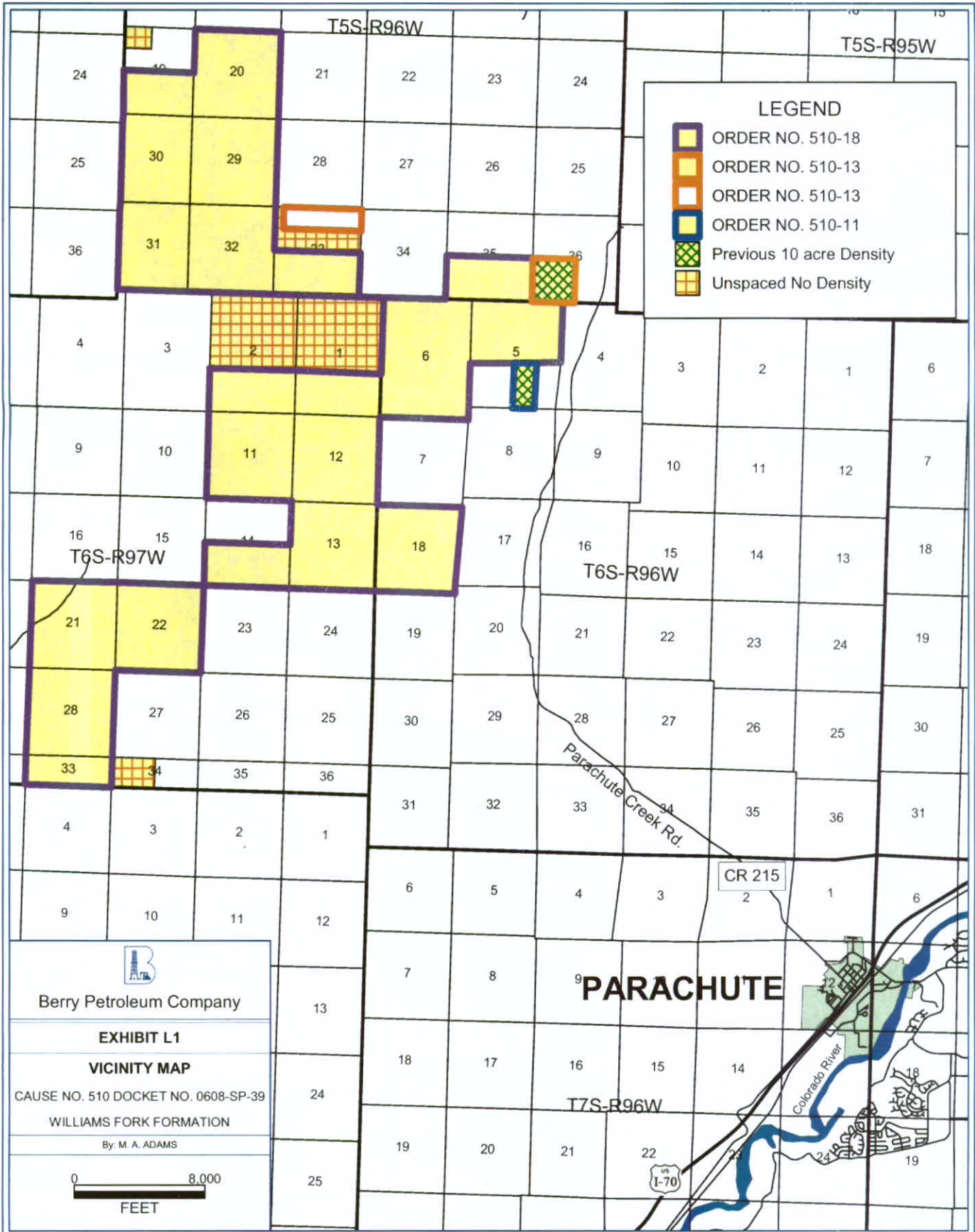
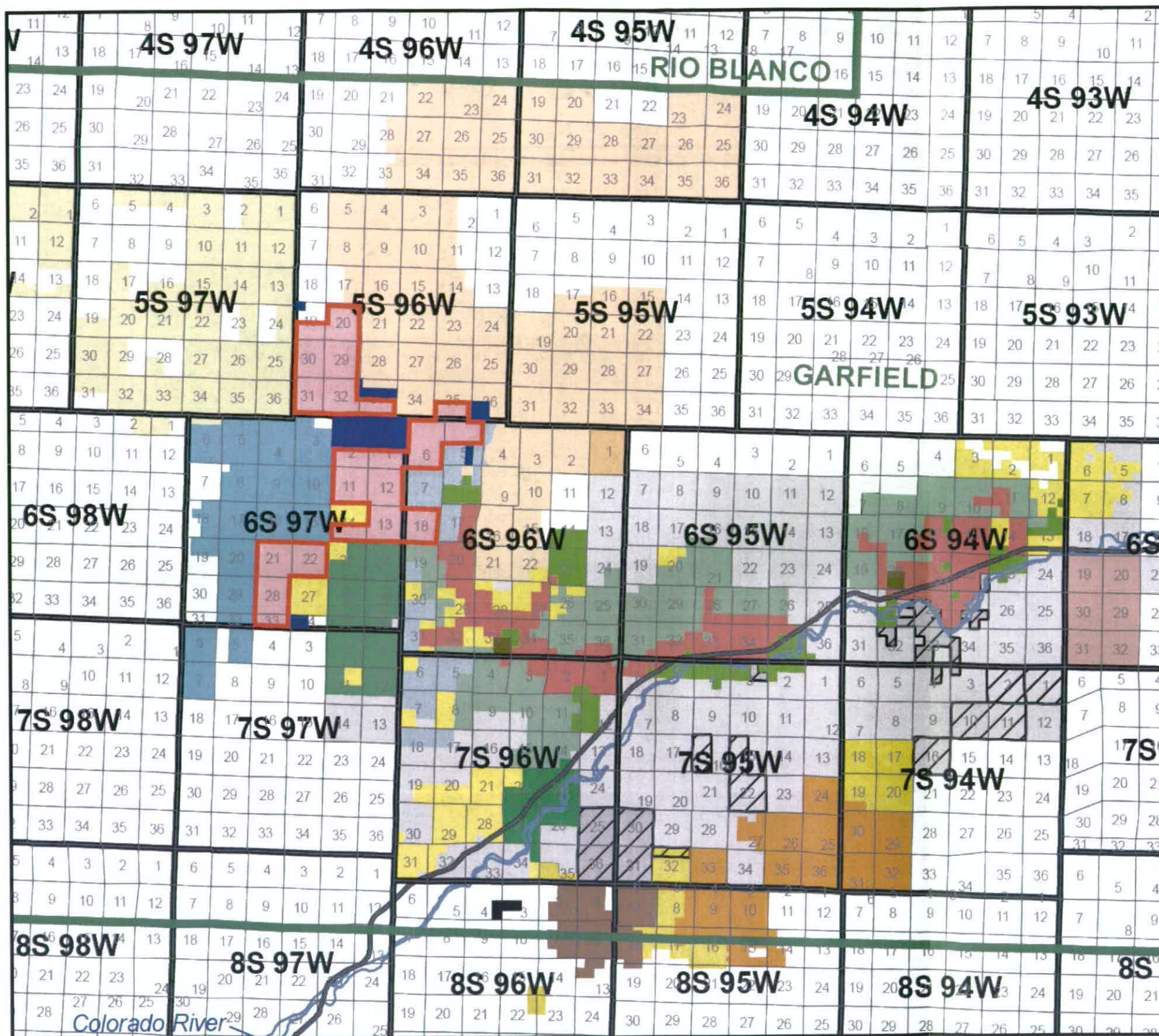


