

Federal Energy Regulatory Commission

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tight formation, along with the geographic boundaries of the designated tight formation, or a location plat identifying the surface location of the well and the completion location in the designated tight formation, along with a list of the tract (or tracts) of land that comprise the designated tight formation;

(d) A complete copy of the well log, including the log heading identifying the designated tight formation stratigraphically; and

(e) A statement by the applicant, under oath, that:

(1) The natural gas is being produced from a designated tight formation through:

(i) A well the surface drilling of which began after December 31, 1979, but before January 1, 1993;

(ii) A recompletion commenced after January 1, 1993, in a well the surface drilling of which began after December 31, 1979, but before January 1, 1993; or

(iii) Through a recompletion that was commenced after December 31, 1979 but before January 1, 1993, where such gas could not have been produced from any completion location in existence in the well bore before January 1, 1980; and

(2) The applicant has no knowledge of any information not described in the application which is inconsistent with his conclusion.

§ 270.305 Determination of tight formation areas.

(a) *General requirement.* A jurisdictional agency determination designating a portion of a formation as a tight formation must be made in the form and manner prescribed in this subpart.

(b) *Guidelines for designating tight formations.* A jurisdictional agency determination designating a portion of a formation as a tight formation must be made in accordance with the following guidelines:

(1) Within the geographic boundaries of the portion of the formation being recommended for tight formation designation, the estimated in situ gas permeability, throughout the pay section, is expected to be 0.1 millidarcy (md) or less. The expected in situ permeability is to be determined through an arithmetic mean averaging of the known

permeabilities obtained from the wells that penetrate, and have a pay section in, such portion of such formation.

(2) Within the geographic boundaries of the portion of the formation being recommended for tight formation designation, the stabilized production rate of natural gas, against atmospheric pressure, of wells completed for production in such portion of such formation, without stimulation, is not expected to exceed the production rate determined in accordance with the table in this paragraph (b)(2). Such expected stabilized, pre-stimulation production rate is to be determined through an arithmetic mean averaging of the known stabilized, pre-stimulation production rates obtained from the wells that penetrate, and have a pay section in, such portion of such formation.

If the average depth to the top of the formation (in feet)		The maximum allowable production rate of natural gas (in Mcf per day) may not exceed—
exceeds—	but does not exceed—	
0	1,000	44
1,000	1,500	51
1,500	2,000	59
2,000	2,500	68
2,500	3,000	79
3,000	3,500	91
3,500	4,000	105
4,000	4,500	122
4,500	5,000	141
5,000	5,500	163
5,500	6,000	188
6,000	6,500	217
6,500	7,000	251
7,000	7,500	290
7,500	8,000	336
8,000	8,500	388
8,500	9,000	449
9,000	9,500	519
9,500	10,000	600
10,000	10,500	693
10,500	11,000	802
11,000	11,500	927
11,500	12,000	1,071
12,000	12,500	1,238
12,500	13,000	1,432
13,000	13,500	1,655
13,500	14,000	1,913
14,000	14,500	2,212
14,500	15,000	2,557

(c) *Notice to the Commission.* Any jurisdictional agency making a determination that a formation, or portion thereof, qualifies as a tight formation will provide timely notice, in writing,

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of such determination, to the Commission. Such notice shall include the following to substantiate the jurisdictional agency's findings:

(1) Geological and geographical descriptions of the formation, or portion thereof, which is determined to qualify as a tight formation; and

(2) Geological and engineering data to support the determination, including (but not limited to):

(i) A map of the area for which a tight formation determination is being sought that clearly locates and identifies all data wells and all dry holes that penetrate the subject formation and all wells that are currently producing from the subject formation.

(ii) A well-by-well table of each in situ permeability value (in millidarcies), pre-stimulation stabilized production rate (in Mcf per day), and depth to the top of the formation (in feet) for each well, and the arithmetic mean of each set of data.

(iii) For any data that the jurisdictional agency excludes from the above calculations, a statement explaining why the data was excluded.

(iv) The underlying well test, well logs, cross-sections, or other data sources, and all calculations performed to derive the formation tops, permeability values, and pre-stimulation stabilized production rates shown in the well-by-well table.

(v) Any other information that the jurisdictional agency deems relevant and/or that the jurisdictional agency relied upon in making its determination.

§ 270.306 Devonian shale wells in Michigan.

A person seeking a determination that natural gas is being produced from the Devonian Age Antrim shale in Michigan shall file an application that contains the following items:

(a) FERC Form No. 121;

(b) All well completion reports;

(c) A gamma ray log from the closest available well bore (producing or dry hole) that is within a one mile radius of the well for which a determination is sought, with superimposed indications of:

(1) The shale base line and the gamma ray index of 0.7 over the Devo-

nian age stratigraphic section penetrated by the well bore; and

(2) The boundary between the Antrim shale and the overlying formation (Berea Sandstone, Ellsworth, Bedford, or Sunbury shales, or their equivalents);

(d) A location plat showing the well for which the determination is sought and the well for which a gamma ray log has been filed;

(e) A mud log from the well for which the determination is sought, with a detailed description of samples taken from 10-foot, or less, intervals throughout the Devonian age stratigraphic section penetrated by the well bore;

(f) A driller's log, or similar report, from the well for which the determination is sought, indicating the general characteristics of the strata penetrated and the corresponding depths at which they are encountered throughout the Devonian age stratigraphic section penetrated by the well bore;

(g) A reference to a standard stratigraphic chart or text establishing that the producing interval is a shale of Devonian age; and

(h) A sworn statement:

(1) Calculating the percentage of footage of the producing interval (or the Antrim Shale in the event the well is a dry hole) in the well for which a gamma ray log was submitted which is not Devonian shall as indicated by a gamma ray index of less than 0.7;

(2) Demonstrating that the percentage of potentially disqualifying non-shale footage for the Devonian age stratigraphic section penetrated by the well bore for which the submitted gamma ray log is equal to or less than 5 percent;

(3) Attesting that the natural gas is being produced from the Devonian Age Antrim shale through:

(i) A well the surface drilling of which began after December 31, 1979, but before January 1, 1993;

(ii) A recompletion commenced after January 1, 1993, in a well the surface drilling of which began after December 31, 1979, but before January 1, 1993; or

(iii) A recompletion that was commenced after December 31, 1979 but before January 1, 1993, where such gas could not have been produced from any