

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION COMMISSION**

**IN THE MATTER OF THE APPLICATION OF THE NEW MEXICO OIL AND GAS ASSOCIATION FOR AMENDMENT OF CERTAIN PROVISIONS OF TITLE 19, CHAPTER 15 OF THE NEW MEXICO ADMINISTRATIVE CODE CONCERNING PITS, BELOW GRADE TANKS, CLOSED LOOP SYSTEMS AND OTHER ALTERNATIVE METHODS TO THE FOREGOING, AND AMENDING OTHER RULES TO CONFORMING CHANGES STATEWIDE.**

**CASE NO. 14784**

**CASE NO. 14785**

**MOTION TO DISQUALIFY AND THAT COMMISSION MEMBERS FULLY DISCLOSE  
INFORMATION RELATING TO  
THEIR POSSIBLE BIAS AND LACK OF IMPARTIALITY**

Information obtained by Earthworks' Oil & Gas Accountability Project (OGAP) brings into question the impartiality of Oil Conservation Commission (Commission) member Robert Balch. Based on the information OGAP has obtained, Commissioner Balch already demonstrates bias in favor of radically amending the regulation governing disposal of oilfield wastes, 19.15.17 (the Pit Rule), and should therefore recuse himself from considering the New Mexico Oil and Gas Association's (NMOGA) and the Independent Petroleum Producers of New Mexico's (IPANM) petition in the above matter. Alternatively, OGAP requests that Commissioner Balch make certain disclosures and submit to questions by counsel in an open public meeting, as set out below.

Further, information OGAP has obtained shows that the Commission Chair, Jami Bailey, had several meetings with oil and gas industry representatives in the months prior to NMOGA and IPANM submitting their petitions to amend the Pit Rule, the substance of which may indicate bias. OGAP requests that Chair Bailey also make certain disclosures and submit to

questions by counsel under oath in an open public meeting regarding the substance of those meetings.

## **I. Applicable Standard**

Commission rulemakings are accompanied by virtually all of the same due process protections and formalities as are adjudications. The Commission cannot adopt or repeal a regulation unless such action is supported by substantial evidence contained solely in the record that was created in an open, properly-noticed evidentiary hearing. §§ 19.15.3.9.A; 19.15.3.12 NMAC; 1986 SCRA 1-075(R)(2). Interested persons have the right to become parties to such proceedings, to present testimony and exhibits, to object to other parties' testimony and exhibits, and to file motions. § 19.15.3.12 NMAC. Witnesses testify under oath and are subject to cross examination. *Id.* In lieu of discovery, the parties must disclose their testimony in advance of the hearing. 19.15.3.11.B NMAC. Indeed, the Commission's rulemaking procedures are strikingly similar to its adjudication procedures. *See*, 19.15.4 *et. seq.* NMAC.

Consistent with the nature of these due process protections Commission members must meet an objective standard of impartiality. *See, e.g., Gila Res. Info. Project v. N.M. Water Quality Control Comm'n*, 138 N.M. 625, 634, 124 P.3d 1164, 1173 (Ct. App. 2005) ("concepts of fairness and transparency" apply to "administrative proceedings"). This standard "is in essence a paraphrase of a federal statute governing the disqualification of judicial branch judges, *see* 28 U.S.C. § 455(a) (1994) (A judge 'shall disqualify himself [or herself] in any proceeding in which his [or her] impartiality might reasonably be questioned.'), as well as New Mexico's Code of Judicial Conduct dealing with disqualification of state judges, *see* NMRA 1997, 21-400(A) ('A judge is disqualified and shall recuse himself or herself in a proceeding in which the judge's

impartiality might reasonably be questioned . . . .’” City of Albuquerque v. Chavez, 1997

NMCA 54, 16. Under this objective standard:

The inquiry is not whether the Board members are actually biased or prejudiced, but whether, in the natural course of events, there is an indication of a possible temptation to an average man [or woman] sitting as a judge to try the case with bias for or against any issue presented to him [or her].

Id., quoting, Reid v. New Mexico Bd. Of Examiners in Optometry, 92 N.M. 414, 416, 589 P.2d 198, 200 (1979). Thus, New Mexico Courts are clear that when a decision-maker prejudices an issue in a pending case, recusal is required. Carangelo v. Albuquerque-Bernalillo Co. Water Utility Auth., 2012 NMCA \_\_\_, slip op. at 83. This is to protect the due process rights that are granted to a party to a rulemaking by the New Mexico Legislature. New Energy Economy, Inc. v. Vanzi, Docket No. 33,074, slip op. at 17, ¶ 47(2012).

As set out below, Commissioner Balch has clearly prejudged that the Pit Rule has some economic burden on oil and gas producers, and therefore should be required to recuse himself in the above-captioned matter. Alternatively, Commissioner Balch should make disclosures about any sources of bias that may affect his ability to fairly and impartially judge NMOGA’s and IPANM’s Petitions in the above-captioned matter, and submit to questioning in a public hearing regarding possible sources of bias.

