

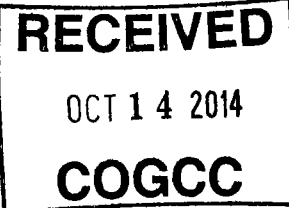


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511 DOCUMENTS

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



IN THE MATTER OF THE PROMULGATION) CAUSE NO. 535
AND ESTABLISHMENT OF FIELD RULES TO)
GOVERN OPERATIONS FOR THE CODELL) DOCKET NO. 1410-SP-2162
FORMATION, UNNAMED FIELD, WELD)
COUNTY, COLORADO)

ORIGINAL

REQUEST FOR RECOMMENDATION OF
APPROVAL OF APPLICATION WITHOUT A HEARING

Anadarko E&P Onshore 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 August 28, 2014, 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 14th day of October, 2014.

Respectfully submitted,

ANADARKO E&P ONSHORE LLC

By: 
Robert A. Willis
Jillian Fulcher
Beatty & Wozniak, P.C.
Attorneys for Applicant
216 16th Street, Suite 1100
Denver, Colorado 80202
(303) 407-4499



Cause No. 535, Docket No. 1410-SP-2162

Anadarko Petroleum Corporation

Jason Rayburn – Land Testimony Cause 535, Docket No. 1410-SP-2162

Request to establish an approximate 1,360-acre drilling and spacing unit for Sections 14 (small lots located in Colorado), 23 and 26, Township 12 North, Range 65 West, 6th P.M., and authorize one horizontal well within the proposed unit, for production of oil, gas and associated hydrocarbons from the Codell Formation

My name is Jason Rayburn, and I am currently employed as a Landman for Anadarko Petroleum Corporation (“Anadarko”). I graduated from the University of Oklahoma in 2008 with a Bachelor of Science in Business Administration with an emphasis in Energy Management. I have over 8 years of experience in petroleum land management and administrative areas of the oil and gas business. I am familiar with the lands subject to, and the matters set forth in the August 28, 2014, verified application (the “Application”) filed herein. My resume/c.v. is attached to this submission. See Appendix.

In support of the Application, I am submitting two exhibits. The exhibits are attached to my sworn testimony and form the basis for the Application requesting to establish an approximate 1,360-acre drilling and spacing unit for Sections 14 (small lots located in Colorado), 23 and 26, Township 12 North, Range 65 West, 6th P.M. (the “Application Lands”), and authorize one horizontal well within the proposed unit, for production of oil, gas and associated hydrocarbons from the Codell Formation.

1. Exhibit No. L-1

Exhibit No. L-1 is an overhead map which shows the location of the Application Lands within Weld County, Colorado.

2. Exhibit No. L-2

Exhibit No. L-2 is a map which demonstrates Anadarko’s mineral interest in the Application Lands.


Testimony and Conclusions

Anadarko owns substantial mineral interests within the approximate 1,360-acre drilling and spacing unit proposed for the Application Lands.

Based on the examination of relevant contracts and records, the interested parties (owners within the proposed drilling and spacing unit) have been duly served with the Application and associated Notice of Hearing. Further, as of the date of this testimony, Anadarko has not received any notice of objection or protest to the Application.

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

DATED this 0th day of October, 2014.



Rayburn Landman
Marko Petroleum Corporation

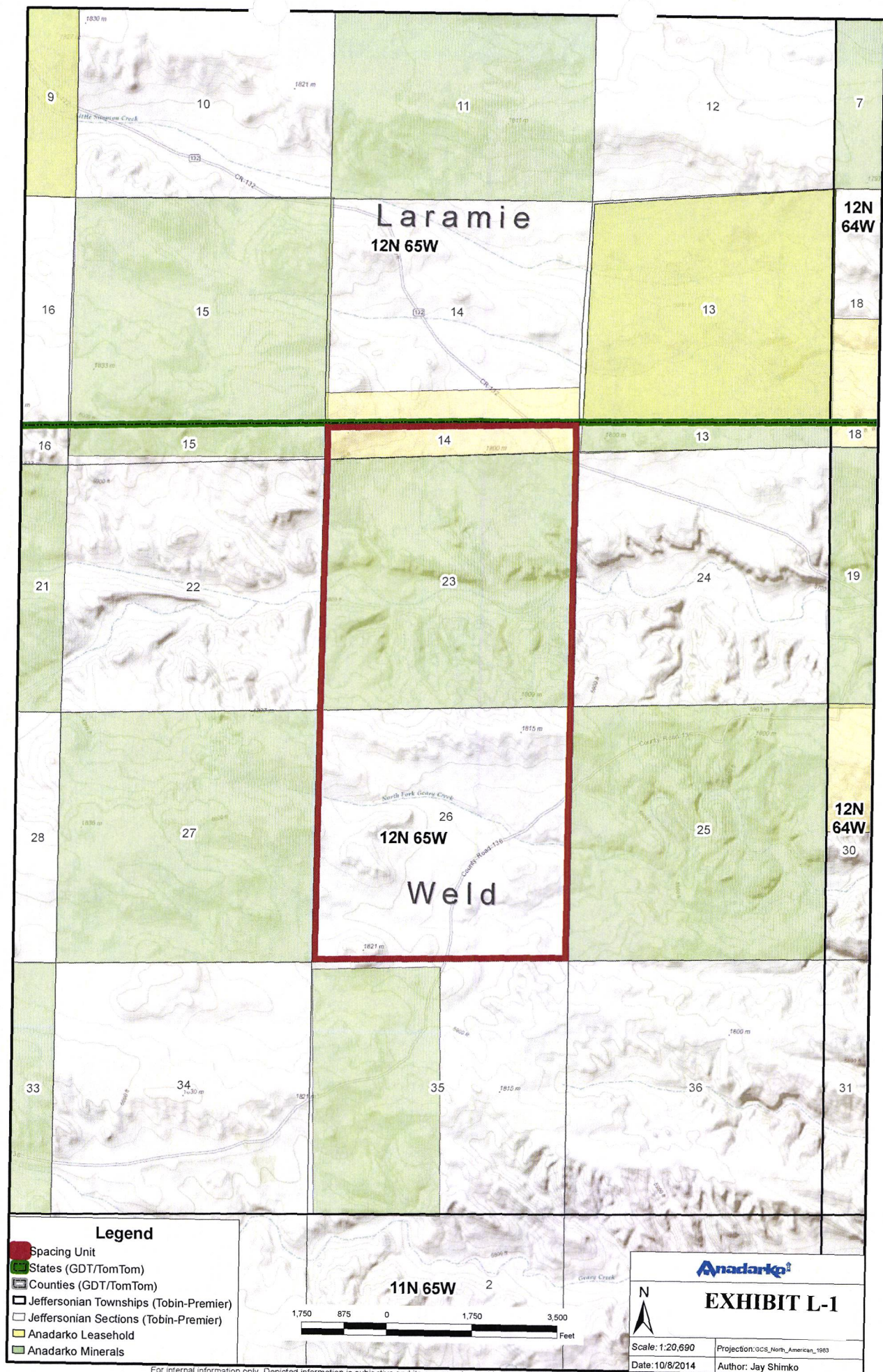
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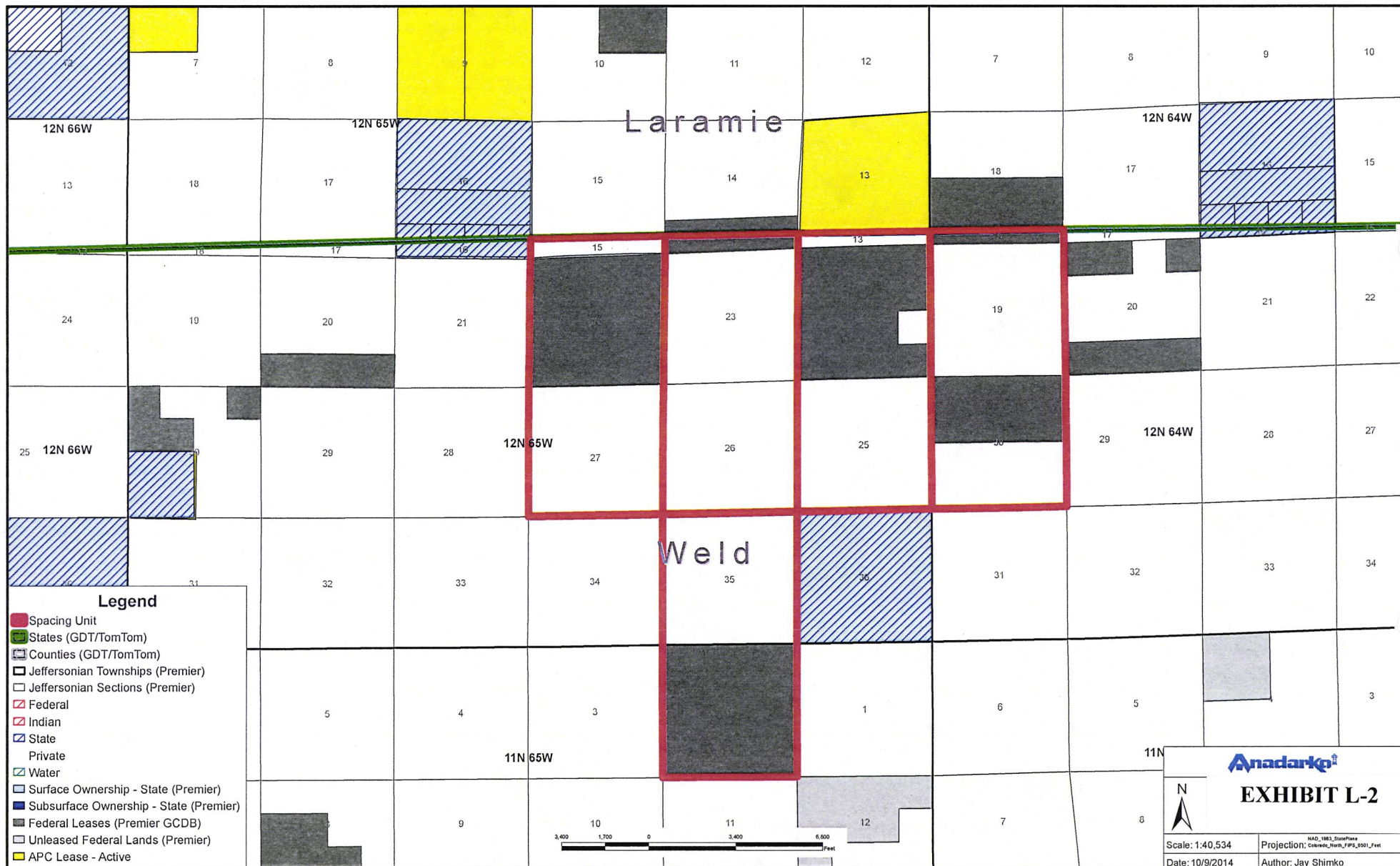
CITY AND COUNTY OF DENVER

