



# North Dakota Geological Survey

Edward C. Murphy - State Geologist

Department of Mineral Resources

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North Dakota Industrial Commission

www.state.nd.us/ndgs

## Administrative Rules Committee

Testimony of

Edward C. Murphy

North Dakota Geological Survey

June 6, 2013

Administrative Rules Committee Chairman and Committee Members:

Following please find my written testimony concerning the adoption of administrative rules by the ND Geological Survey, Department of Mineral Resources, North Dakota Industrial Commission. The items listed are pursuant to Mr. John Walstad's email of June 4, 2013.

**1. *Whether the rules resulted from statutory changes made by the Legislative Assembly.***

Neither the amendments to the Subsurface Mineral Program (NDAC 43-02-02) nor the creation of the new chapters entitled Surface Mining (Non Coal) (NDAC 43-02-02.3) and Solution Mining (NDAC 43-02-02.4) were a result of statutory changes.

**2. *Whether the rules are related to any federal statute or regulation.***

None of the rule changes is directly related to any federal statute or regulation.

**3. *A description of the rule making procedure followed in adopting the rules.***

**Dec 2011 – July 2012:** Wrote proposed new rules.

**2012**

**Aug- Sep:** Received comments on proposed rules from NDSDH and NDPSC.

**Sep- Dec:** Received comments on proposed rules from legal counsel.

**Dec 13:** Industrial Commission gave approval to proceed with proposed rules.

**Dec 14:** Legal ad sent to North Dakota Newspaper Association for rules notice.

**Dec 21:** Filed full notice + rules w/Leg Council (LC) via email—LC sent out proposed rules notice to interested parties within 15 business days after they received them.

**Dec 25:** Wrote regulatory analysis, even though the rules do not impact industry > \$50,000 (in 1yr).

**Dec 26:** Wrote small entity regulatory analysis and small entity impact statement.

**2013**

**Jan 1:** All papers (10 daily + 42 weekly) published proposed rules notice Dec 26 – Jan 1.

**Jan 22:** 9:00 am Rules Hearing @ OGD Conference Room (Case 19571) Ten-day comment period started.

**Feb 1:** End of ten-day comment period; no comments received.

**Feb 20:** Industrial Commission approved rules (Order no. 21875, Case no. 19571).

**Feb 21:** Submitted final rules to Attorney General (AG) for an opinion.

**Apr 8:** Received back opinion from AG's office.

**Apr 11:** Filed rules with Legislative Council, along with copy of AG's opinion.

**June 4:** Posted on Survey Homepage notice of Administrative Rules Committee hearing on June 6, 2013.

**Jun 6:** Administrative Rule Committee hearing.

**4. *Written or oral concerns, objections, or complaints for agency consideration with regard to these rules.***

No written or oral comments were received during the hearing or the 10 day comment period. However, the ND Department of Transportation sent a letter to Lynn Helms on February 4, 2013 requesting a 400 foot setback for a well from the centerline of a state highway and that mineral applicants obtain a driveway permit from NDDOT if they desire access from a state highway to a well. We will be able to impose these conditions on the permit through NDAC 43-02-02-12 (page 38).

**5. *The approximate cost of giving public notice and holding any hearings.***

The total cost to the North Dakota Geological Survey, beyond staff time, was \$1,350 to advertise in the state's newspapers.

**6. *An explanation of the subject matter of the rules and reasons for adopting those rules.***

The Subsurface Mineral Program (NDAC 43-02-02) regulates all mineral exploration and production other than oil & gas, coal, and sand & gravel. That is, everything from shallow exploration test holes to deep solution production wells to surface mining. Rules for the Subsurface Mineral Program were first adopted on August 1, 1968 and have remained little changed through the years. However, rules were adopted on March 1, 1984 for Class III Underground Injection Control Wells (NDAC 43-02-02.1) and on January 1, 2009 for In Situ Leach Uranium Mining (NDAC 43-02-02.2).

North Dakota Administrative Code 43-02-02 was badly in need of updating and reorganizing and Ned Kruger was given that assignment when he was hired in December 2011. Ned updated all of the deep well drilling and plugging rules to make them consistent with the ND Oil and Gas Division. He also made beneficial changes based upon his study of the deep well solution mining rules for Michigan, New Mexico, Utah, and Wyoming as well as the surface mining rules for the ND Public Service Commission and the states of New Mexico, Utah, and Wyoming. As a result of this work, we have reorganized and greatly expanded the subsurface mineral rules into three chapters (NDAC 43-02-02, 43-02-02.3 and 43-02-02.4). In addition to updating and reorganizing, we have expanded the rules by clarifying the information that would be required in a production permit. In doing so, we went from 81 pages of rules to 177.

