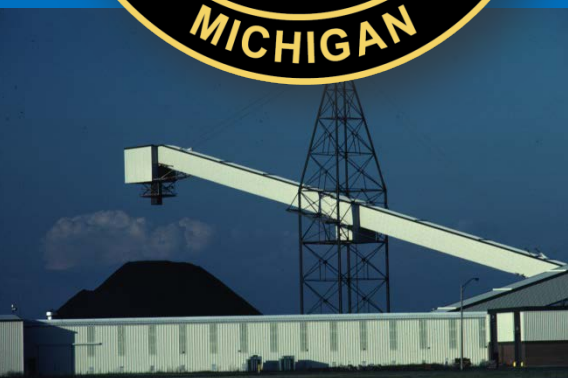


Office of Minerals Management

November 9, 2016

Michigan Basin Geologic Society

Mark Sweatman, CPG, Director OMM





DNR Mission

The Michigan Department of Natural Resources is committed to the **conservation, protection, management, use and enjoyment** of the state's natural and cultural resources for current and future generations.



DNR Goals



- **Protect** natural and cultural resources
- Ensure **sustainable recreation** use and enjoyment
- Enable **strong natural resource-based economies**
- Improve and build **strong relationships and partnerships**
- Foster effective business practices and **good governance**



Natural Resources Are

PURE MICHIGAN





DNR Managed Public Lands

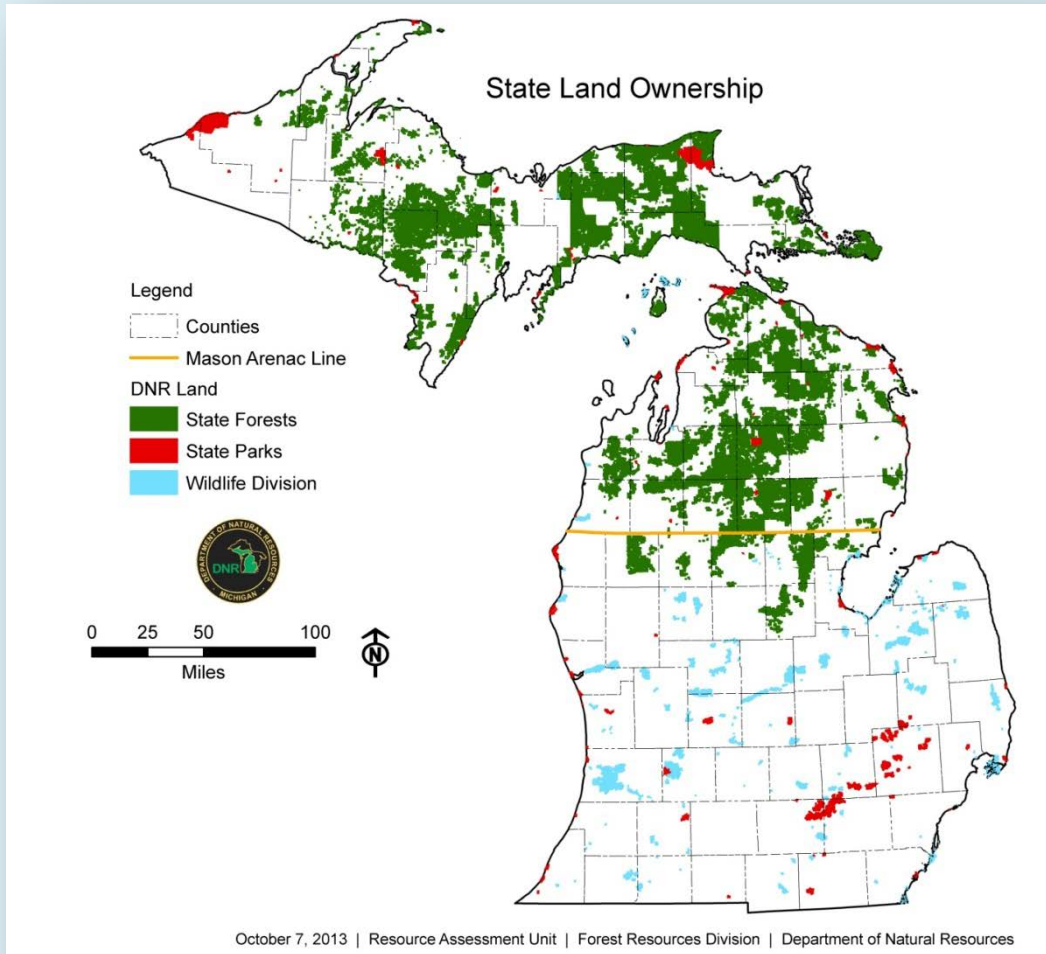


- The DNR manages 4.6 million acres of state owned land and minerals (fee).
- The OMM directs activities relating to mineral exploration, development and extraction on 6.4 million acres of mineral rights (includes 4.6 of fee land).





DNR Managed Public Lands



- 4.6 million acres of fee ownership
- 6.4 million acres of mineral ownership



Public lands

DNR LAND AND MINERAL OWNERSHIP ROSCOMMON COUNTY



LEGEND

- DNR Ownership**
- Surface
 - Mineral and Surface
 - Minerals
 - Mixed Ownership
 - Other Rights
- 40.00 Acres of Surface Ownership
