

**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:**

Nomenclature  
**CASE NO. 15535  
ORDER NO. R-14262**

**APPLICATION OF MATADOR PRODUCTION COMPANY AND MEWBOURNE  
OIL COMPANY FOR POOL CREATION, POOL RECLASSIFICATION, AND  
SPECIAL POOL RULES, EDDY COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on August 18, 2016 and again on September 29, 2016, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 5th day of January, 2017, 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 its subject matter.

(2) Matador Production Company and Mewbourne Oil Company ("Applicants") seek an order creating a new Pool (the "Pool") for production of gas from the Wolfcamp formation and establishing Special Pool Rules including 330-foot setbacks from the boundary of a standard 320-acre gas spacing unit. The proposed Pool would cover all production from the Wolfcamp formation within the following lands in Eddy County, New Mexico:

Township 22 South, Ranges 25 through 28 East, NMPM  
Township 23 South, Ranges 25 through 29 East, NMPM  
Township 24 South, Ranges 25 through 31 East, NMPM  
Township 25 South, Ranges 25 through 31 East, NMPM  
Township 26 South, Ranges 25 through 31 East, NMPM

(3) Applicants request that the Pool's vertical interval include the stratigraphic equivalent of Kelly-Bushing depths from 9,204 feet to 11,525 feet as found in the OXY Benelli Well No. 1 (API No. 30-015-34881) located 990 feet from the North line and 660 feet from the West line (Unit D) of Section 8, Township 25 South, Range 28 East, NMPM.

(4) COG Operating LLC entered an appearance and attended the first hearing but did not oppose the application.

(5) Amec Foster Wheeler submitted a letter on behalf of the City of Carlsbad dated September 28, 2016 to the Division intended for this case constituting a concern for protection of public health or the environment (as allowed for intervenors per Rule 19.15.4.11C); but did not copy these concerns to Applicants and did not appear at the September 29, 2016 hearing. That letter stated concerns as to protection of the City's Wellhead Protection Areas from drilling operations due to those Wellhead Protection Areas being included within the bounds of the proposed new pool. The letter reminded that City ordinance 52-155(b)(3) is in effect over the city's Wellhead Protection Areas requiring application to the City of Carlsbad for any drilling. The City ordinance would be in effect despite any action by the Division; therefore, the Division should not explicitly include the requested ordering statement.

(6) No other party entered an appearance or otherwise opposed this application.

(7) Applicants appeared through counsel and presented land, geology, and engineering evidence demonstrating that:

- (a) Within this proposed area there are more than 60 small pools for production of oil and gas from the Wolfcamp formation, yet the acreage is largely undeveloped. Most of those existing pools are a result of deeper vertically drilled gas wells being plugged back to subject formations and were not a result of horizontal drilling.
- (b) Although there is at least one pool with special pool rules (the North Cass Draw-Wolfcamp Pool), all other wells are (i) oil wells spaced and located on statewide rules of 40-acre spacing and proration units and 330 foot setbacks, or (ii) gas wells spaced and located on statewide rules of 320-acre gas spacing units and 660 foot setbacks. On gas wells within the proposed Pool, operators have filed, and continue to file, with the Division numerous applications for unorthodox locations.
- (c) The large number of different pools and the 660-foot required setback for gas wells within the gas pools has needlessly complicated the recent drilling of horizontal wells in the Wolfcamp formation at locations needed to optimally recover oil and gas.

