



MEMORANDUM
OCCIDENTAL OIL AND GAS

REGULATORY AFFAIRS AREA
TECHNICAL SERVICES TEAM
MIDLAND, TEXAS

December 4, 1996

TO: Donna Williams (Burlington) FAX NO: 688-6007
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FROM: Rick Foppiano (OXY) *RF* FAX NO: 915-685-5742

SUBJECT: Fifth Draft of Proposed Changes to Rule 111

Wade, Donna, Mike and I met with the OCD District Directors, the general counsel (Rand Carroll) and Dave Catanach in Santa Fe on December 3. It was a very good meeting with lots of discussion. We discussed the concepts embodied in the rule changes and captured everyone's comments. Wade, Donna and I then met the next morning and decided to revise our work product once again, for the following reasons:

- ▶ The OCD group challenged us to consider District Office approval for ALL directional and horizontal wellbores, except unorthodox situations. Several felt that the operator's certification on the C-102 form adequately addressed any concerns about working interest participation on multiple lease/multiple proration unit situations. The District Directors also felt they could police the allowable assignments for project areas consisting of multiple proration units. After much discussion, the three of us concurred.
- ▶ The OCD group couldn't understand our reasons for "project areas" existing only when you had multiple proration units. They were more comfortable with having a project area associated with any directional/horizontal well. That is the way it is now, so the three of us agreed that changing it back was less confusing. We also clarified that the C-102 would be used to designate the project area associated with the directional/horizontal wellbore.
- ▶ There was a lot of discussion relating to the "50 foot rule" and the proposed "85% rule" for deviated wells. Due to different interpretations of the 50 foot rule by each District and the very small number of wells affected either way, the three of us decided to back off pushing for more flexibility here. Hence, we revised the language to maintain the current 50 foot rule. OXY is not quite ready to completely give up, however, so

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this might be an issue to discuss with a large industry group later on.

- ▶ Rand had some formatting suggestions that were incorporated.
- ▶ At the end of the meeting, I asked the OCD group if they saw any use for part C dealing with applications for "intentionally" deviated wells. Tim Gum advised that an operator will sometimes call if he has to sidetrack around junk. When asked why the OCD even cares, we didn't get any passionate responses so we suggested total elimination of part C. They didn't have any problem with that idea and agreed that unnecessary parts should be deleted. The three of us decided to propose total elimination. As a fall back, paragraph C should be amended to only require an operator to call if he has to intentionally sidetrack the well.
- ▶ Part D was amended to allow the District Director to forward an APD package on to Santa Fe for further review, with the possibility of forcing it into the formal regulatory approval process of application, notice and opportunity for hearing. This will provide the District Directors with the flexibility of forwarding "unconventional" applications to Stogner and Catanach if they are uncomfortable approving something.

The next steps from this point are to:

1. Obtain the work group's approval of this latest revision. **Please let me have your feedback on this latest revision as soon as possible, preferably before Tuesday, December 10.**
2. I will then send out our latest draft to the OCD group and give them an opportunity for review and comment. Based on the comments, we may have another meeting with them, possibly in Riudosa, NM.
3. The final product from that effort will hopefully be ready for docketing by the OCD, so we can commence getting broad industry support.

REF:ref
attachments

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Draft No. 5Date: December 3, 1996(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 only:(1) [~~(10)~~] Azimuth - means the deviation in the horizontal plane of a wellbore expressed in terms of compass degrees.(2) [~~(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~~].(3) [~~(2)~~] Directional Well - means a wellbore which is intentionally deviated from vertical with an intentional azimuth. Any directional well is subject to Rule 111-C [~~D~~].

(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) [~~(11)~~] Kick-off Point - means the point at which the wellbore is intentionally deviated from vertical.(6) [~~(14)~~] Lateral - means any portion of a wellbore past the point where the wellbore has been intentionally departed from the vertical.(7) [~~(9)~~] Penetration Point - means the point where the wellbore penetrates the top of the pool from which it is intended to produce.

(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 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) [~~(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~~].(10) [~~(7)~~] Project Area - an area designated on Form C-102 that is enclosed by the outer boundaries of a drilling unit, a combination of complete drilling units, or an approved secondary.

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~~tertiary or pressure maintenance project [means one or more drilling units which are to be dedicated to the project well].~~

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

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

~~(13) Unorthodox - means any part of the producing interval which is located outside of the producing area.~~

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

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

B. Deviated Wellbores:

(1) Deviation Tests Required. ~~[-]~~ 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.

(2) Excessive Deviation. 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 outer boundary line of the appropriate unit, [and] the District [Division] Director shall [may] require that a directional survey be run to establish the location of the producing interval(s).

(3) Unorthodox Locations. If the results of the directional survey indicate that the producing interval is more than 50 feet from the approved surface location and less than the minimum setback requirements from the outer boundaries 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.

(4) Directional Survey Requirements. 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

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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.~~

~~(5) The Division Director may approve the application for a deviated well upon receipt of waivers~~

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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.]

C. [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.

(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 OED District Supervisor, which shall 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 producing interval, the producing area for the project well, 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 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;

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- ~~_____ (4) a horizontal plan view for the subject well and 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.]~~

(1) Directional Drilling Within a Project Area. 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) Unorthodox Wellbores. If all or part of the producing interval of any directional wellbore is projected to be outside of the producing area, the wellbore shall be considered unorthodox. To obtain approval for such wellbore, 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).

(3) Allowables for Project Areas that Consist of Multiple Proration Units. 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.]

(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

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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 NMOC and to the NMOC 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.]~~

D [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 or [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.

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CLEAN VERSION

RULE 111-Deviation Tests and Directional Wells:

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

- (1) Azimuth -** means the deviation in the horizontal plane of a wellbore expressed in terms of compass degrees.
- (2) 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.
- (3) Directional Well -** means a wellbore which is intentionally deviated from vertical with an intentional azimuth. Any directional well is subject to Rule 111-C.
- (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) Kick-off Point -** means the point at which the wellbore is intentionally deviated from vertical.
- (6) Lateral -** means any portion of a wellbore past the point where the wellbore has been intentionally departed from the vertical.
- (7) Penetration Point -** means the point where the wellbore penetrates the top of the pool from which it is intended to produce.
- (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 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) Producing Interval -** means that portion of the wellbore drilled inside the vertical limits of a pool, between its penetration point and its terminus.
- (10) Project Area -** an area designated on Form C-102 that is enclosed by the outer boundaries of a drilling unit, a combination of complete drilling units, or an approved secondary, tertiary or pressure maintenance project.
- (11) Project Well -** means any well drilled, completed, produced or injected into as either a deviated well or as a directional well.

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

(13) **Unorthodox** - means any part of the producing interval which is located outside of the producing area.

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

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

B. Deviated Wellbores:

(1) **Deviation Tests Required.** 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.

(2) **Excessive Deviation.** 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 outer boundary line of the appropriate unit, the District Director shall require that a directional survey be run to establish the location of the producing interval(s).

(3) **Unorthodox Locations.** If the results of the directional survey indicate that the producing interval is more than 50 feet from the approved surface location and less than the minimum setback requirements from the outer boundaries 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.

(4) **Directional Survey Requirements.** 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.

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C. Directional Wellbores:

(1) **Directional Drilling Within a Project Area.** 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) **Unorthodox Wellbores.** If all or part of the producing interval of any directional wellbore is projected to be outside of the producing area, the wellbore shall be considered unorthodox. To obtain approval for such wellbore, 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).

(3) **Allowables for Project Areas With Multiple Proration Units.** 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.

(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.

D. 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 or 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.