 40.00 Acres of Mineral and Surface Ownership
 40.00 Acres of Mineral Ownership
 none, DNR has a Right of Way and/or an acquired easement(s) from private landowner within the quarter-quarter section

- Transportation**
- Highway
 - Paved
 - Gravel
 - Poor Old
 - Railroads
- Hydrology**
- Drains and Intermittent Streams
 - Lakes and Ponds
- Political**
- County Line
 - Sections



MAP INFORMATION

MNRP Land and Mineral Rights Information is derived from the MNRP's Land Ownership Database.

Parcel information is compiled to the quarter-quarter section level. Multiple parcels with varying types of rights within a quarter-quarter section result in a Mixed Ownership category.

COMPLETENESS and QUALITY
 In general, the data does not reflect platted parcels, Private Clubs, and parcels within the City of Detroit and/or Saint Clair County Ties.

The amount of acreage owned within a quarter-quarter section is identified by acreage labels in the upper-right corner of each quarter-quarter section.

The quality and completeness of this data is unknown. It is suggested that this data be combined with a second source, such as plat maps, to further identify ownership.

LAND RIGHTS

Mineral and Surface DNR owns both mineral and surface rights on parcel(s) within the quarter-quarter section.

Minerals+DNR owns only mineral rights on parcel(s) within the quarter-quarter section.