Further, records obtained through public information requests indicate Commissioner Bailey attended several meetings with oil and gas industry representatives in the months preceding NMOGA’s and IPANM’s submission of their petitions to amend the Pit Rule; however, the substance of those meetings was never disclosed. Commissioner Bailey should therefore make disclosures about any sources of bias that may affect her ability to fairly and impartially judge NMOGA’s and IPANM’s Petitions in the above-captioned matter, and submit to questioning in a public hearing, under oath, regarding possible sources of bias.

## II. Argument

### A. Commissioner Balch's Partnership with IPANM Demonstrates Bias.

Commissioner Balch's work on behalf of the Independent Producers disqualifies him from hearing the IPANM's (and NMOGA's) petition in the above-captioned matter. Almost immediately after the Pit Rule was promulgated, Commissioner Balch, with the assistance of and on behalf of the Independent Producers, launched a project to assist members of the Independent Producers comply with the Pit Rule. A copy of the project website homepage is attached as Exhibit 1. As noted in the section of Exhibit 1 entitled "Impact of the New Rules", the text states that the Pit Rules will have a "large short-term financial impact." Further, the website states that:

Additional overhead in time and personnel will be required for determining costs associated with new and recompletion well development in order to maintain or attract investors. In general, this could require the input of specialists and/or dedicated personnel. In particular, new development will be slowed for independents while appropriate data is gathered or acquired with respect to relevant surface conditions at potential drill sites. These additional expenses may ultimately impact the economics of the well and prevent smaller companies from developing needed resources that are not at scales desired by larger companies. Since small producers already work at scales and on margins that are not palatable to large companies, if their profits are marginalized further due to additional permitting expenses and substantial remediation risks that cannot be easily predicted, reserves will be lost and production will decline.

Thus, even before any operational data about the economic or other impacts of the Pit Rule were available to Commissioner Balch, his project website declared that the Pit Rule would have significant adverse economic and other impacts to members of the Independent Producers, to the point of resulting in wasted resources. More troubling, however, is that the position expressed on Commissioner Balch's project website is virtually identical to the position taken by the Independent Producers in the Pit Rule proceeding, and contrary to the findings of the Commission, based on substantial evidence. See, e.g., Case No. 14015, IPANM Exhibit 13, A Cost Analysis of the Impact of Draft Rule 19.15.17 NMAC On Oil and Natural Gas Drilling



Operations in New Mexico at 2-3 (“The draft rule will potentially add as much as 8-10% to the current cost of drilling a well in Southeast New Mexico ... [t]he draft rule will potentially add as much as 10-15% to the current cost of drilling a well in Northwest New Mexico.”) (Oct. 2007); Independent Petroleum Association Proposed Rule 17 Comments at 7 (quoting IPANM members and NMOGA president that the proposed rule would result in capital investments declining in New Mexico and that investment will decrease by 50%).

Commissioner Balch’s lack of independence is further evinced by a presentation he gave in September 2008, shortly after the Pit Rule was promulgated. A copy of that presentation is attached as Exhibit 2. In slide 6 of his presentation, Commissioner Balch notes that the Independent Producers are members of the consortium that helped initiate his project to assist small producers. Further, in slide 17, Commissioner Balch expresses optimism in working with consortium “partners” and with the oil and gas industry generally on the project.

The statements on Commissioner Balch’s project website indicate prejudice in two ways. First, Commissioner Balch prejudged the Pit Rule’s impacts on small oil and gas producers before any operational data were available. He is therefore clearly pre-disposed to be sympathetic to the Independent Producers’ current petition which seeks to remove or weaken most of the environmental and public health protections the Pit Rule established, based on some alleged economic impacts.

Second, the Independent Producers are a petitioner and party of record in the above-captioned hearings. Their petition should not be heard by their consortium partner, Commissioner Balch. Such a close working relationship between a Commissioner and a party should disqualify Commissioner Balch from hearing the above-captioned matter.

**B. Commissioner Bailey's Meetings with Oil and Gas Industry Representatives May Indicate Bias.**

In the months prior to NMOGA's and IPANM's petitions to amend the Pit Rule being filed before the Commission, records show that Commissioner Bailey had several meetings with oil and gas representatives. Copies of Commissioner Bailey's meeting schedule were obtained through public information requests and attached as Exhibit 3. However, the Oil Conservation Division failed to disclose any notes, memoranda, correspondence or other record of Commissioner Bailey's meetings with oil and gas industry representatives. Commissioner Bailey's meetings with these representatives in the months prior to NMOGA's and IPANM's petitions being filed without disclosing a record of the substance of those meetings gives the appearance that the meetings could have involved discussions of the pending petitions and the development of prejudices or biases regarding the petitions. Commissioner Bailey should therefore fully disclose any notes, memoranda, correspondence or other record of her meetings with industry representatives and if necessary, submit to questioning at a public meeting under oath about the substance of her meetings with industry representatives and the contents of the requested disclosures.

OGAP expressly reserves the right to object to the bias of all Commission members as new information becomes available, both before the Commission and on appeal. OGAP further reserves the right to raise any issue concerning a members' bias for the first time on appeal if it appears that raising the issue before the Commission would be futile.

