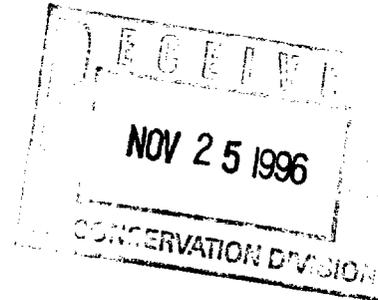


RULE 111 WORK GROUP

Richard E. Foppiano, Facilitator
P. O. Box 50250
Midland, Texas 79710-0250

November 22, 1996

Michael E. Stogner, Chief Hearing Officer
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505



Dear Mr. Stogner:

Please find enclosed a proposed revision of Rule 111 dealing with deviated, directional and horizontal wellbores. Two versions are attached - a marked-up copy and a "clean" one. This is the finished product of the Rule 111 Work Group that you commissioned on September 30, 1996, whose participants included:

- ▶ Donna Williams, Regulatory Compliance Technican for Burlington Resources in Midland, TX;
- ▶ George Sharpe, Manager of Oil & Gas Investments for Merrion Oil & Gas Corp in Farmington, NM;
- ▶ C. Wade Howard, Advanced Technician for Texaco in Midland, TX;
- ▶ Mike Stogner, Chief Hearing Officer for the New Mexico Oil Conservation Division in Santa Fe, NM; and
- ▶ Rick Foppiano, Regulatory Affairs Advisor for OXY in Midland, TX.

The proposed changes attempt to streamline the regulatory process for most directional and horizontal wells. Our shared vision was that any directional/horizontal well with a bottomhole location that was not encroaching on the outer boundary of the applicable unit should be approved through the District Office via the drilling permit process. Wells with bottomhole locations that do encroach on the outer boundaries should be handled as unorthodox wells according to the process outlined in Rule 104. The group felt strongly that the surface location of a directional or horizontal well was really immaterial for spacing purposes, since NSL's (non-standard locations) are now pool-specific. About the only directional/horizontal situation that would require a formal application, notice and opportunity for hearing would be when an operator proposes to combine proration units that are located on different leases. Some additional improvements were also made to the deviation rules to clarify the requirements for wells with excessive deviation.

Michael E. Stogner, Chief Hearing Officer

Page 2

November 19, 1996

To validate our proposed rewrite, our Work Group examined the applications that had been filed under current Rule 111. There were nineteen applications filed by nine different operators in the Southeast, and ten applications filed by four operators in the Northwest. Our conclusion was that a vast majority of these formal applications would be unnecessary if the proposed changes were adopted. We also reviewed the OCD and BLM forms and concluded that no modifications were needed.

All in all, the Work Group feels that significant benefits will result from these proposed changes, such as:

- ▶ less cost and reduced workload on operators and NMOCD staff through elimination of the formal application process for wells that were not encroaching on their offsets; and
- ▶ a better understanding and more consistency in the regulatory process associated with orthodox and unorthodox directional/horizontal wells.

Therefore, we respectfully request that this proposal be considered for rulemaking as soon as possible. Let me say that you picked a fine bunch of people to work on this project, and it has been a pleasure to be associated with them. Thanks for the opportunity!

Sincerely,



Richard E. Foppiano
Facilitator

REF/ref
Enclosure

cc: Jerry Sexton, Supervisor
NMOCD District I
P. O. Box 1980
Hobbs, New Mexico 88240

Frank Chavez, Supervisor
NMOCD District III
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Aztec, New Mexico 87410

Tim Gum, Supervisor
NMOCD District II
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Bill Lemay, Director
NMOCD
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Rule 111 Work Group (w/o enclosure)



Draft No. Final

Date: 11-22-96

(Note => [~~This indicates proposed deletions~~] This indicates proposed additions.)

RULE 111-Deviation Tests/Deviated Wells and Directional Wells:

A. Definitions: The following definitions shall apply to this Rule:

(1) Deviated Well - means any wellbore which is intentionally deviated from vertical but not with an intentional azimuth. Any deviated well is subject to Rule 111-B and C.

