

NORTH
Dakota | Mineral Resources
Be Legendary.™

Lynn D. Helms, Ph.D. Director
Bruce E. Hicks, Assistant Director
Edward C. Murphy, Assistant Director, State Geologist

NORTH DAKOTA DEPARTMENT OF MINERAL RESOURCES

The Legislature created the **Industrial Commission of North Dakota in 1919** to conduct and manage, on behalf of the State, certain utilities, industries, enterprises, and business projects established by state law. The Industrial Commission has jurisdiction **over oil and gas resources, the investigation and publication of geological information and the regulation of coal exploration, geophysical exploration, geothermal energy, paleontology resources, subsurface minerals, and oil, gas, and carbon dioxide underground storage** in North Dakota through the Department of Mineral Resources Geological Survey and Oil and Gas Division.

The Industrial Commission appoints the **Director of the Department of Mineral Resources**, who serves as Director of the Oil and Gas Division. It appoints the State Geologist and Assistant Director of the Oil and Gas Division.



DMR ORGANIZATIONAL STRUCTURE



Department of Mineral Resources Director
Lynn Helms



Oil & Gas Division
Assistant Director (1)
Bruce Hicks



DMR Support
EGIS Staff Officer (1)
Michael Ziesch



Geological Survey
Assistant Director, State Geologist (1)
Ed Murphy

Field Staff (33)
Pipeline Program (10)
Reclamation Program (2)
Permitting (5)
Geological Analyst | CCUS (3)
Logs (3)
Petroleum Engineering (2)
Production | Measurement (5)
UIC | Treating Plants (2)
Bonding (1)

IT | Data Management (4)
Administrative Assistants (2)
Finance | Accounting (3)
Legal | Hearing Dockets | Orders (2)
Public Information Officer (1)
Safety Officer (1)
Human Resources (1)
Warehouse Technician (.5)

Paleontology (3)
Geo Reviews | GIS | Publications (4)
Surface Geology (4)
Subsurface Geology (2)
Core Library (3)
Minerals Geology (1)

Total Oil and Gas = 68
Total DMR Support = 15.5
Total Geological Survey = 18
Total DMR FTEs = 101.5

DMR RETENTION & PROFESSIONAL DEVELOPMENT ISSUES

Current Personnel as of 12/31/2022

Years of Service	0-3	4-6	7-10	11-15	16-20	21-25	26-30	30+
FTE	37	5	23.5	18	6	5	2	5
%	36%	5%	23%	18%	6%	5%	2%	5%

Turnover rates do not include inter-agency transfers

Turnover	Total FTE	Total Turnover	Turnover Percent	Classified Turnover	Classified Reason	Unclassified Turnover	Unclassified Reason
2017-19 Biennium	103.6	16	15%	3	1R, 2PS	13	1R, 10PS, 2D
2019-21 Biennium	105.5	17	16%	1	1R	16	7R, 9PS
2021-23 Biennium	101.5	18	18%	3	1R, 1PS, 1D	15	3R, 12PS

Key:
R=Retirement
PS=Private Sector
D=Death

The background of the slide features a silhouette of several oil pumpjacks against a soft, hazy sunset sky. The pumpjacks are arranged in a line, receding into the distance. The overall color palette is warm, with shades of orange, yellow, and light blue.

NORTH
Dakota

Be Legendary.™

| Mineral Resources

Oil & Gas Agency Overview

NORTH DAKOTA OIL AND GAS DIVISION

The Oil and Gas Division, headed by the Director, was formed in 1981 to provide the technical expertise needed for enforcement of Industrial Commission jurisdiction over statutes, rules, regulations, and orders pertaining to geophysical exploration, drilling, production of oil and gas, restoration of drilling and production sites, and proper disposal of oil field brine and other oil field wastes in North Dakota.

The Division facilitates the electronic storage of and provides access to oil and gas production, reservoir, well, and geophysical exploration data for use by industry, royalty owners, and other governmental agencies and citizens.

