012	TAQA North USA, Inc.	Exception to drill up to three additional wells, Bakken Formation, permanent spacing unit, 37N-57E-11: all, 660' setback. Default request.	Continued	PSU requested in Docket 285-2012. Continued to August, ltr recd 6/4/2012.	<input type="checkbox"/>
288-2012	TAQA North USA, Inc.	Exception to drill up to three additional wells, Bakken Formation, permanent spacing unit, 37N-57E-13: all, 660' setback. Default request.	Continued	PSU requested in Docket 286-2012. Continued to August, ltr recd 6/4/2012.	<input type="checkbox"/>
289-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 10N-33E-7: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
290-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 10N-33E-11: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
291-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 10N-34E-2: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
292-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 10N-34E-12: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
293-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 11N-33E-4: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	Withdrawn, ltr recd 6/4/2012.	<input type="checkbox"/>
294-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 11N-33E-19: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
295-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 11N-33E-21: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
296-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 11N-33E-22: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>

297-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 11N-33E-30: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
298-2012	Fidelity Exploration & Production Co.	Temporary spacing unit, Heath Formation, 11N-33E-36: all, 330' setback. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
299-2012	Fidelity Exploration & Production Co.	Permanent spacing unit, Eagle Formation, 8N-59E-25: NE/4 (Wells 18361 and 23887).			<input checked="" type="checkbox"/>
300-2012	Shale Bakken Investment Corporation	Temporary spacing unit, Bakken/Three Forks Formation, 36N-46E-14: all, 15: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
301-2012	Shale Bakken Investment Corporation	Temporary spacing unit, Bakken/Three Forks Formation, 36N-46E-16: all, 17: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.		Existing TSU comprised of Sections 17 & 18 by Order 25-2006..	<input checked="" type="checkbox"/>
302-2012	Shale Bakken Investment Corporation	Temporary spacing unit, Bakken/Three Forks Formation, 36N-46E-24: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
303-2012	Shale Bakken Investment Corporation	Temporary spacing unit, Bakken/Three Forks Formation, 36N-47E-19: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
304-2012	Marathon Oil Company	Amend Order 380-2011 and 60-2011 to allow 200' heel/toe and 660' lateral setback in temporary spacing unit comprised of 31N-58E-1: all, 12: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default	Amended - intent to drill 1320' setback with drift.	<input checked="" type="checkbox"/>
305-2012	Marathon Oil Company	Amend Order 380-2011 and 390-2011 to allow 200' heel/toe and 660' lateral setback in temporary spacing unit comprised of 31N-58E-3: all, 10: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default	Amended - intent to drill 1320' setback with drift.	<input checked="" type="checkbox"/>
306-2012 27-2012 F	Marathon Oil Company	Amend Order 380-2011 and 394-2011 to allow 200' heel/toe and 660' lateral setback in temporary spacing unit comprised of 31N-58E-14: all, 23: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default	Amended - intent to drill 1320' setback with drift.	<input checked="" type="checkbox"/>
307-2012 28-2012 F	Marathon Oil Company	Amend Order 380-2011 and 62-2011 to allow 200' heel/toe and 660' lateral setback in temporary spacing unit comprised of 31N-58E-15: all, 22: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default	Amended - intent to drill 1320' setback with drift.	<input checked="" type="checkbox"/>