510-25





Legend

WILLIAMS 10-ACRE DENSITY ORDERS

- Order 510-14
- Orders 510-12, 479-14, 440-28
- Orders 510-9, 479-12, 440-25, 139-40
- Orders 510-8, 479-11, 440-23, 139-38, 495-03
- Orders 510-6, 479-9, 440-22, 139-37
- Order 510-17
- Orders 510-20, 440-31, 139-60, 479-17, 495-5

ENCANA 10-ACRE DENSITY ORDERS

- Order 510-13
- Order 479-15
- Order 139-62

PDC 10-ACRE DENSITY ORDERS

- Order 510-11
- Order 510-18
- Order 510-21

PRESCO 10-ACRE DENSITY ORDERS

- Order 139-53

NOBLE 10-ACRE DENSITY ORDER

- Orders 139-45 and 139-51
- Orders 510-19, 139-59, 139-61

PETROGULF 10-ACRE DENSITY ORDER

- Order 139-47

OXY 10-ACRE DENSITY ORDER

- Order 510-15

APPLICATION LANDS

- Cause No. 510
- Docket No. 0608-SP-39

AREA OF INTEREST

-

Areas with Williams Fork Orders under 20-Acre Density Spacing

Areas with Williams Fork and/or Mesa Verde Orders not under 10-Acre or 20-Acre Density Spacing

Note: Spaced lands are mapped to the nearest quarter quarter section or lot.

