



02554205

# EXHIBIT(s) FOR ORDER NO(s).

421 - 2

<u>421</u>	-	<u>2</u>
<u>          </u>	-	<u>          </u>
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## Steve Smith Testimony

DOCKET # 1003-AW-02 Cause 421  
Township 12 North, Range 63 West, 6th P.M., Weld County, Colorado  
Section 36  
April 2010 Colorado Oil and Gas Conservation Commission Hearing

My name is Steve Smith, and I am currently employed as a Landman for EOG Resources, Inc. I graduated from The University of Louisiana at Lafayette with a B.A. in Petroleum Land Management. I have over 28 years experience in the oil and gas land and contract work.

In support of our application today, I am submitting three (3) exhibits. The exhibits are attached to my sworn testimony and form the basis for our application to gain approval for one (1) additional horizontal infill well in the established 640-acre drilling and spacing unit for the Niobrara Formation covering Section 36, Township 12 North, Range 63 West ("Application Lands") for a total of two (2) permitted horizontal infill wells in the Application lands.

### Exhibit L-1: EOG Leasehold.

Exhibit L-1 shows the leasehold interest held by EOG on the Application Lands.

### Exhibit L-2: Minerals.

Exhibit L-2 shows the mineral ownership of the Application Lands.

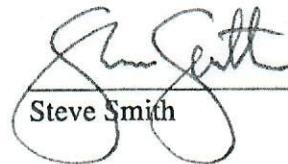
### Exhibit No. L-3: Surface Ownership.

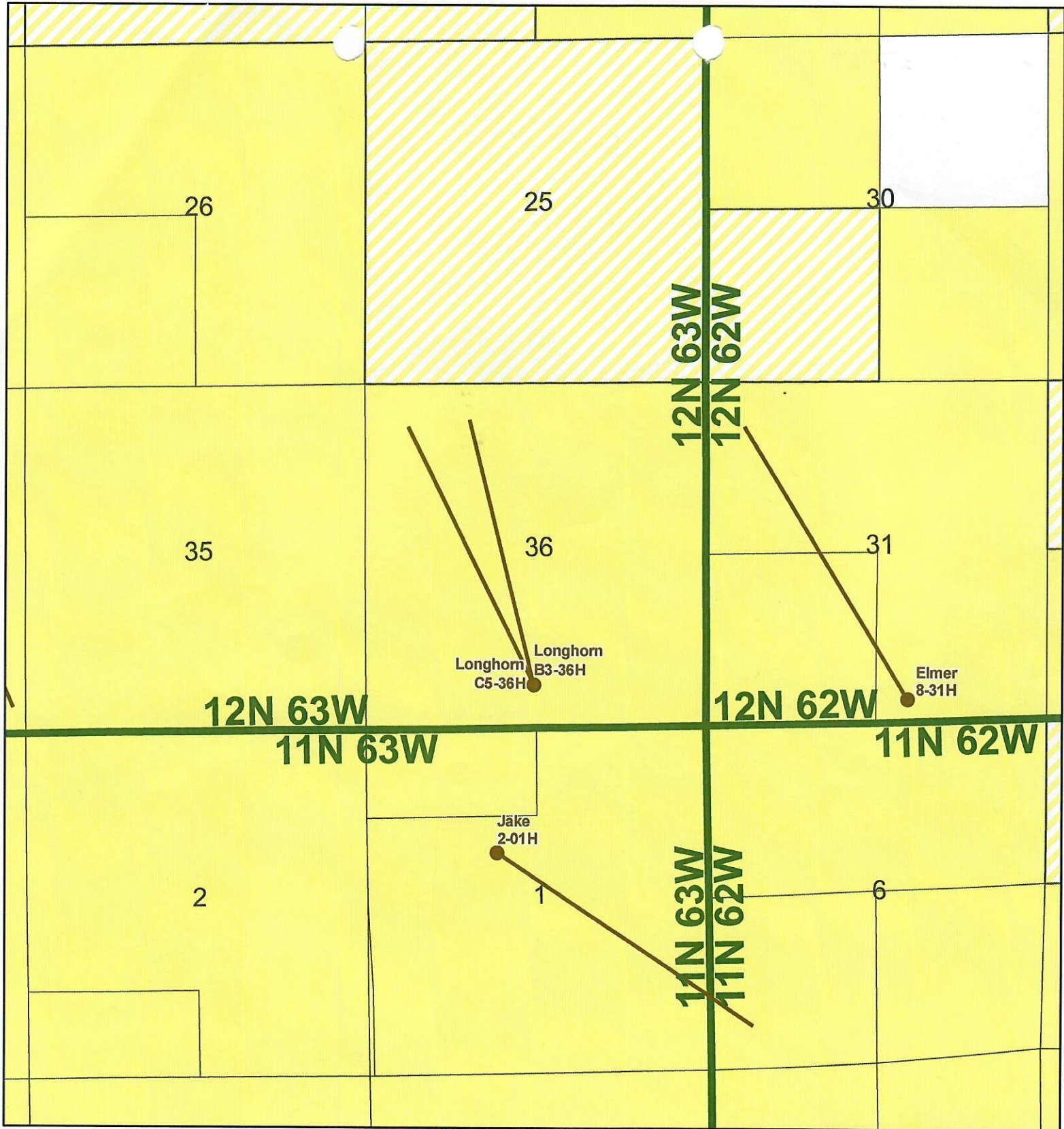
Exhibit L-3 shows the surface ownership of the Application Lands.

Based upon our examination of relevant documents, and under my direction and control, all of the interested parties received notice of this Application.

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.

Dated this 16th day of April, 2010.

