

Michigan Data Miner

Overview

The Data Miner web application gives users access to oil and gas related data through a search and map based interface. This interface features simple and advanced search features, along with the ability to view data at multiple levels (bulk or detailed).

Using Data Miner

Layout

Data Miner is divided into three main panes consisting of unique functionality.

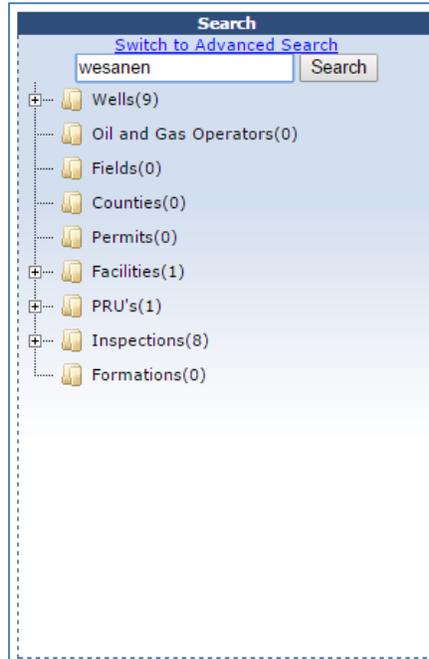
The screenshot displays the Michigan Oil and Gas Data Miner interface. At the top, a dark blue header reads "Michigan Oil and Gas" with a "Restart Session Help" link on the right. Below the header is a disclaimer: "This Web application is in development, and the information represented in it was derived from a variety of sources. Therefore, the DEQ-OOGM makes no warranties as to the completeness, accuracy, reliability, or sustainability of the data, and site visitors assume full responsibility for any conclusions derived through the use of this Web application." The interface is divided into three main panes:

- Search Pane:** Located on the left, it features a search bar with "wesanen" entered and a "Search" button. Below the search bar is a "Switch to Advanced Search" link. A tree view shows search results for various categories: Wells(9), Oil and Gas Operators(0), Fields(0), Counties(0), Permits(0), Facilities(1), PRU's(1), and Formations(0).
- Map Pane:** Located in the center, it shows a map of Michigan with numerous red square markers representing wells. The map includes navigation controls (zoom in/out, pan, home, print) and a "Show tooltip" button. Labels on the map include Tower, Rogers City, Hawks, Canada Creek Ranch, Long Point, Alpena, Thunder Bay, Ossineke, Comins, Curran, Grayling, and Al Guard.
- Details Pane:** Located at the bottom, it displays "Well Information" for a specific well. The information includes: Name: WESANEN 2-19, API Well #: 21137605160000, Type: Oil Well, Field: CHARLTON 19-30N-1W. Below this is a tabbed interface with tabs for General, Location, Construction, Dates, Injection, Production, and Permit. The "General" tab is active, showing: Current Operator: CORE ENERGY LLC, Bond?: No, Status: Producing, Date Status: 06/30/2012.

The search pane houses the Simple Search, Advanced Search and Search Results (Folders & Records).

Search Pane

A Simple Search is completed by entering your keyword or parameter in the box and hitting search.



Bulk results can be viewed by clicking on the folder. The Details Pane will allow you to view your results and export them, if desired.

Michigan Oil and Gas

[Restart Session Help](#)

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Search

[Switch to Advanced Search](#)

wesanen Search

Wells(9)

Oil and Gas Operators(0)

Fields(0)

Counties(0)

Permits(0)

Facilities(1)

PRU's(1)