Witness my hand and official seal.

JUDY L. LUNA
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20074002585
MY COMMISSION EXPIRES 1-19-2015


Notary Public





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Caroline A. Brehm – Geologic Testimony

Docket Numbers: *1410-SP-2161*
 1410-SP-2162
 1410-SP-2163
 1410-SP-2164
 1410-SP-2165

My name is Caroline Brehm and I am currently employed as a Sr. Geologist for Anadarko Petroleum in Denver. I graduated from University of New Mexico in Albuquerque, NM with a B.A. Degree in Earth & Planetary Sciences, and from Utah State University in Logan, UT with an M.S. in Geology. I have over 6 years of experience in the oil and gas industry. I am familiar with the land subject to and the matters set forth in the August 28, 2014 verified application filed herein. My resume/cv is attached to this submission. See APPENDIX.

In support of this Application, I am submitting 4 exhibits. The exhibits are attached to my sworn testimony and form the basis of the Application requesting an order to establish 9 - approximate 1280 acre drilling and spacing units for the Codell sandstone. They also authorize the drilling of 1 - horizontal well per spacing unit for the production of oil, gas and associated hydrocarbons from the Codell.

Exhibit G-1

Exhibit G-1 is a Type Log of the Upper Cretaceous stratigraphy of the northern D-J Basin. The Niobrara Formation consists of 2 informal members, the Smokey Hill shale, and the Fort Hayes limestone, which directly overlies the Codell. The Carlisle shale is present below the Codell sandstone.

Exhibit G-2

Exhibit G-2 is a structure map on the top of the Codell showing the proposed drilling and spacing units. The map shows the structure dipping gently to the west at approximately 50 ft / mile across the proposed units.

Exhibit G-3

Exhibit G-3 is a net pay isopach map of the Codell sandstone. Thickness of the Codell ranges from 16 ft in the south part of the map to approximately 20 ft along the Colorado – Wyoming border.

Exhibit G-4


Exhibit G-4 is a west to east stratigraphic cross-section across the proposed drilling and spacing units, hung on the top of the Codell sandstone. It is evident that the Codell sandstone exists under the Application Lands.

Conclusions

The Codell sandstone consists of a very fine-grained laminated sandstone, interbedded with bioturbated sands and silts which were deposited in a marine setting during the Cretaceous Western Interior Seaway. This tight sandstone has been producing oil and gas in the DJ Basin for dozens of years, and exists under all 9 of the drilling and spacing units proposed in this Application.

To the best of my knowledge, all of the matters set forth herein, my testimony and the supporting exhibits are true, correct and accurate.

October 7th, 2014



Caroline A. Brehm
Sr. Geology
Anadarko Petroleum


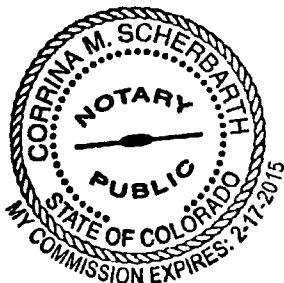
VERIFICATION

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

The foregoing instrument was subscribed and sworn to before me this 14th day of October, 2014, by Caroline A. Brehm, Sr. Geologist for Anadarko Petroleum

Witness my hand and official seal.