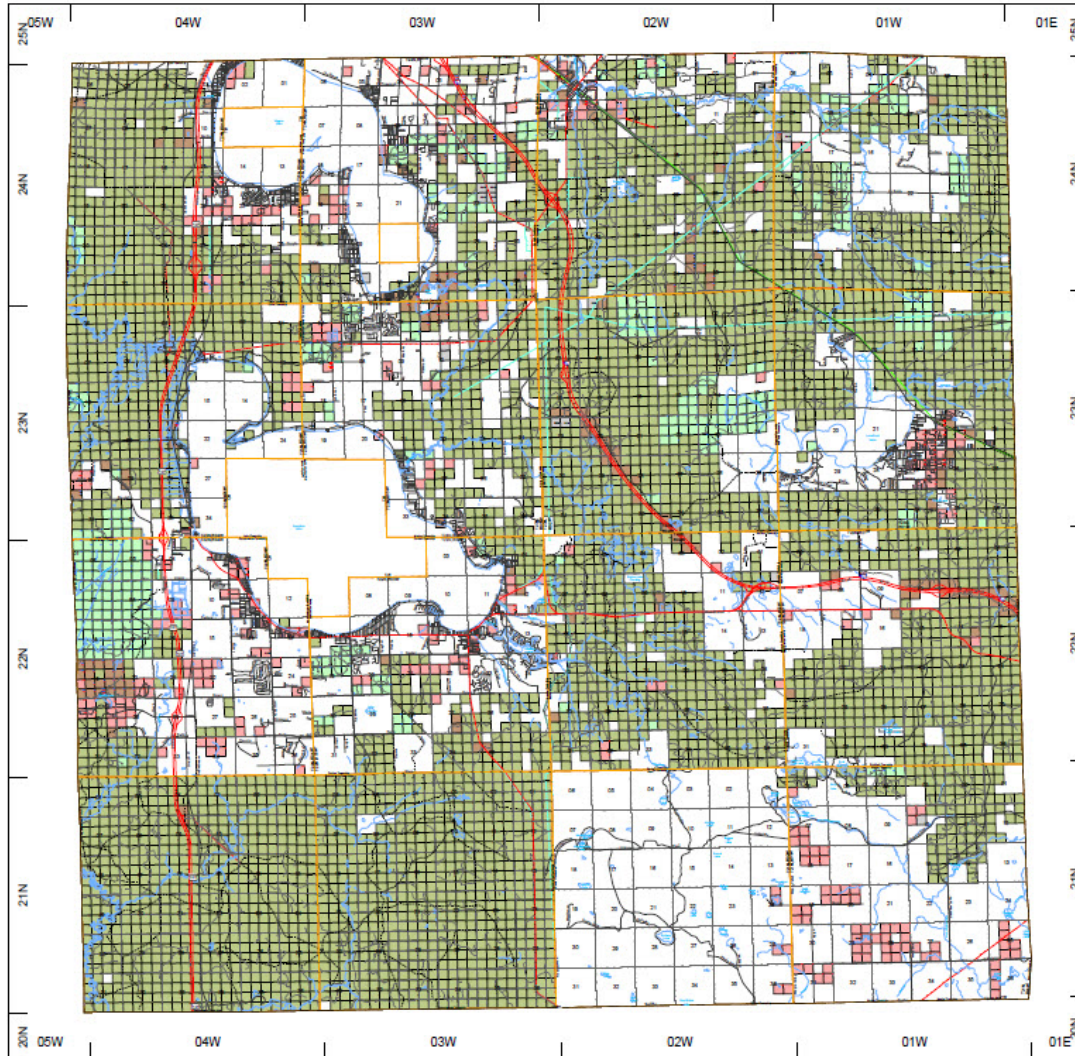
Surface+DNR owns only surface rights on parcel(s) within the quarter-quarter section.

Mixed Ownership+DNR has some combination of mineral and surface rights on parcel(s) within the quarter-quarter section.

Other Rights+DNR has an easement, right of way, and/or other non-ownership rights only on parcel(s) within the quarter-quarter section.

Reserved Minerals+DNR owns the surface rights on parcel(s) within the quarter-quarter section. Mineral rights are held by private party for a specified period of time. Mineral rights are scheduled to revert to the MNRP when reservation period expires.

The information displayed on this map is intended for general purposes only. Specific ownership or land source should be verified by contacting the MNRP.



Michigan Department of Natural Resources
Forest Resources Division



Public lands

DNR LAND AND MINERAL OWNERSHIP HURON COUNTY



LEGEND

- DNR Ownership
 - Surface
 - Mineral and Surface
 - Minerals
 - Mixed Ownership
 - Other Rights

- 40.00 Acres of Surface Ownership
- 40.00 Acres of Mineral and Surface Ownership
- 40.00 Acres of Minerals Ownership
- now DNR has a Right of Way and/or an acquired easement(s) from private landowner within the quarter-quarter section

Transportation

- Highway
- Paved
- Gravel
- Poor Dirt
- Railroads

Hydrology

- Drains or Intermittent Streams
- Lakes and Ponds

Political

- County Line
- Sections



MAP INFORMATION

MCDNR Land and Mineral Rights information is derived from the MCDNR's Land Ownership Database.

Parcel information is compiled to the quarter-quarter section level. Multiple parcels with varying types of rights within a quarter-quarter section result in a Mixed Ownership category.

COORDINATES and QUALITY
In general, the data does not reflect platted parcels, Private Claims, and parcels within the City of Detroit and/or Saint Clair County Plans.

The amount of acreage owned within a quarter-quarter section is identified by acreage labels in the upper-right corner of each quarter-quarter section.

The quality and completeness of this data is unknown. It is suggested that this data be combined with a second source, such as plat maps, to further identify ownership.