(2) Directional Well - means a wellbore which is intentionally deviated from vertical with an intentional azimuth. Any directional well is subject to Rule 111-D.

(3) Vertical Well - means a well that does not have an intentional departure or course deviation from the vertical.

(4) Drilling Unit - means the surface acreage assigned to a vertical wellbore in accordance with NMOCD Rule 104. Included in this definition is a "unit of proration for oil or gas" as defined by the Division and all non-standard such units previously approved by the Division.

(5) Wellbore - means the interior surface of a cased or open hole through which drilling, production, or injection operations are conducted.

(6) Project Well - means any well drilled, completed, produced or injected into as either a deviated well or as a directional well.

(7) Project Area - a designated area consisting of multiple [~~means one or more~~] drilling units [~~which are to be dedicated to the project well~~].

(8) Producing Area - means all points that lie along a rectangular or square window formed by plotting the measured distance from the North, South, East and West boundaries of a drilling unit, approved Enhanced Oil Recovery (EOR) project or, in the case of multiple drilling units, the project area, inside of which a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit for the applicable pool(s).

(9) Penetration Point - means the point where the wellbore penetrates the top of the pool from which it is intended to produce.

(10) Azimuth - means the deviation in the horizontal plane of a wellbore expressed in terms of

compass degrees.

(11) Kick-off Point - means the point at which the wellbore is intentionally deviated from vertical.

(12) Terminus - means the farthest point attained along the wellbore.

(13) Producing Interval - means that portion of the wellbore drilled inside the vertical limits of a pool, between its penetration point and its terminus [~~and within the producing area~~].

(14) Lateral - means any portion of a wellbore past the point where the wellbore has been intentionally departed from the vertical.

(15) Unorthodox - means any producing interval outside of the producing area of a drilling unit, approved project area or approved EOR project.

B. Deviation Tests:

Any vertical or deviated well which is drilled or deepened shall be tested at reasonably frequent intervals to determine the deviation from the vertical. Such tests shall be made at least once each 500 feet or at the first bit change succeeding 500 feet. A tabulation of all deviation tests run, sworn to and notarized, shall be filed with Form C-104, Request for Allowable and Authorization to Transport Oil and Natural Gas. When the deviation averages more than five degrees in any 500-foot interval, the operator shall include the calculations of the maximum possible horizontal displacement of the hole. When the maximum possible horizontal displacement exceeds the distance to the nearest boundary line of the drilling unit, EOR project or project area, whichever is applicable, [and] the Division Director shall [may] require that a directional survey be run to establish the location of the producing interval(s). If the results of the directional survey indicate that the producing interval is less than 85% of the minimum setback requirements from the outer boundary of the applicable unit or, in the case of an approved unorthodox location, less than 85% of the approved setback requirements from the outer boundary of the applicable unit, then the well shall be considered unorthodox. To obtain authority to produce such well, the operator shall file an application with the Division Director, copy to the appropriate OCD District Supervisor, and shall otherwise follow the normal process outlined in Rule 104 (F) (3) to obtain approval of the unorthodox location.

Upon request from the Division Director, any vertical or deviated well [~~which was deviated in an indeterminate direction or toward the vertical~~] shall be directionally surveyed. The Supervisor of the appropriate Division District shall be notified of the approximate time any directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the Division upon completion of the well. The Division shall not assign an allowable to the well until all such directional surveys have been filed.

C. Deviated Wellbores:

(1) The Supervisor of the appropriate Division District may approve the written request of an operator to drill a deviated wellbore or to deviate an existing wellbore to:

(a) straighten a crooked hole by deviating towards the vertical;

(b) side track junk in the hole by deviating in an indeterminate direction (no intentional azimuth);

(c) side track an existing wellbore by deviating in an indeterminate direction (no intentional azimuth) for the purpose of recompleting into an existing producing formation or plugging the originally completed formation and recompleting into a different formation.

(2) The Supervisor of the appropriate Division District may require any request for a deviated well to be submitted for administrative approval by the Division Director.

