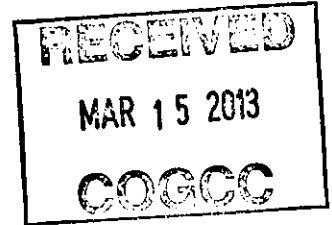




BEFORE THE OIL & GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO



IN THE MATTER OF THE APPLICATION OF AXIA )  
ENERGY, LLC FOR AN ORDER TO ESTABLISH )  
AN APPROXIMATE 2572.41-ACRE UNIT IN )  
SECTIONS 15, 16, 21 AND 22 TOWNSHIP 8 )  
NORTH, RANGE 90 WEST, 6TH P.M., UNNAMED )  
FIELD, MANCOS AND NIOBRARA FORMATIONS, )  
MOFFAT COUNTY, COLORADO )

CAUSE NO. 540

DOCKET NO. 1303-SP-45

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 16<sup>th</sup> Street, Suite 1100  
Denver, Colorado 80202  
(303) 407-4499

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

Cause 540; Docket No. 1303-SP-45  
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 2,572.41-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 90 West, 6<sup>TH</sup> P.M.  
Section 15: Lots 1-14, E $\frac{1}{2}$ NE $\frac{1}{4}$ ; a/d/a ALL  
Section 16: ALL  
Section 21: Lots 1-16; a/d/a ALL  
Section 22: Lots 1-16; 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 36.29% fee mineral interests, 10.96% federal mineral interests, and 52.75% state mineral interests. The following parties own leasehold or unleased mineral interests in the Application Lands:

INTEREST HOLDER	% WI
AXIA ENERGY, LLC	51.40160%
OXY USA INC.	17.13413%
BEARTOOTH OIL & GAS COMPANY	12.63640%
A.G. ANDRIKOPOULOS RESOURCES, INC.	0.92015%
CONLEY P. SMITH, LLC	0.84668%
DAB RESOURCES	0.13528%
HERITAGE ENERGY RESOURCES, INC.	0.29583%
KAISER-FRANCIS OIL COMPANY	1.18760%
MERIT ENERGY PARTNER E-III, LP	0.03149%
MERIT ENERGY PARTNERS F-III, LP	0.05637%
MERIT ENERGY PARTNERS III, LP	0.01594%
MERIT MANAGEMENT PARTNERS I, LP	0.14189%

MERIT MANAGEMENT PARTNERS II, LP	0.40546%
MERIT MANAGEMENT PARTNERS III, L.P	0.92637%
CHESAPEAKE ENERGY	0.22158%
QEP ENERGY COMPANY	1.05193%
R & M OIL AND GAS, LTD.	0.03693%
U.S.A. C/O BUREAU OF LAND MANAGEMENT	10.95700%
ROBERT P. VERNON	0.03693%
A.D. GENECOV, <i>ET. AL.</i>	1.56044%
<b>TOTAL:</b>	<b>100.00000%</b>

Exhibit L-2: Property Location Plat:

Attached as Exhibit L-2 is a Property Location Plat which sets forth the surface location for the Bulldog 15-11H-890 well. The Well has a surface location of 88' Feet From North Line and 1957' Feet From West Line in the NE1/4NW1/4 (Lot 2) of Section 15, Township 8 North, Range 90 West and a bottomhole location of 560' Feet From West Line and 625' Feet From South Line in the SW/4SW/4 (Lot 13) of Section 22, Township 8 North, Range 90 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 2,572.41-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 all necessary filings with the surface owner being The State of Colorado, State Board of Land Commissioners, 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

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

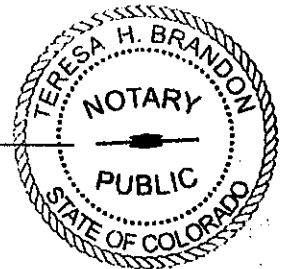
The foregoing instrument was subscribed and sworn to before me this 11<sup>th</sup> day of March, 2013, by Tab McGinley, as Vice President of Land for Axia Energy, LLC.

Witness my hand and official seal.

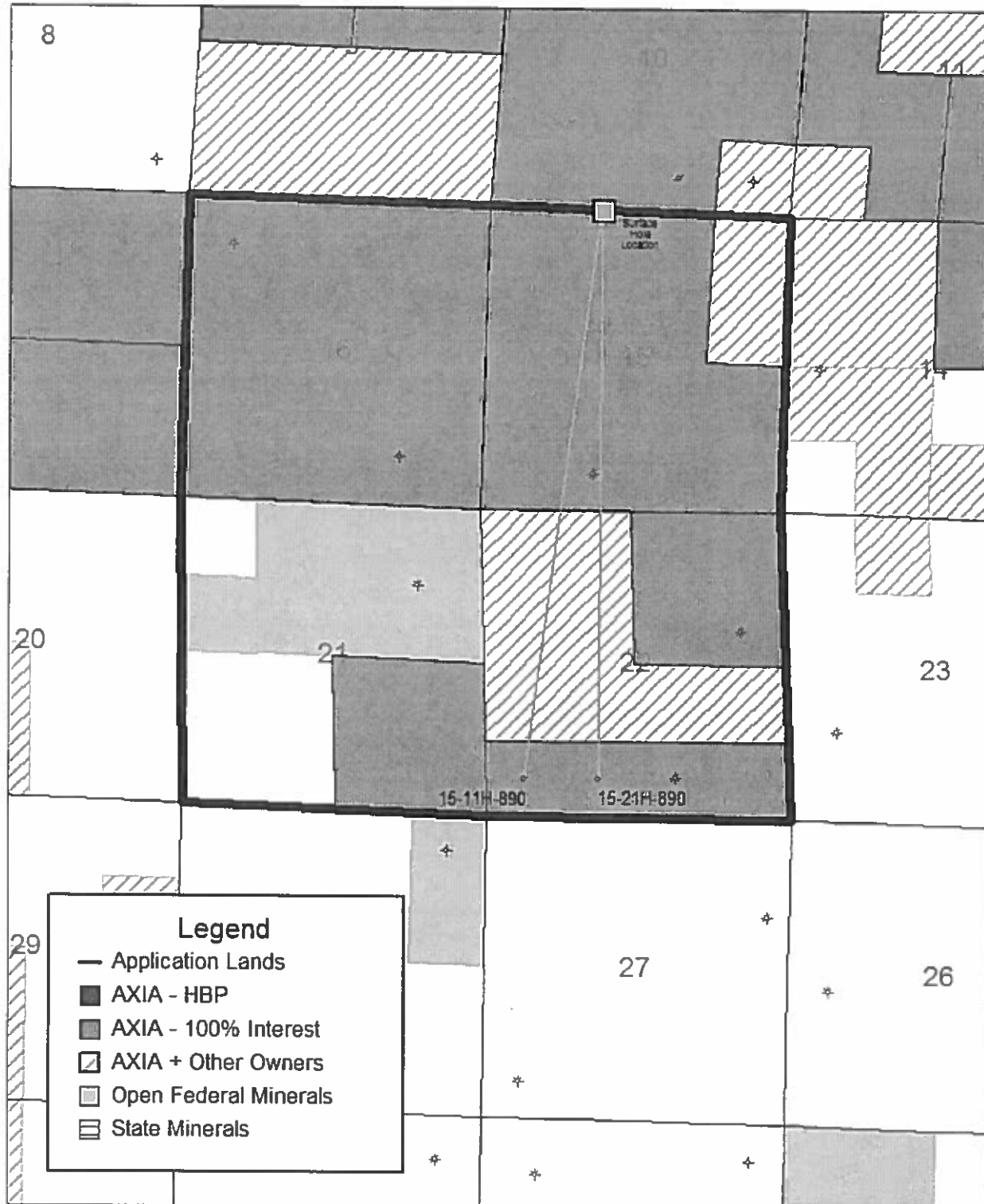
[SEAL]

My commission expires: 8/7/16

  
Notary Public



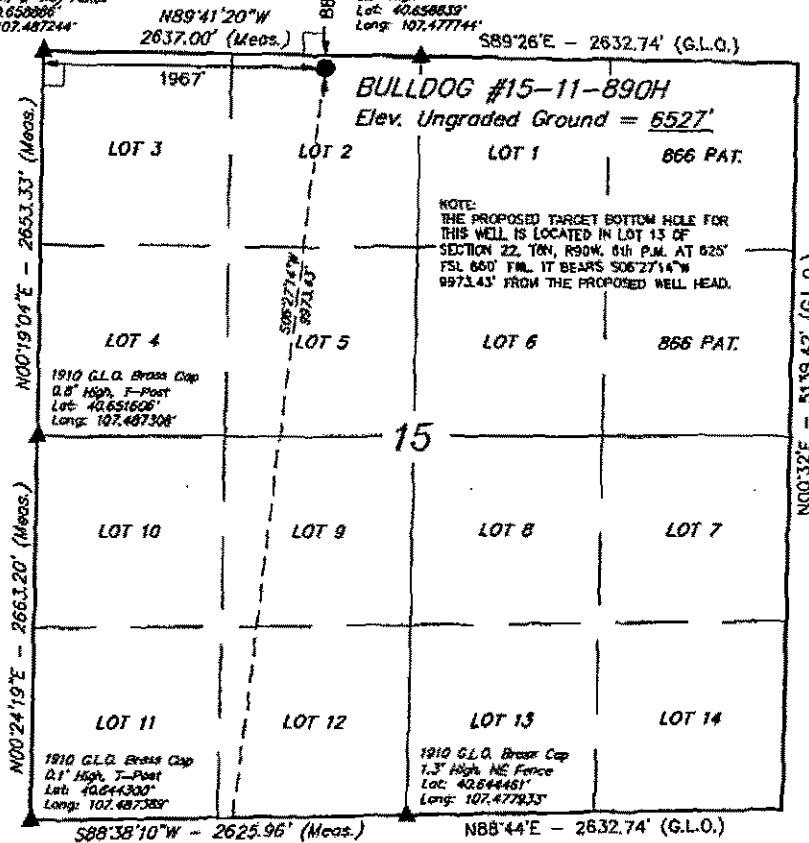
**Exhibit L-1: Cause 540, Docket No. 1303-SP-45**  
**Location Map; Mineral and Leasehold Ownership Map**  
Bulldog #15-11H-890  
Sections 15, 16, 21 and 22, Township 8 North, Range 90 West  
Moffat County, Colorado



T8N, R90W, 6th P.M.