WHEREFORE, OGAP requests the following:

A. That Commissioner Balch recuse himself from hearing NMOGA's and the Independent Producers' petitions in the above-captioned matter; or alternatively,

B. That Commissioner Balch fully disclose any representation he made to the Governor or to the Governor's staff or other representatives concerning the Pit Rule;

C. That Commissioner Balch fully disclose his past and present relationships with the petitioners and other entities that are subject to the Pit Rule, including the relationships among the members' employers, petitioners, and other entities that are subject to the forgoing rules;

D. That Commissioner Balch fully disclose his past testimony and opinions regarding the Pit Rule;

E. That Commissioner Balch submit to questioning under oath in a public hearing regarding the disclosures requested above;

F. That Commissioner Bailey fully disclose any notes, memoranda, correspondence or other record of her meetings with industry representatives;

G. That Commissioner Bailey submit to questioning under oath in a public hearing regarding her meetings with NMOGA, IPANM, and other oil and gas industry representatives in the months preceding NMOGA's and IPANM's submission of their petitions in this matter and the contents of the requested disclosures.

Respectfully submitted:

NEW MEXICO ENVIRONMENTAL LAW  
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## CERTIFICATE OF SERVICE

I hereby certify that on this 8<sup>th</sup> day of May, 2012, I have delivered a copy of the foregoing pleading in the above-captioned case via electronic mail and/or US Mail, First Class to the following:

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## 1. Mapping Portal.

a.

[Pit Rule Web Mapping Portal](#)

[Alternative link](#)

b.

[Pit Rules Mapping Portal With Form C-144](#)

c. [National Mapping Portal](#).

## 2. [Pit Rules User Guide](#)

### Project Summary

The New Mexico Oil Conservation Division recently finalized changes to surface waste management rules regulating pits, closed loop systems, below-grade tanks and sumps used in connection with oil and gas operations. With the recent adoption of these "Pit Rules", New Mexico's small producers will experience an increased level of expenses for drilling and also be exposed to potentially unforeseeable financial risk due to a more complex and expensive application process and increases in need and expense of remediation at both new and existing well sites. If the additional risk is unpredictable or if the application process becomes too expensive due to additional expert surveys, it is likely that there will be a decrease in new applications and subsequent drilling of new wells and recompletions in New Mexico. Remediation of existing pits may also add significant operational expenses, further marginalizing profit from low volume wells produced by smaller companies. While all producers in New Mexico face these increased costs, small producers with limited specialized staff and ability to absorb substantial unexpected expenses will be most strongly affected. We have been funded by the RPSEA Small Producer Program to generate software and maps that predict reasonable financial cost and risk for locating a well/pit in any particular location in New Mexico, including predictable leaching, potential site regulatory issues, and to the degree possible, a reduction in the need for specialist on-site evaluations due to mapping of government accepted data.

This project has earned wide support from both industry and government. IPANM has pledged personnel time to the project in order to ascertain necessary data and usability of the final product. The NMOCD has committed to making the stewardship changes dictated by the new pit rules as painless as possible to small producers. NMOCD has committed two staff members to aiding in data collection, form development and testing of the resulting web software. In addition, NMOCD will partner in maintaining and promoting the project results to all New Mexico producers by allowing the greatest degree of automation possible to the regulations.

### Impact of the New Rules

While the financial impact of closures for pre-existing pits will have a large short term financial impact, the larger problem facing independent producers is the extensive changes to regulations, reporting, and permitting for new pits and therefore for new and work-over drilling. Large companies have access to full time legal, environmental and other specialty expertise and can more easily assign or hire additional staff to monitor pits, prepare reports and obtain supplementary data for permit applications and required reports. The new regulations will significantly alter how smaller producers operate in New Mexico.

Additional overhead in time and personnel will be required for determining costs associated with new and recompletion well development in order to maintain or attract investors. In general, this could require the input of specialists and/or dedicated personnel. In particular, new development will be slowed for independents while appropriate data is gathered or acquired with respect to relevant surface conditions at potential drill sites. These additional expenses may ultimately impact the economics of the well and prevent smaller companies from developing needed resources that are not at scales desired by larger companies. Since small producers already work at scales and on margins that are not palatable to large companies, if their profits are marginalized further due to additional permitting expenses and substantial remediation risks that cannot be easily predicted, reserves will be lost and production will decline.

### Proposed Methodologies for Minimizing Costs/Risks for New Pit Rules

This project will address additional compliance and permitting requirements by making available online a variety of data deemed acceptable by the NMOCD as a substitute, at least in many low-risk areas, for individual site surveys. Not all data is available for the entire state, but efforts will be made to provide comprehensive coverage for the state's producing areas. GIS layers would be presented for a number of relevant factors including subsurface water depth, surface geology and soil maps. Maps of estimated leaching potential and transport risk in the case of a leak can be made based on surface geology and proximity of subsurface and surface water, which can give a basis for predicting potential remediation costs. Additional compliance data can be obtained from maps of flowing and intermittent watercourses, existing water wells using records from the New Mexico Office of the State Engineer, subsurface mineral usage or other rights, municipal boundaries, 100-year floodplains and other relevant engineering data such as ground stability and calculated surface slope data. Finally, available information regarding biological, cultural and archeological data with links to a satellite map such as GOOGLE Earth to allow determination of existence of and distance to nearby structures will be included.

