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



IN THE MATTER OF THE APPLICATION OF AXIA ENERGY, LLC FOR AN ORDER TO ESTABLISH AN APPROXIMATE 2533.55-ACRE UNIT IN SECTIONS 17, 18, 19 AND 20 TOWNSHIP 8 NORTH, RANGE 93 WEST, 6TH P.M., UNNAMED FIELD, MANCOS AND NIOBRARA FORMATIONS, MOFFAT COUNTY, COLORADO

CAUSE NO. 540

DOCKET NO. 1303-SP-42

ORIGINAL

REQUEST FOR RECOMMENDATION OF
APPROVAL OF APPLICATION WITHOUT A HEARING

Axia Energy, 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 January 24, 2013 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 15th day of March, 2013.

Respectfully submitted,

**AXIA ENERGY, LLC**

By: _____

Jamie L. Jost
Gregory J. Nibert Jr.
Beatty & Wozniak, P.C.
Attorneys for Applicant
216 16th Street, Suite 1100
Denver, Colorado 80202
(303) 407-4499

# AXIA ENERGY, LLC

Cause No. 540, Docket No. 1303-SP-42

**AXIA ENERGY, LLC**
**Tab McGinley – Land Testimony**

Cause 540; Docket No. 1303-SP-42
Drilling and Spacing Unit Application – Mancos-Niobrara Formations
Unnamed Field, Moffat County, Colorado

March 2013 Colorado Oil and Gas Conservation Commission Hearing

My name is Tab McGinley, and I am currently employed as Vice President of Land for Axia Energy LLC ("Applicant"). I graduated from Rice University in Houston, Texas in 1983 with a degree in Energy Land Management. I have over 29 years of experience in oil and gas land work. I have worked directly or in a supervisory role with the properties that are subject of this matter.

In support of Applicant's application and my sworn testimony herein, I am submitting five (5) exhibits. This testimony and exhibits provide the supporting basis for approval of the Applicant's request for an order establishing an approximate 2,533.55-acre drilling and spacing unit for the production of oil, gas and associated hydrocarbons from the Mancos and Niobrara formations underlying the following lands ("Application Lands"):

Township 8 North, Range 93 West, 6TH P.M.
Section 17: ALL
Section 18: Lots 1-4, E½W½, E½; a/d/a ALL
Section 19: Lots 1-4, E½W½, E½; a/d/a ALL
Section 20: Lots 1-3, N½SW¼, NW¼, E½; a/d/a ALL

Moffat County, Colorado.

Exhibit L-1: Location Map; Mineral and Leasehold Ownership Map:

Exhibit L-1 is a map showing the location of the Application Lands and the leasehold ownership. The Application Lands consist of 93.82% fee mineral interests and 6.18% federal mineral interests. The following parties own leasehold or unleased mineral interests in the Application Lands:

| INTEREST HOLDER | % WI |
|---|---|
| AXIA ENERGY, LLC | *56.36498%* |
| OXY USA INC. | *18.78964%* |
| QUICKSILVER RESOURCES, INC. | *6.53313%* |
| U.S.A. C/O BUREAU OF LAND MANAGEMENT | *6.18381%* |
| ESTATE OF CLARENCE F. SMITH, ***ET. AL.*** | *12.12844%* |
| TOTAL: | *100.00000%* |

Exhibit L-2: Property Location Plat:

The property location plat and well survey for the Bulldog 17-11H-893 well are currently in progress. The Well has a projected surface location of 300' Feet From North Line and 1000' Feet From West Line in the NW1/4NW1/4 of Section 17, Township 8 North, Range 93 West and a projected bottomhole location of 600' Feet From West Line and 625' Feet

From South Line in the SW1/4SW1/4 of Section 20, Township 8 North, Range 93 West. The Applicant has conformed to its statement that the initial perforation of the Mancos and Niobrara formations, and the ultimate bottom hole location of the well, is not closer than 600' feet from the boundaries of the 2,533.35-acre drilling and spacing unit.

Exhibit L-3: Surface Ownership Map:

Exhibit L-3 is a map showing the surface ownership of the Application lands. The Applicant is working on finalizing an agreement with the surface owner being Rio Ro Mo Acres, LLC, owning 100% of the surface being used on the Application Lands.

Exhibit L-4: Topographic Map:

Exhibit L-4 is a map showing the topography of the Application lands.

Approval of a drilling and spacing unit would allow for a less impactful surface development plan. Given common interest within the unit, tank batteries would be smaller by virtue of combining oil and water tanks. Multiple well pad development allows for fewer impactful rig moves as well as centralized completion pits. Centralized completion pits allow for the construction of water gathering and supply lines. By constructing fewer completion pits and by pumping the needed water to location, thousands of trucked water loads are saved for each well completion. Fewer truck loads results in less dust, road damage and less traffic. By allowing for these spacing units, over 40 acres of potential surface pads can be saved for the landowner.

Exhibit A: Interested Parties:

Attached as Exhibit A are all interested parties within the Application Lands. Based upon our examination of relevant documents all of the interested parties received proper notice. As of the date of this testimony, the Applicant is not aware of any unresolved protests or objections to the Application.

**Affirmation**

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

Tab McGinley, Vice President of Land
Axia Energy, LLC



SP-12

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

The foregoing instrument was subscribed and sworn to before me this 11th day of March, 2013, by Tab McGinley, as Vice President of Land for Axia Energy, LLC.

Witness my hand and official seal.

[SEAL]

My commission expires: 8/7/16

Notary Public

TERESA H. BRANDON NOTARY PUBLIC STATE OF COLORADO



SP-42

From South Line in the SW1/4SW1/4 of Section 20, Township 8 North, Range 93 West. The Applicant has conformed to its statement that the initial perforation of the Mancos and Niobrara formations, and the ultimate bottom hole location of the well, is not closer than 600' feet from the boundaries of the 2,533.35-acre drilling and spacing unit.

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**Affirmation**

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

Tab McGinley, Vice President of Land
Axia Energy, LLC

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

The foregoing instrument was subscribed and sworn to before me this ___ day of _____, 2013, by Tab McGinley, as Vice President of Land for Axia Energy, LLC.

Witness my hand and official seal.

[SEAL]

My commission expires: _____

_____
Notary Public

**Exhibit L-1: Cause 540, Docket No. 1303-SP-42**
**Location Map; Mineral and Leasehold Ownership Map**
Well Survey Pending
Sections 17, 18, 19 and 20, Township 8 North, Range 93 West
Moffat County, Colorado

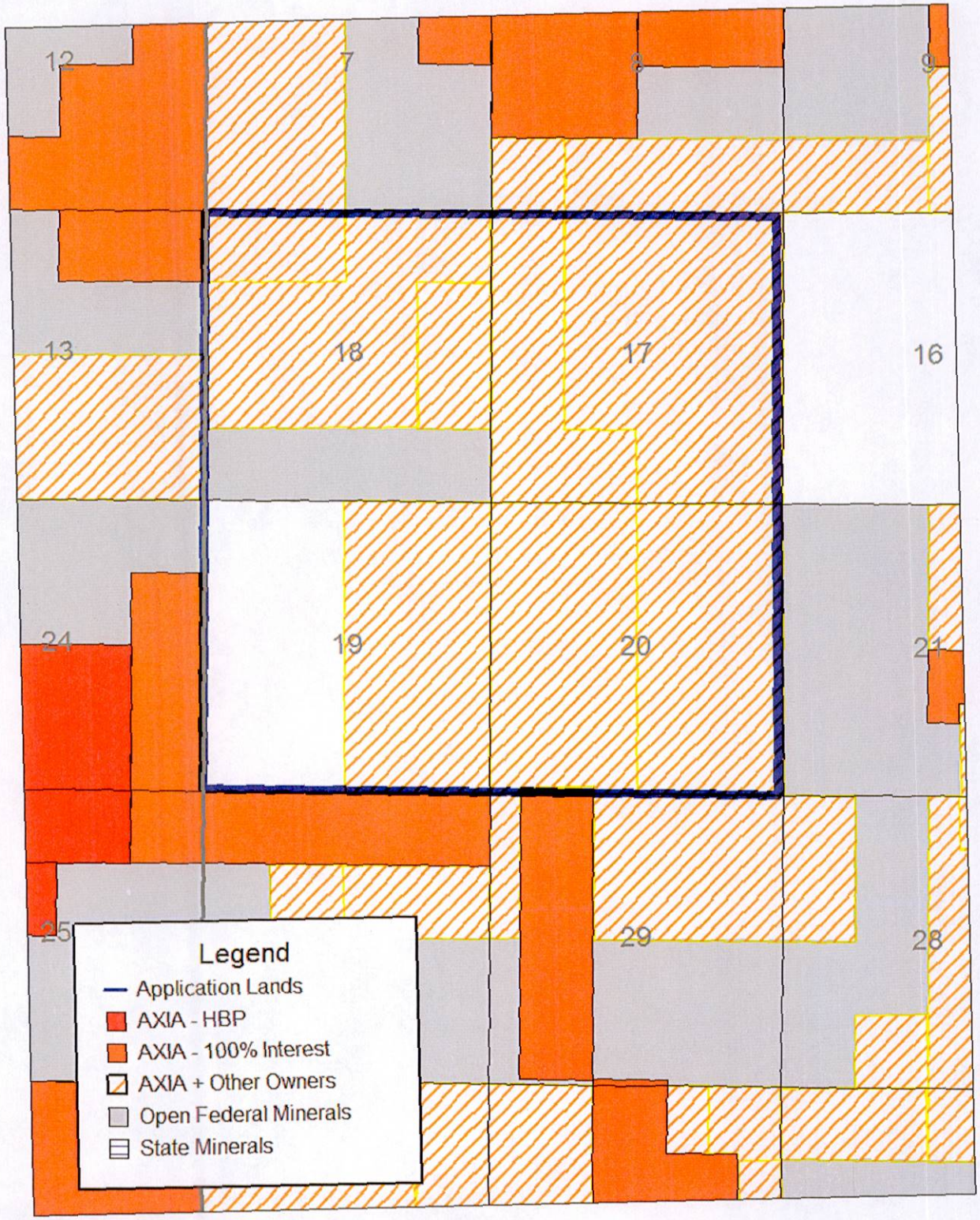


**Exhibit L-2: Cause 540, Docket No. 1303-SP-42**
**Property Location Plat: Surface Location**

# Well Survey Pending

Sections 17, 18, 19 and 20, Township 8 North, Range 93 West
Moffat County, Colorado