G.L.O. Brass Cap  
1.2" High, T-Post  
Lot: 40.658806  
Long: 107.487244

1910 G.L.O. Brass Cap  
0.5" High  
Lot: 40.658839  
Long: 107.477744



LEGEND:

- └ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

○ Target Bottom Hole

PROCP = 1.3

NAD 83 (SURFACE LOCATION)	
LATITUDE = 40°38'51.00" (40.658811)	
LONGITUDE = 107°28'48.88" (107.480151)	
NAD 27 (SURFACE LOCATION)	
LATITUDE = 40°38'31.10" (40.658838)	
LONGITUDE = 107°28'48.35" (107.479542)	
STATE PLANE NAD 83	
N: 1480060.00 E: 2450654.38	
STATE PLANE NAD 27	
N: 406588.59 E: 1450811.80	

AXIA ENERGY

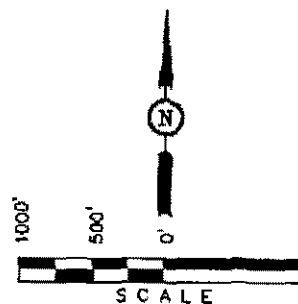
Well location, BULLDOG #15-11H-890 (SURFACE LOCATION), located as shown in LOT 2 of Section 15, T8N, R90W, 6th P.M., Moffat County, Colorado.

BASIS OF ELEVATION

SPOT ELEVATION LOCATED AT THE SOUTHWEST CORNER OF SECTION 15, T7N, R91W, 6th P.M. TAKEN FROM THE CRAIG QUADRANGLE, COLORADO, MOFFAT COUNTY, 7.5 MINUTE QUAD (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6672 FEET.

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY SAID SURVEYOR, MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
STATE OF COLORADO  
02-27-13

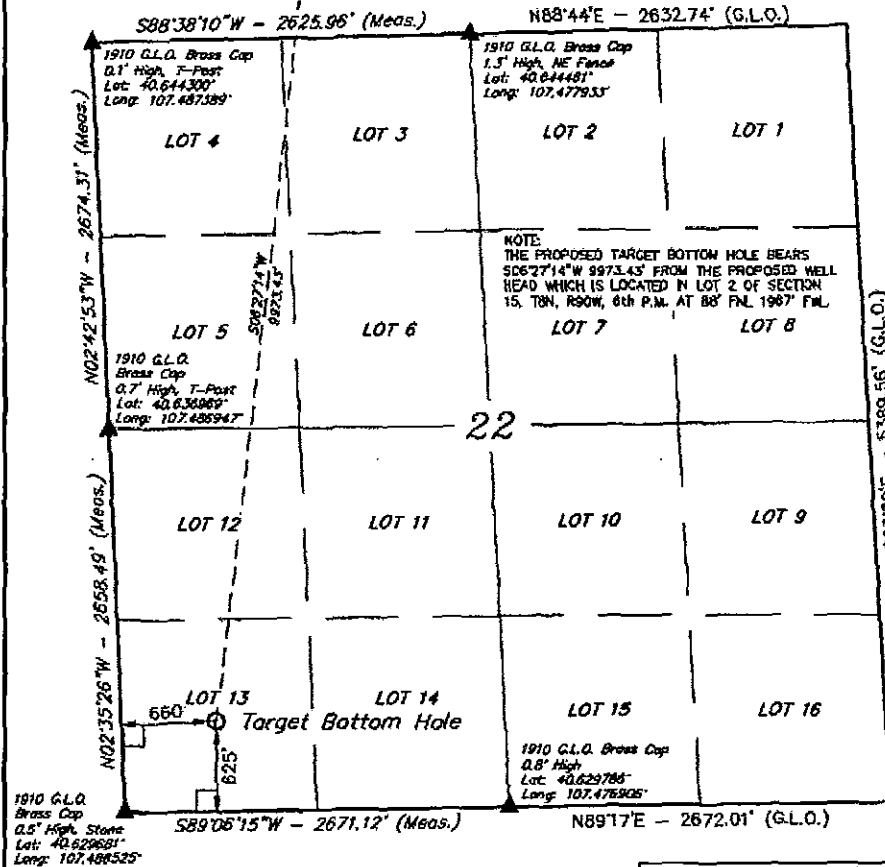
UINTAH ENGINEERING & LAND SURVEYING  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(435) 788-1017

SCALE	DATE SURVEYED	DATE DRAWN
1" = 1000'	02-05-13	02-13-13
PARTY	REFERENCES	
G.M. M.M. T.B.	G.L.O. PLAT	
WEATHER	FILE	
COLD	AXIA ENERGY	

Exhibit L-2: Cause 540, Docket No. 1303-SP-45  
Property Location Plat: Surface Location  
Bulldog #15-11H-890  
Sections 15, 16, 21 and 22, Township 8 North, Range 90 West  
Moffat County, Colorado

T8N, R90W, 6th P.M.

Surface Location



**LEGEND:**

- └ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)
LATITUDE = 40°57'53.12" (40.9631422)
LONGITUDE = 107°29'53.29" (107.4982477)
NAD 27 (TARGET BOTTOM HOLE)
LATITUDE = 40°57'53.22" (40.9631450)
LONGITUDE = 107°29'51.08" (107.4983288)
STATE PLANE NAD 83
N = 1470000.50 E = 2448299.24
STATE PLANE NAD 27
N = 479029.20 E = 1448456.69

**AXIA ENERGY**

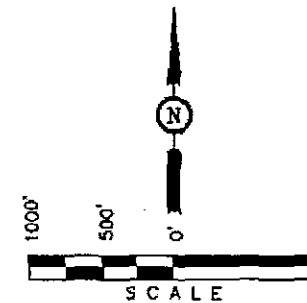
Well location, BULLDOG #15-11H-890 (TARGET BOTTOM HOLE), located as shown in LOT 13 of Section 22, T8N, R90W, 6th P.M., Moffat County, Colorado.

**BASIS OF ELEVATION**

SPOT ELEVATION LOCATED AT THE SOUTHWEST CORNER OF SECTION 15, T7N, R91W, 6th P.M. TAKEN FROM THE CRAIG QUADRANGLE, COLORADO, MOFFAT COUNTY, 7.5 MINUTE QUAD (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6672 FEET.

**BASIS OF BEARINGS**

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



**CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

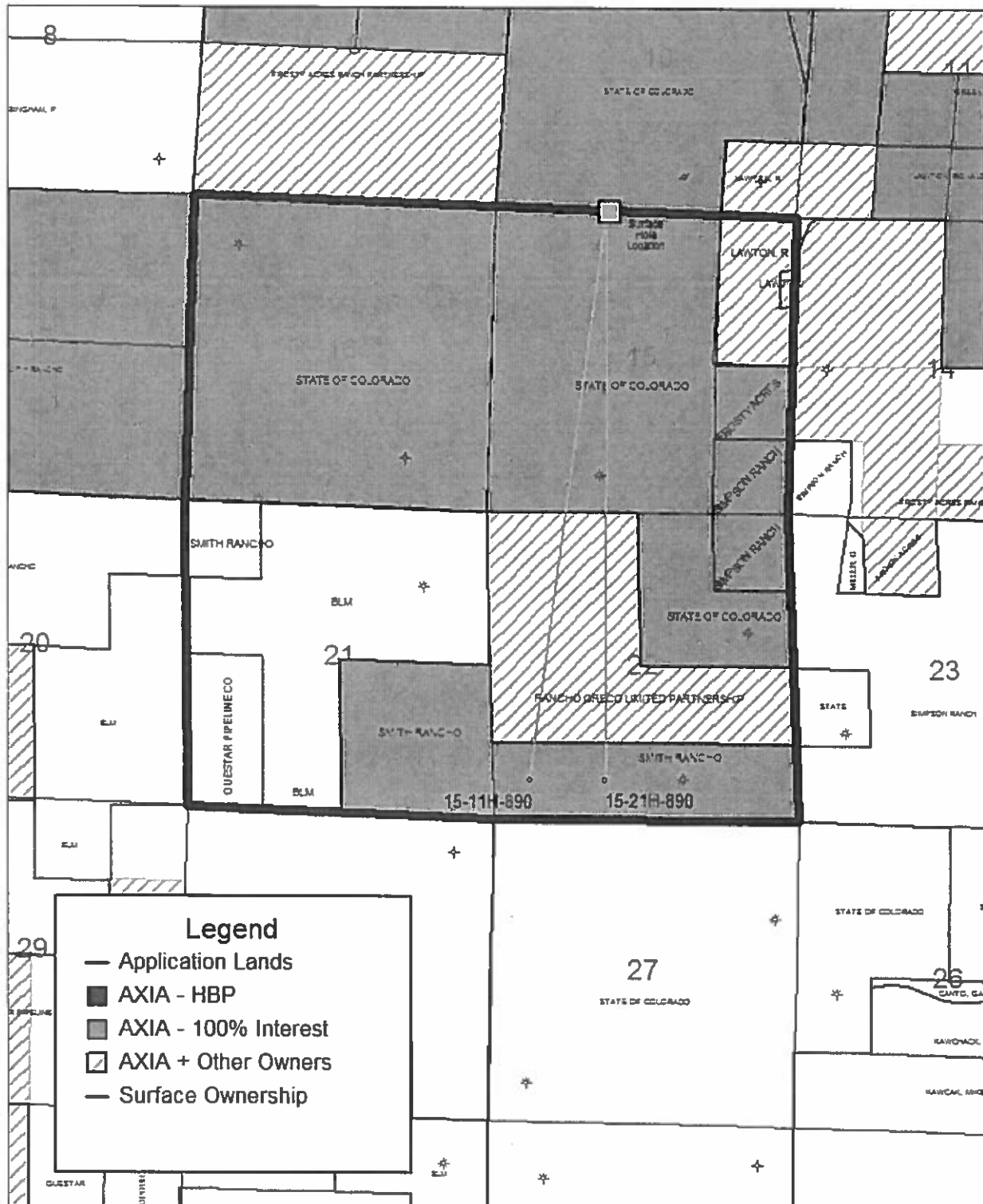
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 10000  
STATE OF COLORADO 02-27-13

**UINTAH ENGINEERING & LAND SURVEYING**  
85 SOUTH 200 EAST - VERNAL UTAH 84078  
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 02-05-13	DATE DRAWN: 02-13-13
PARTY G.M. M.M. T.B.	REFERENCES G.L.O. PLAT	
WEATHER COLO	FILE AXIA ENERGY	