Map

Wells

Click On Folder

View Bulk Results in the Details Pane

Export Bulk Results to Desired Format

Export CSV Export Excel Export KML

API #	Name	Type	Status	Status Date	State	Cnty	Hole	SideTrck	Completion	Operator
21137605160000	WESANEN 2-19	Oil Well	Producing	06/30/2012	21	OTSEGO	60516	0	0	CORE ENERGY LLC
21137385950000	WESANEN 1-20	Dry Hole	Plugging Approved	11/07/1988	21	OTSEGO	38595	0	0	MILLER BROTHERS
21137418220000	WESANEN D2-17	Location	Terminated Permit	01/19/1990	21	OTSEGO	41822	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE EN
21137418230000	WESANEN C2-17	Location	Terminated Permit	01/19/1990	21	OTSEGO	41823	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE EN
21137456180000	WESANEN C2-17	Location	Terminated Permit	11/10/1994	21	OTSEGO	45618	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE EN
21137420610100	WESANEN A1-20	Location	Terminated Permit		21	OTSEGO	42061	1	0	BELDEN AND BLAKE CORP DBA WARD LAKE EN
21137456190000	WESANEN D2-17	Location	Terminated Permit	11/10/1994	21	OTSEGO	45619	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE EN
21137456160000	WESANEN 2-19	Location	Terminated Permit	11/10/1994	21	OTSEGO	45616	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE EN

miminer.all-llc.com/#

Advanced Search offers the following options:

Reset Filter	
Field:	Select Some Opt
County Name:	Select Some Opt
Well Status:	Select Some Opt
Well Type:	
API Number:	
Well Name:	
Section:	
Township:	
TownshipDir:	Select Some Opt
Range:	
RangeDir:	Select Some Opt
Operator:	Select Some Opt
Permit/App Number:	
Target Formation:	
TVD:	
MD:	
Facility Name:	
Facility Number:	
H2S?:	Select Some Opt
Date Inspection Performed:	...
PRU Number:	
Application Number:	
Date Application Issued:	...
Apply Filter	

Enter search criteria in the right column.

The “Select Some Opt” fields contain a dropdown list of options to choose from that appears when you click on that field.

After entering the desired search requirements, scroll down and click on the Apply Filter button.

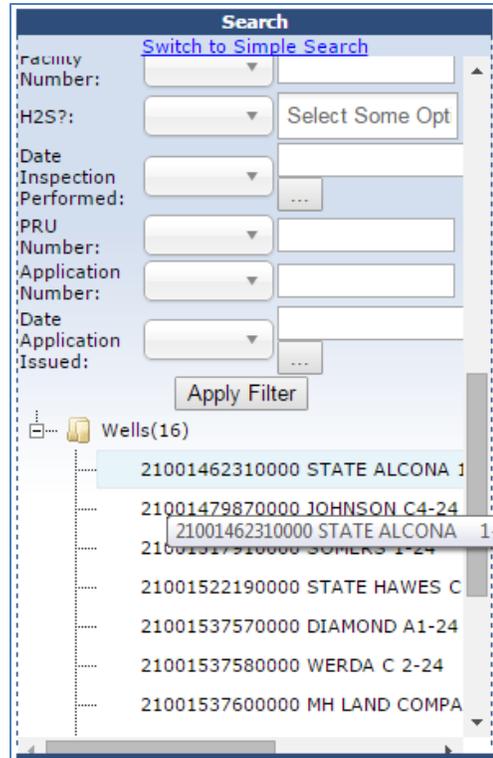
You can select multiple items in a dropdown by clicking in the box again after making your selection; or by holding the Ctrl key while selecting choices in the dropdown

Reset Filter	
Field:	Select Some Opt
County Name:	= x ALCONA x ALPENA x OSCODA x
Well Status:	ALGER
Well Type:	ALLEGAN
API Number:	ALPENA
Well Name:	ANTRIM
Section:	ARENAC
Township:	BARAGA
TownshipDir:	BARRY
Range:	BAY
	BENZIE

Advanced Search results display in the same fashion as simple search, grouped by record category.

Clicking on folders will show a bulk display of records in the details pane, which users can export. Clicking on records will show that record's information in the details pane.

Using the Advanced search, users can input a wide array of criteria to focus the results in on a target information set. At this point in time, the Advanced search only applies to the "Wells" record category.



Hyperlinks

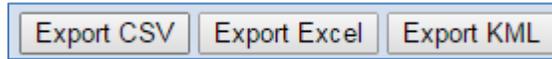
Hyperlinks can be picked out as blue and underlined text. Users will find hyperlinks scattered throughout the Data Miner interface (and in some exported files). Hyperlinks are used in the interface to allow users to quickly navigate to related records.



If following hyperlinks, remember that there isn't always a "Back" button. However, the records users go to will often have links back to the original record users came from.

