

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

**AMENDED APPLICATION OF NOVO OIL & GAS  
NORTHERN DELAWARE, LLC  
FOR COMPULSORY POOLING,  
EDDY COUNTY, NEW MEXICO.**

**CASE NO. 16283**

**AFFIDAVIT OF KURT SHIPLEY**

Kurt Shipley, of lawful age and being first duly sworn, declares as follows:

1. My name is Kurt Shipley. I am the Vice President of Operations for Novo Oil & Gas Northern Delaware, LLC ("Novo"). My responsibilities at Novo include drilling, completion, facilities and pipeline operations and petroleum engineering duties.

2. I received a Bachelor of Science degree in Mechanical Engineering from Texas Tech University. I have worked as a petroleum engineer since 1991. Prior to working for Novo, I worked for Burlington Resources, Chesapeake Energy, LINN Energy and American Energy Partners in New Mexico, Texas and Oklahoma.

3. I am familiar with the application filed by Novo in this case. I am also familiar with the application filed by Novo in Case No. 16282. Both this case and Case No. 16282 pertaining to offsetting lands were initially heard July 12, 2018, and on August 9, 2018 to supplement the record. I am also familiar with Novo's Case No. 16284. I have conducted a study of the Bone Spring formation underlying the subject acreage.

4. In this case Novo is targeting the 3rd Bone Spring Sand interval with its proposed **Rana Salada Fed Com 0504 133H well**. The 3rd Bone Spring Sand interval is also the target in Novo's related Case No. 16282.

5. The stimulation design for the **Rana Salada Fed Com 0504 133H** is a slickwater and sand fracture stimulation. The design is intended to control height and maximize fracture half-length.

6. Novo's completion team expects the **Rana Salada Fed Com 0504 133H** to stay contained and produce primarily from the 3rd Bone Spring Sand interval due to the following reasons:

Depth Severance justification between depth severance of 8773' subsurface and producing 3rd Bone Spring interval:

(a) The gross height between the depth severance of 8773' subsurface and the producing 3rd Bone Spring Sand interval is approximately 788 ft and the conductive frac height is not expected to exceed approximately 100 ft.

(b) Stimulation models suggest that the limestone barrier which exists between 8773' subsurface and the producing 3rd Bone Spring Sand interval will act as a barrier and isolate these intervals; and

(c) Novo is not aware of any lasting communication effects between these zones in the immediate area.

(d) **Exhibit 31** to this Affidavit is a Type Log for the Carthel Federal 2, API 30015233890000 located in the SW/4NE/4 and W/2SE/4 of Section 5 and W/2E/2 of Section 8,

Township 23 South, Range 29 East, Eddy County, New Mexico. The vertical separation between the Base of the 2<sup>nd</sup> Bone Spring and the Top of the 3<sup>rd</sup> Bone Spring is 849 ft and the vertical separation between the Target Line and the Depth Severance is 977 ft. There are 336 ft of frac barriers in the Upper 3<sup>rd</sup> Bone Spring Lime and multiple frac barriers in the Lower 3<sup>rd</sup> Bone Spring.

(e) **Exhibit 32** to this Affidavit is a Comparison of Vertical Separation of 2<sup>nd</sup> and 3<sup>rd</sup> Bone Spring formations and a map of the wellbore and demonstrates the vertical separation between the 2<sup>nd</sup> and 3<sup>rd</sup> Bone Spring formations. There is 788 ft of vertical separation between the Depth Severance at 8773 ft and the Top of the 3<sup>rd</sup> Bone Spring at 9561 ft. There is 849 ft between the Base of the 2<sup>nd</sup> Bone Spring at 8712 ft and the Top of the 3<sup>rd</sup> Bone Spring at 9561 ft.

(f) The planned landing point for the proposed well is at 9,750 ft.

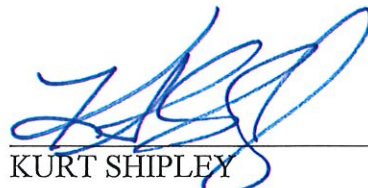
7. In light of the foregoing, I conclude that the Bone Spring formation existing above the depth severance of 8773' subsurface and the producing 3rd Bone Spring Sand interval will be isolated from each other in the proposed horizontal spacing unit and are not within hydraulic fracture communication.

8. In my opinion, the granting of Novo's application will be in the best interest of conservation, the prevention of waste, and protection of correlative rights.

