

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

APPLICATIONS OF LEGACY RESERVES
OPERATING LP FOR A HORIZONTAL SPACING
UNIT AND COMPULSORY POOLING, LEA
COUNTY, NEW MEXICO

Case No. 22226 – 22229

AFFIDAVIT OF JOHN STEWART

John Stewart, being first duly sworn upon oath, deposes and states as follows:

1. My name is John Stewart, and I am employed by Legacy Reserves Operating LP (“Legacy”) as a Senior Geologist.

2. I have not previously testified before the New Mexico Oil Conservation Division (“Division”). I have fifteen plus years of experience in petroleum geological matters, and I am familiar with the subject applications and the geology involved. I ask that the Division accept my credentials as those of an expert witness in petroleum geological matters and made a matter of record.

a. I have a Bachelor of Science Degree in Geology from The University of Texas of the Permian Basin and a Master of Science Degree in Geology from The University of Texas of the Permian Basin.

a. I have worked in matters of petroleum geology since 2006, which includes experience in the Permian Basin.

3. I am submitting this affidavit in support of Legacy’s applications in the above-referenced cases pursuant to 19.15.4.12.(A)(1) NMAC.

4. **Legacy Exhibit D-1** is a base map of the lands showing the proposed Bone Spring formation spacing units and wells.

5. **Legacy Exhibit D-2** is a structure map showing the depth (subsea) to the top of the 2nd Bone Spring formation, a marker that defines the top of the target interval for the proposed well(s). Contour interval of 25'. The units being pooled are outlined in bold, and the proposed wells are identified. The structure map shows regional down-dip to the southeast. I do not observe any faulting, pinchouts, or other geologic impediments to developing this target interval.

6. **Legacy Exhibit D-2** is a stratigraphic cross-section flattened on the top of the 2nd Bone Spring formation. Each well in the cross-section contains a gamma ray, resistivity, and porosity log. The cross-section demonstrates continuity and consistent thickness across the target zone, and the well logs on the cross-section give a representative sample of the 2nd Bone Spring Sand. The landing zone is highlighted on the exhibit.

7. Based on the attached exhibits, I hereby conclude as follows:

a. The target formation is present and continuous throughout the lands subject to the applications.

b. The horizontal spacing and proration unit is justified from a geologic standpoint.

c. There are no structural impediments or faulting that will interfere with horizontal development.

d. Each quarter-quarter section in the unit will contribute more or less equally to production, and I can confirm each quarter section along the lateral will also contribute more or less equally to production.

e. The preferred well orientation in this area is North-South so that the wells run sub-perpendicular to the inferred orientation of the maximum horizontal stress.

8. **Exhibit D-1** through **Exhibit E-3** were either prepared by me or compiled from Legacy's company business records under my direct supervision.


9. The granting of these applications is in the best interest of conservation, the prevention of waste, and the protection of correlative rights, and will avoid the drilling of unnecessary wells.

10. I hereby swear that to the best of my knowledge and belief, all of the matters set forth herein and in the exhibits are true, correct, and accurate.

[Remainder of page left intentionally blank]

FURTHER AFFIANT SAYETH NOT.

Dated this 14 day of April, 202~~1~~²0 (18)



 John Stewart
 Legacy Reserves Operating LP

STATE OF COLORADO)
) ss.
 CITY AND COUNTY OF DENVER)

The foregoing instrument was subscribed and sworn to before me this 14 day of April, 202~~1~~²0, by John Stewart, Senior Geologist for Legacy Reserves Operating LP.

Witness my hand and official seal.

My commission expires: 10/08/2022





 Tina Michelle Bautista