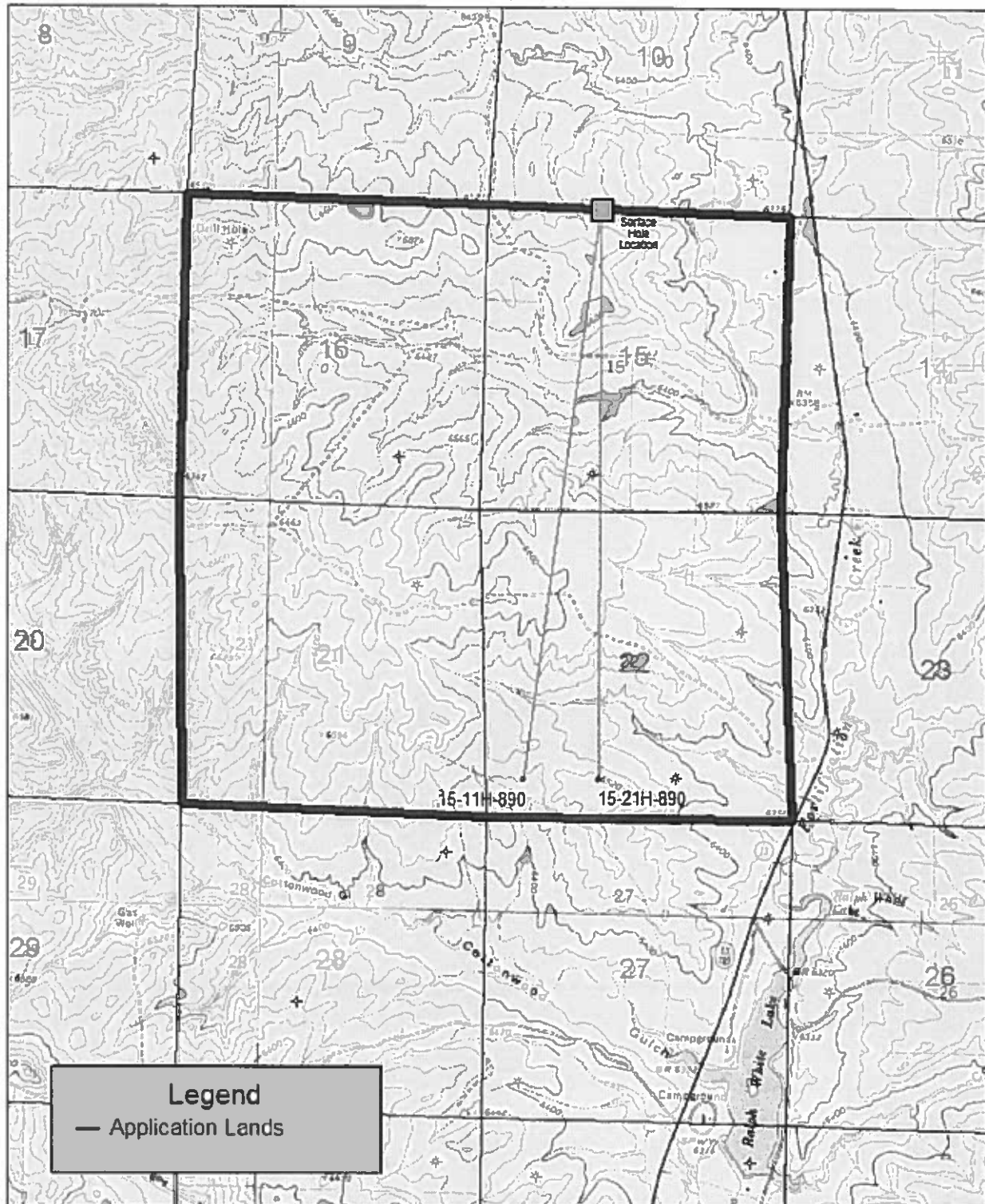
Exhibit L-2: Cause 540, Docket No. 1303-SP-45  
Property Location Plat: Bottom Hole Location  
Bulldog #15-11H-890  
Sections 15, 16, 21 and 22, Township 8 North, Range 90 West  
Moffat County, Colorado

**Exhibit L-3: Cause 540, Docket No. 1303-SP-45**  
**Surface Ownership Map**  
**Bulldog #15-11H-890**  
**Sections 15, 16, 21 and 22, Township 8 North, Range 90 West**  
**Moffat County, Colorado**





**Exhibit L-4: Cause 540, Docket No. 1303-SP-45**  
**Topographic Map**  
**Bulldog #15-11H-890**  
Sections 15, 16, 21 and 22, Township 8 North, Range 90 West  
Moffat County, Colorado





**Exhibit A:  
Interested Parties**

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

MERIT ENERGY PARTNERS F-III, LP  
13727 NOEL ROAD, STE 500  
DALLAS, TX 75240

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

MERIT ENERGY PARTNERS III, LP  
13727 NOEL ROAD, STE 500  
DALLAS, TX 75240

A.G. ANDRIKOPOULOS RESOURCES, INC.  
905 MYLAR PARK DRIVE  
CHEYENNE, WY 82009

MERIT MANAGEMENT PARTNERS I, LP  
13727 NOEL ROAD, STE 500  
DALLAS, TX 75240

BEARTHOOOTH OIL & GAS COMPANY  
1316 HIGHWAY 6 AND 50  
LOMA, CO 81524

MERIT MANAGEMENT PARTNERS II, LP  
13727 NOEL ROAD, STE 500  
DALLAS, TX 75240

CONLEY P. SMITH, LLC  
325 VINE ST.  
DENVER, CO 80206

MERIT MANAGEMENT PARTNERS III, L.P  
13727 NOEL ROAD, STE 500  
DALLAS, TX 75240

DAB RESOURCES  
1776 LINCOLN ST., SUITE 500,  
DENVER, CO 80203

CHESAPEAKE ENERGY CORPORATION  
1700 LINCOLN ST.  
DENVER, CO 80203

HERITAGE ENERGY RESOURCES, INC.  
7310 SOUTH ALTON WAY, SUITE 6D,  
CENTENNIAL, CO 80112

QEP ENERGY COMPANY  
1050 17TH STREET, STE 500  
DENVER, CO 80265

KAISER-FRANCIS OIL COMPANY  
6733 SOUTH YALE AVE  
TULSA, OK 74136

R & M OIL AND GAS, LTD.  
225 UNION BLVD, STE 450  
LAKEWOOD, CO 80228

MERIT ENERGY PARTNER E-III, LP  
13727 NOEL ROAD, STE 500  
DALLAS, TX 75240

ROBERT P. VERNON  
5016 AUGUSTA CIRCLE  
COLLEGE STATION, TX 77845

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

MARTHA MARSHALL  
PO BOX 91139,  
SAN ANTONIO, TX, 78209

A.D. GENECOV  
PO BOX 132450  
TYLER, TX, 75713

MARY JON BYRON C/O MELINDA K  
ERICKSON,  
445 E CHEYENNE MTN BLVD, STE C - #403  
PMB  
COLORADO SPRINGS CO 80906

ADDIE BRACKEN PRICE  
C/O BRACKEN OIL CO  
PO BOX 130129  
TYLER, TX, 75713-012

PAUL J. PRICE  
C/O BRACKEN OIL CO,  
PO BOX 130129  
TYLER, TX, 75713-012

ADDIE BRACKEN PRICE TRUST  
C/O BRACKEN OIL CO  
PO BOX 130129  
TYLER, TX, 75713-01

PLC O & G PROPERTIES, L.P.  
PO BOX 470574  
FORT WORTH, TX, 76147-0574

GLENN H. BRACKEN  
3420 BLACKBURN,  
DALLAS, TX, 75219

RUDMAN PARTNERSHIP  
1700 PACIFIC AVE #4700  
DALLAS, TX, 75201-4670

GLENN H. BRACKEN TRUST C/O JOHN A &  
RHODA S. BRACKEN, TR.  
3420 BLACKBURN  
DALLAS, TX, 75219

SAM T. BRACKEN C/O NANCY BRACKEN  
WALDEN  
PO BOX 8029  
TYLER TX, 75711-8029

JEFF M. BRACKEN  
3600 OLD BULLARD RD  
TYLER, TX, 75701

SAM T. BRACKEN TRUST C/O NANCY  
BRACKEN WALDEN  
PO BOX 8029  
TYLER TX, 75711-8029

JEFF M. BRACKEN TRUST  
3600 OLD BULLARD RD  
TYLER, TX, 7570

SATER FAMILY PARTNERSHIP  
C/O RONALD SATER,  
  
POB 2509, EVANSVILLE, IN, 47728

JNO KRAKER C/O CAROL STOCKMAN  
5033 CASTLEMAN ST  
PITTSBURGH, PA, 15232

SMITH RANCHO LAND & LIVESTOCK, LLC  
PO BOX 215  
CRAIG, CO, 81626-0215

LAWRENCE CONSOLIDATED ENT.  
POBOX 180,  
TYLER TX, 75710

SMITH RANCHO LIMITED  
PO BOX 215  
CRAIG, CO, 81626-0215

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-45

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 25<sup>th</sup> and 26<sup>th</sup> 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 2572.41 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 15, 16, 21, and 22 of Township 8 North, Range 90 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 0.2 degrees to the south - southwest. 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 3700'. 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. The surface and bottom-hole locations of the Bulldog 15-11H-890 and Bulldog 15-21H-890 are also shown. 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 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.

Phil

Brian Berwick  
Senior Geologist  
Axia Energy, LLC

STATE OF COLORADO

CITY AND COUNTY OF DENVER

} ss.

The foregoing instrument was subscribed and sworn to before me this 11<sup>th</sup> 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

Reverend H. B. B. B.