Software developed for the project would examine specified locations and provide the user with specific requirements for a particular location, or could generate maps showing optimal, allowed, or prohibited locations of pits/tanks. Necessary forms and reporting/permitting requirements can be catalogued and then filled out, in part or in whole by the software and then uploaded by operators as part of their online permit applications. In areas that are demonstrably non-sensitive, it is anticipated that sufficient data could be obtained to negate the need for an onsite survey. Note could also be made of locations clearly in need of onsite surveys or needing additional input. Such information could save operators the cost of site surveys where they are not needed and also allow operators to better estimate expenses for production, end-of-well-life, and protocols necessary for that particular location.

Key technologies for the project are interactive GIS maps, automated forms, lists of relevant data, and estimates of potential risks, by location, for the two major producing regions of New Mexico, the San Juan and Permian Basins. The data will either be served at New Mexico Tech by agreement with the NMOCD or at the NMOCD with periodic updates by NMT/PRRC.

## 1 Reducing Impacts of New Pit Rules on Small Producers

- Robert Balch
- Petroleum Recovery Research Center
- New Mexico Tech
- September 3, 2008
- SPE Roswell Section

## 2 The Problem

- The new Pit Rules will impact New Mexico's producers through increased expenses for permitting and drilling
- Producers are also exposed to potentially unforeseeable financial risk due to a more complex and expensive application process

## 3 The Pit Rules Project

- New Mexico Tech has been funded by the RPSEA Small Producer Program to generate maps and software that may help to predict reasonable financial cost and risk for locating a well/pit in any particular location in New Mexico, including:
  - Predictable leaching potential
  - Potential regulatory issues at any site
  - Reduce the need for specialist on-site evaluations at many sites and inform of potential issues
    - by online mapping of government accepted data
  - Generate automated forms
    - C-144
    - Attachments

## 4 Who is RPSEA?

- Research Partnership to Secure Energy for America's future
  - A non-profit corporation established to help meet the nation's growing need for hydrocarbon resources produced from reservoirs in America.
  - <http://rpsea.org>
- Largely replaced DOE Fossil Energy Program
  - Energy Policy Act of 2005
    - Funded from federal royalties and lease bonuses
    - \$50-150 million per year for 10 years

## 5 RPSEA

- Three major areas:
  - Offshore Ultra-Deepwater
  - Onshore Unconventional
  - Small Producer Program
    - Awards "shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers"
- Small Producer Program has funded 7 projects in 2008
  - Two in New Mexico
  - Next RFP is this fall

# Reducing Impacts of New Pit Rules on Small Producers

Robert Balch

Petroleum Recovery Research Center  
New Mexico Tech

September 3, 2008  
SPE Roswell Section

## Introduction

I am pleased to be here.

Today I have the unenviable task of discussing work that has not yet been completed, it makes for difficult talk preparation and often a boring talk.

I agreed to talk today, though this project is only 2 weeks old, since it is of such enormous importance to producers in New Mexico, especially the smaller producers who operate about half of all producing wells in New Mexico and account for about 60% of oil production and 30% of Natural gas produced in the state in 2007.

The new rules make it harder for you to operate, makes well's more costly and increase your risk. That I presume is why most of you are here today and I hope that we can form a dialogue that will genuinely improve the situation.

That said, I promise not to be offended if anyone takes a short nap.



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# The Problem

- ▶ The new "Pit Rules", will impact New Mexico's producers through increased expenses for permitting and drilling
- ▶ Producers are also exposed to potentially unforeseeable financial risk due to a more complex and expensive application process

Most of you are acutely aware of the problem.

The new C-144 is a 5 page long form that require maps, surveys, plans and other elements to complete.

The problem for smaller producers becomes one of time and personnel.

One producer in Farmington has had their "geologist" doing nothing but C-144 applications since July. They have had to divert one of their few specialists from his job to adapt to the new rules.

There are producers in Roswell that for the first time in years have stopped drilling while they figure out how to change their operations and handle the risks.

Outline



Notes

Slide 2 of 22

Slide Show

Done

Internet

100%



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# The Pit Rules Project

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  - ▶ Attachments

Basically we want to create tools that help you manage the risk, that help with the C-144, that help with site surveys and generally minimize staff time for compliance.

A model for this would be go-tech. Many of you use the online production data and we hope to see the same level of utility and widespread use.



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\$50million is guaranteed per year, and an additional appropriation of 100 million per year is allowed.

Obviously this will be strongly affected by public perception, the economy, and the dominant political paradigm over the next decade.