COGCC: July 25, 2006

0 1.25 2.5 5 Miles

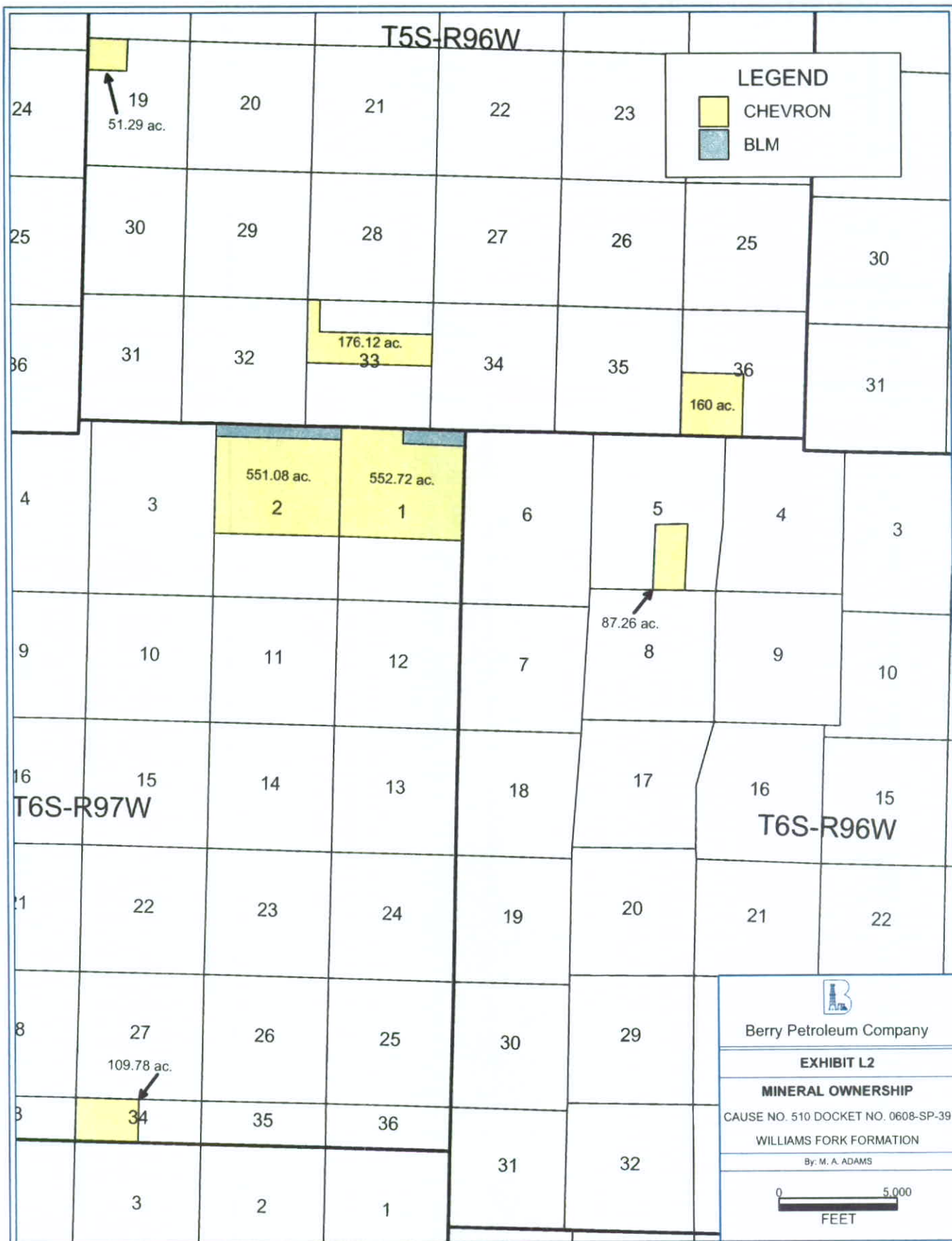
DOWNHOLE 10-ACRE DENSITY LANDS, GARFIELD & MESA COUNTIES, COLORADO (As of June 5, 2006)