**Notary Public**

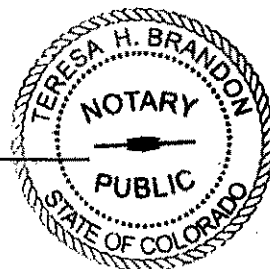


Exhibit G-1

Cause 540

Docket No. 1303 SP 45

# Type Log

# Mancos and Niobrara

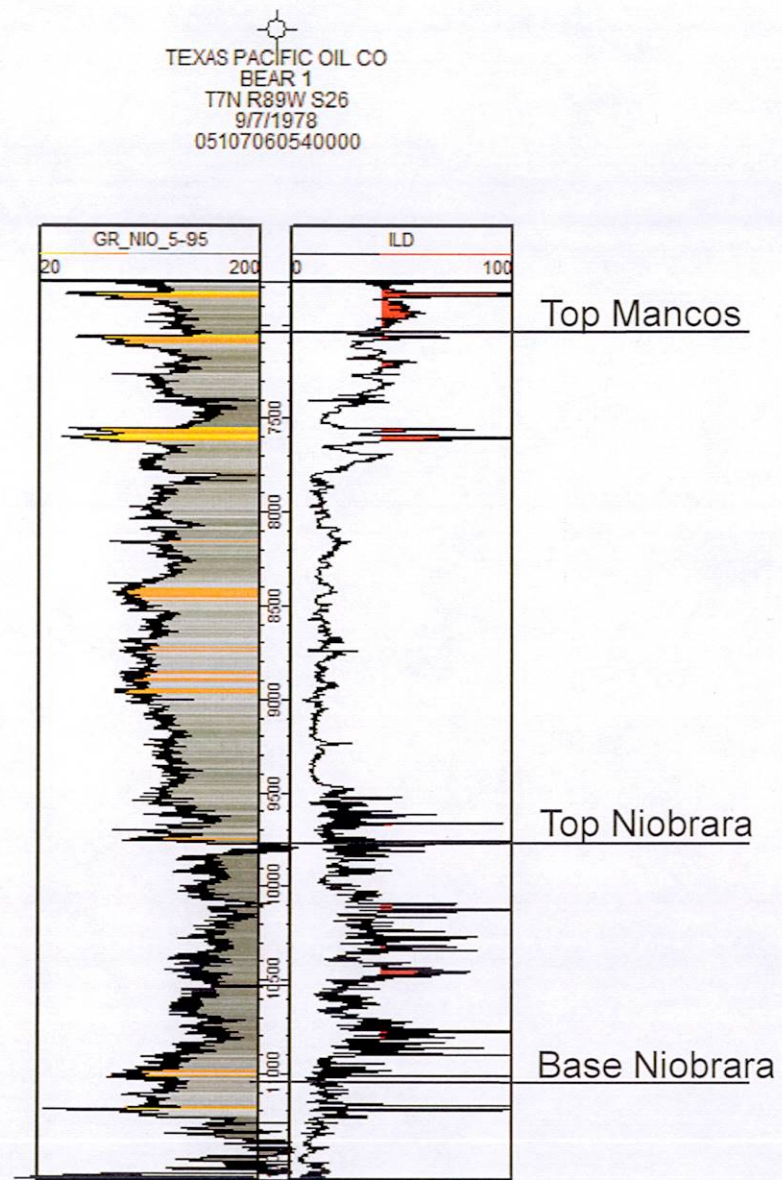
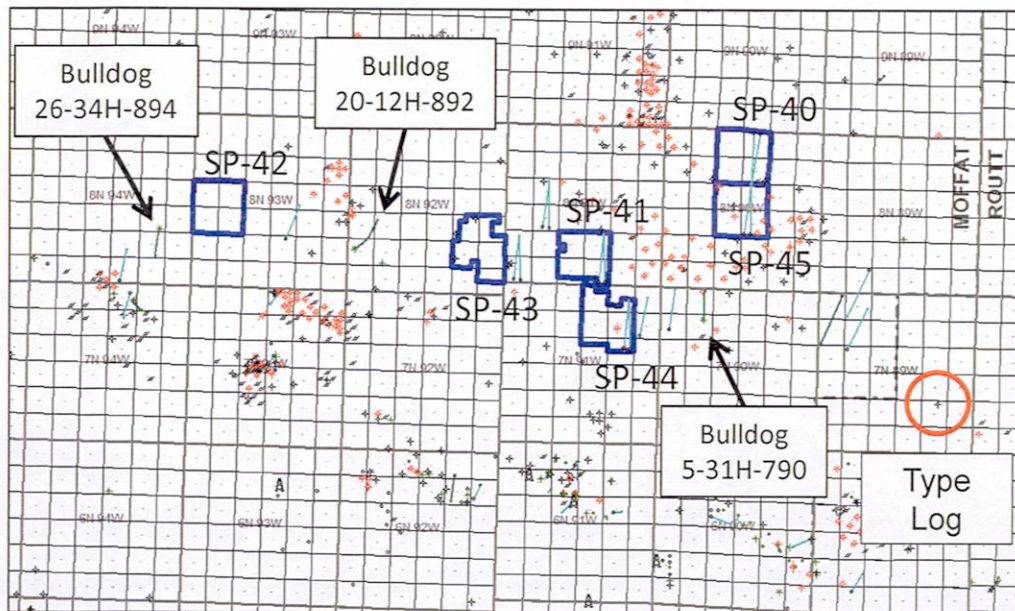
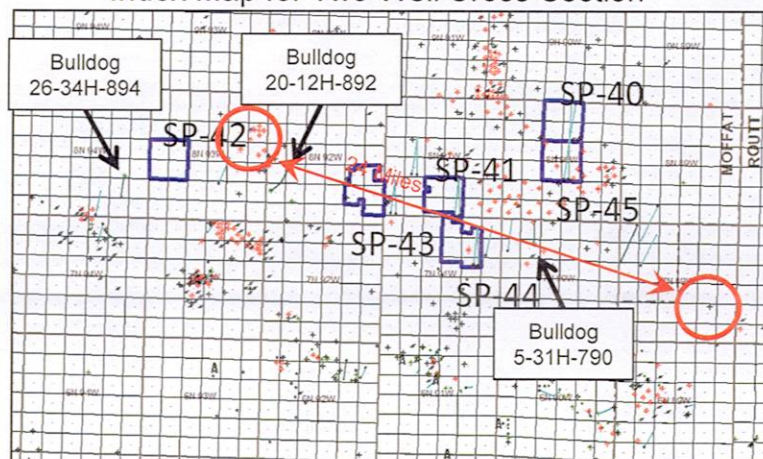