In 1997, regulation of geophysical exploration (seismic) was placed under the Oil and Gas Division's jurisdiction. In 2009, regulation of carbon dioxide storage was added to the Oil and Gas Division responsibilities. In 2013, regulation of underground gathering pipeline infrastructure was added to the Oil and Gas Division's responsibilities. In 2015, this authority was broadened to include bonding requirements on underground gathering pipelines. Also, the Oil and Gas Division has obtained primacy from the United States Environmental Protection Agency over Class II (disposal/injection) and Class VI (carbon dioxide storage) wells.



OIL AND GAS REGULATORY PROGRAMS

Oil and Gas Exploration and Production (NDCC 38-08)

It is hereby declared to be in the public interest to foster, to encourage, and to promote the development, production, and utilization of natural resources of oil and gas in the state in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas be had and that the correlative rights of all owners be fully protected; and to encourage and to authorize cycling, recycling, pressure maintenance, and secondary recovery operations in order that the greatest possible economic recovery of oil and gas be obtained within the state to the end that the landowners, the royalty owners, the producers, and the general public realize and enjoy the greatest possible good from these vital natural resources.

Geophysical Exploration (NDCC 38-08.1)

Notwithstanding any other provision of this chapter, the commission is the primary enforcement agency governing geophysical exploration in this state. Any person in this state engaged in geophysical exploration or engaged as a subcontractor of a person engaged in geophysical exploration shall comply with this chapter; provided, however, that compliance with this chapter by a crew or its employer constitutes compliance herewith by that person who has engaged the service of the crew, or its employer, as an independent contractor.

Pipeline (NDCC 38-08-27)

The application of this section is limited to an underground gathering pipeline that is designed or intended to transfer crude oil or produced water from a production facility for disposal, storage, or sale purposes and which was placed into service after August 1, 2015. Upon request, the operator shall provide the commission the underground gathering pipeline engineering construction design drawings and specifications, list of independent inspectors, and a plan for leak protection and monitoring for the underground gathering pipeline. Within sixty days of an underground gathering pipeline being placed into service, the operator of that pipeline shall file with the commission an independent inspector's certificate of hydrostatic or pneumatic testing of the underground gathering pipeline.

OIL AND GAS REGULATORY PROGRAMS

Carbon Dioxide Geological Storage (NDCC 38-22-01)

