

0009-89

BOOK 0811 PAGE 0705

Instrument Control Number

[Empty box for Instrument Control Number]

Commonwealth of Virginia Land Record Instruments Cover Sheet - Form A

[ILS VLR Cover Sheet Agent 1.0.66]

T
A
X

E
X
E
M
P
T

X

C
O
R
P

X

X

Date of Instrument: [11/30/16]

Instrument Type: [ODAR]

Number of Parcels [1]

Number of Pages [17]

City County [Russell County] (Box for Deed Stamp Only)

First and Second Grantors

Last Name	First Name	Middle Name or Initial	Suffix
[-]	[Virginia Gas & Oil Board]	[]	[]
[]	[]	[]	[]

First and Second Grantees

Last Name	First Name	Middle Name or Initial	Suffix
[-]	[EnerVest Operating, LLC]	[]	[]
[]	[]	[]	[]

Grantee Address (Name) [EnerVest Operating, LLC]
 (Address 1) [P. O. Box 2136]
 (Address 2) []
 (City, State, Zip) [Abingdon] [VA] [24212]

Consideration [0.00] Existing Debt [0.00] Assumption Balance [0.00]

Prior Instr. Recorded at: City County [Russell County] Percent. in this Juris. [100]
 Book [] Page [] Instr. No []

Parcel Identification No (PIN) []

Tax Map Num. (if different than PIN) []

Short Property Description [Report of the Board]

Current Property Address (Address 1) []

(Address 2) []

(City, State, Zip) [] [] []

Instrument Prepared by [Virginia Gas & Oil Board]

Recording Paid for by [DMME]

Return Recording to (Name) [DMME - Division of Gas & Oil]

(Address 1) [P. O. Drawer 159]

(Address 2) []

(City, State, Zip) [Lebanon] [VA] [24266]

Customer Case ID [] [] []



INSTRUMENT PREPARED BY
VIRGINIA GAS AND OIL

ORDER RECORDED UNDER CODE
OF VIRGINIA SECTION 45.1-361.26

VIRGINIA:

BEFORE THE VIRGINIA GAS AND OIL BOARD

APPLICANT: **ENERVEST OPERATING, LLC**

VIRGINIA GAS AND
OIL BOARD
VGOB DOCKET NO.:
89-016-0009-89

RELIEF SOUGHT:

MODIFICATION OF THE OGCB NORA GAS FIELD RULES ORDER, ENTERED MARCH 26, 1989, AS AMENDED, TO ALLOW MORE THAN ONE COALBED GAS WELL TO BE DRILLED IN THE UNITS IDENTIFIED ON EXHIBIT "A" HERETO

LEGAL DESCRIPTION:

DRILLING UNITS:

83AT, 56AY, 57AY, 58AY, 55AZ, 57AZ, 58AZ, 57AX, 58AX, 59AX, 53AY,
54AY, 55AY, 59AY, 92BN, 92BO, 91BP, 92BP

LOCATED IN **BUCHANAN, RUSSELL, &
DICKENSON** COUNTIES, VIRGINIA;
SEE ANNEXED EXHIBIT "H2"

**REPORT OF THE BOARD
FINDINGS AND ORDER**

1. Hearing Date and Place: This matter came on for hearing before the Virginia Gas and Oil Board (hereinafter "Board") at 9:00 a.m. on October 25, 2016 at the Conference Center at the Russell County Office Facility, Lebanon, Virginia.

2. Appearances: Timothy E. Scott of McKinnis & Scott, appeared for the Applicant; and Paul Kugelman, Jr., Senior Assistant Attorney General was present to advise the Board.

3. Jurisdiction and Notice: Pursuant to Va. Code §§45.1-361.1 et seq., as amended, the Board finds that it has jurisdiction over the subject matter. Based upon the evidence presented by the Applicant, the Board also finds that the Applicant has (1) exercised due diligence in conducting a meaningful search of reasonably available sources to determine the identity and whereabouts of each gas and oil owner, coal

owner, or mineral owner, or in the case of conflicting claims to the ownership of the coalbed methane gas, each person identified by Applicant as a potential owner of the coalbed methane gas underlying the area described at paragraph 7.h below and in **Exhibit "B"** attached hereto; and (2) has given notice to all parties so identified (hereinafter sometimes "person(s)" whether referring to individuals, corporation, partnerships, associations, companies, businesses, trusts, joint ventures or other legal entities) and entitled by §§ 45.1-361.19 and 45.1-361.20, Virginia Code, as amended, to notice of the Application, and (3) that the persons listed in the Notice of Hearing are the persons so identified by the Applicant. Further, the Board has caused notice of this hearing to be published as required by § 45.1-361.19.B., Virginia Code, as amended. Whereupon, the Board hereby finds that the notices given satisfy all statutory requirements, Board rule requirements and the minimum standards of State due process.

4. Amendments and Dismissals: **None.**

5. Relief Requested: (1) Modification of the Nora Gas Field Rules to allow more than one coalbed methane gas well to be drilled within each of the Nora Field Drilling Units identified above and in **Exhibit "H2"** attached hereto; and (2) for an administrative order providing that additional well permits may be issued in the Nora Field after the Application is approved.