Exhibit G-2  
Cause 540  
Docket No. 1303 SP-45

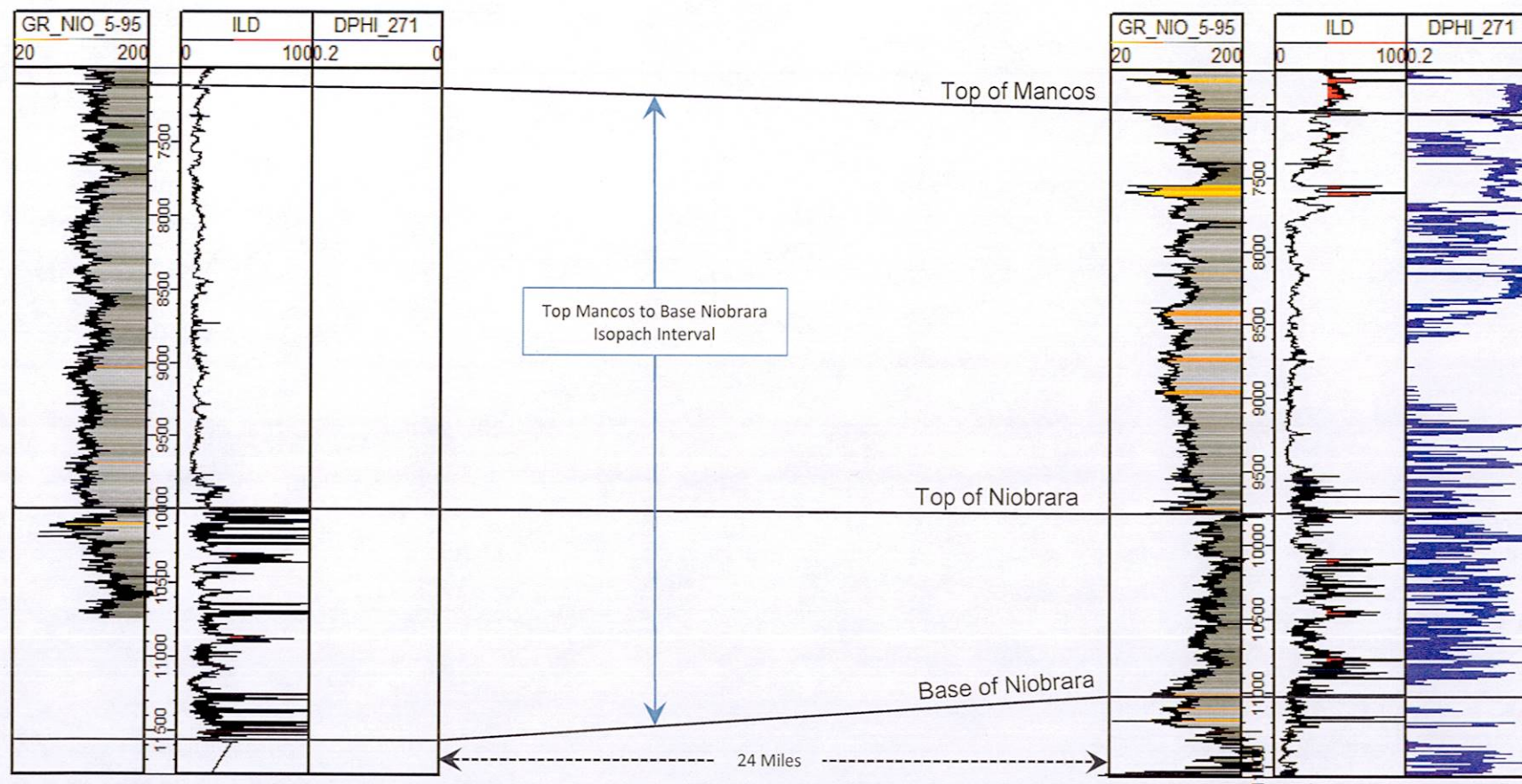
  
HUMBLE OIL & REFG CO  
LAY CREEK 1  
T8N R93W S13  
3/22/1969  
05081060510000

Index Map for Two Well Cross Section



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

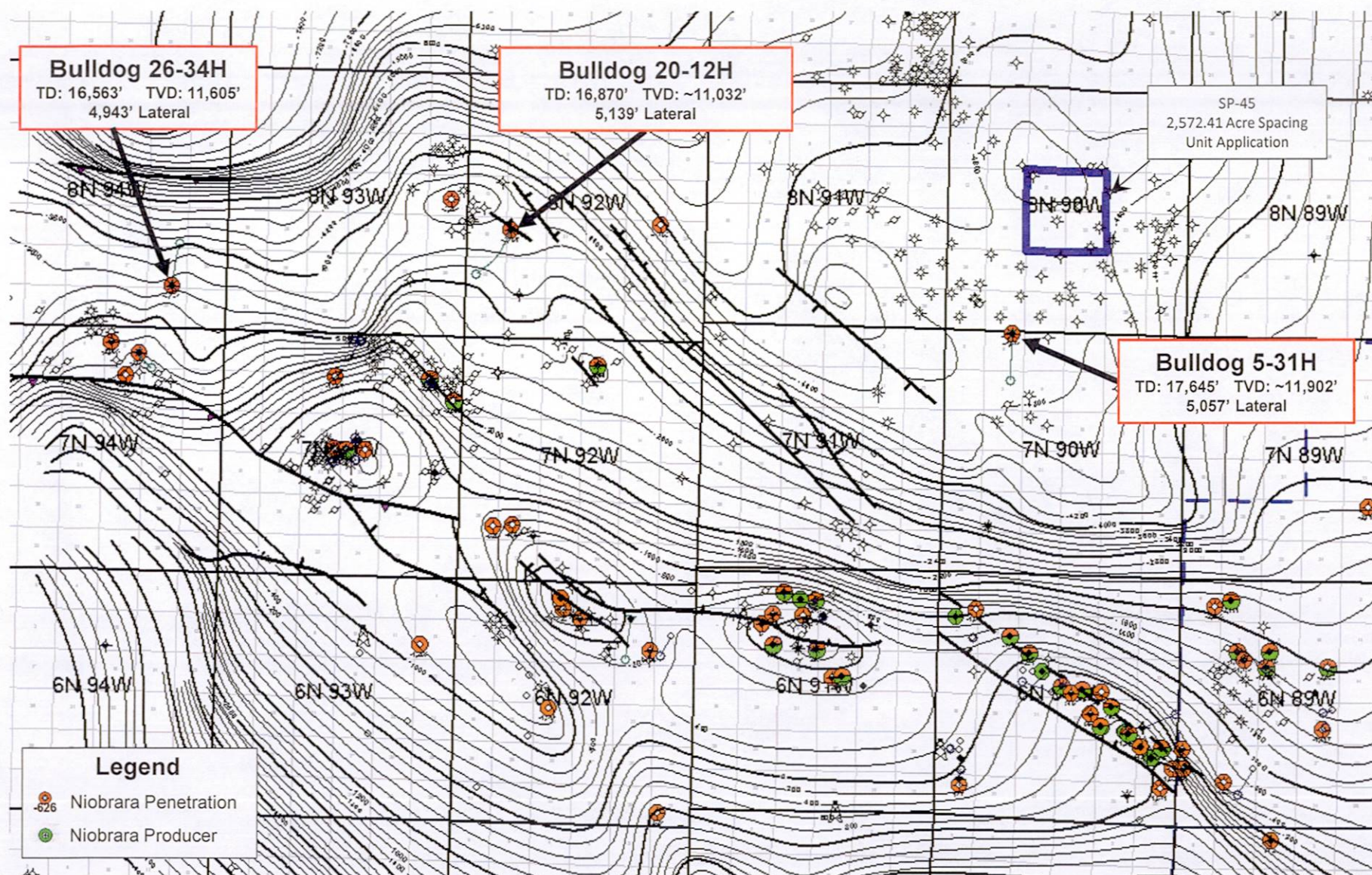
  
TEXAS PACIFIC OIL CO  
BEAR 1  
T7N R89W S26  
9/7/1978  
05107060540000





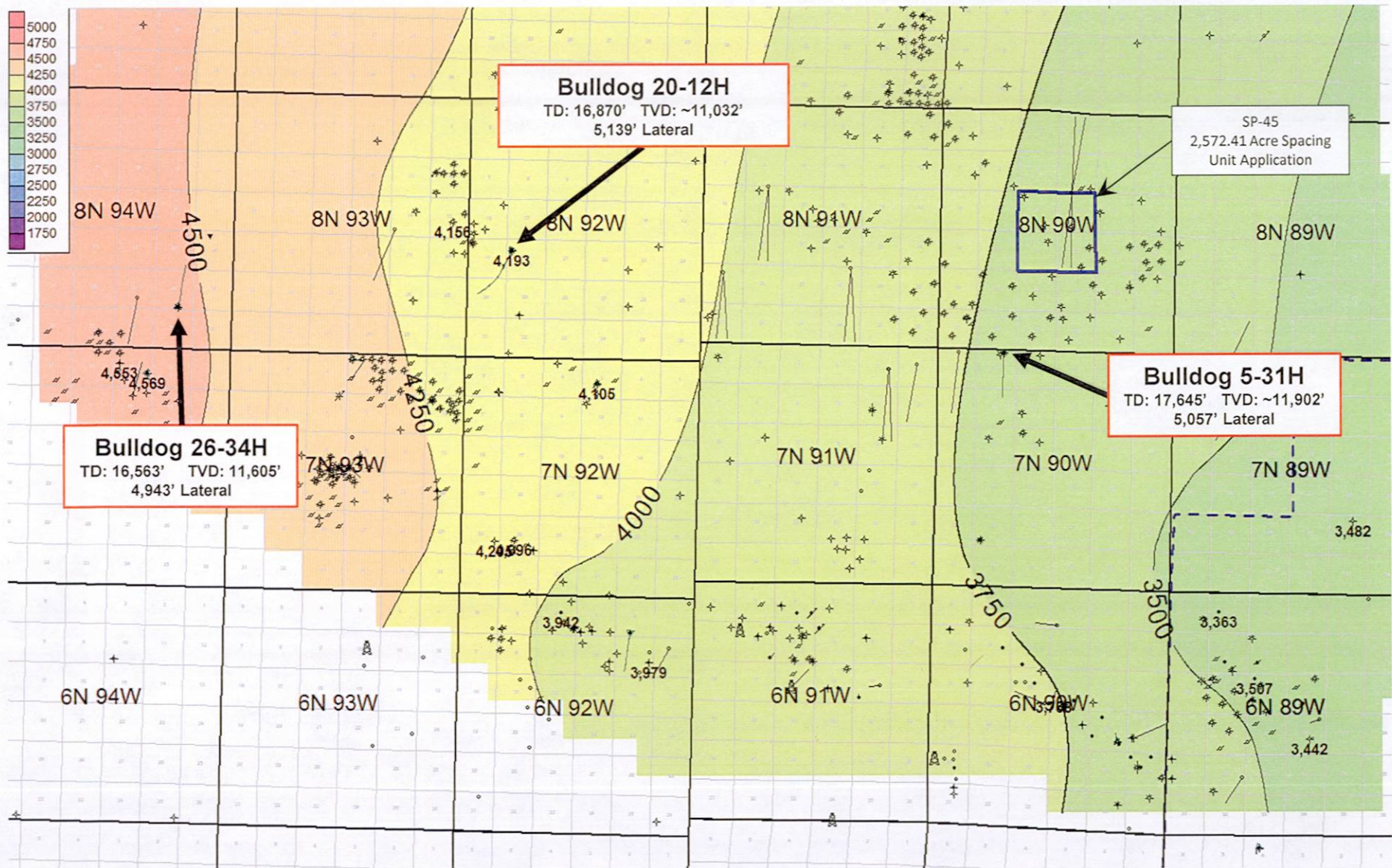
# Structure Top Niobrara

CI = 200'



