

# HOUSE BILL No. 4093

January 28, 1999, Introduced by Reps. Basham, DeHart, Hale, Brater and Bogardus and referred to the Committee on Conservation and Outdoor Recreation.

A bill to amend 1994 PA 451, entitled  
"Natural resources and environmental protection act,"  
(MCL 324.101 to 324.90106) by adding part 141.

## **THE PEOPLE OF THE STATE OF MICHIGAN ENACT:**

1                                   PART 141 GEOTECHNICAL WELLS

2           SEC. 14101. AS USED IN THIS PART:

3           (A) "CONTAMINANT" MEANS ANY CHEMICAL, RADIONUCLIDE, ION,  
4 ELEMENT, COMPOUND, MIXTURE, OR MICROORGANISM THAT DOES NOT OCCUR  
5 NATURALLY IN GROUNDWATER OR SOIL OR THAT IS PRESENT IN A CONCEN-  
6 TRATION THAT IS HIGHER THAN THE NATURAL OR BACKGROUND  
7 CONCENTRATION.

8           (B) "CONTAMINATION" MEANS THE DIRECT OR INDIRECT INTRODUC-  
9 TION INTO GROUNDWATER OR SOIL OF ANY CONTAMINANT IN QUANTITIES  
10 THAT ARE OR CAN BECOME INJURIOUS TO HUMAN HEALTH OR WELFARE, TO

1 ANIMAL LIFE, TO PLANT LIFE, OR TO PROPERTY, OR THAT INTERFERE  
2 WITH THE BENEFICIAL USES OF THE GROUNDWATER OR SOIL.

3 (C) "DEPARTMENT" MEANS THE DEPARTMENT OF ENVIRONMENTAL  
4 QUALITY.

5 (D) "FRESH GROUNDWATER" MEANS GROUNDWATER THAT HAS LESS THAN  
6 10,000 MG/L TOTAL DISSOLVED SOLIDS.

7 (E) SUBJECT TO SUBDIVISION (F), "GEOTECHNICAL WELL" OR  
8 "WELL" MEANS ANY OF THE FOLLOWING:

9 (i) A WELL OR BORING UTILIZED TO DETERMINE SOIL OR ROCK  
10 CHARACTERISTICS FOR PURPOSES OF EVALUATING A SITE FOR CONSTRUC-  
11 TION OR FOR INVESTIGATION OF SOIL OR GROUNDWATER CONTAMINATION,  
12 OTHERWISE REFERRED TO AS A SOIL BORING.

13 (ii) A WELL OR BORING UTILIZED TO DETERMINE PHYSICAL OR  
14 CHEMICAL CHARACTERISTICS OF FRESH GROUNDWATER OR POTENTIAL CON-  
15 TAMINATION OR OTHER IMPACTS TO FRESH GROUNDWATER, OTHERWISE  
16 REFERRED TO AS A GROUNDWATER MONITORING WELL.

17 (iii) A WELL THAT IS UTILIZED TO EXCHANGE HEAT WITH THE  
18 SOILS OR FRESH GROUNDWATER FOR HEATING OR AIR CONDITIONING, OTH-  
19 ERWISE REFERRED TO AS A CLOSED-LOOP HEAT EXCHANGE WELL.

20 (iv) A WELL OR BORING UTILIZED FOR THE PLACEMENT OF AN ELE-  
21 VATOR CYLINDER BELOW GROUND LEVEL, OTHERWISE REFERRED TO AS AN  
22 ELEVATOR CYLINDER WELL.

23 (v) A WELL OR BORING UTILIZED TO PROTECT SUBSURFACE STRUC-  
24 TURES SUCH AS PIPELINES AGAINST CORROSION, OTHERWISE REFERRED TO  
25 AS A CATHODIC PROTECTION WELL.

26 (vi) A WELL OR BORING UTILIZED TO REMEDIATE CONTAMINATED  
27 SOIL OR GROUNDWATER.

1 (F) "GEOTECHNICAL WELL" DOES NOT INCLUDE ANY OF THE  
2 FOLLOWING:

3 (i) A WATER WELL REGULATED UNDER PART 127 OF THE PUBLIC  
4 HEALTH CODE, 1978 PA 368, MCL 333.12701 TO 333.12771.

5 (ii) A WELL REGULATED UNDER THE SAFE DRINKING WATER ACT,  
6 1976 PA 399, MCL 325.1001 TO 325.1023.