9. The Exhibits to this Affidavit were prepared by me or compiled from Novo's company business records.

10. The foregoing is correct and complete to the best of my knowledge and belief.

FURTHER AFFIANT SAYETH NOT.

  
KURT SHIPLEY

STATE OF OKLAHOMA )

COUNTY OF OKLAHOMA )

SUBSCRIBED and SWORN to before me this 19<sup>th</sup> day of February 2019 by  
Kurt Shipley.

  
NOTARY PUBLIC

My Commission Expires:

11/15/20



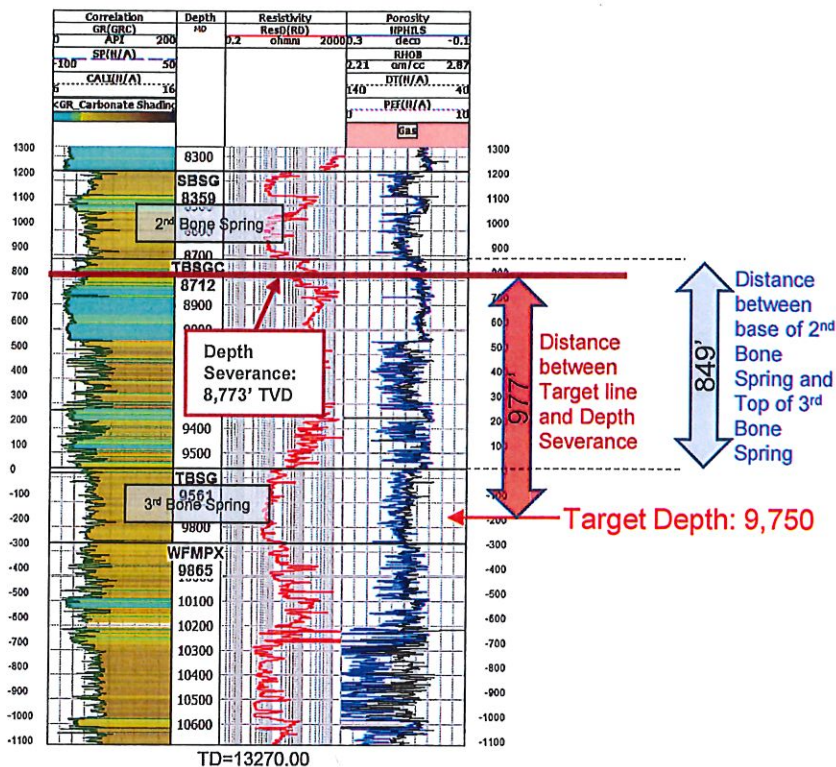
# Rana Salada Development Block Type Log Frac Barriers and Target Interval



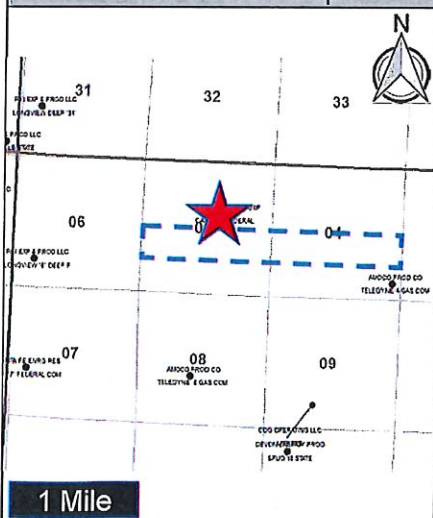
## Rana Salada Type Log

30015233890000

CIBOLA ENERGY CORP  
CARTEL FEDERAL 2  
2030 FNL 2080 FEL  
TWP: 23 S - Range: 29 E - Sec. 5



## Cross Section Map



## Cross Section Legend

- Spacing Unit (320 ac.)
- Type Log location
- Target { Well Target
- Bounding Strata Thickness
- Correlation Top
- Formation Name
- MD Depth
- Anticipated Frac Barrier

Novo Oil & Gas Northern  
Delaware, LLC

Docket Number:

Case Number: 16283

Date: 02/21/2019

Exhibit Number:



**Comparison of Vertical Separation of 2<sup>nd</sup> and 3<sup>rd</sup> Bone Spring  
T-23-S, R-29-E, Eddy County, New Mexico**