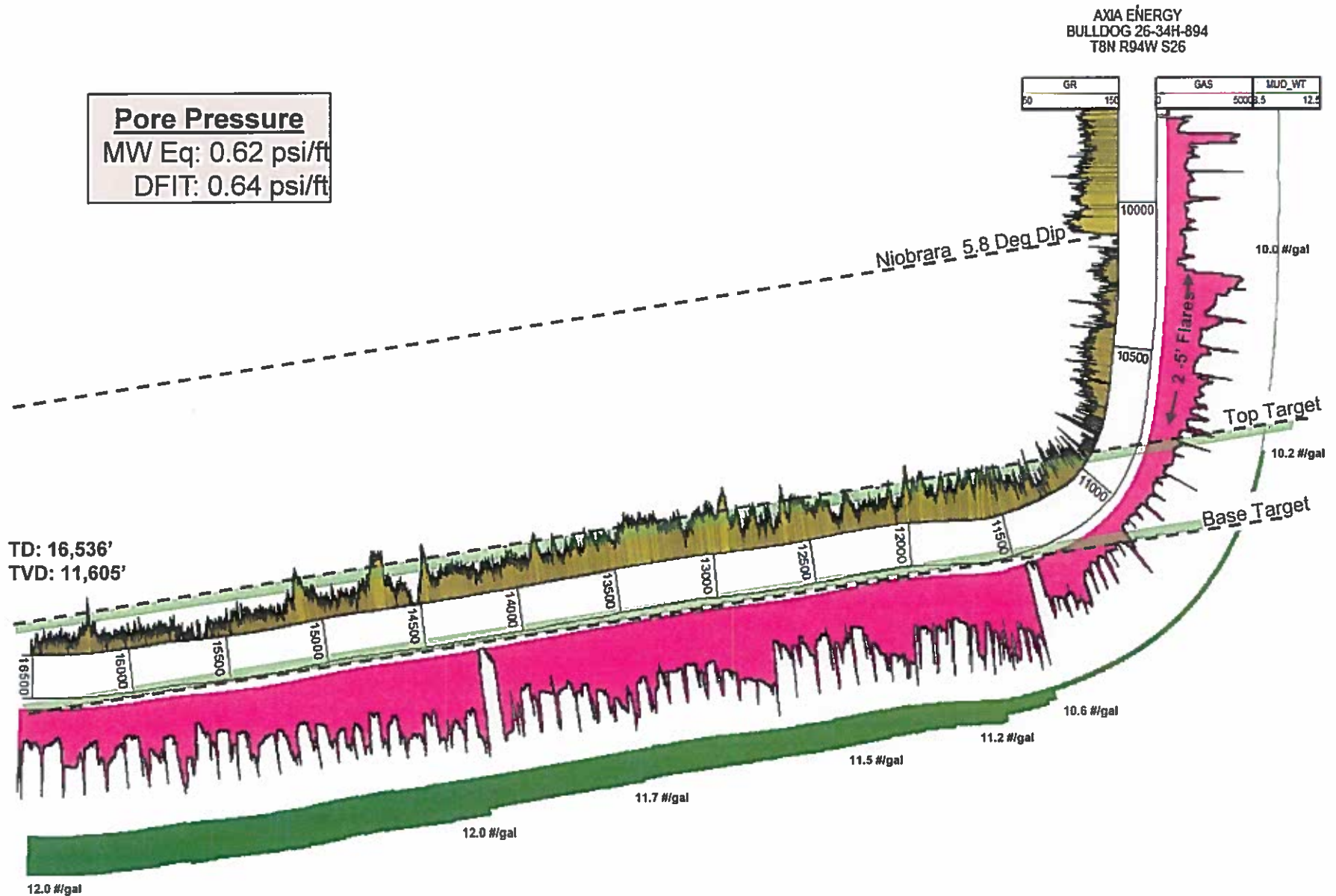


# Top Mancos to Base Niobrara Isopach Map CI = 250'

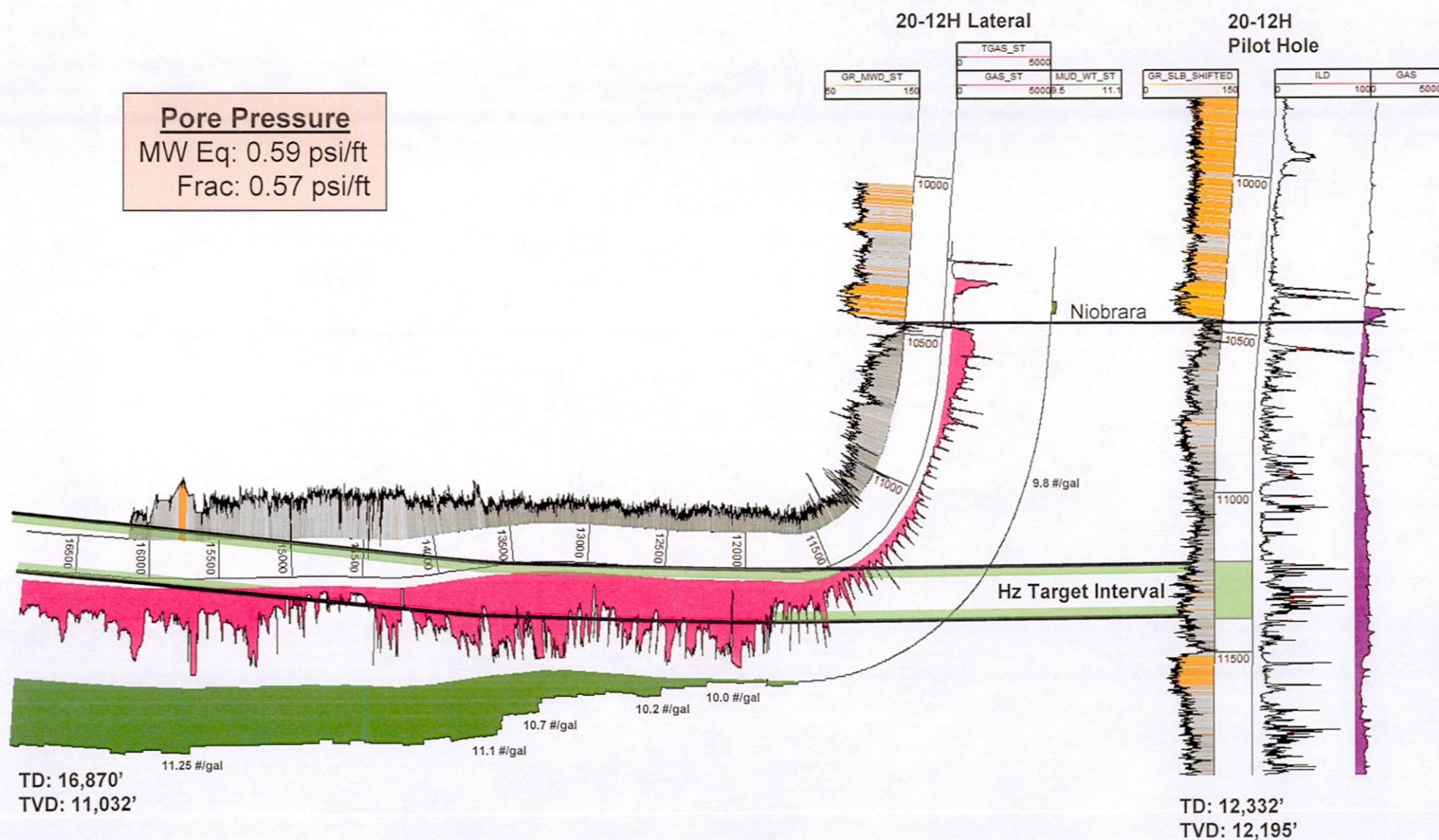




# Bulldog 26-34H – HZ Wellbore Overview

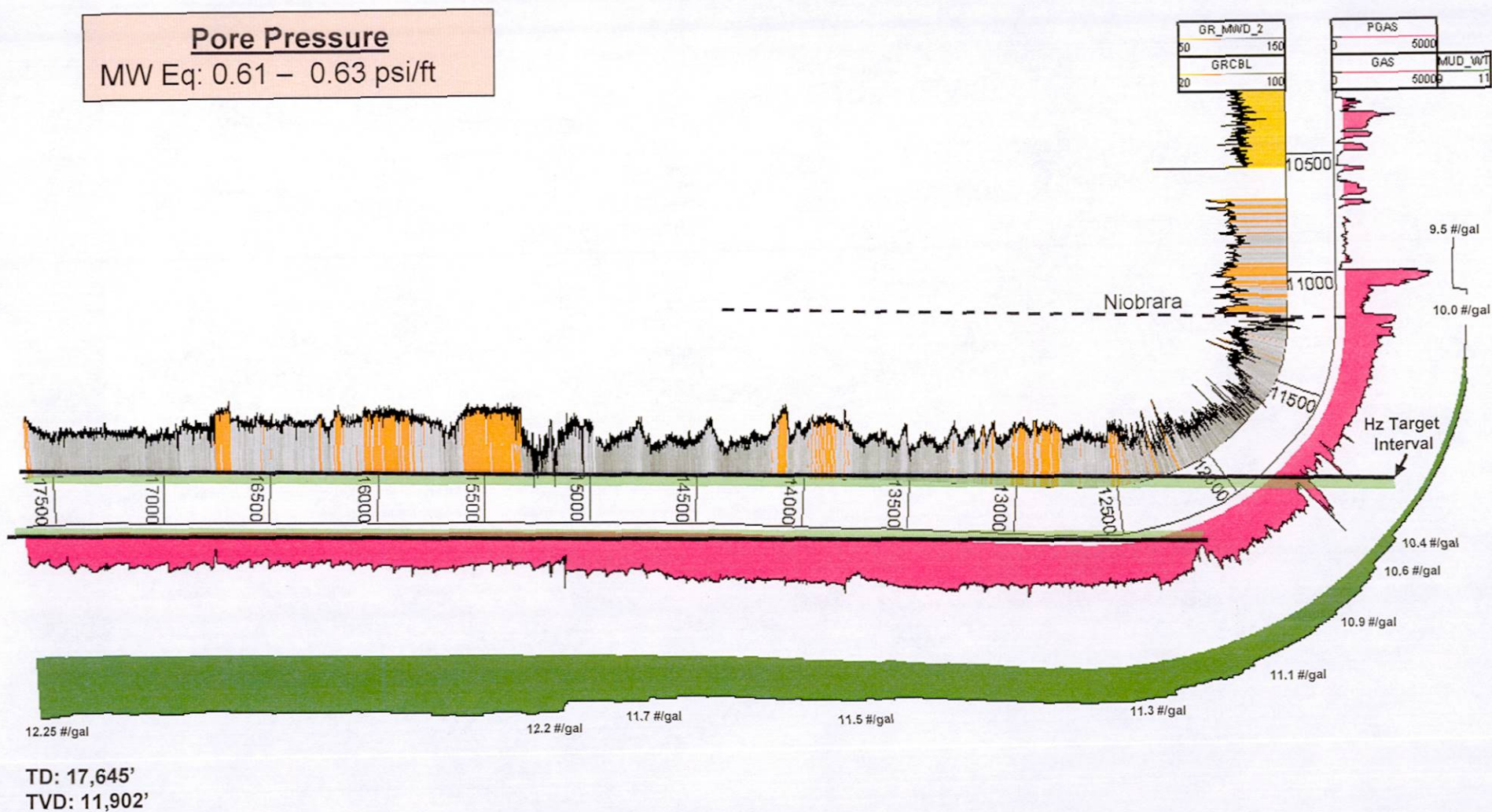


# Bulldog 20-12H – HZ Wellbore Overview



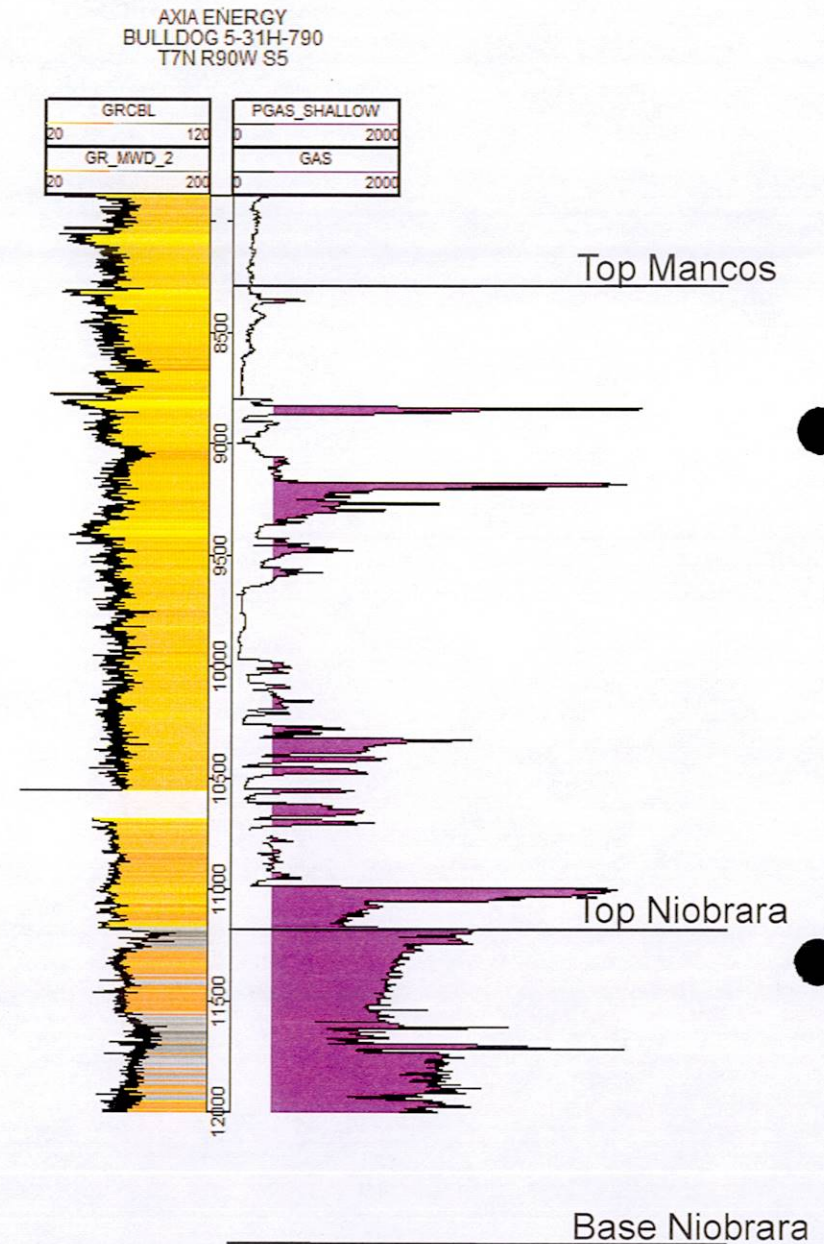
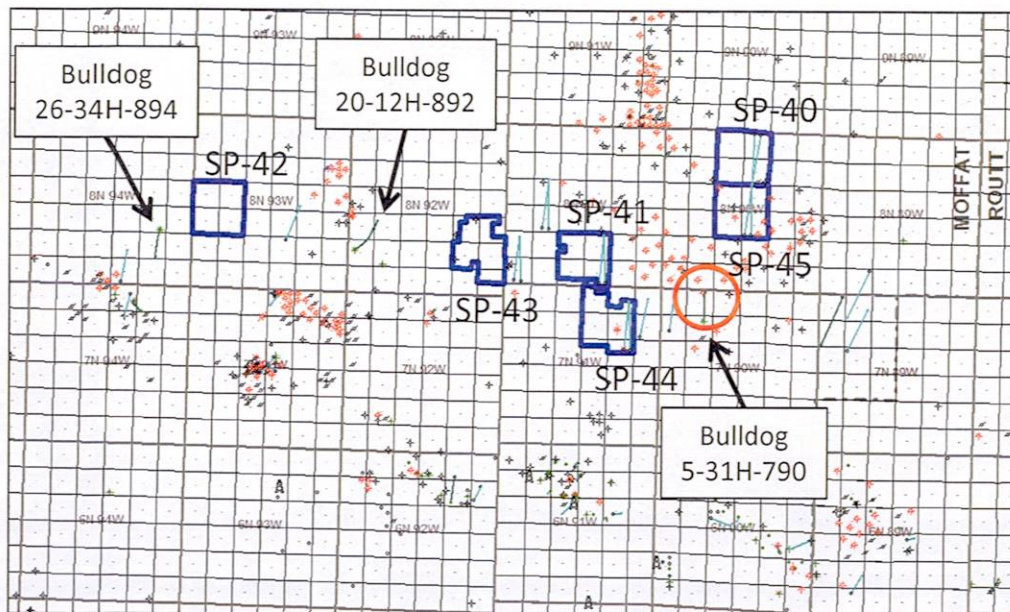


# Bulldog 5-31H – HZ Wellbore Overview



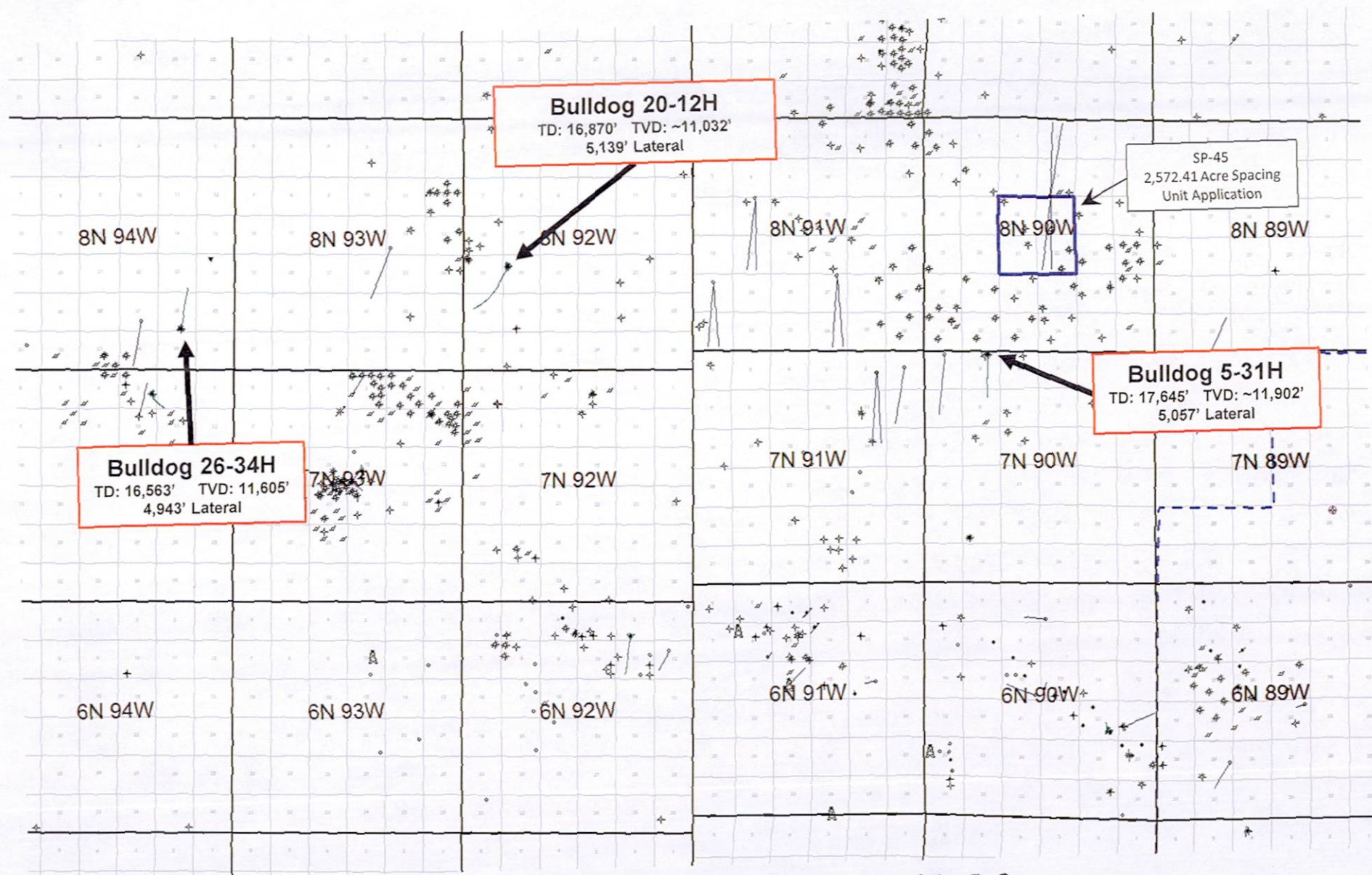


## Gas Shows Bulldog 5-31H





# Offset Well Locations



# **AXIA ENERGY, LLC**

## **Taryn Frenzel - Engineering Testimony**

**Moffat County, Colorado  
Cause No. 540, Docket No. 1303-SP-45  
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 Axia 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.

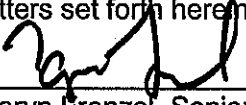
Due to the fact that the Niobrara and Mancos covers a large gross interval as shown in Exhibit E-1, stacked laterals will become a necessity to develop the resource. Exhibit E-3 shows a stacked lateral development. Multiple stacked lateral wells need to be drilled and stimulated in order to effectively 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

**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

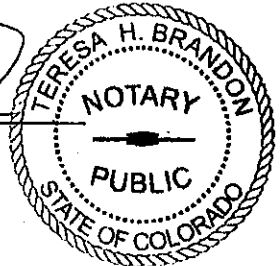
The foregoing instrument was subscribed and sworn to before me this 11<sup>th</sup> day of March, 2013, by Taryn Frenzel, as Senior Completions Engineer, for Axia Energy, LLC.

Witness my hand and official seal.

[SEAL]


My commission expires: 8/7/16

  
Notary Public



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 \_\_\_\_ day of \_\_\_\_\_, 2013, by Taryn Frenzel, as Senior Completions Engineer, for Axia Energy, LLC.

Witness my hand and official seal.

[SEAL]

