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

APPLICATION OF EOG RESOURCES, INC. FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, LEA COUNTY, NEW MEXICO.

**CASE NO. 20829** 

## **AFFIDAVIT**

STATE OF TEXAS	)
	) ss.
COUNTY OF MIDLAND	)

Patrick Geesaman, being duly sworn, deposes and states:

- 1. I am over the age of 18, I am a Geologist for EOG Resources Inc., and have personal knowledge of the matters stated herein. I have been qualified by the Oil Conservation Division ("Division") as an expert petroleum geologist.
- 2. **Exhibit 1** is a geology study I prepared for the Fearless 26 Fed Com #503H (upper target) and the Fearless 26 Fed Com #504H (lower target) wells to test the 2<sup>nd</sup> Bone Spring Sand.
- 4. **Exhibit 2** a structure map of the 3<sup>rd</sup> Bone Spring Carbonate (base 2<sup>nd</sup> Bone Spring Sand). The contour interval used in this exhibit is 20 feet. This exhibit shows that the formation dips to the southeast.
- 5. **Exhibit 3** identifies 3 vertical wells in the vicinity of the proposed 2<sup>nd</sup> Bone Spring Sand wells, shown by a line of cross-section running from A to A'.
- 6. **Exhibit 4** a stratigraphic cross section hung on the top of the 3<sup>rd</sup> Bone Spring Carbonate (base 2<sup>nd</sup> Bone Spring Sand). The well logs on the cross-section give a representative sample of the 2<sup>nd</sup> Bone Spring Sand in the area. The target zone is identified by the words "Producing Zone" and the shaded area across the cross section, along with red arrows.

7. **Exhibit 5** a Gross Interval Isochore of the 2<sup>nd</sup> Bone Spring Sand. The isochore map shows approximate thickness of the 2<sup>nd</sup> Sand to be 420 feet in the vicinity of the Fearless 26 Fed Com #503H and #504H.

I conclude from the maps that:

- a. The horizontal spacing units are justified from a geologic standpoint.
- b. There are no structural impediments or faulting that will interfere with horizontal development.
- c. Each quarter section encountered by each of the wells in the proposed unit will contribute more or less equally to production,
- 8. In my opinion, the granting of EOG's application is in the interests of conservation and the prevention of waste.

PATRICK GEESAMAN

SUBSCRIBED AND SWORN to before me this 13<sup>th</sup> day of November, 2019 by PATRICK GEESAMAN on behalf of EOG Resources Inc.

My Commission Expires:

ELIZABETH CASTILLO
Notary ID #131576935
My Commission Expires
May 21, 2022

-2-

Exhibit 2- Top of 3<sup>rd</sup> Bone Spring Carbonate (base 2<sup>nd</sup> Bone Spring Sand) TVD Subsea Structure Map