6. Relief Granted: Available data and the evidence adduced at the hearing support Applicant's position that the production from the pool underlying the Nora Coal Bed Gas Field Drilling Units in question would be enhanced and benefit from in-field drilling; accordingly,

a. With regard to the Drilling Units described above and in **Exhibit "H2"** hereto, the Nora Coal Red Gas Field Rules Order, OCGB order entered of March 26, 1989, is hereby amended to allow the Board's Designated Unit Operator in Drilling Units pooled by Board Order and the Well Operator/Permittee in voluntary Drilling Units to drill a total of two (2) wells, said total to include any previously permitted well(s), within the units affected by the Application and this Order;

b. In the event that an additional coalbed methane gas well(s) permitted and drilled after the entry of this order is located within the drilling window(s) of a Nora Coal Bed Gas Field Drilling Unit affected by this order, the production therefrom shall be solely attributed to and allocated to the Nora Drilling Unit within which the wells are located; and,

c. In the event a second well is proposed that is to be located outside the drilling window of any Nora Unit affected by this order and a permit application is submitted to the Division of Gas and Oil seeking such location exception, the Inspector shall assess the permit as follows:

(i) If a 58-acre square with the proposed well at its center lies entirely within Nora Drilling Units which are voluntary in nature and are not subject to existing pooling order, the Inspector may grant or deny the location exception on a case-by-case basis according to standard procedures and provisions of the Nora Order which allow wells to be drilled outside the drilling windows; or

(ii) If a 58-acre square with the proposed well at its center lies entirely or partially within any Nora Drilling Unit(s) which is subject to existing pooling orders, the Inspector shall refer the permit application to the Board for its recommendations concerning correlative rights considerations, modification of pooling orders, and escrow provisions. Alternatively, the Unit Operator may present a pooling proposal directly to the Board prior to filing a permit application. No permit under this paragraph (ii) shall be issued until the Board has acted on the matter.

7. Special Findings:

a. Applicant's proposed field rule modification is not an unreasonable or arbitrary exercise of the owner's right to explore for or produce gas;

b. The Applicant's proposal would not unreasonably interfere with the present or future mining of coal or other minerals;

c. The acreage to be embraced in the Drilling Units affected by and/or created by this Modification Order shall be as set forth above and in **Exhibit "H2"** attached hereto.

d. The formations subject to this Modification Order are described in the OGCB Order entered March 26, 1989, as amended.

e. The boundaries of the Drilling Units are the same as heretofore established by the OGCB Order entered March 26, 1989, as amended.

f. Unit Operator's production simulations indicate that drilling of an additional well in each Unit could facilitate the recovery of an additional 500 MMCF of gas per Unit within ten (10) years of drilling.

g. The boundaries of any Drilling Units created subsequent to this Modification Order shall be according to paragraph 6.c.ii. above and as defined by Board action specific to individual units.

h. The acreage subject to this Modification Order is depicted in **Exhibit "H2"** attached hereto:

i. Having considered the evidence presented, the Board found no reason to

establish any allowable production rates for the wells contemplated by this Modification Order;

j. Except as herein specifically modified, the proposed Drilling Units in **Exhibit "H2"** shall be developed and produced in compliance with the OGCB Order entered on March 26, 1989 regarding the Nora Gas Field Rules, as amended.

k. This Modification Order shall be effective as of the date of the hearing, to wit: October 25, 2016.

8. Conclusion: The relief granted hereby will assist in enhancing production from existing wells, will assist in more efficiently recovering coalbed methane gas from the area in question, prevent waste by more effectively extracting the resource, and will continue to protect the correlative rights of all owners and claimants. Therefore, the relief and all terms and provisions set forth above be and are hereby granted and IT IS SO ORDERED.

9. Effective Date: October 25, 2016.

DONE AND EXECUTED this 10 day of November, 2016 by a majority of the Virginia Gas and Oil Board.

Bradley C. Lambert

Chairman, Bradley C. Lambert

DONE AND PERFORMED this 10 day of November, 2016 by Order of the Virginia Gas and Oil Board.

Rick Cooper

Rick Cooper
Principal Executive to the
staff, Virginia Gas and Oil Board

COMMONWEALTH OF VIRGINIA
COUNTY OF RUSSELL

Acknowledged on this 10th day of November, 2016, personally before me a notary public in and for the Commonwealth of Virginia, appeared Bradley C. Lambert, being duly sworn did depose and say that he is the Chairman of the Virginia Gas and Oil Board and appeared Rick Cooper, being duly sworn did depose and say that he is Principal Executive to the staff of the Virginia Gas and Oil Board, that they executed the same and was authorized to do so.

Sarah Jessee Gilmer
Sarah Jessee Gilmer, Notary Public
262946

My Commission expires: July 31, 2017



1602323

VIRGINIA: IN THE OFFICE OF THE CLERK OF THE CIRCUIT OF RUSSELL COUNTY, 11-30, 2016. This deed was this day presented in said office, and upon the certificate of acknowledgment thereto annexed, admitted to record at 1:50 o'clock P M, after payment of \$ _____ tax imposed by Sec. 58.1-802.

Original returned this date to: Sarah Gilmer

TESTE: ANN S. McREYNOLDS, CLERK
BY: Sheila Kinton D. CLERK

					-1BB	0BB	1BB	2BB	3BB	4BB
78AQ	79AQ	80AQ	81AQ	82AQ	83AQ	0CC	1CC	2CC	3CC	4CC
78AR	79AR	80AR	81AR	82AR	83AR	84AR	85AR	86AR	87AR	88AR
78AS	79AS	80AS	81AS	82AS	83AS	84AS	85AS	86AS	87AS	88AS
78AT	79AT	80AT	81AT	82AT	83AT	84AT	85AT	86AT	87AT	88AT
Buchanan Co.										
78AU	79AU	80AU	81AU	82AU	83AU	84AU	85AU	86AU	87AU	88AU
78AV	79AV	80AV	81AV	82AV	83AV	84AV	85AV	86AV	87AV	88AV
78AW	79AW	80AW	81AW	82AW	83AW	84AW	85AW	86AW	87AW	88AW
78AX	79AX	80AX	81AX							

EXHIBIT H-2
ENERVEST OPERATING, LLC
INCREASED DENSITY DRILLING
NORA FIELD

PROPOSED UNITS
 Date: 8/25/2016

51AV	52AV	53AV	54AV	55AV	56AV	57AV	58AV	59AV	60AV	61AV
51AW	52AW	53AW	54AW	55AW	56AW	57AW	58AW	59AW	60AW	61AW
51AX	52AX	53AX	54AX	55AX	56AX	57AX	58AX	59AX	60AX	61AX
51AY	52AY	53AY	54AY	55AY	56AY	57AY	58AY	59AY	60AY	61AY
51AZ	52AZ	53AZ	54AZ	55AZ	56AZ	57AZ	58AZ	59AZ	60AZ	61AZ
52BA	53BA	54BA	55BA	56BA	57BA	58BA	59BA	60BA	61BA	62BA
52BB	53BB	54BB	55BB	56BB	57BB	58BB	59BB	60BB	61BB	62BB
52BC	53BC	54BC	55BC	56BC						

Dickenson Co.

