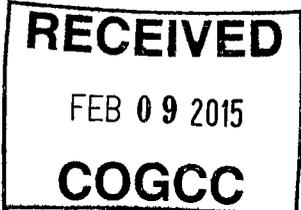




02236163

2-9-15

**511 DOCUMENTS**



BEFORE THE OIL & GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

IN THE MATTER OF THE PROMULGATION	)	CAUSE NO. 440
AND ESTABLISHMENT OF FIELD RULES	)	
TO GOVERN OPERATIONS FOR THE	)	DOCKET NO. 150300120
MANCOS (INCLUDING THE SEGO	)	
SANDSTONE), NIOBRARA, FRONTIER,	)	TYPE: SPACING
MOWRY, AND DAKOTA FORMATIONS,	)	
PARACHUTE FIELD, GARFIELD COUNTY,	)	
COLORADO	)	

REQUEST FOR RECOMMENDATION OF  
APPROVAL OF APPLICATION WITHOUT A HEARING

WPX Energy Rocky Mountain, LLC ("Applicant"), by and through its undersigned attorneys, hereby requests pursuant to Rule 511.a. of the Rules and Regulations of the Colorado Oil and Gas Conservation Commission for the Director to recommend approval of its February 5, 2015 verified application ("Application") and the supporting exhibits without a hearing.

Applicant requests that the above-captioned matter be approved based upon: (i) the merits of the Application, and (ii) Applicant's sworn written testimony verifying sufficient facts along with exhibits that adequately support the relief requested in the Application. To Applicant's information and belief, no protests were timely filed in this matter.

WHEREFORE, Applicant requests that its request for a recommendation for approval of its Application without a hearing be granted.

DATED this 9<sup>th</sup> day of February, 2015.

Respectfully submitted,

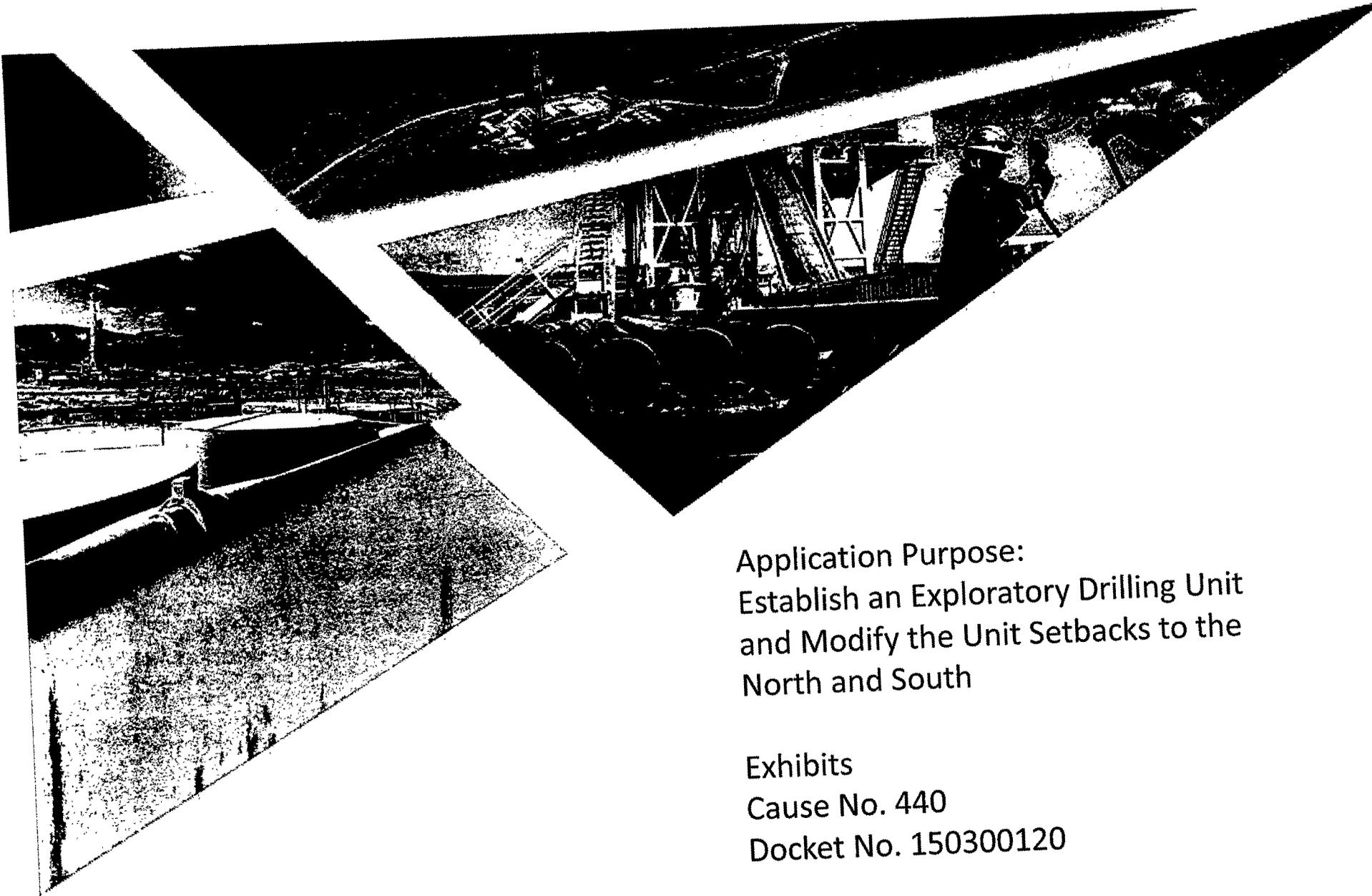
WPX ENERGY ROCKY MOUNTAIN, LLC

By: 

Michael J. Wozniak  
Jillian Fulcher  
Beatty & Wozniak, P.C.  
Attorneys for Applicant  
216 16<sup>th</sup> Street, Suite 1100  
Denver, Colorado 80202  
(303) 407-4499

***WPX ENERGY  
ROCKY MOUNTAIN,  
LLC***

Cause No. 440  
Docket No. 150300120



Application Purpose:  
Establish an Exploratory Drilling Unit  
and Modify the Unit Setbacks to the  
North and South

Exhibits  
Cause No. 440  
Docket No. 150300120

**WPXENERGY**

**WPX Energy Rocky Mountain, LLC**

**Christopher M. Walsh – Land Testimony**

Cause 440, Docket No. 150300120

March 2 / 3 COGCC Hearing

*Request for an order establishing an approximate 1,280-acre, more or less exploratory drilling unit for Sections 25 and 36, Township 6 South, Range 95 West, 6<sup>th</sup> P.M., Garfield County, Colorado for horizontal and vertical well development, for the production of gas and associated hydrocarbons from the Mancos (including the Sego Sandstone), Niobrara, Frontier, Mowry and Dakota Formations (collectively, the “Deep Formations”)*

My name is Christopher M. Walsh, and I am currently employed as a Senior Staff Landman for WPX Energy Rocky Mountain, LLC (“WPX”). I graduated from Western State College with a Bachelor of Arts degree in Business Administration. I have over 30 years of experience in the oil and gas industry. I am familiar with the land subject to, and the matters set forth in, the December 22nd, 2014, verified application (the “Application”) filed herein. My resume/c.v. is attached to this submission.

WPX is seeking to create an approximate 1,280 acre, more or less, drilling and spacing exploratory unit for the Deep Formations in the below described lands:

Township 6 South, Range 95 West, 6<sup>th</sup> P.M.

Section 25: All

Section 36: All

WPX requests approval for up to forty (40) wells within the unit and allow the treated interval of the wellbore to be located no closer than 300 feet from the northern and southern boundaries of the unit. WPX feels these modifications would be best suited to effectively produce the hydrocarbon resource within the unit while preventing the drilling of unnecessary wells, protecting correlative rights and preventing waste. For the modification of setbacks, WPX feels with our current well stimulation capabilities that it would not extend all the way to the northern and southern extent of the unit, leaving hydrocarbons stranded in between the end of completions and the unit boundary and thereby creating waste. The number of wells is requested to efficiently drain the resource of this size of a unit. These modifications would also be consistent with recent WPX submitted applications to the East and West of the application lands. To support this request, we have submitted relevant geologic and engineering testimony and exhibits to accompany this land testimony and the exhibits I have submitted, detailed below:

Exhibit L1: Basin Map

Exhibit L1 is an overview map of the Piceance Basin of Western Colorado in Garfield, Rio Blanco and Mesa Counties. The Parachute area of the Basin and the Application lands are depicted

Exhibit L2: Application Lands

Exhibit L2 is a basic map of the application lands and a depiction of the requested drilling and spacing unit. The blue dashed line illustrates the existing state setbacks. The black dashed line

illustrates the requested modification of setbacks to the northern and southern boundaries of the unit to 300 feet.

Exhibit L3: Resume

Exhibit L3 is a copy of my resume.