308-2012	Marathon Oil Company	Amend Order 380-2011 and 392-2011 to allow 200' heel/toe and 660' lateral setback in temporary spacing unit comprised of 31N-59E-29: all, 32: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default	Amended - intent to drill 1320' setback with drift.	<input checked="" type="checkbox"/>
309-2012	Marathon Oil Company	Amend Order 380-2011 and 63-2011 to allow 200' heel/toe and 660' lateral setback in temporary spacing unit comprised of 31N-59E-30: all, 31: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default	Amended - intent to drill 1320' setback with drift.	<input checked="" type="checkbox"/>
310-2012	True Oil LLC	Pool, permanent spacing unit. Ratcliffe/Mission Canyon Formations, 25N-58E-3: NW/4, 4: NE/4 (Delaney 14-4A). Not seeking non-consent penalties.	Default	PSU approved in April (Docket 85-2012). Pooling without penalties. Notification of protest, Elroy Kittleson - PROTEST WITHDRAWN	<input type="checkbox"/>
311-2012	Oasis Petroleum North America LLC	Class II water disposal permit, Dakota Formation, Gold Hill SWD 2758 41-13, 27N-58E-13: 1120 FSL/ 250 FWL (SW/4SW/4).	Default		<input type="checkbox"/>
312-2012	Oasis Petroleum, Inc.	Amend Order 371-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 26N-58E-27: all, 34: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default		<input type="checkbox"/>
313-2012	Oasis Petroleum, Inc.	Amend Order 444-2011 to allow 200' heel/toe and 500' lateral setback in temporary spacing unit comprised of 27N-59E-30: all, 31: all, Bakken/Three Forks Formation. Apply for permanent spacing within 90 days of completion. Lateral setback exception to expire in one year from date of issuance. Default request.	Default		<input type="checkbox"/>
314-2012	Oasis Petroleum, Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 27N-58E-6: all, 7: all (Dixie Federal 2758 14-6H).		TSU, Order 96-2010 Additional wells requested in Docket 318-2012	<input type="checkbox"/>
315-2012	Oasis Petroleum, Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 27N-59E-16: all, 21: all (Falcon Federal 2759 12-16H).		TSU by Order 101-2010; setback amendment by Order 103-2011. Additional wells requested in Docket 326-2012.	<input type="checkbox"/>
316-2012	Oasis Petroleum, Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 27N-59E-29: all, 32: all (Halvorson Federal 2759 29-32H).		TSU, Order 102-2010; setback amendment by Order 305-2011. Additional wells requested under Docket 327-2012.	<input type="checkbox"/>
317-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-58E-5: all, 8: all, 200' heel/toe, 500' lateral setbacks. Default request.	Default	PSU by Order 315-2011.	<input type="checkbox"/>
318-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-58E-6: all, 7: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU requested under Docket 314-2012.	<input type="checkbox"/>

319-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-58E-10: all, 11: all, 200' heel/toe, 500' lateral setbacks. Default request.	Default	PSU by Order 316-2011.	<input type="checkbox"/>
320-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-58E-14: all, 23: all, 200' heel/toe, 500' lateral setbacks. Default request.	Default	PSU by Order 439-2011.	<input type="checkbox"/>
321-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-58E-15: all, 22: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU, Order 236-2011. - BAKKEN SPACING ONLY	<input checked="" type="checkbox"/>
322-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-58E-24: all, 25: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU, Order 309-2010. - BAKKEN SPACING ONLY	<input checked="" type="checkbox"/>
323-2012 29-2012 F	Oasis Petroleum, Inc.	Exception to drill up to five additional wells (7 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-59E-1: all, 2: all, 11: all, 12: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU by Order 58-2011; 1 additional well approved in April (Docket 228-2012). - BAKKEN SPACING ONLY	<input checked="" type="checkbox"/>
324-2012	Oasis Petroleum, Inc.	Exception to drill up to three (5 total) additional wells, Bakken/Three Forks Formation, permanent spacing unit, 27N-59E-3: all, 10: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU by Order 237-2011; additional well approved in April (Docket 227-2012). - BAKKEN SPACING ONLY	<input checked="" type="checkbox"/>
325-2012 30-2012 F	Oasis Petroleum, Inc.	Exception to drill up to five additional wells (7 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-59E-13: all, 14: all, 23: all, 24: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU by Order 373-2011; one additional well by Order 317-2011 with setbacks amended in April (Docket 229-2012). - SPACED FOR BAKKEN FORMATION ONLY.	<input checked="" type="checkbox"/>
326-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-59E-16: all, 21: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU requested in Docket 315-2012.	<input type="checkbox"/>
327-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 27N-59E-29: all, 32: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU requested under Docket 316-2012.	<input type="checkbox"/>
328-2012 31-2012 F	Oasis Petroleum, Inc.	Exception to drill up to four additional wells (5 total), Bakken/Three Forks Formation, permanent spacing unit, 28N-58E-18: all, 19: all, 200' heel/toe, 500' lateral setbacks. Default request.		PSU by Order 253-2011. - BAKKEN SPACING ONLY	<input checked="" type="checkbox"/>
329-2012	Brigham Oil & Gas LP	Amend Order 467-2011 to allow 500' side setback in temporary spacing unit, Bakken/Three Forks Formations, 28N-59E-17: all, 20: all. Apply for permanent spacing within 90 days of completion. Default request.		[No Exhibits] - HEAR	<input type="checkbox"/>
330-2012 32-2012 F	Anadarko Minerals, Inc.	Temporary spacing unit, Nisku Formation, 31N-44E-31: W/2 NE/4, well to be located at the center of the SW/4 NE/4 with 200' topographic/geologic tolerance. Apply for permanent spacing within 90 days of completion. Default request.		Federal order only - To be heard at request of BLM Letter of support, Fort Peck Energy Company, Fort Peck Tribes.	<input type="checkbox"/>
331-2012 33-2012 F	Anadarko Minerals, Inc.	Temporary spacing unit, Nisku Formation, 31N-44E-32: W/2 SW/4, well to be located at the center of the NW/4 SW/4, 200' topographic/geologic tolerance. Apply for permanent spacing within 90 days of completion. Default request.		Federal order only - To be heard at request of BLM. Letter of support, Fort Peck Energy Company, Fort Peck Tribes.	<input type="checkbox"/>

