

**BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING JANUARY 10, 2019**

CASE No. 20185

GOONCH 214H

EDDY COUNTY, NEW MEXICO



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

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

CASE NO. 20185

AFFIDAVIT OF BRANDON PATRICK IN SUPPORT OF
CASE NO. 20185

Brandon Patrick, of lawful age and being first duly sworn, declares as follows:

1. My name is Brandon Patrick. I work for Novo Oil and Gas Northern Delaware, LLC (“Novo”) as a Landman.
2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum land matters. My credentials as a petroleum landman have been accepted by the Division and made a matter of record.
3. I am familiar with the two applications filed by Novo in these consolidated cases, and I am familiar with the status of the lands in the subject areas.
4. None of the parties proposed to be pooled in these cases has indicated opposition, therefore I do not expect any opposition at the hearing.
5. In Case No. 20185, Novo (OGRID No. 372920) seeks an order pooling all uncommitted interests in the Wolfcamp formation (Purple Sage Wolfcamp Gas Pool (98220)) in the 640-acre, more or less, horizontal spacing unit comprised of the E/2 of Section 4 and the E/2 of Section 9, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. Novo proposes to dedicate the above-referenced spacing unit to its **Goonch Fed Com 0409 No. 214H Well**, which will be horizontally drilled from a surface location in the SE/4 SE/4 (Unit P) of

Section 33, Township 22 South, Range 28 East, to a standard bottom hole location in in the SE/4 SE/4 (Unit P) of Section 9, Township 23 South, Range 28 East.

6. **Novo Exhibit No. 1-A** contains a draft Form C-102 for the proposed well in the spacing unit.

7. In Case No. 20185, the completed interval for the proposed **Goonch Fed Com 0409 No. 214H Well** will remain within the standard offsets required by the Special Rules pursuant to Order R-14262 for this pool. Novo seeks 320-acre building blocks for this horizontal spacing unit.

8. **Novo Exhibit No. 1-B** identifies the tracts of land comprising the proposed spacing unit. This exhibit further identifies the interest ownership by tract in the spacing unit. Novo seeks to pool all working interest owners and overriding royalty interest owners on this exhibit.

9. There are no ownership depth severances underlying the subject acreage.

10. All working interest owners that Novo seeks to pool are locatable. Novo has conducted a diligent search of all public records in Eddy County, including online databases and other resources.

11. **Novo Exhibit No. 1-C** contains a sample of the well proposal letter along with an AFE for the subject well that was provided to the parties Novo seeks to pool. In addition to this letter, Novo has made a diligent effort to reach agreement with the working interest owners it is seeking to pool.

12. The costs reflected on each of the AFE's are consistent with what other operators have incurred for drilling similar horizontal wells in the area in each of these formations.

13. Novo estimates the overhead and administrative costs for drilling each well and while producing are \$8,000 per month while drilling and \$800 per month while producing. These costs are consistent with what other operators are charging in this area for similar wells.

14. In my opinion, Novo has made good faith efforts to reach agreement with the parties it is seeking to pool. Novo is currently negotiating a joint operating agreement with OXY and is continuing to work with other working interest owners to execute a joint operating agreement.

15. If Novo reaches an agreement with any of the proposed pool parties before the Division enters an order, I will let the Division know that Novo is no longer seeking to pool those parties.

16. I provided the law firm of Holland & Hart LLP a list of names and addresses for the owners that Novo seeks to pool and instructed that they be notified of this hearing.

17. Novo Exhibit Nos. 1A-1C were either prepared by me or compiled under my direction and supervision.

Brandon Patrick

Brandon Patrick

STATE OF OKLAHOMA)

COUNTY OF OKLAHOMA)

SUBSCRIBED and SWORN to before me this 9th day of January 2019 by
Brandon Patrick.

Kiley Mixon
NOTARY PUBLIC

My Commission Expires:

11/15/20



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

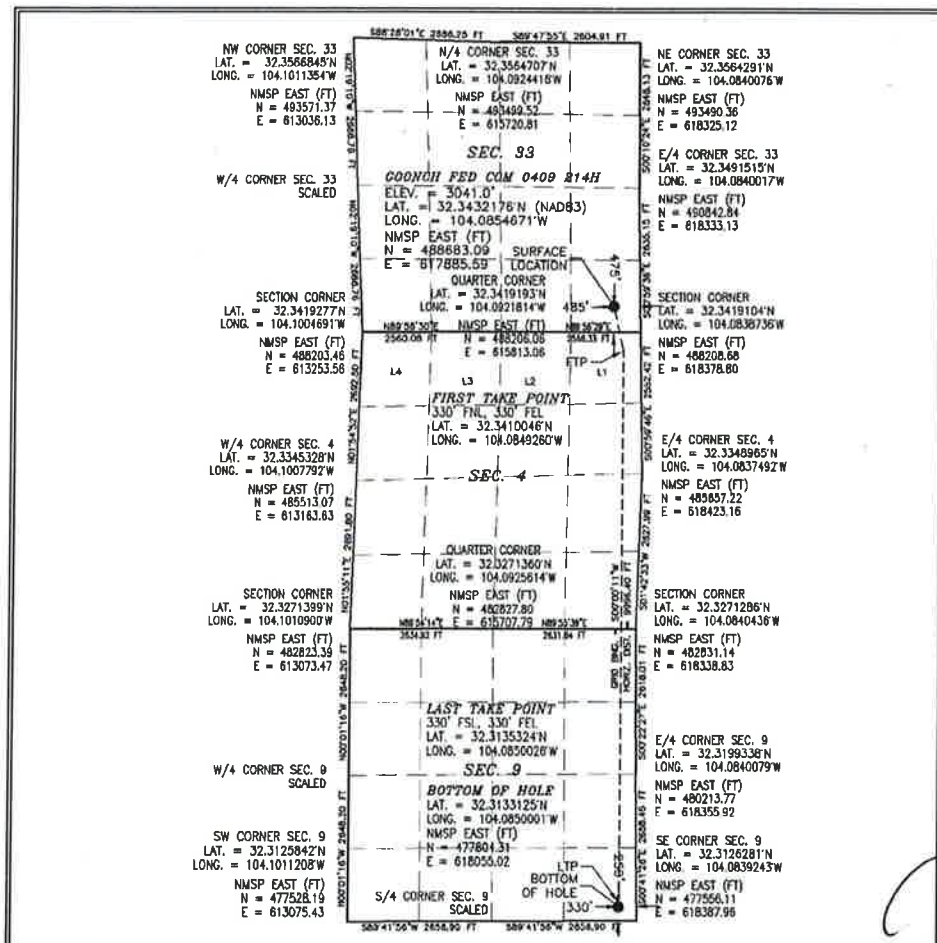
¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name GOONCH FED COM 0409	⁶ Well Number 214H
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL AND GAS NORTHERN DELAWARE, LLC	⁹ Elevation 3041.0

¹⁰ Surface Location									
UL or lot no. P	Section 33	Township 22 S	Range 28 E	Lot Idn	Feet from the 475	North/South line SOUTH	Feet from the 485	East/West line EAST	County EDDY

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. P	Section 9	Township 23 S	Range 28 E	Lot Idn	Feet from the 250	North/South line SOUTH	Feet from the 330	East/ West line EAST	County EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

E-mail Address _____

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

DECEMBER 27, 2018
Date of Survey

Signature of Licensed Professional Surveyor
Certificate Number FRIEDMAN, JARAMILLO, PLS 12797

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1A
Submitted by: COG OPERATING, LLC
Hearing Date: January 10, 2019
Case Nos. 20070-20073

Intent ☐ As Drilled ☐

API #

Operator Name: NOVO OIL & GAS NORTHERN DELAWARE, LLC	Property Name: GOONCH FED COM 0409	Well Number 214H
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Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude			NAD	