My commission expires: 2/17/2015


Notary Public

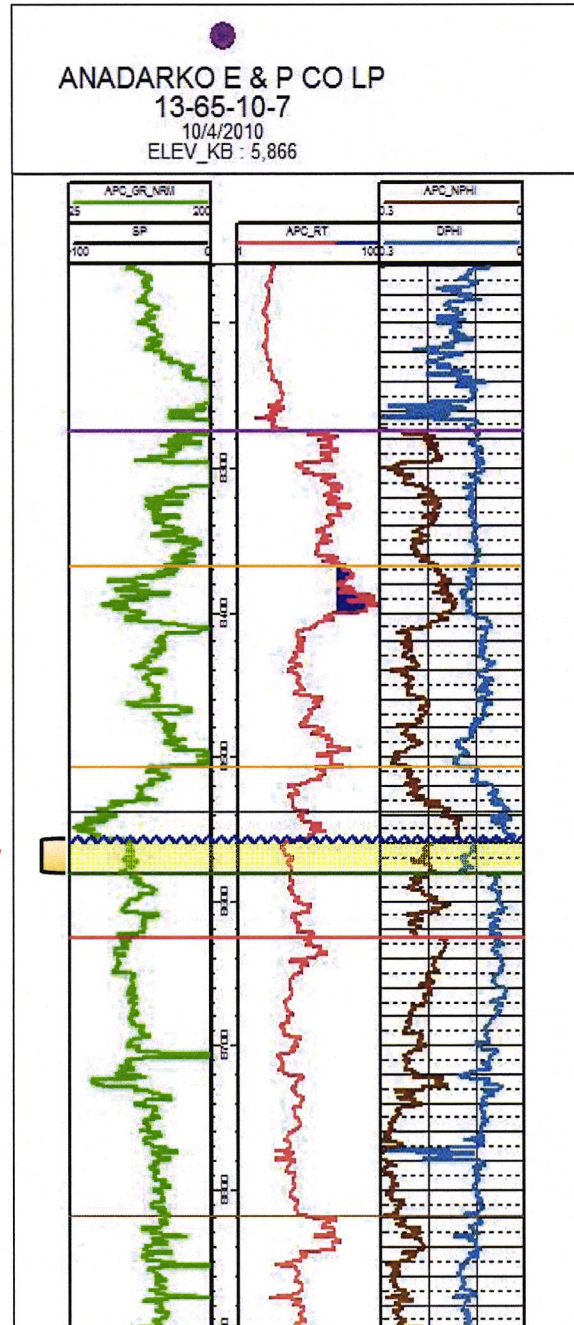
Upper Cretaceous Type Log Northern DJ Basin

Upper Cretaceous

Niobrara

Greenhorn

Codell 'H'



Pierre Shale

Smoky Hill Shale
Member

Ft Hayes Ls

Codell Ss

Carlise Sh

Limestone mbr

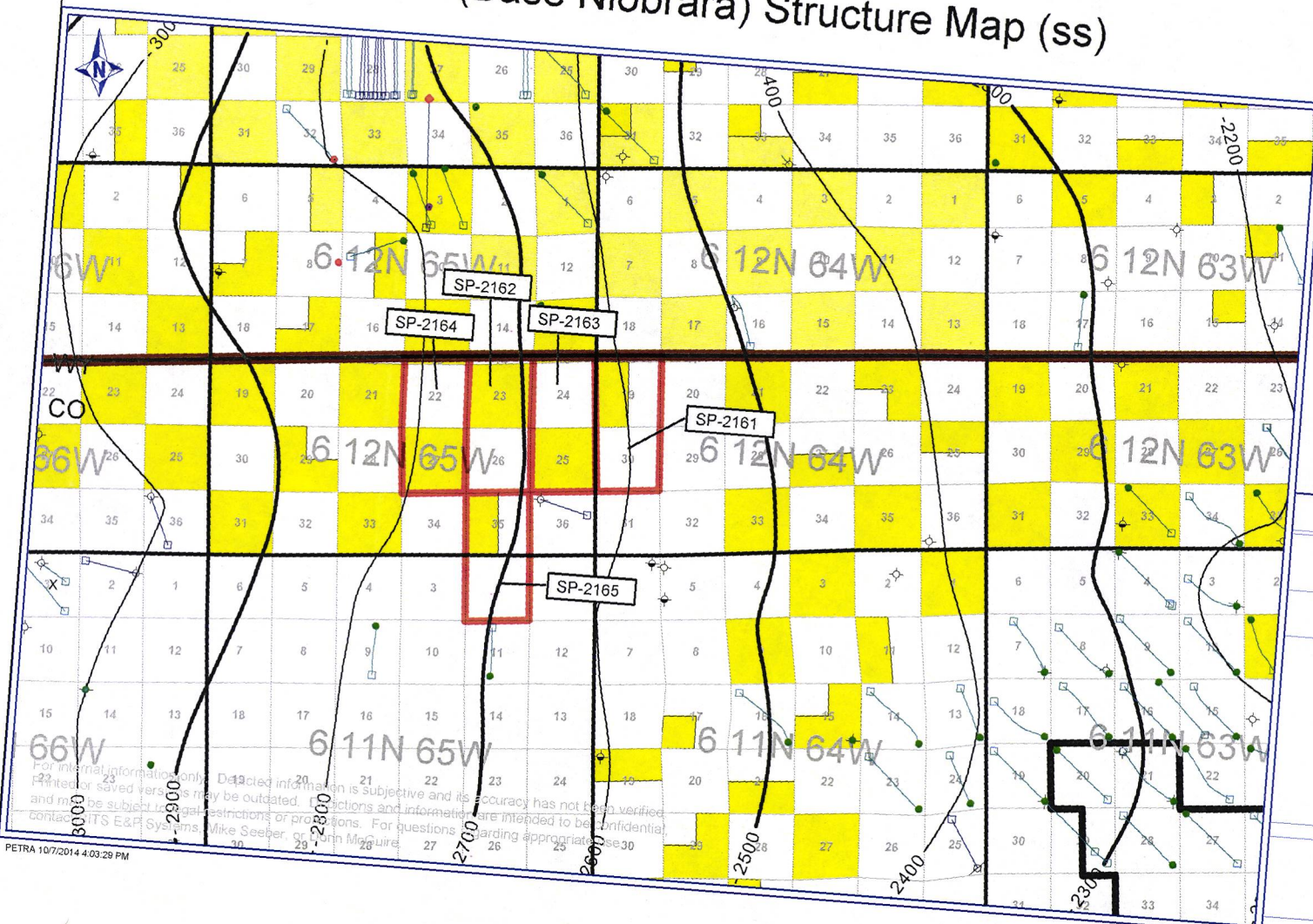
Geological Exhibit 1 Dockets:

1410-SP-2161
1410-SP-2162
1410-SP-2163
1410-SP-2164
1410-SP-2165

Geological Exhibit 2 Dockets:

Top Codell (Base Niobrara) Structure Map (ss)

1410-SP-2161
1410-SP-2162
1410-SP-2163
1410-SP-2164
1410-SP-2165



Anadarko Petroleum
Northern DJ Basin

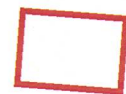
Top Codell Structure Map
Codell Spacing Applications

- WELL SYMBOLS
- AFE's
 - DRY AND ABANDON WITH OIL SHOWS
 - DRY AND ABANDON
 - Dry Hole
 - Junked and Abandoned
 - Microseismic Monitor Well
 - OIL WELL
 - PLUGGED & ABANDONED
 - Waiting on Permit
 - PILOT HOLE
 - SERVICE WELL
 - SPUD-A
 - AT-TD