332-2012 34-2012 F	Anadarko Minerals, Inc.	Exception to drill one additional well, temporary spacing unit, Madison Formation, 31N-44E-32: W/2 SW/4, well to be located at the center of the NW/4SW/4), 200' topographic/geologic tolerance. Default request.		Federal order only - To be heard at request of BLM. Letter of support, Fort Peck Energy Company, Fort Peck Tribes.	<input type="checkbox"/>
333-2012	Abyssal Saltwater Disposal LLC	Class II water disposal permit, Dakota and Fuson Formations, Spoklie 1-24 (API #091-21259), 34N-57E-1: 555 FSL/2085 FWL (SE/4SW/4).	Continued	Continued, notice (Hudak, 5/31/2012).	<input type="checkbox"/>
334-2012 35-2012 F	Samson Oil and Gas USA Montana, Inc.	Temporary spacing unit, Bakken/Three Forks Formation, 28N-53E-25: all, 36: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	Letter of support, Fort Peck Energy Company, Fort Peck Tribes.	<input type="checkbox"/>
335-2012 36-2012 F	Samson Oil and Gas USA Montana, Inc.	Temporary spacing unit, Bakken/Three Forks Formation, 28N-53E-26: all, 35: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.		Overlaps designated statewide temporary spacing unit (Section 26). Letter of support, Fort Peck Energy Company, Fort Peck Tribes.	<input checked="" type="checkbox"/>
336-2012 37-2012 F	Samson Oil and Gas USA Montana, Inc.	Temporary spacing unit, Bakken/Three Forks Formation, 28N-53E-27: all, 34: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default	Letter of support, Fort Peck Energy Company, Fort Peck Tribes.	<input type="checkbox"/>
337-2012	Continental Resources Inc	Vacate order issued for Docket 357-2011, temporary spacing unit, 23N-53E-12: all, 13: all. Default request.	Default	See 339-2012 for replacement 640.	<input type="checkbox"/>
338-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-5: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	Withdrawn - letter dated 5/29/2012.	<input type="checkbox"/>
339-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-12: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	Withdrawn - letter dated 5/29/2012.	<input type="checkbox"/>
340-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-28: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	Withdrawn - letter dated 5/29/2012.	<input type="checkbox"/>
341-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-20: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	Withdrawn - letter dated 5/29/2012.	<input type="checkbox"/>
342-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-22: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	Withdrawn - letter dated 5/29/2012.	<input type="checkbox"/>
343-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 27N-56E-15: all, 22: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
344-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 27N-56E-27: all, 34: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>