**Old Format**

43-02-02	Exploration, Development and Production of Subsurface Mineral Rules (16 pages).
43-02-02.1	Class III Underground Injection Control Program (7 pages).
43-02-02.2	In Situ Leach Uranium Mining (58 pages).

**New Format**

43-02-02	Subsurface Mineral Exploration and Development Rules (44 pages).
43-02-02.1	Class III Underground Injection Control Program (7 pages).
43-02-02.2	In Situ Leach Uranium Mining (58 pages).
43-02-02.3	Surface Mining (Non Coal) (39 pages).
43-02-02.4	Solution Mining (29 pages).

## SUMMARY OF PROPOSED 2013 SUBSURFACE MINERAL RULES

DAC	RULES	PROPOSED CHANGE
<b>43-02-02 SUBSURFACE MINERAL EXPLORATION AND DEVELOPMENT</b>		
43-02-02-01	Definitions	Eleven definitions added Two definitions removed Definitions for "Deep wells" and "Shallow wells" amended to be determined by the contact between Greenhorn and Belle Fourche Fms or any rocks above the contact with saline or brackish formation waters
43-02-02-03	Promulgation of rules, regulations, or orders	Repealed
43-02-02-04	Emergency rule, regulation, or order	Repealed
43-02-02-05	Enforcement of laws, rules, and regulations...	Removed language similar to that found in 43-02-02-5.1 (Waste Prohibited)
43-02-02-10	Record of permits and official well names	Added a record of official well names; \$25 fee for application to change name; direct may refuse application/refund fee
43-02-02-11	Bond	Operator will be principal on bond Bond for boring ≥2,000 feet set at \$50,000 Moved surface mining bond to 43-02-02.3 Add transfer of property; bond termination; director's authority (form O&G rule)
43-02-02-12	Application for permit to drill and recomplete	Heading changed Plat referenced to true north Recompletion based upon O&G including sulfide content, weight & grade of casing, and \$50 fee
43-02-02-13	Well location	Locations must be approved by commission after notification and hearing Removed 300 ft from boundary exception
42-02-02-13.1	Exception location	Conditions in which exceptions to 500 feet boundary buffer are allowed Partially based on part removed from 43-02-02-13
43-02-02-13.2	Deviation tests and directional surveys	Added based on O&G rule
43-02-02-14	Sign on wells	Sign with all info required for each well
43-02-02-15	Pits for drilling fluid and drill cuttings	Repealed; similar language in 43-02-02-15.4
43-02-02-22.1	Determination of well potential	Repealed
43-02-02-27	Earthen pits	Repealed
43-02-02-29	Mining plan	Allows the director to determine what information is proprietary
43-02-02-35	Books and records to be kept to substantiate reports	Increase the period to retain documents from 5 to 6 years
43-02-02-36	Public hearing	Repealed
43-02-02-37	Institute proceedings	Repealed
43-02-02-39	Filing application for hearing	Increase the notification of hearing from ten to fifteen days
43-02-02-47	Examiner shall be disinterested umpire	Repealed
43-02-02-02	Scope of Chapter	Existing rules updated and clarified based upon Division of Oil & Gas rules (43-02-03)
43-02-02-06	United States government leases	
43-02-02-08	Authority to cooperate with other agencies	
43-02-02-09	Organization reports	
43-02-02-16	Sealing off strata	
43-02-02-17	Casing and tubing requirements	
43-02-02-18	Defective casing or cementing	
43-02-02-20	Safety regulation	
43-02-02-22	Well log, completion, and workover report and basic data	
43-02-02-23	Notice of intention to plug well	
43-02-02-24	Method of plugging	
43-02-02-26	Liability	
43-02-02-28	Preservation of cores and samples	
43-02-02-30	Report of production	
43-02-02-31	Report of water injected	
43-02-02-32	Pollution by saltwater	
43-02-02-33	Investigative powers	
43-02-02-34	Additional information required	
43-02-02-40	Hearings - complaint proceedings -emergency proceedings - other proceedings	
43-02-02-41	Application for rehearing	
43-02-02-43	Designation of examiners	
43-02-02-45	Powers and duties of examiner	