- (d) The existing pools would be abolished and all existing well completions in the subject formations would change pool names, retaining existing spacing size. Any existing spacing unit would only change size after notice to all affected mineral interest owners as Division rules require. The Division rules and procedures for exceptions to spacing unit size would remain in place.
- (e) Applicants provided notice to all operators of wells completed in the subject formations within this proposed new pool and within one mile of the pool boundaries. After notice to the more than 30 operators, there has been no opposition and several letters of support for this application.
- (f) In the event this application is approved, Applicants have agreed to assist the Division by providing notice of the order to all operators within the new pool area, reminding of the requirement to supply needed forms to the Artesia district office of the Division.
- (g) All pools within this proposed new pool area, whether such existing pool is upper, lower, or simply Wolfcamp in vertical extent are being proposed for abolishing and including in the new pool. The possible existence of overlapping Wolfcamp pools along with leases contracted by Pugh clauses, would cloud title and hamper drilling and the recovery of oil and gas from the Wolfcamp formation.
- (h) The purpose of this application is to set up clear parameters in the southeastern portion of Eddy County for recovery of oil and gas within the Wolfcamp formation to protect correlative rights and prevent waste.
- (i) The Wolfcamp formation slightly dips and deepens from west to east and is continuous across the acreage in the proposed Pool. It is thinnest in the northwest and southwest portions of the proposed Pool, and thickens to the east and southeast. In any individual 320-acre spacing unit the thickness of the Wolfcamp formation will be substantially uniform.
- (j) The entire thickness of the Wolfcamp formation in this area is considered by Applicants to be potentially prospective for horizontal drilling and therefore should not be vertically segregated into separate pools. Neither the top of the Wolfcamp or the base of the Bone Spring (3<sup>rd</sup> Bone Spring sand) formations are immediate targets.
- (k) The base of this proposed Wolfcamp pool should not be defined to exclude the low permeable Cisco and Canyon formations

immediately underlying the Wolfcamp because the exact top of the Pennsylvanian in this area of Eddy County is hard to pick and operationally those Upper Pennsylvanian formations should be included in this proposed Pool. Excluding the Cisco-Canyon from this pool would possibly set up a situation where horizontal wells were drilled at the extreme base of or below the base of this proposed pool.

- (l) The Wolfcamp is lithologically variable but is throughout an unconventional, low-permeability horizontal drilling target or resource play that would be drilled and completed in roughly the same manner. Some areas and some vertical depths will be better than others, but the best areas will be determined by drilling and completions.
- (m) The existing vertically discovered pools are more conventional in nature but not the exclusive target of the planned horizontal drilling.
- (n) The directly offsetting field to the south of this proposed New Mexico pool which is in Texas is spaced on 640 acres with 330-foot setbacks and 200-foot setbacks on the heel and toe of the horizontal wells.
- (o) Existing wells within the proposed Pool, confirmed by newly acquired and existing Pressure-Volume-Temperature (phase envelope or "PVT") data, display the characteristics of a retrograde gas condensate reservoir, including Gas to Oil ratios (or "GORs"), condensate gravity, and reservoir fluid heptanes, as follows:
  - (i) Ninety-two percent of wells within the proposed Pool have GORs greater than 3000 to 1. The other wells having GORs of less than 3000:1 are typically vertical wells completed as down-hole-commingles in both the Wolfcamp and Bone Spring formations or are wells not connected to gas sales, which would lower the reported GORs.
  - (ii) API gravities in existing wells range from 40 to 60, and are independent of GORs.
  - (iii) PVT data shows that produced fluids have heptanes-plus of less than 12.5 mole percent.
- (p) These characteristics, including the color of produced liquids, confirm that the reservoir in the Wolfcamp formation within the proposed Pool is a retrograde gas condensate reservoir.

- (q) The preferential direction of fractures in this reservoir is at an approximate azimuth of 45 degrees. Thus, there is no preference for standup or for laydown spacing units. Drilling wells in either a North-South or East-West direction allows logical well spacing and orderly development and reduces waste.
- (r) There have been wells drilled as close as 880 feet apart without interference.
- (s) Relaxing setback requirements allows longer laterals and will result in increases in ultimate recovery of up to 14 percent per well and up to 52 percent in a section of land as shown schematically in Exhibit No. 20.

The Division finds that:

(8) Applicants proposed in this application to name the pool after the renowned geologist and consultant, Mr. Marlon Downey, but have since conferred with the Hobbs district geologist of the Division and have agreed to name the Pool as follows:

**Purple Sage-Wolfcamp Gas Pool**

(9) The proposed Purple Sage-Wolfcamp Gas Pool (Pool Code 98220) should be created and exclusively used over the lands specified above for new completions in the Wolfcamp formation. No other pool within these lands should be named or used for oil or gas well-completions in that formation.