345-2012	Continental Resources Inc	Temporary spacing unit, Bakken/Three Forks Formation, 26N-56E-13: all, 24: all, 200' heel/toe, 1320' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
346-2012	Denbury Onshore, LLC	Class II enhanced recovery permit, Red River Formation, Unit 13X-33 (API #025-21102), 7N-60E-33: 2000' FSL/780' FWL (NW/4SW/4).	Continued	Continued (Hudak, 6/5/2012).	<input type="checkbox"/>
347-2012	Somont Oil Company, Inc.	Exception to produce, Swift Formation, 35N-1W-27: NE/4 SE/4 (212' from the quarter-quarter section line), Kasten 1X (API #101-10523).	Default		<input type="checkbox"/>
348-2012	Somont Oil Company, Inc.	Create statutory waterflood unit, Swift Formation, 35N-2W-36: S/2 NW/4, E/2, SW/4. Default request.	Withdrawn	Withdrawn, ltr dated 6/11/2012. Protests by Enneberg, H & R Energy LLC	<input type="checkbox"/>
349-2012	Somont Oil Company, Inc.	Area injection permit, Swift Formation, 35N-2W-36: all. Default request.	Withdrawn	Withdrawn, ltr dated 6/11/2012. Protests by Enneberg, H & R Energy LLC	<input type="checkbox"/>
350-2012	Highline Exploration, Inc.	Request to authorize a total of 4 wells in each existing spacing unit, 1S and 2S-31E to 33E, 660' setback. Default request			<input type="checkbox"/>
302-2011	G3 Operating, LLC	Exception to drill additional well, Duperow Formation, permanent spacing unit, 24N-58E-13: S/2NW/4, N/2SW/4. Well to be located 1980' FSL/1980' FWL.	Continued	S/2 NW/4 and N/2 SW/4 designated a Duperow spacing unit by Order 72-1999. Request to continue - telephone call of 6/13/2012.	<input type="checkbox"/>
394-2011	TOI Operating	Class II saltwater disposal permit, Dakota Formation, Wojahn A 5-2 (API #109-21041), 13N-60E-2: 2576' FNL/660' FWL (SW/4NW/4).			<input type="checkbox"/>
487-2011	Central Montana Resources, LLC	Temporary spacing unit, Heath Formation, 12N-38E-34: all, 330' setback. Apply for permanent spacing within 90 days of completion.	Continued	330' setback requested. Continued to August, ltr recd 5/31/2012.	<input type="checkbox"/>
552-2011 16-2012 F	Decker Operating Company, L.L.C.	Exception to drill and produce additional well, 33N-31E-21: NE/4 and exception to drill and produce a total of four wells (one in each quarter), multiple zones, temporary spacing unit, 33N-31E-21: all, 990' setback. Default request.	Continued	Continued to August, ltr dated 5/29/2012.	<input checked="" type="checkbox"/>
91-2012	Shadwell Resources Group, LLC	Class II water disposal permit, Dakota Formation, Velma 1-10H (API #083-22531), 23N-58E-10: 350' FNL/750' FWL (NW/4NW/4).	Default		<input type="checkbox"/>
112-2012	Central Montana Resources, LLC	Vacate Order 148-10 that created temporary spacing unit, 13N-29E-8: all.	Continued	Continued to August, ltr recd 5/31/2012.	<input type="checkbox"/>
198-2012	Siawson Exploration Company Inc	Temporary spacing unit, Bakken/Three Forks Formations, 23N-54E-25: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of completion. Default request.	Default		<input type="checkbox"/>
231-2012	Brigham Oil & Gas LP	Permanent spacing unit, Bakken/Three Forks Formation, 25N-58E-15: all, 22: all (Verrere 15-22 #1TFH).		TSU by 187-2011; related Dockets 233 (pooling) & 237-2012 (additional wells).	<input type="checkbox"/>
233-2012	Brigham Oil & Gas LP	Pool, permanent spacing unit, Bakken/Three Forks Formation, 25N-58E-15: all, 22: all (Verrere 15-22 #1TFH). Non-joinder penalties requested.		Spacing, 231-2012; additional wells, 237-2012.	<input type="checkbox"/>

237-2012	Brigham Oil & Gas LP	Vacate Order 424-2011. Authorization to drill up to four Bakken/Three Forks Formation wells in spacing unit comprised of 25N-58E-15: all, 22: all, 200' heel/toe, 500' lateral setbacks. Default request.		<i>Spacing, Docket 231-2012, and pooling, Docket 233-2012.</i>	<input type="checkbox"/>
241-2012	Sagebrush Resources II, LLC	Temporary spacing unit, Bakken/Three Forks Formation, 35N-51E-35: all, 36: all, 660' setback. Apply for permanent spacing within 90 days of completion. Default request.	Withdrawn	<i>Withdrawn, ltr dated May 2, 2012.</i>	<input checked="" type="checkbox"/>
351-2012	Native American Energy Group, Inc.	Show cause; Wright 5-35, Berry 22-24 and Berry 2 wells.			<input type="checkbox"/>
352-2012	G/S Producing, Inc.	Show cause, complaint by Mark Copenhaver for failure to comply with MCA 82-10-503, 34N-9E-28: NWSE (Well 1).			<input type="checkbox"/>
353-2012	Zimmerman, Brent	Show cause, compliance issue and clean-up issues, Heringer 11-21, 30N-44E-11: NENW (API #105-21297).			<input type="checkbox"/>