First Take Point (FTP)

UL A	Section 4	Township 23S	Range 28E	Lot 1	Feet 330	From N/S NORTH	Feet 330	From E/W EAST	County EDDY
Latitude 32.3410046					Longitude 104.0849260			NAD 83	

Last Take Point (LTP)

UL P	Section 9	Township 23S	Range 28E	Lot	Feet 330	From N/S SOUTH	Feet 330	From E/W EAST	County EDDY
Latitude 32.3135324					Longitude 104.0850026			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☐

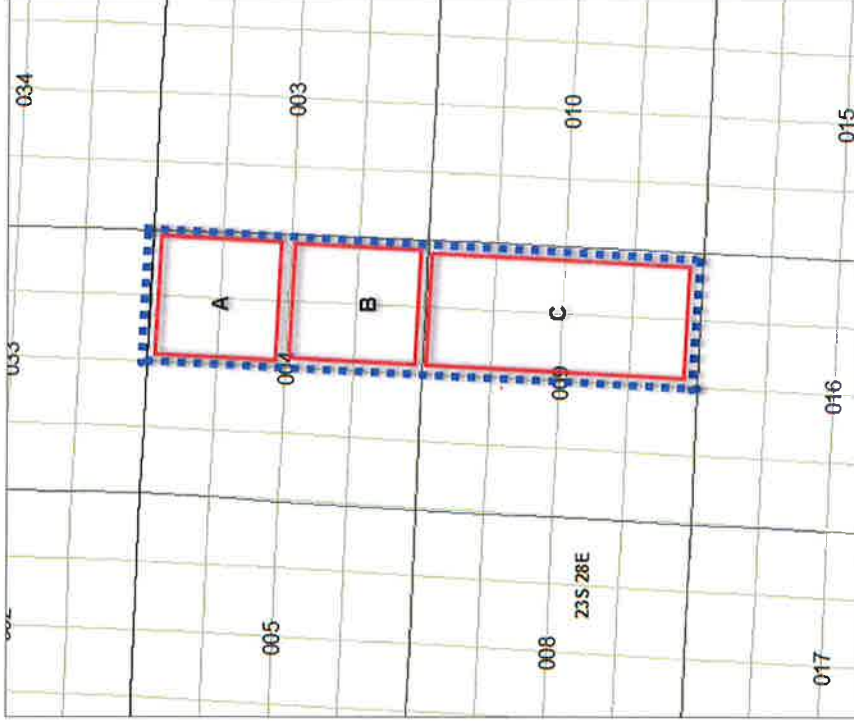
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number
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KZ 06/29/2018

Ownership Plat 640.45 (Working Interest)



WI and Parties Subject to Pooling				
Tracts	Legal	Acres	WI Owner	WI
A FED	Section 4 Lots 1 and 2, S2NE4	160.45	Concise Oil and Gas Partnership	7.578817%
			Chevron Midcontinent, LP	7.578817%
			Devon Energy Production Co., LP	6.763477%
			Novo Minerals, LP	2.129604%
B FEE	Section 4 SE4	160	Novo Oil & Gas Northern Delaware	0.500992%
			Norman L. Stevens, III, Trustee of the	
			Norman Stevens Jr. Irrev Trust UTA dtd 9/14/1995	0.500992%
			Novo Oil & Gas Northern Delaware	20.486021%
C FED	Section 9 E2	320	Yosemite Creek Oil & Gas, LLC	2.798602%
			Bad Water, LLC	0.312280%
			Tundra AD3, LP	0.078070%
			Roy G. Barton, Jr. & Claudia R. Barton as JTWROS	0.312280%
			Russell T. Rudy Energy, LLC	0.195175%
			Sonja Lopez	0.097589%
			Ruth D. Roberts	0.146864%
			Novo Minerals, LP	0.624561%
			OXY USA Inc.	49.964868%
				100%

Spacing Unit:

- Wolfcamp Formation
- "Purple Sage" Pool (Code 98220)
- 640.45 gross acres

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

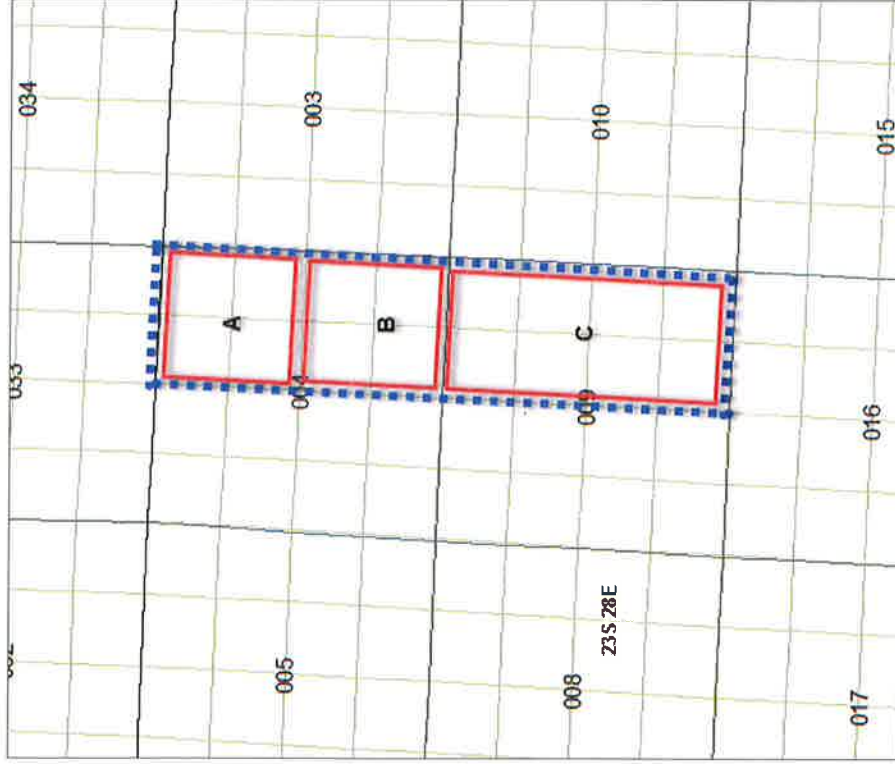
Exhibit No. 1B

Submitted by: **COG OPERATING, LLC**

Hearing Date: January 10, 2019

Case Nos. 20070-20073

Ownership Plat 640.45 (ORRI)



ORRI				
Tracts	Legal	Acres	WI Owner	WI
A FED	Section 4 Lots 1 and 2, S2NE4	160.45	A Lansdale	4.00%
			Robert B. Gates and wife, Nada S. Gates	5.00%
			CBR Oil Properties, LLC	0.009999%
B FEE	Section 4 SE4	160	Zunis Energy, LLC	1.917832%
			Dick Jackson	1.214840%
			STR Corp.	0.412500%
			JSA Investments, LLC	0.162246%
			Enerstar Resources O&G LLC	0.102148%
C FED	Section 9 E2	320	Discovy Exploration	0.102148%
			J. Cleo Thompson & James Cleo Thompson, Jr., LP	0.056012%
			Cecilia Haynes et vir J.F.	1.50%
			Barbara Diane Heinsch	0.50%
			Leslie Marshall Heinsch	0.50%
			Casey Corrine Heinsch	0.25%
			Logan Reese Heinsch	0.25%

Spacing Unit:

- Wolfcamp Formation
- "Purple Sage" Pool (Code 98220)
- 640.45 gross acres





Larry D. Patrick
Vice President - Land
Novo Oil & Gas Northern Delaware, LLC
1001 West Wilshire Blvd., Suite 208
Oklahoma City, Oklahoma 73102
Office: 405-286-3405
lpatrick@novoog.com

September 17, 2018

Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, TX 77056

Re: Proposed Wells:
Goonch Fed Com 04 211H
Goonch Fed Com 0409 214H
Eddy County, NM

Ladies and Gentlemen:

Novo Oil & Gas Northern Delaware, LLC ("Novo") as Operator hereby proposes to drill two (2) horizontal Wolfcamp XY wells within Sections 4 & 9, Township 23 South, Range 28 East, Eddy County, NM, as set forth below.