7 (iii) A WELL REGULATED UNDER PART 625.

8 (G) "OWNER" MEANS THE PERSON WHO HAS THE RIGHT TO DRILL OR  
9 OPERATE A GEOTECHNICAL WELL.

10 (H) "SATURATED ZONE" MEANS THE SUBSURFACE ZONE IN WHICH ALL  
11 ROCK OR SOIL PORE SPACE IS FILLED WITH WATER.

12 SEC. 14102. (1) A GEOTECHNICAL WELL SHALL MEET ALL OF THE  
13 FOLLOWING REQUIREMENTS:

14 (A) A GEOTECHNICAL WELL SHALL BE DRILLED, CASED, AND SEALED  
15 IN A MANNER THAT PREVENTS THE MOVEMENT OF CONTAMINANTS FROM THE  
16 SURFACE TO A SUBSURFACE STRATUM OR FROM 1 SUBSURFACE STRATUM TO  
17 ANOTHER, AND PREVENTS THE FLOW OF GROUNDWATER FROM 1 STRATUM INTO  
18 ANOTHER OR TO THE SURFACE OF THE GROUND.

19 (B) EQUIPMENT AND MATERIALS USED IN THE DRILLING, CONSTRUC-  
20 TION, AND OPERATION OF GEOTECHNICAL WELLS SHALL BE FREE OF MATE-  
21 RIALS THAT MAY CAUSE CONTAMINATION OF THE SOILS OR GROUNDWATER.

22 (C) WATER USED IN THE DRILLING AND CONSTRUCTION OF A GEOTEC-  
23 HNICAL WELL SHALL BE POTABLE WATER. SURFACE WATER SHALL NOT BE  
24 USED UNLESS IT IS OBTAINED FROM A MUNICIPAL WATER SUPPLY SYSTEM.

25 (D) DRILL CUTTINGS GENERATED DURING THE DRILLING OF A GEO-  
26 TECHNICAL WELL SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT

1 DOES NOT CAUSE CONTAMINATION OF THE SOIL, SURFACE WATER, OR  
2 GROUNDWATER.

3 (E) A GEOTECHNICAL WELL THAT IS NOT PLUGGED IMMEDIATELY  
4 AFTER COMPLETION OF DRILLING SHALL BE PROPERLY CASED AND SEALED  
5 AS FOLLOWS:

6 (i) A GEOTECHNICAL WELL THAT DOES NOT PENETRATE BEDROCK  
7 SHALL BE CASED THROUGHOUT THE ENTIRE DEPTH OF THE WELL.

8 (ii) THE SECTION OF A GEOTECHNICAL WELL THAT PENETRATES BED-  
9 ROCK MAY BE LEFT UNCASSED FROM A DEPTH OF 20 FEET BELOW THE TOP OF  
10 THE BEDROCK TO THE BOTTOM OF THE WELL IF THE BEDROCK IS COMPETENT  
11 AND CAPABLE OF MAINTAINING AN OPEN HOLE THROUGHOUT THE LIFE OF  
12 THE WELL AND IF THE REQUIREMENTS OF SUBDIVISION (A) ARE MET.

13 (iii) CASING AND JOINTS SHALL BE WATERTIGHT AND SHALL BE  
14 DESIGNED TO WITHSTAND THE INTERNAL AND EXTERNAL PRESSURES AND THE  
15 TENSION AND COMPRESSION FORCES ANTICIPATED DURING THE DRILLING,  
16 CONSTRUCTION, AND OPERATION OF THE WELL.

17 (iv) MATERIALS USED FOR CASING, JOINTS, SCREENS, AND OTHER  
18 PERMANENT WELL EQUIPMENT SHALL BE CHEMICALLY COMPATIBLE WITH  
19 SOILS AND GROUNDWATER ANTICIPATED DURING THE DRILLING, CONSTRUC-  
20 TION, AND OPERATION OF THE WELL.

21 (v) A GEOTECHNICAL WELL IN WHICH THE BOREHOLE DIAMETER  
22 EXCEEDS THE OUTSIDE CASING DIAMETER SHALL BE GROUTED BY FILLING  
23 THE ANNULAR SPACE BETWEEN THE CASING AND THE BOREHOLE WALL FROM  
24 THE BOTTOM OF THE ANNULAR SPACE TO THE SURFACE AS FOLLOWS:

25 (A) ANY SECTION OF A GEOTECHNICAL WELL THAT PENETRATES BED-  
26 ROCK SHALL BE GROUTED WITH CEMENT GROUT.