  
\_\_\_\_\_  
Steve Smith



**Legend**

- Wells
- Well Line
- ▨ EOG Partial Interest
- EOG Full Interest



Denver Division

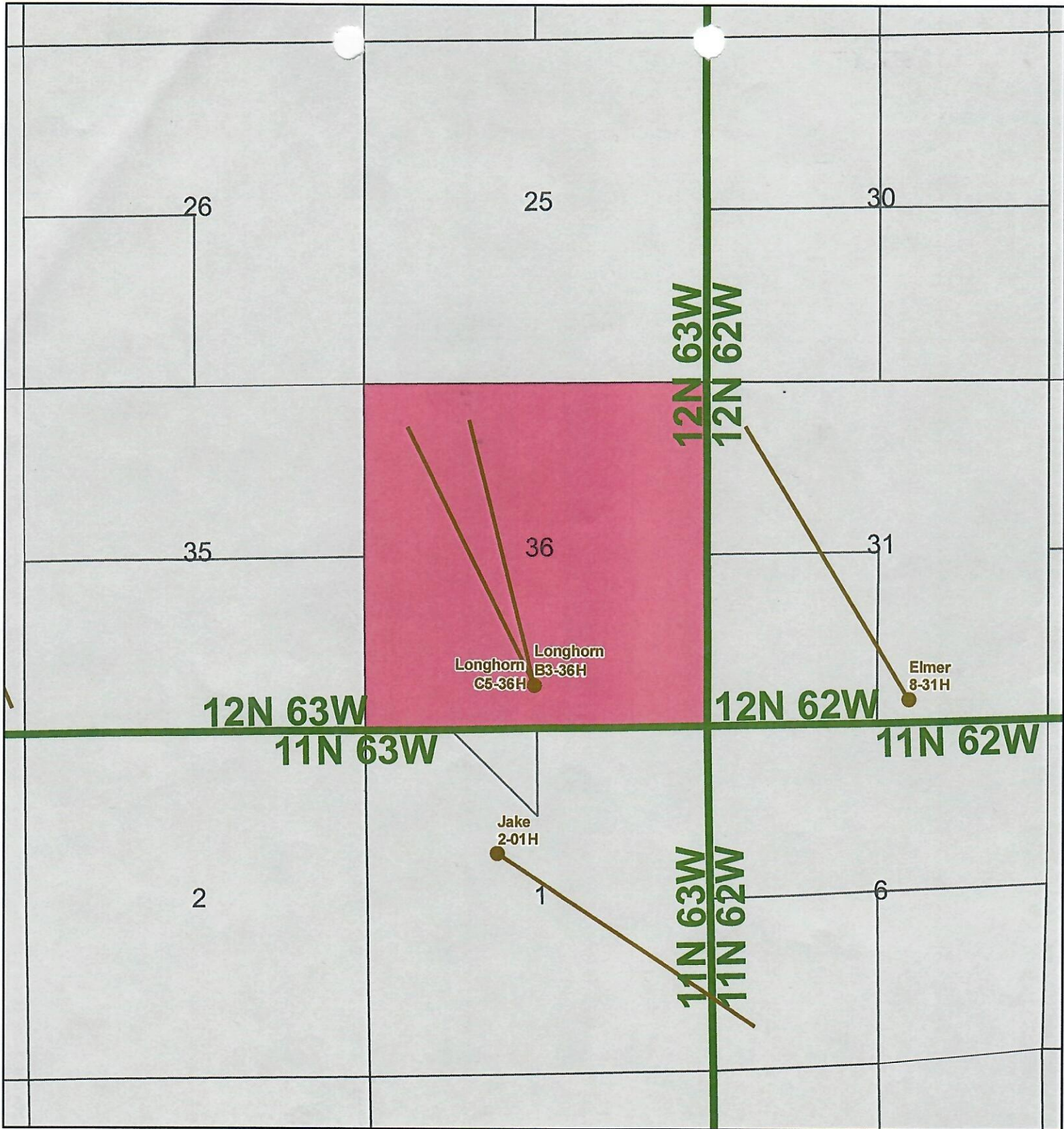
**EOG Leasehold Exhibit L-1**  
**Docket # 1003-AW-02 Cause # 421**

Weld County, Colorado

SCALE:  
1:24,000

MAP:  
1003-AW-02Cause421MXDsL1.mxd

DATE:  
04/14/2010



**Legend**

- Wells
- Well Line
- Active State Minerals
- Fee



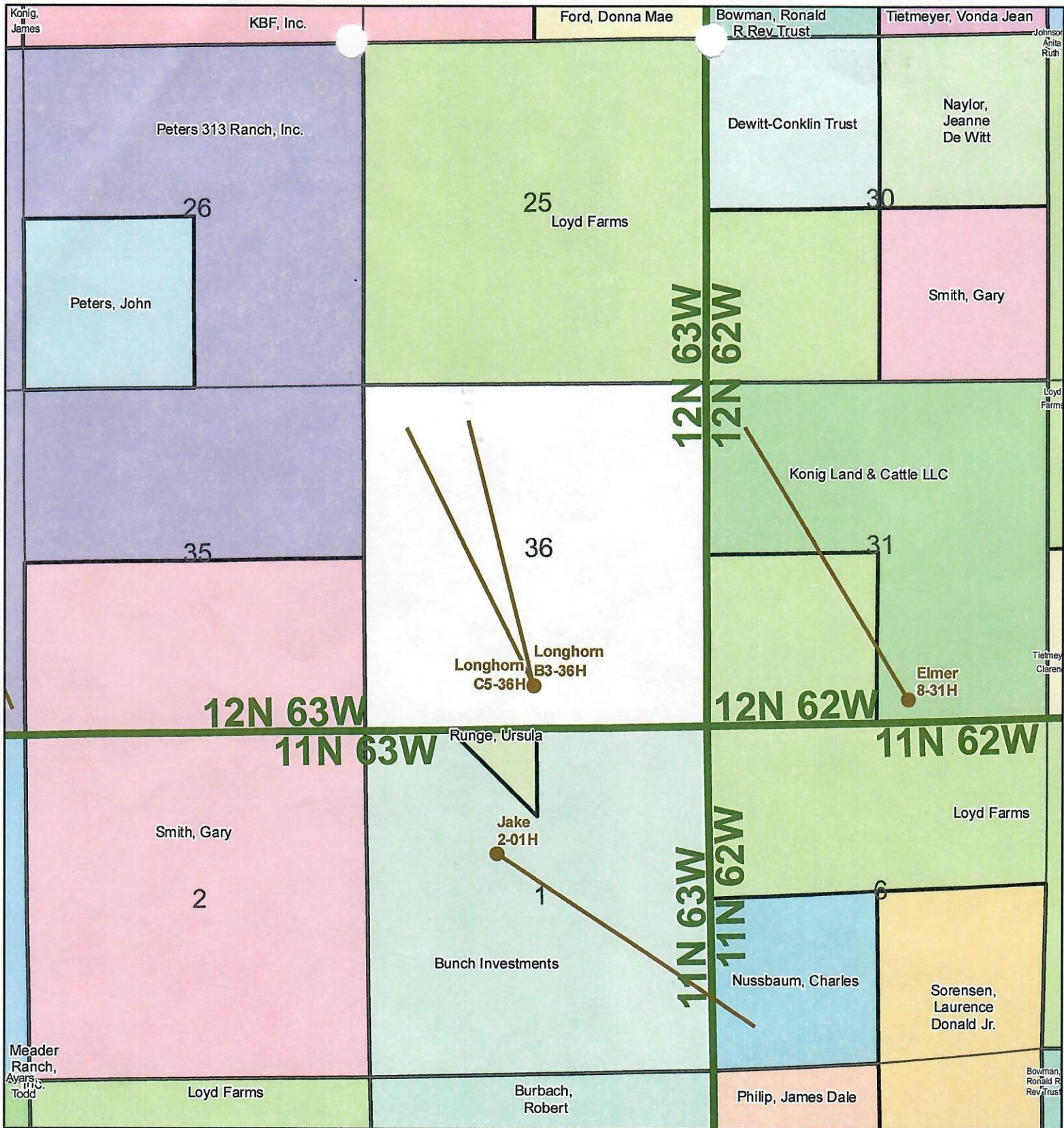
Denver Division

**Minerals Exhibit L-2**  
**Docket # 1003-AW-02 Cause # 421**  
 Weld County, Colorado

SCALE:  
1:24,000


MAP:  
1003-AW-02Cause421MXDsL2.mxd

DATE:  
04/14/2010



**Legend**

- Wells
- Well Line



Denver Division

**Surface Ownership Exhibit L-3**  
**Docket # 1003-AW-02 Cause # 421**  
 Weld County, Colorado

SCALE: 1:24,000	MAP: 1003-AW-02Cause421MXDsL3.mxd	DATE: 04/14/2010
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# **DOCKET # 1003-AW-02 Cause 421**