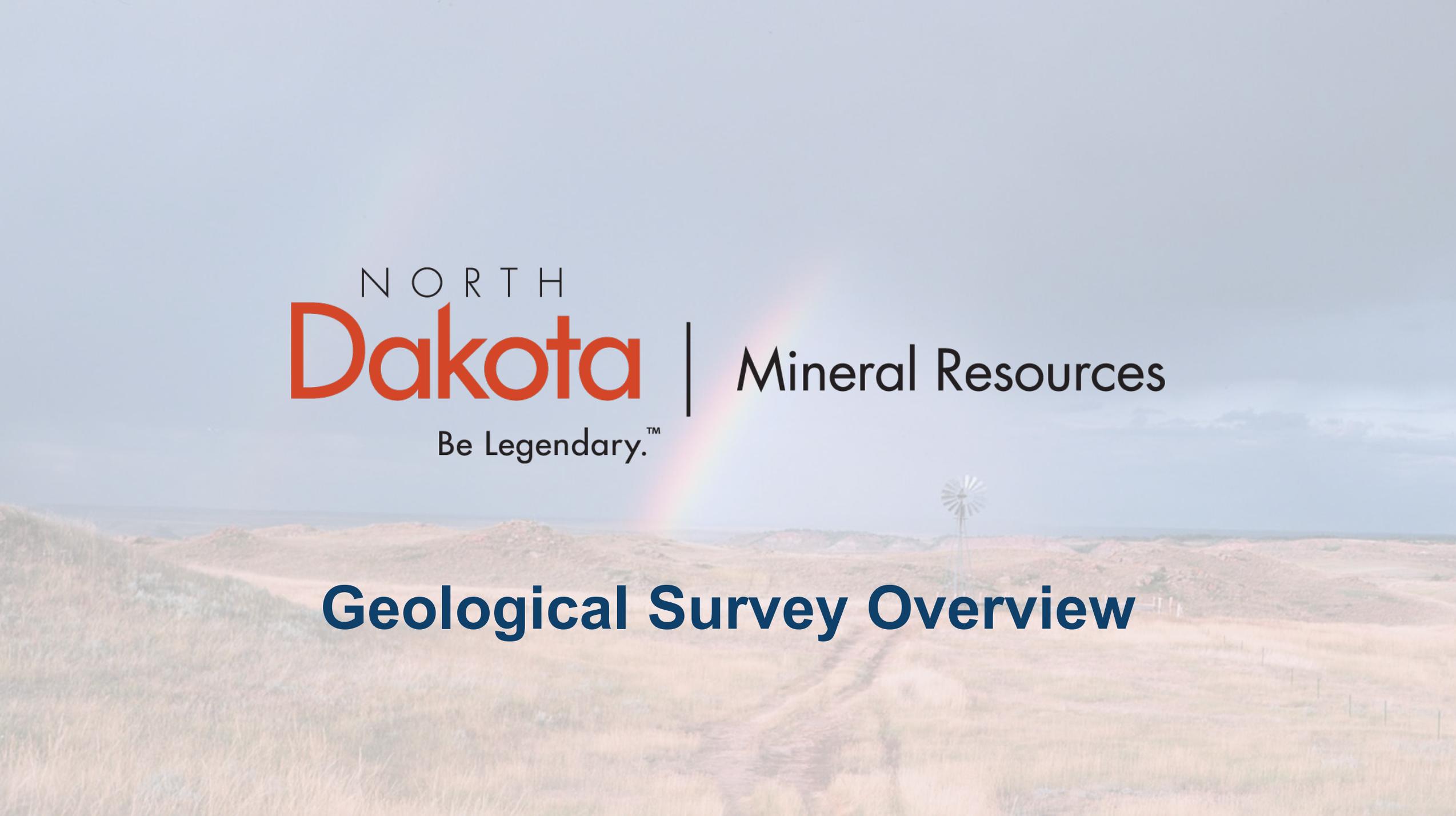
It is in the public interest to promote the geologic storage of carbon dioxide. Doing so will benefit the state and the global environment by reducing greenhouse gas emissions. Doing so will help ensure the viability of the state's coal and power industries, to the economic benefit of North Dakota and its citizens. Further, geologic storage of carbon dioxide, a potentially valuable commodity, may allow for its ready availability if needed for commercial, industrial, or other uses, including enhanced recovery of oil, gas, and other minerals. Geologic storage, however, to be practical and effective requires cooperative use of surface and subsurface property interests and the collaboration of property owners. Obtaining consent from all owners may not be feasible, requiring procedures that promote, in a manner fair to all interests, cooperative management, thereby ensuring the maximum use of natural resources.

Underground Storage of Oil and Gas (NDCC 38-25-08)

If a storage operator does not obtain the consent of all persons owning a pore space and of mineral interest owners when required by this chapter, the commission may require the interest owned by the nonconsenting owners be included in an approved storage facility and subject to geologic storage if the minimum percentage of consent is obtained as specified in this chapter. Any pore space owner who does not have responsibility over the construction, management, supervision, or control of the storage facility operations is not liable for money damages for personal or other property damages proximately caused by the operations.

Underground Storage of Oil and Gas (NDCC 38-25-11)

This chapter does not apply to applications filed with the commission which propose to use produced gas for an enhanced oil or gas recovery project. Those applications must be processed under chapter 38-08.

A landscape photograph of North Dakota featuring rolling hills, a dirt road, a windmill, and a rainbow in a cloudy sky.

NORTH
Dakota | Mineral Resources
Be Legendary.™

Geological Survey Overview



GEOLOGICAL SURVEY

The North Dakota Geological Survey was created by an act of the North Dakota Legislature in 1895. After 128 years, the Survey still serves as the primary source of geological information in the state. Its mission over the years has grown and is now three-fold: to investigate the geology of North Dakota; to administer regulatory programs and act in an advisory capacity to other state agencies; and to provide public service to the people of North Dakota.