Data Export

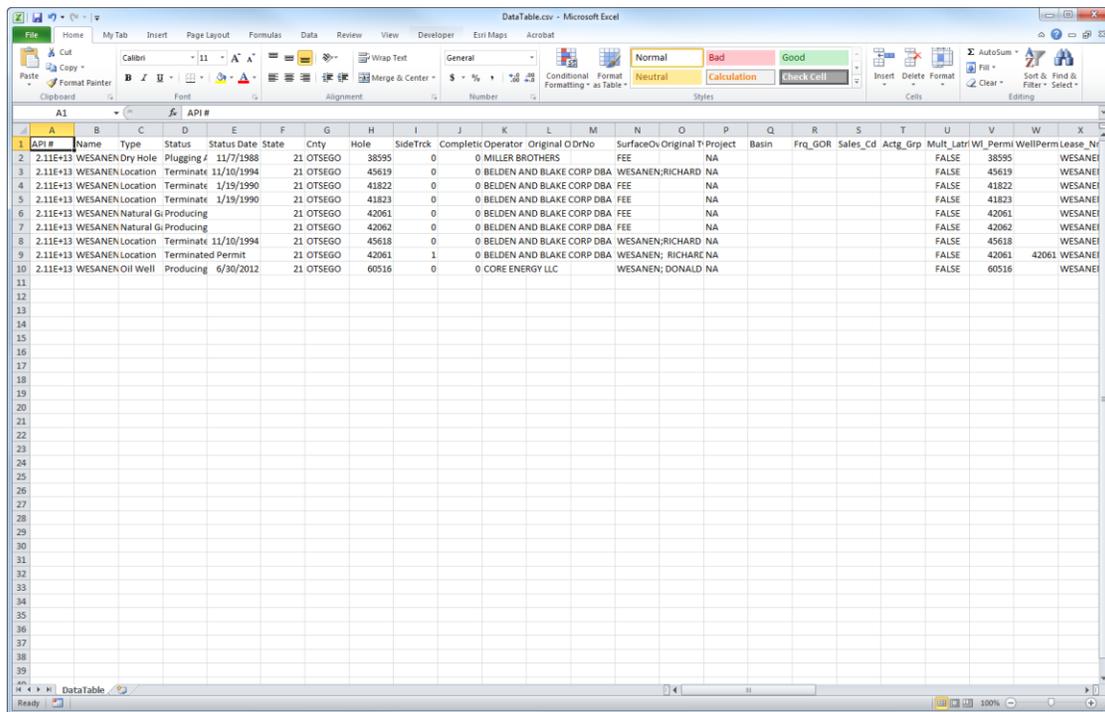
As noted before, when looking at bulk record sets (accomplished by clicking on ) , users have the option to export the data to three common data formats.



CSV

Comma Separated Value files, or CSV, are a long-standing and commonly used file format that can be opened in text editors, spreadsheet programs (like Excel) and database programs. It is simple and compact.

The image below shows a CSV file opened in Excel.



API #	Name	Type	Status	Status Date	State	Cnty	Hole	SideTrck	Completic Operator	Original O DrNo	SurfaceO	Original T	Project	Basin	Frq_GOR	Sales_Cd	Actg_Grp	Mult_Latrl	Wl_Permi	WellPerm	Lease_Nr
2	2.11E+13 WESANEN Dry Hole	Plugging #	11/7/1988		21	OTSEGO	38595	0	0 MILLER BROTHERS		FEE	NA						FALSE	38595		WESANEI
3	2.11E+13 WESANEN Location	Terminate	11/10/1994		21	OTSEGO	45619	0	0 BELDEN AND BLAKE CORP DBA	WESANEN;RICHARD	NA							FALSE	45619		WESANEI
4	2.11E+13 WESANEN Location	Terminate	1/19/1990		21	OTSEGO	41822	0	0 BELDEN AND BLAKE CORP DBA	FEE	NA							FALSE	41822		WESANEI
5	2.11E+13 WESANEN Location	Terminate	1/19/1990		21	OTSEGO	41823	0	0 BELDEN AND BLAKE CORP DBA	FEE	NA							FALSE	41823		WESANEI
6	2.11E+13 WESANEN Natural G	Producing			21	OTSEGO	42061	0	0 BELDEN AND BLAKE CORP DBA	FEE	NA							FALSE	42061		WESANEI
7	2.11E+13 WESANEN Natural G	Producing			21	OTSEGO	42062	0	0 BELDEN AND BLAKE CORP DBA	FEE	NA							FALSE	42062		WESANEI
8	2.11E+13 WESANEN Location	Terminate	11/10/1994		21	OTSEGO	45618	0	0 BELDEN AND BLAKE CORP DBA	WESANEN;RICHARD	NA							FALSE	45618		WESANEI
9	2.11E+13 WESANEN Location	Terminated Permit			21	OTSEGO	42061	1	0 BELDEN AND BLAKE CORP DBA	WESANEN; RICHARD	NA							FALSE	42061	42061	WESANEI
10	2.11E+13 WESANEN Oil Well	Producing	6/30/2012		21	OTSEGO	60516	0	0 CORE ENERGY LLC		WESANEN; DONALD	NA						FALSE	60516		WESANEI