**Exhibit L-2: Cause 540, Docket No. 1303-SP-42**
**Property Location Plat: Bottom Hole Location**

# Well Survey Pending

Sections 17, 18, 19 and 20, Township 8 North, Range 93 West
Moffat County, Colorado

**Exhibit L-3: Cause 540, Docket No. 1303-SP-42**
**Surface Ownership Map**
Well Survey Pending
Sections 17, 18, 19 and 20, Township 8 North, Range 93 West
Moffat County, Colorado

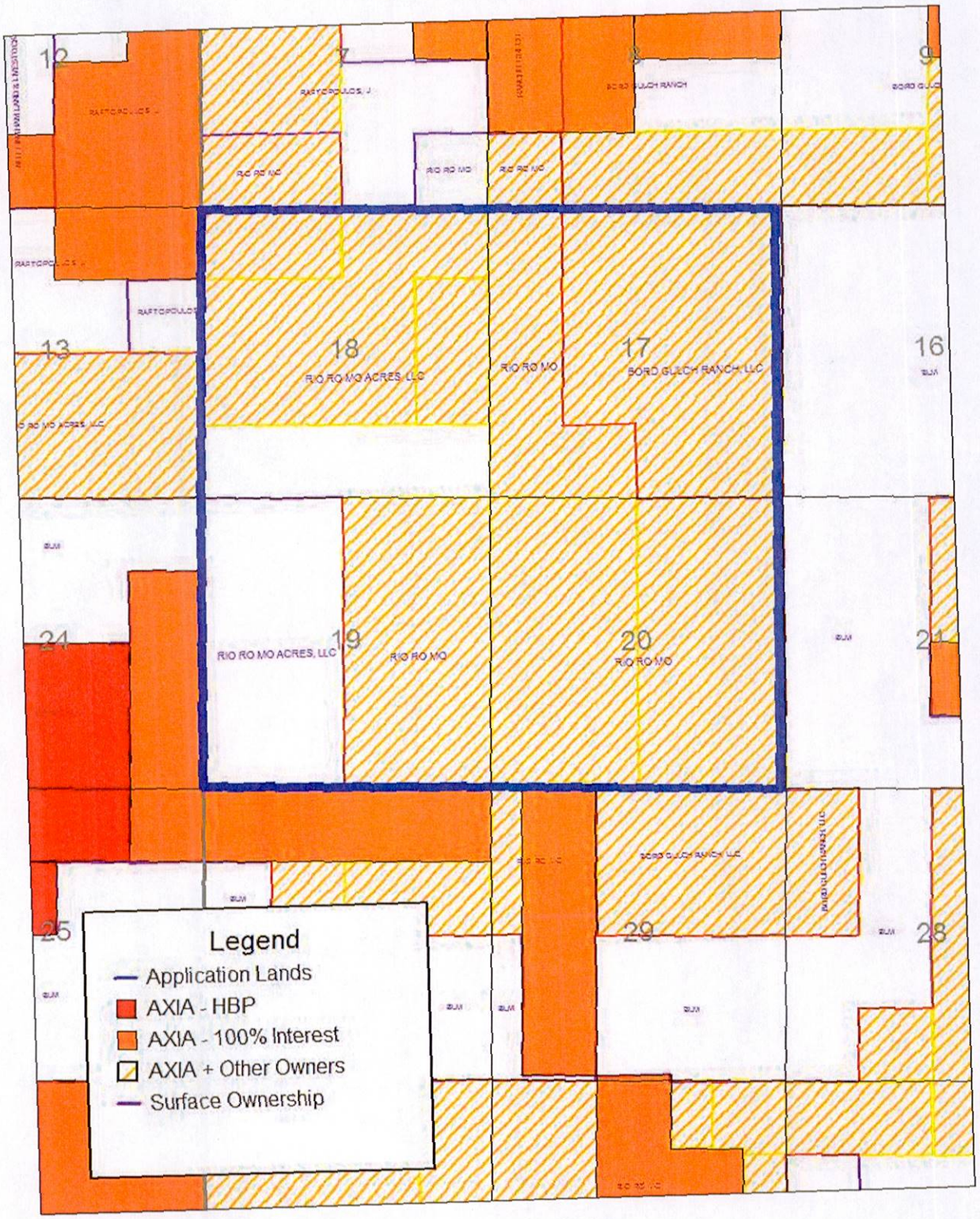


**Exhibit L-4: Cause 540, Docket No. 1303-SP-42**
**Topographic Map**
Well Survey Pending
Sections 17, 18, 19 and 20, Township 8 North, Range 93 West
Moffat County, Colorado

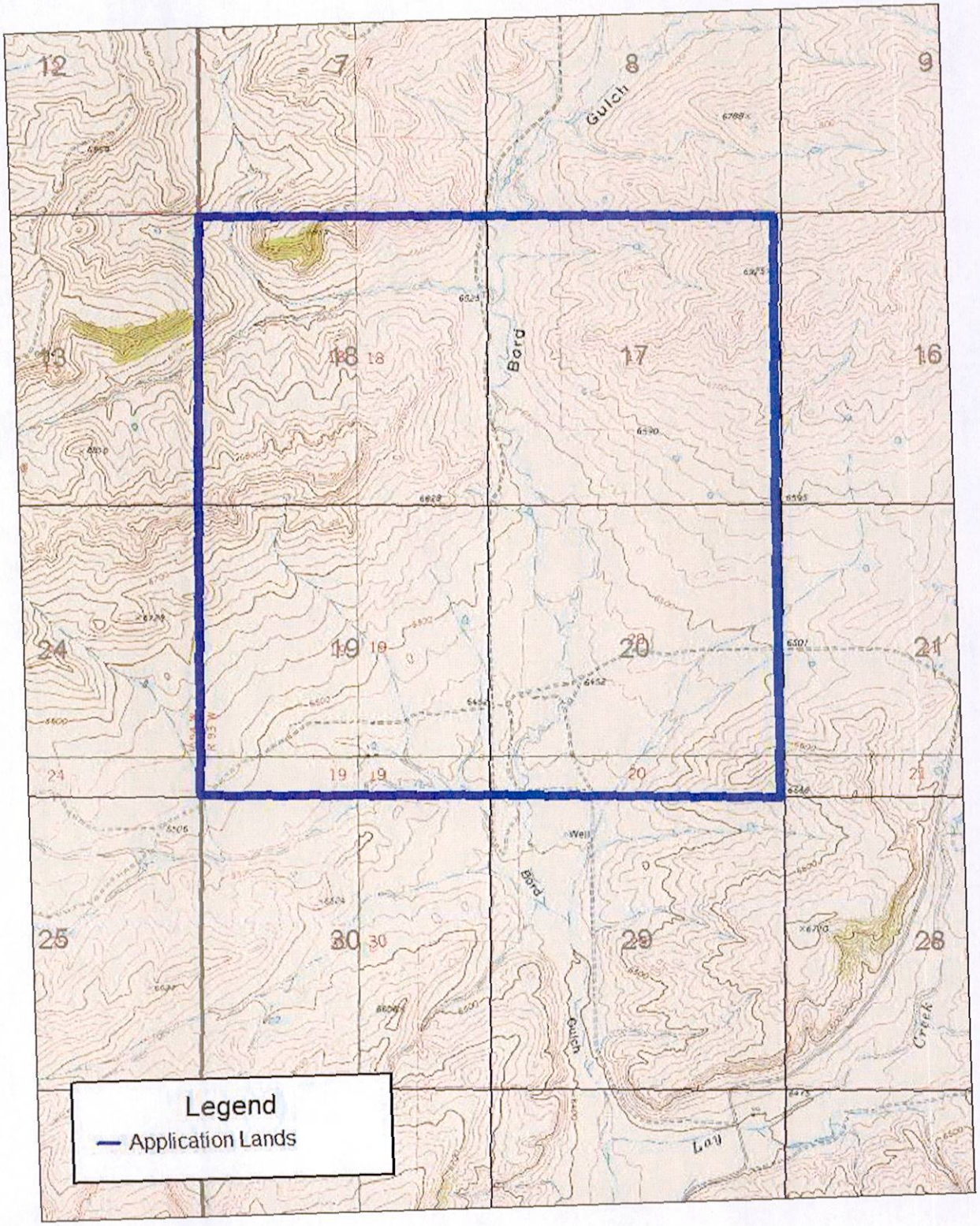


**Exhibit A:**
**Interested Parties**

AXIA ENERGY, LLC
1430 LARIMER STREET, SUITE 400
DENVER, CO 80202

OXY USA INC.
5 GREENWAY PLAZA, SUITE 110
HOUSTON, TEXAS 77046

CLARENCE F. SMITH ESTATE
C/O PATRICK SMITH ET AL
2508 SCOTTSDALE
LAWRENCE, KS 66047

CHARLES E. SMITH ESTATE
C/O JAY W. SMITH AIF
5530 MARINA DR
GARLAND, TX, 75043

JAMES A SMITH ESTATE
C/O JAY W. SMITH AIF
5530 MARINA DR
GARLAND, TX, 75043

RUTH S. RUDESILL
714 ASHCOMB DRIVE
LA PUENTE, CA 9174

JOHN ALFRED SMITH ESTATE
C/O DENNIS JOHN SMITH
12227 W. 63RD TER.
SHAWNEE, KS 66216

JOHN ALFRED SMITH ESTATE C/O
KENNETH DALE SMITH
9908 W. 147TH ST.
OVERLAND PARK, KS 66221

QUICKSILVER RESOURCES, INC.
801 CHERRY STREET, STE. 3700
FORT WORTH, TEXAS 76102

U.S.A. C/O BUREAU OF LAND MANAGEMENT
2850 YOUNGFIELD STREET
LAKEWOOD, CO 80215

LITTLE SNAKE FIELD OFFICE
BUREAU OF LAND MANAGEMENT
ATTENTION: MARTY O'MARA
455 EMERSON STREET
CRAIG, COLORADO 81625

JEFF COMSTOCK
MOFFAT COUNTY
221 W VICTOR WAY, SUITE 130
CRAIG, CO 81625

KENT KUSTER
COLORADO DEPARTMENT OF
PUBLIC HEALTH & ENVIRONMENT
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530

MICHAEL WARREN
ENERGY LIAISON
COLORADO PARKS AND WILDLIFE
NORTHWEST REGIONAL OFFICE
711 INDEPENDENT AVE.
GRAND JUNCTION, CO 81505

**AXIA ENERGY, LLC**

**Brian Berwick – Geology Testimony**

Cause 540; Docket No. 1303-SP-42

Mancos-Niobrara Formations

Unnamed Field, Moffat County, Colorado

March 2013 Colorado Oil and Gas Conservation Commission Hearing

My Name is Brian Berwick and I am currently employed as Senior Geologist by Axia Energy ("Axia"). I received a Bachelors of Science in Geology degree from the University of Colorado, Denver in 2003 and a Master's of Science degree in Petroleum Geology from the Colorado School of Mines in 2008. I have 10 years of experience in oil and gas geology. I am familiar with the lands described, and the matters set forth in the March 25th and 26th verified application ("Application").