EXHIBIT H-2
ENERVEST OPERATING, LLC
INCREASED DENSITY DRILLING
NORA FIELD

PROPOSED UNITS
 Date: 8/25/2016

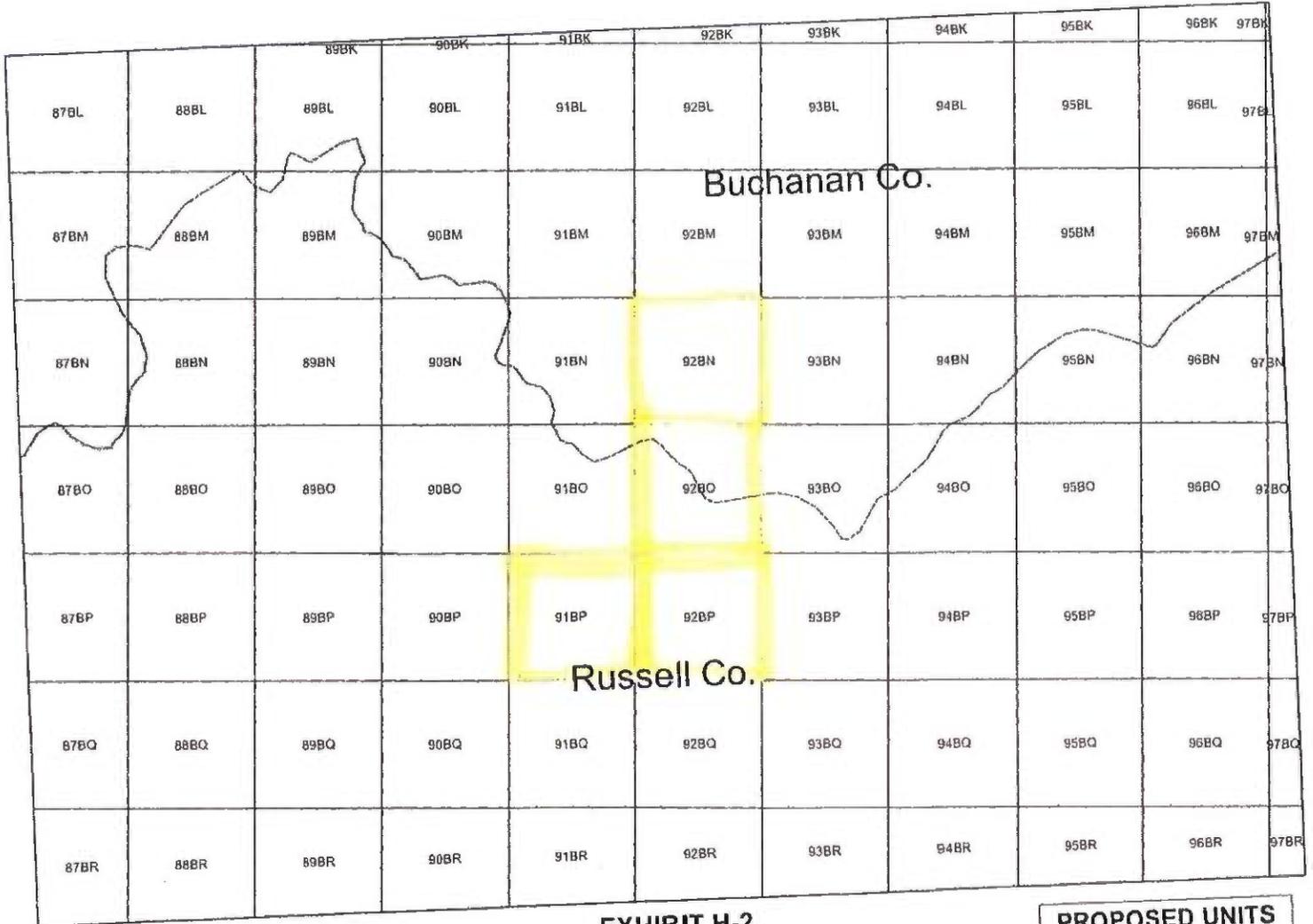


EXHIBIT H-2
ENERVEST OPERATING, LLC
INCREASED DENSITY DRILLING
NORA FIELD

PROPOSED UNITS
 Date: 8/25/2016

Map View of Nora CBM Field Increased Density Drilling Units Previously Board Approved