Excel

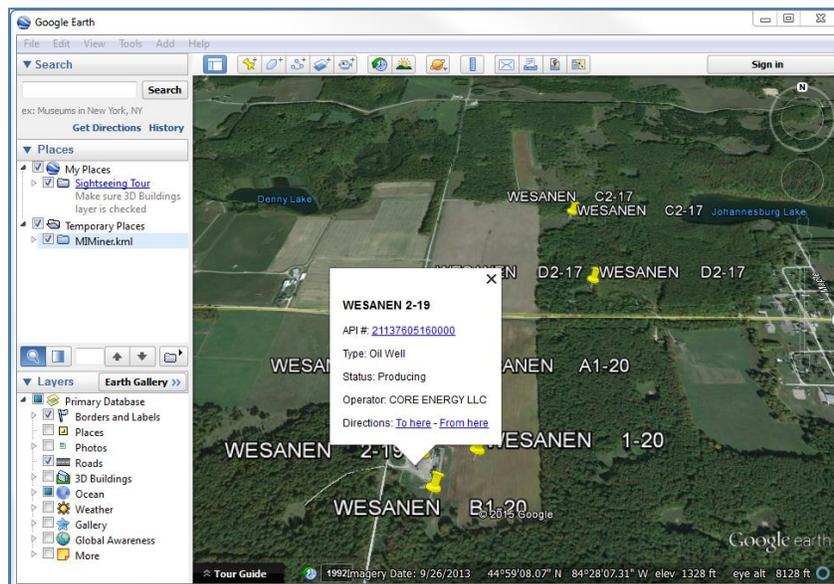
The Microsoft Excel format comes with a few more features. The data contained is the same as the CSV, however the file is formatted differently and the API number is a hyperlink back to that record in Data Miner

API #	Name	Type	Status	Status Date	State	Core	Hole	Mile/Trk	Completion	Operator	Original Operator	OnNo	Surface Owner	Original Type	
2113788590000	WESANEN 1-20	Dry Hole	Plugging Approved	11/7/1988	21	OTSEGO	38395	0	0	MILLER BROTHERS			FEE		
2113745619000	WESANEN D2-17	Location	Terminated Permit	11/10/1994	21	OTSEGO	45619	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY			WESANEN, RICHARD R	N	
2113741820000	WESANEN D2-17	Location	Terminated Permit	1/19/1990	21	OTSEGO	41822	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY			FEE	N	
2113741820000	WESANEN C2-17	Location	Terminated Permit	1/19/1990	21	OTSEGO	41823	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY			FEE	N	
2113742061000	WESANEN A1-20	Natural Gas Well	Producing				21	OTSEGO	42061	0	0			FEE	N
2113742061000	WESANEN B1-20	Natural Gas Well	Producing				21	OTSEGO	42062	0	0			FEE	N
2113745618000	WESANEN C2-17	Location	Terminated Permit	11/10/1994	21	OTSEGO	45618	0	0	BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY			WESANEN, RICHARD R	N	
2113742061000	WESANEN A1-20	Location	Terminated Permit				21	OTSEGO	42061	1	0			WESANEN, RICHARD	N
21137605160000	WESANEN 2-19	Oil Well	Producing	6/30/2012	21	OTSEGO	60516	0	0	CORE ENERGY LLC			WESANEN, DONALD D. & MISHELLE	N	

Excel File Export 1

KML

KML stands for Keyhole Markup Language. It is a file popularized by Google and their product Google Earth. If you have Google Earth or one of several other GIS information viewer applications you may be able to open the KML. This file provides that data you downloaded placed on a map (**for Well Data Only**). In Google Earth, the locations will be represented by a pushpin.