DEFAULT DOCKET, 6/14/2012

Exhibit 11

Docket	Applicant	Status	Request
243-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
246-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
247-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
248-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
249-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
250-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
251-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
252-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
257-2012	Slawson Exploration Company Inc	Default	Well Density
258-2012	Slawson Exploration Company Inc	Default	Well Density
259-2012	Slawson Exploration Company Inc	Default	Well Density
261-2012	Slawson Exploration Company Inc	Default	Well Density
271-2012	Cirque Resources LP	Default	Temp. Spacing
279-2012	XTO Energy Inc.	Default	Well Density
281-2012	XTO Energy Inc.	Default	Well Density
282-2012	XTO Energy Inc.	Default	Well Density
289-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
290-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
291-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
292-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
294-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
295-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
296-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
297-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
298-2012	Fidelity Exploration & Production Co.	Default	Temp. Spacing
300-2012	Shale Bakken Investment Corporation	Default	Temp. Spacing
302-2012	Shale Bakken Investment Corporation	Default	Temp. Spacing
303-2012	Shale Bakken Investment Corporation	Default	Temp. Spacing
304-2012	Marathon Oil Company	Default	Spacing Amendment
305-2012	Marathon Oil Company	Default	Spacing Amendment
306-2012	Marathon Oil Company	Default	Spacing Amendment
307-2012	Marathon Oil Company	Default	Spacing Amendment
308-2012	Marathon Oil Company	Default	Spacing Amendment
309-2012	Marathon Oil Company	Default	Spacing Amendment
310-2012	True Oil LLC	Default	Pooling
311-2012	Oasis Petroleum North America LLC	Default	Class II Permit
312-2012	Oasis Petroleum, Inc.	Default	Spacing Amendment
313-2012	Oasis Petroleum, Inc.	Default	Spacing Amendment
317-2012	Oasis Petroleum, Inc.	Default	Well Density
319-2012	Oasis Petroleum, Inc.	Default	Well Density
320-2012	Oasis Petroleum, Inc.	Default	Well Density
334-2012	Samson Oil and Gas USA Montana, Inc.	Default	Temp. Spacing
336-2012	Samson Oil and Gas USA Montana, Inc.	Default	Temp. Spacing

DEFAULT DOCKET, 6/14/2012

337-2012	Continental Resources Inc	Default	Vacate Field/Rule
343-2012	Continental Resources Inc	Default	Temp. Spacing
344-2012	Continental Resources Inc	Default	Temp. Spacing
345-2012	Continental Resources Inc	Default	Temp. Spacing
347-2012	Somont Oil Company, Inc.	Default	Exception - Production
91-2012	Shadwell Resources Group, LLC	Default	Class II Permit
198-2012	Slawson Exploration Company Inc	Default	Temp. Spacing
266-2012	Whiting Oil and Gas Corporation	Default w/ Auto Cont.	Spacing Amendment
267-2012	Whiting Oil and Gas Corporation	Default w/ Auto Cont.	Spacing Amendment
268-2012	Whiting Oil and Gas Corporation	Default w/ Auto Cont.	Spacing Amendment
269-2012	Whiting Oil and Gas Corporation	Default w/ Auto Cont.	Spacing Amendment