## **GEOLOGY TESTIMONY**

**PROPOSED: One additional horizontal well, for a total of up to two horizontal wells drilled from a common pad, for the established approximate 640-acre drilling and spacing unit for Section 36, Township 12 North, Range 63 West, 6<sup>th</sup> P.M., for the production of oil and associated hydrocarbons from the Niobrara Formation, with the horizontal leg of the additional well to be no closer than 600 feet to the outside boundary of the drilling and spacing unit.**

### **NIOBRARA FORMATION**

**Sec. 36 T12N-R63W, 6<sup>th</sup> PM**

**WELD COUNTY, COLORADO – APRIL 29 & 30, 2010**

**Prepared and Submitted by John H. Melby, Petroleum Geologist – EOG Resources**

The Niobrara Formation is sequence of Chalks, Marls and Limestones that were deposited in the Western Interior Seaway during Cretaceous time. This seaway was vast in extent and covered much of North America from the Gulf of Mexico to the Arctic. These rocks were deposited as deep water sediments and underlie most of the DJ Basin in parts of northeastern Colorado, southeastern Wyoming and southwestern Nebraska.

Four geology exhibits were prepared and presented as follows:

**I. Exhibit G-1 – (Structure Map-C.I.=25')**

Exhibit G-1 is a subsea structure map constructed on the top of the Niobrara Formation. In the application area, the regional dip is approximately 35'/mile to the west.

**II. Exhibit G-2 – (Isopach Map-C.I.=2')**

Exhibit G-2 is an isopach map of the total Niobrara Formation from the top of the Niobrara Formation to the top of the Codell Formation. Total thickness ranges from approximately 274' to 282'.

**III. Exhibit G-3 – (Niobrara-Type Log-EOG Lamotta 5-01M, Sec. 1-T11N-R63W)**

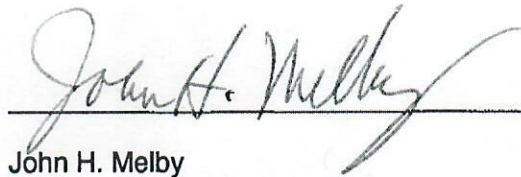
Exhibit G-3 is an AIT type log for the Niobrara Formation. The Niobrara consists of two members, the Smoky Hill Chalk and the Ft. Hayes Limestone.

**IV. Exhibit G-4 (Cross Section A-A')**

Exhibit G-4 is a stratigraphic cross section constructed through nearby wells showing the mapped interval of the Niobrara Formation. This exhibit shows that the Niobrara Formation exists under the proposed spacing area. The location of cross section A-A' is shown on Exhibit G-1 & G-2.

**Conclusion:** The Niobrara Formation exists under all lands in the spacing application area.

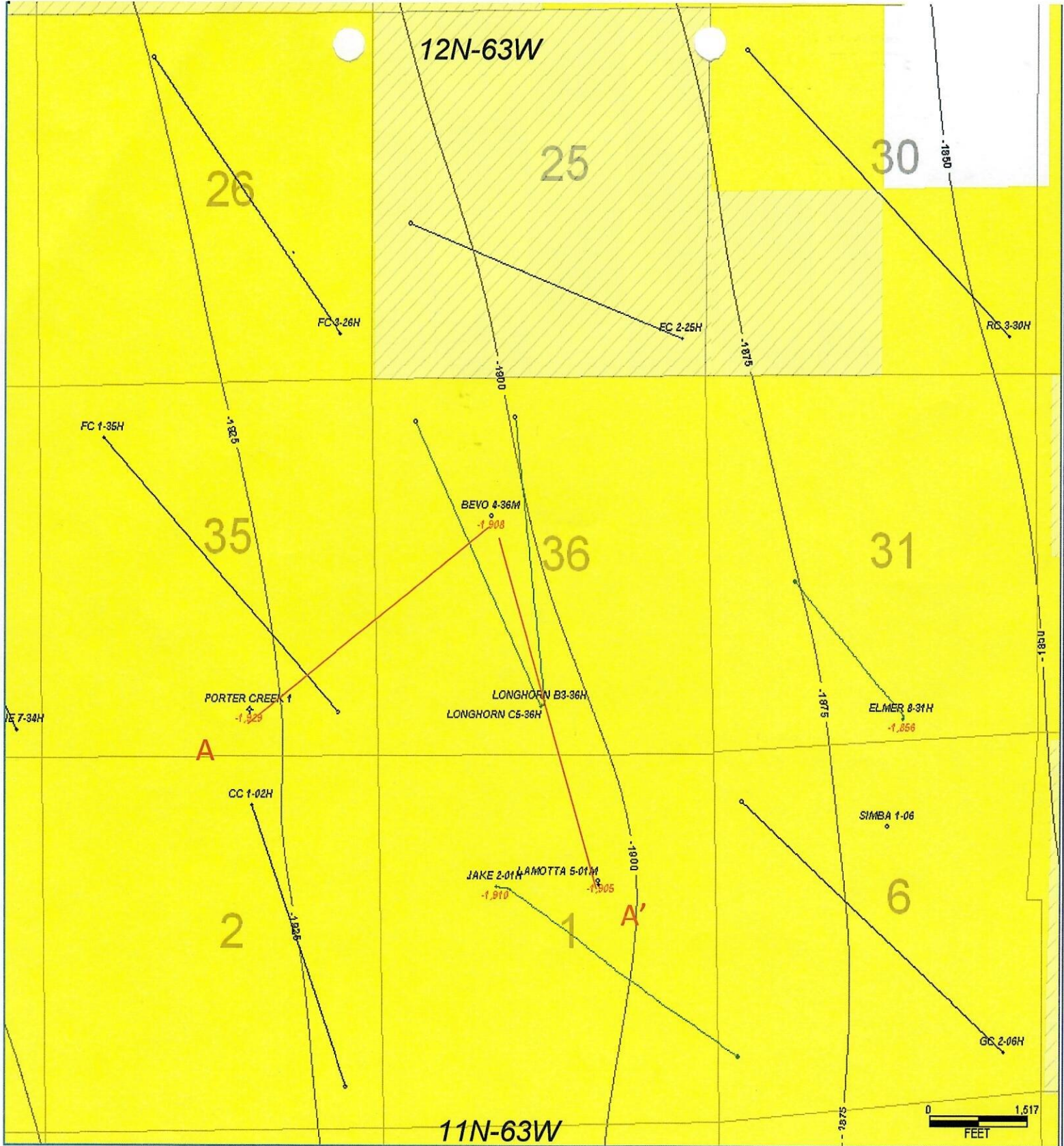
Geological Exhibits G1 through G4 were prepared under my direction and control.

