





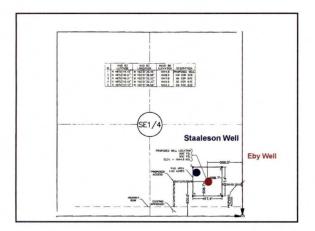
Sorenson Eby etal # 1

BASIC DATA PROVIDED TO STATE OF NORTH DAKOTA

Confidential until August 13, 2012

- 1) Logs 2) Core Analysis 3) Core 4) Cuttings







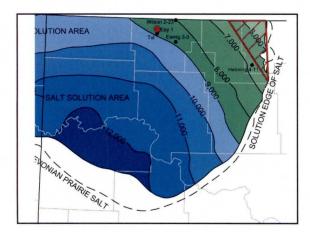
Compressed Air Energy Storage in ND Feasibility Project Funded by the North Dakota Renewable Energy Counci

Dakota Salts

Electrical Power and Research Institute (EPRI) Schlumberger Water Services

Laboratory tests performed on the salt core obtained from the Eby well.

<u>Conclusions:</u>
Cavern should be located where the top of the Prairie Formation is no more than 6,500 feet below the surface.



Compressed Air Energy Storage in ND Feasibility Project Funded by the North Dakota Renewable Energy Council

Dakota Salts

Electrical Power and Research Institute (EPRI) Schlumberger Water Services

Laboratory tests performed on the salt core obtained from the Eby well.

<u>Conclusions:</u> Cavern should be located where the top of the Prairie Formation is no more than 6,500 feet below the surface.

Creep not as big a potential problem as initially assumed.

Cyclic fatigue of a pressure-cycled salt cavern may be less of a problem at these depths.

Future testing should use 1) larger diameter cores, 2) cores from the western Bottineau County area, and 3) criteria specific to a proposed plant and cavern.



SUBSURFACE MINERALS

North Dakota Century Code
38-11.2 SUBSURFACE EXPLORATION DAMAGES

38-12

REGULATION, DEVELOPMENT, AND PRODUCTION OF

SUBSURFACE MINERALS

North Dakota Administrative Code

43-02-02

SUBSURFACE MINERAL EXPLORATION AND

43-02-02.1

UNDERGROUND INJECTION CONTROL PROGRAM

43-02-02.2

IN SITU LEACH URANIUM MINING RULES

SUBSURFACE MINERALS

ND Oil and Gas Rules ND Public Service Commission Rules

Michigan Potash Rules Wyoming Potash Rules New Mexico Potash Rules **Utah Potash Rules**

HOLE PLUGGING

43-02-02-24. Method of plugging.
R 299.2431 Plugging; general requirements.
R 299.2434 Plugging; instructions.
R 299.2435 Method and materials
R 299.2436 Plugging records; contents and filing
R 299.2437 Commencement of plugging operations
R 299.2437 Pulling of surface pipe and conductor pipe
Ch 8 - Sec 2. General Drill Hole Abandonment Requirements
Ch 11 - Sec 8. Requirements for Plugging of Drill Holes and Repair,
Conversion, and Plugging of Wells.

19.15.25.10 PLUGGING

19.15.25.10 19.15.25.11

19.15.25.12

Conversion, and Plugging of Wells.
PLUGGING
REPORTS FOR PLUGGING AND ABANDOMENT
APPROVED TEMPORARY ABANDONMENT
REQUEST FOR APPROVAL AND PERMIT FOR APPROVED
TEMPORARY ABANDONMENT 19.15.25.13

DEMONSTRATING MECHANICAL INTEGRITY

19.15.25.14 R647-4-108. R647-4-108. R649-3-24.

Hole Plugging Requirements.
Plugging and Abandonment of Wells.





Proposed Allocation Model

- 1) Establish field boundary
- 2) Cluster well spacing of 160 to 320 acres
- 3) Grid the field on 160 to 640 acre tracts
- 4) Determine potash thickness for each tract
- 5) Allocate royalty to each tract based on average potash thickness
- 6) Individual royalties calculated as % of proceeds to that specific tract

NORTH DAKOTA	POTASH TAX	ATION

HB 1046

Creates a 2% tax on potash produced in the state.

Processing plant, mining facility or satellite facilities will be locally assessed.

Byproducts are taxed at a rate of 4% of gross value

"Byproducts" includes any mineral product, or combination or compound thereof, produced during the processing of potash that is sold and includes aluminum, antimony, arsenic, bartum, beryllium, bismuth, boron, cadmium, calcium, ceruum, cesium, chromium, cobalt, columbium, copper, gallium, gemstones, germanium, gold, gypsum, hafnium, indium, irion, lanthanum, lead, lithium, magnesium, manganese, mercury, molybdenum, nickel, osmium, palladium, platinum, praseodymium, rare earth metals, thenium, rhodium, rubidium, ruthenium, samarium, scandium, selenium, silicon, silver, sodium, strontium, tantalium, tellurium, thalium, thorium, tin, titanium, tungsten, vanadium, yttrium, zinc, and zirconium. The term does not include oil, natural gas, or liquid hydrocarbon, individually or in any combination, coal, carbon dioxide, or severed sand or gravel subject to an extraction or severance tax under any other provisions of this title.

ND Tax Department

Potash Taxation Rates Michigan New Mexico <u>Utah</u> Saskatchewan Wyoming 3.1% value + 15% net profit* 5.5% value + 35% net profit** 4% Gross Nο 2.5% Taxable Value 6-7% of 0.5% Severers Tax 0.125% Processors Tax No (gross products tax) Royalty: 4% State 2% State 1% Federal

* potash ore value of < 53.33 / ton ** potash ore value of > \$53.34 / ton