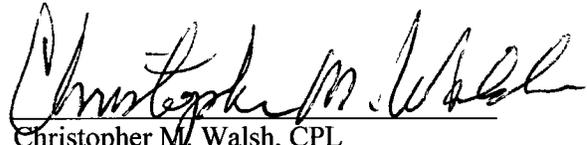
Based upon the examination of relevant documents, and under my direction and control, all of the interested parties included and attached to the Application received proper notice. As of the date of this testimony, WPX has not received any protests or objections to the Application.

WPX owns substantial leasehold interests underlying the Application Lands. The Application Lands are held by production by numerous shallow producing wells. Further, as of the date of this testimony, WPX has not received any notice of objection or protest to the Application.

**Affirmation**

The matters described herein were all conducted under my direction and control. To the best my knowledge and belief, all of the matters set forth herein and in the exhibits are true, correct, and accurate.

Dated this 3<sup>rd</sup> day of February, 2015.

  
Christopher M. Walsh, CPL  
Senior Staff Landman  
WPX Energy Rocky Mountain, LLC

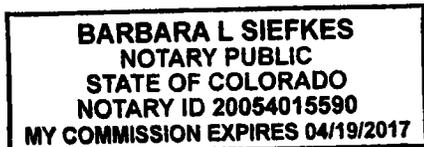
VERIFICATION

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

The foregoing instrument was subscribed and sworn to before me this 3<sup>rd</sup> day of February, 2015, by Christopher M. Walsh, Senior Staff Landman for WPX Energy Rocky Mountain, LLC.

Witness my hand and official seal.

My commission expires: \_\_\_\_\_.



  
Notary Public

Exhibit No. L1 -- Cause No. 440, Docket No. 150300120  
T6S-R95W, Sections 25 and 36: All  
Garfield County, CO

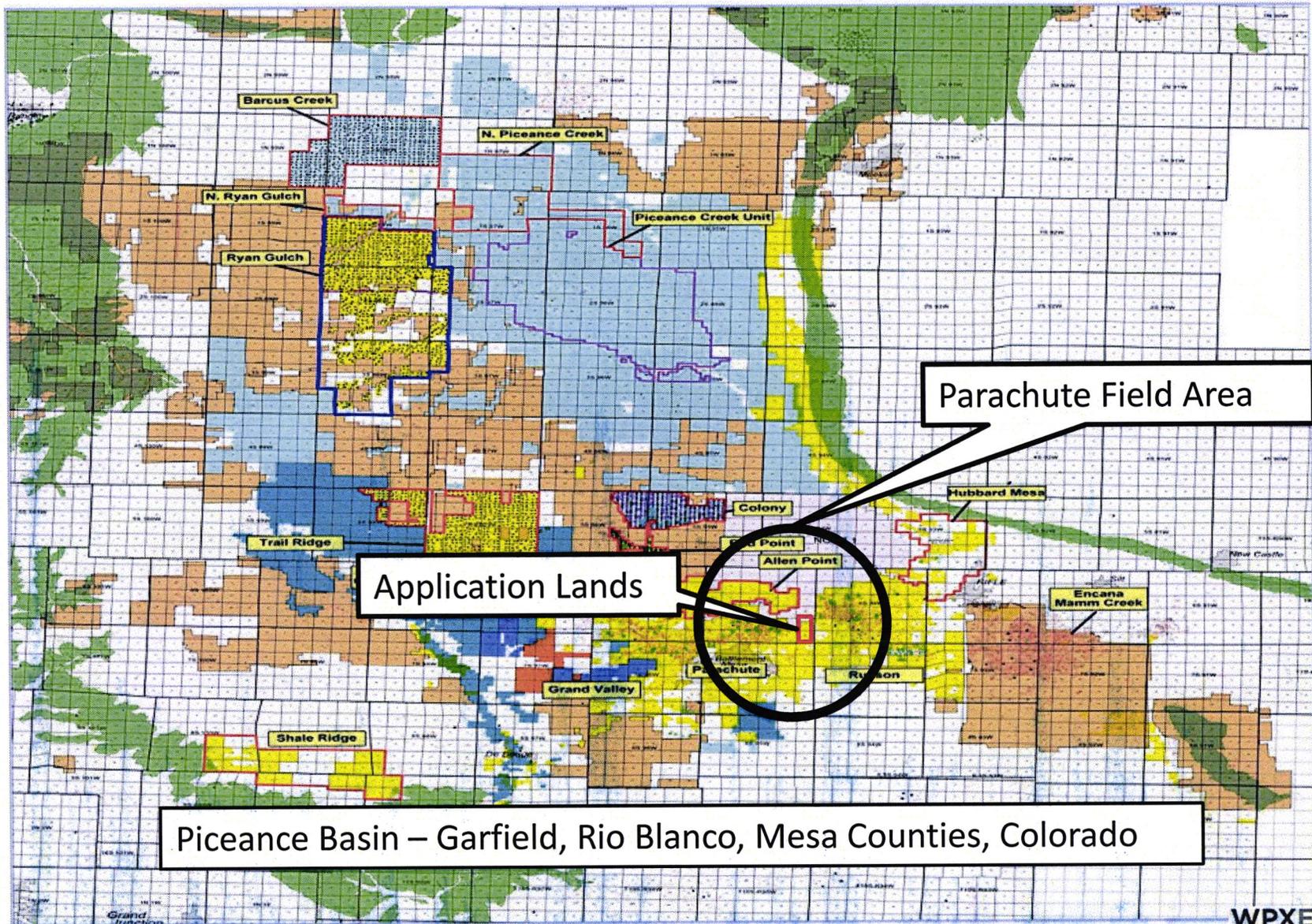
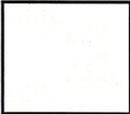


Exhibit No. L2 -- Cause No. 440, Docket No. 150300120  
T6S-R95W, Sections 25 and 36: All  
Garfield County, CO

-  Federal Oil and Gas Leasehold
-  Fee Oil and Gas Leasehold
-  Unleased or third party Oil and Gas Leasehold
-  Application Lands
-  Existing setbacks – 600'
-  Requested modification of setbacks, north and south boundaries - 300'



# Christopher M. Walsh

chris.walsh@wpxenergy.com

1001 17<sup>th</sup> Street, Suite 1200  
Denver, CO 80202

(303) 572-3900

## PROFESSIONAL EXPERIENCE

### **WPX Energy Rocky Mountain, LLC (formerly Williams Production RMT Company), Denver CO 2003 – 2015**

#### **Senior Staff Landman** Denver, CO (2005 – Present)

##### *Piceance Basin, Colorado*

- Prepare, review and negotiate drilling proposals, joint operating agreements, farmout agreements, pooling agreements
- Lease acquisition and renewals or extension, negotiation of lease terms and other oil and gas land related agreements
- Manage brokers to obtain leasehold, title curative, prepare communitization agreements, declarations of pooling, affidavits of production, request the preparation of abstracts and title opinions
- Negotiate acreage trades
- Order the preparation of abstracts and title opinions
- Prepare / review applications to COGCC to statutorily pool, space, increase density, protest applications
- Testify at COGCC hearings
- Release pads for construction and wells for drilling

#### **Consulting Landman** Denver, CO (2003-2005)

##### *Coalbed Methane Exploration, Powder River Basin, Wyoming*

- Prepare Drilling Proposals, Joint Operating Agreements and AFEs
- Wyoming Oil and Gas Commission work: Force Pooling, Spacing and Location Exception Applications
- Well Releases and Title Curative
- Acreage Trades

#### **ChevronTexaco Corp.**

**1990 - 2003**

*Originally employed by Texaco, became ChevronTexaco employee as a result of a merger.*

#### **Land Representative** Houston TX (2001-2003)

Transitional role assisting the newly merged corporation with the conversion of Texaco agreements into the Chevron lease/agreement (LIS) and mapping (Via Vista) systems and served as resource for legacy Texaco procedures and methods.

#### **Landman**, Denver CO (1990-2001)

Supported Business Units of the Western Region by performing pre-sale / acquisition activities, marketing, closing activities, and post closing activities, including property analysis associated with sales

and acquisitions, and operation issues: negotiated and prepared purchase and sale agreements, like-kind exchange agreements and other documents associated with these tasks.

**Landman**

**1978-1989**

A variety of contract and staff positions; partner in a field and in-house service company with responsibilities including running crews of Landmen, lease acquisition and negotiation, title research of county, federal and state records, title curative, lease auctions and training.

**EDUCATION**

Bachelor of Arts in Business Administration  
Western State College of Colorado, Gunnison, CO

**ASSOCIATIONS**

American Association of Professional Landmen, CPL #4039  
Denver Association of Petroleum Landmen

Exhibit L3  
Cause No. 440  
Docket No. 150300120

# WPX Energy Rocky Mountain, LLC

## Laura Levorsen – Geology Testimony

Cause 440, Docket No. 150300120

*Request to establish an approximate 1,280-acre exploratory drilling unit for Sections 25 and 36, 6 South and Range 96 West, 6<sup>th</sup> P.M. for horizontal and vertical well development, for the production of gas and associated hydrocarbons from the Mancos (including the Segó Sandstone), Niobrara, Frontier, Mowry, and Dakota Formations, with 300' setbacks from northern/southern unit boundaries and a 150-300 inter-well setback.*

My name is Laura BeVier Levorsen, and I am currently employed as a Petroleum Geologist for WPX Energy Rocky Mountain, LLC, (“WPX”). I graduated from the Colorado School of Mines in 1987 with a Masters of Science in Geology. I have approximately 28 years experience in oil and gas industry and am a registered professional geologist in the State of Wyoming (PG-3860). I am familiar with the lands subject to, and the matters set forth in, the January 23, 2015, verified application (the “Application”) filed herein.

