

**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:**

**CASE NO. 14047
ORDER NO. R-12912**

**APPLICATION OF CELERO ENERGY II, L.P. FOR EXPANSION OF A
WATERFLOOD PROJECT, CHAVES COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on December 13, 2007, at Santa Fe, New Mexico, before Examiner Richard I. Ezeanyim.

NOW, on this 3rd day of March 2008, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and of the subject matter.

(2) By Order No. R-1456 issued in Case No. 1714 on August 1, 1959, the Commission approved the application of John H. Trigg and authorized a waterflood project in the Caprock-Queen Pool (**8551**), Lea and Chaves Counties, New Mexico, with the project area consisting of the following described acreage:

TOWNSHIP 14 SOUTH, RANGE 31 EAST, NMPM

Section 4: All
Section 9: All
Section 5: E/2 NE/4, NE/4 SE/4

This Order authorized four (4) injection wells for the Caprock-Queen Waterflood Project.

(3) By Order No. R-2470 issued in Case No. 2781 on April 22, 1963, the Commission expanded the Caprock-Queen Waterflood Project by authorizing three additional injection wells.

(4) The applicant, Celero Energy II, L.P. (“Celero” or “Applicant”) seeks authority to re-activate and expand the waterflood project by the injection of water into the Caprock-Queen Pool through the proposed twenty-three (23) re-activated injection wells.

(5) Applicant further requests that the Caprock-Queen Waterflood Project be expanded to include the SE/4 SE/4 of Section 5, Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico. Applicant also requests that the order entered pursuant to this application allow administrative approval for any future expansion of the project.

(6) This project should be designated the Trigg Federal Lease Waterflood Project and encompasses a single oil and gas lease operated by Celero Energy II, L.P., comprising the following 801.12 acres, more or less, of Federal lands:

TOWNSHIP 14 SOUTH, RANGE 31 EAST, NMPM

Section 4: All
Section 9: All
Section 5: E/2 NE/4, NE/4 SE/4, and SE/4 SE/4

(7) The Applicant presented the following testimony at the hearing:

(a) The Applicant intends to re-activate and expand the Trigg Federal Lease Waterflood Project in the Queen Sand reservoir. The Queen Sand reservoir has been reasonably defined by development, and the initial waterflood project was developed in the 1960s on an 80-acre, 5-spot pattern. Celero Energy will likely implement significant changes to the basic 80-acre, 5-spot waterflood pattern by gathering and evaluating additional reservoir and geologic data as it progresses with the waterflood development.

(b) In the Trigg Federal Lease, the Queen Sand reservoir occurs between 2,600 to 2,900 feet. The proposed injection interval will be approximately from 2,700 to 2,800 feet.

(c) The Applicant proposes to use a total of 23 injection wells, starting initially with 12 shut-in wells, and later on re-entering the remaining 11 plugged and abandoned injection wells as needed or permanently kept properly plugged and abandoned. All the 23 wells are currently injection wells from the previously approved waterflood project.

(d) Waters injected into this reservoir will consist mainly of produced water from this lease. The make-up water will be from the Ogallala reservoir. Injection operations will be by a closed system.

(e) The base of the fresh water sands which is one mile away from the project area is approximately 200 feet. The water samples analyzed indicate that there will be no compatibility problems between the injection water and the formation water.

(f) The fresh water sands are not hydrologically connected with the injection interval through any naturally occurring fault or conduit. The main Queen Sand marker has no obvious faulting; the dip trends mainly from the Northwest to the Southeast, while the strike trends from the Northeast to the Southwest.

(g) The initial reservoir pressure is 1100 psi while the current reservoir pressure is 500 psi. The reservoir is fairly depleted and under-pressured and would require water injection rates of between 500 to 1500 barrels of water per day in order to achieve reservoir fill-up in about 9 months. After fill-up, total lease injection is expected to stabilize at 500 to 600 barrels of water per day.

(h) The original oil in place (OOIP) from the Trigg Federal Lease is estimated to be 12 million barrels of oil. Cumulative oil production to date from the Trigg Federal Lease is 2.4 million barrels of oil. Celero Energy II, L.P. estimates that additional 1.2 to 1.8 million barrels of oil would be recovered, which would justify re-activating the Trigg Federal Lease Waterflood Project.

(i) The design of the waterflood project is intended to confine the injection water within the injection zone, and Celero plans to conduct the waterflood operations in a manner designed to prevent the movement of injection water off-lease.