1 (B) ANY SECTION OF A GEOTECHNICAL WELL THAT PENETRATES  
2 GLACIAL DRIFT OR OTHER UNCONSOLIDATED MATERIALS SHALL BE GROUTED  
3 WITH CEMENT GROUT OR BENTONITE GROUT.

4 (C) GROUT SHALL BE PLACED BY CIRCULATING THROUGH THE CASING  
5 OR BY PLACEMENT THROUGH A TREMIE PIPE.

6 (vi) A GEOTECHNICAL WELL IN WHICH THE CASING IS DRIVEN OR IS  
7 OVERSIZE WITH RESPECT TO THE BOREHOLE DIAMETER SHALL BE GROUTED  
8 BY INTRODUCING BENTONITE GRANULES CONTINUALLY ALONG THE OUTSIDE  
9 OF THE CASING AS THE CASING IS ADVANCED.

10 (F) THE TOP OF THE CASING IN A GEOTECHNICAL WELL SHALL BE  
11 SEALED IN SUCH MANNER THAT IT EXCLUDES PRECIPITATION, SURFACE  
12 WATER, DIRT, OR OTHER FOREIGN MATERIALS FROM ENTERING THE WELL.

13 (G) THE TOP OF THE CASING IN A GEOTECHNICAL WELL SHALL BE  
14 PROTECTED FROM DAMAGE BY APPROPRIATE MEASURES.

15 (H) THE CASING IN A GEOTECHNICAL WELL SHALL BE SECURED IN A  
16 MANNER THAT PREVENTS UNAUTHORIZED ENTRY INTO THE WELL.

17 (2) THE DEPARTMENT MAY GRANT AN EXCEPTION TO A PROVISION OF  
18 SUBSECTION (1) IF THE OWNER OF THE GEOTECHNICAL WELL DEMONSTRATES  
19 TO THE SATISFACTION OF THE DEPARTMENT THAT AN ALTERNATIVE METHOD  
20 OR MATERIAL SATISFIES THE INTENT OF SUBSECTION (1). IF THE  
21 DEPARTMENT DOES NOT RESPOND TO A REQUEST FOR AN EXCEPTION WITHIN  
22 10 BUSINESS DAYS OF RECEIPT OF THE REQUEST, THE REQUEST SHALL BE  
23 CONSIDERED GRANTED.

24 SEC. 14103. (1) THE OWNER OF A GEOTECHNICAL WELL SHALL PLUG  
25 THE WELL WITHIN 1 YEAR AFTER THE WELL CEASES TO BE USED FOR ITS  
26 INTENDED PURPOSE. A GEOTECHNICAL WELL SHALL BE PLUGGED IN  
27 COMPLIANCE WITH ALL OF THE FOLLOWING:

1 (A) A GEOTECHNICAL WELL SHALL BE PLUGGED IN A MANNER THAT  
2 PREVENTS THE MOVEMENT OF CONTAMINANTS FROM THE SURFACE TO A SUB-  
3 SURFACE STRATUM OR FROM 1 SUBSURFACE STRATUM TO ANOTHER, AND PRE-  
4 VENTS THE FLOW OF GROUNDWATER FROM 1 STRATUM INTO ANOTHER OR TO  
5 THE SURFACE OF THE GROUND.

6 (B) ANY SECTION OF A GEOTECHNICAL WELL FROM THE SURFACE TO A  
7 DEPTH OF 10 FEET MAY BE PLUGGED BY FILLING WITH NATIVE MATERIALS,  
8 PROVIDED THAT SECTION OF THE WELL DOES NOT PENETRATE BEDROCK OR  
9 DOES NOT PENETRATE THE WATER TABLE.

10 (C) THE SECTION OF A GEOTECHNICAL WELL BELOW A DEPTH OF 10  
11 FEET THAT DOES NOT PENETRATE BEDROCK SHALL BE PLUGGED BY FILLING  
12 THE WELL WITH CEMENT GROUT, CONCRETE GROUT, BENTONITE GROUT, OR  
13 BENTONITE PELLETS OR CHIPS. HOWEVER, IF THE WELL DOES NOT REACH  
14 THE WATER TABLE AND DOES NOT ENCOUNTER SILT OR CLAY, OR ANY COM-  
15 BINATION OF SILT OR CLAY WITH OTHER MATERIALS, THE SECTION OF THE  
16 WELL BELOW A DEPTH OF 10 FEET MAY BE PLUGGED BY FILLING WITH  
17 NATIVE MATERIALS MIXED WITH 50% BENTONITE GRANULES, PELLETS, OR  
18 CHIPS.