The Geological Survey publishes maps and reports on the mineralogical, paleontological, and geochemical resources of North Dakota, including oil and gas, coal, uranium, critical minerals (including the rare earth elements), clay, sand and gravel, volcanic ash, potash and other salts, etc. In addition to the mapping of subsurface resources such as the Inyan Kara Formation for produced water disposal, the Survey is actively mapping landslides throughout the state. Survey publications support the regulatory programs of the Industrial Commission, as well as other state and federal agencies, and assist mineral companies, geotechnical consulting firms, city and county governments, landowners, and citizens of the state.

The Geological Survey and the Oil and Gas Division are in the Department of Mineral Resources and under the North Dakota Industrial Commission. The main office of the Department of Mineral Resources is located at 1016 East Calgary Avenue in Bismarck. The paleontology program of the Geological Survey is housed in the Clarence Johnsrud Paleontology Laboratory in the North Dakota Heritage Center (state museum) on the State Capitol grounds in Bismarck. The North Dakota State Fossil Collection, as well as the State Rock and Mineral Collection, are also housed in the Heritage Center. The North Dakota Geological Survey's Wilson M. Laird Core and Sample Library is located on the University of North Dakota campus in Grand Forks. The facility currently houses 486,000 feet of core (170,000 core boxes) and 59,000 boxes of drill cuttings obtained from oil and gas wells.



GEOLOGICAL SURVEY REGULATORY PROGRAMS

Regulation, Development, and Production of Subsurface Minerals (NDCC 38-12)

The exploration, development and production of subsurface minerals requires a permit, basic data to be provided to the state geologist. These regulations cover minerals not included in the oil & gas and coal regulatory programs.

Subsurface Mineral Exploration and Development (NDAC 43-02-02)

Underground Injection Control Program (NDAC 43-02-02.1)

In Situ Leach Mineral Mining Rules (NDAC 43-02-02.2)

Surface Mining–(Non-Coal) (NDAC 43-02-02.3)

Solution Mining (NDAC 43-02-02.4)

Coal Exploration (NDCC 38-12.1)

Drilling for coal exploration or evaluation requires a permit and a report of findings must be filed with the state geologist. Collectively, these reports comprise a database useful to private and government coal researchers and provide information necessary for geologic correlations and economic forecasting.

Coal Exploration (NDAC 43-02-01)

Geothermal Resource Development Regulation (NDCC 38-19)

Geothermal (ground source) heating and cooling systems require a permit. The permit review process helps to ensure that geothermal systems are properly designed and constructed, in order to minimize the risk of groundwater contamination or other environmental problems.

Geothermal Energy Production (NDAC 43-02-07)

Geothermal Deep Energy Production (NDAC 43-02-07.1)



GEOLOGICAL SURVEY REGULATORY PROGRAMS

Paleontological Resource Protection (NDCC 54-17.3)

Paleontological resources, on land owned by the State of North Dakota and its political subdivisions, are protected. A permit is required from the state geologist to investigate, excavate, collect, or otherwise record paleontological resources on these lands.

Paleontological Resource Protection (NDAC 43-04-02)

High-Level Radioactive Waste Disposal (NDCC 38-23)

The exploration, testing, placement, storage, or disposal of high-level radioactive waste is prohibited in North Dakota. If this prohibition is struck from the law, a permit is required before any testing, exploring, excavating, drilling, boring or operating of a high-level radioactive waste facility can commence.

High-Level Radioactive Waste (NDAC 43-02-13)

Underground Storage and Retrieval of Nonhydrocarbons (NDCC 38-24)

A permit is required for the testing, storage, or retrieval of nonhydrocarbons and other gases not regulated by title 38.



Audit | Budget Overview

RECENT AUDIT FINDINGS

A biennial audit of the Industrial Commission was conducted by the State Auditor's Office in accordance with generally accepted government auditing standards for the two-year period ending June 30, 2020.