By: T. Berkman

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October 7, 2014

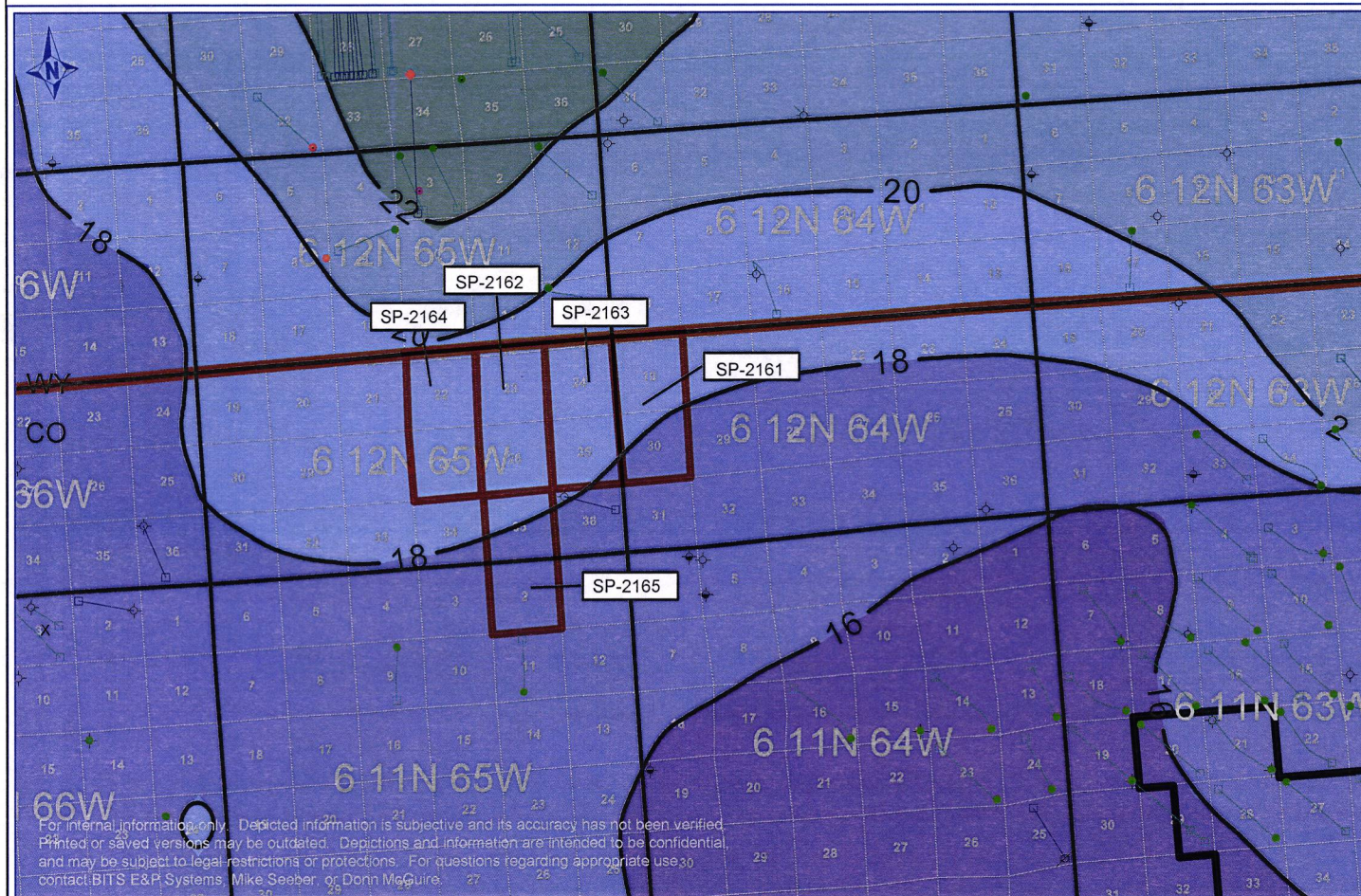


Proposed Codell
Spacing Units

Geological Exhibit 3 Dockets:

1410-SP-2161
1410-SP-2162
1410-SP-2163
1410-SP-2164
1410-SP-2165

Codell Net Pay Isopach Map (ft)



Anadarko Petroleum

Northern DJ Basin

Codell Net Pay Isopach
Codell Spacing Applications

- WELL SYMBOLS**
- ▲ AFE's
 - DRY & ABANDON WITH OIL SHOWS
 - DRY AND ABANDON
 - Dry Hole
 - Junked and Abandoned
 - Microseismic Monitor Well
 - OIL WELL
 - PLUGGED & ABANDONED
 - Waiting on Permit
 - PILOT HOLE
 - SERVICE WELL
 - SPUD-A
 - AT-TD

By: T. Berkman

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FEET

October 7, 2014

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Proposed Codell
Spacing Units