Outline



Notes



Slide 4 of 22



Slide Show

Done

Internet



100%





■ \$50-150 million per year for 10 years

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## 6 Consortia Members

- Independent Petroleum Association of New Mexico
  - The need for the project was brought to our attention by IPANM last fall during the PIT hearings.
  - Provides an active voice in the project for more than 250 independent companies.
- New Mexico Oil Conservation Division
  - Share our desire to minimize the impacts on producers
  - Will aid in data collection and acceptability

## 7 NMT Project Staff

- Robert Balch □ Project Manager, PI
- Roger Ruan □ PI
- Martha Cather
- Jenny Ma
- Students from:
  - Petroleum Engineering Dept. (4)
  - Civil and Environmental Engineering Dept. (1)

## 8 Project Mentor

- □□□□□ Jeff Harvard
- □ Harvard Petroleum
- Each project has a Mentor who is tasked with keeping the project focused on the needs of small producers
  - Regular communication between the ivory tower and the drill rig
  - Reality check the project at regular intervals

## 9 Project Time-Line

### 10 Data Assessment

- Time: First six months
- Goal: □ Locate and categorize necessary data
- We know some data that is needed
  - Subsurface water maps
  - FEMA Flood maps

# RPSEA

## ► Three major areas:

- ◀ Offshore Ultra-Deepwater
- ◀ Onshore Unconventional
- ◀ Small Producer Program

- Awards "shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers"

## ► Small Producer Program has funded 7 projects in 2008

- ◀ Two in New Mexico
- ◀ Next RFP is this fall

Roughly 60-40 split between offshore □ projects and onshore unconventional.

A small piece of the pie, about \$3 million per year is set aside for the small producer program.

RPSEA has an interesting selection process for the small producer program, where industry members take an active part in the selection process, and ultimately in the management of the projects themselves.

Outline

Notes

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■ \$50-150 million per year for 10 years

#### 5 RPSEA

- Three major areas:
  - Offshore Ultra-Deepwater
  - Onshore Unconventional
  - Small Producer Program
    - Awards "shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers"
- Small Producer Program has funded 7 projects in 2008
  - Two in New Mexico
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#### 6 Consortia Members

- Independent Petroleum Association of New Mexico
  - The need for the project was brought to our attention by IPANM last fall during the PIT hearings.
  - Provides an active voice in the project for more than 250 independent companies.
- New Mexico Oil Conservation Division
  - Share our desire to minimize the impacts on producers
  - Will aid in data collection and acceptability

#### 7 NMT Project Staff

- Robert Balch □ Project Manager, PI
- Roger Ruan □ PI
- Martha Cather
- Jenny Ma
- Students from:
  - Petroleum Engineering Dept. (4)
  - Civil and Environmental Engineering Dept. (1)

#### 8 Project Mentor

- □□□□□□ Jeff Harvard
- □ Harvard Petroleum

- Each project has a Mentor who is tasked with keeping the project focused on the needs of small producers
  - Regular communication between the ivory tower and the drill rig
  - Reality check the project at regular intervals

#### 9 Project Time-Line

#### 10 Data Assessment

- Time: First six months
- Goal: □ Locate and categorize necessary data
- We know some data that is needed
  - Subsurface water maps
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We hope that this unique partnership will ultimately satisfy both the environmental concerns of the OCD and the pragmatic needs of the industry.

A line of communication to the OCD will hopefully provide some insight into how the rules will be regulated and interpreted, as well as what sorts of form data will be acceptable.

Outline

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I have a phd in geophysics, and have worked on a variety of seismic, simulation, expert systems, and other AI related topics.

Roger has a phd in Petroleum engineering and is an expert computer programmer and database administrator.

Most of you know Martha for her roles in Industrial Outreach. ◻ Her role in this project is in data management and delivery.

Jenny Ma is the GIS expert at the PRRC.



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Jeff has already been an active voice on the project and has already provided insight and advice.

I am certain he will keep us on task toward a useful project.

While I won't hand out his home phone number, I would hope that some of you may bend his ear if you feel the project could be improved or is missing a key element.

Outline

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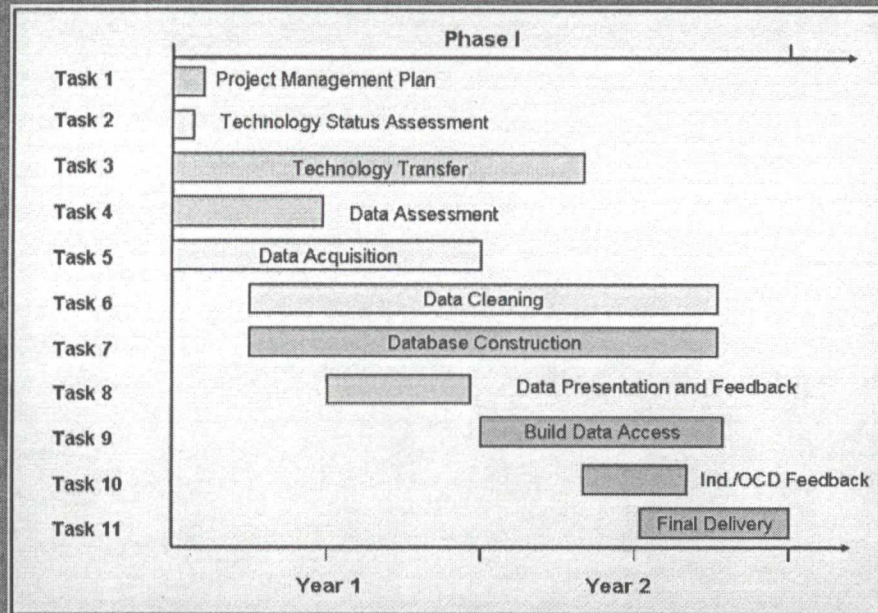
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# Project Time-Line



While the project is scheduled to take 2 years we intend to start providing useful data in the first weeks and months and continuously add data and utility as the project develops.