A handwritten signature in cursive script, reading "John H. Melby", is written over a solid horizontal line.

John H. Melby

Division Geological Advisor

EOG Resources., Inc.

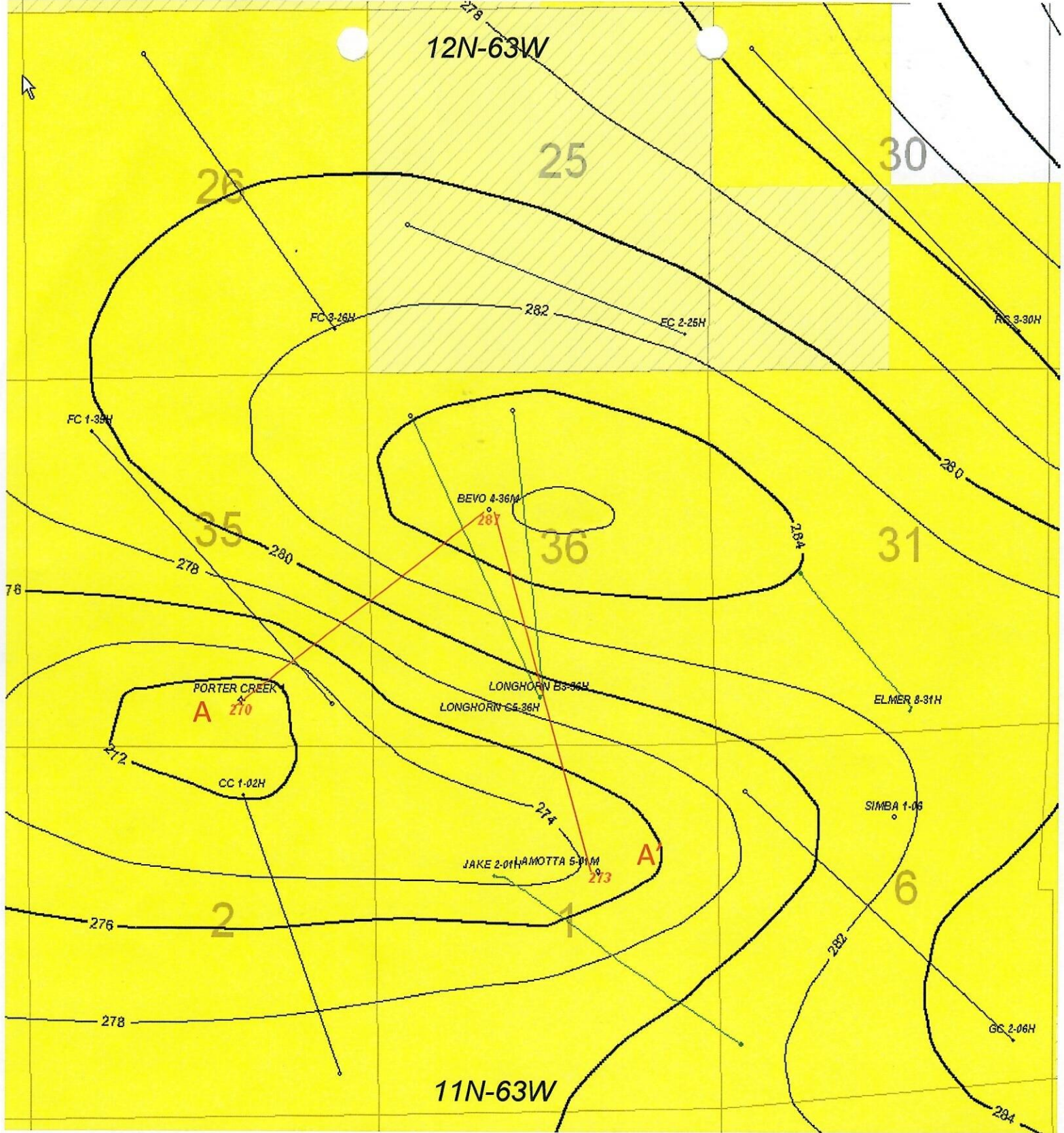


○ = Proposed Well

● = Existing Well



NIOBARA STRUCTURE  
 C.I. = 25'  
 DOCKET #1003-AW-02  
 CAUSE #421  
 EXHIBIT G-1



○ = Proposed Well

● = Existing Well



NIOBRARA ISOPACH  
 C.I. = 2'  
 DOCKET #1003-AW-02  
 CAUSE #421  
 EXHIBIT G-2



A

A'