DB 543 PG062

160002198

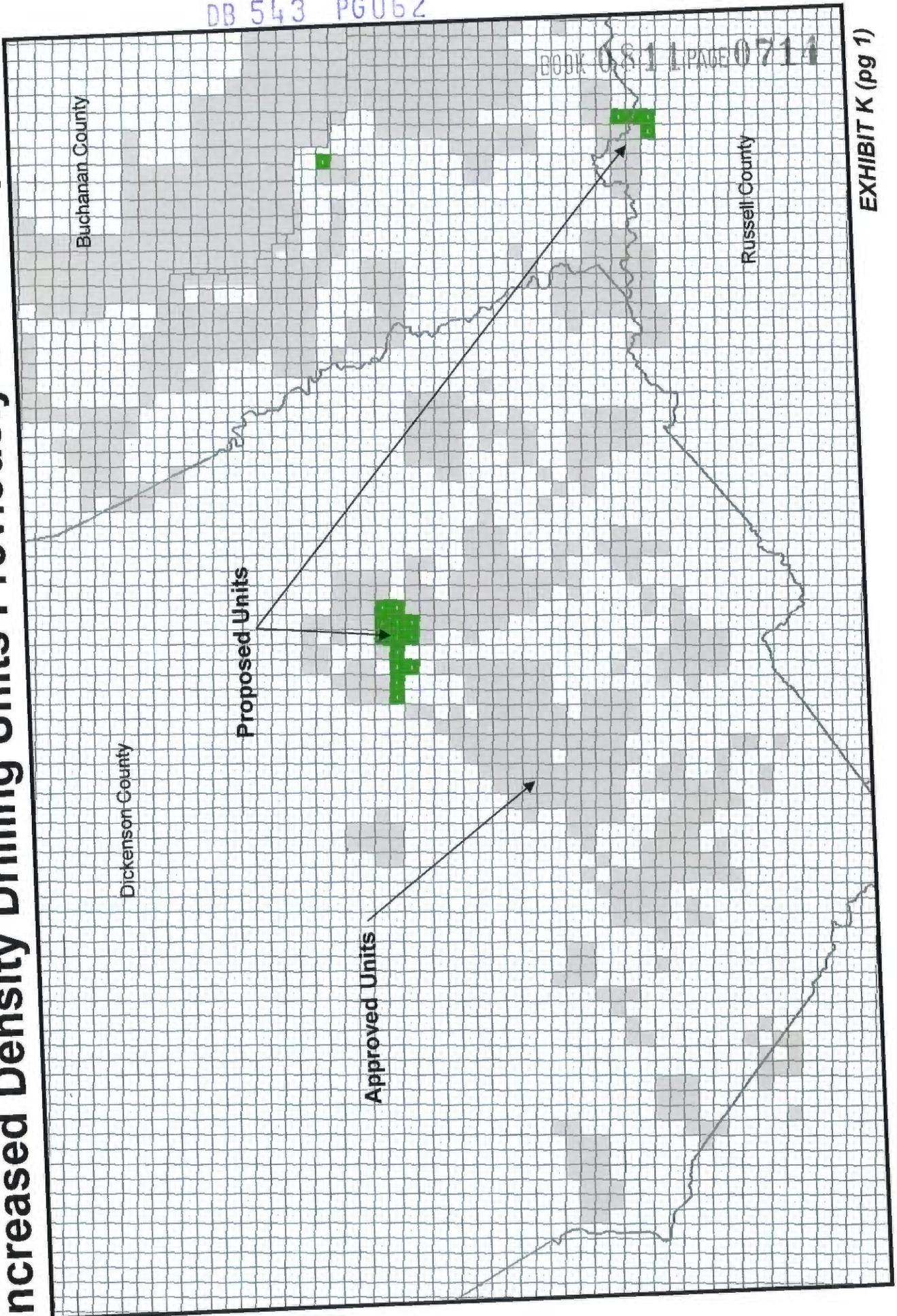


EXHIBIT K (pg 1)