Users can click on the pushpin in Google Earth to get a pop-up that has basic information relating to that item. Located in that pop-up is a hyperlink that can take users to the selected record in the Data Miner web application.

Using the Map

While Data Miner's most powerful features are related to its ability to query and display data, the map is a useful tool for geographical searches and selections.

At its simplest form, users can navigate the map to browse where wells are. Users will discover that hovering over a well location displays a tooltip (see Getting Well Information below). Currently, Data Miner is only able to display well locations.

Map Menu Legend



Recenter Map – Use to push and pull around the map using the cursor. Double-clicking on a location centers the map on that location.



Zoom to Full Extent – Zooms all the way out so users can see all of the mapped well features in Michigan.



Center by X, Y or Latitude, Longitude – Allows users to type in coordinates on which they want the map to center.



Select by Point – Select one feature at a time and have that feature's information display in the Details Pane.



Select by Rectangle – Draw a box around an area of interest and have all of the well features in that box populate in the Details Pane.



Select by Polygon – Draw a polygon around an area of interest and have all of the well features in that box populate in the Details Pane.



Buffer Selection – Draw a radius around all selected features and select all of the features within that radius. These features will then be listed in the Details Pane.



Clear Map Selection – Removes the selection from the currently selected features.



Print Map – Provides a dialogue that allows users to create printed maps based on their current map view.



Show Tooltip – Toggles whether tooltips are displayed or not when a user hovers over a feature.

Getting Well Information

Users can carefully move their cursor over the tooltip and click on the hyperlink to view more information about that well in the Details Pane.

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Search: wesanen

Map: Wells x

Multi Well Information

API #	Name	Type	Status	Status Date	State	Cnty	Hole	SideTrck	Completion	Operator	Original
21137290670000	BOROWIAK 1-6	Oil Well	Plugging Approved	05/16/1989	21	OTSEGO	29067 0	0		SWEPI LP	
21137290670100	BOROWIAK 1-6 HD-1	Location	Terminated Permit		21	OTSEGO	29067 1	0		DON YOHE ENTERPRISES INC	

Development support provided by: the [U.S. Department of Energy](#), the [Ground Water Protection Council](#), [BRUMS](#)

javascripwindow.parent.parent.FilledOnly('PKEY',2113729067,Integer,'MultiWellDetails.xml';ctl00_PageBody_WebPartManager1_gwpPanelDetails_DetailsFrame');

Show tooltip

Tooltips are ON

Show tooltip

Tooltips are OFF

Because the tooltip is only active when hovering over a well, users may find it difficult to select the hyperlink from the tooltip. If this is the case, go to the toolbar at the top and click on the  (Select by Point Button). This will allow users to simply click on a well location and that locations information will display in the Details Pane.

If users find tooltips difficult to use and want to turn them off, tooltips may be toggled by clicking on the