In support of the Application, I am submitting 11 exhibits. The exhibits are attached to my sworn testimony and form the basis for the Application requesting an order (1) establishing an approximate 1,280 -acre exploratory drilling unit consisting of Sections 25 and 36, Township 6 South, Range 95 West, 6<sup>th</sup> P.M. (the “Application Lands”) for horizontal and vertical well development, for the production of oil, gas and associated hydrocarbons from the Mancos, Niobrara, Frontier, Mowry, and Dakota Formations (the “Deep Formations”), with a setback of 300 feet from northern/southern proposed unit boundaries and a 150-300 feet inter-well setback depending on the zone. (2) Requesting authorization to drill and complete up to 40 wells in the proposed unit.

### 1. Exhibit No. G-1

Exhibit No. G-1 is a generalized stratigraphic column of the Uinta and Piceance Basins covering the Cretaceous through Tertiary geologic sections. This modified column is from the USGS Geologic Assessment of the Uinta-Piceance Petroleum Systems completed in 2003. Oil and gas symbols are placed in the major producing reservoirs, green circles designate oil and open circles designate gas. The green letter “S” identifies those intervals which source the petroleum systems. The Mancos Group (consisting of the Segó, Mancos, Niobrara, Frontier, and Mowry Formations) comprise thousands of feet of predominantly shales and siltstones which serve as source and reservoir. Within these formations, there are also multiple objectives being evaluated. Example: Niobrara HN0, HN1, HN2.

### 2. Exhibit No. G-2

Exhibit No. G-2 shows the general location of the Piceance Basin with relation to the Cretaceous Interior Seaway, also taken from the USGS Assessment of the Uinta-Piceance Petroleum Systems. This seaway covered much of central North America and was the depositional setting for the marine shales and siltstones that comprise the Mancos Group.

### 3. Exhibit No. G-3

Exhibit No. G-3 is a type log of the potential objective formations and intraformational zones for the Rollins through the Dakota formations. The well shown is the SG 702-23-HN1 vertical well, located in Section 23 of Township 7S, Range 96W. The type log consists of 3 tracks. The left most track (Track 1) contains a gamma ray curve. The curve is color-shaded with sandstone in yellow grading to shales in gray. Track 2 contains the deep resistivity curve and has rainbow shading from low resistivity in purple to high resistivity in red. Track 3 has both the density neutron curves, density in red, neutron in blue. This particular well has a TD at ~10, 130' measured depth, ending in the Dakota formation .

### 4. Exhibit No. G-4

Exhibit No. G-4 is a subsea structure map constructed on the base of the Fort Hays limestone. The Fort Hays limestone, a member of the Mancos Group, was used as the structural representation of the Mancos Group as a whole as it is an easily identifiable surface in 2-D and 3-D seismic. This structure map was constructed primarily from 3-D seismic lines covering the application area. The regional dip for the Niobrara Formation underlying the Application Lands is approximately 200-500 feet per mile to the northeast.

### 5. Exhibit No. G-5

Exhibit No. G-5 is an area map showing the location of the Application Lands and displaying the wells that comprise the regional cross-section presented in Exhibit G-6. The PA 744-26 is a vertical well drilled by WPX in 2014 and the RWF 724-16 is a vertical test well drilled in 2013. The rest of the wells shown on the exhibit are wells producing from the shallower Mesaverde Group and do not penetrate the subject Deep Formations.

### 6. Exhibit No. G-6

Exhibit No. G-6 is regional stratigraphic cross section A-A' depicting the deepest wells, closest to the spacing application. The location of cross-section A-A' is marked on Exhibit No. G-5. The cross section shows the interval between the Rollins sandstone and the bottom interval of the Niobrara Formation. Each log includes gamma ray and deep resistivity curves which are used for regional correlation. This exhibit shows that the Mancos Group is laterally continuous throughout the cross section area and is very shaley in nature. A couple of thin marker beds, useful for stratigraphic correlation are displayed on the cross-section. The cross-section, which extends approx 4 miles over the application area, displays that the overall lithology and rock properties of the Mancos Group do not change greatly over a long distance. Due to this observed, consistent nature of the Mancos Group, distant offset wells can be used as geologic analogs in the application area.

### 7. Exhibit No. G-7

Exhibit No. G-7 lists the general characteristic of the Mancos Group as a whole. It has low effective porosity and very low permeability. The group has an average total organic content (TOC) of approximately 1.5-2%, which is enough to be a source rock for the petroleum system. The average water saturation for the entire Mancos Group based upon core data appears to be between 20-30%. Producing intervals in the Niobrara, from WPX wells, have a water saturation of 20-25%. The generalized data presented in this exhibit come predominantly from available core and log data.

#### 8. Exhibit No. G-8

Exhibit No. G-8 is a map demonstrating: 1) different possible well placement scenarios, 2) the proposed 300 feet north/south setbacks and 3) highlighting the east-west direction of primary frac propagation. Evidence to support this setback comes from microseismic data that is proprietary to WPX, and was presented to the COGCC at an informal meeting on April 4<sup>th</sup>, 2014. Current wellbore lengths are anticipated to be ~4400-6000’.

#### 9. Exhibit No. G-9

Exhibit No. G-9 is a schematic cross-section, illustrating that a vertical distance of 350 feet separates the two horizontal targets in the Niobrara (the HN1 and the HN2). Of the three wells shown, two of them target the HN1 zone, and the third targets the HN2 zone 350 feet above the HN1 zone. Its direct distance from the other two wells is about 750 feet. WPX Energy believes that the configuration of these wells and the distances separating them will enhance the amount of the reserves produced and reduce waste. Furthermore, data gathered by WPX Energy from existing wells indicates that these three wells will not be in pressure communication with each other.

#### 10. Exhibit No. G-10

Exhibit No. G-10 is a schematic cross-section, depicting two existing wells, GM 743-4 and GM 701-4-HN1. Here, pressure data was gathered that supports the configuration of the three wells shown in Exhibit No. G-9, supporting the requested 300 feet inter-well spacing due to different target objectives. In the GM 743-4 vertical well, both the HN1 and HN2 zones were completed with separate fracture stimulations. About a year later, the GM 701-4-HN1 horizontal well was drilled and completed in the HN1 zone. This horizontal well comes within 600 feet of the GM 743-4 well at its closest distance. After several months of production, the HN1 and HN2 zones producing in the GM 743-4 were isolated from each other using a bridge plug and the pressure of the individual zones was monitored using bottom hole pressure gauges. Analysis of the pressure data indicates the GM 743-4 and the GM 701-4-HN1 (at a distance of 600 feet away) are in pressure communication only in the HN1 zone, but not in the HN2 zone.