In support of Axia's application in the above referenced docket, I am submitting the following nine exhibits. These exhibits are attached to my sworn testimony and form the bases of Axia's application for an order establishing one 2533.55 acre spacing unit for the drilling of one or more horizontal or vertical wells for production of oil, gas and associated hydrocarbons from the Mancos and Niobrara formations underlying sections 17, 18, 19 and 20 of Township 8 North, Range 93 West, Moffat County, Colorado.

Exhibit #G1 – Type Log

Exhibit #G1 is a type log that shows the Mancos and Niobrara formations. The inset map shows the location of the type log relative to the Application Land. The log has two tracks: gamma ray and resistivity. The top of the Niobrara is marked by a sharp increase in gamma ray intensity as well as a general increase in resistivity. In the Mancos several relatively sandy intervals are indicated by a decrease in gamma ray intensity. In the Sand Wash Basin production has been established from both the Niobrara and Mancos, predominantly from vertical well bores. On the south and east flank of the basin historic Niobrara producers average more than 150,000 barrels of oil per well.

Exhibit #G2 – Correlation Cross-Section and Mancos and Niobrara logs

Exhibit #G2 shows a two well cross-section in the general area of the Application Lands. The logs have up to three tracks: gamma ray, resistivity and density porosity. The cross section shows the regional relationships of the Mancos and Niobrara and the isopach

interval that is included in exhibit #4. This cross section demonstrates that the Mancos and Niobrara formations are present throughout the Application Lands to be spaced.

Exhibit #G3 – Structure Contour Map

Exhibit #G3 is a subsea structure map constructed on the top of the Niobrara formation. The contour interval of the map is 200 feet. Structural dip in the Application lands is approximately 10.0 degrees to the north. Production from the Niobrara formation has been established in all three Bulldog wells independent of structural closure. Production of this nature demonstrates the characteristic of a shale resource play throughout the Application Lands to be spaced.

Exhibit #G4 – Isopach Map: Top Mancos to Base Niobrara

Exhibit #G4 is an isopach map of the interval from the top of the Mancos to the base of the Niobrara. Total thickness of this interval on the Application lands averages 4400'. This isopach map demonstrates that the Mancos and Niobrara formations are present throughout the Application Lands to be spaced.

Exhibit #G5

Exhibit #G5 is a Horizontal Wellbore Overview of the Bulldog 26-34H through the Niobrara formation. The log has three tracks: gamma ray, total gas and mud weight. The total gas curve in track #2 of the wellbore overview exhibits elevated levels of formation gas throughout the curve and lateral sections of the well. This demonstrates continuous hydrocarbon saturation characteristic of a shale resource play. Additionally, the elevated mud weight necessary to control formation gas– shown on track #3– demonstrates the Niobrara formation hydrocarbon reservoir is over-pressured. This over-pressured condition is a characteristic of shale resource plays. All three Bulldog wells encountered similar over-pressured conditions demonstrating that over-pressured Niobrara formation hydrocarbon reservoirs are present throughout the Application Lands to be spaced.

Exhibit #G6

Exhibit #G6 is a Horizontal Wellbore Overview accompanied by the Pilot-Hole Log of the Bulldog 20-12H through the Niobrara formation. The horizontal log has three tracks: gamma ray, total gas and mud weight. The pilot-hole log has three tracks: gamma ray, resistivity and total gas. The total gas curve in track #2 of the wellbore overview exhibits elevated levels of formation gas throughout the curve and lateral sections of the well. This demonstrates continuous hydrocarbon saturation characteristic of a shale resource play. Additionally, the elevated mud weight necessary to control formation gas– shown on track #3– demonstrates the Niobrara formation hydrocarbon reservoir is over-pressured. This over-pressured condition is a characteristic of shale resource plays. All three Bulldog wells encountered similar over-pressured conditions demonstrating that over-pressured Niobrara formation hydrocarbon reservoirs are present throughout the Application Lands to be spaced.

Exhibit #G7

Exhibit #G7 is a Horizontal Wellbore Overview of the Bulldog 5-31H through the Niobrara formation. The log has three tracks: gamma ray, total gas and mud weight. The total gas curve in track #2 of the wellbore overview exhibits elevated levels of formation gas throughout the curve and lateral sections of the well. This demonstrates continuous hydrocarbon saturation characteristic of a shale resource play. Additionally, the elevated mud weight necessary to control formation gas– shown on track #3– demonstrates the Niobrara formation hydrocarbon reservoir is over-pressured. This over-pressured condition is a characteristic of shale resource plays. All three Bulldog wells encountered similar over-pressured conditions demonstrating that over-pressured Niobrara formation hydrocarbon reservoirs are present throughout the Application Lands to be spaced.

Exhibit #G8

Exhibit #G8 is a well log that shows typical mud gas characteristics of the Mancos and Niobrara formations throughout the area of the Application Lands. Track one contains a gamma ray curve while track two contains a total gas curve. The total gas curve exhibits elevated levels of formation gas throughout the Mancos and Niobrara formations. This suggests the presence of hydrocarbons throughout both formations and presents the potential to exploit the resource with multiple, stacked lateral wellbores.

Exhibit #G9– Offset Well Locations

Exhibit #G9 shows all existing well locations on and in the vicinity of the Application lands. Note that very few wells currently exist within the Application lands. Those that are present are either dry holes, or produce from formations above the Mancos and Niobrara formations.

The Niobrara formation is a calcareous shale deposited throughout a broad area in the Cretaceous Western Interior Seaway. In addition to clay and carbonate, silt and clay sized quartz grains are common constituents of the Niobrara formation. Due to its fine grained nature, the reservoir permeability of Niobrara formation is very low - typically in the microdarcy range.

The Mancos formation is composed of predominantly of clay rich shale, and like the Niobrara formation, it to was deposited throughout a broad area in the Cretaceous Western Interior Seaway. In addition to clay, siltstone and fine grained sandstone are common constituents of the Mancos formation. Due to its fine grained nature, the reservoir permeability of Niobrara formation is very low - typically in the microdarcy range.

Due to the widespread nature of deposition of the Mancos and Niobrara within the Cretaceous Seaway, it is my conclusion that both formations underlie the Application Lands to be spaced.

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

**Affirmation**

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

Brian Berwick
Senior Geologist
Axia Energy, LLC

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

The foregoing instrument was subscribed and sworn to before me this 11th day of March, 2012, by Brian Berwick, as Senior Geologist for Axia Energy, LLC.

Witness my hand and official seal.

[SEAL]

My commission expires: 8/7/16

Notary Public

TERESA H. BRANDON NOTARY PUBLIC STATE OF COLORADO

**Affirmation**

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

_____
Brian Berwick
Senior Geologist
Axia Energy, LLC

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

The foregoing instrument was subscribed and sworn to before me this ___ day of _____, 2012, by Brian Berwick, as Senior Geologist for Axia Energy, LLC.

Witness my hand and official seal.

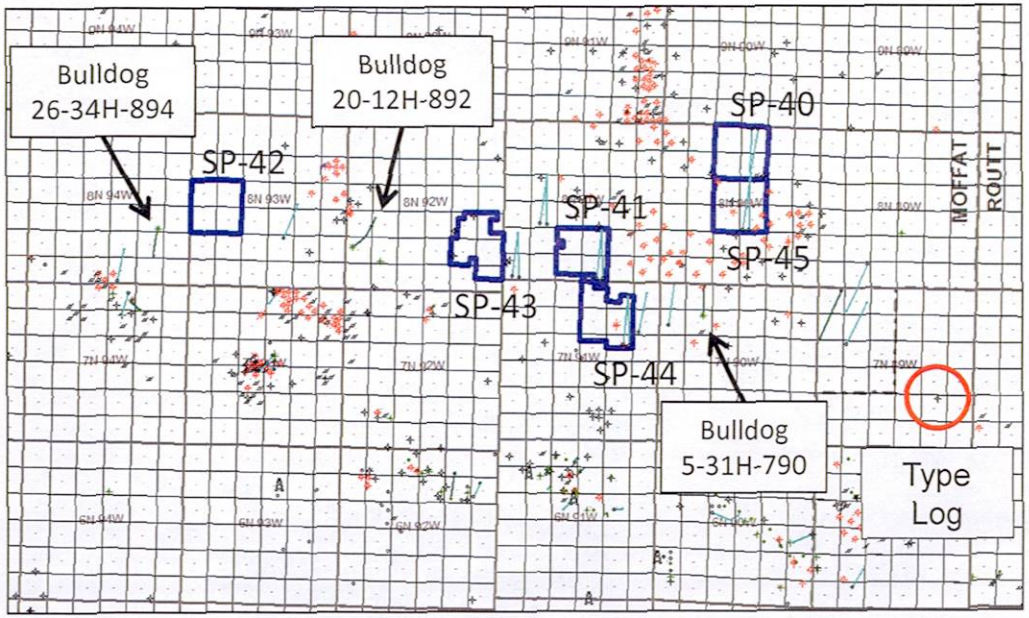
[SEAL]