Map View of Nora CBM Field Increased Density Drilling Completed to Date

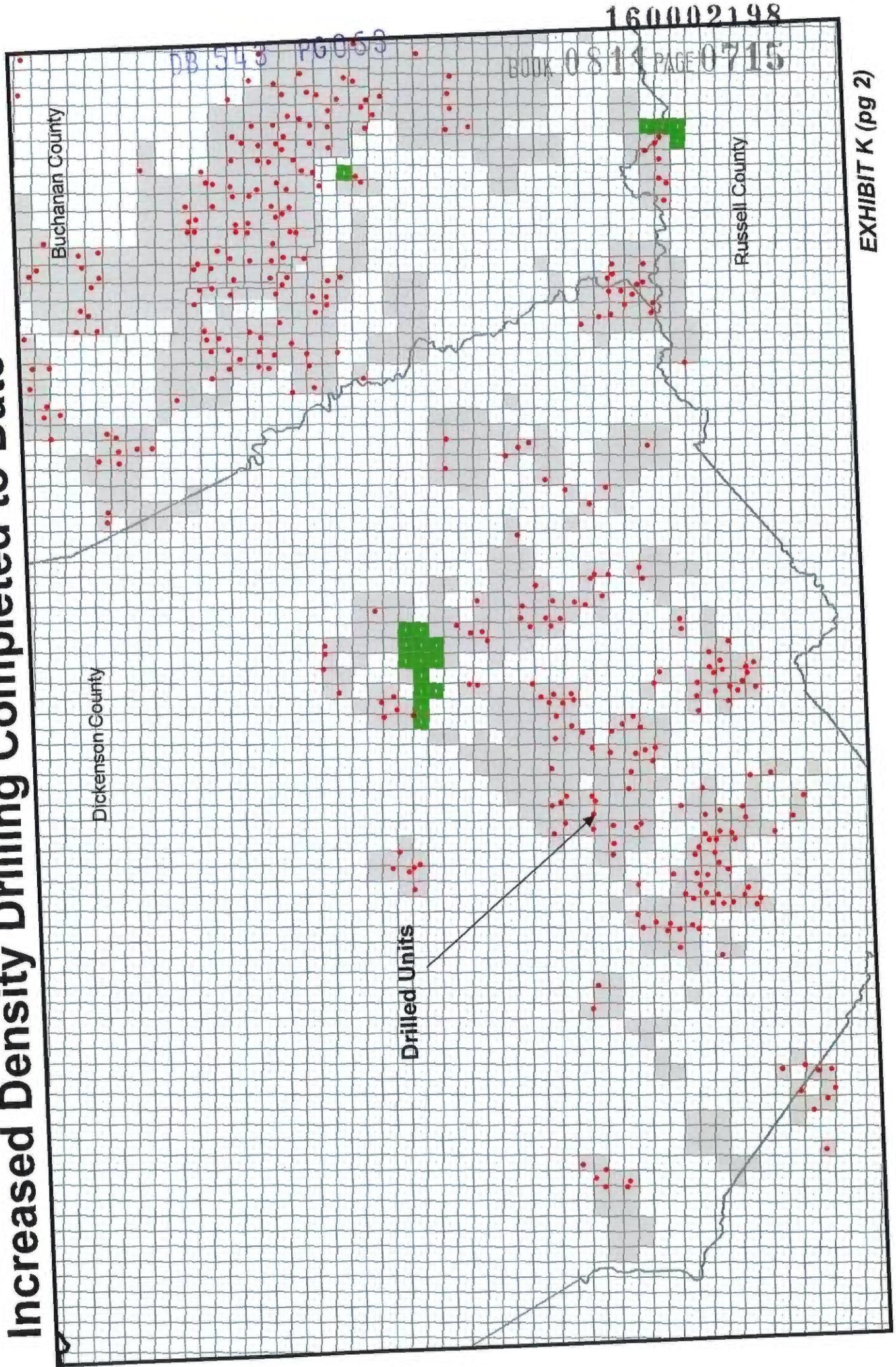