DOCKETS TO BE HEARD, 6/14/2012

Exhibit 12

Docket	Applicant	Status	Request
242-2012	Slawson Exploration Company Inc		Temp. Spacing
245-2012	Slawson Exploration Company Inc		Temp. Spacing
253-2012	Slawson Exploration Company Inc		Spacing
254-2012	Slawson Exploration Company Inc		Spacing
260-2012	Slawson Exploration Company Inc		Well Density
255-2012	Slawson Exploration Company Inc		Spacing
264-2012	Slawson Exploration Company Inc		Pooling
256-2012	Slawson Exploration Company Inc		Spacing
263-2012	Slawson Exploration Company Inc		Pooling
273-2012	XTO Energy Inc.		Spacing
277-2012	XTO Energy Inc.		Pooling
280-2012	XTO Energy Inc.		Well Density
274-2012	XTO Energy Inc.		Spacing
283-2012	XTO Energy Inc.		Well Density
276-2012	XTO Energy Inc.		Pooling
299-2012	Fidelity Exploration & Production Co.		Spacing
301-2012	Shale Bakken Investment Corporation		Temp. Spacing
314-2012	Oasis Petroleum, Inc.		Spacing
318-2012	Oasis Petroleum, Inc.		Well Density
315-2012	Oasis Petroleum, Inc.		Spacing
326-2012	Oasis Petroleum, Inc.		Well Density
316-2012	Oasis Petroleum, Inc.		Spacing
327-2012	Oasis Petroleum, Inc.		Well Density
321-2012	Oasis Petroleum, Inc.		Well Density
322-2012	Oasis Petroleum, Inc.		Well Density
323-2012	Oasis Petroleum, Inc.		Well Density
324-2012	Oasis Petroleum, Inc.		Well Density
325-2012	Oasis Petroleum, Inc.		Well Density
328-2012	Oasis Petroleum, Inc.		Well Density
329-2012	Brigham Oil & Gas LP		Spacing Amendment

DOCKETS TO BE HEARD, 6/14/2012

231-2012	Brigham Oil & Gas LP	Spacing
233-2012	Brigham Oil & Gas LP	Pooling
237-2012	Brigham Oil & Gas LP	Well Density
330-2012	Anadarko Minerals, Inc.	Temp. Spacing
331-2012	Anadarko Minerals, Inc.	Temp. Spacing
332-2012	Anadarko Minerals, Inc.	Well Density
335-2012	Samson Oil and Gas USA Montana, Inc.	Temp. Spacing
350-2012	Highline Exploration, Inc.	Spacing Amendment
394-2011	TOI Operating	Class II Permit
351-2012	Native American Energy Group, Inc.	Show-Cause
352-2012	G/S Producing, Inc.	Show-Cause
353-2012	Zimmerman, Brent	Show-Cause

FORT PECK TRIBES

Assiniboine & Sioux

Exhibit 13

Linda Nelson, Chair MT Board of Oil and Gas
469 Griffin Road
Medicine Lake, MT 59247

Rhonda Knudsen, Superintendent
BIA Poplar Agency
P.O. Box 637
Poplar, MT 59255

Debbie Johnson Morford, Field Manager
Bureau of Land Management
Miles City Field Office
111 Garryowen Road
Miles City, MT 59301

May 22, 2012

RE: Oil and Gas drilling stipulations approved by the Fort Peck Assiniboine and Sioux Tribes

Dear Colleagues;

At the regular board meeting on May 15th, 2012, the Fort Peck Tribal Executive Board passed Resolution #26-790-212-5 that set out Oil and Gas stipulations/lease conditions for exploration and production activities on the Reservation. I am enclosing a copy of the Resolution with this letter for your review. The stipulation/lease conditions are on page 2 of the enclosed resolution.

As exploration intensifies on the Reservation, the Tribal Executive Board remains very concerned about the impacts to our people, their homes, and way of life here on the Reservation. In an effort to control some of the effects of the increased oil and gas activity, my natural resource staff has developed some stipulations/lease conditions we would like to see incorporated into Applications for Permit to Drill. These stipulations/lease conditions are being incorporated and enforced in other geographic location across the United States where drilling and production activities are being initiated near neighborhoods and communities.

Recently, the Fort Peck Tribes completed an Order on Consent with a drilling company for violations of the Tribes' Solid Waste Code. The Order included these provisions in addition to successfully addressing the core solid waste violations. Due to the fact that the Tribes are not the primary authority for issuing APD's, we are requesting that your permits include them in order to ensure consistency across the Reservation.