My commission expires: _____

_____
Notary Public

Exhibit G-1
Cause 540
Docket No. 1303 SP-42

# Type Log
# Mancos and Niobrara




TEXAS PACIFIC OIL CO
BEAR 1
T7N R89W S26
9/7/1978
05107060540000

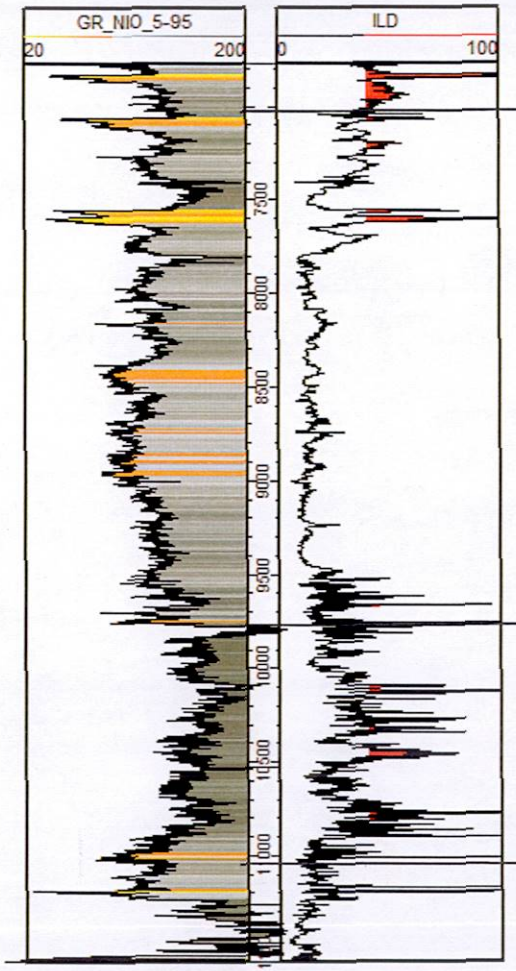
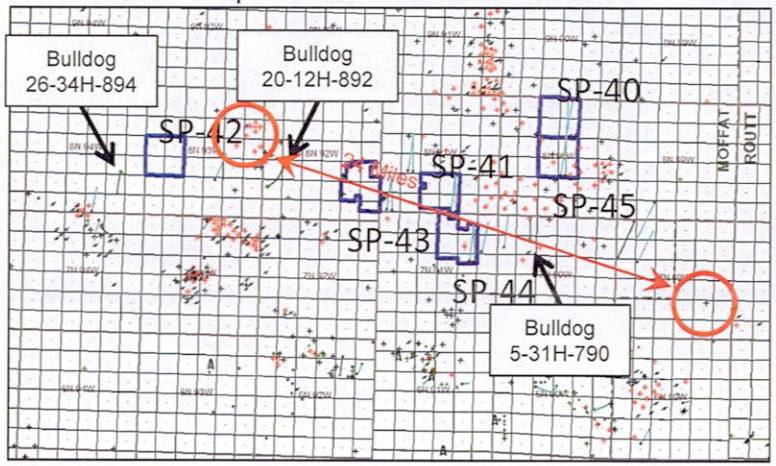


Exhibit G-2
Cause 540
Docket No. 1303 SP-42

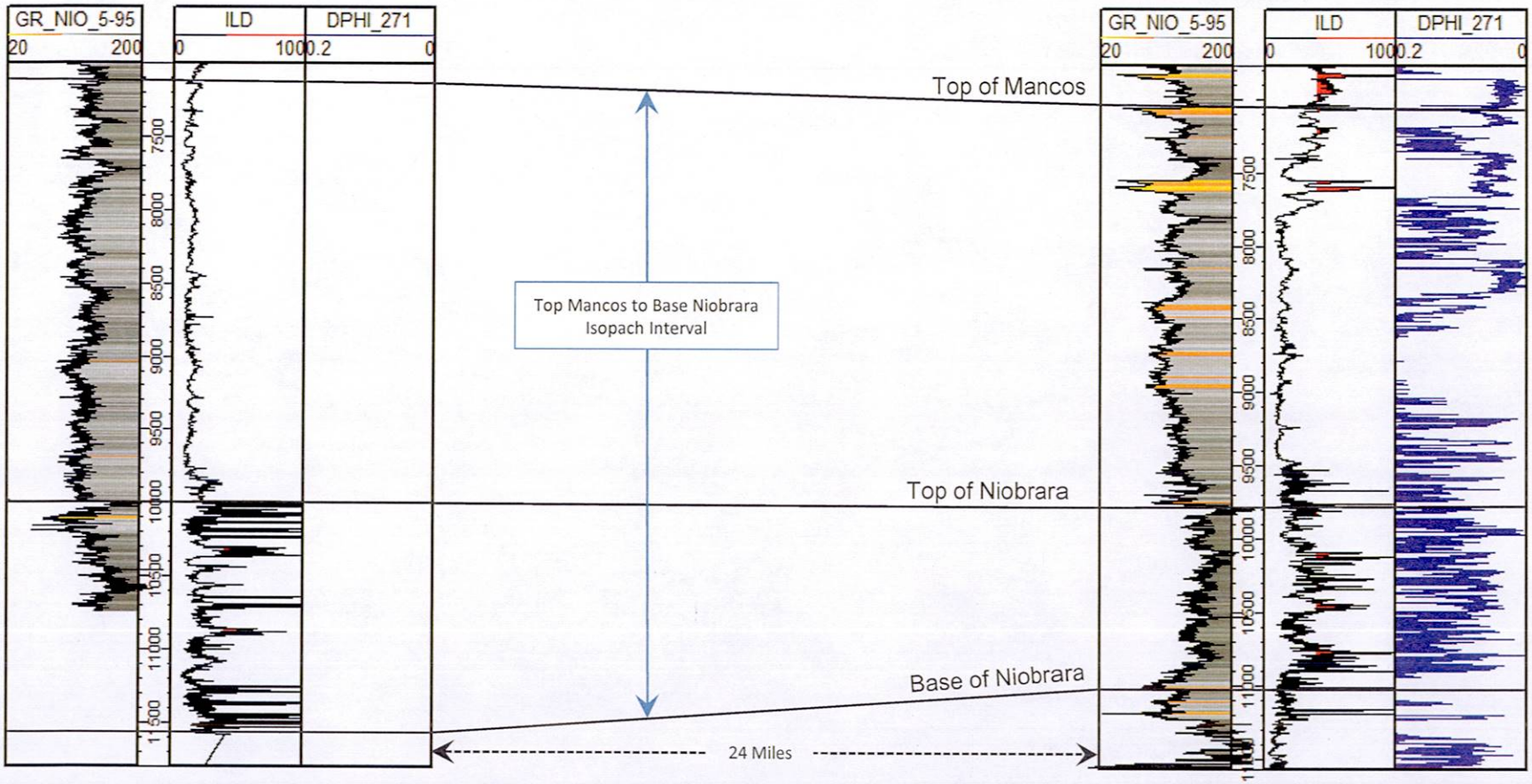
Index Map for Two Well Cross Section



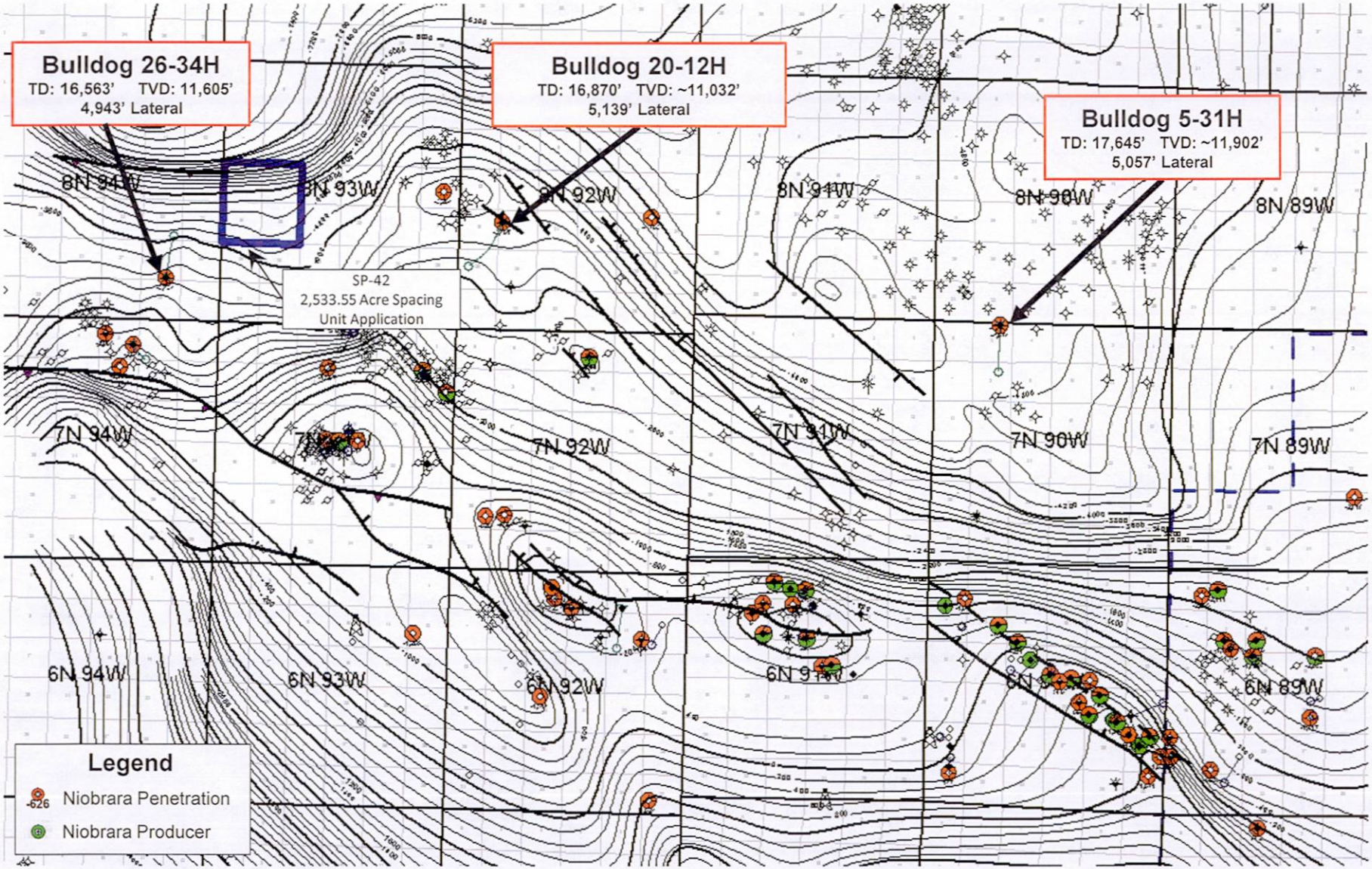

Northwest – Southeast
Correlation Cross-Section
Showing
Mancos and Niobrara Thickness
and Porosity