(10) The Pool's discovery well should be the Forni Well No. 1 (API No. 30-015-20010) located 2310 feet from the South line and 990 feet from the East line (Unit I) of Section 15, Township 22 South, Range 27 East, NMPM. Division records indicate that the Forni Well No. 1 was drilled vertically and completed as a gas well in the Wolfcamp formation from 9656 feet to 9946 feet; with first production on April 2<sup>nd</sup>, 1967.

(11) The vertical limits of the Pool shall comprise the Wolfcamp formation and be limited to the Wolfcamp formation unless and until extended deeper by order of the Division. The Hobbs district geologist of the Division has determined that on the electric logs for the OXY Benelli Well No. 1 (API No. 30-015-34881), the top of the Wolfcamp is shown at 9204 feet and bottom of the Wolfcamp formation is at 11090 feet. These equivalent depths should be correlated from this log and used throughout the pool.

(12) Concerning the lower vertical limit of this Pool; the reasons cited were compelling to include the Upper Pennsylvanian ("Upper Penn") Shales including the Cisco and Canyon formations – or all formations within the Pennsylvanian younger than Strawn age. This additional vertical section would affect operators in the Upper Penn and operators in the Pennsylvanian Pools. That modification was not advertised within this application and some operators within the Upper Penn or Pennsylvanian Pools were not

noticed of the intention to include the Upper Penn as part of this new Pool.

(13) The lower limits of this pool should be limited to the base of the Wolfcamp formation until the Division issues another order or amends this order to include the Upper Pennsylvanian shale formations. Any application to vertically extend or deepen the Purple Sage-Wolfcamp Pool should first include (i) abolishing the Upper Penn pools, (ii) abolishing the non-producing Pennsylvanian pools, and (iii) vertically contracting (or freezing and excluding) the active Pennsylvanian Pools such as the Dark Canyon II-Penn Gas Pool (97207) and the White City-Penn Gas Pool (87280).

(14) Any Wolfcamp Pool, whether oil or gas, currently located wholly within these lands should be abolished and any Wolfcamp Pool currently overlapping these lands should be contracted out of these lands. Attached Exhibit A includes a list of pools shown in Division records as including portions of, or expandable into, the area of the proposed Purple Sage-Wolfcamp Gas Pool.

(15) Any existing or proposed well-completion located on lands within the new Pool should be transferred from the existing Pool to the new Purple Sage-Wolfcamp Gas Pool by way of the operator submitting to the Artesia district office of (amended) Division form C-102 containing the new pool name, with each well optionally retaining its existing spacing on which it was proposed and/or drilled.

(16) Division Rule 19.15.15.10 B. NMAC provides for 320-acre spacing units for the Wolfcamp or deeper formations and will apply to this new gas pool. Division Rule 19.15.16.15 D. NMAC exempts horizontal wells from well-density limitations imposed by other statewide rules or special pool rules.

(17) Reducing setbacks from 660 feet to 330 feet will more likely match the effective half length of the hydraulic fractures and will not harm offsetting spacing units nor impair correlative rights. Operators are routinely applying to the Division to place wells within 330 feet of the boundary of the project area or spacing unit and objections to those unorthodox locations have been rare. Allowing 330-foot locations will allow better flexibility in the placement of wells in a spacing unit.

(18) The Division issued Order No. R-14185 in Case No. 15430 on June 24, 2016 approving Special Rules granting 330-foot setbacks for wells drilled and completed in the Wolfcamp formation in Townships 24, 25, and 26 South, Ranges 25, 26, and 27 East, NMPM, Eddy County New Mexico. The subject lands of Case No. 15430 lie within the southwestern portion of the lands in this application. Testimony in that case as to the retrograde gas reservoir behavior within the Wolfcamp formation is consistent with the testimony presented in this application.