UNIOIL CORP  
 PORTER CREEK 1  
 T12N R63W S35  
 C SW SE  
 WELD  
 5,314  
 3/24/1983

<4,642FT>

EOGR  
 BEVO 4-36M  
 T12N R63W S36  
 SENW  
 WELD  
 5,418  
 1/25/2010

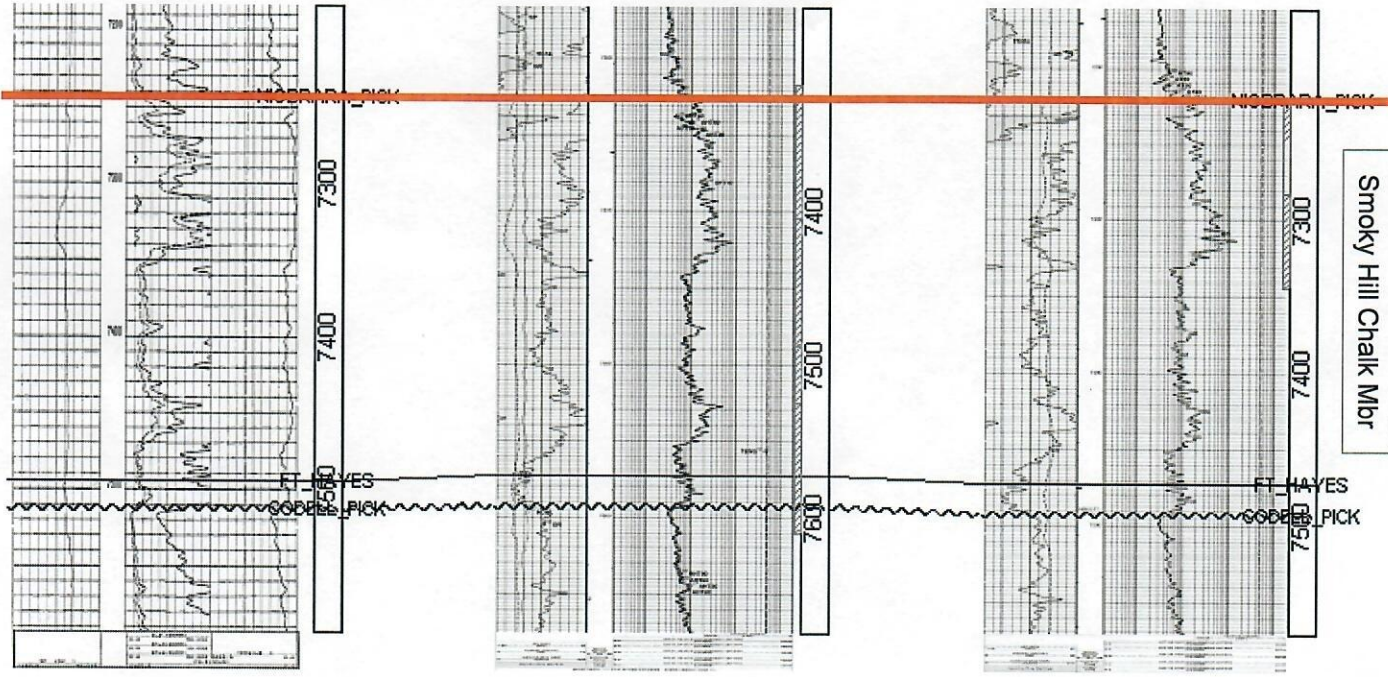
<5,475FT>

EOGR  
 LAMOTTA 5-01M  
 T11N R63W S1  
 SWNE  
 WELD  
 5,316  
 8/6/2009


05123110050000

05123305850000

05123305560000



**NIORRARA FM**

  
 NIORRARA CROSS SECTION  
 DOCKET #1003-AW-02  
 CAUSE #421  
 EXHIBIT G-4

**Engineering Testimony  
Weld County, Colorado  
Cause No. 421, Docket No. 1003-AW-02  
EOG Resources, Inc.  
Spacing Application  
Niobrara Formation**

My name is Osman Apaydin. I am a reservoir engineer with EOG Resources, Inc. I have over 10 years experience in reservoir engineering, production operations, facility engineering and related matters and am familiar with the engineering conditions with respect to the Application Lands. A copy of my curriculum vitae is included in the exhibit booklet submitted by EOG.

**Drainage and Economic Calculations**

EOG Resources has drilled and stimulated the first exploratory well, Jake 2-01H in the 3<sup>rd</sup> quarter of 2009 with a 3,800ft lateral. It delivered a maximum rate of 1,588 BBL/D rate and has flowed over 50,000 barrels of oil in less than 90 days. Since then, EOG Resources has drilled 4 additional wells. The second horizontal test in the area was the Elmer 8-31H, which is cleaning up after stimulation and had a maximum rate of 730 Bopd. The Elmer has 2,000' of lateral, as we were unable to drill ahead due to hole problems. The third horizontal well, the Red Poll 10-16H, with a lateral length of 5,200', was tested unstimulated openhole. This well came on flowing at a max rate of 1,100 Bopd. The Critter Creek 2-3H and 4-9H wells are awaiting completion, and encountered encouraging pressure while drilling the laterals.

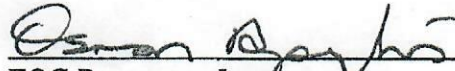
The horizontally drilling and completing of the Niobrara, we feel will be complex. EOG Resources is utilizing managed pressure drilling equipment when drilling our laterals, along with play will be a high rate fracture play only, or have an additional matrix contribution to the complex fracture network. So we have been extensively testing multiple completion techniques, to maximize the recoverable reserves. With the current application, EOG resources is proposing to drill one additional horizontal well to have an early test if downspacing to 320 acre spacing is necessary on the already established 640-acre drilling and spacing unit. This early 2<sup>nd</sup> well in a section would help determine incremental recovery potential and prevent waste and confirm if original 640-acre spacing unit is adequate to effectively drain the whole section.

Exhibit E-1, which was also presented during the previous hearing, reflects the original oil in place, estimated ultimate recovery, porosity and calculated drainage area for a number of wells within the Hereford Field Area, which covers the Spacing Application Section that is the subject of this hearing. Vertical well-oil production performance is highly variable out of Niobrara Formation. Besides much poorer wells, the only vertical well that has significant production in the area is Kern 43-33 well. Our studies reflect that the EUR is approximately 38,450 BBL for this well and the original oil in place is 769,000 BBL. The corresponding drainage area for the vertical well is 23 acres. EUR estimate for the discovery well, Jake 2-01H, with limited production history, is around 250,000 BBL and the original oil in place is 5,000,000 BBL. Estimated drainage area is 152 acres. Elmer 8-31H and Red Poll 10-16H have not been included in this analysis due to their very short production history. Whole wellbore at Elmer 8-31H has been on production for only about 20 days. Red Poll 10-16H was tested unstimulated openhole for a short period and currently waiting on completion.

Exhibit E-2 reflects the original oil in place, estimated ultimate recovery, porosity and calculated drainage area for a number of wells from an analog field named Silo. This is a major field producing from Niobrara Formation (25 Miles North) and has produced around 10,000,000 BBL since early 1980's through vertical and horizontal wells. EUR and drainage area estimates for some of the high and low productive wells are also included in the analysis. Drainage area varies between 35 to 492 Acres. The shaded/non-shaded lines of Exhibit E-2 represent the total drainage area (in acres) of each Section, as set forth in the far right column.

Based upon my engineering analysis, it is necessary to have an early test of a 2<sup>nd</sup> well in a section and the analysis of the results will help promote efficient drainage, protect correlative rights and avoid waste.

Engineering Exhibits E-1 through E-2 were prepared under my direction and control.

  
EOG Resources, Inc.  
Reservoir Engineer

## Osman G. Apaydin

600 17<sup>th</sup> Street, Suite 1000N, Denver, CO, 80202

+1 303 8245406 (Office) +1 303 5188397 (Cell) osman\_apaydin@eogresources.com

### EXPERIENCE

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#### **EOG Resources, Inc.**

*Reservoir Engineer/Division Reservoir Engineering Manager*

**Denver, Colorado, USA**

*January 2006 – Present*

- Overseeing and performing various reservoir engineering tasks for oil, gas and gas condensate fields in the basins of Rock Mountain region. The range of reservoir types included conventional sands, stacked tight sands, and naturally fractured carbonate and shale reservoirs.