HUMBLE OIL & REFG CO
LAY CREEK 1
T8N R93W S13
3/22/1969
05081060510000

TEXAS PACIFIC OIL CO
BEAR 1
T7N R89W S26
9/7/1978
05107060540000

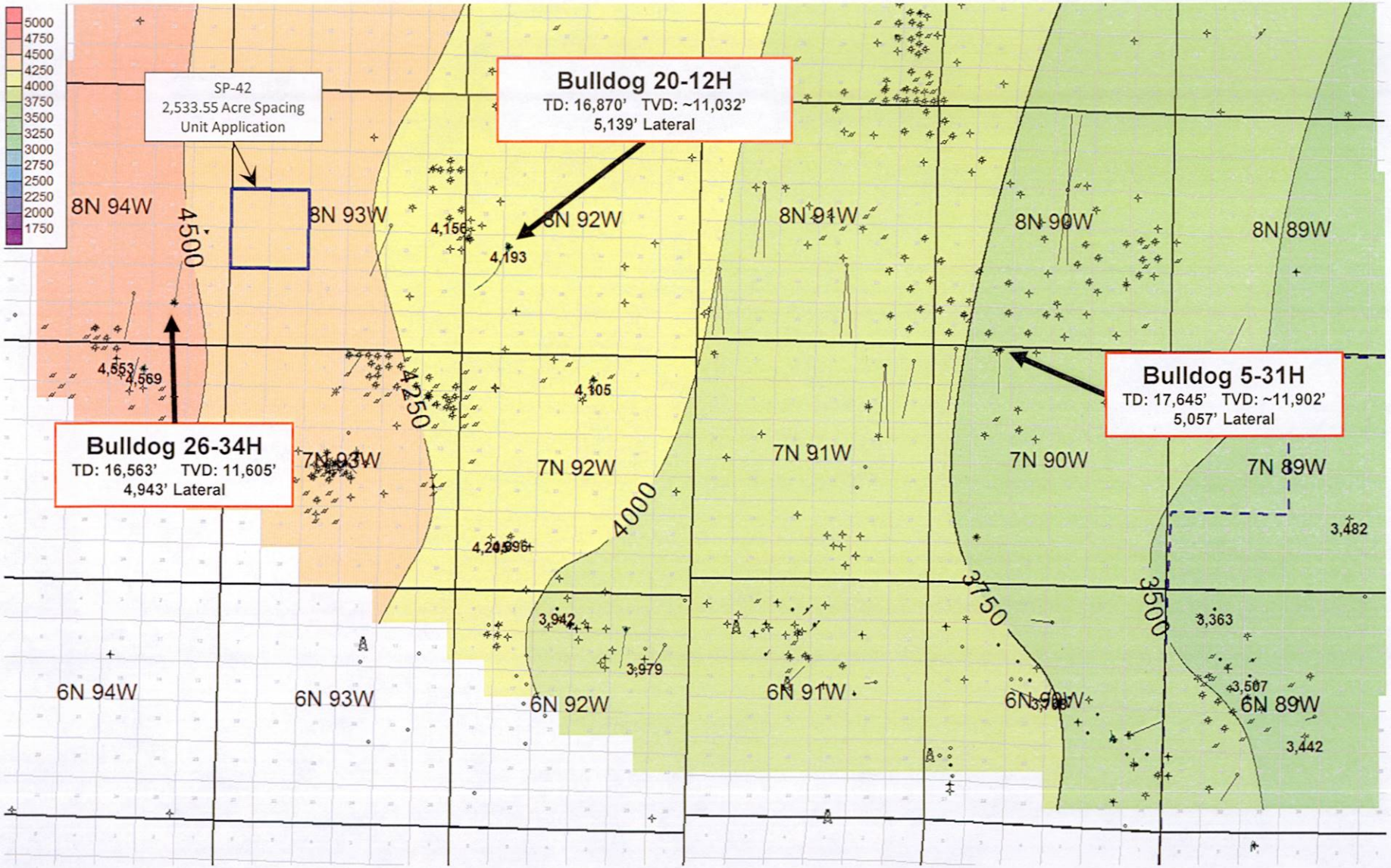


# Structure Top Niobrara CI = 200'



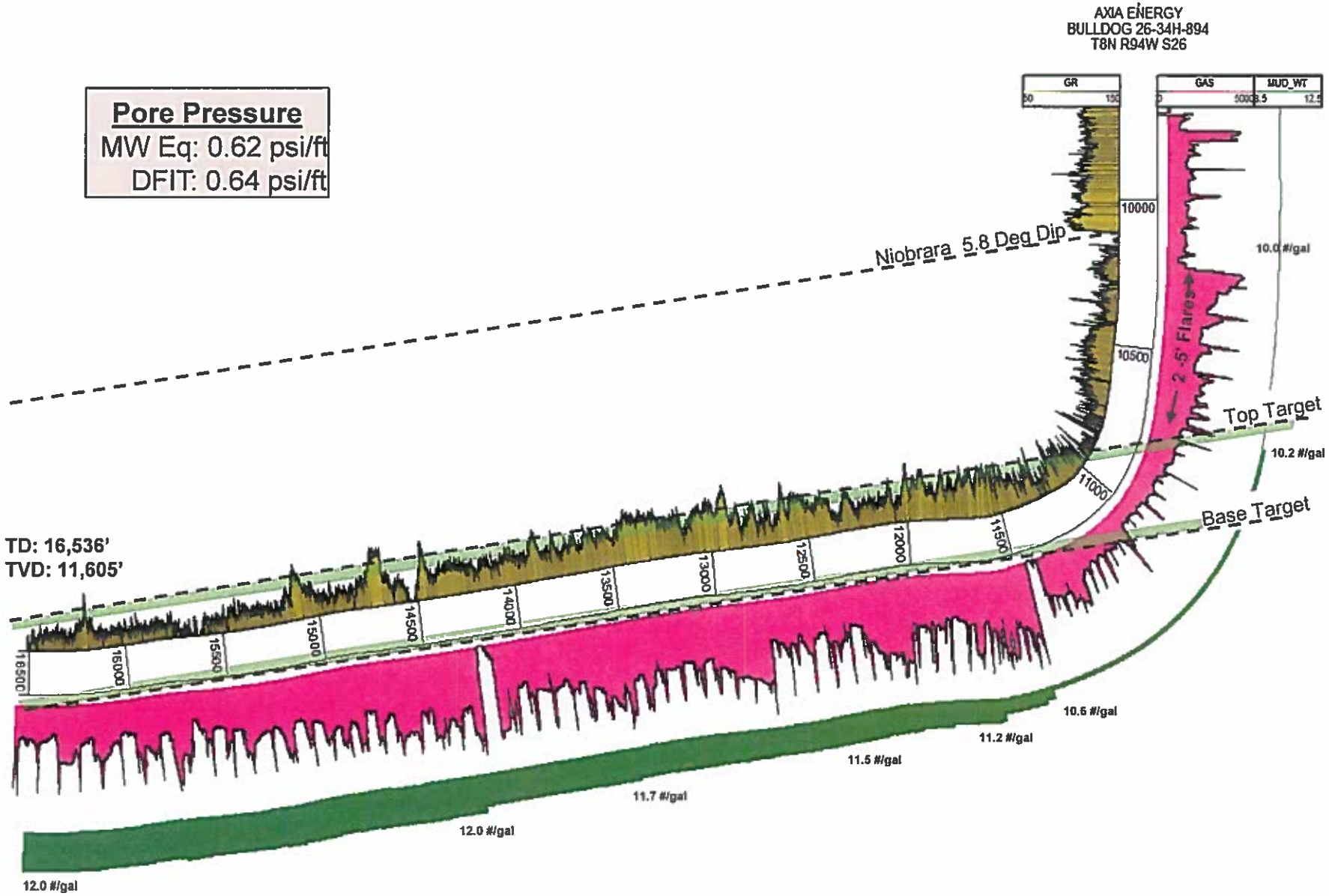

Cause 540, Docket 1303-SP-42: Exhibit G-3

# Top Mancos to Base Niobrara Isopach Map CI = 250'



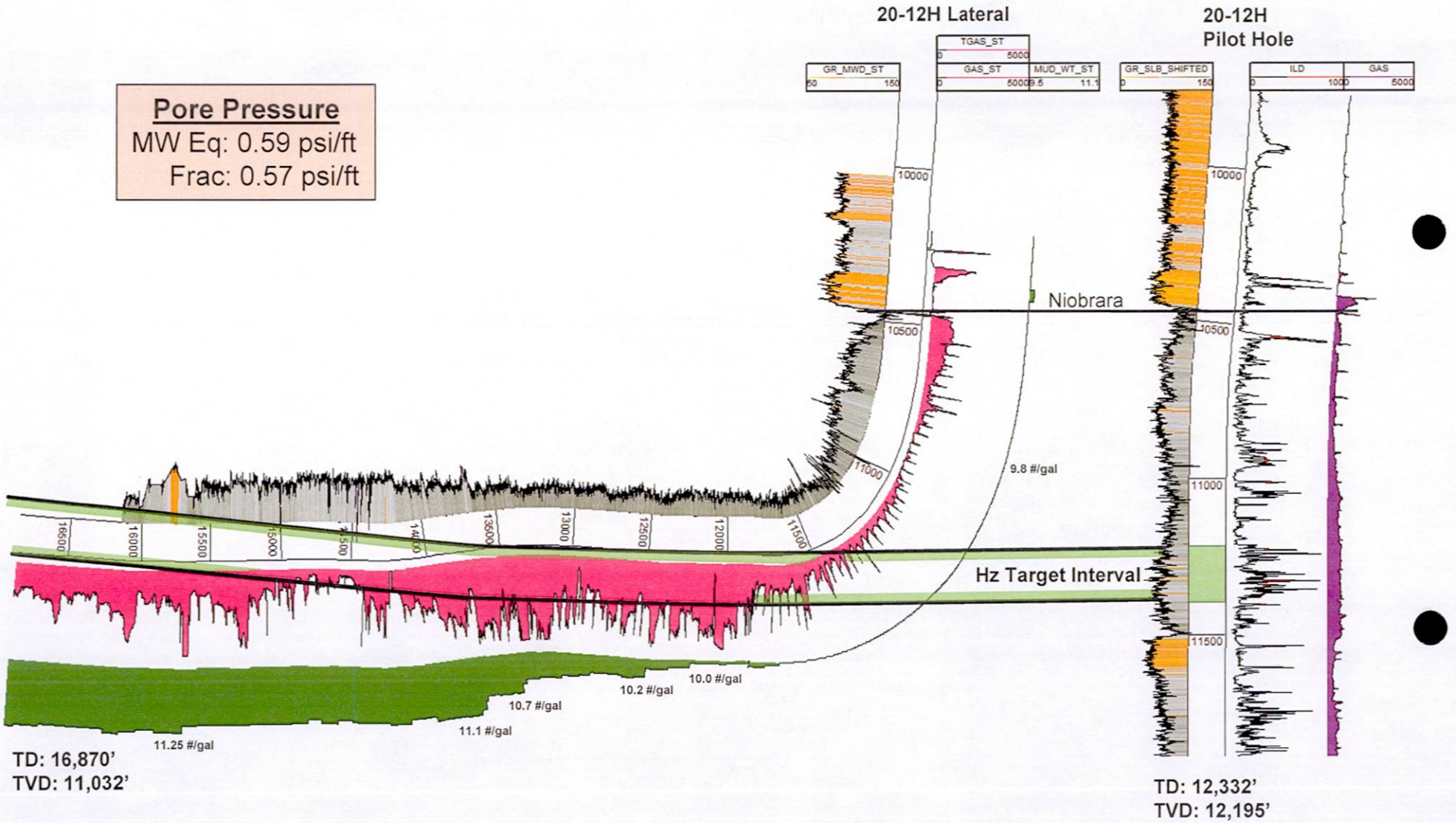

Cause 540, Docket 1303-SP-42: Exhibit G-4

# Bulldog 26-34H – HZ Wellbore Overview




Cause 540, Docket 1303-UP-[illegible]: Exhibit G-5

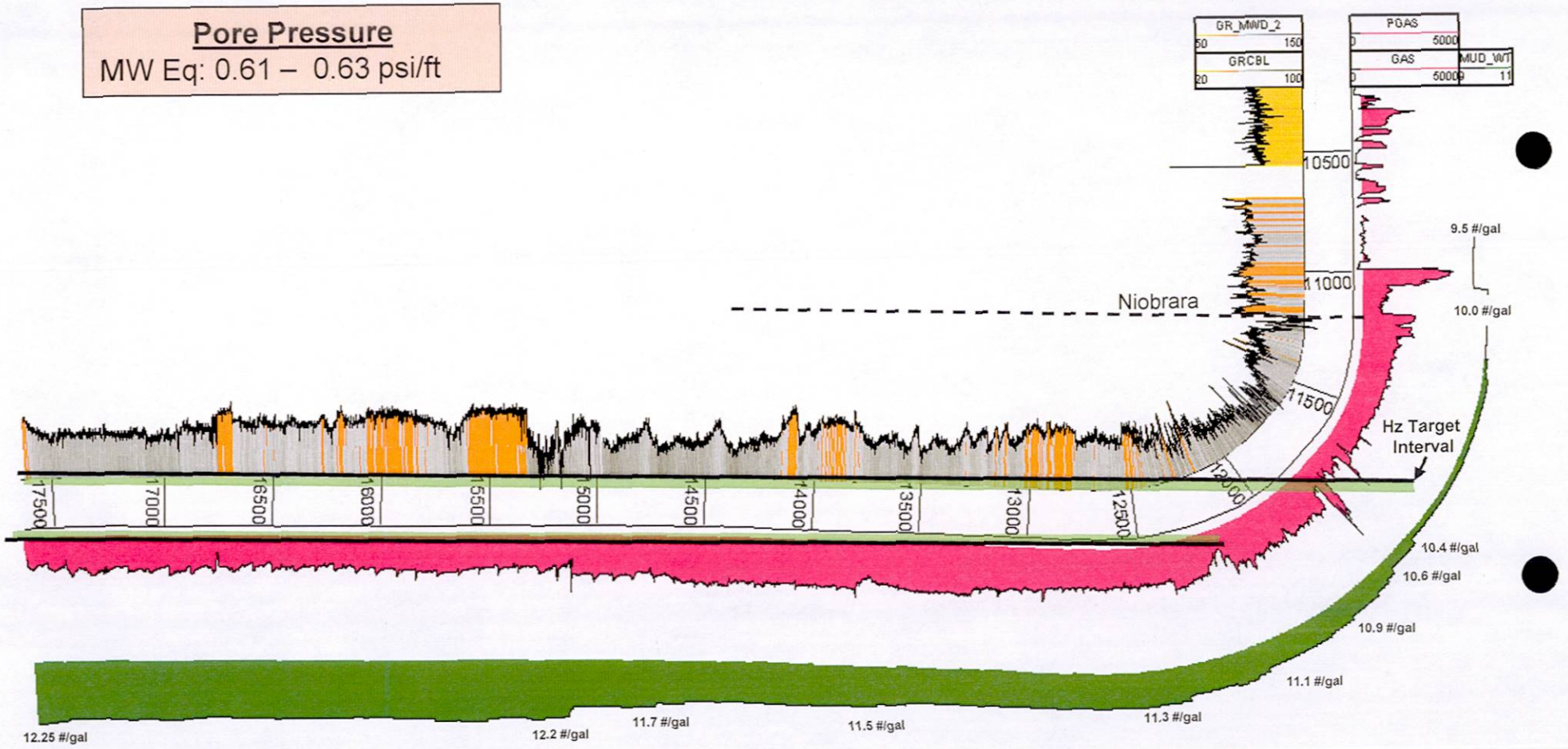
# Bulldog 20-12H – HZ Wellbore Overview




Cause 540, Docket 1303-UP-42: Exhibit G-6

# Bulldog 5-31H – HZ Wellbore Overview

**Pore Pressure**
MW Eq: 0.61 – 0.63 psi/ft

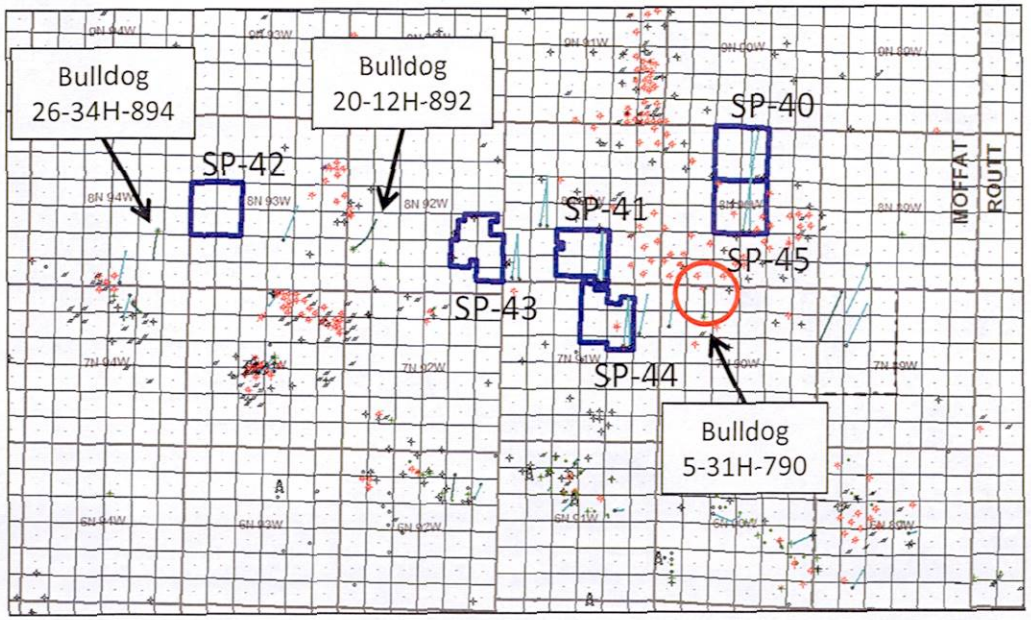


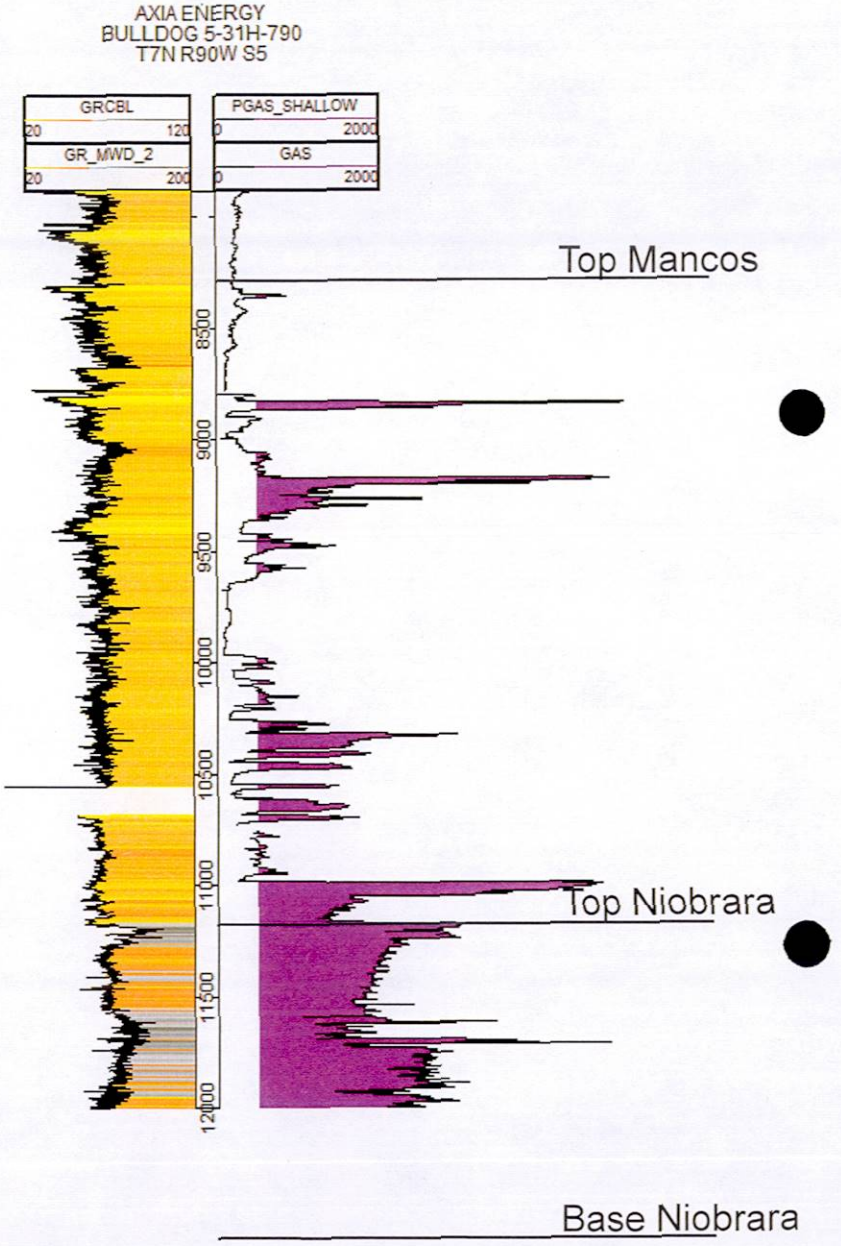

**TD: 17,645'**
**TVD: 11,902'**

Cause 540, Docket 1303-UP-42: Exhibit G-7

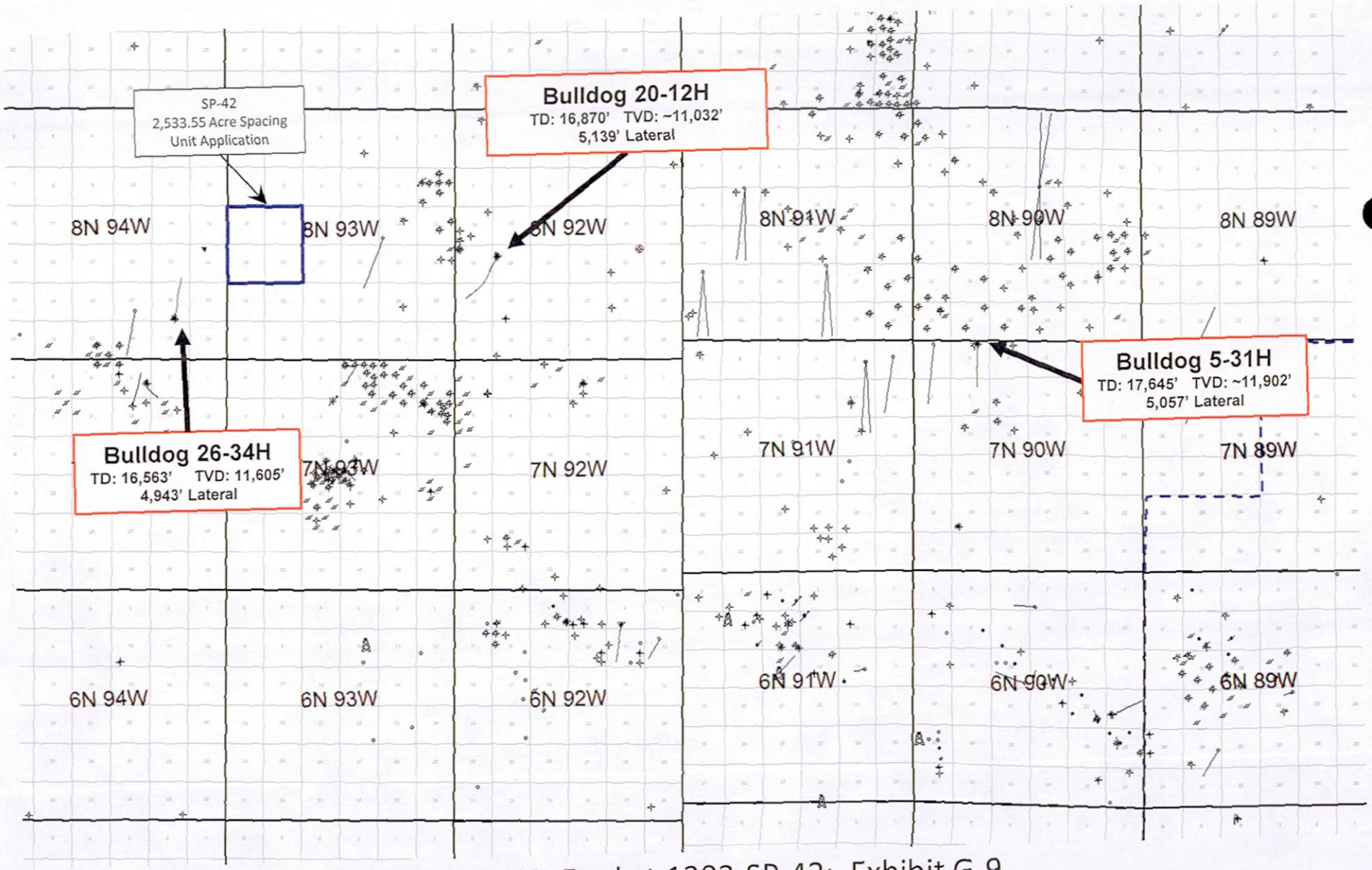
Exhibit G-8
Cause 540
Docket No. 1303 SP-42

# Gas Shows
# Bulldog 5-31H



# Offset Well Locations




Cause 540, Docket 1303-SP-42: Exhibit G-9

# AXIA ENERGY, LLC

## Taryn Frenzel - Engineering Testimony

**Moffat County, Colorado**
**Cause No. 540, Docket No. 1303-SP-42**
**Mancos/Niobrara Formation**

My name is Taryn Frenzel. I am currently employed as a Senior Completions Engineer for the Sand Wash Team of Axia Energy, LLC ("Axia"). I have over 12 years of experience as a Completions Engineer. I have been and am presently responsible for and have knowledge of the reservoir characteristics of the Mancos and Niobrara formations underlying the Application Lands, as defined in Tab McGinley's Land Testimony submitted herewith. A copy of my curriculum vitae is attached hereto.

