



## HIGH VOLUME HYDRAULIC FRACTURING OPERATIONS ENVIRONMENTAL IMPACT ASSESSMENT

Required pursuant to Part 615, 1994 PA 451, as amended. Falsification of this information may result in fines and/or imprisonment.  
Attach additional pages as necessary. Check all boxes and fill in all blanks which apply.

### A. DESCRIPTION OF PROJECT

<b>1. Applicant or Permittee Name</b>	<b>2. Well Name/No.</b>	<b>Permit Number</b>
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**3. Check All That Apply:**  
 Application to Drill and Operate   
 Application to Change Well Status   
 Request for a Large Volume Water Withdrawal

**4. Well Pad Information**  
a. Well pad size \_\_\_\_\_ acres    Number of drilled oil/gas wells \_\_\_\_\_    Number of proposed oil/gas wells \_\_\_\_\_

### B. HIGH VOLUME HYDRAULIC FRACTURING (>100,000 gallons carrier fluid(s))

**1. Treatment Type:** \_\_\_\_\_

a. Primary Carrier Fluid:     Water     Other, identify \_\_\_\_\_    Total Fluid (Liquid Phase) Volume: \_\_\_\_\_ gallons

b. Additional Carrier Fluid:     Water     Other, identify \_\_\_\_\_    Total Fluid (Liquid Phase) Volume: \_\_\_\_\_ gallons

**2. Water Withdrawal Volume:** \_\_\_\_\_ gallons (If > 3,000,000 gallons, complete Section C below)

**3. Provide map showing pad details and location of fresh water storage pit pursuant to Rule 324.1403 (2)**

**4. Available Water Sources:** Do available water sources exist within 1,320 feet of proposed oil/gas well?     Yes     No  
If yes, attach all available water source well logs within 1,320 feet of the oil/gas well surface location, and a supplemental plat map showing all available water source locations within the 1,320 ft radius of the oil/gas well surface location. Conduct baseline sampling of up to 10 available water sources pursuant to Rule 324.1404.

### C. LARGE VOLUME WATER WITHDRAWAL (>3,000,000 gallons water)

**1.  Water Withdrawal Assessment Tool (WWAT) Completed:** Date: \_\_\_\_\_ Results: \_\_\_\_\_  
(Attach Report - Do NOT register proposed withdrawal)

**2. Combined Water Withdrawal Schedule and Pumping Rate** (i.e. gallons/ minute, hours/ day, days/week): \_\_\_\_\_

a. Number of Water Withdrawal Wells: \_\_\_\_\_  proposed     existing (attach additional sheets if necessary)

Well No./ID	Existing or proposed	Aquifer type (Bedrock or Drift )	Casing Depth (feet below surface)	Total Well Depth (feet below surface)	Pumping Rate (GPM)	Pumping Schedule (Hr/day)	Pumping Schedule (Days/Week)	Latitude	Longitude

**3. Is a Monitor Well Necessary per Rule 324.1403?**     Yes     No (No Available Water Sources <1,320 feet from withdrawal location)

Well No. /ID	Existing or Proposed	Aquifer Type (Bedrock or Drift )	Casing Depth (feet below surface)	Total Depth (feet below surface)	Latitude	Longitude

**4. Additional Monitor Wells**     Yes     No

Well No. /ID	Existing or Proposed	Aquifer Type (Bedrock or Drift )	Casing Depth (feet below surface)	Total Depth (feet below surface)	Latitude	Longitude

**5. Maps - Attach supplemental plat(s) showing:**

a. location of monitor well(s) and water withdrawal well(s) (note whether locations are proposed or existing)

b. location of all recorded fresh water wells and reasonably identifiable fresh water wells within 1,320 feet of the water withdrawal location(s)

c. proposed oil/gas well location, fresh water pit impoundment, containment location and dimensions.

**6. Contingency Plan Provided Per Rule 324.1402 (2) (d)?**     Yes (attached)     No  
If No, explain why the contingency plan was not deemed necessary?

**CERTIFICATION** "I state that I am an authorized agent of the applicant. This report was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

Date	Name and title (print)	Signature
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Enclose this form with application to drill and operate to Office of Oil, Gas, and Minerals, Michigan Department of Environmental Quality, P.O. Box 30256, Lansing, MI 48909-7756 or submit via email to Deq-OilandGasPermitApplications@michigan.gov. Or provide this form with Application to Change Well Status to the appropriate District Office.