19 (D) THE SECTION OF A GEOTECHNICAL WELL THAT PENETRATES BED-  
20 ROCK SHALL BE PLUGGED BY FILLING WITH CEMENT GROUT OR CONCRETE  
21 GROUT FROM THE BOTTOM OF THE WELL TO NOT LESS THAN 20 FEET ABOVE  
22 THE TOP OF THE BEDROCK OR TO THE GROUND SURFACE. THE SECTION OF  
23 THE WELL FROM 20 FEET ABOVE THE BEDROCK TO THE GROUND SURFACE  
24 SHALL BE PLUGGED PURSUANT TO SUBDIVISIONS (B) AND (C).

25 (E) NOTWITHSTANDING ANY PROVISION OF THIS SUBSECTION,  
26 GRAVEL, SAND, STONE AGGREGATE, OR FLUID LOSS AGENTS MAY BE USED

1 FOR PLUGGING THAT SECTION OF A GEOTECHNICAL WELL THAT PENETRATES  
2 LOST CIRCULATION ZONES.

3 (F) ONLY CEMENT OR CONCRETE GROUT SHALL BE USED TO PLUG GEO-  
4 TECHNICAL WELLS THAT DISCHARGE GASES FROM THE SUBSURFACE OR THAT  
5 ENCOUNTER GROUNDWATER UNDER ARTESIAN PRESSURE. PRECAUTIONS SHALL  
6 BE TAKEN TO PREVENT GAS OR GROUNDWATER UNDER ARTESIAN PRESSURE  
7 FROM CUTTING THE CEMENT AND REACHING ANOTHER STRATUM OR THE  
8 SURFACE.

9 (G) PLUGGING MATERIALS FOR GEOTECHNICAL WELLS SHALL BE  
10 PLACED AS FOLLOWS:

11 (i) CEMENT, CONCRETE, OR BENTONITE GROUT SHALL BE PLACED BY  
12 CIRCULATING THROUGH A TREMIE PIPE FROM THE BOTTOM OF THE WELL TO  
13 THE DEPTH PRESCRIBED IN THIS SECTION.

14 (ii) BENTONITE GRANULES, PELLETS, OR CHIPS SHALL BE POURED  
15 SLOWLY INTO THE TOP OF THE WELL TO PREVENT BRIDGING IN THE CASING  
16 OR BOREHOLE, UNTIL THE WELL IS FILLED TO THE DEPTH PRESCRIBED IN  
17 THIS SECTION. POTABLE WATER SHALL THEN BE PLACED INTO THE WELL  
18 TO PROMOTE EXPANSION OF THE BENTONITE.

19 (iii) GRAVEL, SAND, STONE AGGREGATE, OR NATIVE MATERIALS  
20 SHALL BE PLACED SLOWLY INTO THE TOP OF THE WELL TO PREVENT BRIDG-  
21 ING IN THE CASING OR BOREHOLE, UNTIL THE WELL IS FILLED TO THE  
22 DEPTH PRESCRIBED IN THIS SECTION.

23 (H) UPON COMPLETION OF PLUGGING, THERE SHALL BE NO OPEN,  
24 UNPLUGGED ANNULAR SPACE BETWEEN CASINGS OR BETWEEN A CASING AND  
25 THE BOREHOLE, AND THERE SHALL BE NO OPEN, UNPLUGGED SPACE INSIDE  
26 A CASING OR IN THE BOREHOLE.

1 (I) CASING MAY BE REMOVED FROM A GEOTECHNICAL WELL PROVIDED  
2 ALL REQUIREMENTS OF THIS SECTION ARE MET.

3 (2) THE DEPARTMENT MAY GRANT AN EXCEPTION TO A PROVISION OF  
4 SUBSECTION (1) IF THE OWNER OF A GEOTECHNICAL WELL DEMONSTRATES  
5 TO THE SATISFACTION OF THE DEPARTMENT THAT AN ALTERNATIVE METHOD  
6 OR MATERIAL SATISFIES THE INTENT OF SUBSECTION (1). IF THE  
7 DEPARTMENT DOES NOT RESPOND TO A REQUEST FOR AN EXCEPTION WITHIN  
8 10 BUSINESS DAYS OF RECEIPT OF THE REQUEST, THE REQUEST SHALL BE  
9 CONSIDERED GRANTED.