(19) The Purple Sage-Wolfcamp Gas Pool should have Special Rules allowing well locations no closer than 330 feet to the outer boundary of a spacing unit or project area and no closer than 10 feet to any quarter-quarter section line.

(20) The Purple Sage-Wolfcamp Gas Pool should be allowed to laterally expand but any proposed expansion must be presented by the operator proposing the well-completion at hearing on the next available examiner hearing docket and evidence shall be presented to justify such expansion including evidence of the existence of a gas reservoir within the expanded lands.

(21) This application should be approved to prevent waste and to protect correlative rights.

**IT IS THEREFORE ORDERED THAT:**

(1) Pursuant to the application of Matador Production Company and Mewbourne Oil Company, a new pool in Eddy County, New Mexico, classified as a gas pool for Wolfcamp production, is hereby created and designated the **Purple Sage-Wolfcamp Gas Pool** (Pool Code 98220).

(2) The horizontal limits shall comprise the following described area:

Township 22 South, Ranges 25 through 28 East, NMPM  
Township 23 South, Ranges 25 through 29 East, NMPM  
Township 24 South, Ranges 25 through 31 East, NMPM  
Township 25 South, Ranges 25 through 31 East, NMPM  
Township 26 South, Ranges 25 through 31 East, NMPM

(3) The vertical limits of the Pool shall comprise the Wolfcamp formation and be defined as the correlative interval from 9204 feet to 11090 feet as shown on the electric logs for the OXY Benelli Well No. 1 (API No. 30-015-34881) located 990 feet from the North line and 660 feet from the West line (Unit D) of Section 8, Township 25 South, Range 28 East, NMPM.

**SPECIAL RULES FOR THE  
PURPLE SAGE-WOLFCAMP GAS POOL**

**RULE 1:** Each well completed or recompleted in the Purple Sage-Wolfcamp Gas Pool (Pool Code 98220), or within one mile thereof and not nearer to or within the limits of another pool in the Wolfcamp formation, shall be drilled, spaced, operated, and produced in accordance with the Special Rules hereinafter set forth.

**RULE 2:** The completed intervals of horizontal wells, and the surface locations of vertical wells, are to be located no closer than 330 feet to the exterior boundary of the applicable spacing unit or project area, with 10-foot setbacks for the surface location and bottomhole location from any quarter-quarter section line.

**RULE 3:** Exceptions to these Special Rules shall be granted as allowed in Division rules.

**RULE 4:** All other provisions not specifically addressed herein shall conform to Division rules.

**IT IS FURTHER ORDERED THAT:**

(4) Wells in the Purple Sage-Wolfcamp Gas Pool shall be drilled and operated to prevent waste and consistent with the latest technology on the efficient management of retrograde gas condensate reservoirs.

(5) No other pool within these lands shall be named and used for production of oil or gas from the Wolfcamp formation or the vertical extent, as it is defined herein.

(6) The Pool shall be allowed to laterally expand, but any proposed expansion must be presented by the operator proposing the well-completion at hearing on the next available examiner hearing docket and evidence for expansion shall be presented to justify such expansion including evidence of the existence of a gas reservoir within the expanded lands.

(7) All existing or permitted wells within the vertical and horizontal extent of the Pool, which have well spacing of less than or more than 320 acres may retain their current spacing. However, the operator and/or interest owners in wells having less than 320 dedicated acres may increase spacing to the standard 320-acre gas spacing unit in the Pool by filing an application to increase spacing as provided by Division rules. Notice of any such application shall be given to each owner of an interest in the existing spacing unit and in the increased spacing unit whose interest would be affected by the increase. The requested increase may be granted administratively, without hearing, if all affected owners execute waivers of objection, or if all affected owners are duly noticed and no such owner files a protest within 20 days after the Division receives the application.