Proposed Well - Goonch Fed Com 04 211H

SHL: SW/4SW/4 of Section 4, Township 23 South, Range 28 East.

First take point: 330' FSL & 330' FWL of Section 4, Township 23 South, Range 28 East.

Last take point: 330' FNL & 330' FWL of Section 4, Township 23 South, Range 28 East.

BHL: NW/4NW/4 of Section 4, Township 23 South, Range 28 East.

The W/2 of Section 4 will be dedicated to the well as its 320-acre project area. The well will be drilled to an approximate true vertical depth of 9,430 feet subsurface to evaluate the Wolfcamp formation. The proposed well will have a measured depth of approximately 14,950 feet.

Proposed Well - Goonch Fed Com 0409 214H

SHL: NE/4NE/4 of Section 4, Township 23 South, Range 28 East.

First take point: 330' FNL & 330' FEL of Section 4, Township 23 South, Range 28 East.

Last take point: 330' FSL & 330' FEL of Section 9, Township 23 South, Range 28 East.

BHL: SE/4SE/4 of Section 9, Township 23 South, Range 28 East.

The E/2 of Sections 4 & 9 will be dedicated to the well as its 640-acre project area. The well will be drilled to an approximate true vertical depth of 9,520 feet subsurface to evaluate the Wolfcamp formation. The proposed well will have a measured depth of approximately 21,460 feet.

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. 1C

Submitted by: **COG OPERATING, LLC**

Hearing Date: January 10, 2019

Case Nos. 20070-20073

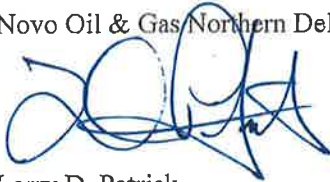
Proposed Wells - Goonch
Sections 4 & 9, Township 23 South, Range 28 East
Eddy County, NM
Page 2

Novo's records reflect that Marathon Oil Permian, LLC (Marathon) owns a 192.305-acre leasehold interest in the S/2 of Section 4 and a 3.209-acre leasehold interest in the NE/4 of Section 4 which would represent a 30.048% working interest in the Goonch Fed Com 04 211H and a 15.525% working interest in the Goonch Fed Com 0409 214H well.

Regarding the above, enclosed for your handling are AFEs for each of the two (2) proposed wells. In the event you elect to participate in the proposed wells, please execute the enclosed AFEs and return to the attention of the undersigned within thirty (30) days from receipt of this letter. Upon receipt of the executed AFEs, Novo will send to you it's proposed Operating Agreement for execution. Should you have any questions regarding the above, please call me at (405) 286-3405 or if by email, lpatrik@novoog.com.

Sincerely,

Novo Oil & Gas Northern Delaware, LLC



Larry D. Patrick
Vice President – Land



NOVO

NOVO OIL & GAS NORTHERN DELAWARE, LLC

AUTHORIZATION FOR EXPENDITURE

1001 West Wilshire, Suite 200
Oklahoma City, Oklahoma 73116
405-280-4391

WELL NAME	Geonch Fed Corn 0409 214H	AFE TYPE	Development	AFE NUMBER	2015027
LATERAL LOCATION	T-23-S, R-28-E, Sec-4/8, Slot-4, Az-N	FIELD	Northern Delaware	DRILLING DAYS	32
SURFACE LOCATION	T-23-S, R-28-E, Sec-4 NE/4	FORMATION	Wolfcamp XY	DEPTH (TVD/TMD)	9,520' / 21,460'
BOTTOM-HOLE LOCATION	T-23-S, R-28-E, Sec-9 SE/4	COUNTY	Eddy County	STATE	New Mexico
PROJECT DESCRIPTION	Drilling, completion, facilities and pipeline costs for 9,900' horizontal well.				
ACCT. CODE	DESCRIPTION OF EXPENDITURE	COST ESTIMATE			
	INTANGIBLE COSTS	DRILLING (300)	COMPLETION (600)		
01	SURVEY/PERMITS/DAMAGES/LEGAL	\$ 50,000		\$	50,000
02	LOCATION & ROAD	200,000			200,000
03	RIG MOVE	200,000			200,000
04	DRILLING - FOOTAGE	50,000			50,000
05	DRILLING - DAYWORK	853,800			853,800
06	COMPLETION/WORKOVER RIG		80,000		80,000
07	COIL TUBING/SNUBBING UNIT		200,000		200,000
08	SLICKLINE/SWABBING				0
09	BITS	100,000	5,000		105,000
10	DIRECTIONAL SERVICES	240,000			240,000
11	CASING CREW	100,000			100,000
12	TOOL & EQUIPMENT RENTAL	50,000	80,000		130,000
13	FUEL & POWER	204,000	20,000		224,000
14	DIESEL - BASE FOR MUD	100,000			100,000
15	MUD LOGGING & GEOLOGIST	24,000			24,000
16	DISPOSAL, RESTORATION & BACKFILL	150,000			150,000
17	TRUCKING	120,000	40,000		160,000
18	TESTING				0
19	CEMENTING	150,000			150,000
20	PERFORATING		358,000		358,000
21	CASED HOLE LOGS				0
22	DOWNHOLE TOOLS & SERVICE		75,000		75,000
23	OTHER STIMULATION		120,000		120,000
24	FORMATION STIMULATION		4,500,000		4,500,000
25	CONSULTING SERVICES		20,000		20,000
26	SUPERVISION	120,000	100,000		220,000
27	CONTRACT LABOR	2,000	20,000		22,000
28	OTHER LABOR		100,000		100,000
29	COMPANY CONSULTING/SUPV				0
30	WATER	50,000	1,191,000		1,241,000
31	FLUIDS & CHEMICALS	150,000			150,000
32	CORING & ANALYSIS				0
33	COMMUNICATIONS	10,000	10,000		20,000
34	BOP TESTING	20,000	10,000		30,000
35	FISHING TOOLS & SERVICES				0
36	INSPECTIONS	10,000	5,000		15,000
37	WIRELINE SERVICES				0
38	ENGINEERING & GEOLOGY - FIELD				0
39	ENGINEERING & GEOLOGY - OFFICE				0
40	MULTISHOT & GYRO				0
41	RE-ENTRY SERVICES				0
42	CAMPS & TRAILERS	15,000	15,000		30,000
43	SAFETY EQUIPMENT & H2S	10,000	5,000		15,000
44	CONTINGENCY				0
45	INSURANCE	5,000	2,000		7,000
46	MISCELLANEOUS	10,000	1,000		11,000
47	SIM-OPS				0
	TOTAL INTANGIBLE COSTS	\$ 2,993,600	\$ 6,957,000	\$	9,950,600
	TANGIBLE COSTS	DRILLING (400)	COMPLETION (600)		TOTAL
01	CASING - CONDUCTOR				
02	CASING - SURFACE	\$ 21,000		\$	21,000
03	CASING - INTERMEDIATE	180,000			180,000
04	CASING - INTERMEDIATE 2	261,000			261,000
05	CASING - PRODUCTION / LINER	436,000			436,000
06	SUBSURFACE EQUIPMENT	25,000			25,000
07	PRODUCTION TUBING		51,000		51,000
08	SUBSURFACE PUMPING EQUIPMENT				0
09	WELLHEAD EQUIPMENT	60,000	10,000		70,000
10	FLOWLINES		50,000		50,000
11	SURFACE PUMPING EQUIPMENT				0
12	LINER HANGER & ASSOC EQUIP				0
13	VALVES & FITTINGS		10,000		10,000
14	RODS				0
15	TRUCKING	40,000	2,000		42,000
16	RE-ENTRY EQUIPMENT				0
17	PRODUCTION EQUIPMENT		500,000		500,000
18	MISCELLANEOUS	10,000	10,000		20,000
19	TANGIBLE EQUIP-ACQUISITIONS				0
	TOTAL TANGIBLE COSTS	\$ 1,033,000	\$ 633,000	\$	1,666,000
	TOTAL ESTIMATED WELL COST	\$ 4,026,600	\$ 7,590,000	\$	11,616,600

PREPARED BY:

Kurt A. Shipley

Vice President - Operations

DATE:

11/19/2013

OPERATOR APPROVAL:

Chief Executive Officer

DATE:

OPERATOR APPROVAL:

Chief Financial Officer

DATE:

PARTNER COMPANY NAME:

PARTNER APPROVAL:

DATE:

TITLE:

The costs of this AFE are estimates only. Participants in this project agree to pay their proportionate share of the actual costs. Please make a note that some expenditures such as tubing, artificial lift or surface equipment may occur up to one year after the project has been initiated.