In the next slides I will break down some of the key tasks and how we perceive them.



- Each project has a timeline, which is tailored with keeping the project focused on the needs of small producers
  - Regular communication between the ivory tower and the drill rig
  - Reality check the project at regular intervals

#### 9 Project Time-Line

#### 10 Data Assessment

- Time: First six months
- Goal: ☐ Locate and categorize necessary data
- We know some data that is needed
  - Subsurface water maps
  - FEMA Flood maps
  - Satellite photos
  - Etc.
- Other data will be identified by work with consortia members and discussions with small producers

#### 11 Data Acquisition

- Time for Completion: ☐ 1<sup>st</sup> year
- Goal: collect and digitize needed data for completion of C-144
- As data is acquired we will make it available and as the project advances more data will come online and ease of use will improve

#### 12 Planned Data to Map

- Subsurface water depth
  - Existing United States Geological Survey (USGS) data will be merged with data collected by the New Mexico Bureau of Geology and Mineral Resources (NMBGMR)
- Surface geology - soils
  - Allows prediction of leaching risk, subsurface transport of contaminants in case of leaks, etc
- Watercourses, both flowing and intermittent
- Existing water wells using records from the New Mexico State Engineers office (NM OSE)
- Links to a satellite map such as GOOGLE Earth to allow determination of existence of and distance to nearby structures
- Subsurface mineral usage or other rights
- Municipal boundaries
- 100 year floodplains and other relevant engineering data such as ground stability
- Surface slope data calculated using USGS Digital Elevation Maps
- Wildlife and migratory bird information
- Cultural data

#### 13 Data Cleaning/Database Construction

- Time: as data is acquired
- Goal: Clean and store data in accessible formats
- This is an iterative process and many versions will be needed before a final product is made

## Data Assessment

- ▶ Time: First six months
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  - ▶ FEMA Flood maps
  - ▶ Satellite photos
  - ▶ Etc.
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Most data requirements are listed or on the C-144. Other data needs to be generated by site, such as allowable pit locations due to grade, distance to surface features, water or water wells.

As we collect data it will be made available in map able formats. We will work closely with the OCD to ensure that the data is acceptable.

Other data may be recommended by the producers as they get experience working with the forms, questions may be raised that require accessible data to quickly answer.



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Where a typical project might not make the preliminary data available until the end, we intend to deliver data as we collect and verify it.



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This list needs to be prioritized, what causes the producer the most headaches and what is the most immediate need.



### 13 Data Cleaning/Database Construction

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- Our goal is to make these temporary databases available and useful as the data is prepared.

### 14 Data Presentation and Feedback

- Time: Ongoing through first year
- Goal: Review and comments from industry users to make a more useful product
- An active communication with industry and Government is key for making the project results both useful and accessible.

### 15 Build Data Access

- Timeline: Ongoing through end of project
- Goal: generate and make available useful tools and data access
- Software and webware to expedite and simplify the permitting process while honoring the new Pit Rules

### 16 Some Specific Goals

- Optimal or allowed locations of pits/tanks as well as reporting/permitting requirements for these pits/tanks can be determined and listed automatically.
- An estimate of leaching and transport risk in the case of a leak can be made based on surface geology and proximity of subsurface and surface water, providing a basis for predicting potential remediation costs.
- Necessary forms and reporting/permitting requirements can be catalogued and in some cases filled in, in part or in whole by software and then downloaded by operators to include in their applications.
- Certain areas are expected to be low risk, and for these areas required data could automatically populate online forms in lieu of more involved physical surveys.
- High risk areas could be flagged as needing specific onsite surveys or additional data.
- Expected end-of-life closure protocols for pits at that location could be detailed in advance.

### 17 Nothing Set in Stone

- By working closely with our partners and with industry it is likely that we will alter both time-lines and priorities
- Some data may not be considered necessary
- New data or calculations may be of particular interest, as

# Data Cleaning/Database Construction

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Data will be presented in order of priority and availability.

Outline

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At the end of the first year the intent is to have all data in place, software applications designed to help aid producers with the c-144 and a good idea of acceptable data by the OCD.

Your feedback in the process is very important in making this workable.



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This next step is to fully automate as many elements of the c-144 as possible, including attachments with maps, based on the footprint of your drilling site.

Outline

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Ultimately we would like online submittal for the majority of drill sites. In particular we plan to address □.

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  - A salinity volumetric calculation for on-site burial of cuttings

#### 18 Technology Transfer

- We are not going to wait to get data and information out until the end of the project
- Web page:
  - <http://ford.nmt.edu>
- Click on ☐ Projects ☐
- Then ☐ New Mexico Pit Rules ☐

19 ☐

20 ☐

#### 21 Please Register

- We will provide a monthly progress update both on site and by email.
- Some areas may require ☐ password to access
- Provide feedback
- Use data and software as it is made available

#### 22 Questions?

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We don't want to waste anyone's time. Your input is important and can actually change scope and direction of the project. Be vocal and participate.