(8) Operators of all existing or permitted wells within the vertical and horizontal extent of the Pool, shall submit form C-102 (marked as amended) to the Artesia district office of the Division changing the dedication of the existing or proposed well completion to the new Pool **no later than March 1, 2017.**

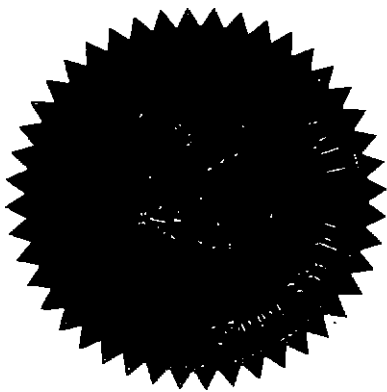
(9) Exhibit A attached to this Order contains a list of the affected pools. These pools are hereby abolished if wholly contained within the Purple Sage-Wolfcamp Gas Pool. If any lands within these pools are partially contained within the Purple Sage-Wolfcamp Gas Pool, then those lands are hereby contracted out of said pool. If it becomes evident that the list of affected pools is incomplete or incorrect, then the Division shall be notified and the pools within the corrected list shall hereby be abolished or contracted.

(10) The effective date of this order including the date of the pool creation and the date to abolish the affected pools shall be February 1, 2017.

(11) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.



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



SEAL

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*David R. Catanach*

DAVID R. CATANACH  
Director

**Exhibit A, Case No. 15535 Order No. R-**

<b>Num</b>	<b>PoolNo</b>	<b>Pool Name</b>
1	72122	BIG SINKS;WOLFCAMP (GAS)
2	72123	BIG SINKS;WOLFCAMP, SOUTH (GAS)
3	97442	BLACK RIVER; WOLFCAMP, EAST (G)
4	6320	Black River; Wolfcamp, North (Oil)
5	97693	Black River; WOLFCAMP, SW (G)
6	72240	BLACK RIVER;WOLFCAMP (GAS)
7	97136	BRUSHY DRAW; WOLFCAMP (O)
8	72897	BRUSHY DRAW;WOLFCAMP (GAS)
9	74160	CARLSBAD;WOLFCAMP, EAST (GAS)
10	74200	CARLSBAD;WOLFCAMP, SOUTH (GAS)
11	96171	CARLSBAD;WOLFCAMP, SOUTHEAST (GAS)
12	97022	CASS DRAW; WOLFCAMP, NORTH (O)
13	74270	CASS DRAW;WOLFCAMP (GAS)
14	74440	Catclaw Draw;Wolfcamp Gas
15	75240	CorrAL DRAW; Wolfcamp GAS
16	96846	CORRAL DRAW;WOLFCAMP; NORTH (GAS)
17	75460	CROOKED CREEK;WOLFCAMP (GAS)
18	98200	Crooked CREEK;WOLFCAMP, East (GAS)
19	75750	CULEBRA BLUFF;WOLFCAMP, SOUTH (GAS)
20	91162	EDDY UNDESIGNATED;WOLFCAMP (GAS)
21	76780	FOREHAND RANCH;WOLFCAMP (GAS)
22	96409	FOREHAND RANCH;WOLFCAMP, SOUTHWEST
23	96606	HAPPY VALLEY; WOLFCAMP (O)
24	96607	HAY HOLLOW; WOLFCAMP GAS
25	97625	HAY HOLLOW; WOLFCAMP, WEST (G)
26	97050	LAGUNA GRANDE; WOLFCAMP (GAS)
27	97950	Milepost; Wolfcamp Gas
28	97882	Milepost; Wolfcamp, NE Gas
29	97045	OWEN MESA; WOLFCAMP GAS
30	82520	Paduca; Wolfcamp Gas
31	82540	PADUCA;WOLFCAMP, SOUTH (GAS)
32	82840	PHANTOM DRAW;WOLFCAMP (GAS)
33	50373	PIERCE CROSSING;WOLFCAMP
34	96402	PIERCE CROSSING;WOLFCAMP, NORTH (GA
35	96712	PIERCE CROSSING;WOLFCAMP,NW (GAS)
36	97157	REMUDA; WOLFCAMP (G)
37	52120	Remuda; Wolfcamp (Oil)