Anadarko
Petroleum Corporation

Geological Exhibit 4 Dockets: 1410-SP-2161

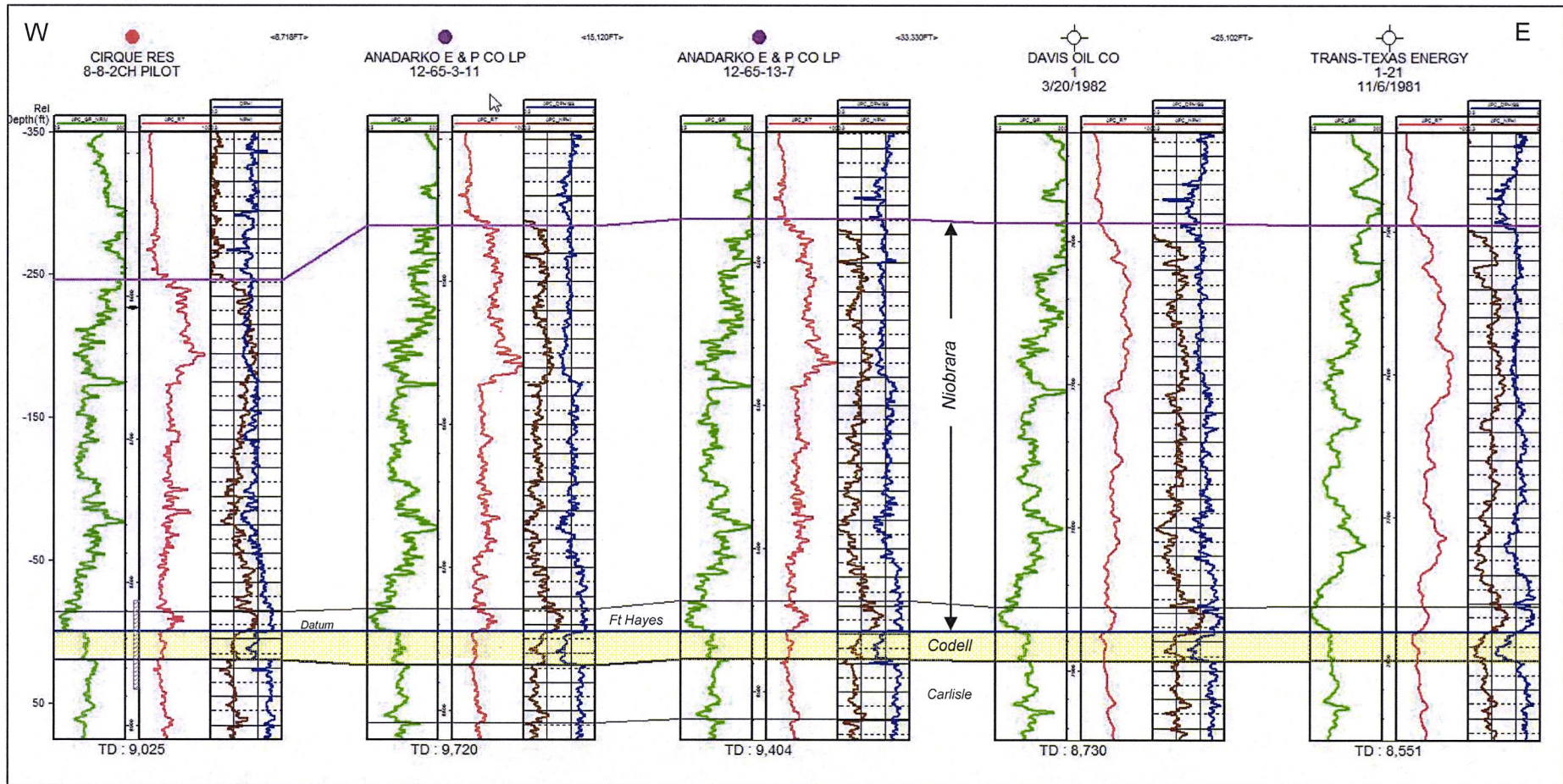
1410-SP-2162

1410-SP-2163

1410-SP-2164

1410-SP-2165

Codell - Niobrara Stratigraphic Cross Section



Location Map

Anadarko Petroleum Corporation

Emily Boecking – Engineering Testimony

Cause 535, Docket No. 1410-SP-2162

Request to establish an approximate 1,360-acre drilling and spacing unit for Sections 14 (small lots located in Colorado), 23 and 26, Township 12 North, Range 65 West, 6th P.M., and authorize one horizontal well within the proposed unit, for production of oil, gas and associated hydrocarbons from the Codell Formation

My name is Emily Boecking, and I am currently employed as a Reservoir Engineer for Anadarko Petroleum Corporation (“Anadarko”). I graduated from the Duke University in 2007 with a Bachelor of Science in Mechanical Engineering. I have over 7 years of experience in the oil and gas industry of which 5 years have spent as a reservoir engineer. I am familiar with the lands subject to, and the matters set forth in the August 28, 2014, verified application (the “Application”) filed herein. My resume/c.v. is attached to this submission. See Appendix.

In support of the Application, I am submitting two exhibits. The exhibits are attached to my sworn testimony and form the basis for the Application requesting to establish an approximate 1,360-acre drilling and spacing unit for Sections 14 (small lots located in Colorado), 23 and 26, Township 12 North, Range 65 West, 6th P.M. (the “Application Lands”), and authorize one horizontal well within the proposed unit, for production of oil, gas and associated hydrocarbons from the Codell Formation.

1. Exhibit No. E-1

Exhibit No. E-1 is a table showing reservoir drainage area calculations for current producing wells in the Northern DJ Basin closest offsetting the proposed unit. Wells included in this table are producing from the Codell formation with production for 5 months or more and have horizontal completed lateral lengths ranging from 8,500’- 9,500’.

2. Exhibit No. E-2

Exhibit No. E-2 shows the decline curves used to extrapolate estimated ultimate recovery for use in the drainage area calculations.

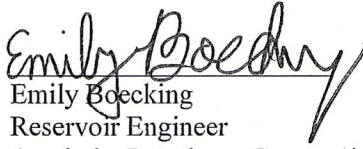
Testimony and Conclusions

Anadarko believes that drilling and completed horizontal wells in the Codell Formation underlying the Application Lands is the most efficient and economic method to develop the resource potential for this formation.

The calculated drainage areas for the wells drilling in the Codell Formation offsetting the Application Lands, with 8,500- 9,500’ laterals, range from 90 to 259 acres. Therefore the calculated drainage area supports the initial drilling of one horizontal well for the Codell Formation underlying the Application Lands.

Affirmation

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


Emily Boecking
Reservoir Engineer
Anadarko Petroleum Corporation

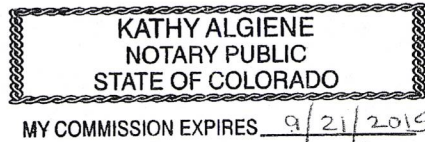
STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

The foregoing instrument was subscribed and sworn to before me this 14th day of October, 2014, by Emily Boecking, Reservoir Engineer for Anadarko Petroleum Corporation.

Witness my hand and official seal.

[SEAL]

My commission expires: 9/21/2015



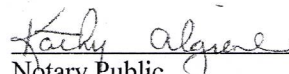

Notary Public

Exhibit E-1: Drainage Area Calculation

Codell Horizontal Well Drainage Area Calculation

API No	Lease	Well No	Reservoir	Operator	Section	Township	Range	Cumulative Oil (bbl)	EUR Oil (bbl)	Completed Interval	Average Porosity (phi, %)	Water Saturation (Sw, %)	Thickness (h, ft)	Drainage Area (acres)
49021210120000	JUBILEE	103-0433H	Codell	EOG Resources	4	13 N	65 W	147,397	361,853	9,313	12	50	24	259
49021210560000	JUBILEE	513-0820H	Codell	EOG Resources	8	13 N	65 W	89,657	290,784	9,401	12	51	22	229
49021210610000	JUBILEE	584-1705H	Codell	EOG Resources	17	13 N	65 W	56,053	188,114	9,400	12	51	23	141
49021210600000	JUBILEE	586-1705H	Codell	EOG Resources	17	13 N	65 W	53,217	159,399	9,086	12	51	23	120
49021210880000	JUBILEE	611-0706H	Codell	EOG Resources	7	13 N	65 W	44,558	115,541	8,511	12	51	22	90
49021209670000	REDSTONE	2-1-1CH	Codell	EOG Resources	2	13 N	65 W	67,142	179,494	9,467	12	50	24	128
49021210150000	WINDY	504-1806H	Codell	EOG Resources	18	13 N	64 W	103,736	251,420	9,116	12	53	22	201