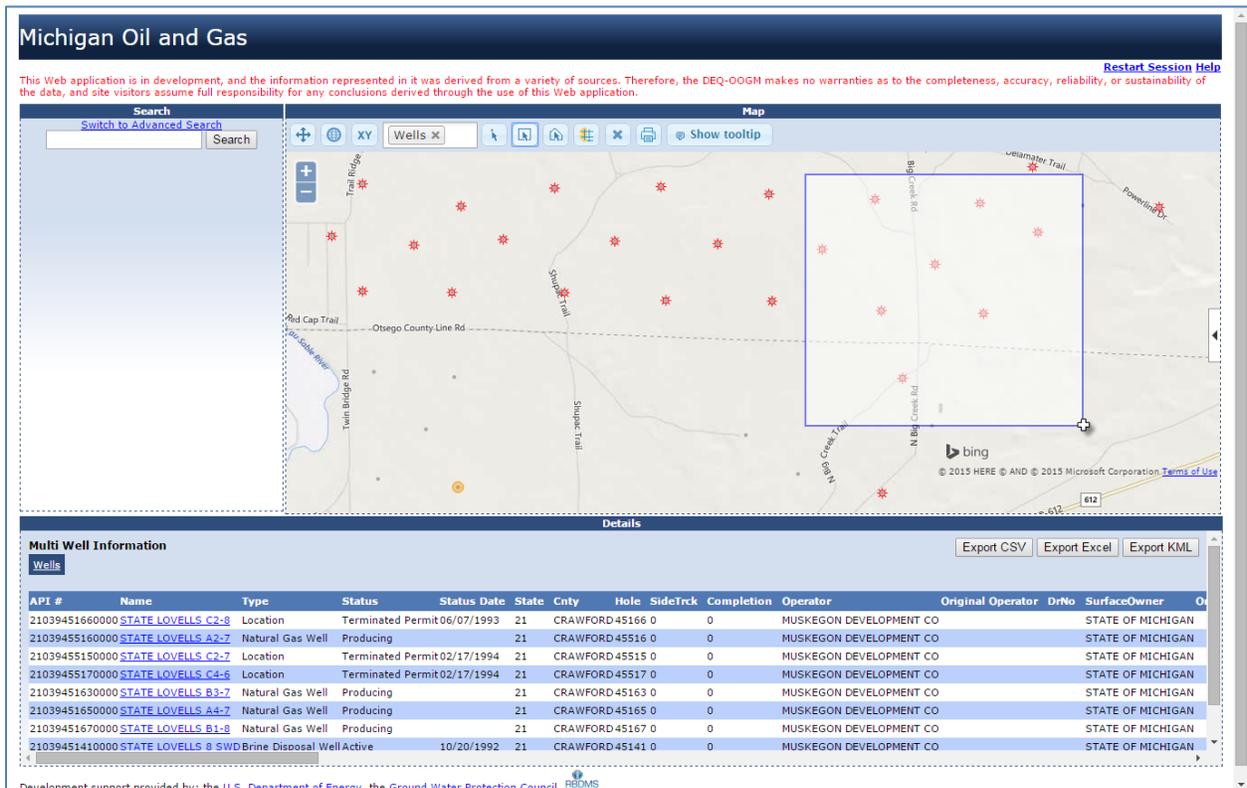
Show tooltip

button.

Select by Rectangle

The select by rectangle feature allows users to select multiple wells and see their information in the Details Pane.

Users can select by rectangle by clicking on the  button and then clicking and holding the left mouse button while dragging. Once a user has create a box that encompasses the desires wells, releasing the box will create the selection.



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Search [Switch to Advanced Search](#)

Map

Multi Well Information

API #	Name	Type	Status	Status Date	State	Cnty	Hole	SideTrck	Completion	Operator	Original Operator	DrNo	SurfaceOwner
21039451660000	STATE LOVELLS C2-8	Location	Terminated Permit	06/07/1993	21	CRAWFORD	45166	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039455160000	STATE LOVELLS A2-7	Natural Gas Well	Producing		21	CRAWFORD	45516	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039455150000	STATE LOVELLS C2-7	Location	Terminated Permit	02/17/1994	21	CRAWFORD	45515	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039455170000	STATE LOVELLS C4-6	Location	Terminated Permit	02/17/1994	21	CRAWFORD	45517	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039451630000	STATE LOVELLS B3-7	Natural Gas Well	Producing		21	CRAWFORD	45163	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039451650000	STATE LOVELLS A4-7	Natural Gas Well	Producing		21	CRAWFORD	45165	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039451670000	STATE LOVELLS B1-8	Natural Gas Well	Producing		21	CRAWFORD	45167	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN
21039451410000	STATE LOVELLS 8 SWD	Brine Disposal Well	Active	10/20/1992	21	CRAWFORD	45141	0	0	MUSKEGON DEVELOPMENT CO	MUSKEGON DEVELOPMENT CO		STATE OF MICHIGAN

Development support provided by: the U.S. Department of Energy, the Ground Water Protection Council, [RBCMS](#)