#### 11. Exhibit No. G-11

Exhibit No. G-11 is the resume of Laura Levorsen

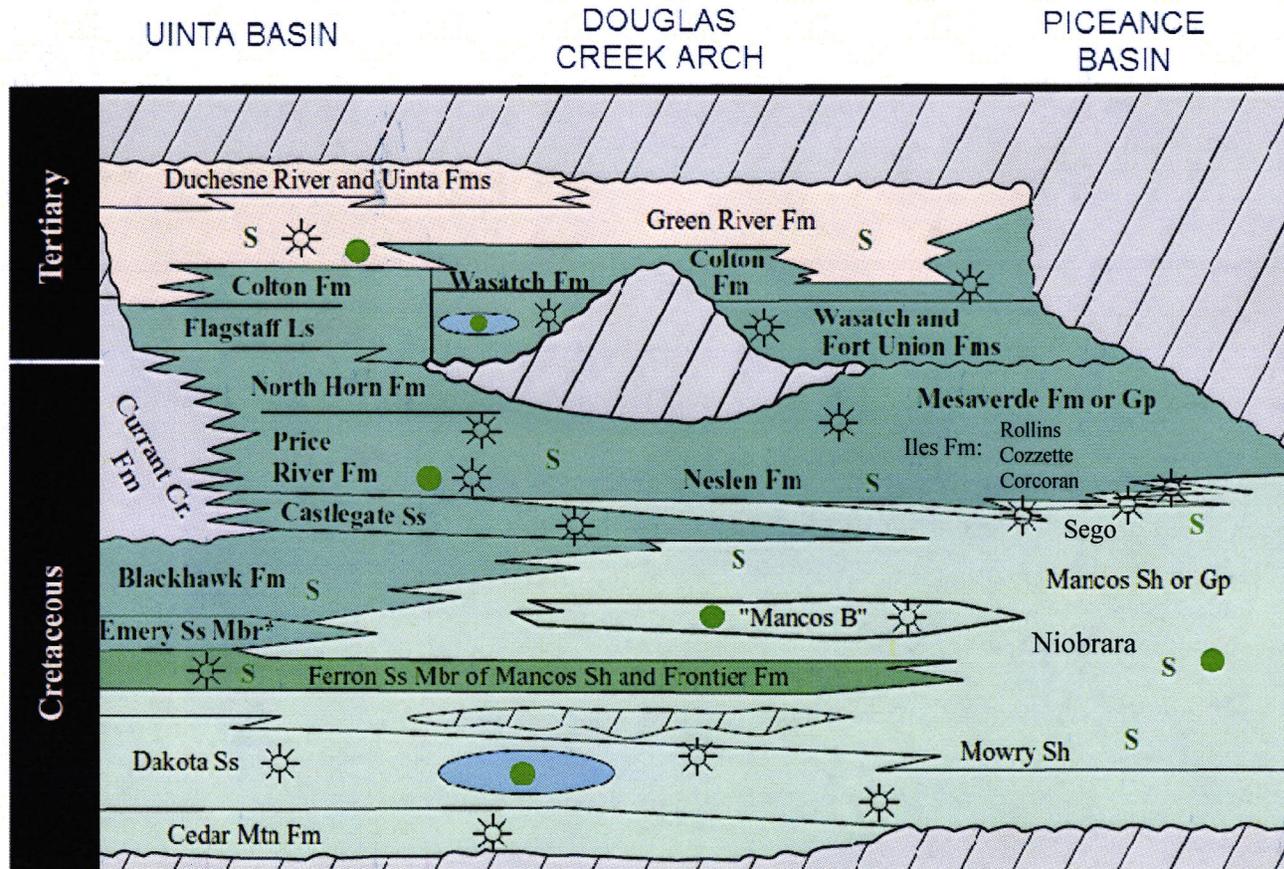
### *Conclusions*

The Mancos Group was deposited as shales, siltstones, sandstones, and limestones in the Cretaceous Interior Seaway in a deep water marine environment. This environment was laterally continuous and regionally consistent. Regional cross sections display that the Mancos Group is lithologically and stratigraphically consistent as well as laterally continuous and that offset wells can be used as geologic analogies to the Application Lands. The combination of seismic interpretation and regional cross sections confirm that the Mancos Group exists under the entirety of the Application Lands.

The matters described herein were devised under my direction and control. To the best of my knowledge and belief, all of the matters set forth herein, my testimony and the supporting exhibits, are true, correct and accurate.



# Stratigraphic Column Correlation from Uinta to Piceance Basin



Modified from Nuccio, V.F. and Roberts, L.N.R. 2003. *Thermal Maturity and Oil and Gas Generation History of Petroleum Systems in the Uinta-Piceance Province, Utah and Colorado, Chapter 4*, in Petroleum systems and geologic assessment of oil and gas of the Uinta-Piceance Province, Utah and Colorado, USGS Uinta-Piceance Assessment Team, compilers: U.S. Geological Survey DDS-69-B, Version 1.0, 35 p.

Exhibit G-1  
Cause #440  
Docket #150300120

# Depositional Setting – Piceance Basin within the Cretaceous Seaway



Modified from: Johnson, R. C., 2003, *Depositional Framework of the Upper Cretaceous Mancos Shale and the Lower Part of the Upper Cretaceous Mesaverde Group, Western Colorado and Eastern Utah, Chapter 10, in Petroleum systems and geologic assessment of oil and gas of the Uinta-Piceance Province, Utah and Colorado*. USGS Uinta-Piceance Assessment Team, compilers: U.S. Geological Survey DDS-69-B, Version 1.0, 28 p.