(3) Applications for administrative approval for a deviated well shall:

(a) be filed in duplicate and shall be accompanied by plats showing [both] the surface location of the subject well, its spacing unit and all adjoining spacing units;

(b) state the reason(s) for deviating the subject well; and

(c) shall include a statement or plat showing the names and addresses of all operators of spacing units, or working interest owners of undrilled spacing units offsetting the unit in which the project is located and attesting that applicant, on or before the same date the application was submitted to the Division, has sent notification to all those parties by submitting a copy of the application to them by certified mail return receipt requested and advising them that if they have an objection, it must be filed in writing within twenty (20) days of the date notice was sent.

~~[(4) The bottomhole location of any deviated well shall be at an orthodox well location or an unorthodox location previously approved pursuant to Rule 104 and shall be considered acceptable if the actual subsurface location in the formation to be produced is orthodox or is no more than 50 feet from the approved subsurface location.]~~

(4) [(5)] The Division Director may approve the application for a deviated well upon receipt of waivers from all offset operators or owners of undrilled tracts or if no offset operator or owner has entered an objection to the project within 20 days after the application was received by the Director.

D. Directional Wellbores:

~~[(1) The Division Director, shall have the authority without notice and hearing to administratively approve a directional wellbore project when:~~

- ~~— (a) the surface location of the proposed or existing project well is within the boundaries of the project area, consisting of a single or multiple drilling unit(s), substantially in the form of either a square or a rectangle, as applicable, being a legal subdivision of the U.S. Public Land Survey;~~
- ~~— (b) the producing interval of the wellbore(s) is totally confined to a producing area. The wellbore(s) may be re-oriented to any azimuth based upon a change in conditions either geologic or mechanical, which is encountered either before or after the commencement of a project, but only insofar as the producing interval(s) remains totally confined to the producing area;~~
- ~~— (c) the project area includes either a single drilling unit or multiple contiguous drilling units; and,~~
- ~~— (d) the project well includes either a single lateral or multiple laterals which conform to conditions (a) and (b) above.]~~

(1) Directional Drilling Within a Drilling Unit or an EOR Project. A permit to directionally drill a wellbore may be granted by the Supervisor of the appropriate Division District if the producing interval is entirely within the producing area or at an unorthodox location previously approved by the Division.

~~[(2) To obtain administrative approval to drill a directional well, the applicant shall file a written application in duplicate with the Division Director, copy to the appropriate OCD District Supervisor, which shall include:]~~

(2) Directional Drilling in a Project Area:

(a) If the project area consists of a single lease or a portion thereof, a permit to directionally drill within the project area may be granted by the Supervisor of the appropriate Division District if the producing interval is entirely within the producing area or at an unorthodox location previously approved by the Division.

(b) If the project area consists of multiple leases, administrative approval of the project area must be obtained by filing an application with the Division Director, copy to the appropriate OCD District Supervisor, and include:

- (1) a statement addressing the reason(s) for directionally drilling the subject well;

(2) a plat indicating the section, township and range in which the well is to be drilled, the project area, the proposed surface location and producing interval , the producing area for the project well or wells, any existing wells in the applicable pool(s) in the proposed project area, all offsetting drilling units in the applicable pool(s) and their associated operator, and any wells in those units;

(3) a vertically oriented plan view (cross-sectional view) for the subject well or wells, including the true vertical depth of the top and bottom of the subject pool, degree of angle to be built in the project wellbore(s), the true vertical and the measured depth of the estimated kickoff point, the estimated penetration point and the lateral length;

(4) a horizontal plan view for the subject well or wells and the proposed project area and associated drilling units, the producing area and producing interval [its spacing unit showing the drilling unit and drilling-producing window], including the estimated azimuth and maximum length of the lateral(s) to be drilled;

(5) a type log section on which is identified the top and bottom of the subject pool; and,

(6) a statement or plat showing the names and addresses of all operators of spacing units, or working interest owners of undrilled spacing units offsetting the unit in the applicable pool(s) in which the project is located and attesting that applicant, on or before the same date the application was submitted to the Division, has sent notification to all those parties by submitting a copy of the application to them by certified mail return receipt requested and advising them that if they have an objection, it must be filed in writing within twenty (20) days of the date notice was sent.