LAND RIGHTS

Mineral and Surface DNR owns both mineral and surface rights on parcel(s) within the quarter-quarter section.

Minerals&CNR owns only mineral rights on parcel(s) within the quarter-quarter section.

Surface&CNR owns only surface rights on parcel(s) within the quarter-quarter section.

Mixed Ownership&CNR has some combination of mineral and surface rights on parcels within the quarter-quarter section.

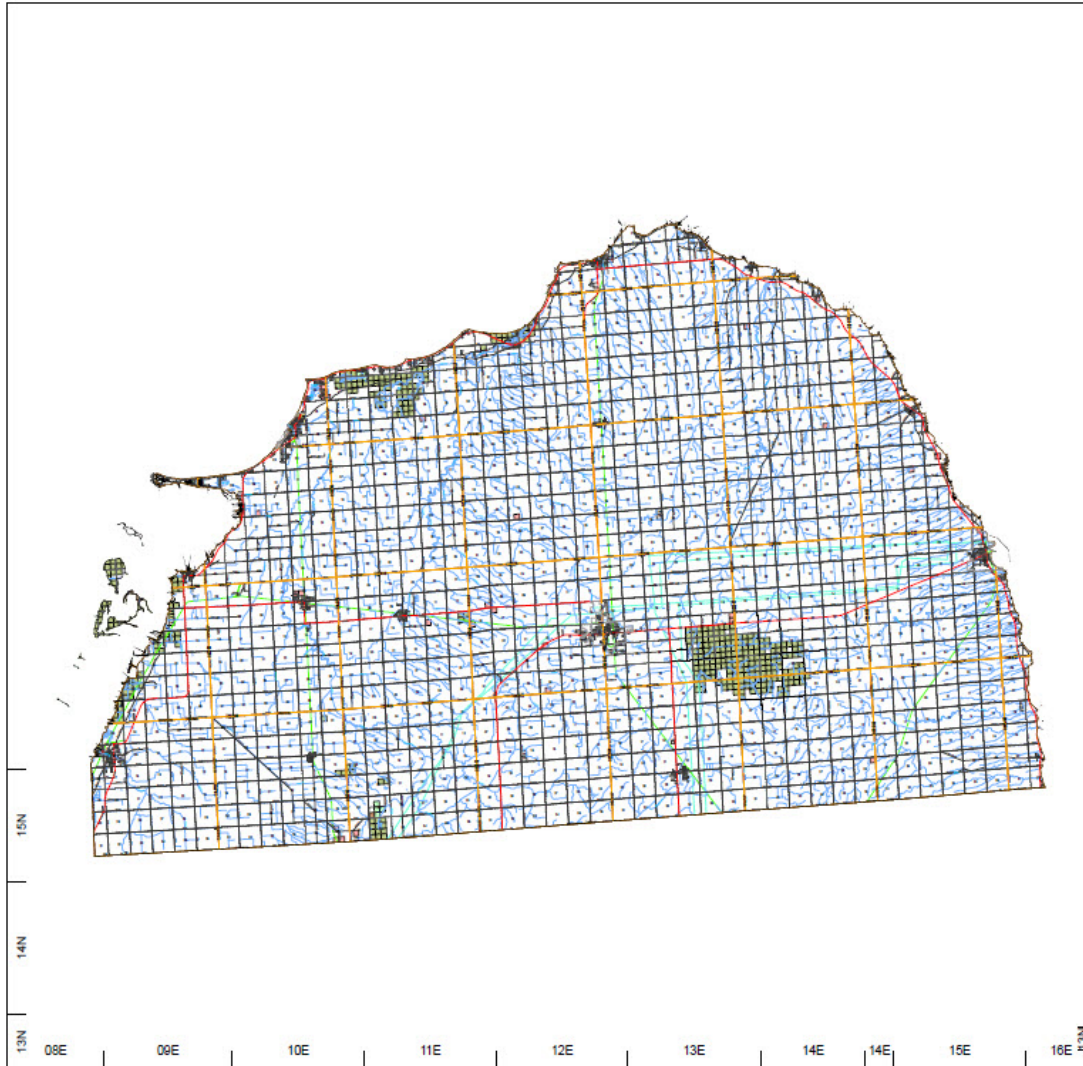
Other Rights&CNR has an easement, right of way, and/or other non-ownership rights only on parcel(s) within the quarter-quarter section.