# Type Log

WPX  
 SG 702-23-HN1-V  
 T7S R96W S23  
 05045219310000

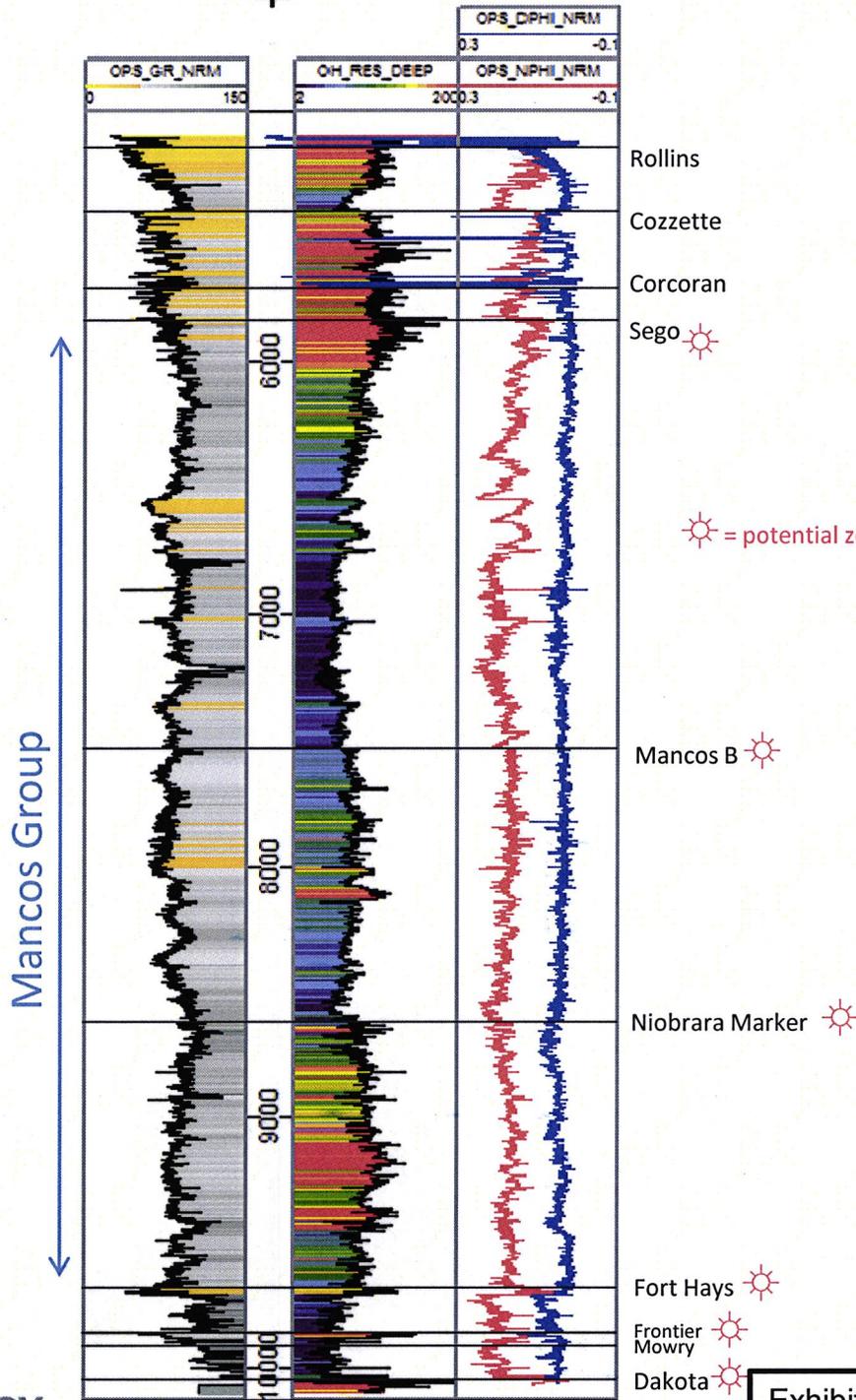
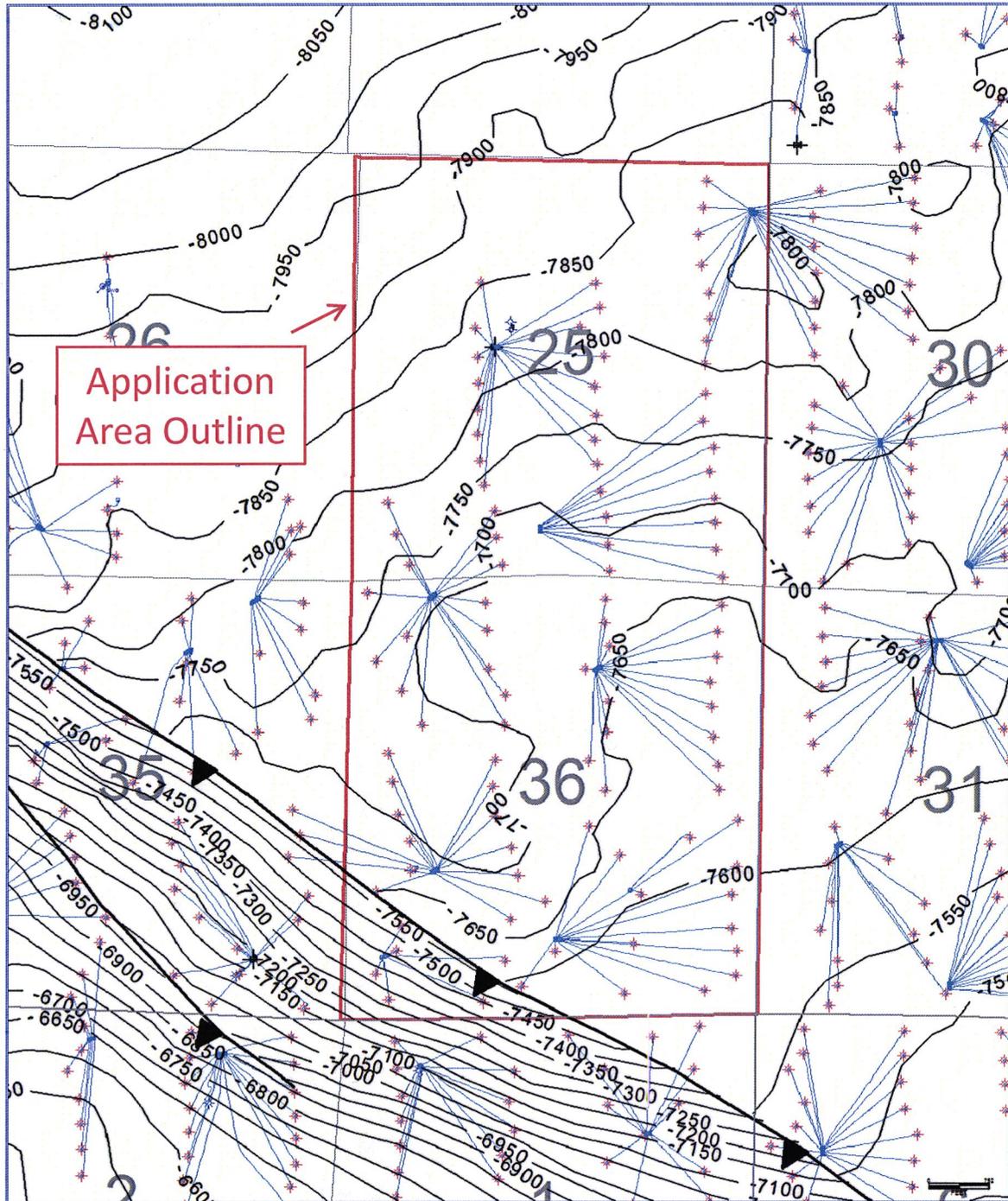
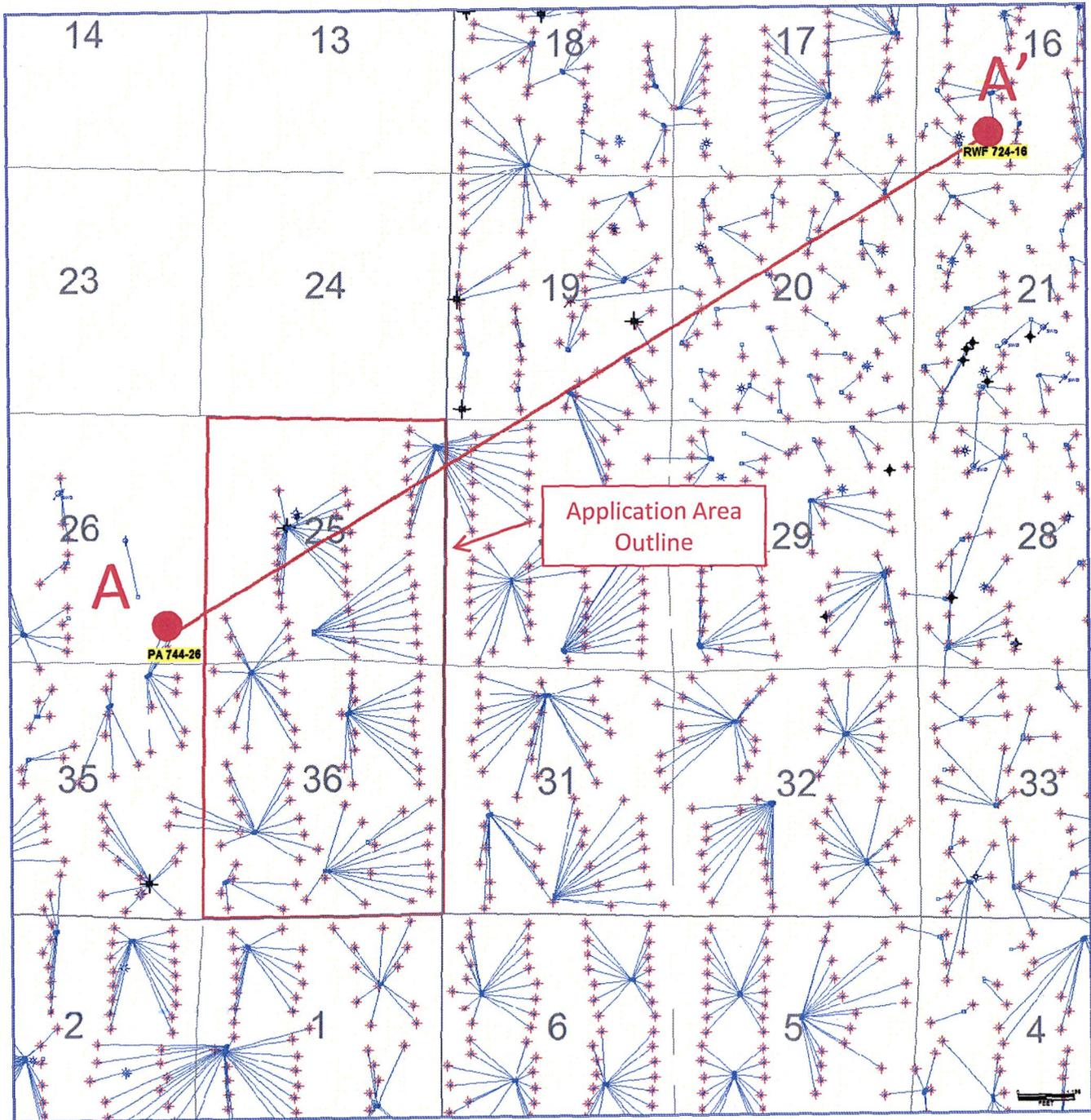


Exhibit G-3  
 Cause #440  
 Docket #150300120

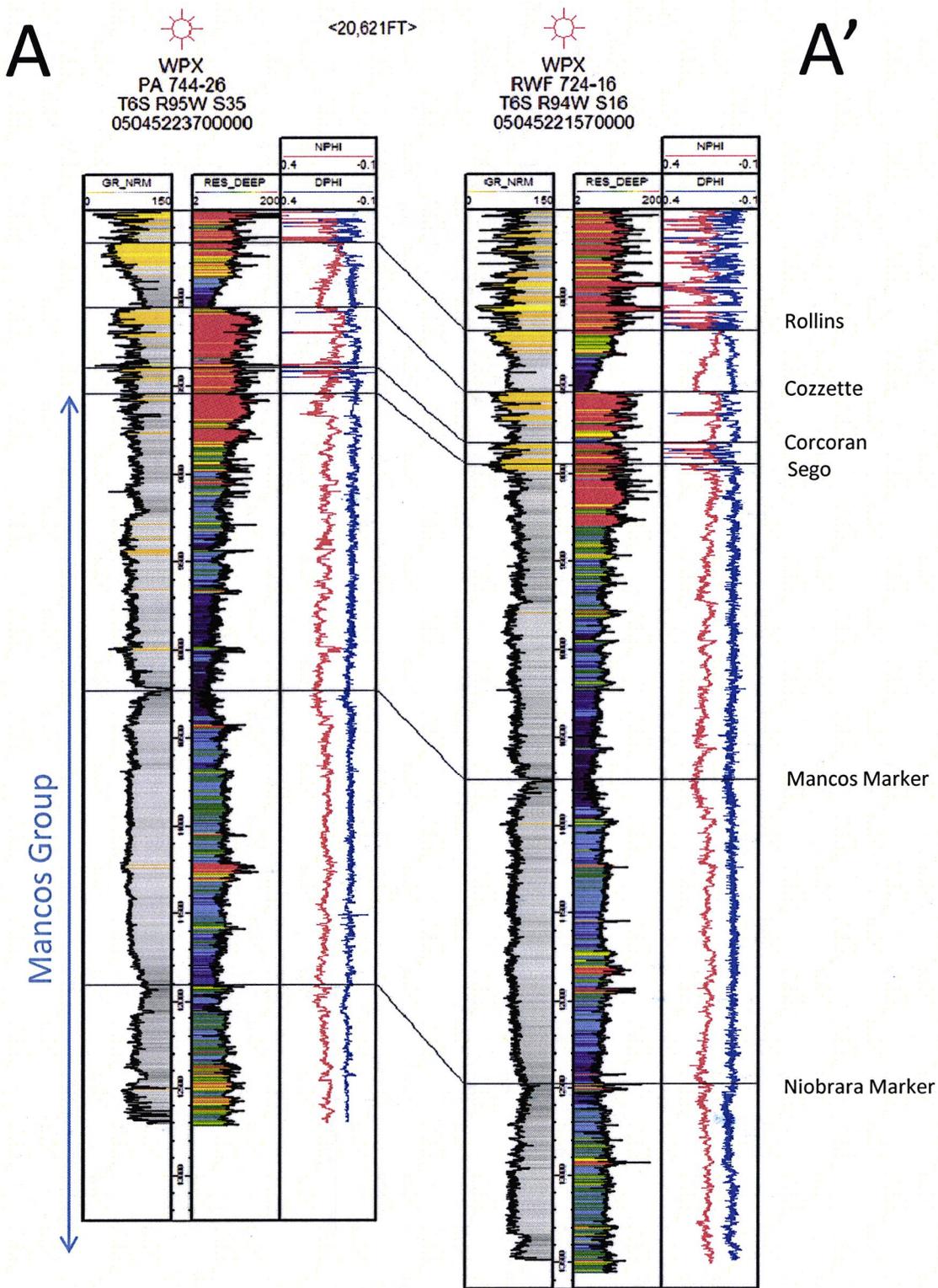
# Base of Fort Hayes Limestone/Top of Carlile Structural Map - contour interval = 50'