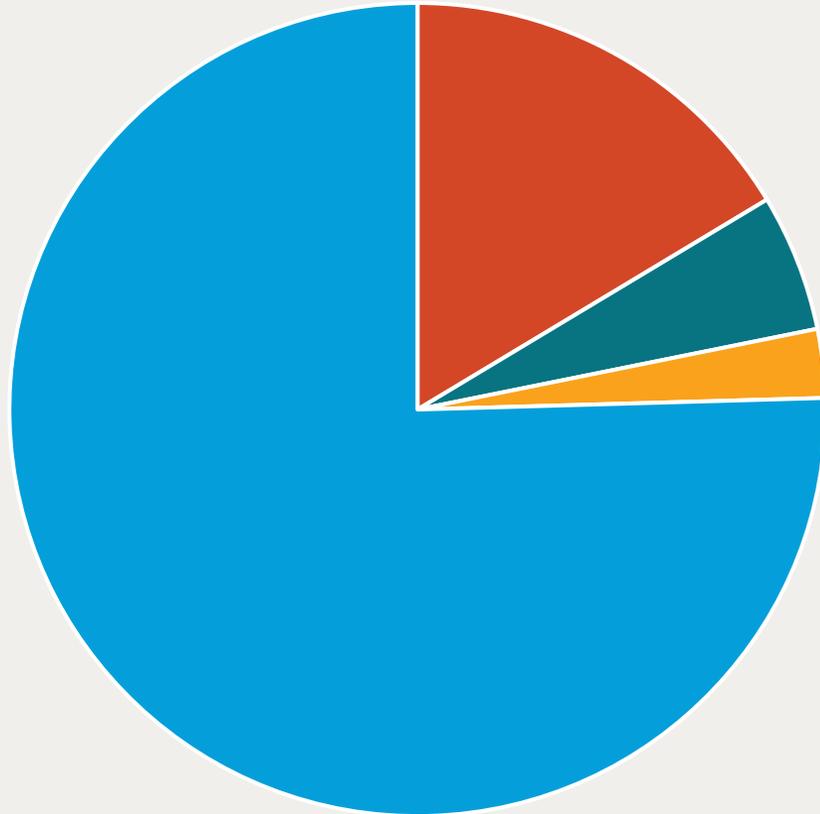
The audit included the following entities and programs under the direction and control of the Commission:

- Department of Mineral Resources (Geological Survey and Oil and Gas Division)
- Lignite Research, Development, and Marketing Program
- Oil and Gas Research Program
- Outdoor Heritage Fund
- Pipeline Authority
- Renewable Energy Program
- Transmission Authority

The audit did not have any findings.

2023-2025 DMR BUDGET

DMR Budget



■ Travel ■ Facilities ■ IT ■ Salary\Benefits

The Department of Mineral Resources (DMR) budget is **99% general funds and <1% federal funds**.

Budget costs are primarily salary and benefits (83%).

Federal funds for the **protection of freshwater supplies** are increasing (14%), while program costs continue to significantly rise due to inflation and federal environmental mandates.

The **Operating Budget** consists of travel (36%), primarily state fleet vehicle mileage for fieldwork. Other operating items of significant costs include Lease, Rent, Facilities costs (30%) for the Bismarck office, warehouse, and three field offices; and IT costs (16%), more than half of which are ITD data processing, Telephone, and Contractual Services.

2023-2025 HOUSE RECOMMENDED BUDGET

	2023-25 Base Level	Executive Recommended Budget	House Budget
40510 Salaries & Benefits	\$22,095,326	\$23,464,046	\$23,628,741
Salary & Benefit Increases		\$2,168,675 ⁽¹⁾	\$1,772,281 ⁽²⁾
40530 Operating Expense	\$4,632,291	\$6,048,092	\$11,410,044
40550 Capital Assets	\$0	\$98,000	\$80,000
40570 Transfers	<u>\$0</u>	<u>\$250,000</u>	<u>\$0⁽³⁾</u>
Total Expenditures	\$26,727,617	\$32,028,813	\$36,891,066
Less Federal Income	<u>\$238,004</u>	<u>\$268,000</u>	<u>\$2,568,000</u>
Total General Fund	\$26,489,613	\$31,760,813	\$34,323,066
FTE	101.5	107.0	108.0

Notes:

(1) Based on Executive recommended increases to salary, benefit, health, and retirement.

(2) Based on House recommended increases to salary, benefit, health, and retirement.

(3) General fund transfer to the Fossil Restoration Fund was included in Section 6 of HB 1014.