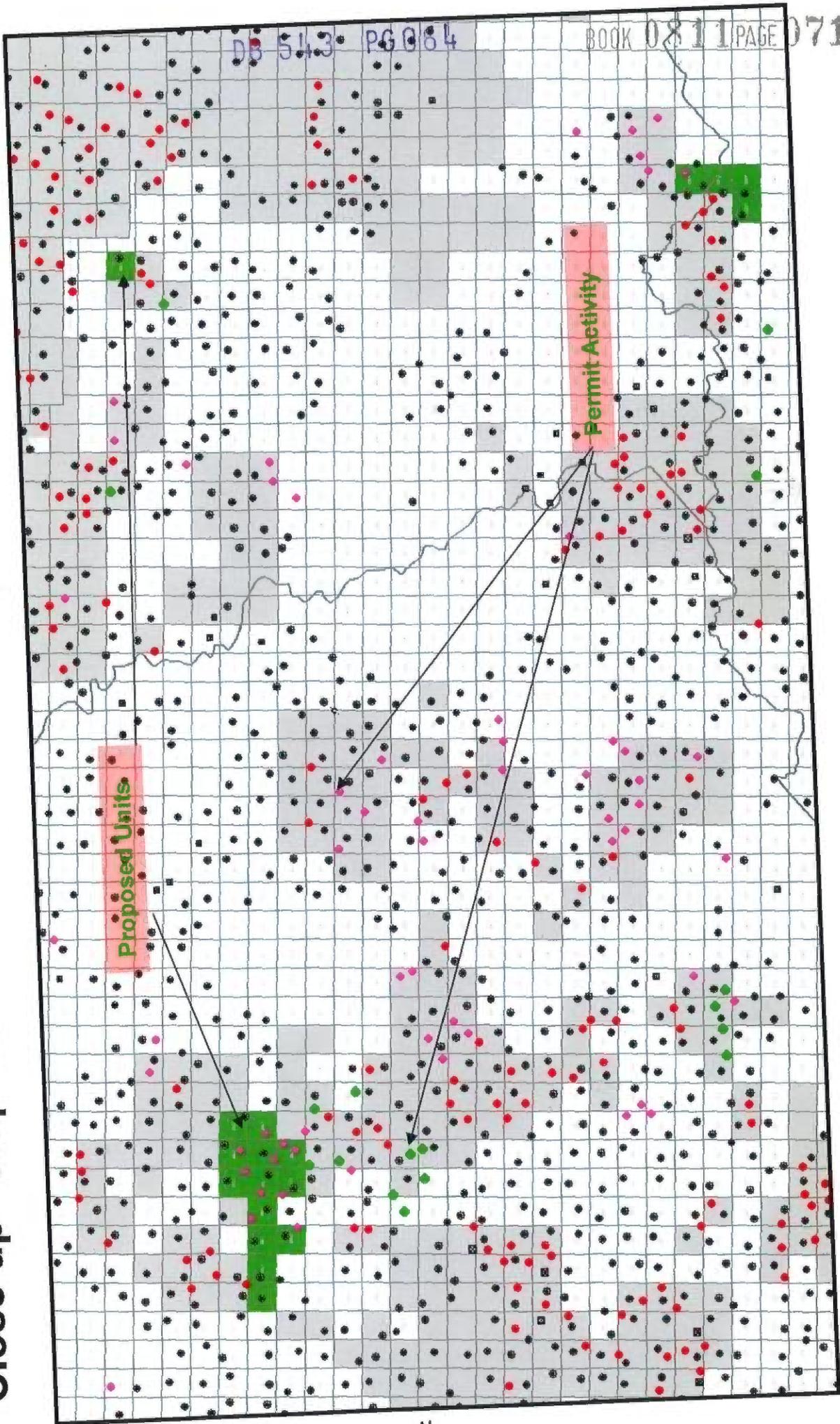
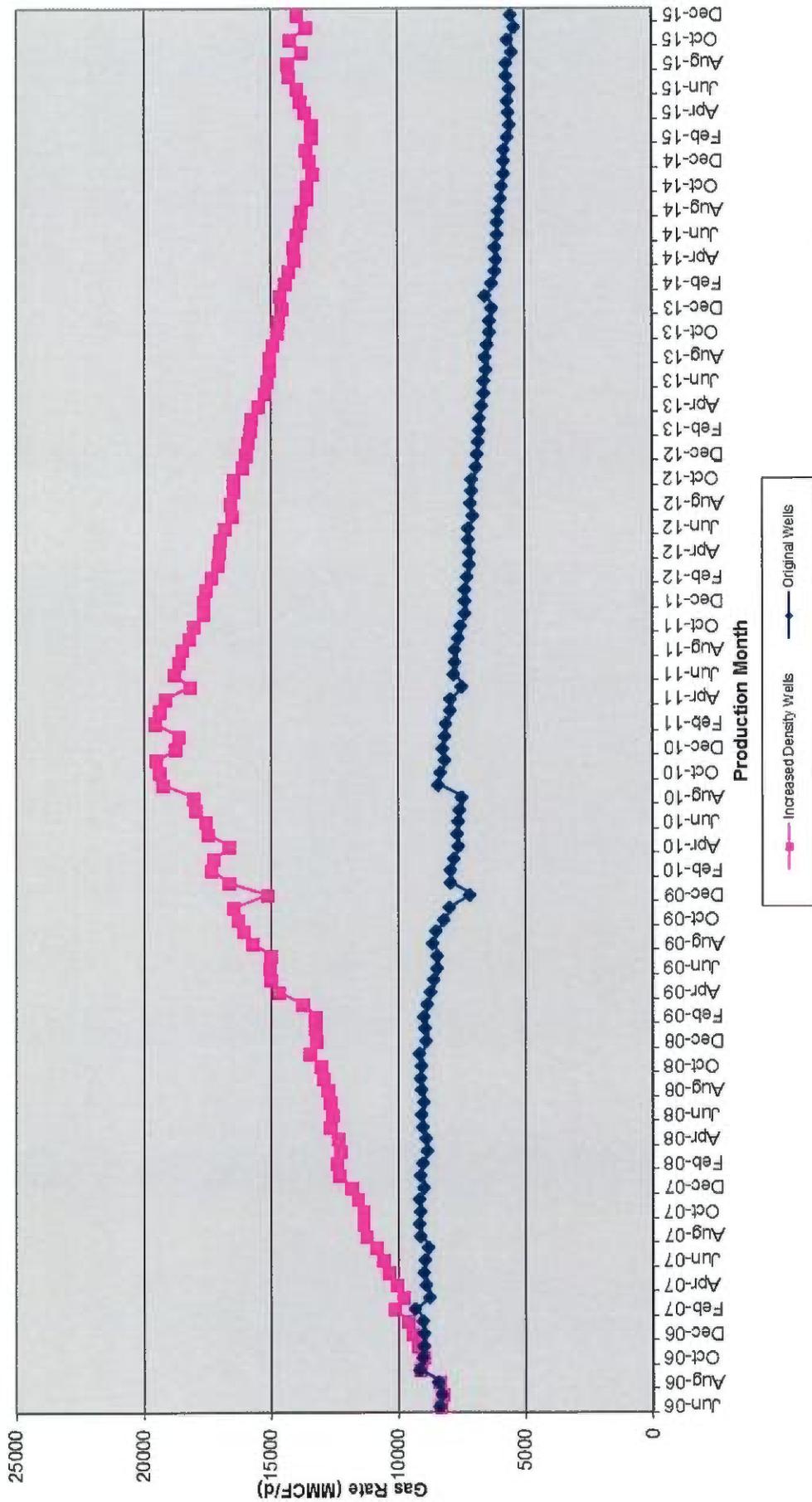


