



August 28, 2009

#### VIA HAND DELIVERY

Mr. Terry G. Warnell, Hearing Examiner
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Case No. 14342: Application of Armstrong Energy Corporation for approval of a Waterflood Project for its Round Tank-Queen Waterflood Unit Area and Qualification of said Project for the Recovered Oil Tax Rate Pursuant to the Enhanced Oil Recovery Act, Chaves County, New Mexico.

Dear Examiner Warnell:

Pursuant to your request, I enclose herewith a proposed order in the above-referenced case for Armstrong Energy Corporation. I will also provide this proposed order by email.

If Armstrong can provide anything further to assist you with your consideration of this application, please advise.

Your attention to this matter is appreciated.

Very truly yours,

William F. Carr

Enclosure

# STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

<b>CASE NO. 14342</b>
ORDER NO. R-

APPLICATION OF ARMSTRONG ENERGY CORPORATION FOR APPROVAL OF A WATERFLOOD PROJECT FOR ITS ROUND TANK-QUEEN WATERFLOOD UNIT AREA AND QUALIFICATION OF SAID PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE ENHANCED OIL RECOVERY ACT, CHAVES COUNTY, NEW MEXICO.

# ORDER OF THE DIVISION

# BY THE DIVISION:

before	This case came on Examiner Terry G.	•	a.m. on July 23, 2009, at Santa Fe, New Mexico,
	, , , , , , , , , , , , , , , , , , , ,		_, 2009, the Division Director, having considered dations of the Examiner,

# **FINDS THAT:**

- 1. Due public notice has been given and the Division has jurisdiction of this case and its subject matter.
- 2. The applicant, Armstrong Energy Corporation ("Armstrong"), seeks authority to institute a waterflood project in its Round Tank-Queen Unit Area (approved by Order No. R-13150) by injection of water into the Queen formation, Round Tank-Queen Pool.
- 3. This waterflood project should be designated the Round Tank Queen Unit Waterflood Project and encompasses the following described 1922.72 acres, more or less, of State of New Mexico and Federal lands, fully described as follows:

# **TOWNSHIP 15 SOUTH, RANGE 28 EAST, NMPM**

Section 24:

E/2, E/2 W/2,

Section 25:

E/2

# TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM

Irregular Section 19: Lots 1 through 4, E/2 W/2

(W/2 Equivalent), E/2

Irregular Section 30: Lots 1 through 4, E/2W/2,

(W/2 Equivalent), E/2.

Armstrong also seeks to qualify the Round Tank-Queen Unit Waterflood Project as an "Enhanced Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

- 4. Armstrong proposes to inject water into the Queen formation through the perforated interval from approximately 1575 feet to 1590 feet in its proposed Round Tank Federal Well No. 1 to be drilled 715 feet from the North line and 825 feet from the East line of Section 30, Township 15 South, Range 29 East, NMPM, Chaves County, New Mexico. Applicant anticipates adding additional injection wells as are subsequently permitted by administrative application filed pursuant to the rules of the Division.
- 5. Armstrong further proposes to inject into the subject wells at a rate of as much as 200 barrels of water per day.
- 6. Armstrong requests that the subject well be allowed to inject at a maximum surface injection pressure of 300 psi which is less than .2 pounds per foot of depth to the top of the injection interval.
- 7. The geologic evidence demonstrates that the Queen sand is continuous and correlates across the unit area and that this unit area is a good candidate for the implementation of a waterflood project.
- 8. Armstrong estimates that implementing the proposed waterflood operations should result in the recovery of an additional 320,000 MM stock tank barrels of oil from the Queen formation within the Unit Area that otherwise will not be recovered, thereby preventing waste, and will not violate correlative rights.
- 9. Armstrong submitted data on the proposed injection well, all water wells and water bearing formations, and all other wells which penetrate the zone of interest within the 1/2 mile "area of review" of the proposed injection well.
- 10. There is one plugged and abandoned well within the "area of review," the Federal A Well No. 1 (API No. 30-005-60336), located 2310 feet from the South line and 330 feet from the West line (Unit L) of Section 29, Township 15 South, Range 29 East, NMPM, for which there is inadequate data to determine the exact nature of the current status of the well and therefore to determine if it is plugged and abandoned so as to adequately preclude injected fluid from the Queen formation, from migrating into other formations.
- 11. Prior to commencing injection operations in this waterflood project, Armstrong should be required to consult with the \_\_\_\_\_\_ District Office of the Division, and the operator of this well, to devise and execute a plan where needed remedial work, if any, will be conducted

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on this wellbore in order to assure that this well is plugged and abandoned so as to effectively isolate the Round Tank-Queen Pool from other formations.