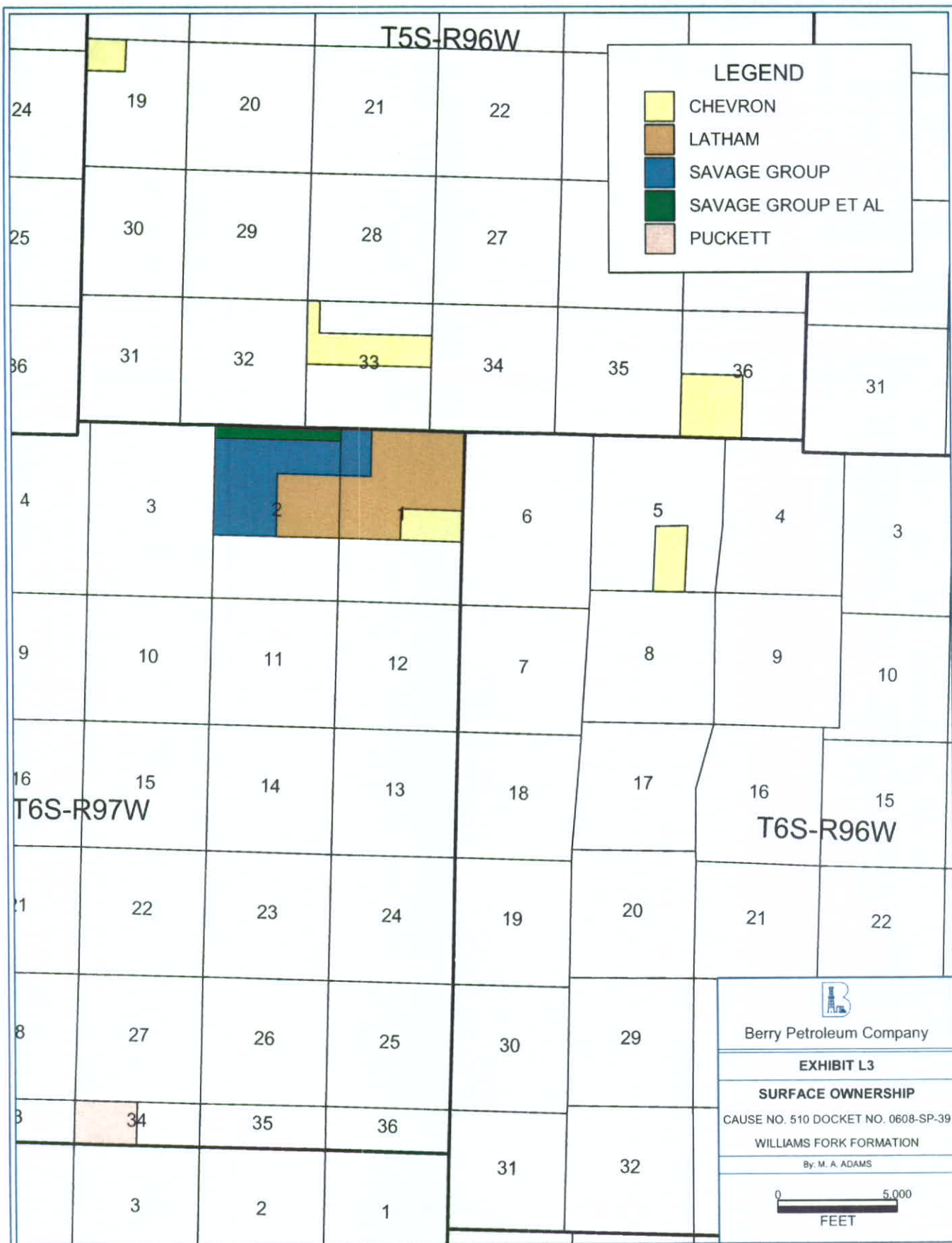
Berry Petroleum Company

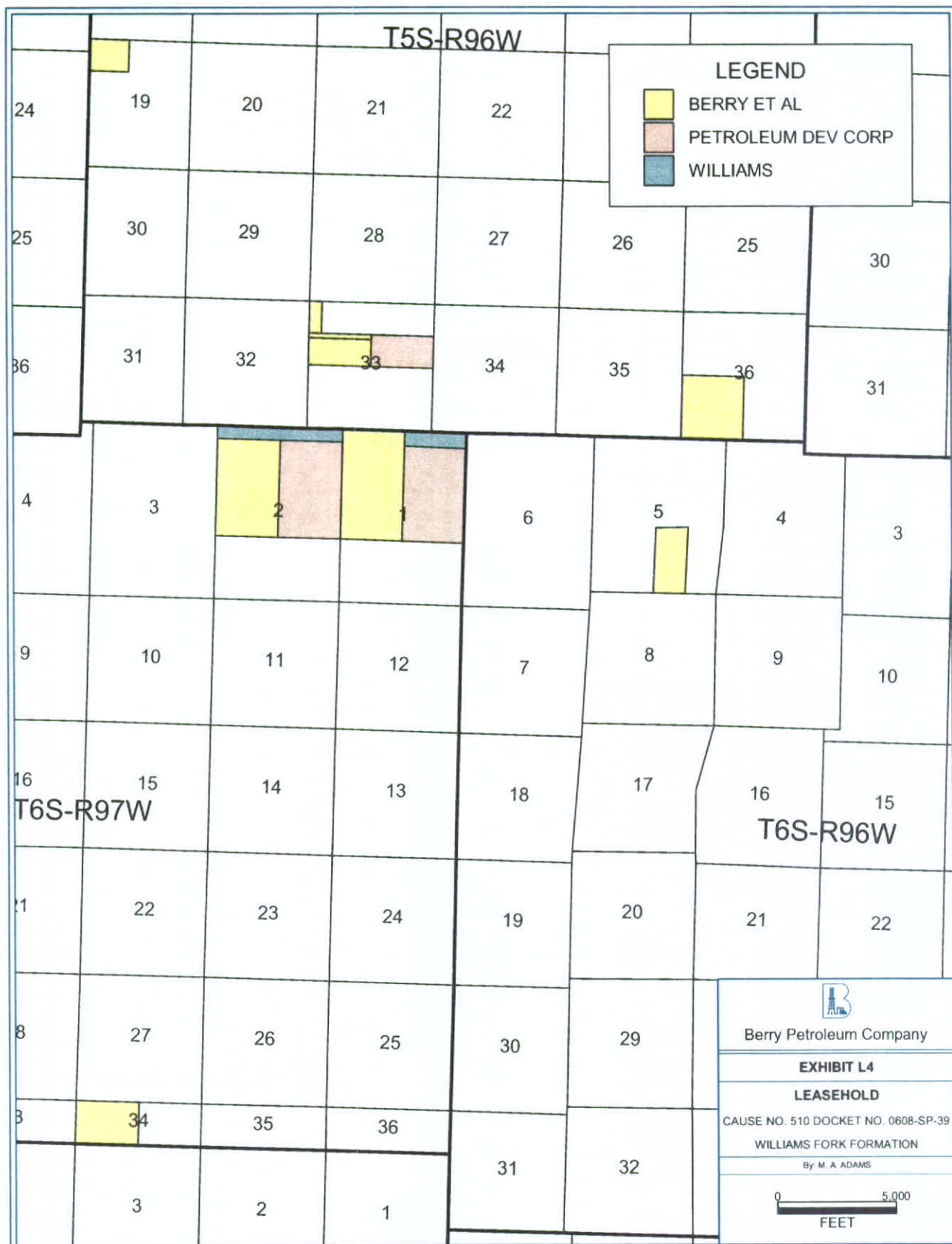
EXHIBIT L1A

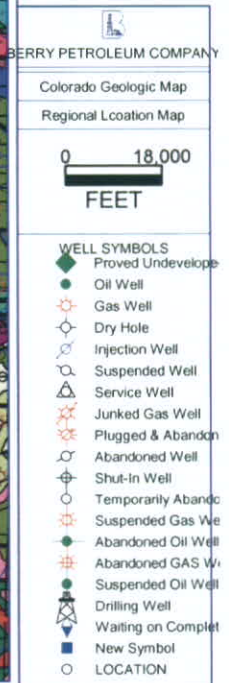
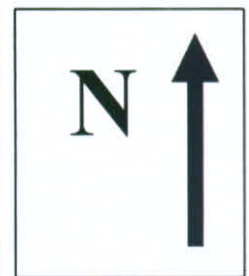
CAUSE NO. 510

DOCKET NO. 0608-SP-39









PETRA 7/25/2008 3:53:35 PM

1" = 36,000'