# Area Map with Cross Section



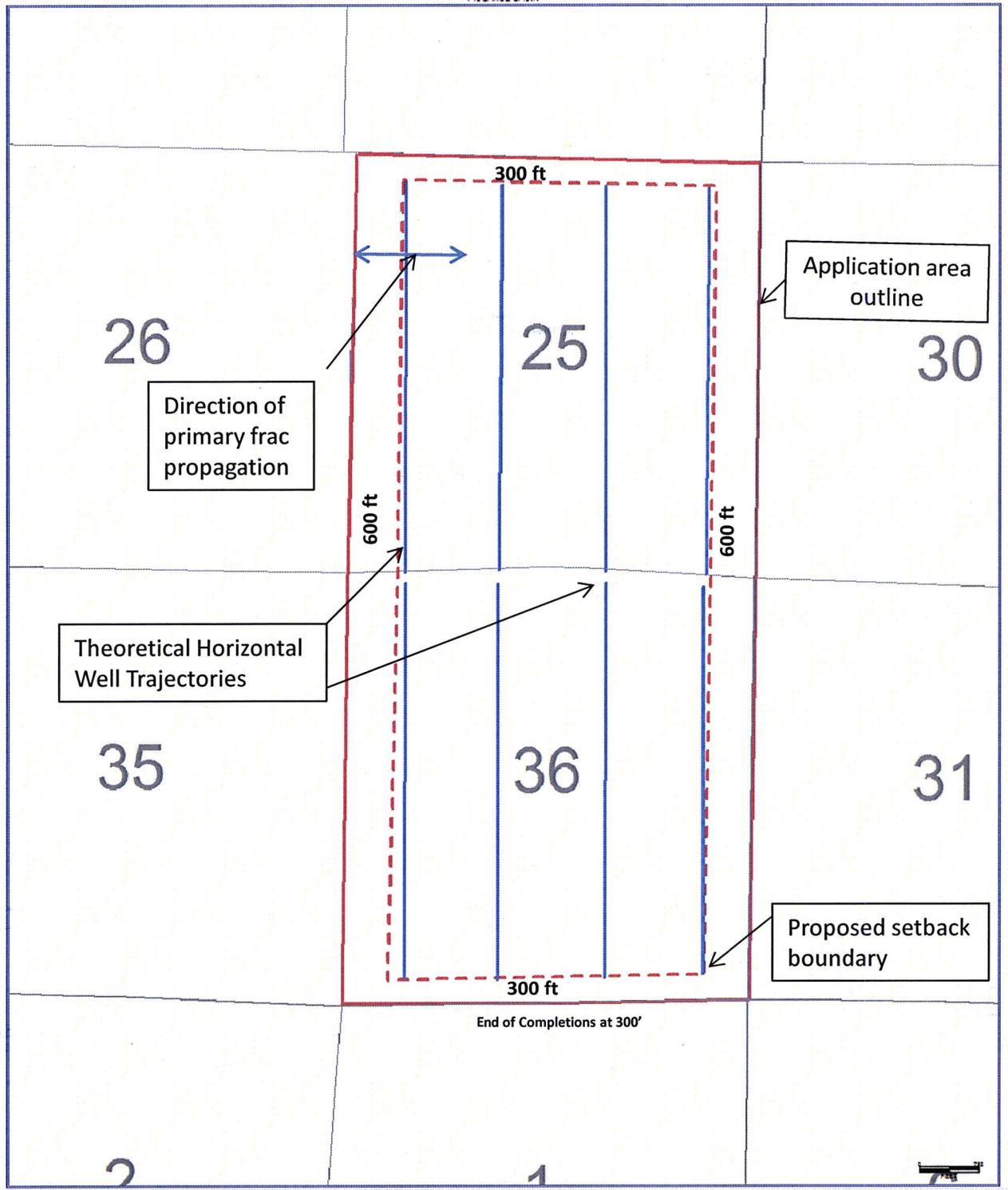
# Regional Cross Section A-A'



## Mancos Group Rock Characteristics

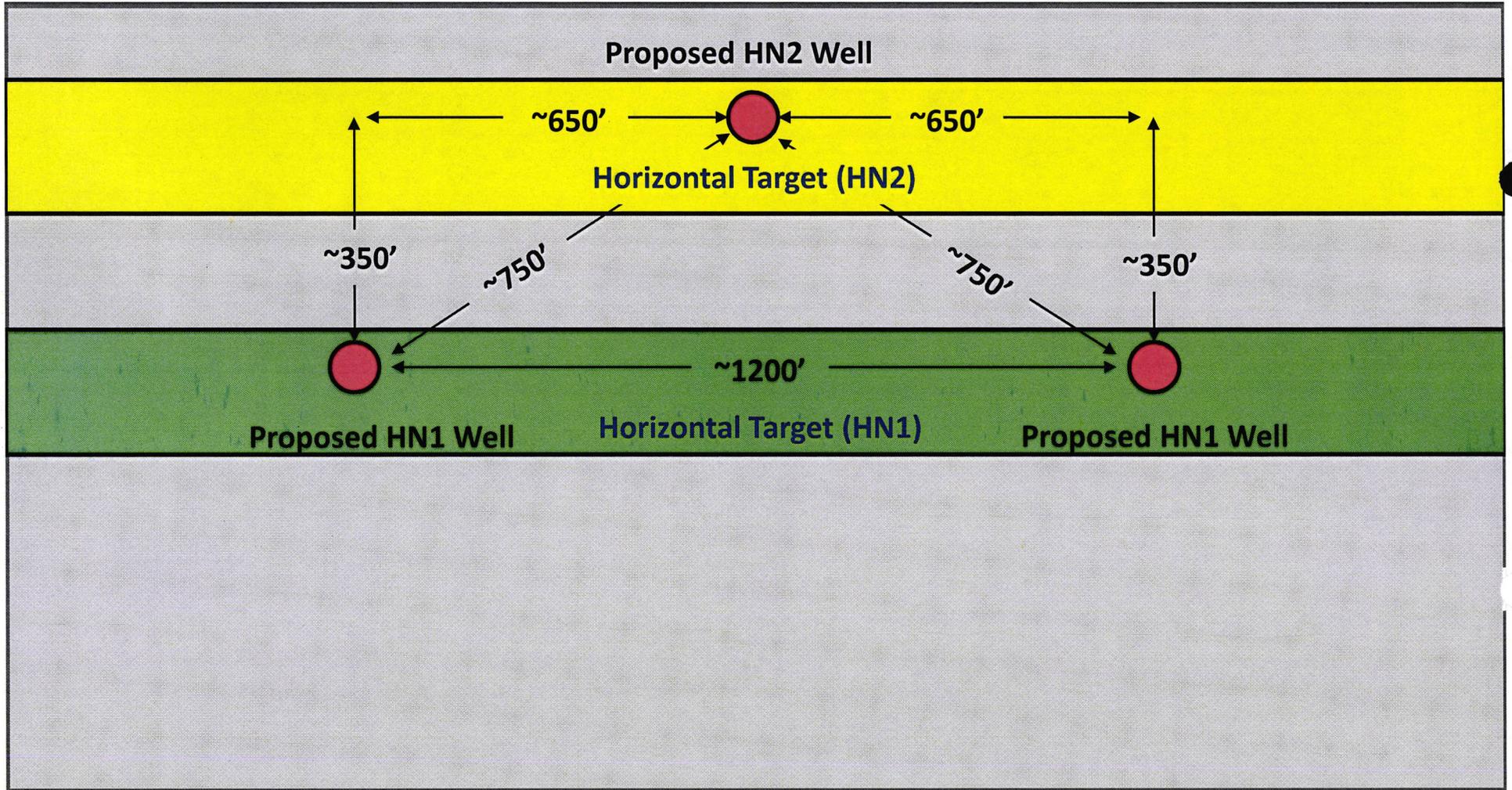
- Predominantly shales and siltstones
  - Low porosity ~2.5-5%
  - Very low permeability – nanodarcy ( $10^{-9}$ ) range
  - Average TOC: 1.5-2%
  - Average Sw: 20-30%