In support of Axia's application in the above-referenced docket, I am submitting four (4) exhibits. The exhibits are attached to my sworn testimony and form the basis for Axia's application to gain approval to establish the unit set forth in the aforementioned Docket No. and well location rules for the drilling and producing of wells from the Mancos and Niobrara Formations covering the Application Lands.

**Exhibits E-1 through E-4**

Exhibit E-1 shows the average gross thickness of the Mancos and Niobrara formation across Axa Energy's acreage position. The average net pay was calculated from open hole logs from wells that were drilled prior to Axia Energy as well as using 3 wells that were drilled and completed by Axia Energy during 2012. The location of the three (3) wells that were drilled by Axia Energy can be seen on Exhibit E-2. Exhibit E-2 also illustrates the resource play aspect of the Niobrara and Mancos. Axia Energy's wells were placed across the acreage position and were not drilled on structure thereby proving the resource play potential across the entire acreage position.

Due to the fact that the Niobrara and Mancos covers a large gross interval as shown in Exhibit E-1, stacked laterals will become a necessity to develop the resource. Exhibit E-3 shows a stacked lateral development. Multiple stacked lateral wells need to be drilled and stimulated in order to effectively drain the Mancos and Niobrara. Based upon frac simulator work conducted by Axia on the three (3) wells drilled in 2012, our estimated effective frac height is estimated to be 300'. The average reservoir pressure is .62 psi/ft based upon drilling and completion results and the total system porosity is 6.5% as shown in Exhibit E-4. The ability to drill 9,000' laterals allow for the more efficient development of the Mancos and Niobrara by eliminating unnecessary surface locations. By approving these spacing and pooling units, Axia Energy will be able to save over 40 acres of surface development per unit. By utilizing reservoir pressure, porosity, 9,000' laterals, Axia's estimated frac geometry and a recovery factor of 20%, Axia may realize 10 Bcfe of potential. Axia Energy's current well results support this type of potential for a 9,000' lateral when based on the current 5,000' configuration. These results more than exceed Axia Energy's economic hurdles.

