

Marathon Oil makes its move with new Michigan frack well

By Ellis Boal

Marathon Oil applied for a horizontal frack well in Michigan this past July, its first since buying out Canadian frack company Encana and its Michigan frack wells and permits last year and becoming the biggest potential fracker in the state. DEQ granted permit # 61130 unusually quickly, on August 21.

Till now Marathon has kept its plans under wraps.

The 80-page application is viewable and downloadable [here](#).

Named "State Beaver Creek 1-14 HD1," the well, located in Crawford County, would descend to a true vertical depth of 4400 feet into what is called the "Detroit River" formation. This is a Devonian-age rock composed of a mixed series of carbonates, evaporites, and sandstones. It is shallower than the record-breaking Utica-Collingwood frack wells drilled in the area by [Encana in 2012](#). Horizontally in the Detroit River formation, the bore would then head south 5255 feet.

It would be an exploratory well. The surface hole is said to be 55 feet south of an earlier Beaver Creek wellhead on the same pad, named "State Beaver Creek 1-23 HD1," which is now producing.

Encana's application for the earlier well cited 350,000 barrels of water, or 14.7 million gallons, as the amount it would use for fracking.

Marathon's surveyor was Dean Farrier. He claims to moonlight as a ["biologist."](#) In January 2013 he prepared an environmental impact assessment for the gathering pipeline for the earlier Beaver Creek well. Asked by the Public Service Commission to demonstrate the efforts and resources he used to write the assessment, he said he "conducted a thorough onsite survey of [the] pipeline route for the presence of protected species" including what he called ["Kirkland's"](#) warblers.

The claim is ridiculous. He didn't pay attention in the biology classes. He can't spell the bird's name. They are "Kirtland's" warblers. At the time of his survey they were actually 1000+ miles south, wintering in the Bahamas.

Kirtlands are [beautiful](#), popular, and endangered birds, for which a [local community college is named](#).

Marathon's application says the new well may pass through sour gas (H₂S) zones. H₂S is lethal. The application includes a 30-page "contingency plan" for dealing with it. If there is an uncontrolled

H2S release, the extreme recommended solution is to ignite the well via an upwind approach, wearing self-contained breathing apparatus, using a meteor-type flare gun and a safety rope attached to a backup responder, with a quick retreat path available. After ignition, H2S converts to sulfur dioxide which is also highly toxic.

The new well will have a permanent water well. The environmental impact assessment of the application says volume of frack water will be "1.815 gallons." On a later page the application says "1,815,000 gallons."

Cuttings and muds will be disposed at Waste Management's nearby [Waters landfill](#).

The chemical constituents of the frack fluid are said to be: water, hydrochloric acid, crystalline silica quartz, tributyl tetradecyl phosphonium chloride, hemicellulase enzyme, propargyl alcohol, methanol, hydrotreated light petroleum distillate, alcohol C12-16 ethoxylated, ammonium chloride, naphthalene, ethanol, heavy aromatic petroleum naphtha, guar gum.

The September 2013 Graham Institute [public health study](#) identified three of these as particularly concerning:

- methanol (cardiovascular, dermal, hepatic, neurological, irritant/corrosive)
- hydrotreated light petroleum distillate (carcinogen, irritant/corrosive)
- silica (dermal, ocular, respiratory).

Marathon also filed an application for a pooled 800-acre spacing unit. It notes there are numerous critical unknowns with the Detroit River formation in this area. These include reservoir pressure, permeability, porosity, hydrocarbon saturation, and in-situ rock stresses. This well would be the first in the drilling unit.

Marathon acquired 430,000 acres of state leases from Encana in the summer of 2014. At the October DNR auction it added 148,000 acres, and 53,000 more this May. That works out to nearly 1000 square miles. The number does not count private leases it may also own.

Marathon paid a \$300 application fee.

Illegal sign prohibiting photography



The company put this sign up on the site, trying to intimidate people who want to look at the well by banning photography and threatening illegal search and seizure. After we demanded first to the DEQ to take the illegal sign down, supervisor of wells Hal Fitch would take no action and said the company wasn't violating any of the laws the DEQ handles. After we made the same demand to the DNR, the agency ordered taking down the illegal sign the next day.