#### **SCHLUMBERGER**

*Senior Reservoir Engineer, Consulting Services*

**Denver, Colorado, USA**

*July 1998 – December 2005*

- Reservoir engineering and simulation of stacked tight gas reservoirs in Rocky Mountain Basins including:
  - Jonah Field, Green River Basin. Tasks included investigating liquid drop out in the reservoir, numerical simulation of hydraulic fractures, history matching of two separate 2<sup>1/2</sup> sector areas and prediction of well spacing scenarios for the upcoming drilling campaign. Calculated incremental reserves to identify locations with 20, 10 and 5 Acre drilling potentials
  - Pinedale Field, Green River Basin. Conducted reservoir engineering tasks, PLT analysis and single well modeling for different operators
  - Mamm Creek Field, Piceance Basin. Conducted reservoir engineering tasks and supported simulation work
  - Identified and proposed the best well spacing and orientation practices for a Barnett Shale tight gas reservoir and various tight coal gas reservoirs
- Reservoir and production engineering and simulation of a diatomite field, Lost Hills, California
  - Designed reservoir simulation models to justify improved well fracturing and microbial treatment techniques. Conducted a parametric simulation study to back allocate well flow rates. Interpreted extensive production data and identified potential drilling and re-completion candidates.
- Reservoir engineering and fracture modeling of fractured carbonates in the Tetuan Member of the Villeta Formation, Colombia
  - Participated in developing methodologies to generate 3D fracture distribution from 2D areal geological data and image logs (1D vertical Data). Distributed fracture intensity and porosity and used numerical well test simulation to tune the fracture permeability and other parameters.
- As a senior reservoir engineer and part of an integrated team collected, analyzed and interpreted 30 years of exhaustive field data for the biggest onshore oil field of Mexico. This is a triple porosity (matrix, vugs and fractures) carbonate reservoir with more than 250 wells. Main challenges were disparate data sets that had to be utilized to build consistent geological and simulation models.
  - Conducted basic engineering tasks of the project like data gathering and organization, pressure data verification and compartmentalization study, PVT, production analysis, material balance.
  - Built a dual porosity simulation model and performed history matching and predictions with both black oil and compositional simulators.
  - Developed methodologies to build fracture network model where main challenge was disparate data sets, and came up with field-development plan.
- As a reservoir engineer and part of an integrated team collected, analyzed and interpreted 10 years of exhaustive field data of an offshore oil reservoir for Mexican state oil company by using industry leading reservoir engineering software suite. Main challenges were vug characterization and asphaltene precipitation problems.
  - Helped design experimental procedures to characterize triple porosity behavior of carbonate reservoirs, where main challenge was vug characterization.
  - Conducted basic engineering tasks of the project like data gathering and organization, pressure data verification and compartmentalization study, numerical well test, PVT, production analysis, material balance
  - Constructed the full field simulation model, history matched the production history. Analyzed different production scenarios and suggested the best development strategies for the next 30 years

#### **STANFORD UNIVERSITY**

*Stanford University Petroleum Research Institute, Research Assistant*

**Stanford, CA, USA**

*July 1996–June 1998*

- Conducted core scale experiments to develop methodologies to increase oil recovery. Analyzed foam flow in homogenous and heterogeneous systems by using CT scanning technology (saturation profiles) and pressure response.

**SCHLUMBERGER**

*Petroleum Engineer Trainee, Consulting Services*

**Denver, Colorado, USA**  
*June 1997–September 1997*

- Generated representative equation of state for various reservoir fluids in North and South America and China.
- Built dual porosity numerical well test models and tuned the reservoir properties to match the test results.

**EDUCATION**

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**STANFORD UNIVERSITY**

*Master of Science in Petroleum Engineering*

**Stanford, CA, USA**  
*June 1998*

- **Research Topic:** Foam Flow in Porous Media
- GPA 3.5/4.0, Awarded full financial aid during course of study. Teaching assistant for graduate level class.
- Represented Stanford University at Society of Petroleum Engineers Western Regional Student Paper Contest.
- Elected Social Chair, Society of Petroleum Engineers - Stanford Chapter.

**ISTANBUL TECHNICAL UNIVERSITY**

*Master of Science in Industrial Engineering (Only Completed Course Requirements for the degree)*

**Istanbul, Turkey**  
*June 1998*

- One third of the graduate course work was completed at Stanford University

**ISTANBUL TECHNICAL UNIVERSITY**

*Bachelor of Science in Petroleum and Natural Gas Engineering*

**Istanbul, Turkey**  
*June 1995*

- Ranked 3rd/300 among *School of Mines* students.

**PUBLICATIONS**

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"Numerical Simulation of Thick, Tight Fluvial Sands," SPE 90630-PA, published in SPE Reservoir Evaluation & Engineering Journal (August 2006) and presented at SPE International Petroleum Conference in Mexico held in Puebla, Mexico, 8-9 November 2004.

"Critical Parameters in Static and Dynamic Modeling of Tight Fluvial Sandstones" SPE95910, SPE Annual Technical Conference and Exhibition held in Dallas, Texas, U.S.A., 9 – 12 October 2005

"Integrating Rigorous Completions Optimization Into Full-Field Geocellular and Simulation Modeling" SPE 94012, SPE Western Regional Meeting, Irvine, California, Mar 30 - Apr 01, 2005

"The Challenges of Numerical Simulation of a Complex Fractured Carbonate Reservoir with Available Disparate Data Sets," SPE 91691, SPE International Petroleum Conference in Mexico held in Puebla, Mexico, 8-9 November 2004

"Vug Characterization and Pore Volume Compressibility for Numerical Simulation of Vuggy and Fractured Carbonate Reservoirs," SPE74341, International Petroleum Conference and Exhibition in Mexico, Villahermosa, February 2002.

"Simulation of Asphaltene Precipitation in Fractured Reservoirs: A Case Study," SPE74373 International Petroleum Conference and Exhibition in Mexico, Villahermosa, February 2002

"Surfactant Concentration and Effects on Foam Flow in Homogenous Porous Media" published in Transport in Porous Media Journal and presented at SPE/DOE 12th Symposium (SPE59286) on Improved Oil Recovery at Tulsa, Oklahoma, April 2000.

"Foam Flow in Heterogeneous Porous Media: Effect of Crossflow." published in June 1999 SPE Journal (SPE56009) and presented at SPE/DOE 11th Symposium (SPE39678) on Improved Oil Recovery which was held at Tulsa, Oklahoma, April 1998.