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

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

CASE NO. 20185

**AFFIDAVIT OF MICHAEL HALE IN SUPPORT OF
CASE NO. 20185**

Michael Hale, being of lawful age and being first duly sworn, declares as follows:

1. My name is Michael Hale and I work for Novo Oil and Gas Northern Delaware, LLC ("Novo") as a geologist. I have not previously testified before the New Mexico Oil Conservation Division.

2. I graduated from East Carolina University in 2004 with a B.S. in geology and in 2008 with a M.S. in geology. From 2008 until February 2010, I worked as a geologist for Fronterra Geosciences working in unconventional shale gas reservoirs. From February 2010 through June 2013, I served a geologist and team lead for SandRidge Energy developing vertical and horizontal wells in Oklahoma and the Permian Basin. From December 2013 through September 2018, I was a senior geologist with Ascent Resources in the Utica Shale play in Ohio, West Virginia, and Pennsylvania. From September 2018 to December 2018, I have served as exploration manager for Novo, with responsibility for exploration in the Delaware Basin, Powder River Basin, Appalachian Basin and East Texas and the Gulf Coast. As of December 2018, I am Vice President of Exploration for Novo and responsible for all geologic operations and development of Novo's Delaware Basin assets in Eddy County, New Mexico. My curriculum vitae is attached as **Exhibit 2-A.**

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 2
Submitted by: **COG OPERATING, LLC**
Hearing Date: January 10, 2019
Case Nos. 20070-20073

3. I am familiar with the applications filed by Novo in these consolidated cases and I have conducted a geologic study of the Wolfcamp formation underlying the subject acreage.

4. Novo is targeting the Wolfcamp XY interval in the Wolfcamp formation with the proposed **Goonch Fed Com 0409 No. 214H Well**. **Novo Exhibit 2-B** contains a subsea structure map that I prepared for the Wolfcamp XY interval with contour lines every 25 feet. The proposed wellbore path for the **Goonch Fed Com 0409 No. 214H Well** denoted by a red dashed line and the spacing unit is outlined in a blue dashed line. The Wolfcamp XY interval in this area gently dips to the east. I do not observe any faulting, pinchouts, or other geologic impediments to developing this targeted interval with horizontal wells. The orange line from A to A' identifies the wells and the line of cross-section I used to construct a stratigraphic cross section in a later exhibit. I chose these wells because they are representative of the geology of the area.

5. **Novo Exhibit 2-C** depicts an isopach map for the Wolfcamp XY interval with 25-foot contour intervals in relation to the proposed well and spacing unit. Again, the proposed wellbore path for the **Goonch Fed Com 0409 No. 214H Well** is denoted by a red dashed line and the spacing unit is a blue dashed line. This exhibit demonstrates that the Wolfcamp XY interval in this area is consistent across the entire proposed spacing unit.

6. **Novo Exhibit 2-D** contains a stratigraphic cross-section for the Wolfcamp XY interval using the representative wells depicted on Exhibit 2-B. Each well in the cross-section contains gamma ray, resistivity, and porosity logs. The proposed target interval in the Wolfcamp XY is identified by yellow shading and highlighted by brackets on the left side of the exhibit. This cross-section demonstrates that the targeted interval is approximately 170 feet thick and extends across the subject acreage.

7. Based on the analysis of production data in this area, there is not a preferred drilling orientation. The north to south orientation for the proposed well in the Wolfcamp XY interval is appropriate to efficiently and effectively develop the subject acreage and allows Novo to optimally develop its acreage.

8. My geologic study demonstrates that the Wolfcamp formation underlying the subject acreage is suitable for development with horizontal wells, that the acreage comprising the proposed horizontal spacing units will contribute more-or-less equally to the production from the wellbores, and the granting of these consolidated applications is in the best interest of conservation, the prevention of waste, and protection of correlative rights.


FURTHER AFFIANT SAYETH NOT.



Michael Hale

STATE OF OKLAHOMA)
)
COUNTY OF Oklahoma)

SUBSCRIBED and SWORN to before me this 9th day of January 2019 by
Michael Hale.



NOTARY PUBLIC

My Commission Expires:

11/15/20



Michael E. Hale

1424 Woodgrass Ct.
Edmond, OK 73013
m.hale1982@yahoo.com
(919) 395-4958

Professional Summary

Hands-on Geologist, Explorationist, and Manager with 11 years of experience in oil and gas operations, development and exploration, with an additional 3 years of undergraduate/graduate research with senior scientists from National Museum of Natural History, Smithsonian Institution, Washington D.C. on a Petroleum Research Fund grant.

Employment History

Vice President- Exploration, Novo Oil and Gas (Dec 2018- present)

- Responsible for all geologic operations and development of Novo's Delaware Basin assets in Eddy County, New Mexico
- Supervise and delegate responsibilities where necessary to a group of 3 geoscientists

Exploration Manager, Novo Oil & Gas (Sept 2018-Dec 2018)

- Oversaw all exploration duties in multiple US Basins including Delaware Basin, Powder River Basin, Appalachian Basin and East Texas/Gulf Coast
- Supervise and delegate responsibilities where necessary to a team of 3 geoscientists

Geological Advisor, Ascent Resources (Dec 2017- Sept 2018)

- Coordinate and oversee all projects related to Utica Play and other potential reservoirs underlying ARU's Ohio acreage position
- Delegate geological responsibilities where necessary to a group of 4 geoscientists

Senior Geologist, Ascent Resources (F.K.A. American Energy Utica, LLC) (June 2013-Dec 2017)

- Built geology department from inception by identifying software and tools needed to assess the Utica play
- Team Lead (Utica Group): Utilized geological, petrophysical and geophysical data, reservoir analysis, operations data to develop a sophisticated and comprehensive understanding of the Utica Shale underlying Ohio, West Virginia and Pennsylvania
- Oversaw planning and drilling of initial 5 pads and currently provide geologic guidance and mentorship to Operations Geology staff
- Testified as expert geology witness in unitization and forced pooling hearings on behalf of ARU on 10+ occasions

Geologist, SandRidge Energy (Feb 2010-June 2013)

- Team Lead (Mississippian Group): Oversaw the planning and drilling of 35+ horizontal wellbores in the Mississippi Lime formation (Upr and Lwr Osage member), Alfalfa County, OK
- Team Lead (Northern Permian Group): Oversaw the planning and drilling of 90+ vertical wellbores in Andrews and Ector Counties, Permian Basin, West TX
- Used geological, petrophysical and geophysical data, reservoir analysis, operations and land data to pick drilling locations as well as develop new prospects
- Multiple large scale projects presented to Executive Management team including an 8 well, exploratory vertical drilling test program in Andrews County, TX (wells averaged over 100 MBO EUR)