Reserved Minerals&CNR owns the surface rights on parcel(s) within the quarter-quarter section. Mineral rights are held by private party for a specified period of time. Mineral rights are scheduled to revert to the MCDNR when reservation period expires.

The information displayed on this map is intended for general purposes only. Specific ownership or land source should be verified by contacting the MCDNR.



Michigan Department of Natural Resources
Forest Resources Division





Importance of Minerals

- Generally speaking:

*If it hasn't been grown,
it's been mined.*





Office of Minerals Management

OMM staff include many various professions including:

- Accountants
- Real Estate Experts
- Financial Auditors
- Geologists
- Support Professionals





Office of Minerals Management



OMM staff manages all aspects of minerals leasing and revenue payments to the Department of Natural Resources



- Lease Offerings
- Leasing Document and Bonding
- Lease Compliance Audits
- Revenue Verification and Auditing
- Mineral Valuations and Assessments





Office of Minerals Management

Recent Lease Auction Results

10/18/16

- Nominations in May/June 2016
 - 1,420 parcel nominated
 - 603 Lease Offerings
 - Historically not all are leased
- Total acres nominated = 55,844 acres
 - Upper half (since 1929)
- Nominations in 11 Counties
 - Gladwin 51,300 acres



Minerals Mined in Michigan

- Fossil fuels
 - Oil, natural gas
- Metallic minerals
 - Copper, iron, nickel, gold, silver, platinum, palladium
- Non-metallic minerals
 - Sand, gravel, clay, shale, limestone, dolomite, gypsum, salt





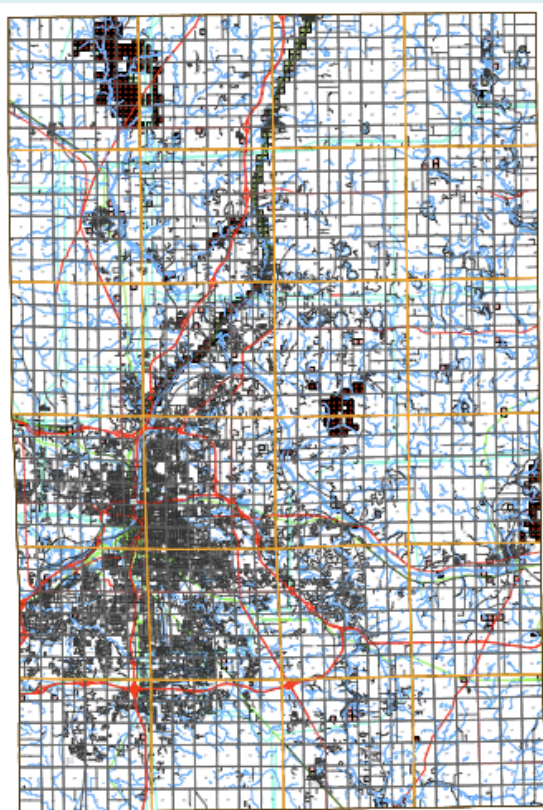
Oil and Gas Lease Auction Process

- Lease auctions currently held twice per year
 - Nominations made by interested parties
 - Notifications provided to surface owner
 - Classify parcels
 - Classification Reviews Completed
 - State Historic Preservation Office
 - Department of Military and Veterans Affairs
 - United States Forest Service
 - Forest Resources Division
 - Wildlife and Fisheries Divisions
 - Parks and Recreation Division



Oil and Gas Lease Auction Process

Lease Classifications



- **Non Leasable**
 - No means to protect lands
 - Risk of resource drainage
- **Leasable Non-Development**
 - Oil/gas developable, sensitive lands
- **Leasable Development w/Restrict.**
 - Oil/gas developable, standard provisions
 - Specific restrictions e.g. time restrictions
- **Leasable Development**
 - Standard provisions, obtain approvals



Oil and Gas Lease Auction Process



- Public Notice
 - Newspapers
 - County Commissioners
 - Township Supervisor
 - City Clerk
 - Local Legislators
 - Trade Journals
 - Department Field Staff
 - Department Calendar





Oil and Gas Lease Auction Process

- Director Review
 - Parcel classifications
 - Auction date
 - Minimum bid
 - Format of auction (sealed or oral bid)
- Director gives approval to hold auction



Oil and Gas Lease Auction Process

- Office of Minerals Management Staff
 - Distributes catalog of parcels nominated for lease
 - Conducts auction
 - Approves lease auction results, bonus bids and prepares lease
- DNR Director and State Administrative Board approve entering into leases.
- Leases sent to successful bidder for signature.
- OMM Director signs lease.