The acreage in this application is located just north of the Colorado River

 10-acre Pilot Areas

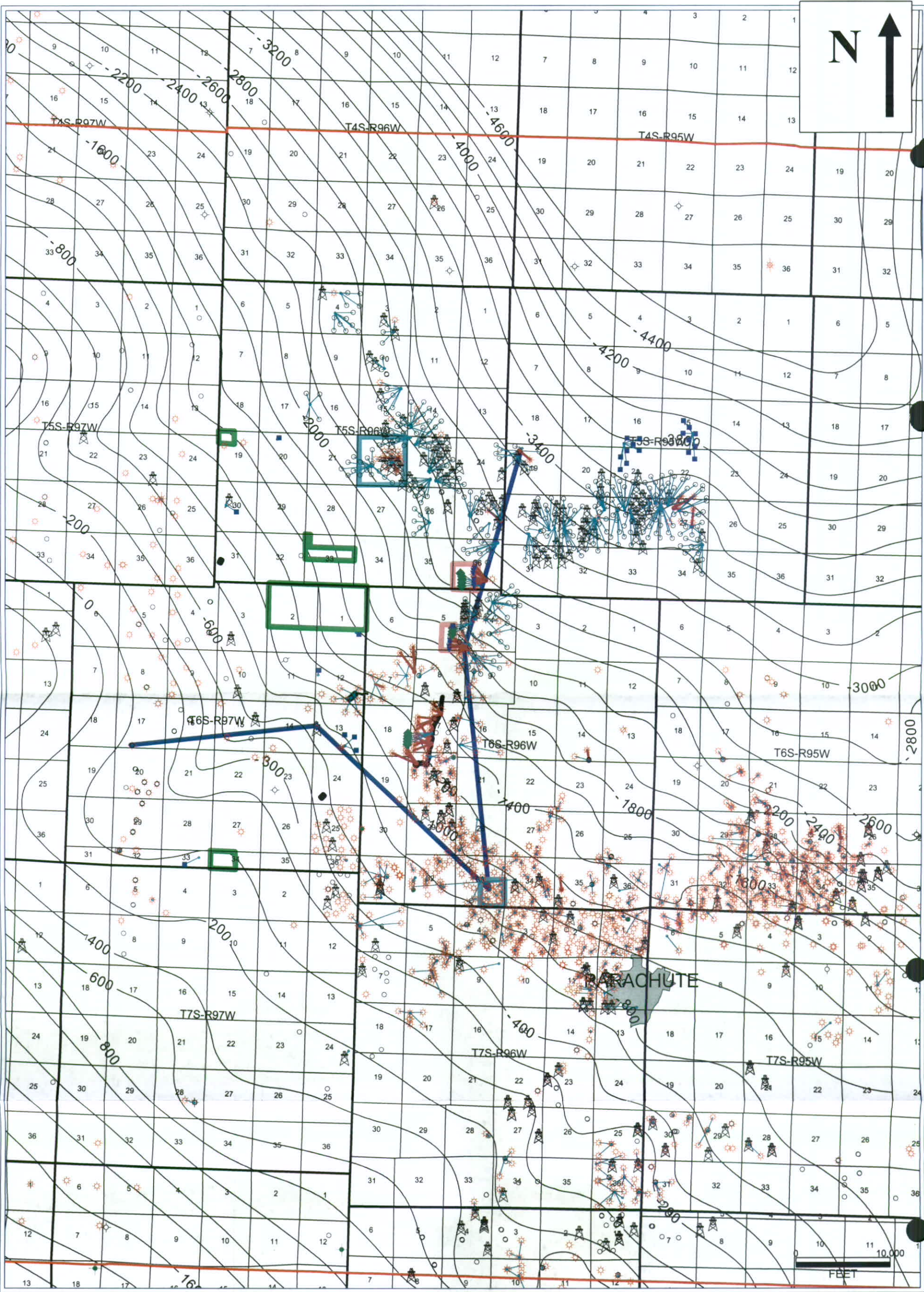


Berry Petroleum Company

Exhibit G-1
Cause: #510
Docket #0608-SP-39

SSTVD Structure on Top Rollins SS

200' Contour Interval



PETRA 8/1/2006 2:06:10 PM

The Rollins Sandstone is at the base of the Williams Fork Formation. It is a very continuous stratigraphic pick and very well demonstrates the structural setting of the acreage in this application.