## SUMMARY OF PROPOSED 2013 SUBSURFACE MINERAL RULES

NDAC	RULES	PROPOSED CHANGE	
<b>43-02-02 SUBSURFACE MINERAL EXPLORATION AND DEVELOPMENT</b>			
43-02-02-05.1	Waste prohibited	New rules adopted from Division of Oil & Gas rules (43-02-03)	
43-02-02-09.1	Reservoir surveys		
43-02-02-10.1	Access to records		
43-02-02-11.1	Designation and responsibilities of operator		
43-02-02-12.1	Revocation and limitation of drilling permits		
43-02-02-14.1	Site construction		
43-02-02-15.1	Fencing, screening, and netting of drilling and reserve pits		
43-02-02-15.2	Disposal of waste material		
43-02-02-15.3	Earthen pits and open receptacles		
43-02-02-15.4	Drilling pits		
43-02-02-15.5	Reserve pit for drilling mud and drill cuttings from shallow wells		
43-02-02-18.1	Perforating, fracturing, and chemically treating wells		
43-02-02-19	Blowout prevention		
43-02-02-20.1	Pulling string of casing		
43-02-02-21	Well and lease equipment		
43-02-02-21.1	Notification of fires, leaks, spills, or blowouts		
43-02-02-21.2	Leak and spill cleanup		
43-02-02-22.1	Determination of well potential		
43-02-02-22.2	Sursurface pressure test		
43-02-02-22.3	Commingling of minerals from pools		
43-02-02-24.1	Abandonment of wells - suspension of drilling		
43-02-02-24.2	Reclamation of surface		
43-02-02-25.1	Conversion of mineral wells to freshwater wells		
43-02-02-40.1	Investigatory hearings		
43-02-02-40.2	Official record		
43-02-02-40.3	Petitions for review of recommended order and oral arguments		
43-02-02-40.4	Notice of order by mail		
43-02-02-40.5	Service and filing		
43-02-02-51	Prehearing motion practice		
43-02-02-12.2	Design and construction of surface facilities		New rules adopted from NDGS In Situ Leach Uranium Mining Rules (43-02-02.2)
43-02-02-12.3	Construction quality assurance plan		
43-02-02-12.4	Pipeline design and construction requirements		
43-02-02-12.5	Disposal of liquid waste		

## SUMMARY OF PROPOSED 2013 SUBSURFACE MINERAL RULES

DAC	RULES	PURPOSE
<b>43-02-02.3 SURFACE MINING (NON COAL)</b>		
43-02-02.3-01	Definitions	Clarification of general requirements and expectations
43-02-02.3-02	Scope of Chapter	
43-02-02.3-03	Uranium surface mining	
43-02-02.3-04	Radioactive material	
43-02-02.3-05	Bond	
43-02-02.3-06	Designation and responsibilities of the operator	
43-02-02.3-07	Permit required	
43-02-02.3-08	Submission of permit application	
43-02-02.3-09	Summary document	
43-02-02.3-10	Small mining operation permit requirements	
43-02-02.3-11	Large mining operation permit requirements	
43-02-02.3-12	Review for completeness	
43-02-02.3-13	Review period	
43-02-02.3-14	Permit application fees	
43-02-02.3-15	Information added after filing date	
43-02-02.3-16	Notice to agencies	
43-02-02.3-17	Notice of hearings	
43-02-02.3-18	Permit approval or denial	
43-02-02.3-19	Permit term	
43-02-02.3-20	Permit modification or revision	
43-02-02.3-21	Revocation and limitation of permits	
43-02-02.3-22	Operational practices	
43-02-02.3-23	Performance and reclamation standards and requirements	
43-02-02.3-24	Report of production	
43-02-02.3-25	Annual report	
43-02-02.3-26	Additional information may be required	