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. 2A

Submitted by: COG OPERATING, LLC

Hearing Date: January 10, 2019

Case Nos. 20070-20073

Geologist, Fronterra Geosciences (Jan 2008-Feb 2010)

- Formation image interpretation of acoustic and resistivity logs from vertical and horizontal wellbores with an emphasis on unconventional shale gas reservoirs
- Multi-well analysis for team based reservoir characterization projects
- Creation of client-focused geologic reports, cross-sections, maps and oral presentations

Research Assistant: Petroleum Research Fund (PRF) grant (Fall 2004-Spring 2008)

- Three and a half years of experience working with senior scientists Dr. from the **National Museum of Natural History, Smithsonian Institution**, Washington, D.C.
- Data technician, log reading, correlation and interpretation, statistical analyses and research

Education

East Carolina University, NC

Bachelor of Science in Geology, December 2004

Minor in Business Management (Cumulative GPA 3.49)

Graduated *Cum Laude* (**Major GPA 3.79**)

East Carolina University, NC

M.S. in Geology, August 2008 (**Cumulative GPA 3.846**)

Continuing education in reservoir characterization, geomechanics, well completions, petrophysics, carbonate depositional systems, carbonate well log analysis, drilling and wellsite operations

Memberships

- Oklahoma City Geological Society (OCGS): Spring 2011 - present
- West Texas Geological Society (WTGS): Fall 2010 – present
- American Association of Petroleum Geologists (AAPG): Spring 2012 – present
- Young Professionals in Energy (YPE): Spring 2013-present

Publications

Culver, S.J., Mallinson, D.J., Corbett, D.R., Riggs, S.R., Farrell, K.M, Horton, B.P., Abbene, I.J., Ames, D.V., Foley, J.A., Grand Pre, C.A., Hale, M.E., Metger, M.L., Ricardo, J.P., Rosenberger, J.E., Smith, C.W., Smith, C.G., Snyder, S., Twamley, D.F., Vance, D.J., and Willard, D., 2009. Holocene stratigraphy and evolution of the Outer Banks region. U.S. Geological Survey Circular.

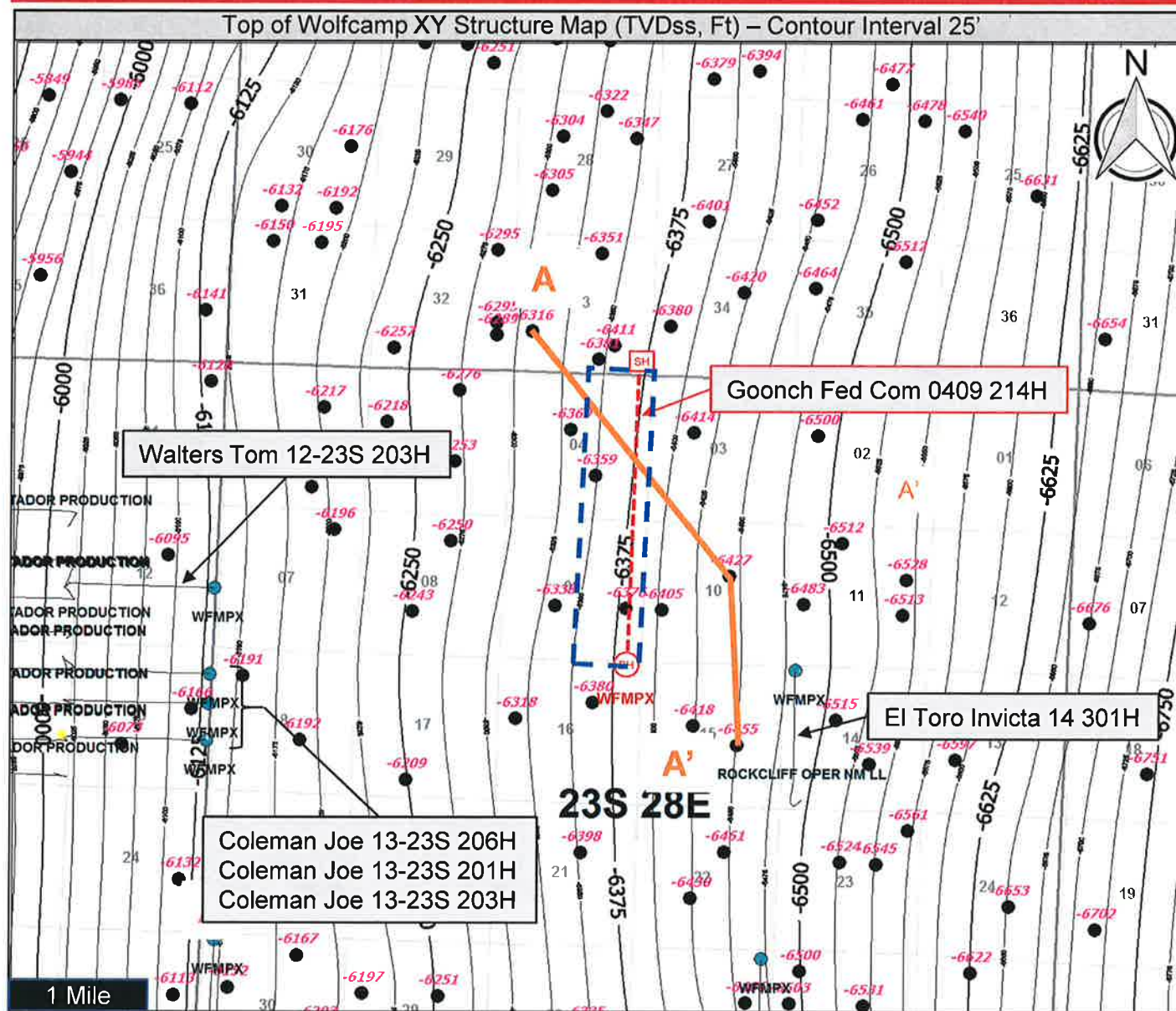
Culver, S.J., Grand Pre, C.A., Mallinson, D.J., Riggs, S.R., Corbett, D.R., Foley, J.A., Hale, M.E., Ricardo, J.P., Rosenberger, J.E., Smith, C.G., Smith, C.W., Snyder, S., Twamley, D.F., Farrell, K.M., and Horton, B.P., 2007. Late Holocene barrier island collapse: Outer Banks, North Carolina, U.S.A. The Sedimentary Record. v. 5, p. 4-8.

Hale, M.E., Culver, S.J., Mallinson, D.J., and Riggs, S.R., 2007. Late Holocene back-barrier evolution of Ocracoke Island, Outer Banks, North Carolina. SEGSA Abstracts with Programs, v. 39, no.2, p. 96.