HOUSE RECOMMENDED BUDGET CHANGES

40510 Salaries & Benefits - The Executive budget recommendation included \$1,368,720 for 5.5 new FTEs: 3 CCUS positions, 1 paleo laboratory technician, 1 critical mineral geologist, and 0.5 records management position. The House recommended changes include 1 FTE subsurface geologist position (funded for the second year only) at \$119,695; and half of the temp employee salary request (\$45,000) for a total addition of \$164,695. The House reduced the pay plan increases by \$396,394.

40530 Operating -The Executive budget includes \$821,456 one-time inflationary costs, \$230,000 in server transition costs, \$100,000 one-time core and mineral analysis costs, and \$498,109 for 5.5 new FTE operating costs. The House recommended changes include operating costs for the subsurface geologist at \$22,600 for second year only; IOGCC dues of \$105,000; oil and gas litigation at \$3,000,000; and initial grant carryover of \$2,300,000. The House did not allow for Geological Survey computer replacement and replacement of the agency's six drones, thus reducing the amount by \$65,648.

40550 Capital Assets -The Executive budget allowed \$80,000 one-time funding for the server transition and \$18,000 one-time funding for two scanner/copier/printers. The House did not allow for the two scanner/copier/printers.

40570 Transfers - The Executive budget allowed \$250,000 one-time funding for a general fund transfer to the Fossil Excavation and Restoration Fund (Paleo Fund). The House allowed the transfer as well but listed it as a transfer under Section 6 of HB 1014.

FTE – The House increased the Executive budget FTE count by 1.0 bringing the total count to 108 FTE.



2021-2023 STATE FISCAL RECOVERY FUNDING

(67TH LEGISLATIVE ASSEMBLY SB 2345)

Abandoned Oil Well Conversion to Water Supply

Appropriated: \$3,200,000

Expended: \$162 (advertising costs)

DMR identified approximately 32 oil and gas wells confiscated by the Commission to plug back and convert to freshwater wells for use by private ranchers or the two western ND grazing associations. Most of the wells are on lands managed by the USFS, are federal wells co-regulated by DMR and BLM, or both. **There has been a lack of cooperation from both the BLM and USFS in approving the plugging procedures and granting surface use approval.** DMR has not given up on receiving their cooperation and has so far identified at least six additional non-federal wells on private surface to convert to freshwater wells.

Funds can continue to be obligated through 12/31/2024 and expended through 12/31/2026. For this reason, the House allowed a carryover of unexpended funds to the 2023-25 biennium in Section 25 of HB 1014.



AVAILABLE FEDERAL FUNDING FOR 2023-25 BIENNIUM

<u>Federal Funding Program</u>	<u>2021-2023 Anticipated Award</u>	<u>2021-2023 Anticipated Change</u>	<u>2023-2025 Anticipated Award</u>
UIC Oil & Gas (EPA)	\$210,000	\$39,000	\$240,000
PSC Coal (OSM-DOI)	\$15,000	\$0	\$15,000
Statemap (USGS-DOI)	\$13,000	\$20,267	\$13,000
IIJA Initial Grant (ECRP-DOI)	\$0	\$2,500,000	\$0
Resources of Nat'l Park System (DOA)	\$0	\$10,000	\$0
Data Preservation (DOI)	\$0	\$5,280	\$0

Infrastructure Investment and Jobs Act:

Appropriated: \$2,500,000

Expended: \$14,456

Funds can continue to be obligated through 10/01/2023 and the performance period ends 04/01/2024. For this reason, the House allowed a carryover of unexpended funds to the 2023-25 biennium. Because the Budget Section approved the initial appropriation, \$2,300,000 is being appropriated under full legislation in Section 1, subdivision 2.