"Charts and an Equation Developed for Easy Conversion of APIT/60 Gravities to API60/60 Gravities of Hydrocarbon Liquids" published in the Petroleum proceedings of the 11th Petroleum Congress of Turkey held at Ankara, Turkey, April 1996

Niobrara Formation Drilling & Spacing Unit Application  
 Hereford Field  
 Drainage Calculations

WELL NAME	API NO	Well Orientation	FIELD	SEC.	TSHP.	RGE.	EUR OIL (BBL)	OOIP(BBL)	h(ft)	Porosity	Calculated Drainage Area (Acres)
KERN 43-33	5123102680002	Vertical	HEREFORD	33.0	12N	62W	38,450	769,000	80	0.10	23
JAKE 2-01H	5123305740000	Horizontal	HEREFORD	1.0	11N	63W	250,000	5,000,000	80	0.10	152

$B_o = 1.2$  rvb/STB (from Observed API Gravity and GOR data)  
 $S_w = 0.35$  fraction (calculated from Archie  $S_w$  calculation)  
 $RF = 0.05$  fraction (assumed)

Equations used:

$OOIP = EUR / RF$   
 $Area = OOIP * B_o / 7758 / h / por / (1 - S_w)$

where:

$OOIP$  = original oil in place (BBL)  
 $EUR$  = estimated ultimate recovery (BBL)  
 $RF$  = recovery factor (fraction)  
 $Area$  = drainage area (acres)  
 $B_o$  = formation volume factor (rvb/STB)  
 $h$  = thickness, (ft)  
 $por$  = porosity (fraction)  
 $S_w$  = water saturation (fraction)

Exhibit E-1  
 Docket No 1003-AW-02  
 Cause No 421

Niobrara Formation Drilling & Spacing Unit Application  
 Silo Field  
 Drainage Calculations

WELLNAME	API NO	Well Orientation	FIELD	SEC.	TSHP.	RGE.	EUR OIL (BBL)	OOIP(BBL)	h(ft)	Porosity	Calculated Drainage Area (Acres)	Section Drainage Area Total (Acres)
EPLER S E	49021203540000	Vertical	SILO	31.0	16N	64W	52,122	1,842,449	80	0.10	56	
LEROY GOERTZ C 2	49021203620000	Vertical	SILO	31.0	16N	64W	407,026	8,140,512	80	0.10	247	
GOERTZ LEROY B 1	49021202600001	Vertical	SILO	31.0	16N	64W	304,270	6,065,400	80	0.10	185	
LEROY GOERTZ D 1	49021203780000	Vertical	SILO	31.0	16N	64W	5,543	110,860	80	0.10	3	
LEROY GOERTZ E-1	49021203770000	Vertical	SILO	31.0	16N	64W	1,904	38,080	80	0.10	1	492
LEMASTER STATE 12 32 1 H	49021204510000	Horizontal	SILO	32.0	16N	64W	625,739	12,514,771	80	0.10	380	
STATE OF WYOMING Y 1	49021203000000	Vertical	SILO	32.0	16N	64W	2,914	58,280	80	0.10	2	
STATE OF WYOMING Y 2	49021203120000	Vertical	SILO	32.0	16N	64W	163	3,260	80	0.10	0	362
LEROY 41-33 1-H	49021204630000	Horizontal	SILO	33.0	16N	64W	481,703	9,634,051	80	0.10	287	
SO PRINCE 2	49021203260000	Vertical	SILO	33.0	16N	64W	48,145	962,900	80	0.10	29	
SOUTH PRINCE 1	49021202940000	Vertical	SILO	33.0	16N	64W	36,967	739,340	80	0.10	22	337
BIGHORN STATE 41-34 1H	49021204990000	Horizontal	SILO	34.0	16N	64W	49,268	985,360	80	0.10	29	
STATE 1-34	49021203460000	Vertical	SILO	34.0	16N	64W	8,934	178,680	80	0.10	5	35
STATE 4-9H	49021204280000	Horizontal	SILO	4.0	15N	64W	232,425	4,648,492	80	0.10	138	139
MCGAHAN 21-5 1H	49021204180200	Horizontal	SILO	5.0	15N	64W	63,346	1,266,916	80	0.10	38	
MCGAHAN 21-5 1H	49021204180000	Horizontal	SILO	5.0	15N	64W	59,245	1,184,900	80	0.10	35	
MCGAHAN 21-5 1H	49021204180100	Horizontal	SILO	5.0	15N	64W	112,616	2,252,320	80	0.10	67	
CHAMPLIN 300 AMOCO B 1	49021202280000	Vertical	SILO	5.0	15N	64W	24,644	492,880	80	0.10	15	
LEE 32-5 2	49021203590000	Vertical	SILO	5.0	15N	64W	2,554	51,080	80	0.10	2	
LEE 41-5 1	49021203490000	Vertical	SILO	5.0	15N	64W	20,344	406,880	80	0.10	12	168
BLEVINS OIL UNIT 1H	49021204300000	Horizontal	SILO	6.0	15N	64W	204,126	4,082,520	80	0.10	121	121
PACE OIL UNIT 1 H	49021204800000	Horizontal	SILO	7.0	15N	64W	113,846	2,276,926	80	0.10	68	
WARREN 1	49021203560000	Vertical	SILO	7.0	15N	64W	27,607	552,140	80	0.10	16	84
OWEN 1H 14-9	49021204620100	Horizontal	SILO	9.0	15N	64W	40,233	804,659	80	0.10	24	
OWEN 14-9 1-11	49021204620000	Horizontal	SILO	9.0	15N	64W	116,140	2,322,800	80	0.10	69	93

B<sub>o</sub> = 1.2 rvb/STB (from Observed API Gravity)  
 S<sub>w</sub> = 0.35 fraction (calculated from Archie Sw calculation)  
 RF = 0.05 fraction (assumed)

Equations used:

$$OOIP = EUR / RF$$

$$Area = OOIP * B_o / 7758 / h / por / (1 - S_w)$$

where:

OOIP = original oil in place (BBL)  
 EUR = estimated ultimate recovery (BBL)  
 RF = recovery factor (fraction)  
 Area = drainage area (acres)  
 B<sub>o</sub> = formation volume factor (rvb/STB)  
 h = thickness, (ft)  
 por = porosity (fraction)  
 S<sub>w</sub> = water saturation (fraction)

Exhibit E-2  
 Docket No 1003-AW-02  
 Cause No 421



DRAFT

*Proposed*

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



IN THE MATTER OF THE APPLICATION OF )  
EOG RESOURCES, INC. FOR AN ORDER )  
ALLOWING AN ADDITIONAL WELL IN A 640- )  
ACRE DRILLING AND SPACING UNIT FOR )  
THE NIOBRARA FORMATION IN SECTION )  
36, TOWNSHIP 12 NORTH, RANGE 63 )  
WEST IN WELD COUNTY, COLORADO )

Cause No. 421

Docket No. 1003-AW-02

**REPORT OF THE COMMISSION**

This cause came on for hearing before the Commission at 9:00 a.m. on April 29, 2010 in Suite 801, The Chancery Building, 1120 Lincoln Street, Denver, Colorado 80203, for an order allowing EOG Resources, Inc. ("Applicant") to drill one (1) additional horizontal infill well in the established 640-acre drilling and spacing unit for the Niobrara Formation covering Section 36, Township 12 North, Range 63 West, 6<sup>th</sup> P.M., Weld County, Colorado ("Application Lands"), for the total of two (2) permitted horizontal infill wells in the Application lands.