- 12. The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.
- 13. Injection should be accomplished through 2 7/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation in each well. The casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.
- 14. The injection wells or pressurization system should be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 0.2 pounds per foot of depth to top of the injection interval.
- 15. The injection pressure authorized by this order may be increased upon a showing by the operator that such higher pressure will not result in the migration of fluid from the injection formation.
- 16. Prior to commencing injection operations, the casing in each well within the well's ½ mile "area-of-review" should be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.
- 17. The operator should give advance notice to the supervisor of the Division's Hobbs District Office of the date and time (i) injection equipment will be installed, (ii) the mechanical integrity pressure tests will be conducted on the proposed injection well, and (iii) remedial work as required will be conducted on any well identified in Finding No. 10, if any, so these operations may be witnessed.
- 18. The operator should immediately notify the supervisor of the Division's District Office of the failure of the tubing, casing or packer in any of the injection wells, or the leakage of water, oil or gas from or around any producing or plugged and abandoned well within the project area, and should take all steps as may be timely and necessary to correct such failure or leakage.
- 19. The proposed waterflood project should be approved and be governed by Division Rules 19.15.26.1 through 19.15.26.15 NMAC.
- 20. The applicant seeks to qualify the proposed waterflood project as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-l through 7-29A-5).

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- 21. The evidence presented demonstrates that the proposed waterflood project meets all the criteria for approval.
- 22. The approved project area should initially comprise the entire Round Tank Queen Unit Waterflood Area; provided, however, the "project area" and/or the producing wells eligible for the enhanced oil recovery (EOR) tax rate may be contracted and reduced based upon the evidence presented by the applicant in its demonstration of a positive production response.
- 23. To be eligible for the EOR tax rate, the operator should advise the Division of the date and time water injection commences within the waterflood project. At that time, the Division will certify the project to the New Mexico Taxation and Revenue Department.
- 24. At such time as a positive production response occurs, and within five years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the EOR tax rate.
- 25. The injection authority granted herein for the Round Tank Federal Well No. 1 should terminate one year after the date of this order if the operator has not commenced injection operations into the wells; provided, however, the Division, upon written request by the operator, may grant an extension for good cause.

# IT IS THEREFORE ORDERED THAT:

1. Armstrong Energy Corporation is hereby authorized to institute a waterflood project within its Round Tank Queen Unit Area, described as follows, by the injection of water into the Queen formation, Round Tank Queen Pool, in its proposed Round Tank Federal Well No. 1 to be drilled 715 feet from the North line and 825 feet from the East line of Section 30, Township 15 South, Range 29 East, NMPM, Chaves County, New Mexico:

# TOWNSHIP 15 SOUTH, RANGE 28 EAST, NMPM

Section 24:

E/2, E/2 W/2,

Section 25:

E/2

# TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM

Irregular Section 19: Lots 1 through 4, E/2 W/2 (W/2 Equivalent), E/2

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# Irregular Section 30: Lots 1 through 4, E/2W/2, (W/2 Equivalent), E/2.

- 2. The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.
- 3. Injection shall be accomplished through 2 7/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation in each well. The casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing, or packer.
- 4. The injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 0.2 pounds per foot of depth to the top of the injection interval.
- 5. The Division Director may administratively authorize a pressure limitation in excess of the above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.
- 6. Prior to commencing injection operations, the casing in each well shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.
- 7. Prior to commencing injection operations into the proposed injection well located within one-half mile of the well described in Finding No. the applicant shall consult with the \_\_\_\_\_ District Office of the Division, and the operator of the well identified in Finding No. 10, to devise and execute a plan where needed remedial work, if any, will be conducted on this wellbore in order to assure that this well is plugged and abandoned so as to effectively isolate the Round Tank-Queen Pool from other formations.
- 8. The operator should give advance notice to the supervisor of the Division's \_\_\_\_\_\_ District Office of the date and time (i) injection equipment will be installed, (ii) the mechanical integrity pressure tests will be conducted on the proposed injection well, and (iii) remedial work as required, if any, will be conducted on the well identified in Finding No. +0, so these operations may be witnessed.
- 9. The operator shall immediately notify the supervisor of the Division's \_\_\_\_\_\_\_ District Office of the failure of the tubing, casing or packer in any of the injection wells, or the leakage of water, oil or gas from or around any producing or plugged and abandoned well within the project area, and shall take all steps as may be timely and necessary to correct such failure or leakage.

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- 10. The waterflood project is hereby designated the Round Tank Queen Unit Waterflood Project, and the applicant shall conduct injection operations in accordance with Division Rules 19.15.26.1 through 19.15.26.15 NMAC, and shall submit monthly progress reports in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.
- 11. The Round Tank Queen Unit Waterflood Project is hereby certified as an "Enhanced Oil Recovery Project." The project area shall initially comprise the entire Round Tank Queen Unit Waterflood Area; provided, however, the "project area" and/or the producing wells eligible for the enhanced oil recovery (EOR) tax rate may be contracted and reduced based upon the evidence presented by the applicant in its demonstration of a positive production response.
- 12. To be eligible for the EOR tax rate, the operator shall advise the Division of the date and time water injection commences within the waterflood project. At that time, the Division will certify the project to the New Mexico Taxation and Revenue Department.
- 13. At such time as a positive production response occurs, and within five years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the EOR tax rate.
- 14. The injection authority granted herein shall terminate one year after the date of this order if the operator has not commenced injection operations into the well; provided, however, the Division, upon written request by the operator, may grant an extension for good cause.
- 15. Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE in Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MARK E. FESMIRE, P. E. Director