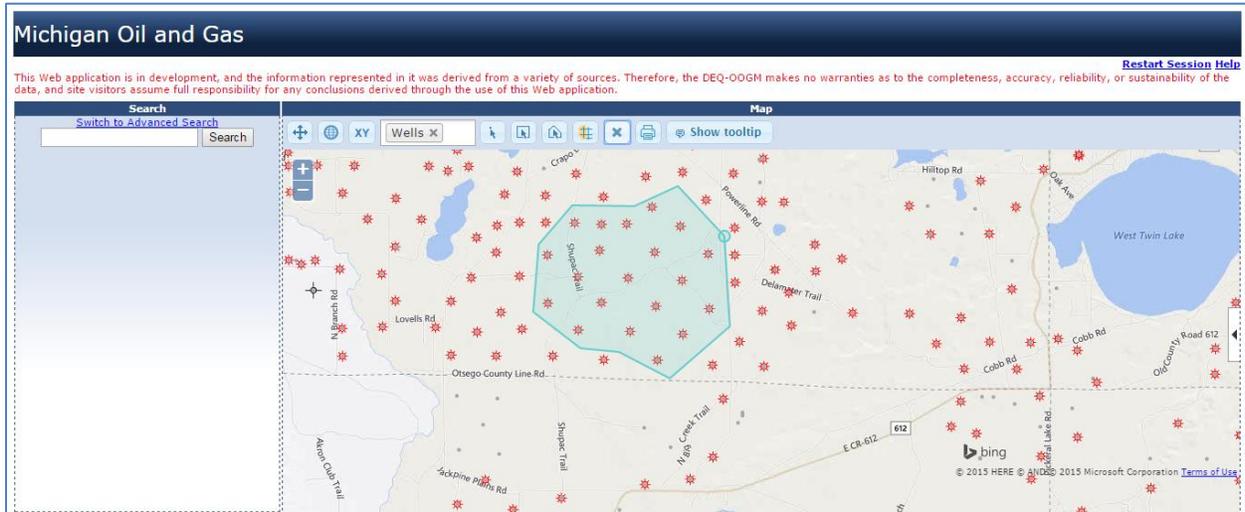
Selected wells will be highlighted (though Internet Explorer sometimes only flashes the highlight after first selecting).

Wells selected on the map will then show up in the list in the Details Pane. This function can be used to export well information for groups of wells a user may be interested in.

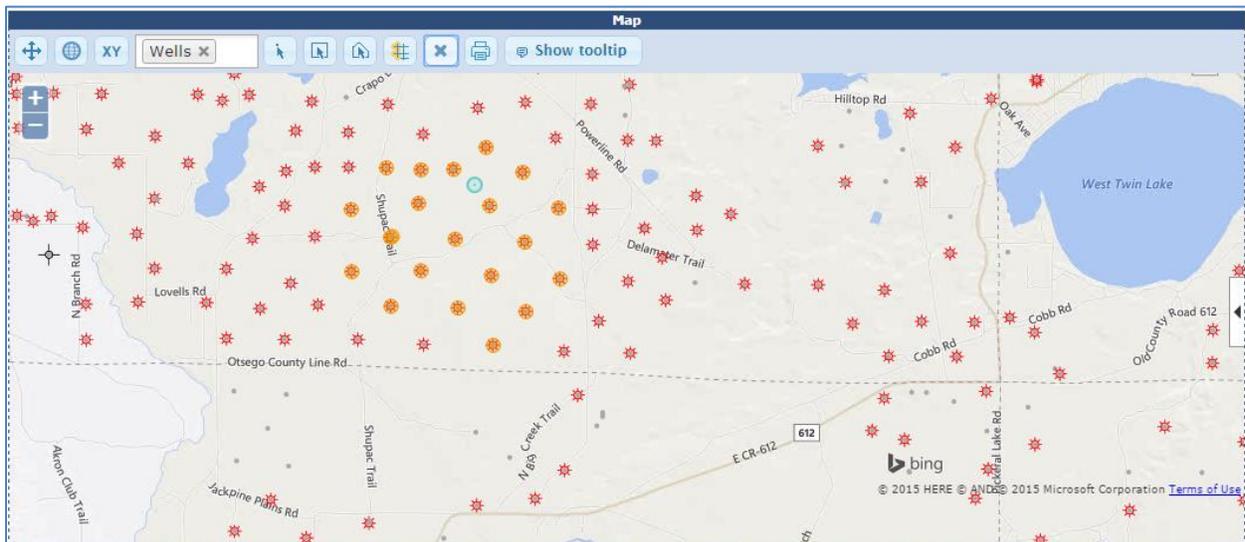


Select by Polygon

The 'Select by Polygon' feature works very similarly to the 'Select by Rectangle' feature. The primary difference is that instead of clicking and dragging, users will define the polygon by clicking on the map where they want their polygon vertices to be.