EXHIBIT K (pg 2)

Close up - Map View of Proposed Nora Increased Density Units



Increased Density Drilling Nora Field Thru 12-2015



160002198

BOOK 0811 PAGE 0717
DB 543 PG 065

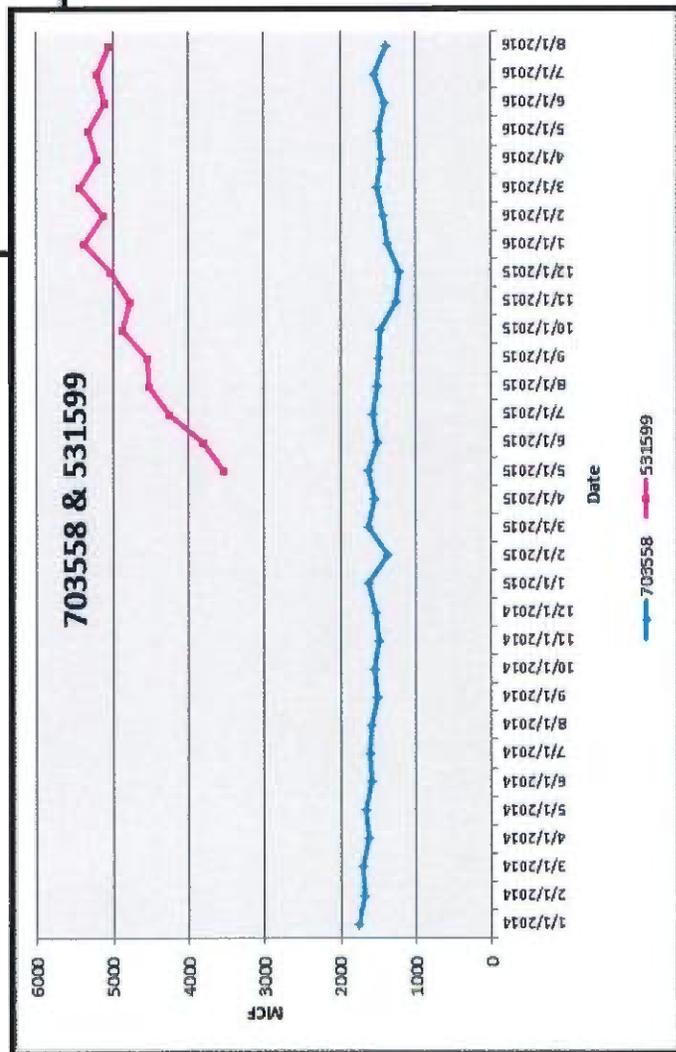
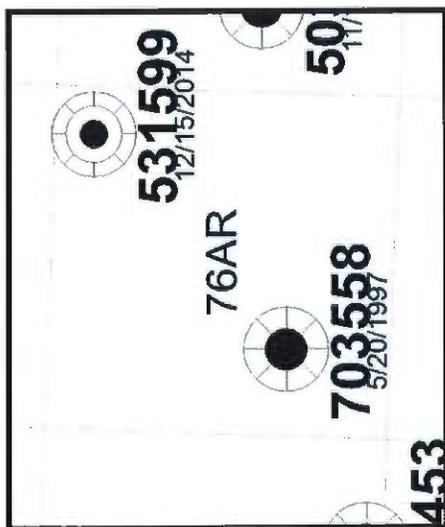
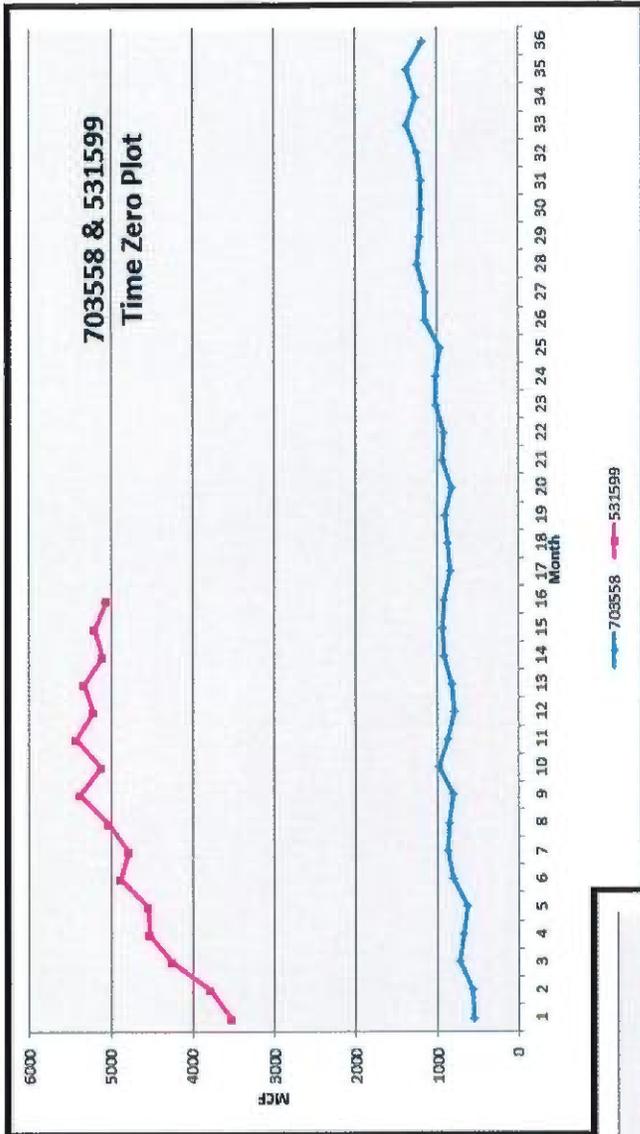
Benefits of Increased Density Drilling