**FINDINGS**

The Commission finds as follows:

1. Applicant is an interested party in the subject matter of the above-referenced hearing.

2. Due notice of the time, place and purpose of the hearing has been given in all respects as required by law.

3. The Commission has jurisdiction over the subject matter embraced in said Notice, and of the parties interested therein, and jurisdiction to promulgate the hereinafter prescribed order pursuant to the Oil and Gas Conservation Act.

4. On February 25, 2010, the Commission entered Order No. 421-1, where in the Commission approved Applicant's request for an order to establish fifty-eight (58) approximate 640-acre drilling and spacing units of certain lands in Weld County, Colorado, including the Application Lands, and to allow one (1) horizontal well per 640-acre drilling and spacing unit for the production of gas and associated hydrocarbons from the Niobrara Formation, with each proposed horizontal well to be drilled in the designated drilling and spacing unit with initial penetration of the Niobrara Formation and an ultimate bottomhole location no closer than 600' from the boundaries of the drilling and spacing unit.

5. In its February 3, 2010 application, Applicant filed a verified application requesting that one (1) horizontal infill well be permitted in the Application Lands for the Niobrara Formation for a total of two (2) permitted horizontal infill wells in the Application Lands. Applicant also requested that the infill well be permitted to be drilled and completed as a horizontal well.

6. Applicant further requested that the infill well be drilled in the designated 640-acre drilling and spacing unit with initial penetration of the Niobrara Formation and the ultimate bottomhole location no closer than 600' from the boundaries of the drilling and spacing unit. The surface location of the infill well shall be located on a common pad with the other permitted well such that a total of one surface well pad shall be authorized in the Application Lands.

7. Testimony and exhibits accompanying the Request for Approval of Application without a Hearing on the Merits of a Verified Application and Supporting Exhibits filed on April 16, 2010, pursuant to the Commission's Rules 511.a. showed the following:

(a) Applicant has 100% leasehold ownership in the Application Lands, that the minerals underlying the Application Lands are owned by the State of Colorado, and the surface of the Application Lands is owned by the State of Colorado.

(b) The Niobrara Formation is a sequence of chalks, marls, and limestones that were deposited in the Western Interior Seaway during Cretaceous time. The rocks were deposited as deep water sediments and underlie most of the DJ Basin in parts of northeastern Colorado, southeastern Wyoming, and southwestern Nebraska. A subsea structure map indicated regional dip is approximately 35'/mile to the west. An isopach map of the total Niobrara Formation

from the top of the Niobrara Formation to the top of the Codell Formation showed total thickness ranges from approximately 274' to 282'. A type log showed that the Niobrara Formation showed that it consists of two members, the Smoky Hill Chalk and the Ft Hayes Limestone. A stratigraphic cross section constructed through nearby wells show that the Niobrara Formation exists under the Application Lands and is a common source of supply.

(c) Applicant has drilled and stimulated the first exploratory well, the Jake 2-01H, on lands adjacent to the Application Lands in the 3<sup>rd</sup> quarter of 2009 with a 3,800ft lateral. The Jake 2-01H delivered a maximum rate of 1,588 BBL/D rate and has flowed over 50,000 barrels of oil in less than 90 days, and was then shut-in. Applicant has drilled 4 additional wells since the Jake 2-01H was completed. The second horizontal test in the area of the Application Lands was the Elmer 8-31H, located in Section 31, Township 12 North, Range 63 West, which is cleaning up after stimulation and had a maximum rate of 730 Bopd. The Elmer has 2,000' of lateral, as Applicant was unable to drill ahead due to hole problems. The third horizontal test well, the Red Poll 10-16H, located in Section 16, Township 11 North, Range 63 West, with a lateral length of 5,200', was tested by unstimulated openhole. The Red Poll 10-16H well came on flowing at a max rate of 1,100 Bopd, but is declining, and has not yet stabilized. The Critter Creek 2-3H and 4-9H wells are awaiting completion, and have encountered encouraging pressure while drilling the laterals. Applicant requested that notice be taken of the testimony and evidence supporting the application resulting in Order No. 421-1, Cause No. 421, Docket No. 1002-SP-06.

(d) Applicant's proposal to drill one (1) additional horizontal well is necessary to (i) have an early test to determine if downspacing to 320-acres is necessary on the already established 640-acre drilling and spacing unit, and (ii) determine incremental recovery potential and prevent waste and confirm if the established 640-acre drilling and spacing units are adequate to effectively drain the Application Lands.

8. Additional testimony showed that granting the one (1) additional horizontal well on the Application Lands could indicate efficient and economic development of the Application Lands.

9. Applicant agreed to be bound by oral order of the Commission.

10. Based on the testimony and exhibit supporting the verified application and having taken notice of the testimony and evidence in support of the Commission's Orders 421-1 the Hearing Officers recommend approval of the verified Application.

### ORDER

NOW, THEREFORE, IT IS ORDERED that one (1) horizontal infill well be permitted in the requested 640-acre drilling and spacing unit for the Niobrara Formation covering the Application Lands for a total of two (2) permitted horizontal infill wells in the Application Lands.

IT IS FURTHER ORDERED, that the one (1) additional horizontal infill is permitted to be drilled and completed as a horizontal well and shall be drilled in the designated 640-acre drilling and spacing unit with initial penetration of the Niobrara Formation and the ultimate bottomhole location no closer than 600' from the boundaries of the drilling and spacing unit.

IT IS FURTHER ORDERED, that the surface location of the infill well shall be located on a common pad with the other permitted well such that a total of one surface well pad shall be authorized in the Application Lands.

IT IS FURTHER ORDERED that the provisions contained in the above order shall become effective forthwith.

IT IS FURTHER ORDERED, that the Commission expressly reserves its right, after notice and hearing, to alter, amend or repeal any and/or all of the above orders.

IT IS FURTHER ORDERED, that under the State Administrative Procedure Act, the Commission considers this order to be final agency action for purposes of judicial review within thirty (30) days after the date this order is mailed by the Commission.

IT IS FURTHER ORDERED, that an application for reconsideration by the Commission of this order is not required prior to filing for judicial review.

ENTERED this \_\_\_\_\_ day of April, 2010, as of \_\_\_\_\_.

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

By: \_\_\_\_\_  
Carol Harmon, Secretary

Dated at Suite 801  
1120 Lincoln Street  
Denver, Colorado 80203  
\_\_\_\_\_, 20\_\_