When a user wants to close their polygon, they must Double-Click for their final vertex. This results in all of the wells falling within the polygon's boundaries being selected.



Buffer Selection

The buffer selection tool allows users to select all well features within a radius of the selected feature. To use this tool a user must first use the Select by Point, Rectangle or Polygon tool to make a selection. After making a selection simply click the >> button. Then the 'Buffer Selection' prompt will be displayed.

Buffer Selection

Select the features from the **active** layers in the Table of Contents

That are within ft ▼

of the currently selected features.

Buffer Cancel

Users can then choose a radius and click "Buffer". The map will now have an expanded selection and show the buffered area.

Michigan Oil and Gas

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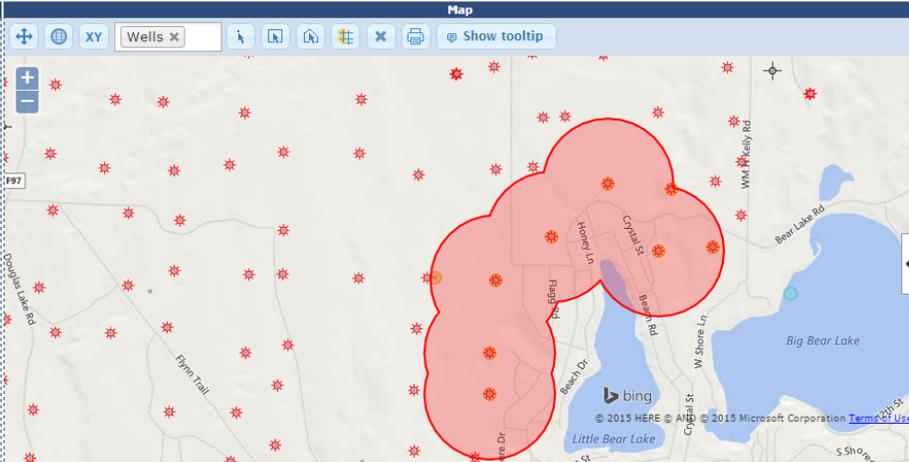
Search

Switch to Advanced Search

Search

Map

Wells x Show tooltip



Multi Well Information

Export CSV Export Excel Export KML

API #	Name	Type	Status	Status Date	State	Cnty	Hole	SideTrck	Completion	Operator	Original Op
21137440450000	GIERSZON D3-35	Natural Gas Well	Producing		21	OTSEGO 44045	0	0		BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY	
21137440410000	HAGLUND C2-35	Natural Gas Well	Producing		21	OTSEGO 44041	0	0		BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY	
21137440440000	LOBSINGER D1-35	Natural Gas Well	Producing		21	OTSEGO 44044	0	0		BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY	
21137440420000	ROOD C3-35	Natural Gas Well	Producing		21	OTSEGO 44042	0	0		BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY	
21137440460000	MEYER D4-35	Natural Gas Well	Producing		21	OTSEGO 44046	0	0		BELDEN AND BLAKE CORP DBA WARD LAKE ENERGY	
21137422090000	STATE CHARLTON 1-3 SWD	Brine Disposal Well	Active	04/14/1999	21	OTSEGO 42209	0	0		TERRA ENERGY CO LLC	TERRA ENI
21137421220000	STATE CHARLTON 8-3	Natural Gas Well	Producing		21	OTSEGO 42122	0	0		TERRA ENERGY CO LLC	TERRA ENI
21137421250000	STATE CHARLTON 5-3	Natural Gas Well	Producing		21	OTSEGO 42125	0	0		TERRA ENERGY CO LLC	TERRA ENI