# Theoretical well placement with setbacks



# Schematic Cross-Section (gun-barrel view south to north)

Top Niobrara

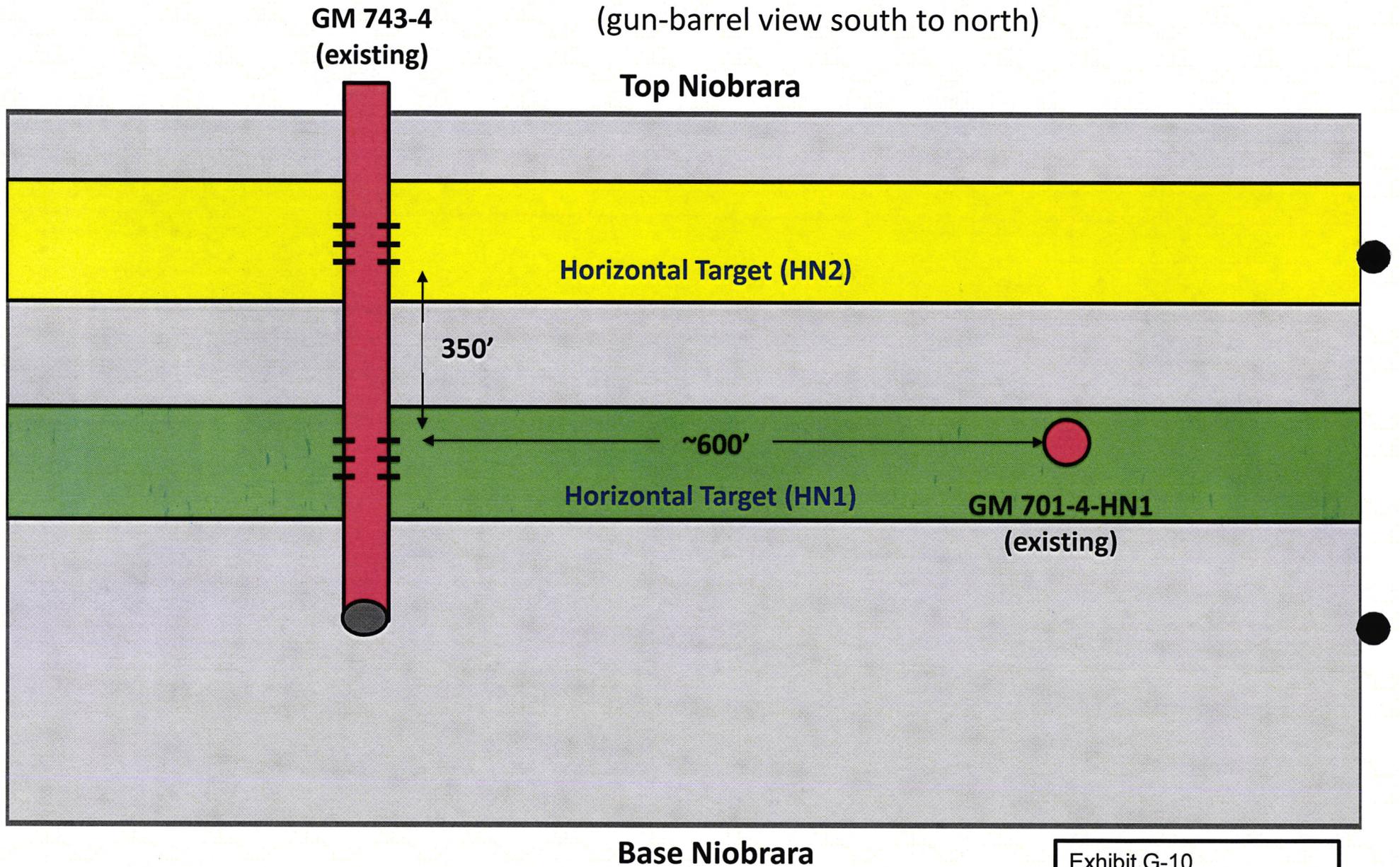


Base Niobrara



Exhibit G-9  
Cause # 440  
Docket #150300120

# Schematic Cross- Section (gun-barrel view south to north)



**LAURA BeVIER LEVORSEN**  
1001 17<sup>th</sup> Street, Suite 1200  
Denver, Colorado 80202  
[laura.levorsen@wpxenergy.com](mailto:laura.levorsen@wpxenergy.com)  
(303) 572-3900

## **WORK EXPERIENCE**

### **WPX Energy (formerly Williams Company), Denver, Colorado**

**Niobrara Geology Team Lead/Sr. Staff Geologist – Piceance Basin Asset Team** – Part of an asset team charged with the development of the Niobrara. (April 2013 to present)

**Geology Team Lead – Powder River Basin Asset Team** – Responsible for the development of the deep acreage beneath previous CBM leasehold. (October 2011 to April 2013)

### **Consulting Geologist, Denver, Colorado**

*Cordillera Energy Partners* - Responsible for prospect and reserve development. (January 2007 to September 2011)

*Devon* –Worked on stratigraphic correlations, reservoir mapping, and well locations for Bearpaw Eagle sand development. Evaluated potential new coalbed methane play involving coal correlations, mapping, and play analysis (August 2004 to December 2006)

*Westport Resources – Northern Division:* Assisted with field development, evaluation of new plays, and operations on the Wyoming and Williston asset teams. *Western Division:* responsible for daily operations of Uinta Basin field development. (February 2003 to July 2004)

*Mallon Oil* - Developed prospects and recompletion candidates for Delaware Basin and San Juan Basin leaseholds, New Mexico. Began evaluation of Mallon's Costa Rica concession area for exploration potential and development of lead areas for future drilling. (October 1994 to October 2000)

*Alpine Gas Company* - Provided geological analysis of established lease area in northern Green River Basin, Wyoming. (January 1993 to September 1994)

### **Williams Company (formerly Barrett Resources), Denver, Colorado**

**Senior Staff Geologist – Piceance Basin Asset Team** – Responsible for the daily operations of the Grand Valley field. (March 2001 to August 2002)

### **Pecten International (previously, a subsidiary of Shell Oil Co., U.S.A.), Houston, Texas**

**Exploration Geologist** - Far East/Latin America Region: Evaluated new venture opportunities and farmout acreage in New Zealand and limited work in Indonesia. Responsible for prospect development and daily drilling operations for drilling program in Sabah, Malaysia. (March 1990 to June 1992)

### **Anadarko Petroleum Corporation, Houston, Texas**

**Geologist** - *Operations, Gulf Coast onshore and offshore:* Responsible for field development; delineating reservoirs through field studies. *Wellsite geologist.* *Exploration:* Regional mapping of Algeria; targeting areas for future exploration. Regional mapping and prospect generation for Nevada exploration. *Wellsite geologist.* (June 1986 to February 1990)

## **EDUCATION**

M.S. Geology, Colorado School of Mines, Golden, Colorado, May, 1987

B.S. Geology, University of Colorado at Denver, Denver, Colorado, August, 1984

B.A. Biology, University of Kansas, Lawrence, Kansas, May 1980

B.A. East Asian Studies (Chinese Language and Culture), University of Kansas,  
Lawrence, Kansas, December, 1980

## **PROFESSIONAL ORGANIZATIONS**

American Association of Petroleum Geologists

Houston Geological Society

Rocky Mountain Association of Geologists

Denver Well Logging Society

Society of Economic Paleontologists and Mineralogists

American Field Service - foreign exchange student to Malaysia in 1975

## **PROFESSIONAL LICENSURES**

Professional Geologist, State of Wyoming, PG-3860

**Exhibit G-11  
Cause No. 440  
Docket No. 150300120**

# **WPX Energy Rocky Mountain, LLC**

## **Tyler Peters – Engineering Testimony**

Cause No. 440, Docket No. 150300120

Request to establish an approximate 1,280-acre exploratory drilling unit for the Application Lands for horizontal and vertical well development, for the production of gas and associated hydrocarbons from the Mancos (including the Sege Sandstone), Niobrara, Frontier, Mowry, and Dakota Formations, with 300' setbacks from northern/southern unit boundaries.

My name is Tyler Peters and I am currently employed as a Senior Reservoir Engineer for WPX Energy Rocky Mountain, LLC, ("WPX"). I have a degree in Mechanical Engineering from Colorado State University, five years of work experience with ExxonMobil and three years of work experience with WPX Energy. I have worked assets in the Gulf of Mexico, Piceance, and East Texas. I am familiar with the lands subject to, and the matters set forth in the verified application (the "Application") filed herein. My resume can be found in the Appendix submitted with the Application.

In support of the Application, I am submitting two exhibits. The exhibits are attached to my sworn testimony and form the basis for the Application requesting an order establishing an exploratory drilling unit for horizontal, vertical and directional well development, for the production of oil, gas and associated hydrocarbons from the Deep Formations.

### 1. Exhibit No. E-1

Exhibit No. E-1 is a log rate vs. time production plot of the GM 701-4 HN1 which is representative of WPX's horizontal Niobrara wells. The GM 701-4HN1 is roughly nine miles west from the proposed unit. Using Arps decline, along with analogue production and rate transient analysis, WPX has assigned the GM 701-4 HN1 an estimated ultimate recovery of 7 billion cubic feet of gas. Wells in the proposed unit are expected to have similar EURs.