Goonch – Top of Wolfcamp XY Structure Map



Wolfcamp XY Proposed Location, Section 4-23S-28E & Section 09-23S-28E



Map Legend

- Spacing Unit (640 ac.)
- SH Surface Hole Location
- Novo Horizontal Location
- BH Bottom Hole Location
- WFMP B Horizontal Landing Target
- Wolfcamp XY Producer Company
- Well Name
- Wolfcamp XY (TVDss, Ft)
- Contour line – interval 25'
- A Cross Section Line A'

Hearing Details

Novo Oil & Gas Northern
Delaware, LLC

Docket Number:

Case Number: 20185

Date: 1/10/2019

Exhibit Number:

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. 2B

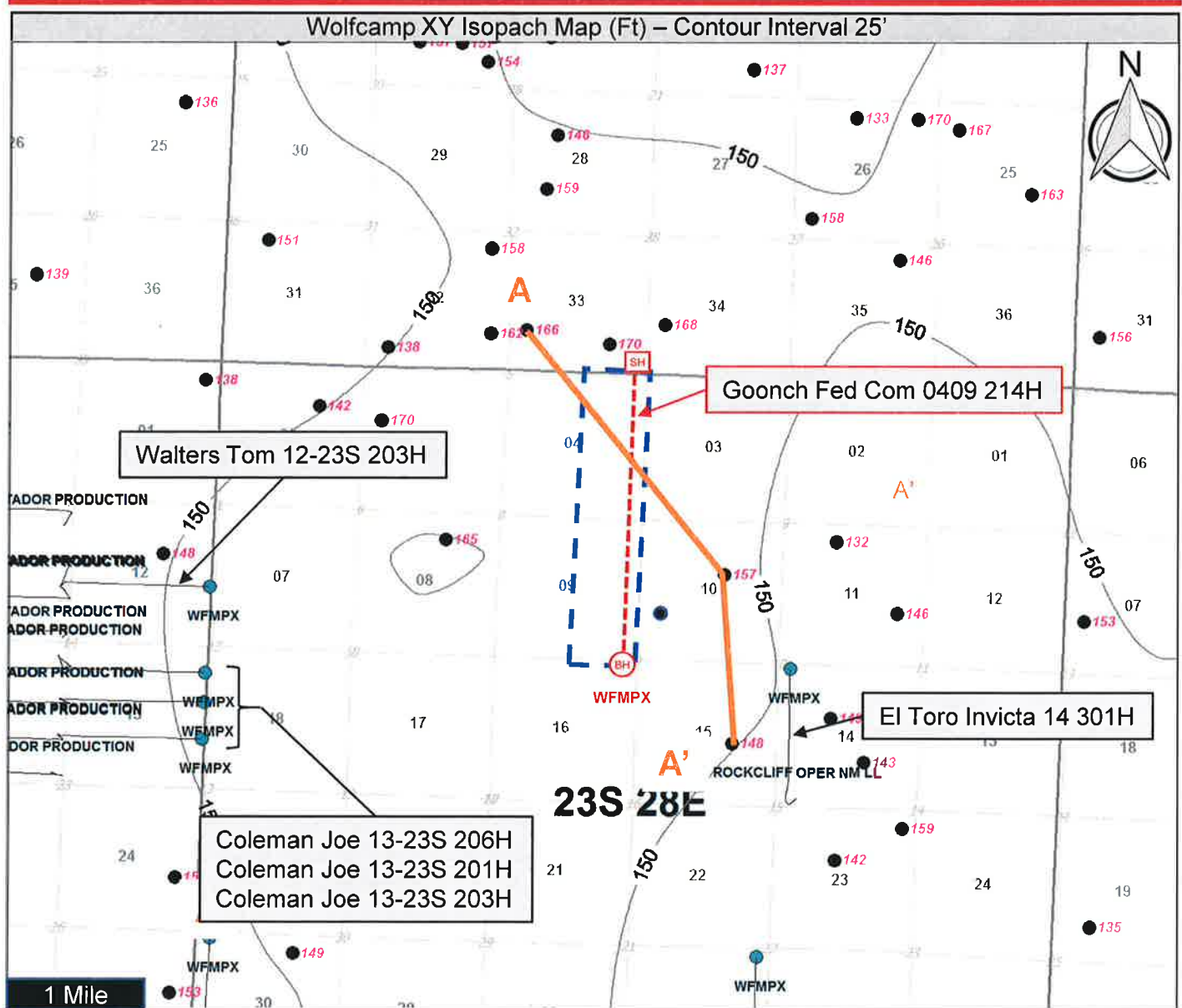
Submitted by: COG OPERATING, LLC

Hearing Date: January 10, 2019

Case Nos. 20070-20073

Goonch– Wolfcamp XY Isopach Map

Wolfcamp XY Proposed Location, Section 4-23S-28E & Section 09-23S-28E



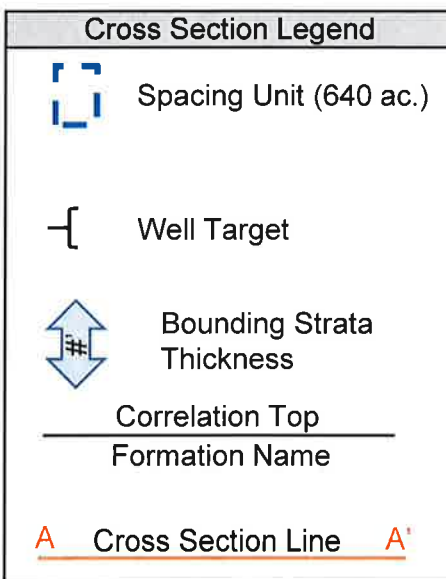
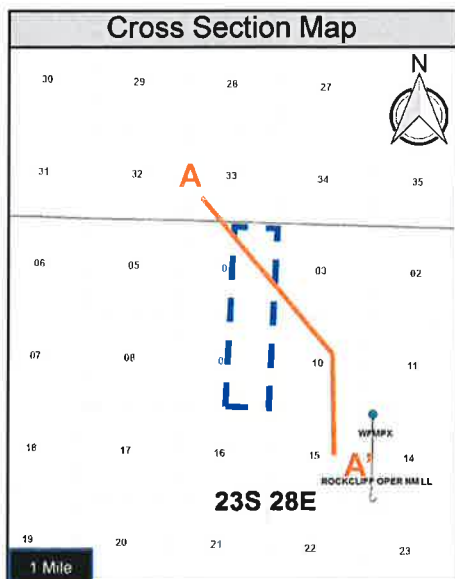
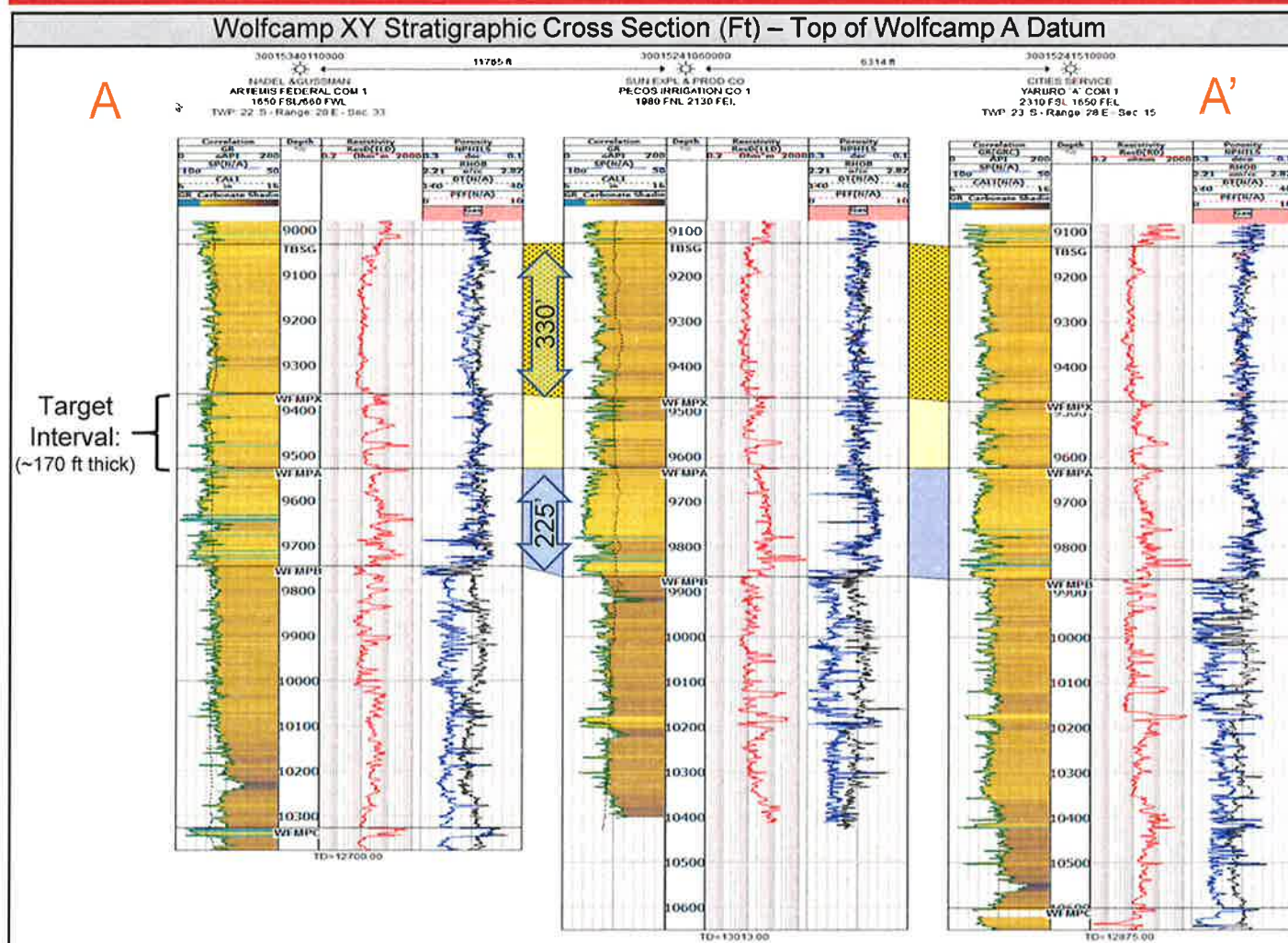
Map Legend	
Spacing Unit (640 ac.)	Wolfcamp XY Producer Company
Surface Hole Location	Well Name
Novo Horizontal Location	Wolfcamp XY Isopach (ft)
Bottom Hole Location	Contour line – interval 25'
Horizontal Landing Target	Cross Section Line