Active Mineral Leases

Fuels

(as of September 2016)



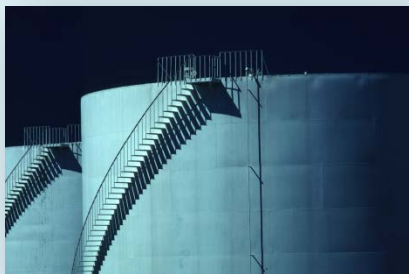
- **Oil and gas**

- ~ 1.1M acres under 10,000 leases
- 40% of state-owned oil and gas minerals rights in the Lower Peninsula are leased



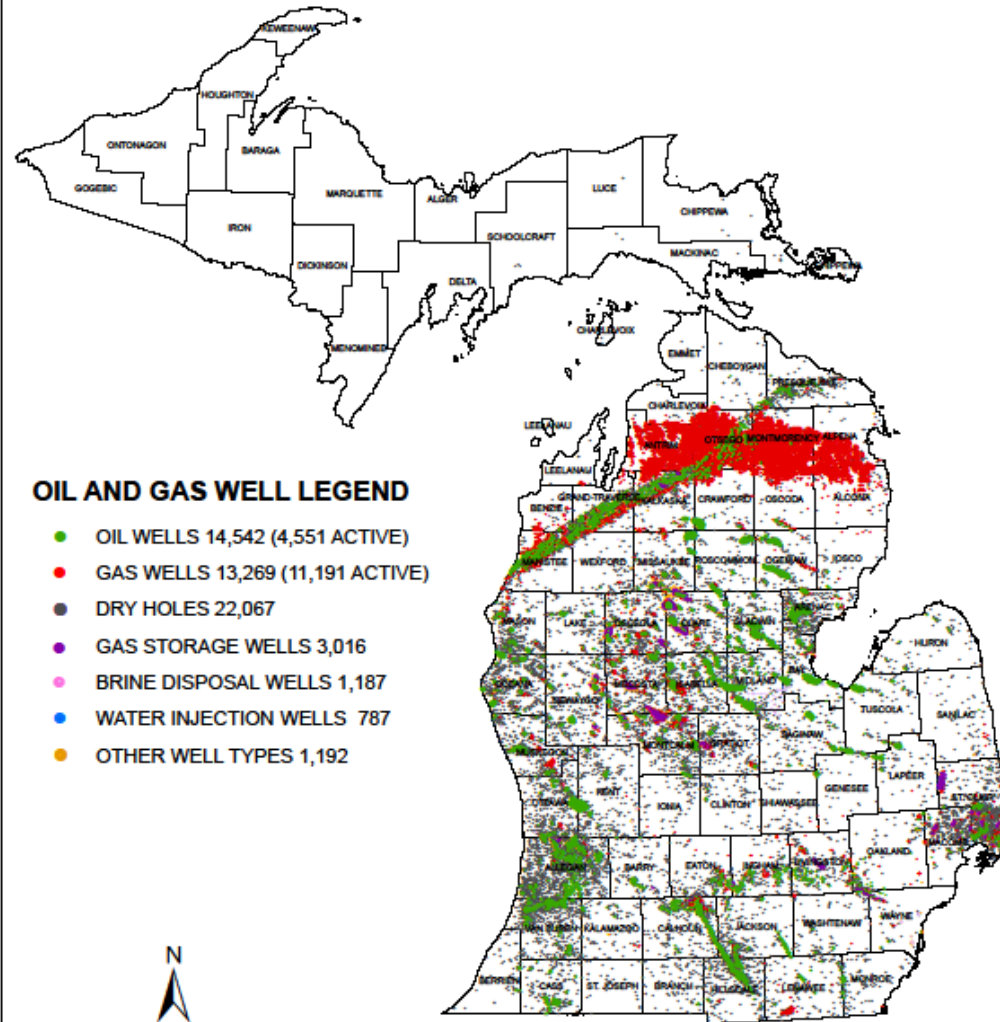
- **Natural gas storage (subsurface)**

- Depleted oil fields
- 39,231 acres under 92 leases (~144Mft³)
- Greatest volume of natural gas storage in the US (1.1 trillion ft³)