### 2. Exhibit No. E-2

Exhibit No. E-2 is a summary of parameters used in volumetric calculations for the HN1 zone of the Niobrara formation. Reservoir pressure and temperature were estimated from well testing analysis, while porosity and saturation values were obtained by logs calibrated to match core from an offset well. Reservoir height was estimated using proppant embedment tests, pressure testing, and log analysis.

Using these parameters an Original Gas In Place value of 52 BCF was calculated per 640 acre section of the HN1 zone. Assuming a recovery factor of 50%, which is reasonable for shale gas reservoirs, there are 26 BCF of recoverable reserves per section in the HN1. With an estimated recovery of 7 BCF per well, there will need to be four wells per section in the HN1 to efficiently recover reserves. Using the above calculations, it is believed a well spacing of 160 acres (1,320 feet between wellbores in the same zone of interest) will prevent waste and protect correlative rights.

Conclusions

WPX's development of the Deep Formations is still in the early stages of development. From our existing wells we feel the following is true:

- The Deep Formations consist of five objective formations, all of which have the possibility to be economically produced by either horizontal or vertical wells.
- Some of these formations have multiple separate objective zones of interest.
- Well test analysis indicates no pressure communication between the HN1 and HN2, two zones of interest in the Niobrara. It is reasonable to believe this will hold true in the other formations and sub-formations of the Deep Formations.
- Micro seismic analysis suggests 300 foot well setbacks from Northern and Southern unit boundaries are appropriate to efficiently recover reserves while protecting correlative rights.
- The adequate exploratory evaluation of each objective zone will require multiple wells which may be horizontal, vertical, or directional.
- If the spacing assumption of four wells per section in the HN1 continues to be true for the rest of the Deep Formations, four wells per zone of interest multiplied by five objective formations, or sub-formations, would require 20 wells per section for adequate exploratory evaluation.

The above guidelines would suggest the requested exploratory drilling unit, consisting of two sections, would require up to forty wells for adequate exploratory evaluation. By granting this exploratory drilling unit, WPX Energy will be able to efficiently and economically recovery reserves associated with the Deep Formations while preventing waste and protecting correlative rights.

The matters described herein were devised under my direction and control. To the best of my knowledge and belief, all of the matters set forth herein, my testimony and the supporting exhibits, are true, correct and accurate.

Dated this 22<sup>nd</sup> day of January, 2015.



Tyler Peters, Reservoir Engineer  
WPX Energy Rocky Mountain, LLC.

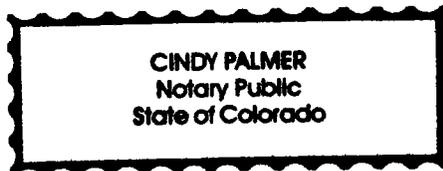
VERIFICATION

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

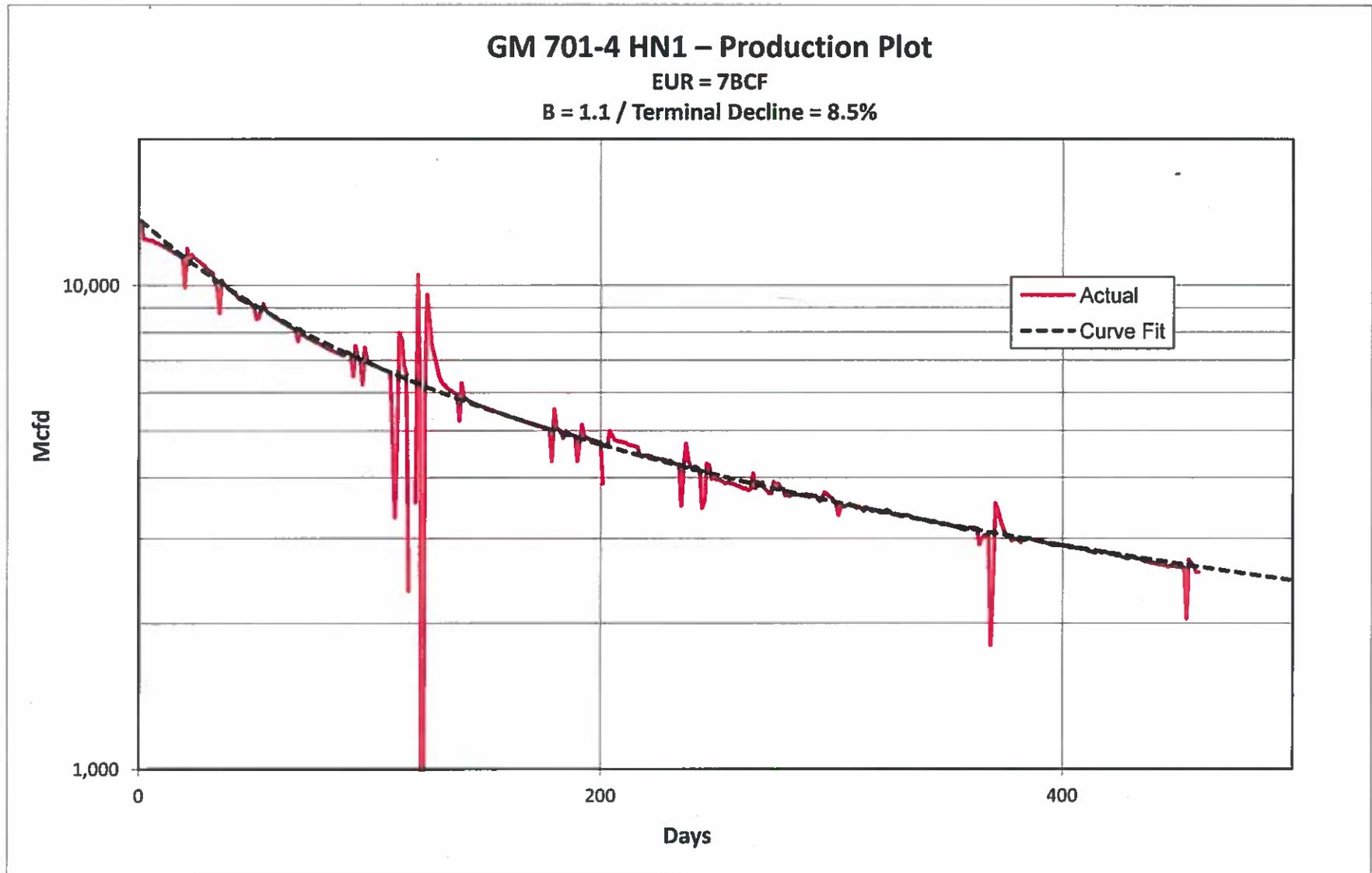
The foregoing instrument was subscribed and sworn to before me this 22<sup>nd</sup> day of January, 2015, by Tyler Peters, Reservoir Engineer for WPX Energy Rocky Mountain, LLC.

Witness my hand and official seal.

My commission expires: 01-06-2019



# Niobrara Production Plot – Log Rate vs. Time



## Volumetrics – Niobrara Formation, HN1 interval

**Reservoir parameters: Determined using logs, core, DFIT, seismic, and pressure testing.**

- ▶ Initial reservoir pressure: 9600 psi
- ▶ Reservoir temperature: 310 F
- ▶ Porosity: 4.7%
- ▶ Water saturation: 20%
- ▶ Reservoir height: 150 ft

### **Gas in place**

- ▶ OGIP per section: 52 BCF
- ▶ Expected recovery factor: 50%
- ▶ Recoverable reserves per section: 26 BCF

### **Estimated recovery:**

- ▶ 7 BCF per well (assume 5,000' lateral length)

### **Well density:**

- ▶ 4 wells per zone of interest per section
- ▶ 160 acres per well per zone
- ▶ Up to 20 wells per section (4 wells per zone of interest X 5 objective formations or sub-formations)

### **Multiple objective formations:**

- ▶ 5 objective formations: Mancos, Niobrara, Frontier, Mowry, Dakota
- ▶ Some formations have separate zones of interest.
- ▶ Pressure data indicates pressure isolation between formations and separate zones of interest within a formation.

## **Tyler J. Peters**

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303-260-4565  
Tyler.Peters@wpxenergy.com

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### **Education:**

Bachelor of Science, Mechanical Engineering; May 2006  
Colorado State University: Fort Collins, CO

### **Work Experience:**

#### **WPX Energy (formerly Williams) – Senior Reservoir Engineer**

**February 2011 – Present:** Mesaverde tight gas & Niobrara shale gas reservoirs.

#### **ExxonMobil Production Company - Reservoir Engineer**

**April 2010 – November 2010:** E. Texas Hawkins secondary recovery oil field with shallow and deep gas potential.

**September 2008 – April 2010:** Piceance conventional pressure depletion Wasatch formation and Mesaverde tight gas reservoirs.

**August 2006 - August 2008:** Galveston 209 and High Island 193 offshore Gulf of Mexico oil and gas.

#### **Reservoir Skill Set:**

- Analytical performance and prediction
- Economic analysis
- Asset development and depletion planning
- Reserve assessment
- Reservoir surveillance
- Volumes forecasting
- Well Testing