38	97078	ROSS DRAW; WOLFCAMP, SW (G)
39	84330	ROSS DRAW;WOLFCAMP (GAS)
40	84337	Ross Ranch; Wolfcamp, North Gas
41	84335	ROSS RANCH;WOLFCAMP (GAS)
42	96890	SAGE DRAW; WOLFCAMP, EAST (G)
43	84407	SAGE DRAW;WOLFCAMP (GAS)
44	85780	SULPHATE DRAW;WOLFCAMP (GAS)
45	96333	SULPHATE DRAW;WOLFCAMP, NW (GAS)
46	98017	Welch; Wolfcamp Gas
47	87285	WHITE CITY;WOLFCAMP (GAS)
48	97592	WHITE CITY;WOLFCAMP, SOUTH (GAS)
49	97766	WHITE CITY;WOLFCAMP, SW (GAS)
		<b>Wildcat Pools</b>
1	97601	WC LOCO HILLS; WOLFCAMP, NE
2	97618	WC MCGRUDER; WOLFCAMP GAS
3	97517	WC; BLACK RIVER; WOLFCAMP
4	97669	WC; LAGUNA CREEK; WOLFCAMP (G)
5	97668	WC; WOLFCAMP (OIL)
6	97693	WC;BLACK RIVER;WOLFCAMP,SW(G)
7	97719	WC;CP HILL;WOLFCAMP (G)
8	97721	WC;SALT DRAW;WOLFCAMP, (G)
9	98004	WC-015 G-03 S262716O;WOLFCAMP
10	98190	WC-015 G-04 S262931H;UPR WOLFCAMP
11	98127	WC-015 G-05 S232516A;WOLFCAMP
12	98159	WC-015 G-05 S262524A;WOLFCAMP
13	98115	WC-015 G-06 S232607A;WOLFCAMP
14	98125	WC-015 G-06 S232704H;UPPER WOLFCAMP
15	98217	WC-015 G-06 S242710P;UPR WOLFCAMP
16	98189	WC-015 G-06 S242713N;UPR WOLFCAMP
17	98145	WC-015 G-06 S252935B;UPPER WOLFCAMP
18	98195	WC-015 G-06 S262805O;UPR WOLFCAMP
19	98113	WC-015 G-07 S232932A;UPPER WOLFCAMP
20	98164	WC-015 G-07 S242712P;UPR WOLFCAMP
21	98214	WC-015 G-07 S242903I;UPPER WOLFCAMP
22	98126	WC-015 G-07 S252906P;UPPER WOLFCAMP
23	98138	WC-015 G-07 S252923A;UPR WOLFCAMP
24	98183	WC-015 G-07 S252928O;WOLFCAMP
25	98099	WC-015 G-07 S252935N;WOLFCAMP

26	97954	WC-015 G-07 S262814C;WOLFCAMP
27	98106	WC-015 G-07 S262925D;UPPER WOLFCAMP
28	98202	WC-015 G-08 S243118A;WOLFCAMP
29	98122	WC-015 G-08 S253003O;WOLFCAMP
30	98167	WC-015 G-08 S253132H;UPR WOLFCAMP
31	98012	WC-015 G-08 S263125P;WOLFCAMP
32	98213	WC-015 S222833P;WOLFCAMP (GAS)
33	98153	WC-015 S222931C;WOLFCAMP (GAS)
34	98170	WC-015 S232606O;WOLFCAMP (GAS)
35	98204	WC-015 S232627B;WOLFCAMP (GAS)
36	97949	WC-015 S252815D;WOLFCAMP (GAS)
37	97950	WC-015 S262529E;WOLFCAMP (GAS)
38	98140	WC-015 S262714M;WOLFCAMP (GAS)
39	98017	WC-015 S262728A;WOLFCAMP (GAS)
40	96433	WILDCAT BIG SINK; WOLFCAMP
41	97759	WILDCAT S222710M;WOLFCAMP
42	97882	WILDCAT S262616A;WOLFCAMP (GAS)
43	97489	WILDCAT;WOLFCAMP GAS
44	96794	WILDCAT;WOLFCAMP OIL