(7) A copy of the operating agreement, communitization agreement or other agreement covering the leases in the project area.

(c)The Division Director may approve the application for a project area with multiple leases upon receipt of waivers from the parties entitled to notice or if no one has entered an objection within 20 days after the application was received by the Director.

(d)[(3)] The maximum allowable assigned to the project area when dealing with prorated pools shall be based upon of the number of standard proration units (or approved non-standard proration and spacing units) that are developed or traversed by the producing interval of the directional wellbore or wellbores, plus any standard proration units that are developed by vertical wellbores within the project area. [for that pool any portion of which is within a distance of the producing lateral of the directional wellbore not greater than the footage setback distance for locating a vertical well from the outer

boundary of a spacing unit for that pool.]

(3) Unorthodox Locations. If the proposed producing interval of any directional wellbore is unorthodox, the applicant shall file a written application in duplicate with the Division Director, copy to the appropriate OCD District Supervisor, and shall otherwise follow the normal process outlined in Rule 104 (F) (3) to obtain approval of the unorthodox location.

(4) Directional Surveys Required. A directional survey shall be required on each well drilled under the provisions of this section. The Supervisor of the appropriate Division District shall be notified of the approximate time all directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the Division upon completion of the well. The Division shall not assign an allowable to the well until all such directional surveys have been filed. If the directional survey indicates that any part of the producing interval is outside of the producing area, or, in the case of an approved unorthodox location, less than the approved setback requirements from the outer boundary of the applicable unit, then the operator shall file an application with the Division Director, copy to the appropriate OCD District Supervisor, and shall otherwise follow the normal process outlined in Rule 104 (F) (3) to obtain approval of the unorthodox location.

~~[E. — Requirements/Conditions of Administrative Approval:~~

~~(1) The Division Director may approve the application upon receipt of waivers from all offset operators or owners of undrilled tracts or if no offset operator or owner has entered an objection to the project within 20 days after the application was received by the Director.~~

~~(2) Any order issued by the Director approving an application for a directional wellbore shall require that:~~

~~—— (a) the applicant shall conduct a directional survey on the wellbore after directional drilling operations in order that the direction, extent and terminus of said wellbore may be determined to be in compliance with the provision of any order with copies submitted to the Santa Fe NMOCD and to the NMOCD-district office in which the well is located; and,~~

~~—— (b) the Supervisor of the appropriate Division District shall be notified of the approximate time all directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the Division upon completion of the well. The Division shall not assign an allowable to a well until the operator has submitted an affidavit that all such directional surveys have been filed.]~~

~~E [F]. Additional Matters:~~

~~(1) The Division Director, at the request of an offset operator, may require any operator to make~~

a directional survey of any well. The directional survey and all associated costs shall be at the expense of the requesting party and shall be secured in advance by a \$5,000 indemnity bond posted with and approved by the Division. The requesting party may designate the well survey company and the survey may be witnessed by the Division and the operator.

(2) The Division Director, may, at his discretion, set any application for administrative approval for public hearing.

(3) Permission to deviate or directionally drill any wellbore for any reason or in any manner not provided for in this rule shall be granted only after notice and opportunity for hearing.

CLEAN VERSION

RULE 111-Deviation Tests/Deviated Wells and Directional Wells:

A. Definitions: The following definitions shall apply to this Rule:

(1) **Deviated Well** - means any wellbore which is intentionally deviated from vertical but not with an intentional azimuth. Any deviated well is subject to Rule 111-B and C.

(2) **Directional Well** - means a wellbore which is intentionally deviated from vertical with an intentional azimuth. Any directional well is subject to Rule 111-D.

(3) **Vertical Well** - means a well that does not have an intentional departure or course deviation from the vertical.

(4) **Drilling Unit** - means the surface acreage assigned to a vertical wellbore in accordance with NMOCD Rule 104. Included in this definition is a “unit of proration for oil or gas” as defined by the Division and all non-standard such units previously approved by the Division.

(5) **Wellbore** - means the interior surface of a cased or open hole through which drilling, production, or injection operations are conducted.