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- Web page:
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- Click on ☐ Projects ☐
- Then ☐ New Mexico Pit Rules ☐

19 ☐

20 ☐

#### 21 Please Register

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#### 22 Questions?

**PRRC - Windows Internet Explorer**  
[http://www.prrc.nmt.edu/research\\_groups/reacthome.html](http://www.prrc.nmt.edu/research_groups/reacthome.html)

**PETROLEUM RECOVERY RESEARCH CENTER**  
**New Mexico Tech**  
**RESERVOIR EVALUATION/ADVANCED COMPUTATIONAL TECHNOLOGIES**  
 Personnel  
 FEE Tool  
 Papers & Publications  
 Projects  
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 Other Research Groups

**Ford Server of REACT group's Projects - Windows Internet Explorer**  
<http://ford.nmt.edu/>

**PETROLEUM RECOVERY RESEARCH CENTER**  
**A DIVISION OF NEW MEXICO TECH**  
**RESERVOIR EVALUATION/ADVANCED COMPUTATIONAL TECHNOLOGIES**  
 Data Mining Consortium  
 New Mexico Pit Rules  
 Fuzzy Expert Exploration Tool  
 WDMS  
 Fuzzy Rank  
 Predict Online

**Dr. Robert Balch, Research Group Head,**  
 e-mail: [balch@prrc.nmt.edu](mailto:balch@prrc.nmt.edu)  
 Phone: 575-835-5303  
 Fax: 575-835-8031

**New Mexico Pit Rules**  
 With the recent adoption of new "Pit Rules", New Mexico's small producers will experience an increased level of expenses for drilling and also be exposed to potentially unforeseeable financial risk due to a more complex and expensive application process and increases in need and expense of remediation at both new and existing well sites. We have been funded by the RPSEA Small Producer Program to generate software and maps that predict reasonable financial cost and risk for locating a well-pit in any particular location in New Mexico, including predictable leaching, potential site regulatory issues, and to the degree possible, a reduction in the need for specialist on-site evaluations by online mapping of government accepted data and automated forms

**Data Mining Consortium**  
 Advances in computer power and database management have led to the development of powerful algorithms for making proactive business decisions using large databases. This consortium actively pursues research to apply data mining to industry applications. A pilot project was performed which determined optimal completion techniques for San Juan basin Dakota wells which can decrease overall completion costs while optimizing potential recovery. For information on joining the consortium contact **Robert Balch**

**Fuzzy Expert Exploration (FEE) Tool**  
 Incomplete or sparse information on types of data such as geologic or formation characteristics introduces a high level of risk for oil exploration and development projects. Expert systems developed and used in several

801 LEROY PLACE, SOCORRO NM 87801 USA

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Internet 100%

- Goal: generate and make available useful tools and data access

- Software and webware to expedite and simplify the permitting process while honoring the new Pit Rules

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Pit Rules - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Links

Address [http://129.138.10.99/react/pitrules\\_index.html](http://129.138.10.99/react/pitrules_index.html) Go

## PETROLEUM RECOVERY RESEARCH CENTER

New Mexico Tech A DIVISION OF NEW MEXICO TECH GoTech PITC

### Welcome to the New Mexico Pit Rules Registration Page

For additional information please contact Principal Investigator Robert Balch by email [balch@prrc.nmt.edu](mailto:balch@prrc.nmt.edu), or by phone (505) 835-5305.

Your personal information will be kept in the strictest confidence and will never be distributed.

You will receive a confirmation message from our System Administrator once you submit the form below regarding your account status.

Cells with blue are required to process your registration.

Username:	
First Name:	
Last Name:	
Address:	
City:	
State/Province:	
Country:	
Company Name:	
Tel.:	

801 LEROY PLACE, SOUTHEAST CORNER PITC, U.S.A. Search

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Outline



Notes

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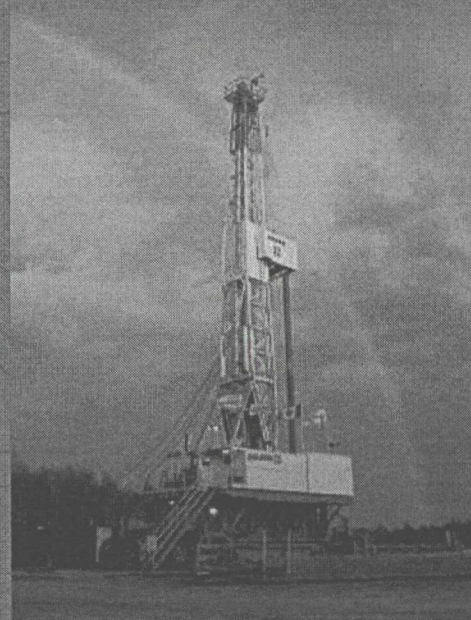
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Outline