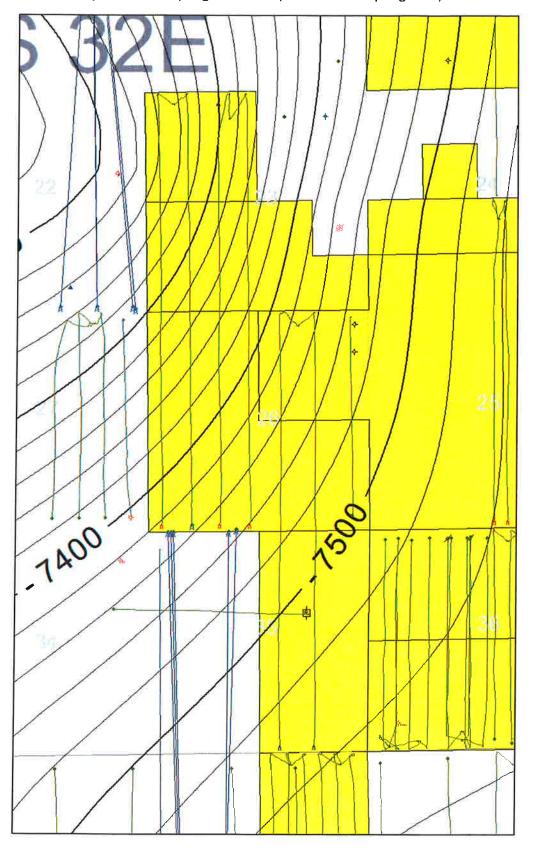


Exhibit 3- Map of vertical wells used in stratigraphic cross section

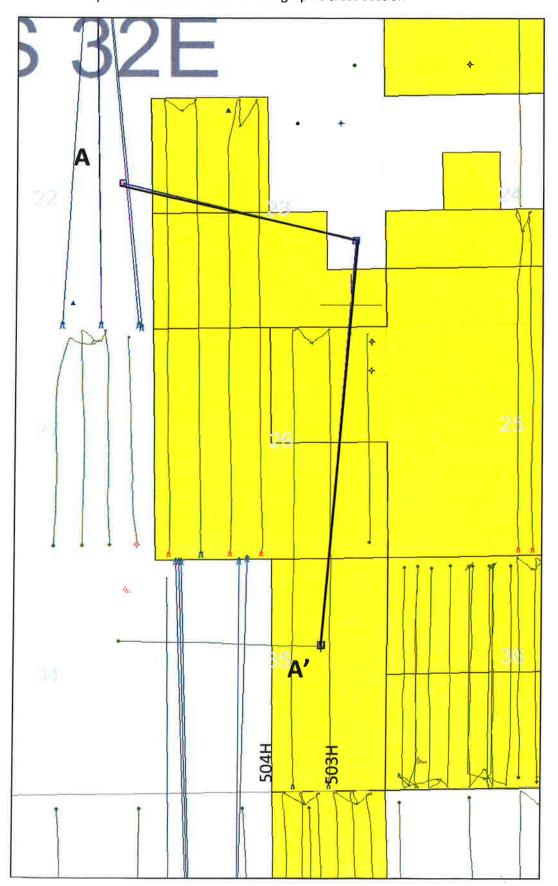


Exhibit 4- Stratigraphic cross section hung on top of 3<sup>rd</sup> Bone Spring Carb (Base 2<sup>nd</sup> Bone Spring Sand)

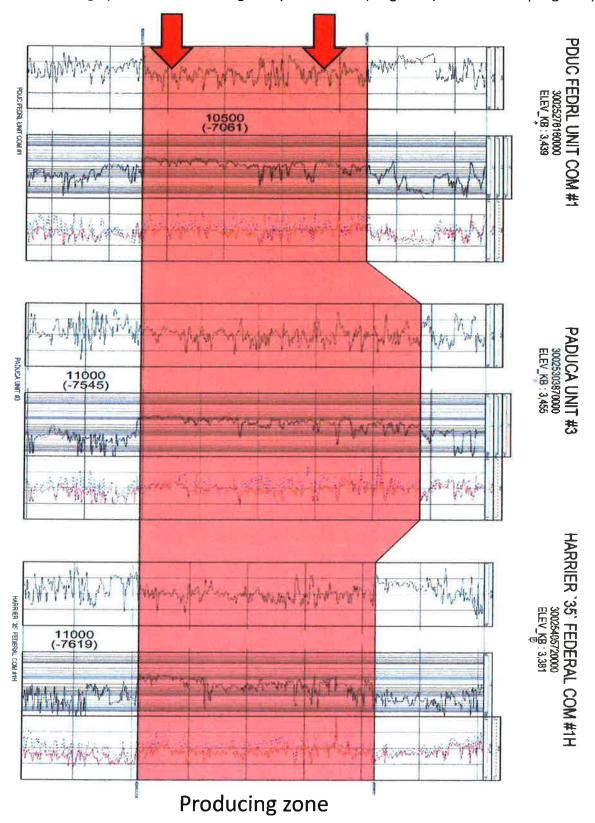


Exhibit 5- Isochore of 2<sup>nd</sup> Bone Spring Sand