(6) **Project Well** - means any well drilled, completed, produced or injected into as either a deviated well or as a directional well.

(7) **Project Area** - a designated area consisting of multiple drilling units.

(8) **Producing Area** - means all points that lie along a rectangular or square window formed by plotting the measured distance from the North, South, East and West boundaries of a drilling unit, approved Enhanced Oil Recovery (EOR) project or, in the case of multiple drilling units, the project area, inside of which a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit for the applicable pool(s).

(9) **Penetration Point** - means the point where the wellbore penetrates the top of the pool from which it is intended to produce.

(10) **Azimuth** - means the deviation in the horizontal plane of a wellbore expressed in terms of compass degrees.

(11) **Kick-off Point** - means the point at which the wellbore is intentionally deviated from vertical.

(12) **Terminus** - means the farthest point attained along the wellbore.

(13) Producing Interval - means that portion of the wellbore drilled inside the vertical limits of a pool, between its penetration point and its terminus.

(14) Lateral - means any portion of a wellbore past the point where the wellbore has been intentionally departed from the vertical.

(15) Unorthodox - means any producing interval outside of the producing area of a drilling unit, approved project area or approved EOR project.

B. Deviation Tests:

Any vertical or deviated well which is drilled or deepened shall be tested at reasonably frequent intervals to determine the deviation from the vertical. Such tests shall be made at least once each 500 feet or at the first bit change succeeding 500 feet. A tabulation of all deviation tests run, sworn to and notarized, shall be filed with Form C-104, Request for Allowable and Authorization to Transport Oil and Natural Gas. When the deviation averages more than five degrees in any 500-foot interval, the operator shall include the calculations of the maximum possible horizontal displacement of the hole. When the maximum possible horizontal displacement exceeds the distance to the nearest boundary line of the drilling unit, EOR project or project area, whichever is applicable, the Division Director shall require that a directional survey be run to establish the location of the producing interval(s). If the results of the directional survey indicate that the producing interval is less than 85% of the minimum setback requirements from the outer boundary of the applicable unit or, in the case of an approved unorthodox location, less than 85% of the approved setback requirements from the outer boundary of the applicable unit, then the well shall be considered unorthodox. To obtain authority to produce such well, the operator shall file an application with the Division Director, copy to the appropriate OCD District Supervisor, and shall otherwise follow the normal process outlined in Rule 104 (F) (3) to obtain approval of the unorthodox location.

Upon request from the Division Director, any vertical or deviated well shall be directionally surveyed. The Supervisor of the appropriate Division District shall be notified of the approximate time any directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the Division upon completion of the well. The Division shall not assign an allowable to the well until all such directional surveys have been filed.

C. Deviated Wellbores:

(1) The Supervisor of the appropriate Division District may approve the written request of an operator to drill a deviated wellbore or to deviate an existing wellbore to:

(a) straighten a crooked hole by deviating towards the vertical;

(b) side track junk in the hole by deviating in an indeterminate direction (no intentional azimuth);

(c) side track an existing wellbore by deviating in an indeterminate direction (no intentional azimuth) for the purpose of recompleting into an existing producing formation or plugging the originally completed formation and recompleting into a different formation.

(2) The Supervisor of the appropriate Division District may require any request for a deviated well to be submitted for administrative approval by the Division Director.

(3) Applications for administrative approval for a deviated well shall:

(a) be filed in duplicate and shall be accompanied by plats showing the surface location of the subject well, its spacing unit and all adjoining spacing units;

(b) state the reason(s) for deviating the subject well; and

(c) shall include a statement or plat showing the names and addresses of all operators of spacing units, or working interest owners of undrilled spacing units offsetting the unit in which the project is located and attesting that applicant, on or before the same date the application was submitted to the Division, has sent notification to all those parties by submitting a copy of the application to them by certified mail return receipt requested and advising them that if they have an objection, it must be filed in writing within twenty (20) days of the date notice was sent.

(4) The Division Director may approve the application for a deviated well upon receipt of waivers from all offset operators or owners of undrilled tracts or if no offset operator or owner has entered an objection to the project within 20 days after the application was received by the Director.