OIL AND GAS WELLS IN MICHIGAN



OIL AND GAS WELL LEGEND

- OIL WELLS 14,542 (4,551 ACTIVE)
- GAS WELLS 13,269 (11,191 ACTIVE)
- DRY HOLES 22,067
- GAS STORAGE WELLS 3,016
- BRINE DISPOSAL WELLS 1,187
- WATER INJECTION WELLS 787
- OTHER WELL TYPES 1,192

0 12.5 25 50 75 100
Miles

Michigan Department of Environmental Quality
Office of Oil, Gas, and Minerals
September 2012





Revenue From State of Michigan Fuel Leases



- 2010 = \$224,635,217
- 2011 = \$54,934,688
- 2012 = \$43,495,722
- 2013 = \$40,918,668
- 2014 = \$45,267,168
- 2015 = \$30,399,395
- 2016 = \$17,514,120



Active Mineral Leases

(as of September 2016)



- **Nonmetallic** (sand, gravel, limestone, salt)

- 6,774 acres under 68 leases



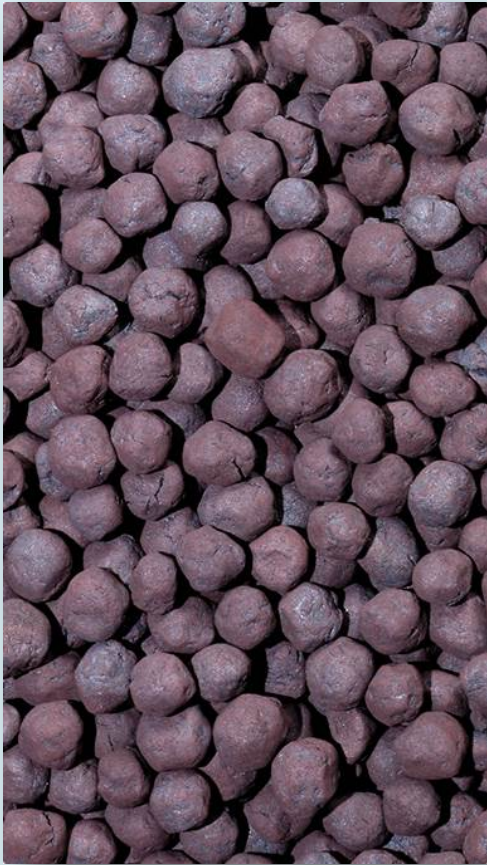
- **Metallic** (copper, iron, nickel, palladium, etc.)

- 18,687 acres under 97 leases





Revenue From State of Michigan Non-Fuels Leases



- 2010 = \$1,228,155
- 2011 = \$801,733
- 2012 = \$1,018,144
- 2013 = \$1,553,247
- 2014 = \$1,304,029
- 2015 = \$5,007,471
- 2016 = \$8,813,936



Where does the money go?

- Michigan Recreation
- Land purchases for recreation
- Parks and Recreation operations
- All State of Michigan lands open to the public for recreation





Minerals Resource Based Industry

Per constitution all Minerals revenues
are restricted to:

- Michigan Natural Resources Trust Fund
- Game and Fish Protection Fund
- State Park Endowment Fund

\$2 billion





Emerging Topics

- Geophysical Surveys of Unleased State Owned Lands
- Technologically Enhanced Radioactive Materials (TENORM)
- Closure/Abandonment of Gravity and Flow Lines
- Mineral Owner Restrictive Covenants



Every American Born will Need...



Learn more at www.mineralseducationcoalition.org



Thank You!
Questions?