## SUMMARY OF PROPOSED 2013 SUBSURFACE MINERAL RULES

NDAC	RULES	PURPOSE
<b>43-02-02.4 SOLUTION MINING</b>		
43-02-02.4-01	Definitions	General rules
43-02-02.4-02	Scope of Chapter	
43-02-02.4-03	Bond	Bond for solution and disposal wells $\geq$ 2,000 feet set at \$50,000 Facility bond determined by commission based on size reclamation costs
43-02-02.4-04	Designation and responsibilities of the operator	Clarification of general requirements and expectations
43-02-02.4-05	Permit required	
43-02-02.4-06	Submission of permit application	
43-02-02.4-07	Summary document	
43-02-02.4-08	Solution mining operation permit requirements	
43-02-02.4-09	Review for completeness	
43-02-02.4-10	Review period	
43-02-02.4-11	Permit application fees	Fee increased to \$500
43-02-02.4-12	Information added after filing date	Clarification of general requirements and expectations
43-02-02.4-13	Notice to agencies	
43-02-02.4-14	Notice of hearings	
43-02-02.4-15	Permit approval or denial	
43-02-02.4-16	Permit term	
43-02-02.4-17	Permit modification or revision	
43-02-02.4-18	Revocation and limitation of permits	
43-02-02.4-19	Surface facilities - location -exception to location requirements	
43-02-02.4-20	Operators of Class III injection wells	
43-02-02.4-21	Notice of mechanical integrity testing	
43-02-02.4-22	Mechanical integrity testing	
43-02-02.4-23	Calibration of pressure gauges	
43-02-02.4-24	Reports of mechanical integrity	
43-02-02.4-25	Mechanical integrity testing required by the director	
43-02-02.4-26	Cavity size	
43-02-02.4-27	Subsidence monitoring above a cavity...	
43-02-02.4-28	Abandonment of cavity created by solution mining	
43-02-02.4-29	Central production facility - commingling of production	
43-02-02.4-30	Production equipment, dikes, and seals	
43-02-02.4-31	Tank cleaning permit	
43-02-02.4-32	Saltwater handling facilities	
43-02-02.4-33	Secondary containment - general requirements	
43-02-02.4-34	Secondary containment - vessels	
43-02-02.4-35	Secondary containment - loading and unloading areas	
43-02-02.4-36	Secondary containment - piping	
43-02-02.4-37	Secondary containment - certification	
43-02-02.4-38	Line markers for brine pipelines	
43-02-02.4-39	Pipelines - records	
43-02-02.4-40	Purging, removal, and abandonment of lines and vessels	
43-02-02.4-41	Existing facilities - maintenance	
43-02-02.4-42	Operational practices	
43-02-02.4-43	Performance and reclamation standards and requirements	
43-02-02.4-44	Report of water injected	
43-02-02.4-45	Report of production	
43-02-02.4-46	Report of natural brine produced	
43-02-02.4-47	Solution mining - reporting	
43-02-02.4-48	Rock profile determination	
43-02-02.4-49	Books and records to be kept to substantiate reports	
43-02-02.4-50	Additional information may be required	

**7. *Regulatory Analysis***

A regulatory analysis was not requested by the Governor or another agency. Even though the proposed amendments likely would not have an impact on the regulated community in excess of \$50,000, an analysis was still done on these rules (see attached pages 8-9).

**8. *Small Entity Regulatory Analysis and Impact Statement***

A small entity regulatory analysis and impact statement were completed for the amended rule as well as the new chapters (see attached pages 10-12).

**9. *Whether these rules have a fiscal effect on state revenues and expenditures including any effect on funds controlled by your agency.***

These rules would have a minimal fiscal effect on state revenues. We have estimated an average impact of not more than \$600 per year for large scale surface mine operations and an average of \$800 over a twenty year period for solution mine operations.

**10. *Whether a constitutional takings assessment was prepared as required by NDCC section 28-32-09.***

None of these rule changes constitutes a takings.

**11. *If these rules were adopted as emergency rules under NDCC section 28-32-03.***

These rules were not adopted as emergency rules.

Thank you for your consideration of the ND Geological Survey's rule changes.

**North Dakota Geological Survey**  
**Regulatory Analysis**  
December 26, 2012

NDAC 43-02-02  
NDAC 43-02-02.3  
NDAC 43-02-02.4

**2.2.1 – Classes of Persons Impacted by These Rule Changes**

**NDAC 43-02-02 Subsurface Mineral Exploration and Development**

The classes of persons impacted by these proposed rule changes are companies exploring for subsurface minerals and/or producing from a mineral well.

**NDAC 43-02-02.3 New Rules for Surface Mining (Non coal)**

**NDAC 43-02-02.4 New Rules for Solution Mining**

The classes of persons impacted by these newly created chapters are companies planning to mine subsurface minerals in North Dakota by surface mining or solution mining techniques. Although we have authority to regulate both types of mining under the existing subsurface mineral and underground injection control class III programs, these new rules explicitly point out what is required of a company beginning with the permit application phase and carrying all the way through to postclosure.