**Summary and Benefits**

Approval of Axia's application for pooling and spacing will allow for the ability to optimally configure well locations and in turn maximize ultimate recovery of gas-in-place. Allowing for 9,000 foot laterals will greatly reduce surface pads needed to develop the spacing unit. In addition, pooling the interests in this resource play will allow for combined surface facilities thereby reducing the size and visual impacts of the locations required. Reducing the number of surface locations also results in having less completion pits, truck traffic and drilling rig moves. Self-skidding rigs would be able to develop spacing units much more efficiently by having less impactful rig mobilizations. It is my opinion that to maximize the ultimate recovery of gas in place in the Mancos and Niobrara Formation underlying the Application Lands, this spacing unit should be permitted and that by granting the Application in the above-referenced docket the waste of leaving recoverable Mancos and Niobrara gas in place will be

avoided and that correlative rights will be protected and the gas will be recovered more economically, efficiently and allow for as few of pads as possible.

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

Taryn Frenzel
Senior Completions Engineer, Axia Energy LLC.

**Affirmation**

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

Taryn Frenzel, Senior Completions Engineer
Axia Energy, LLC

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

The foregoing instrument was subscribed and sworn to before me this 11th day of March, 2013, by Taryn Frenzel, as Senior Completions Engineer, for Axia Energy, LLC.

Witness my hand and official seal.

[SEAL]