(j) The Trigg Federal Lease Waterflood Project is surrounded by other offset waterflood projects in the same interval, most of which have been inactive as well. The operator also intends to re-activate and expand these inactive waterflood projects in the near future.

(8) The majority of the wells in the Trigg Federal Lease Waterflood Project and the surrounding waterflood projects were drilled in the late 1950's and early 1960's. These wells are so old that even the operator does not know the condition or the suitability of the wells for injection operations.

(9) The operator proposes to use twenty-three (23) injection wells for this waterflood project in two phases. In phase I, consisting of twelve (12) shut-in injection wells (**EXHIBIT "A" attached to this order**), the operator should re-enter each wellbore, pull the tubing, clean out the wellbore to total depth, run inspection and cement bond logs to determine cement tops, pressure test the casing to determine casing integrity, and repair as appropriate any wells that do not comply with the requirements of Division Rule 703.B.

(10) In phase II, consisting of twelve (12) plugged and abandoned wells, the operator should re-enter the wells and perform the remedial work described in Finding Paragraph (9) above to convert them to injection wells. However, if the operator determines that any of the plugged and abandoned wells cannot be converted to injection, the operator should be authorized to properly plug and abandon the well and drill a new well to replace it.

(11) There are forty-five (45) wells in the area of review of this injection project as shown in **EXHIBIT "B"** attached to this order. Since these wells are very old and have been inactive for a very long time, the operator should, before commencing injection operations in the Trigg Federal Lease Waterflood Project, either (i) properly plug and abandon the wells in accordance with the Division approved plugging procedure, or (ii) convert the wells to producing or injection wells for other offset waterflood projects the operator intends to re-activate or expand.

(12) The operator should provide written verification and completed sundry forms to the Division showing that the required work specified in Finding Paragraphs (9), (10) and (11) above has been completed.

(13) Approval of the proposed lease waterflood project will in reasonable probability result in the recovery of additional hydrocarbons from the Queen Sand formation within the project area that may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.

(14) The proposed waterflood project should be approved.

(15) The applicant's request to provide in the order for the administrative approval of additional injection wells in this project should be approved, subject to the terms and conditions of this order.

IT IS THEREFORE ORDERED THAT:

(1) Celero Energy II, L.P. ("Celero" or "Applicant") is hereby authorized to re-activate and expand the Trigg Federal Lease Waterflood Project by the injection of water into the Caprock-Queen Pool (8551) through the proposed twenty-three (23) injection wells attached to this order as **EXHIBIT "A"**. This project shall be designated the Trigg Federal Lease Water-flood Project and encompasses a single oil and gas lease operated by Celero Energy II, L.P, comprising of the following 801.12 acres, more or less, of Federal lands:

TOWNSHIP 14 SOUTH, RANGE 31 EAST, NMPM

Section 4: All
Section 9: All
Section 5: E/2 NE/4, NE/4 SE/4, and SE/4 SE/4

(2) The Applicant is further authorized to expand the Caprock-Queen waterflood project to include the SE/4 SE/4 of Section 5, Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico.

(3) The Division Director shall have the authority to administratively authorize additional injection wells in this project after proper notice is provided and the application is made on Form C-108.

Before commencing injection operations into the Trigg Federal Lease Waterflood Project, the operator shall conduct the following remedial work on both the injection wells and the area of review wells.

(4) The operator proposes to use twenty-three (23) injection wells for this waterflood project in two phases. In phase I consisting of twelve (12) shut-in injection wells (**EXHIBIT "A" attached to this order**), the operator shall re-enter each wellbore, pull the tubing, clean out the wellbore to total depth, run inspection and cement bond logs to determine cement tops, pressure test the casing to determine casing integrity, and repair as appropriate any wells that do not comply with the requirements of Division Rule 703.B.

(5) In phase II, consisting of eleven (11) plugged and abandoned wells, the operator shall re-enter each wellbore and perform the remedial work described in Ordering Paragraph (4) above to convert them to injection wells. However, if the operator determines that any of the plugged and abandoned wells cannot be converted to injection, the operator shall be authorized to properly plug and abandon the well and drill a new well to replace it.

(6) There are forty-five (45) wells in the area of review of this injection project as shown in **EXHIBIT "B"** attached to this order. Since these wells are very old and have been inactive for a very long time, the operator shall, before commencing injection operations in the Trigg Federal Lease Waterflood Project, either (i) **properly plug and abandon the wells in accordance with the Division approved plugging procedure**, or (ii) **convert the wells to producing or injection wells for other offset waterflood projects the operator intends to re-activate or expand.**

The operator shall provide written verification to the Engineering Bureau in the Santa Fe office of the Division of completion of each of the requirements set forth in Ordering Paragraphs 4, 5, and 6.