**2.2.2 – Probable Impact**

**NDAC 43-02-02 Subsurface Mineral Exploration and Development**

We are proposing to change the bond amount for a subsurface mineral permit for wells 2,000 feet or greater in depth to a fixed amount of \$50,000 from an amount based on a formula which considers the number of drill sites, the depths of the holes, and anticipated surface restoration costs. For wells 2,000 to 7,995 feet deep, the \$50,000 per well bond will result in larger bond requirement than the formula. For companies installing wells deeper than 7,995 feet, the fixed bond requirement will be economically beneficial. The annual premium on a \$50,000 surety bond would likely be around \$750.

No operator is expected to see an annual premium increase of more than \$500 per well for a surety bond under the proposed rules, and in general it is expected that most increases would be less than that amount. Because we have issued only two subsurface mineral permits in the last 30 years, the proposed rule change will have a yearly impact of less than \$50,000.

Amendments pertaining to reservoir and/or directional surveys, surface facility and/or pipeline design, casing and tubing requirements, and pits would have previously been requested as conditional requirements for permits based upon common practice or similar NDAC rules approved for oil and gas drilling.

**NDAC 43-02-02.3 New Rules for Surface Mining (Non coal)**

For large mining operations the new rule will require baseline data collection prior to submittal of a permit application for mining operations, a detailed permit application, a \$500 plus \$10 per acre permit application fee, monitoring well installation, and groundwater monitoring.

Most monitoring activities would take place as conditional requirements under the existing rules and therefore do not represent additional costs to the operator.

**NDAC 43-02-02.4 New Rules for Solution Mining**

We are proposing a \$50,000 bond requirement for commercial disposal wells. Depending on well depth, the proposed \$50,000 bond requirement may be either greater or smaller than the amount which would be required based upon the current formula used for 43-02-02. In no case is the annual premium of the \$50,000 bond expected to increase the financial burden on an operator by more than \$500 per well.

The new rule will also require baseline data collection prior to submittal of a permit application for solution mining operations, a detailed permit application, a \$500 permit application fee, monitoring well installation, groundwater monitoring, cavity monitoring, subsidence monitoring, and a facility bond that would likely be in the of millions of dollars.

Most monitoring activities and facility bonding would take place as conditional requirements under the existing rules and therefore do not represent additional costs to the operator.

**2.2.3 Estimated Cost to the Agency**

**NDAC 43-02-02 Subsurface Mineral Exploration and Development**

The proposed change in bonding will slightly reduce the amount of time necessary to determine the proper bond amount for borings 2,000 feet or more in depth.

**NDAC 43-02-02.3 New Rules for Surface Mining (Non coal)**

**NDAC 43-02-02.4 New Rules for Solution Mining**

It will take additional staff time for geologists to review large mining operation and solution mining permit applications. We have estimated 20 hours at \$25 per hour to arrive at the \$500 base application fee.

**2.2.4 Alternate Methods Explored**

**NDAC 43-02-02 Subsurface Mineral Exploration and Development**

The amendments proposed were made in an effort to be more consistent with oil & gas exploration rules, to update and clarify existing rules, and to protect the environment.

**NDAC 43-02-02.3 New Rules for Surface Mining (Non coal)**

**NDAC 43-02-02.4 New Rules for Solution Mining**

We considered writing these surface mining and solution requirements into NDAC 43-02-02 and decided that it would be much cleaner for them to stand alone as separate chapters.

## North Dakota Geological Survey Small Entity Regulatory Analysis

December 26, 2012

NDAC 43-02-02

NDAC 43-02-02.3

NDAC 43-02-02.4

The majority, if not all, subsurface mineral operators in North Dakota are likely to be defined as large entities. For a small entity to become involved in a subsurface mineral venture, they would have to have substantial financial backing. That said, the resulting premium increase on subsurface mineral exploration surety bonds is small enough that it should not be burdensome to small entities.

### **Minimize the adverse impact on small entities by establishing less stringent compliance or reporting requirements.**

The compliance and reporting requirements for these rule changes are needed to prevent significant environmental problems or to catch and control problems as they arise.

### **Minimize the adverse impact on small entities by establishing less stringent schedules or deadlines for compliance or reporting requirements.**

Because of the potential for significant environmental problems and the need to identify problems quickly, it is not possible to establish less stringent schedules or deadlines for small entities.

### **Minimize the adverse impact on small entities by consolidating or simplifying compliance or reporting requirements.**

The bond form for the subsurface mineral program is one page and is very straight forward. Due to the potential for adverse impacts on the environment from mining operations, it is not practical to consolidate or simplify our permitting requirements.