Average Drainage Area: 167 Acres

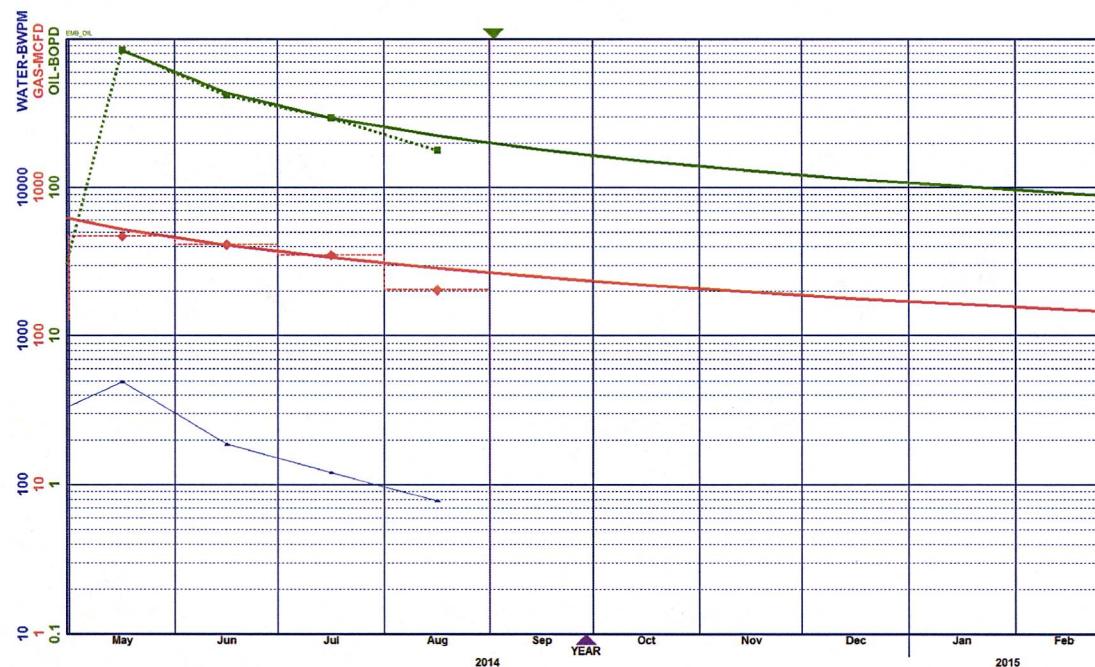
$$\text{Drainage area equation: } Area = \frac{EUR * B_o}{7758 * h * \phi * (1 - S_w) * R_F}$$

$$B_o = 1.4$$

$$R_F = 18\%$$

Exhibit E-2: Decline Curve Analysis

Jubilee 586-1705H	
49021210600000	
Codell	
EOG Resources	
17 13N 65W	
Cum Oil (BO)	53,217
Cum Gas (MMCF)	47,976
EUR Oil (BO)	159,399
EUR Gas (MMCF)	242,746



Jubilee 584-1705H	
49021210610000	
Codell	
EOG Resources	
17 13N 65W	
Cum Oil (BO)	56,053
Cum Gas (MMCF)	57,887
EUR Oil (BO)	188,114
EUR Gas (MMCF)	312,571

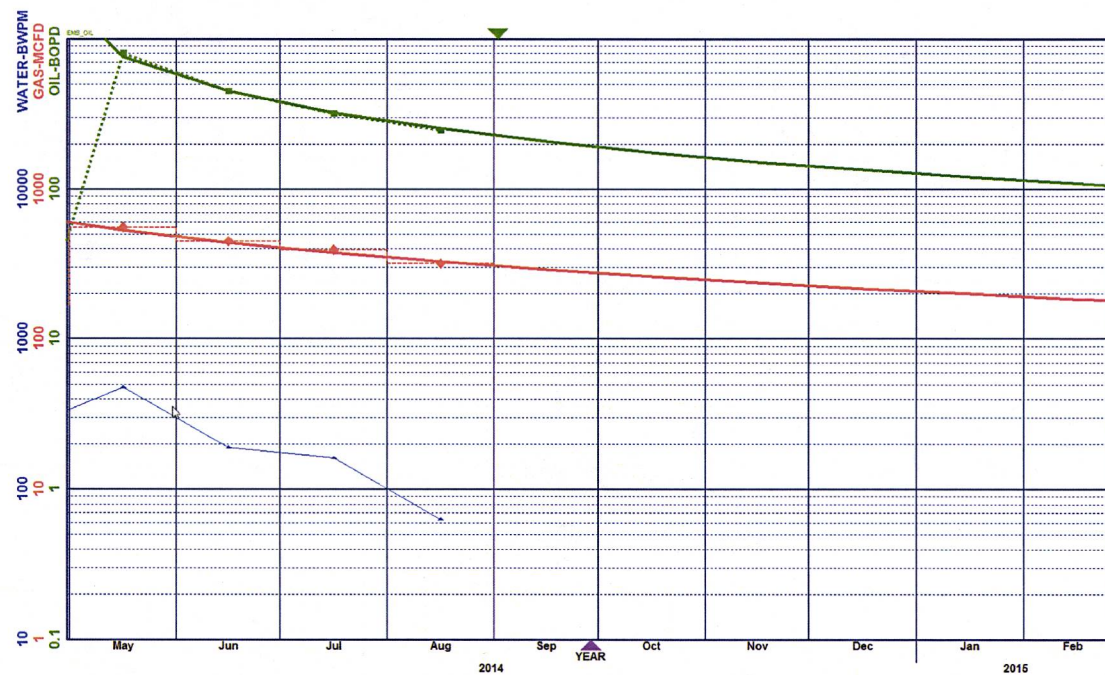
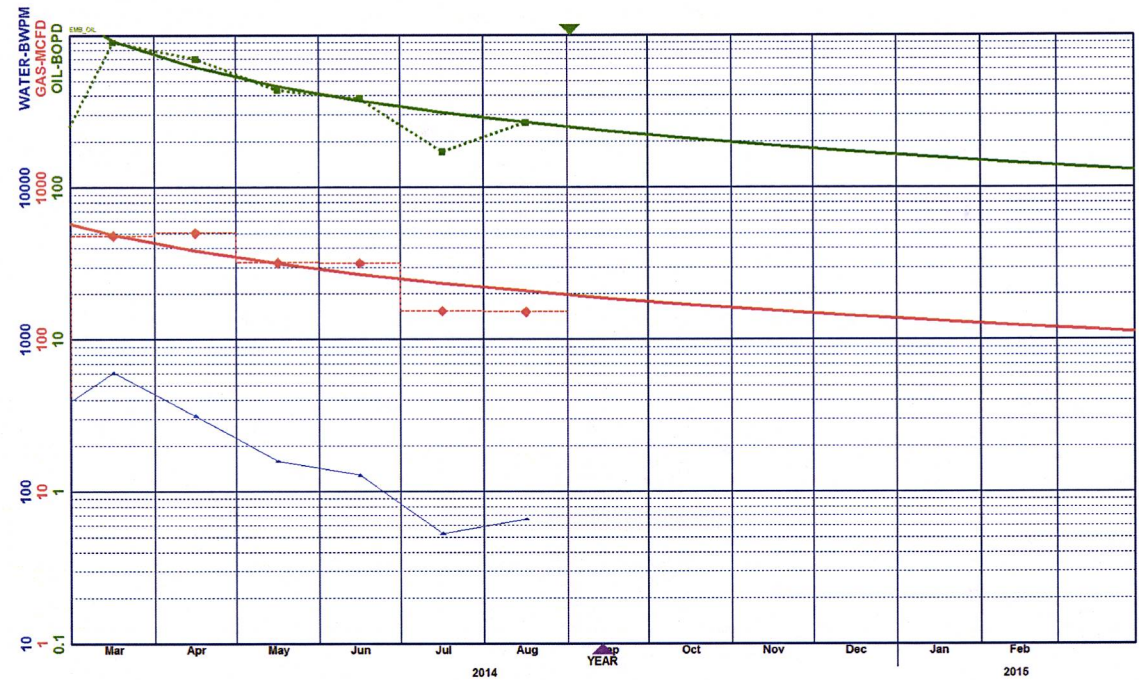


Exhibit E-2: Decline Curve Analysis

Jubilee 513-0820H	
49021210560000	
Codell	
EOG Resources	
8 13N 65W	
Cum Oil (BO)	89,657
Cum Gas (MMCF)	60,165
EUR Oil (BO)	290,784
EUR Gas (MMCF)	244,086