(7) The operator shall take all steps necessary to ensure that the injected water enters only the injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(8) The injection of water into each of the wells shown on **Exhibit "A"** (after all the remedial work has been conducted) shall be accomplished through 2-3/8 inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations. 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 detect leakage in the casing, tubing or packer.

(9) The injection wells or pressurization system shall be initially equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 540 psi.

(10) The Division Director shall have the authority to administratively authorize an increase in injection pressure upon a showing by the operator that such higher pressure will not result in fracturing of the injection formation or confining strata or affect correlative rights.

(11) For each injection well, the operator shall give advance notice to the supervisor of the Division's Hobbs district office of the date and time (i) injection equipment will be installed, and (ii) the mechanical integrity pressure tests will be conducted, so these operations may be witnessed.

(12) The operator shall provide written notice of the date of commencement of injection into each well to the Hobbs district office of the Division.

(13) The operator shall immediately notify the supervisor of the Division's Hobbs 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 abandoned well within 1/2 mile of any injection well within the project area, and shall take all steps as may be timely and necessary to correct such failure or leakage.

(14) The Trigg Federal Lease Waterflood Project shall be governed by Division Rules No. 701 through 708. The operator shall submit monthly reports of the injection operations on Division Form C-115, in accordance with Rule No. 706 of the Division Rules and Regulations.

(15) In accordance with Rule No 705.C, the injection authority granted herein for each of the twelve (12) shut-in injection wells shown on **EXHIBIT "A"** shall terminate one year after the effective date of this order if the operator has not commenced injection operations into that well, and will terminate *ipso facto*, one year after injection operations into that well have ceased; provided, however, the Division, upon written request by the operator, may grant an extension for good cause.

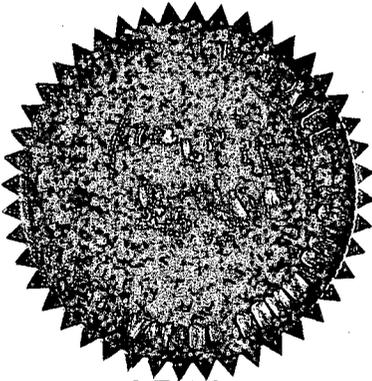
(16) The injection authority granted herein for each of the eleven (11) plugged and abandoned injection wells shown on **EXHIBIT "A"** phase II, shall terminate five years after the effective date of this order if the operator has not commenced injection

operations into that well, provided, however, the Division, upon written request by the operator, may grant an extension for good cause if such request for extension is received prior to the end of five years.

(17) This order does not relieve the operator of responsibility should its operations cause any damage or threat of damage to protectable fresh water, human health, or the environment, nor does it relieve the operator of responsibility for complying with applicable Division rules or other federal, state, and local regulations.

(18) Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) in a manner consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein, or without notice or hearing in case of emergency, subject to the provisions of NMSA 1978 Section 70-2-23.

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



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read "Mark E. Fesmire". The signature is fluid and cursive, written over the printed name.

MARK E. FESMIRE, P.E.
Director

Attachments:

Exhibit "A"
Exhibit "B"

EXHIBIT "A"
INJECTION WELLS
QUEEN SAND UNIT
TRIGG FEDERAL LEASE WATERFLOOD
WELL NAMES AND LOCATIONS

Phase I (12 Shut-In Injection Wells)

WELL NAME & No.	API	N-S	E-W	Unit	Sec	Tsp	Rge	Perf. Interval
TRIGG FEDERAL # 16	30-005-00985	665 FNL	1980 FEL	B	4	14S	31E	2804-2820
TRIGG FEDERAL # 37	30-005-10158	1320 FNL	2475 FEL	B	4	14S	31E	2795-2810
TRIGG FEDERAL # 32	30-005-00993	665 FNL	990 FWL	D	4	14S	31E	2738-2762
TRIGG FEDERAL # 31	30-005-00992	1980 FNL	990 FWL	E	4	14S	31E	2735-2746
TRIGG FEDERAL # 23	30-005-00988	1990 FNL	2310 FWL	F	4	14S	31E	2788-2794
TRIGG FEDERAL # 30	30-005-00991	2310 FSL	990 FWL	L	4	14S	31E	2724-2735
TRIGG FEDERAL # 29	30-005-00990	660 FSL	990 FWL	M	4	14S	31E	2712-2732
TRIGG FEDERAL # 21	30-005-00986	990 FSL	231 FWL	N	4	14S	31E	2762-2775
TRIGG FEDERAL # 5	30-005-00978	660 FSL	660 FEL	P	4	14S	31E	2834-2857
TRIGG FEDERAL #12	30-005-01013	660 FNL	1980 FEL	B	9	14S	31E	22765-2773
TRIGG FEDERAL # 28	30-005-01021	660 FNL	660 FWL	D	9	14S	31E	2724-2736
TRIGG FEDERAL # 35	30-005-00996	1989 FNL	330 FEL	H	5	14S	31E	2684-2698