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

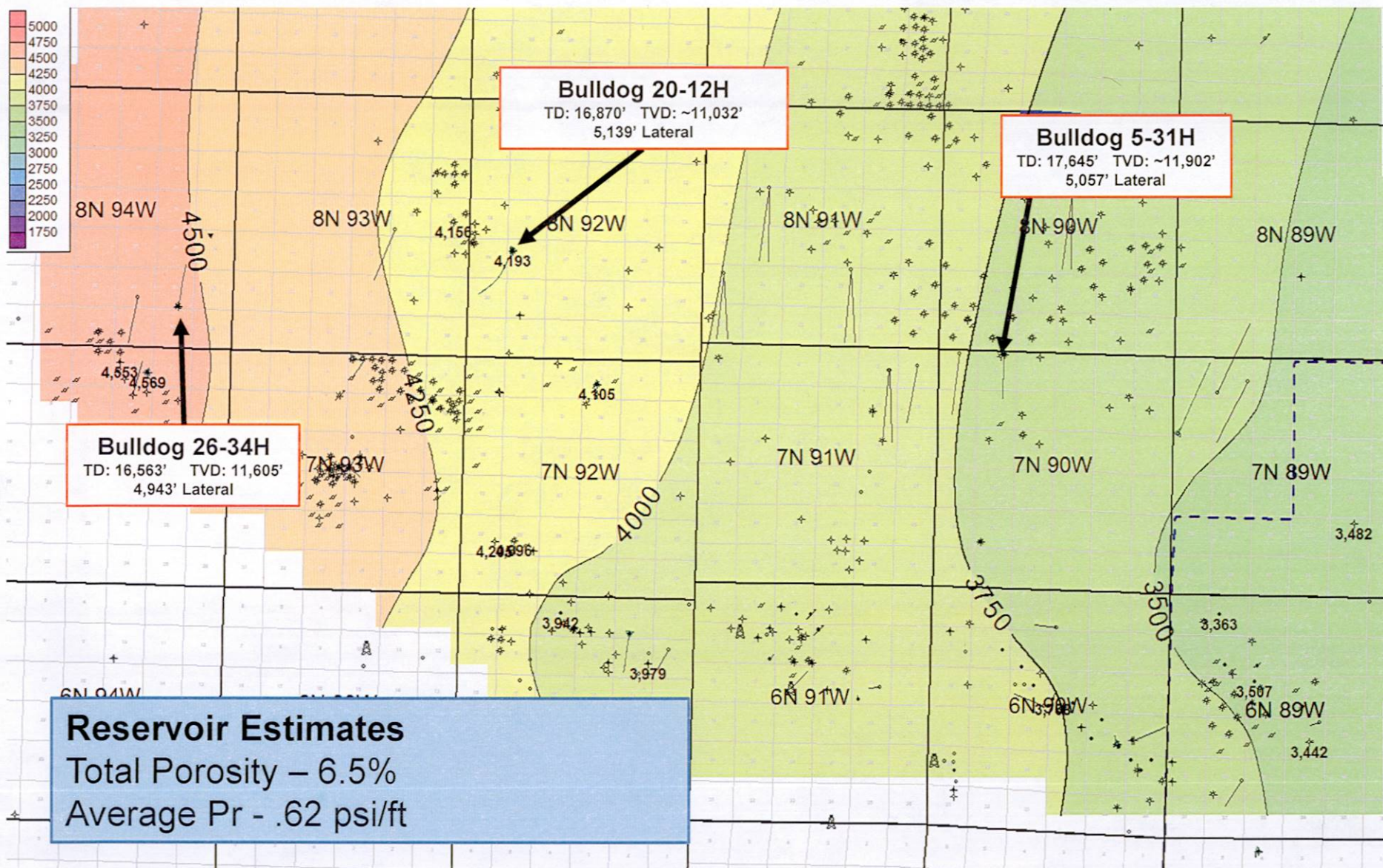
\_\_\_\_\_  
Notary Public





# Exhibits E-1 Gross Niobrara/Mancos Thickness

Cause No. 540  
Docket No. 1303-SP-45

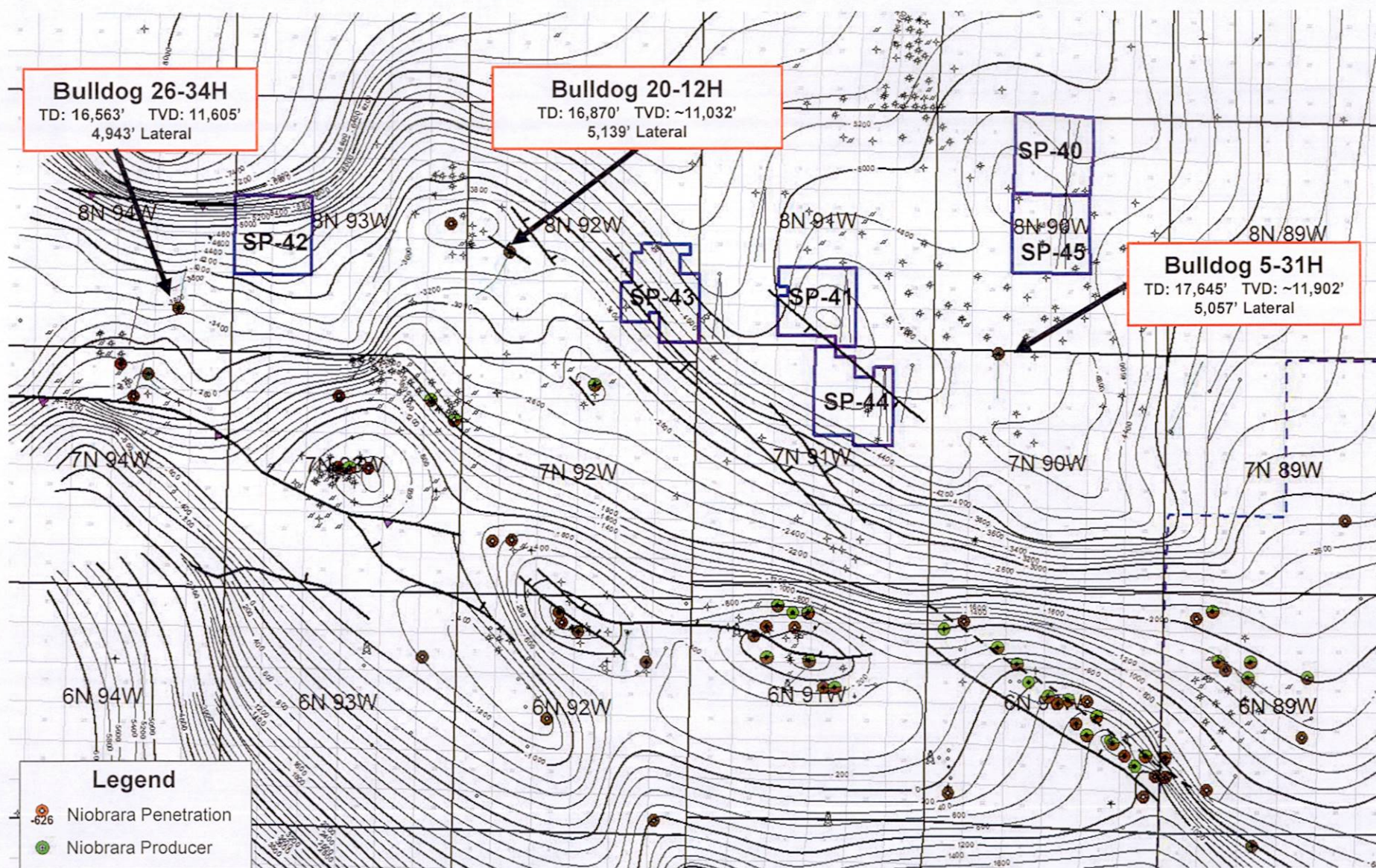






# Exhibits E-2 Structure Top Niobrara (CI = 200')

Cause No. 540  
Docket No. 1303-SP-45



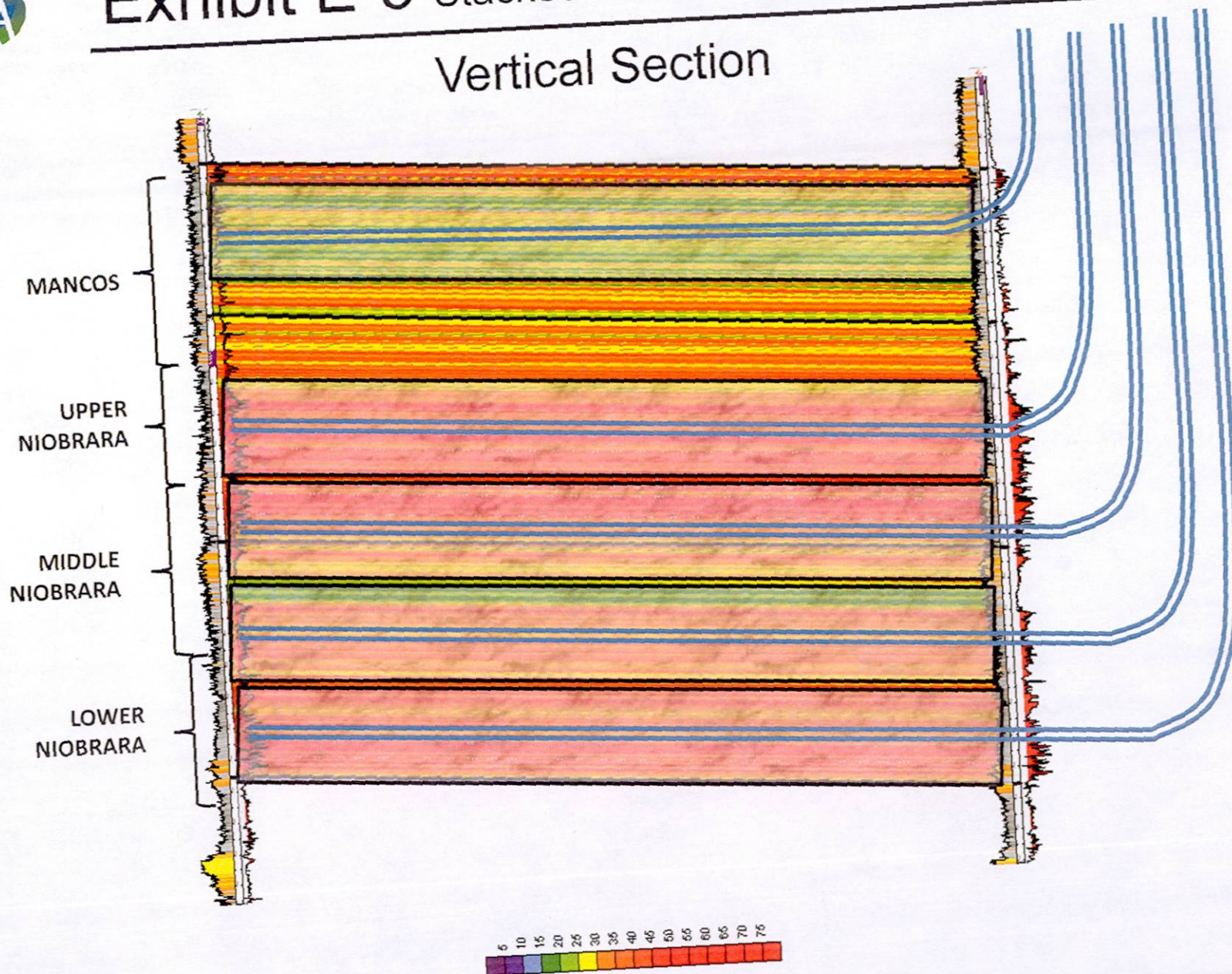




# Exhibit E-3 Stacked Lateral Potential

Cause No. 540  
Docket No. 1303-SP-45

## Vertical Section







# Exhibit E-4 OGIP

Cause No. 540  
Docket No. 1303-SP-45

## 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 lateral		
Gas (Bcf)	Oil (MMBO)	BCFE
8.4	0.420	10.9