Hearing Details
Novo Oil & Gas Northern Delaware, LLC
Docket Number:
Case Number: 20185
Date: 1/10/2019
Exhibit Number:

Goonch – Wolfcamp XY Stratigraphic Cross Section



Wolfcamp XY Proposed Location, Section 4-23S-28E & Section 09-23S-28E



Novo Oil & Gas Northern Delaware, LLC

Docket Number:
Case Number: 20185
Date: 1/10/2019
Exhibit Number:

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

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

CASE NO. 20185

AFFIDAVIT

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

Adam G. Rankin, attorney in fact and authorized representative of **NOVO OIL AND GAS NORTHERN DELAWARE, LLC**, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Applications have been provided under the notice letters and proof of receipts attached hereto.

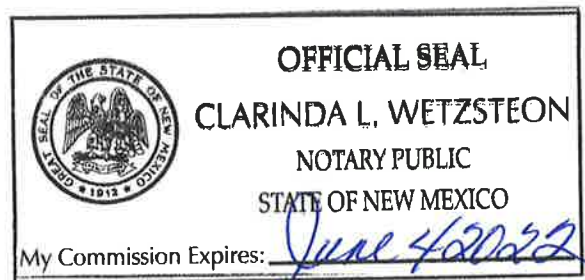


Adam G. Rankin

SUBSCRIBED AND SWORN to before me this 9th day of January 2019 by Adam G. Rankin.



Notary Public



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 3
Submitted by: **COG OPERATING, LLC**
Hearing Date: January 10, 2019
Case Nos. 20070-20073

**Jordan L. Kessler****Associate****Phone** (505) 988-4421**Fax** (505) 983-6043

JLKessler@hollandhart.com

December 21, 2018

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED**TO: POOLED PARTIES**

Re: Application of Novo Oil and Gas Northern Delaware, LLC for compulsory pooling, Eddy County, New Mexico.
Goonch Fed Com 0409 No. 214H Well

Ladies & Gentlemen:

This letter is to advise you that Novo Oil and Gas Northern Delaware, LLC has filed the enclosed application with the New Mexico Oil Conservation Division. This application will be set for hearing before a Division Examiner at 8:15 a.m. on January 10, 2019. The hearing will be held in Porter Hall in the Oil Conservation Division's Santa Fe Offices located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed at the Division's Santa Fe office at the above specified address and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter please contact Larry Patrick, at (405) 286-3405 or lpatrick@novog.com.

Sincerely,

Jordan L. Kessler

NOVO OIL AND GAS NORTHERN DELAWARE, LLC

	A	B	C	F	G	I	J	K
	CustomField1	MailClass	TrackingNo	ToName	DeliveryAddress	City	St	Zip
1	65198 - Novo Goonch 214H Well - 1	Certified with Return Receipt (Signature)	9414810898765023668838	OXY USA Inc.	5 Greenway Plaza Suite 110	Houston	TX	77046
2	65198 - Novo Goonch 214H Well - 2	Certified with Return Receipt (Signature)	9414810898765023668845	Marathon Oil Permian, LLC	5555 San Filipe	Houston	TX	77056
3	65198 - Novo Goonch 214H Well - 3	Certified with Return Receipt (Signature)	9414810898765023668852	Chevron Midcontinent, LP	1400 Smith Street	Houston	TX	77002
4	65198 - Novo Goonch 214H Well - 4	Certified with Return Receipt (Signature)	9414810898765023668869	Concise Oil and Gas Partnership	4582 S Ulster Street Parkway, Suite 1700	Denver	CO	80237
5	65198 - Novo Goonch 214H Well - 5	Certified with Return Receipt (Signature)	9414810898765023668876	Devon Energy Production Co., LP	333 W Sheridan Ave	Oklahoma City	OK	73102
6	65198 - Novo Goonch 214H Well - 6	Certified with Return Receipt (Signature)	9414810898765023668883	Novo Oil & Gas Northern Delaware, LLC	1001 West Wilshire Blvd Suite 206	Oklahoma City	OK	73116
7	65198 - Novo Goonch 214H Well - 7	Certified with Return Receipt (Signature)	9414810898765023668890	Yosemite Creek Oil & Gas	4350 S Monaco Street	Denver	CO	80237
8	65198 - Novo Goonch 214H Well - 8	Certified with Return Receipt (Signature)	9414810898765023668906	Novo Minerals, LP	1001 West Wilshire Blvd Suite 206	Oklahoma City	OK	73116
9	65198 - Novo Goonch 214H Well - 9	Certified with Return Receipt (Signature)	9414810898765023668913	Tundra AD3, LP	2100 Ross Ave Ste 1870	Dallas	TX	75201
10	65198 - Novo Goonch 214H Well - 10	Certified with Return Receipt (Signature)	9414810898765023668920	Norman L. Stevens, III	2224 Brentwood Dr.	Houston	TX	77019
11	65198 - Novo Goonch 214H Well - 11	Certified with Return Receipt (Signature)	9414810898765023668937	Bad Water, LLC	1919 N Turner St	Hobbs	NM	88240
12	65198 - Novo Goonch 214H Well - 12	Certified with Return Receipt (Signature)	9414810898765023668944	Roy G. Barton, Jr. & Claudia R. Barton as JTWRO	1919 N Turner St	Hobbs	NM	88240
13	65198 - Novo Goonch 214H Well - 13	Certified with Return Receipt (Signature)	9414810898765023668951	Russell T. Rudy Energy, LLC	852 Country Lane	Houston	TX	77024
14	65198 - Novo Goonch 214H Well - 14	Certified with Return Receipt (Signature)	9414810898765023668968	Sonja Lopez	912 Fairview Ave	Canon City	CO	81212
15	65198 - Novo Goonch 214H Well - 15	Certified with Return Receipt (Signature)	9414810898765023668975	Ruth D. Roberts c/o Daniel Roberts	PO Box 6368	Austin	TX	78762
16	65198 - Novo Goonch 214H Well - 16	Certified with Return Receipt (Signature)	9414810898765023668982	Zunis Energy, LLC	15 East 5th Street Suite 3300	Tulsa	OK	74103
17	65198 - Novo Goonch 214H Well - 17	Certified with Return Receipt (Signature)	9414810898765023668999	Dick Jackson	411 Maple	Tulsa	MO	65711
18	65198 - Novo Goonch 214H Well - 18	Certified with Return Receipt (Signature)	9414810898765023669002	STR Corp	3150 McMasters Road	Mountain Grove	MO	65711
19	65198 - Novo Goonch 214H Well - 19	Certified with Return Receipt (Signature)	9414810898765023669019	JSA Investments, LLC	15 East 5th Street Suite 3300	Billings	MT	59101
20	65198 - Novo Goonch 214H Well - 20	Certified with Return Receipt (Signature)	9414810898765023669026	Enerstar Resources O&G LLC	PO Box 606	Tulsa	OK	74103
21	65198 - Novo Goonch 214H Well - 21	Certified with Return Receipt (Signature)	9414810898765023669033	Discovery Exploration	410 North Main	Carlsbad	NM	88221
22	65198 - Novo Goonch 214H Well - 22	Certified with Return Receipt (Signature)	9414810898765023669040	J. Cleo Thompson & James Cleo Thompson, Jr. LP	325 North St Paul Street Suite 4300	Midland	TX	79701
23	65198 - Novo Goonch 214H Well - 23	Certified with Return Receipt (Signature)	9414810898765023669057	Ray Westall	132477 Lovington Hwy.	Dallas	TX	75201
24	65198 - Novo Goonch 214H Well - 23	Certified with Return Receipt (Signature)	9414810898765023669057	Ray Westall	132477 Lovington Hwy.	Loco Hills	NM	88255