1" = 10,000'

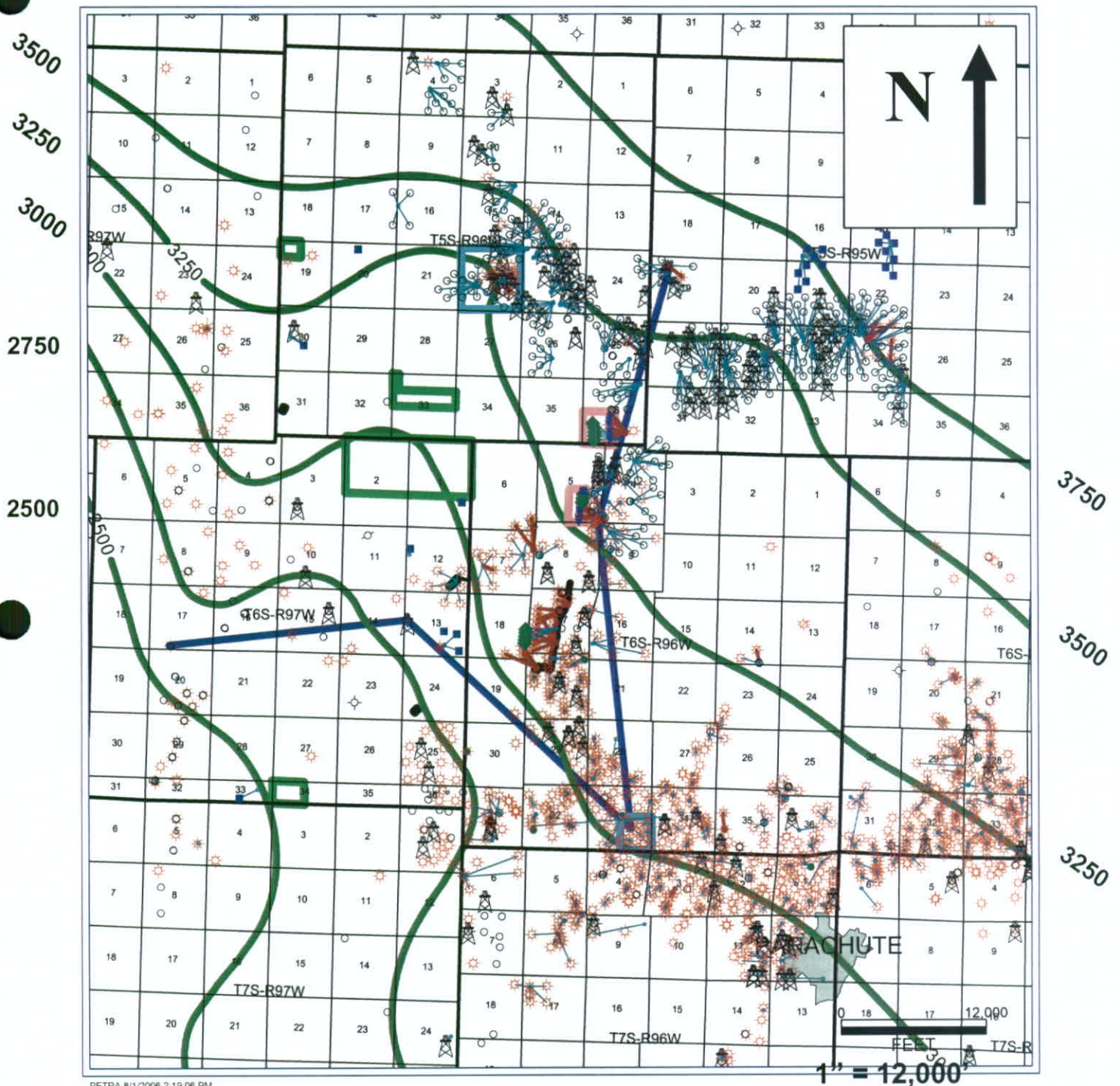


Berry Petroleum Company

- 10-acre pilot areas
- 10-acre density application
- 10-acre spacing application
- Study wells

Exhibit G-2
Cause: #510
Docket #0608-SP-39

Williams Fork Isopach 250' Contour Interval



The Williams Fork Formation is composed of lenticular fluvial sandstones with interbedded siltstone and shale. It is continuous across the application area where it ranges in thickness from 2,500' to 3,500'.