2023-2025 DMR ESSENTIAL BUDGET

	2023-25 Base Level	Executive Recommended Budget	House Budget	DMR Essential Budget
40510 Salaries & Benefits	\$22,095,326	\$23,464,046	\$23,628,741	\$23,628,741
Salary & Benefit Increases		\$2,168,675 ⁽¹⁾	\$1,772,281 ⁽²⁾	\$1,772,281 ⁽²⁾
40530 Operating Expense	\$4,632,291	\$6,048,092	\$11,410,044	\$11,603,454
40550 Capital Assets	\$0	\$98,000	\$80,000	\$98,000
40570 Transfers	<u>\$0</u>	<u>\$250,000</u>	<u>\$0⁽³⁾</u>	<u>\$0⁽³⁾</u>
Total Expenditures	\$26,727,617	\$32,028,813	\$36,891,066	\$37,102,476
Less Federal Income	<u>\$238,004</u>	<u>\$268,000</u>	<u>\$2,568,000</u>	<u>\$2,568,000</u>
Total General Fund	\$26,489,613	\$31,760,813	\$34,323,066	\$34,534,476
FTE	101.5	107.0	108.0	108.0

Notes:

- (1) Based on Executive recommended increases to salary, benefit, health, and retirement.
- (2) Based on House recommended increases to salary, benefit, health, and retirement.
- (3) General Fund transfer to the Fossil Restoration Fund was included in Section 6 of HB 1014.

DMR ESSENTIAL BUDGET CHANGES

40510 Salaries & Benefits - There is no difference between the House budget and the DMR essential budget.

40530 Operating - The difference between the House budget and the DMR essential budget is \$193,410. The changes include \$65,412 in additional fleet costs due to the amended Fleet Rate guidelines **after** budgets were already submitted; \$48,383 for one-time replacements of computers that are over 4 years old; \$17,265 in one-time funding to replace six drones; and \$62,350 ongoing funding for professional development training to address employee turnover.

40550 Capital Assets - The difference between the House budget and the DMR essential budget is \$18,000. This is for a one-time purchase of two copier/scanner/printers for the permitting and production departments.

Ongoing Costs - The House budget provided \$821,456 one-time inflationary costs and \$100,000 one-time core and mineral analysis costs. DMR is requesting that all inflationary costs be on-going as well as the core and mineral analysis costs.

FTE – The DMR essential budget is the same as the House budget with a count of 108 FTE.

OTHER DMR BUDGET SECTIONS

HB 1014, Section 5 – Deficiency Spending: The House allowed for the 3 FTE CCUS positions to be hired right away. The \$62,460 costs are for two months of salaries and wages and travel. The House also allowed \$15,000 in costs for the Walhalla paleo exhibit to be built right away.

HB 1014, Section 6 – Transfers: The House allowed for a \$250,000 General Fund transfer to the Fossil Extraction and Restoration Fund for the purpose of continued work on Dakota the Mummified Hadrosaur and establishing fossil exhibits across ND.

HB 1014, Section 25 – Carryover Items:

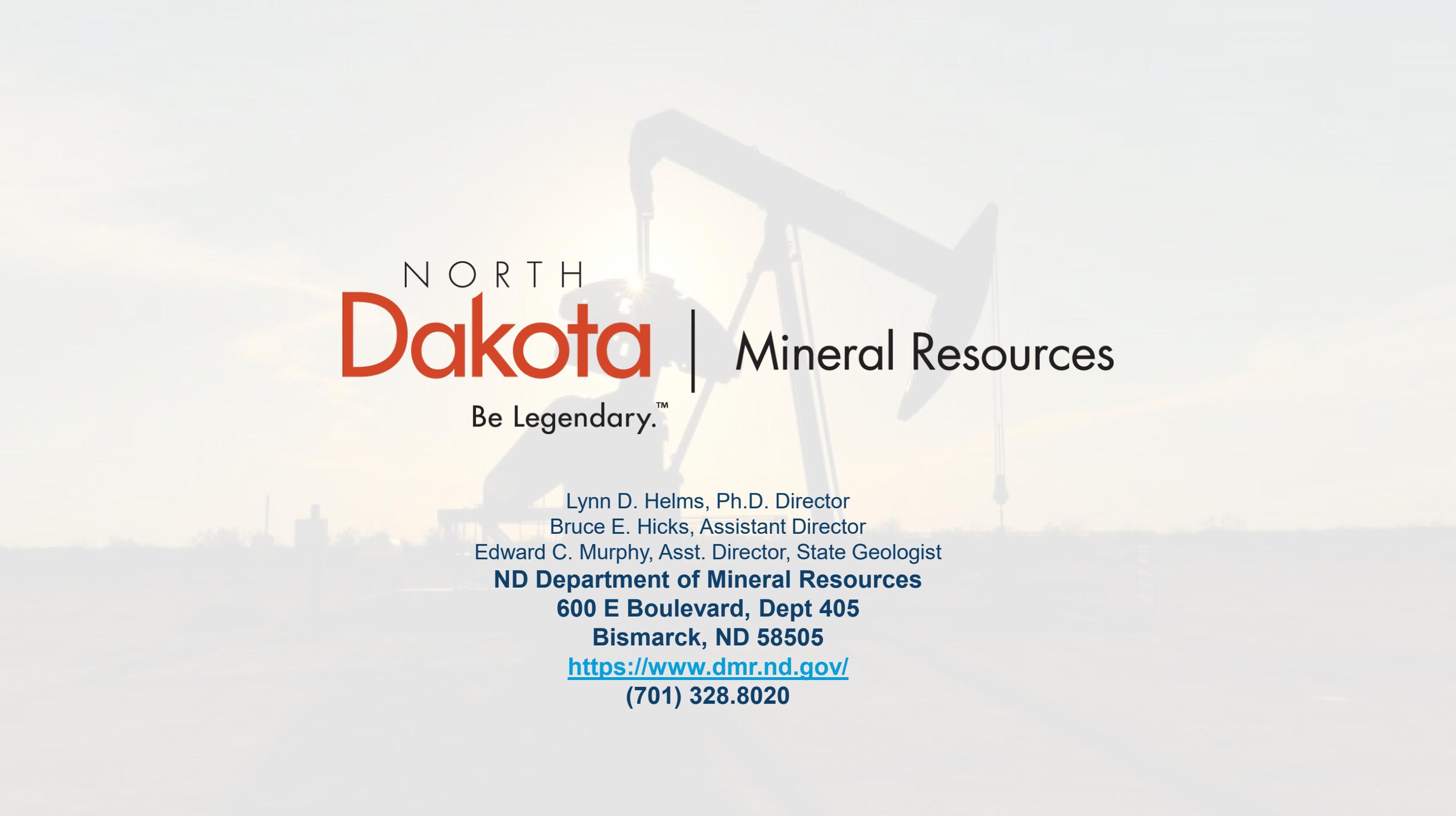
- The Abandoned Oil Well Conversion to Water Supply program funds can continue to be obligated through 12/31/2024 and expended through 12/31/2026. For this reason, a carryover of unexpended funds to the 2023-25 biennium was allowed by the House.
- The 65th Legislative Session SB 2134 Ordinary High Water Mark litigation is still ongoing and continues to require expert witness testimony. For this reason, a carryover of unexpended funds to the 2023-25 biennium was allowed by the House.
- Note: the \$2.5 million Initial Grant funds can continue to be obligated through 10/01/2023 and the performance period ends 04/01/2024. However, because the funds were appropriated via the Budget Section, the funds need to have a full legislative appropriation. For this reason, the unexpended funds were included in Section 1, Subdivision 2, and not treated as a carryover in this section.

HB 1014, Section 26 – Emergency Clause: The following were declared to be emergency measures: Oil & Gas litigation \$3,000,000 (Section 1, subdivision 2); Computer server transition \$310,000 (Section 1, subdivision 2); CCUS FTEs \$62,460 (Section 5); and Walhalla paleo exhibit \$15,000 (Section 5).

OTHER HB 1014 BUDGETARY ITEMS

HB 1014, Section 13 – Critical Minerals Study: The House allowed for a \$3 million SIIF transfer to the SERC fund for a study related to prospective in-state resources of economically feasible accumulations of critical minerals that may be suitable for extraction and enrichment.

HB 1014, Section 14 –Underground Energy Storage Study: The House allowed for a \$22 million SIIF transfer to the SERC fund for the purpose of a salt cavern underground energy storage research project.



NORTH
Dakota | Mineral Resources

Be Legendary.™

Lynn D. Helms, Ph.D. Director

Bruce E. Hicks, Assistant Director

Edward C. Murphy, Asst. Director, State Geologist

ND Department of Mineral Resources

600 E Boulevard, Dept 405

Bismarck, ND 58505

<https://www.dmr.nd.gov/>

(701) 328.8020