Phase II (11 Plugged and Abandoned Wells to be Converted to Injection Wells as Needed)

WELL NAME & No.	API	N-S	E-W	Unit	Sec	Tsp	Rge	Perf. Interval
TRIGG FEDERAL # 7	30-005-00980	1990 FNL	660 FEL	H	4	14S	31E	2824-2847
TRIGG FEDERAL # 14	30-005-00983	2310 FSL	1650 FEL	J	4	14S	31E	2803-2813
TRIGG FEDERAL # 20	30-005-01017	660 FNL	1980 FWL	C	9	14S	31E	2738-2751
TRIGG FEDERAL # 19	30-005-01016	1980 FNL	1980 FWL	F	9	14S	31E	2773-2778
TRIGG FEDERAL # 3	30-005-01008	1980 FNL	660 FEL	H	9	14S	31E	2812-2833
TRIGG FEDERAL # 10	30-005-01011	1980 FSL	1980 FEL	J	9	14S	31E	2775-2796
TRIGG FEDERAL # 26	30-005-01019	1980 FSL	660 FEL	L	9	14S	31E	2743-2754
TRIGG FEDERAL # 17	30-005-01014	660 FSL	1980 FWL	N	9	14S	31E	2789-2803
TRIGG FEDERAL # 2	30-005-01007	660 FSL	660 FEL	P	9	14S	31E	2790-2810
TRIGG FEDERAL # 36	30-005-00997	335 FNL	330 FEL	A	5	14S	31E	2691-2704
TRIGG FEDERAL # 34	30-005-00995	1650 FSL	330 FEL	I	5	14S	31E	2696-2710

EXHIBIT "B"
AREA OF REVIEW WELLS
QUEEN SAND UNIT
WELL NAMES AND LOCATIONS

Shut-in Wells

WELL NAME	API	N-S	E-W	Unit	Sec	Tsp	Rge	Perf. Interval
Drickey Queen Sand Unit #8 Government C #2	30005009010000	660FSL	660FWL	M	34	13S	31E	2928-2946
Drickey Queen Sand Unit #12 Government C #5	30005008940000	1980FSL	660FEL	I	33	13S	31E	2841-2859
Drickey Queen Sand Unit #13 Government C #6	30005008950000	1980FSL	1980FEL	J	33	13S	31E	2793-2809
Drickey Queen Sand Unit #14 Government C #8	30005008970000	660FSL	1980FEL	O	33	13S	31E	2796-2813
Drickey Queen Sand Unit #15 Government C #7	30005008960000	660FSL	660FEL	P	33	13S	31E	2849-2868
Drickey Queen Sand Unit #17 Government B #18	30005009710000	665FNL	1980FWL	C	3	14S	31E	3046-3066
Drickey Queen Sand Unit #19 Government B #23	30005009760000	1990FNL	660FWL	E	3	14S	31E	2884-2902
Drickey Queen Sand Unit #23 Government B #20	30005009720000	660FSL	660FWL	M	3	14S	31E	2914-2935
Drickey Queen Sand Unit #28 Government B #11	30005010280000	660FNL	1980FWL	C	10	14S	31E	2955-2975
Drickey Queen Sand Unit #29 DQSU Tract 6 #17	30005010280000	660FNL	660FWL	D	10	14S	31E	2856-2883
Drickey Queen Sand Unit #30 Government B #7	30005010270000	1980FNL	660FWL	E	10	14S	31E	2870-2883
Drickey Queen Sand Unit #31 Government B #1	30005010220000	2080FNL	1920FWL	F	10	14S	31E	2936-2940
Drickey Queen Sand Unit #35 Phil - Mlx #2	30005010350000	1980FSL	1980FWL	K	10	14S	31E	2884-2893
Drickey Queen Sand Unit #36 Phil - Mei #3	30005010360000	1980FSL	660FWL	L	10	14S	31E	2841-2858
Drickey Queen Sand Unit #37 Phil - Mlx #1	30005010340000	660FSL	660FWL	M	10	14S	31E	2824-2831
Drickey Queen Sand Unit #38 Phil - Mex #4	30005010370000	660FSL	1980FWL	N	10	14S	31E	2846-2867
Drickey Queen Sand Unit #39 Spurek #1	30005010750000	660FNL	660FEL	A	16	14S	31E	2865-2881
Drickey Queen Sand Unit #42 Spurk #2	30005010760000	1980FNL	660FEL	H	16	14S	31E	2883-2895
Drickey Queen Sand Unit #44 Zimmerman #1	30005010630000	660FNL	660FWL	DS	15	14S	31E	2868-2899
West Cap Queen Sand Unit #1 Cleat #2	30005010930000	660FNL	660FEL	A	17	14S	31E	2742-2758