Jubilee 611-0706H	
49021210880000	
Codell	
EOG Resources	
7 13N 65W	
Cum Oil (BO)	44,558
Cum Gas (MMCF)	28,312
EUR Oil (BO)	115,541
EUR Gas (MMCF)	47,830

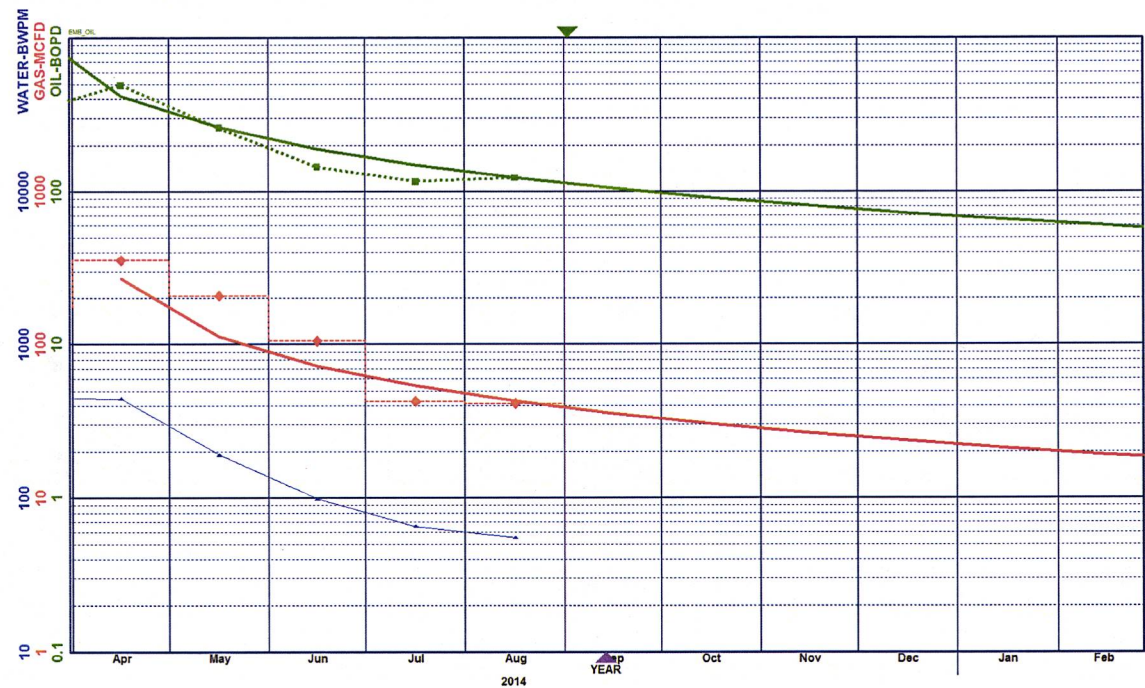
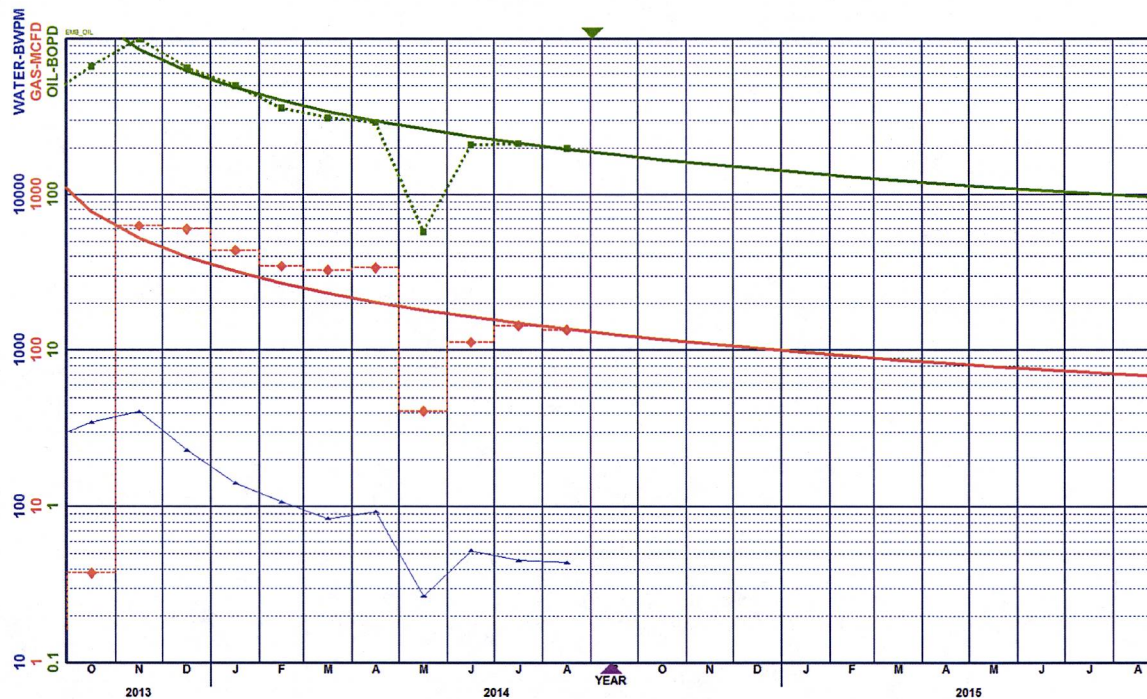


Exhibit E-2: Decline Curve Analysis

Jubilee 103-0433H	
49021210120000	
Codell	
EOG Resources	
4 13N 65W	
Cum Oil (BO)	147,397
Cum Gas (MMCF)	94,451
EUR Oil (BO)	361,853
EUR Gas (MMCF)	247,262



Windy 504-1806H	
49021210150000	
Codell	
EOG Resources	
18 13N 64W	
Cum Oil (BO)	103,736
Cum Gas (MMCF)	85,456
EUR Oil (BO)	251,420
EUR Gas (MMCF)	274,291