10 SEC. 14104. IF THE DEPARTMENT DETERMINES THAT AN OWNER OF A  
11 GEOTECHNICAL WELL HAS FAILED OR NEGLECTED TO CASE, SEAL, OPERATE,  
12 REPAIR, OR PLUG THE GEOTECHNICAL WELL PURSUANT TO THIS PART OR  
13 THE RULES PROMULGATED UNDER THIS PART, THE DEPARTMENT SHALL GIVE  
14 NOTICE OF THE DETERMINATION TO THE OWNER. IF THE OWNER FAILS TO  
15 CORRECT THE SPECIFIED CONDITIONS WITHIN 60 DAYS AFTER SERVICE OF  
16 NOTICE, THE DEPARTMENT MAY ENTER INTO OR UPON ANY PRIVATE OR  
17 PUBLIC PROPERTY ON WHICH THE WELL IS LOCATED, AND ACROSS ANY PRI-  
18 VATE OR PUBLIC PROPERTY TO REACH THE WELL, AND REPAIR OR CORRECT  
19 THE SPECIFIED CONDITION, AND THE OWNER IS LIABLE FOR ALL EXPENSES  
20 INCURRED. THE DEPARTMENT SHALL CERTIFY TO THE OWNER THE CLAIM OF  
21 THE STATE, LISTING IN THE CLAIM THE ITEMS OF EXPENSE IN MAKING  
22 THE REPAIR OR CORRECTION. THE CLAIMS SHALL BE PAID BY THE OWNER,  
23 WITHIN 30 DAYS, AND IF NOT PAID WITHIN THAT TIME, THE DEPARTMENT  
24 MAY BRING SUIT IN THE CIRCUIT COURT OF INGHAM COUNTY AGAINST THE  
25 OWNER FOR THE COLLECTION.

26 SEC. 14105. (1) THE GEOTECHNICAL WELL OVERSIGHT FUND IS  
27 CREATED WITHIN THE STATE TREASURY.

1 (2) THE STATE TREASURER MAY RECEIVE MONEY OR OTHER ASSETS  
2 FROM ANY SOURCE FOR DEPOSIT INTO THE FUND. THE STATE TREASURER  
3 SHALL DIRECT THE INVESTMENT OF THE FUND. THE STATE TREASURER  
4 SHALL CREDIT TO THE FUND INTEREST AND EARNINGS FROM FUND  
5 INVESTMENTS.

6 (3) MONEY IN THE FUND AT THE CLOSE OF THE FISCAL YEAR SHALL  
7 REMAIN IN THE FUND AND SHALL NOT LAPSE TO THE GENERAL FUND.

8 (4) THE DEPARTMENT SHALL EXPEND MONEY FROM THE FUND, UPON  
9 APPROPRIATION, ONLY TO IMPLEMENT THIS PART.

10 SEC. 14106. THE DEPARTMENT MAY PROMULGATE RULES TO IMPLI-  
11 MENT THIS PART.

12 SEC. 14107. (1) A PERSON WHO VIOLATES THIS PART IS RESPON-  
13 SIBLE FOR A CIVIL FINE OF NOT MORE THAN \$1,000.00 FOR EACH WELL  
14 AT WHICH A VIOLATION OCCURS.

15 (2) A DEFAULT IN THE PAYMENT OF A CIVIL FINE OR COSTS  
16 ORDERED UNDER THIS SECTION OR AN INSTALLMENT OF THE FINE OR COSTS  
17 MAY BE REMEDIED BY ANY MEANS AUTHORIZED UNDER THE REVISED JUDICA-  
18 TURE ACT OF 1961, 1961 PA 236, MCL 600.101 TO 600.9948.

19 (3) CIVIL FINES COLLECTED UNDER THIS SECTION SHALL BE FOR-  
20 WARDED TO THE STATE TREASURER FOR DEPOSIT INTO THE GEOTECHNICAL  
21 WELL OVERSIGHT FUND CREATED IN SECTION 14105.

22 SEC. 14108. A PERSON WHO VIOLATES THIS PART IS GUILTY OF A  
23 MISDEMEANOR PUNISHABLE BY IMPRISONMENT FOR NOT MORE THAN 90 DAYS  
24 OR A FINE OF NOT MORE THAN \$2,500.00, OR BOTH.