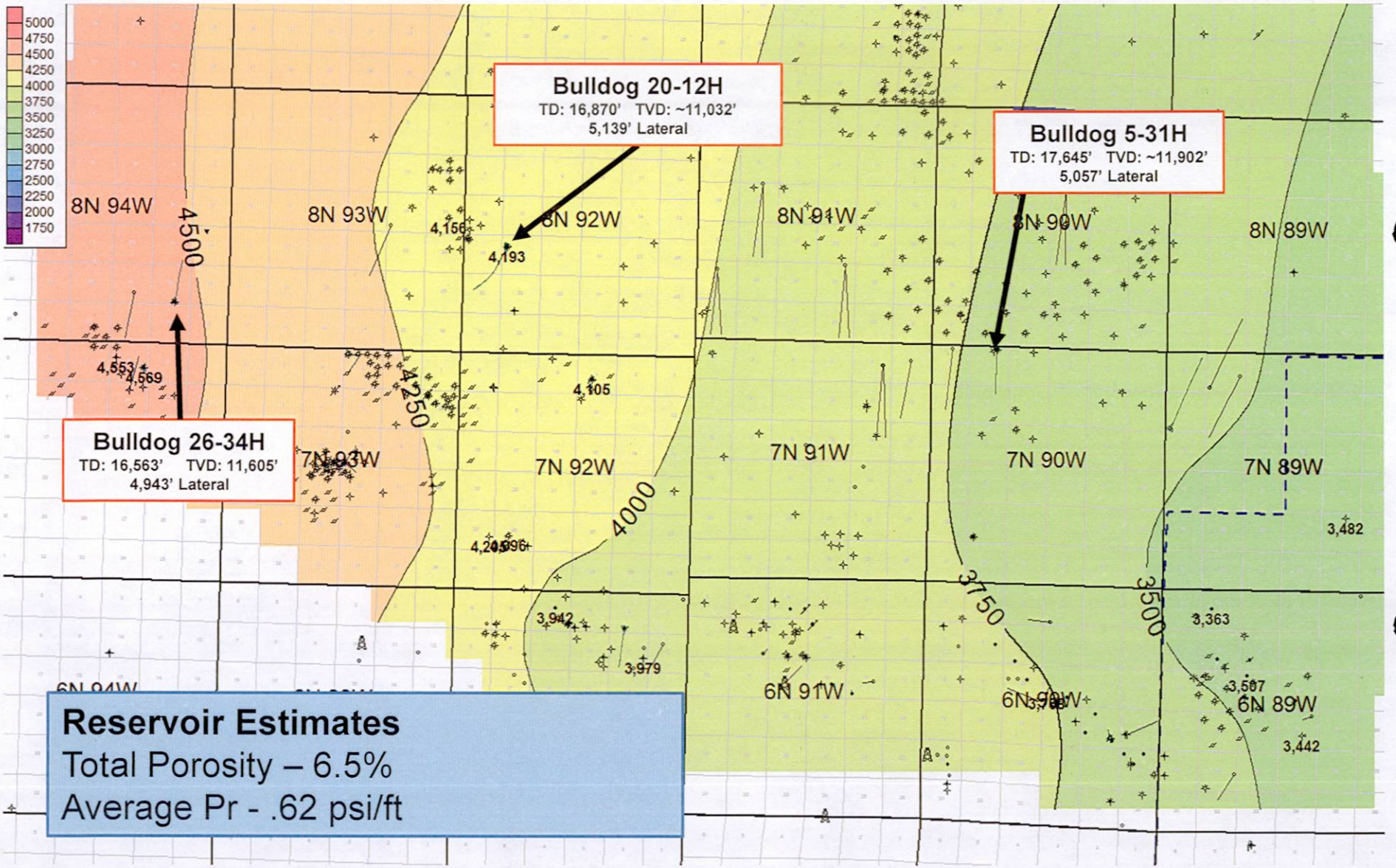
My commission expires: 8/7/16

Notary Public

TERESA H. BRANDON NOTARY PUBLIC STATE OF COLORADO

# Exhibits E-1 Gross Niobrara/Mancos Thickness

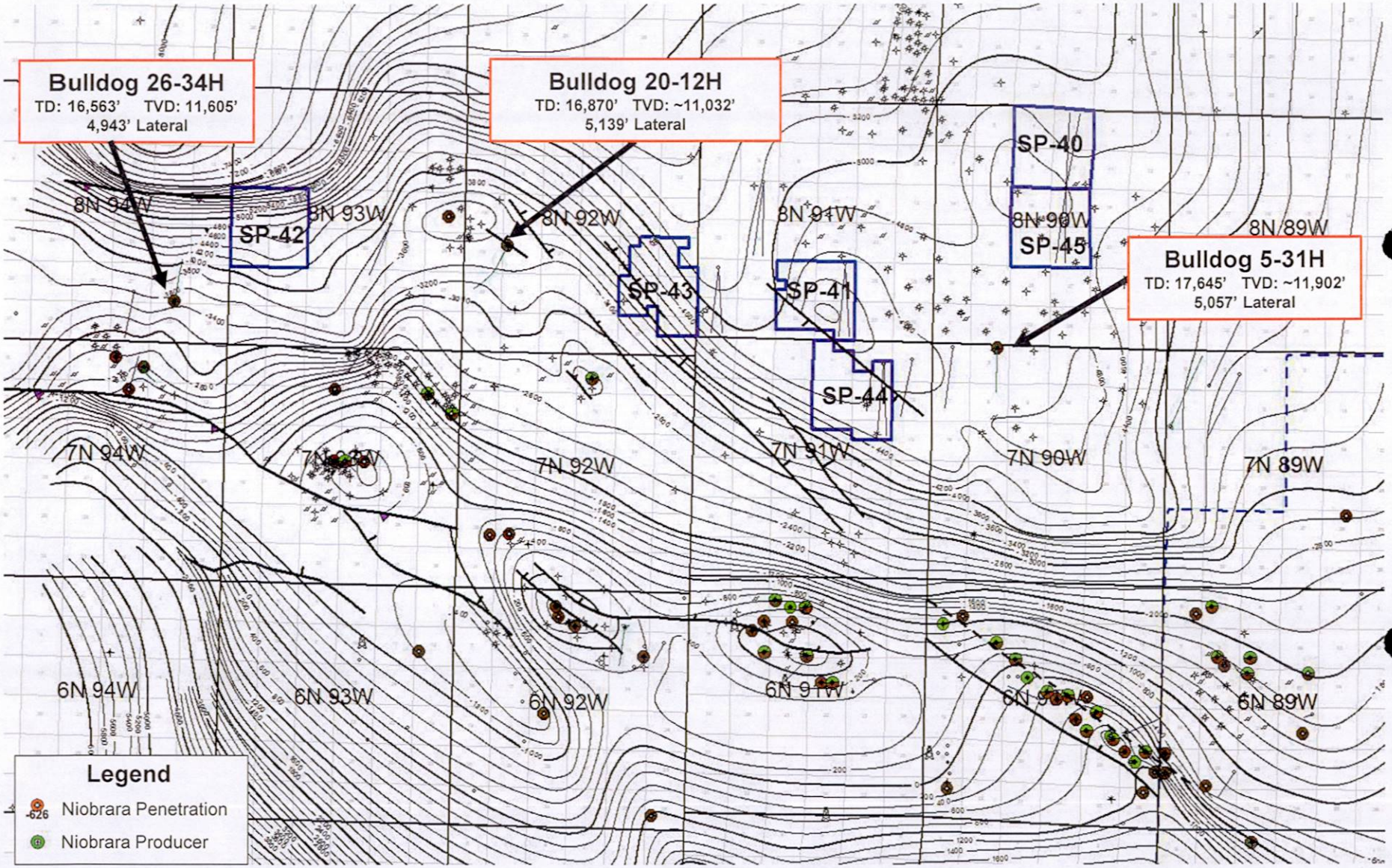
Cause No. 540
Docket No. 1303-SP-42




**Reservoir Estimates**
Total Porosity – 6.5%
Average Pr - .62 psi/ft

# Exhibits E-2 Structure Top Niobrara (CI = 200')

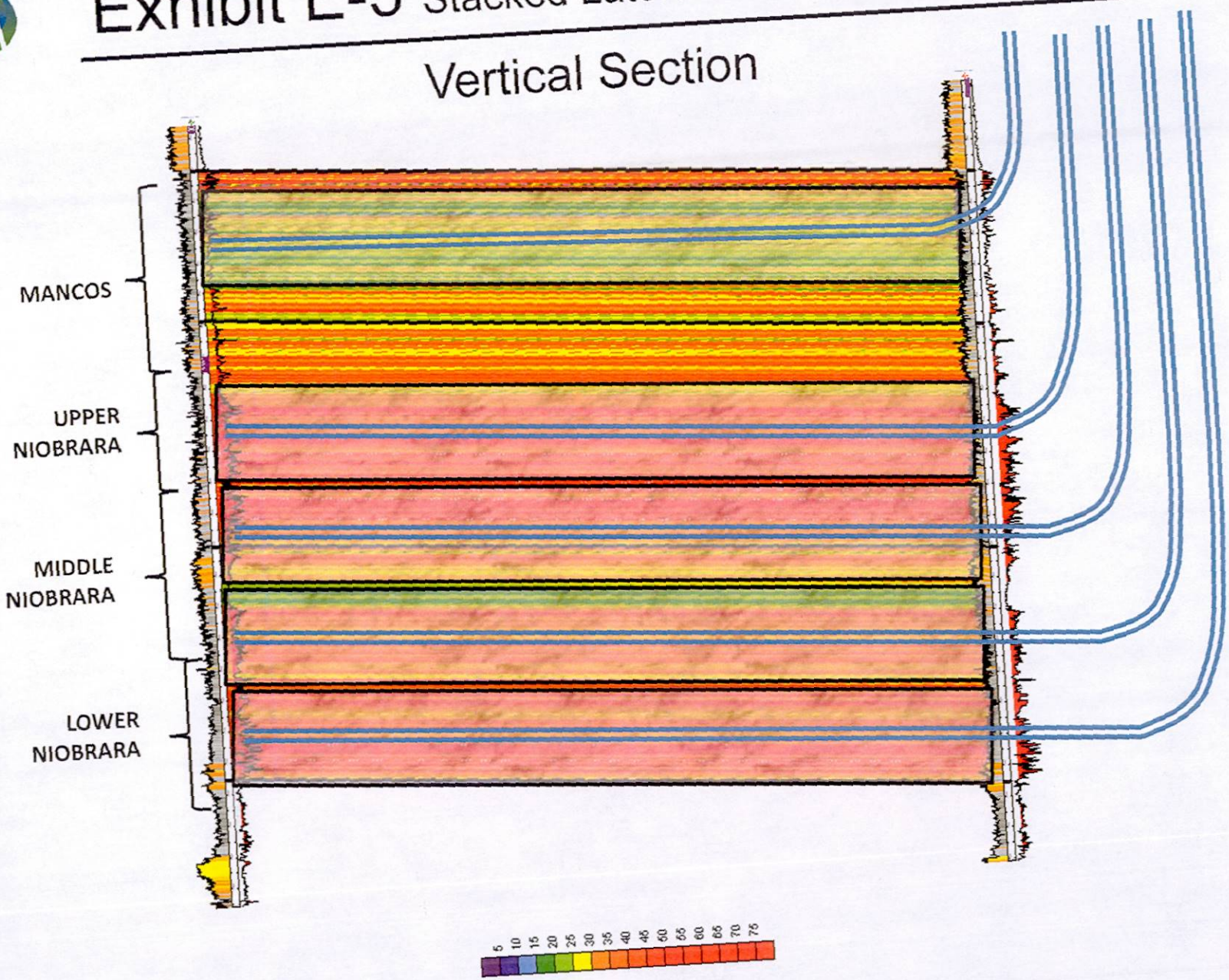
Cause No. 540
Docket No. 1303-SP-42



Cause No. 540
Docket No. 1303-SP-42

# Exhibit E-3 Stacked Lateral Potential

## Vertical Section



# Exhibit E-4 OGIP

Cause No. 540
Docket No. 1303-SP-42

**Reserve Inputs**
Average Total Porosity – 6.5%
Average Pr - .62
Lateral length – 9,000 foot

## OGIP and Recovery for a Horizontal Well Analysis 9,000 foot lateral

| Niobrara Horizontal | | | | | |
|---|---|---|---|---|---|
| | Gross | Net | Net to Gross % | Avg Por | PhiH |
| Middle Niobrara | 300 | 300 | 100.0% | 6.5% | 19.5 |

| 20% Recover per 9,000 foot latteral | | |
|---|---|---|
| Gas (Bcf) | Oil (MMBO) | BCFE |
| 8.4 | 0.420 | 10.9 |