EXHIBIT "B" (CONT'D)
AREA OF REVIEW WELLS
QUEEN SAND UNIT
WELL NAMES AND LOCATIONS

Plugged and Abandoned Wells

WELL NAME	API	N-S	E-W	Unit	Sec	Tsp	Rge	Perf. Interval
Drickey Queen Sand Unit #7 Government C #3	30005009020000	1980FSL	660FWL	L	34	13S	31E	2891-2907
Drickey Queen Sand Unit #9 Government C #1	30005009000000	660FSL	1980FWL	N	34	13S	31E	3043-3048
Drickey Queen Sand Unit #33N Government A #1	30005008990000	330FSL	2310FWL	N	33	13S	31E	2774-2778
Drickey Queen Sand Unit #18 Government B #24	30005009770000	660FNL	660FWL	D	3	14S	31E	2917-2942
Drickey Queen Sand Unit #20 Government B #16	30005009700000	1990FNL	1980FWL	F	3	14S	31E	3044-3062
Drickey Queen Sand Unit #3L Government B #21	30005009740000	1980FSL	660FWL	L	3	14S	31E	2881-2895
Drickey Queen Sand Unit #24 Government B #14	30005009680000	660FSL	1980FWL	N	3	14S	31E	3044-3064
Drickey Queen Sand Unit #40 DQSU Tract 22 #1W	30005010700000	660FNL	1980FEL	B	16	14S	31E	2839-2857
Drickey Queen Sand Unit #16C Chaves State BK #1	30005010710000	660FNL	1980FWL	C	16	14S	31E	2817-2834
Drickey Queen Sand Unit #16D State Chaves A #1	30005010810000	660FNL	660FWL	D	16	14S	31E	2785-2800
Drickey Queen Sand Unit #16E State K Acct 1 #1	30005010820000	1980FNL	660FWL	E	16	14S	31E	2790-2808
Drickey Queen Sand Unit #16F State #1	30005010840000	1980FNL	1980FWL	F	16	14S	31E	2815-2847
Drickey Queen Sand Unit #41 Gray State #1	30005010740000	1980FNL	1980FEL	G	16	14S	31E	2857-2868
Drickey Queen Sand Unit #15C Zimmerman #1-A	30005010670000	660FNL	1980FWL	C	15	14S	31E	2855-2870
West Cap Queen Sand Unit #8A Court Trust #2	30005010020000	990FNL	330FEL	A	8	14S	31E	2707-2713
West Cap Queen Sand Unit #8H Court Trust #1	30005010010000	2510FNL	330FEL	H	8	14S	31E	2710-2713
West Cap Queen Sand Unit #8I ARC Federal #2	30005010040000	1650FSL	330FEL	I	8	14S	31E	2725-2735
West Cap Queen Sand Unit #8O ARC Federal #3	30005010050000	330FSL	1650FEL	O	8	14S	31E	2701-2735
West Cap Queen Sand Unit #8PN ARC Federal #1	30005010030000	660FNL	660FEL	N	8	14S	31E	2728-2739
West Cap Queen Sand Unit #2 Cleat #5	30005010960000	660FNL	1980FEL	B	17	14S	31E	2708-2729
West Cap Queen Sand Unit #4 Cleat #1	30005010920000	1980FNL	660FEL	H	17	14S	31E	2758-2770

Other

WELL NAME	API	N-S	E-W	Unit	Sec	Tsp	Rge	Perf. Interval
West Cap Queen Sand Unit #8PS	?	?	?	PS	8	14S	31E	?
Drickey Queen Sand Unit #22 Government B #15	30005009690000	1980FSL	1980FWL	K	3	14S	31E	3045-3063

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Drickey Queen Sand Unit # 56

30005211530000 130 FNL 380 FWL DN 15 14S 31E 3088-5500