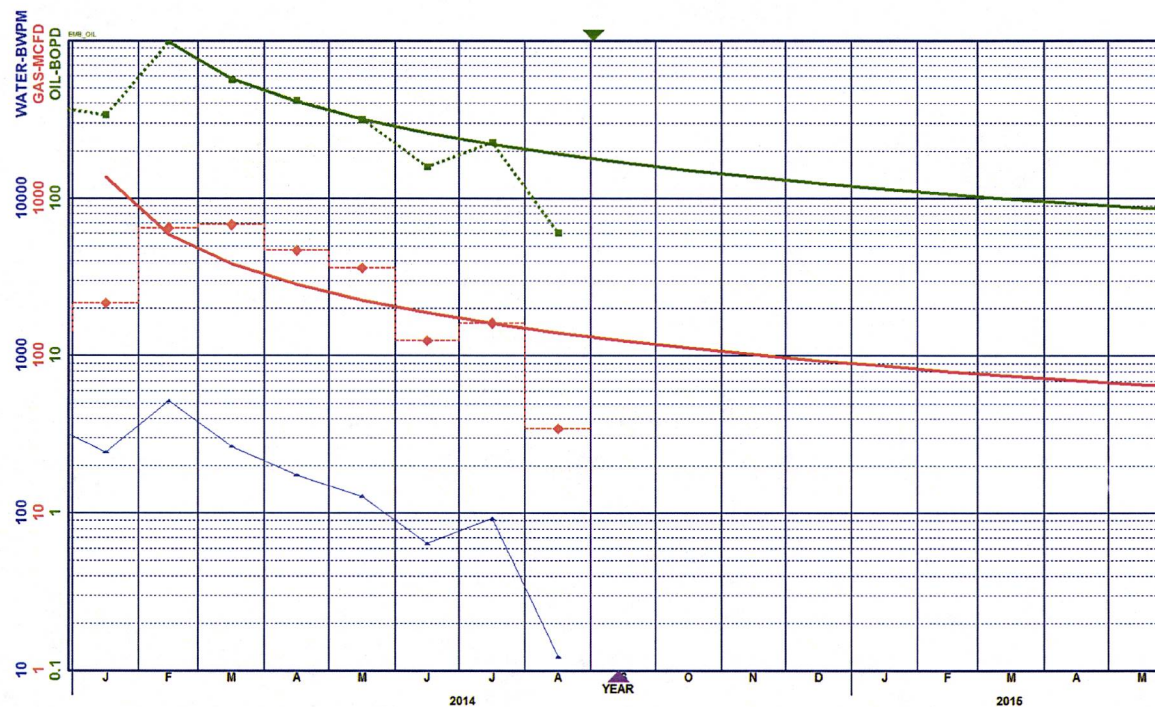
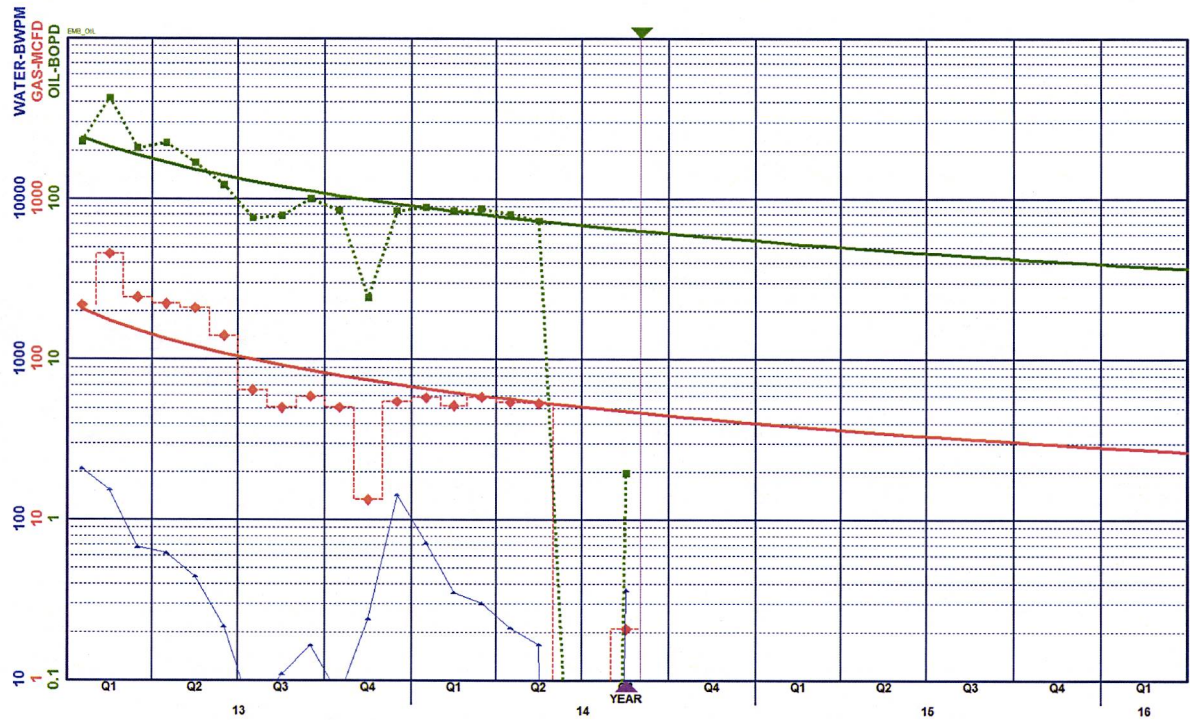


Exhibit E-2: Decline Curve Analysis

Redstone 2-1-1 CH	
49021209670000	
Codell	
EOG Resources	
2 13N 65W	
Cum Oil (BO)	67142
Cum Gas (MMCF)	61,843
EUR Oil (BO)	179,494
EUR Gas (MMCF)	192,085



EMILY M. BOECKING

1099 18th Street, Suite 1800
Denver, CO 80202-1918

emily.boecking@anadarko.com
(720) 929-6390

EDUCATION

Duke University —Durham, North Carolina	2007
B.S.E., Dual Major: Mechanical Engineering & Biomedical Engineering	
Heritage Hall High School —Oklahoma City, Oklahoma	2003

WORK EXPERIENCE

Anadarko Petroleum —Denver, Colorado— <i>Senior Reservoir Engineer</i>	Aug 2013 – Present
Responsible for all reservoir engineering practices for assets in vertical gas field of Wamsutter as well as horizontal exploration and development of Codell and Niobrara in Laramie County, WY. Conducted analysis and economic evaluation for divestiture of company non-operated position in Pinedale/Jonah field. Primary tasks include management of asset budget and portfolio, evaluation of well performance in relation to geologic/reservoir properties as well as completion practices, and technical evaluation of asset field.	
Comstock Resources —Frisco, Texas— <i>Corporate Development Engineer</i>	May 2013 – Aug 2013
Conduct appraisals of oil & gas prospects for potential acquisition consisting of engineering evaluations of reservoir quality, expected ultimate recovery of reserves, and economic value. Determine the potential acquisitions that would best augment current business portfolio as well as the potential divestiture packages of company's current assets that would best benefit overall business model of the company. Work with geoscience, operations, and drilling to provide feedback for optimization of well results and economic return.	
Chesapeake Energy —Oklahoma City, Oklahoma— <i>Reservoir Engineer I</i>	2010 - 2013
Responsible for all reservoir engineering practices for major company oil & gas assets including horizontal development in the Woodford Shale & Mississippi Lime as well as multi-zone vertical well fields. Analysis methods included decline curve reserve estimations, volumetric calculations, analytical material balance and type curve analysis, well test analysis, and reservoir fluid properties analysis. Performed economic evaluation and optimization for field development and exploration. Coordinated with geoscience, drilling, operations, and land disciplines to optimize project development. Mentored associate reservoir engineers in reservoir engineering practices.	
Chesapeake Energy —Oklahoma City, Oklahoma— <i>Associate Reservoir Engineer</i>	2008 - 2010
Member of the company reservoir Corporate Reserves team charged with creating and evaluating best practices using stochastic methods for booking reserves in compliance with revised SEC reserve booking guidelines. Methods incorporated statistical analysis to meet the standard of reasonable certainty for booking proven undeveloped reserves at distances greater than one legal offset location from existing producing wells in with particular focus in the Barnett Shale, Fayetteville Shale, and Haynesville Shale.	
Chesapeake Energy —Lindsey, Oklahoma— <i>Field Engineer</i>	2007 - 2008
Worked as an onsite field engineer out of the company field office, overseeing completion and workover procedures including horizontal multi-stage fracture stimulations, uphole vertical well recompletions, and artificial lift installation and repair. Also completed a one month drilling rig rotation observing and learning horizontal drilling practices.	