	N	U
1	USPS Status	
2	12/24/2018	Your item has been delivered and is available at a PO Box at 12:47 pm on January 2, 2019 in HOUSTON, TX 77227.
3	12/24/2018	Your item arrived at the Post Office at 12:53 pm on January 7, 2019 in HOUSTON, TX 77057.
4	12/24/2018	Your item has been delivered to an agent at 9:22 am on January 3, 2019 in HOUSTON, TX 77002.
5	12/24/2018	Your item was returned to the sender at 3:15 pm on December 28, 2018 in DENVER, CO 80237 because the forwarding order for this address is no longer va
6	12/24/2018	Your item was delivered at 7:43 am on January 2, 2019 in OKLAHOMA CITY, OK 73102.
7	12/24/2018	Your item was delivered to an individual at the address at 12:29 pm on December 31, 2018 in OKLAHOMA CITY, OK 73116.
8	12/24/2018	Your item was delivered to the front desk, reception area, or mail room at 10:50 am on December 28, 2018 in DENVER, CO 80237.
9	12/24/2018	Your item was delivered to an individual at the address at 12:29 pm on December 31, 2018 in OKLAHOMA CITY, OK 73116.
10	12/24/2018	Your item was delivered to an individual at the address at 11:36 am on January 3, 2019 in DALLAS, TX 75201.
11	12/24/2018	The delivery status of your item has not been updated as of December 29, 2018, 11:39 pm. We apologize that it may arrive later than expected.
12	12/24/2018	Your item was delivered to an individual at the address at 1:07 pm on December 31, 2018 in HOBBS, NM 88240.
13	12/24/2018	Your item was delivered to an individual at the address at 1:07 pm on December 31, 2018 in HOBBS, NM 88240.
14	12/24/2018	Your item was delivered to an individual at the address at 3:36 pm on December 31, 2018 in HOUSTON, TX 77024.
15	12/24/2018	Your item departed our USPS facility in COLORADO SPRINGS CO DISTRIBUTION CENTER on January 7, 2019 at 8:32 pm. The item is currently in transit to the
16	12/24/2018	Your item has been delivered and is available at a PO Box at 9:38 am on December 31, 2018 in AUSTIN, TX 78702.
17	12/24/2018	Your item was delivered to an individual at the address at 1:45 pm on January 2, 2019 in TULSA, OK 74103.
18	12/24/2018	Your item was delivered at 11:20 am on December 31, 2018 in MOUNTAIN GROVE, MO 65711.
19	12/24/2018	This is a reminder to arrange for redelivery of your item or your item will be returned to sender.
20	12/24/2018	Your item was delivered to an individual at the address at 1:45 pm on January 2, 2019 in TULSA, OK 74103.
21	12/24/2018	Your item was delivered at 3:19 pm on January 2, 2019 in CARLSBAD, NM 88220.
22	12/24/2018	Your item was delivered to an individual at the address at 11:14 am on January 2, 2019 in MIDLAND, TX 79701.
23	12/24/2018	Your item has been delivered to an agent at 10:16 am on January 2, 2019 in DALLAS, TX 75201.
24	12/24/2018	Your item was delivered at 10:52 am on January 2, 2019 in LOCO HILLS, NM 88255.

CARLSBAD CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001272222

DAVID WASHINGTON
110 NORTH GUADALUPE, SUITE 1 PO BOX 2208
SANTA FE NM 87504

I, a legal clerk of the **Carlsbad Current-Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

12/22/18


Legal Clerk

Subscribed and sworn before me this
24th of December 2018.


State of WI, County of Brown
NOTARY PUBLIC

11/9/22
My Commission Expires

Ad#:0001272222
P O : 0001272222
of Affidavits :0.00



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

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing to be held at 8:15 A.M. on **January 10, 2019**, in the Oil Conservation Division Hearing Room at 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by **December 31, 2018**. Public documents, including the agenda and minutes, can be provided in various accessible forms. Please contact Florene Davidson if a summary or other type of accessible form is needed.

STATE OF NEW MEXICO TO: All named parties and persons having any right, title, interest or claim in the following case and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: All overriding royalty interest owners and pooled parties, including: OXY USA Inc.; Marathon Oil Permian, LLC; Chevron Midcontinent, LP; Concise Oil and Gas Partnership; Devon Energy Production Co., LP; Novo Oil & Gas Northern Delaware, LLC; Yosemite Creek Oil & Gas; Novo Minerals, LP; Tundra AD3, LP; Norman L. Stevens, III, his heirs and devisees; Bad Water, LLC; Roy G. Barton, Jr. & Claudia R. Barton as JTWRORS, their heirs and devisees; Russell T. Rudy Energy, LLC; Sonja Lopez, her heirs and devisees; Ruth D. Roberts, her heirs and devisees; Zunis Energy, LLC; Dick Jackson his heirs and devisees; STR Corp; JSA Investments, LLC; Enerstar Resources O&G LLC; Discovery Exploration; J. Cleo Thompson & James Cleo Thompson, Jr. LP; Ray Westall, his heirs and devisees.

Case No. 20185: Application of Novo Oil and Gas Northern Delaware, LLC for compulsory pooling, Eddy County, New Mexico. Applicant in the above-styled cause seeks an order pooling all uncommitted interests in the Wolfcamp formation (Purple Sage Wolfcamp Gas Pool (98220)) in the 640-acre, more or less, horizontal spacing unit comprised of the E/2 of Section 4 and the E/2 of Section 9, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. Said unit is to be dedicated to the applicant's proposed **Goonch Fed Com 0409 No. 214H Well**, which will be horizontally drilled from a surface location in the SE/4SE/4 (Unit

P) of Section 33, Township 22 South, Range 28 East, to a standard bottom hole location in in the SE/4SE/4 (Unit P) of Section 9, Township 23 South, Range 28 East. The completed interval for this well will remain within the offset required by the Special Rules set forth in Order No. R-14262. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of Novo Oil and Gas Northern Delaware, LLC as operator of the well and a 200% charge for risk involved in drilling said well. Said area is located 9 miles southeast of Carlsbad, New Mexico.

Pub: December 22, 2018 #1272222