D. Directional Wellbores:

(1) Directional Drilling Within a Drilling Unit or an EOR Project. A permit to directionally drill a wellbore may be granted by the Supervisor of the appropriate Division District if the producing interval is entirely within the producing area or at an unorthodox location previously approved by the Division.

(2) Directional Drilling in a Project Area:

(a) If the project area consists of a single lease or a portion thereof, a permit to directionally drill within the project area may be granted by the Supervisor of the appropriate Division District if the producing interval is entirely within the producing area or at an unorthodox location previously approved by the Division.

(b) If the project area consists of multiple leases, administrative approval of the project area must be obtained by filing an application with the Division Director, copy to the appropriate OCD District Supervisor, and include:

(1) a statement addressing the reason(s) for directionally drilling the subject well;

(2) a plat indicating the section, township and range in which the well is to be drilled, the project area, the proposed surface location and producing interval, the producing area for the project well or wells, any existing wells in the applicable pool(s) in the proposed project area, all offsetting drilling units in the applicable pool(s) and their associated operator, and any wells in those units;

(3) a vertically oriented plan view (cross-sectional view) for the subject well or wells, including the true vertical depth of the top and bottom of the subject pool, degree of angle to be built in the project wellbore(s), the true vertical and the measured depth of the estimated kickoff point, the estimated penetration point and the lateral length;

(4) a horizontal plan view for the subject well or wells and the proposed project area and associated drilling units, the producing area and producing interval, including the estimated azimuth and maximum length of the lateral(s) to be drilled;

(5) a type log section on which is identified the top and bottom of the subject pool; and,

(6) a statement or plat showing the names and addresses of all operators of spacing units, or working interest owners of undrilled spacing units offsetting the unit in the applicable pool(s) in which the project is located and attesting that applicant, on or before the same date the application was submitted to the Division, has sent notification to all those parties by submitting a copy of the application to them by certified mail return receipt requested and advising them that if they have an objection, it must be filed in writing within twenty (20) days of the date notice was sent.

(7) A copy of the operating agreement, communitization agreement or other agreement covering the leases in the project area.

(c) The Division Director may approve the application for a project area with multiple leases upon receipt of waivers from the parties entitled to notice or if no one has entered an objection within 20 days after the application was received by the Director.

(d) The maximum allowable assigned to the project area when dealing with prorated pools shall be based upon the number of standard proration units (or approved non-standard

proration and spacing units) that are developed or traversed by the producing interval of the directional wellbore or wellbores, plus any standard proration units that are developed by vertical wellbores within the project area.

(3) Unorthodox Locations. If the proposed producing interval of any directional wellbore is unorthodox, the applicant shall file a written application in duplicate with the Division Director, copy to the appropriate OCD District Supervisor, and shall otherwise follow the normal process outlined in Rule 104 (F) (3) to obtain approval of the unorthodox location.

(4) Directional Surveys Required. A directional survey shall be required on each well drilled under the provisions of this section. The Supervisor of the appropriate Division District shall be notified of the approximate time all directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the Division upon completion of the well. The Division shall not assign an allowable to the well until all such directional surveys have been filed. If the directional survey indicates that any part of the producing interval is outside of the producing area, or, in the case of an approved unorthodox location, less than the approved setback requirements from the outer boundary of the applicable unit, then the operator shall file an application with the Division Director, copy to the appropriate OCD District Supervisor, and shall otherwise follow the normal process outlined in Rule 104 (F) (3) to obtain approval of the unorthodox location.

E. Additional Matters:

(1) The Division Director, at the request of an offset operator, may require any operator to make a directional survey of any well. The directional survey and all associated costs shall be at the expense of the requesting party and shall be secured in advance by a \$5,000 indemnity bond posted with and approved by the Division. The requesting party may designate the well survey company and the survey may be witnessed by the Division and the operator.

(2) The Division Director, may, at his discretion, set any application for administrative approval for public hearing.

(3) Permission to deviate or directionally drill any wellbore for any reason or in any manner not provided for in this rule shall be granted only after notice and opportunity for hearing.