☐ Notes

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Done

Internet

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## **Bailey, Jami, EMNRD**

---

**Subject:** Carol Leach & Bill Carr  
**Start:** Tue 4/12/2011 10:00 AM  
**End:** Tue 4/12/2011 10:30 AM  
**Recurrence:** (none)  
**Organizer:** Bailey, Jami, EMNRD

Exhibit 3

## **Bailey, Jami, EMNRD**

---

**Subject:** Meeting with Ocean Munds-Dry and Ken McQueen w/Williams

**Start:** Fri 5/13/2011 8:30 AM

**End:** Fri 5/13/2011 9:30 AM

**Recurrence:** (none)

**Organizer:** Bailey, Jami, EMNRD

## **Bailey, Jami, EMNRD**

---

**Subject:** meet w/O&G producers  
**Location:** Hobbs

**Start:** Tue 5/17/2011 9:00 AM  
**End:** Tue 5/17/2011 11:00 AM

**Recurrence:** (none)

**Meeting Status:** Accepted

**Organizer:** Bemis, John, EMNRD  
**Required Attendees:** Bailey, Jami, EMNRD

## **Bailey, Jami, EMNRD**

---

**Subject:** Mtg w/ Ocean  
**Start:** Thu 6/2/2011 8:15 AM  
**End:** Thu 6/2/2011 8:45 AM  
**Recurrence:** (none)  
**Organizer:** Bailey, Jami, EMNRD



## **Bailey, Jami, EMNRD**

---

**Subject:** Harvey Yates - Pit Rule Exception  
**Location:** OCD Conference Room

**Start:** Thu 8/4/2011 10:00 AM  
**End:** Thu 8/4/2011 10:30 AM

**Recurrence:** (none)

**Meeting Status:** Accepted

**Organizer:** VonGonten, Glenn, EMNRD

**Required Attendees:** Sanchez, Daniel J., EMNRD; Jones, Brad A., EMNRD; Bailey, Jami, EMNRD

**Bailey, Jami, EMNRD**

---

**From:** VonGonten, Glenn, EMNRD  
**Sent:** Wednesday, August 03, 2011 8:27 AM  
**To:** Sanchez, Daniel J., EMNRD; Jones, Brad A., EMNRD  
**Cc:** Bailey, Jami, EMNRD  
**Subject:** FW: Pit Rule Exception Process Meeting

Daniel,

I will schedule the meeting for 10:00 AM.

Glenn

---

**From:** Harvey Yates [<mailto:petroyates@msn.com>]  
**Sent:** Tuesday, August 02, 2011 6:37 PM  
**To:** VonGonten, Glenn, EMNRD  
**Subject:** RE: Pit Rule Exception Process Meeting

Mr. Von Gonten,

Thanks for your response, and sorry that you were having trouble getting through on our phones. I hope I left the correct number: 505-242-2050.

In regard to the purpose of the meeting, I want to explore whether it is possible to meet the terms of pit rule 17 and yet cut well cost by cutting the cost of handling cuttings and drilling mud.

An example would be the following: if one were drilling a shallow well in an area where there is no salt section and fresh water is 100 feet below the surface, would it be possible to put the cuttings and mud in a metal container, and, after the drilling is completed, test the material in the container and, if the material meets requirements, bury the material in a permanent pit on-site? (If the material doesn't meet the testing requirements, the material would be hauled to an approved burial site.) This sort of cost saving approach would seem to be reasonable.

However, on-site permanent burial, as we read the rules, seems to require that a professional engineer design the pit and that this design be presented with the drilling application. This requirement seems to be unreasonable unless and until one know whether on-site burial will be used. Further, the requirement that a professional engineer design the pit seems calculated to increase the cost of on-site burial and discourage it.

Is there a way to meet the rules, or gain an exception to them, and go forward with an approach as explained above?

These are the sorts of questions I would like to explore in our meeting, and I acknowledge from the beginning that we may not be properly interpreting the rules or may misunderstand them. To assist our understanding and guide us as to the above we sought to find examples from the applications of other operators who have gained exceptions to the pit rule, but have been unable to find them.

I have a lunch meeting which may last until around 2:00. Anytime in the morning would work, or after 2:00, but it sounds as if you will be unavailable after 2:00. Would it be possible to meet in the morning - say at 10:00?

I'm pleased that Daniel Sanchez will join us.

Thanks,  
Harvey Yates, Jr.

---

**From:** [Glenn.VonGonten@state.nm.us](mailto:Glenn.VonGonten@state.nm.us)  
**To:** [petroyates@msn.com](mailto:petroyates@msn.com)

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## **Bailey, Jami, EMNRD**

---

**Subject:** Mtg w/ 4th floor  
**Start:** Thu 8/4/2011 1:30 PM  
**End:** Thu 8/4/2011 2:30 PM  
**Recurrence:** (none)  
**Organizer:** Bailey, Jami, EMNRD

Ryan Canglioni  
Rod Montoya

## **Bailey, Jami, EMNRD**

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**Subject:** Conoco mtg  
**Start:** Thu 8/25/2011 11:00 AM  
**End:** Thu 8/25/2011 12:00 PM  
**Recurrence:** (none)  
**Organizer:** Bailey, Jami, EMNRD