Poplar, Montana 59255

P.O. Box 1027

(406) 768-2300

406-655-6015

Tribal members and non- members on the Reservation have expressed concerns with hydro-fracking as well as oil and gas development activities. North Dakota has witnessed the rapid changes to the quality of their natural environment due to the heavy exploration activities. These stipulations/lease conditions represent our initial efforts to try to minimize some of the effects of the potential development in our area.

Some of the stipulations may already be included in your permit documents. If so, I and my staff would like to discuss what your agency is currently including and if you have any questions regarding the stipulation/lease conditions we are requesting be added. I have two staff leads working on this issue: Deb Madison, Environmental Programs Manager, 406.768.2389 and Jeanne Spaur, Manning Lake Refuge, 406.768.2329.

In any event, we would like to have a formal response to whether you can/will include them into your future permits for drilling or what issues you foresee with their inclusion in the permits. I thank you in advance for your consideration of this matter and am look forward to working together to address our concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'Floyd G. Azure', written over a horizontal line.

Floyd G. Azure

Chairman

Fort Peck Assiniboine and Sioux Tribes

Cc: Tom Richmond, Administrator, MT Board of Oil and Gas
file

enc.: 1 – Resolution #26-790-212-5

WHEREAS, the Fort Peck Tribal Executive Board is the duly elected body representing the Assiniboine & Sioux Tribes of the Fort Peck Reservation and is empowered to act in behalf of the Tribes. All actions shall be adherent to provisions set forth in the 1960 Constitution and By-Laws, and

WHEREAS, the Tribal Office of Environmental Protection has compiled best management practices to protect human, wildlife, and ecosystem health related to 1) on-site pits; 2) transport truck air emissions and traffic volume; 3) noise and light pollution; 4) surface disturbances; 5) water source, use, and protection, AMD

WHEREAS, Federal agencies such as the Bureau of Land Management and the Bureau of Indian Affairs approve leases for Oil and Gas companies doing business on the Reservation, and

WHEREAS, the State has a similar Agency which is the Montana Board of Oil and Gas which also approves Oil and Gas drilling on fee lands within the exterior boundaries of the Reservation, and

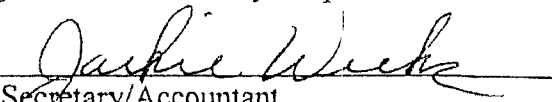
WHEREAS, the best management practices should be communicated to these leasing authorities and encourage them to incorporate them into their leasing stipulations for oil and gas drilling on the Fort Peck Indian Reservation, So

THEREFORE BE IT RESOLVED, the Tribal Executive Board approves the best management practices listed above and authorizes OEP to submit these practices for inclusion in lease approvals by the State of Montana and the Bureau of Indian Affairs, and in the Bureau of Land Management's Application Permit to Drill permits as lease stipulations and

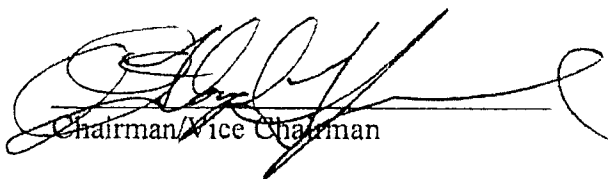
THEREFORE BE IT ALSO RESOLVED, that the Chairman is authorized to submit these best management practices as lease stipulations to the Bureau of Land Management and other relevant agencies.

CERTIFICATION

I, the undersigned Secretary/Accountant of the Tribal Executive Board of the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, hereby certify that the Tribal Executive Board is composed of 12 voting members of whom 10 constituting a quorum were present at a Recessed Regular meeting duly called and convened this 15th day of May, 2012 and that the foregoing resolution was duly adopted at such a meeting by the affirmative vote of 10 for and 2 absent.


Secretary/Accountant

APPROVED:


Chairman/Vice Chairman

The Office of Environmental Protection and the Manning Lake Wetlands Tribal Wildlife Refuge recommend the following best management practices for Tribal support of and referral to the Bureau of Land Management for inclusion in Application Permit To Drill stipulations:

1. On-Site Pits: There will be no pits on-site or on the Reservation used to contain liquid hydrocarbons except those amounts not capable of separation on-site from produced water, drilling muds and flowback fluids in normal well drilling and development activities.
2. Transport Truck Air Emissions: Transport trucks shall meet all Federal DOT vehicle guidelines and Oil Companies shall request that vendors use their newest low-emissions equipment. Oil Companies shall require vendor use of Ultra-Low Sulfur Diesel (“ULSD”) while contractors are hauling for said Company, subject to fuel availability at wholesale and retail sales locations within 50 miles of the wells being serviced. Oil Companies shall use their best efforts to ensure on-site vehicle idling times are minimized by Samson and its vendors.
3. Transport Truck Traffic Volume: To minimize transport truck usage of roads within the Reservation, Oil Companies will consider and use when practicable alternate liquids transport methods such as pipeline and rail transport.
4. Noise: For oil and gas production activities, the night / day allowable noise levels are 50/55 db(A) (Residential / Agricultural / Rural Standards), measured at the location of the nearest affected residence. For drilling and completions activities, the night / day allowable noise levels are 65/70 db(A) (Light-Industrial Standards), measured at the location of the nearest affected residence.
5. Light Pollution: For oil and gas production activities, all fixtures, except upward lighting to illuminate flags and lights used for holiday decorations, shall be fully downcast and opaquely shielded. “Fully downcast and opaquely shielded” shall mean fixtures constructed so that light rays emitted are projected below, and not above, the fixture. Lighting shall be so placed as to prevent their light rays or illumination from being cast beyond property lines, and the light source (bulb) shall not be visible beyond property lines. No light source shall be directly visible to any motor vehicle operated from a road or street or from any residential area within a distance of 300 feet measured from the light source. These lighting requirements apply at all times except as temporarily required for safety or in case of emergency.
6. Surface Disturbance: Oil Companies shall minimize surface disturbance and consolidate operations as much as reasonably practicable through the use of centralized well pads and directional or horizontal wells, with a goal of limiting drill pad density to two per 640 acres. Operator is required to minimize significant negative impacts to floodplains and surface water bodies.
7. Surface Water / Groundwater Sampling Plan: Oil Companies will complete a baseline groundwater quality sampling program acceptable to the Office using existing and available area groundwater wells within one mile of the wells listed on Appendix A, and to which Oil Companies are reasonably able to obtain access for sampling. The Operator will provide a plan outlining its procedure for defining background concentrations of various

constituents of the groundwater sampled, and for identifying constituent concentrations above background.

Prior to commencement of new oil/gas well drilling, the available groundwater sampling point(s) within one mile of wells will be sampled and tested to establish baseline values. Starting on the day drilling begins, water from the available groundwater sampling point(s) shall be sampled and tested at least once each calendar quarter through the first year of production, then annually thereafter, or more frequently if directed by OEP.

A final groundwater / surface water sampling round is required one year after the Oil and Gas well(s) have been plugged and abandoned. If the sampling indicates no impact to the water from Oil and Gas activities, sampling and analysis may be terminated. All aspects of the groundwater monitoring program shall be to the operator's account. Operator shall provide the sampling results to the OEP and MT DNRC Groundwater Information Center.

8. Groundwater Protection: Oil Companies will use only air, water, or water-based drilling mud through and to at least 200 feet below identified potable groundwater aquifers.

9. Water Use: Oil Companies will design operations to use non-potable water as reasonably practicable to minimize the use of potable water.

10. Water Source: Oil Companies will work with local water boards, municipalities and other agencies to identify suitable non-potable water sources.

**MEMO TO BOGC MEMBERS FROM NORTHEAST MONTANA
LAND & MINERAL OWNERS ASSOCIATION, INC.**

From: Alan Engelke [engel@nemont.net]
Sent: Tuesday, July 31, 2012 3:39 PM
To: Perrigo, Terri
Subject: the "special statewide temporary spacing unit notification changes"

To: The Board of Oil and Gas Commission

From: The Northeast Montana Land and Mineral Owners Association, Inc.

Re: Special statewide temporary spacing notification changes

The Association's position is that publication of notice in the county newspaper is not adequate or sufficient!

The NEMLMOA respectfully request the Board of Oil and Gas Commission adopt a policy of the oil company making written notification to each mineral owner in the spacing unit before the application or permit to drill is filed.

We think this is necessary because of the problems and concerns that our membership have dealt with in the past, such as mineral acres in the spacing that are not leased, and mineral owners that live out of the area or out of state.

Thank you for taking this matter into consideration.

The NEMLMOA Board of Directors