### **Minimize the adverse impact on small entities by establishing performance standards that replace design or operational standards required in the proposed rules.**

We cannot lower performance standards due to the potential threat to the environment posed by mining facilities.

### **Minimize the adverse impact on small entities by exempting small entities from all or part of the rule's requirements.**

Exempting a small entity from all or part of these proposed rules might not only have a negative impact on the environment, it could also lead to increased liability of the small entity for cleanup costs.

**North Dakota Geological Survey**  
**Small Entity Economic Impact Statement**  
December 27, 2012

NDAC 43-02-02  
NDAC 43-02-02.3  
NDAC 43-02-02.4

**Small entities that may be subjected to the proposed rules.**

Small entities may be subjected to the bond changes in 43-02-02 and would include small exploration companies or small manufacturing companies that utilize natural resources such as clay (brick manufacturers). Small entities would likely not have the capital to operate a large mining operation (43-02-02.3) or solution mining operation (43-02-02.4).

**The administrative or other costs for small entities to comply with the proposed rules.**

NDAC 43-02-02

There would be no administrative costs for the proposed bond changes if a company posted a cash bond at the Bank of North Dakota. Increased bond premiums for borings of midrange depth (2,000 – 7,995 feet) are not expected to exceed \$500 per well for a surety bond, and in most cases additional costs are expected to be less than this amount.

NDAC 43-02-02.3  
NDAC 43-02-02.4

A small entity could not operate a large mining operation or solution mining facility.

**The probable cost and benefit to private persons and consumers who may be affected by the proposed rules.**

NDAC 43-02-02

Surety companies will benefit from increased surety bonds for borings of midrange depth (2,000 – 7,995 feet) and operators will benefit from slightly reduced premiums for deeper drilling projects (greater than 7,995 feet). It is not believed that the increase of industry costs will be of noticeable magnitude to the consumer.

NDAC 43-02-02.3

It will cost operators \$500 plus \$10 per acre to submit a large mining operation permit application, \$400 plus acreage more than under the existing rules. The benefit to the general public is that these rules better define requirements for the protection of the environment than do the existing rules. The fee represents a tiny fraction of what would be the operating expenses of a large mining operation.

NDAC 43-02-02.4

It will cost operators \$500 to submit a large mining operation permit application, \$400 more than under the existing rules. The benefit to the general public is that these rules better define requirements for the protection of the environment than do the existing rules. The fee

represents a tiny fraction of what would be the operating expenses of a solution mining operation.

**The probable effect of the proposed rule on state revenues.**

NDAC 43-02-02

There would be no effect on state revenue from the proposed change in bonding nor other amended sections of the chapter.

NDAC 43-02-02.3

The state would receive a \$500 fee plus \$10 dollars per acre per permit application, up from a fixed \$100 per permit currently. It is anticipated that no more than an average of one mining facility would begin operation per year. Assuming an average facility size of 20 acres, total additional revenues generated by the proposed rule would average \$600 per year.

NDAC 43-02-02.4

The state would receive a \$500 fee per permit application, up from a fixed \$100 per permit currently. As an example, if two solution mining facilities were to operate in the next twenty years, the total additional revenues generated by the proposed rule under this scenario would be \$800 over the twenty year period.

**Whether there are any less intrusive or less costly methods of achieving the proposed rule's purpose.**

NDAC 43-02-02

We felt this change was necessary in order to be consistent with bonding rules for oil and gas wells. The proposed method will maintain most of the flexibility we need for a program which encompasses such a wide array of drilling depths while establishing this consistency.

NDAC 43-02-02.3

We determined the best means of safeguarding the environment was to use the surface mining rules from the North Dakota Public Service Commission (PSC) supplemented by the mining rules of Utah and New Mexico as a template for surface mining in North Dakota. Also, the permit fee for large mining operations is consistent with the PSC's permit fee for coal mining operations.

NDAC 43-02-02.4

We determined the best means of safeguarding the environment was to use solution mining rules from Michigan and Wyoming as well as permitting and reclamation rules from Utah and New Mexico as a template for solution mining in North Dakota.

**North Dakota Geological Survey  
Takings Assessment**

December 26, 2012

NDAC 43-02-02  
NDAC 43-02-02.3  
NDAC 43-02-02.4

None of the above rule changes constitutes a takings.

**If these rules were adopted as emergency rules under NDCC Section 28-32-03, provide the statutory grounds from that section for declaring the rules to be an emergency.**

These were not adopted as emergency rules.