- Increase fracturing network promoting gas flow at low pressure
- Decrease de-watering time frame
- Increase recovery factor of reservoir
- Reservoir production achieved faster and more economical
- No significant negative impact to 1st well production, generally see improvement in existing production

Infill drilling from 2006 – 2015
Production represents 196 units

EXHIBIT K (pg 4)

Recent Example of Increased Density Drilling

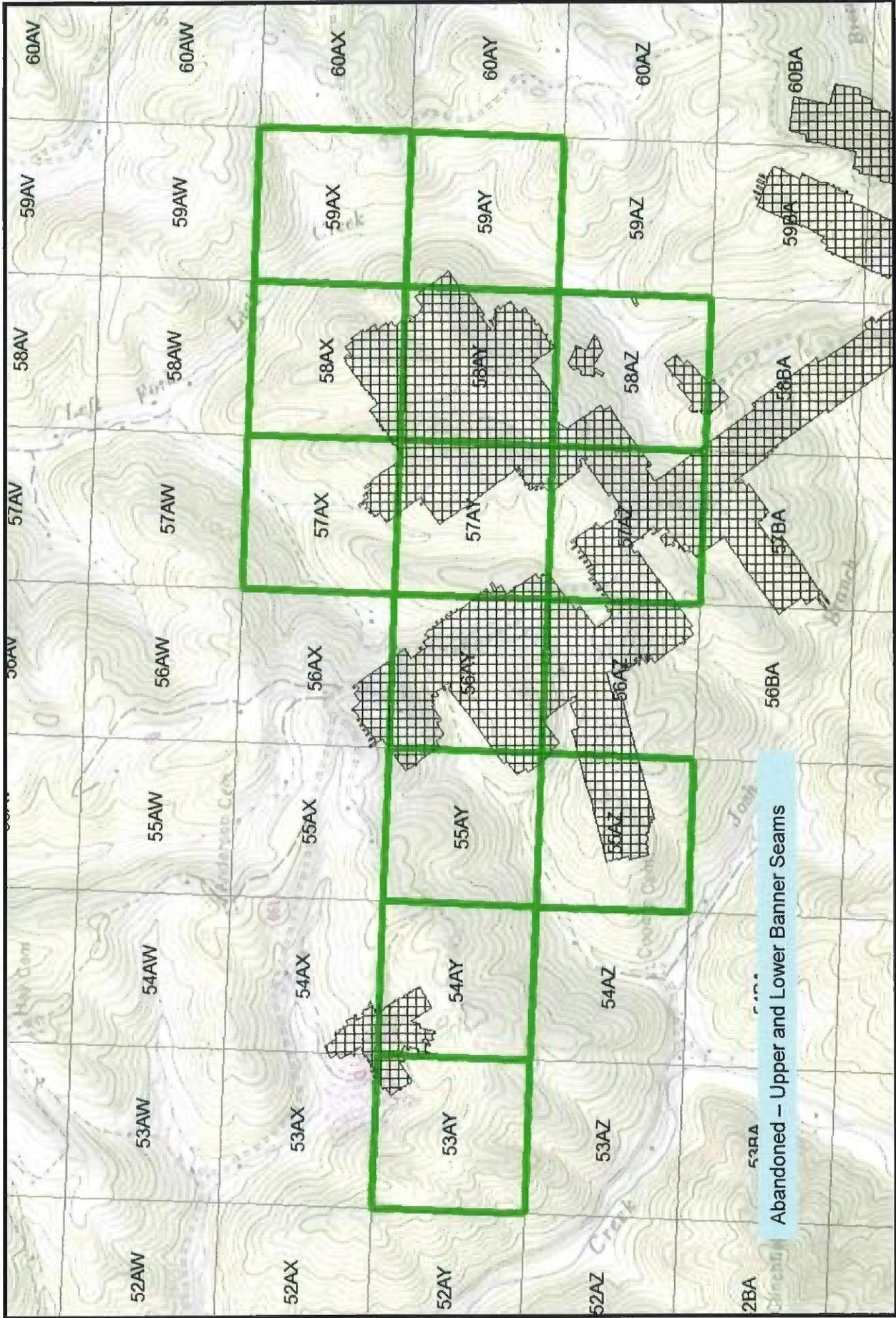


- Production comparison of two CBM wells drilled 27 years apart in time, recent increased density well
- Time zero plot representing improved production in increased density well, benefiting from lower reservoir pressure and dewatering effect or prior development
- Graph to left illustrates no significant negative impact to 1st well production and recovery of additional resources

Summary of Increased Density Drilling

- Working Interest Owners, Royalty Owners, and the State will benefit by maximizing production**
- Promote conservation of the gas resource and prevent waste by more effectively extracting the resource**
- Allow for shared facilities such as roads, pipelines, etc. to help minimize environmental impact**
- No correlative rights issues within proposed units**

Map View of Coal Mine Activity near Proposed Units



Abandoned - Upper and Lower Banner Seams

Map View of Coal Mine Activity near Proposed Units

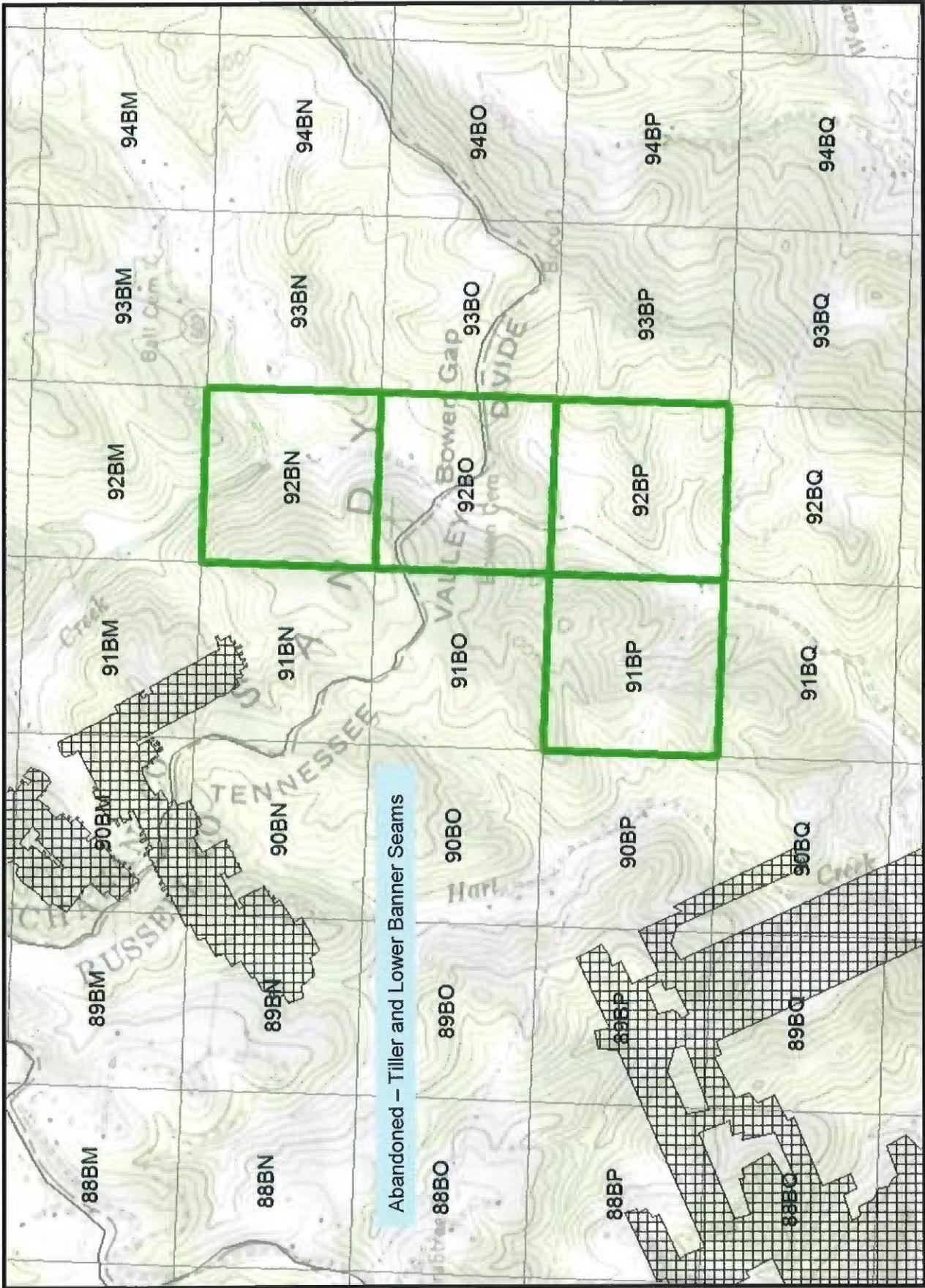


EXHIBIT K (pg 8)

Map View of Coal Mine Activity near Proposed Units



021

160002198

INSTRUMENT #160001399
RECORDED IN THE CLERK'S OFFICE OF
DICKENSON ON
NOVEMBER 29, 2016 AT 10:18AM

RICHARD W. EDWARDS, CLERK
RECORDED BY: CPF

INSTRUMENT #160002198
RECORDED IN THE CLERK'S OFFICE OF
DICKENSON COUNTY ON
NOVEMBER 29, 2016 AT 01:58PM

BEVERLY S. TILLER, CLERK
RECORDED BY: GBB