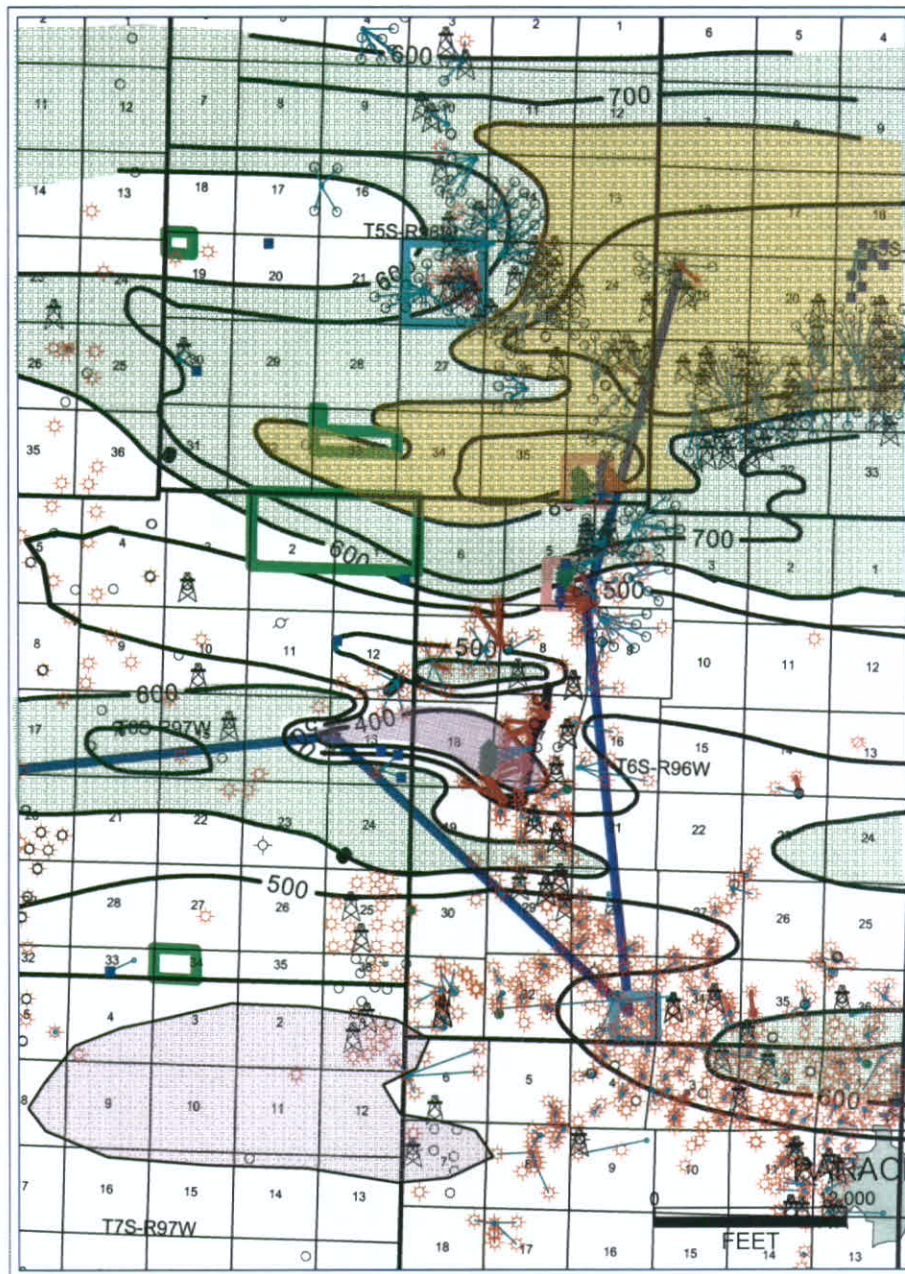
- 10-acre pilot areas
- 10-acre density application
- 10-acre spacing application
- ◇ Study wells

Exhibit G-3
Cause: #510
Docket #0608-SP-39



Berry Petroleum Company

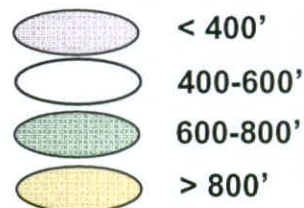
Williams Fork Net Sand Thickness 100' Contour Interval



PETRA R/1/2006 2:26:03 PM

WMFK net sand is:
GR < 85 API
DPhi > 5% Porosity
Res > 20 Ohms
This isopach is the summation of many
sand bodies within the Williams Fork Formation.

1" = 12,000'



Berry Petroleum Company

Exhibit G-4
Cause: #510
Docket #0608-SP-39

E-W Regional Stratigraphic Cross Section: Flattened on Rollins SS

W

E

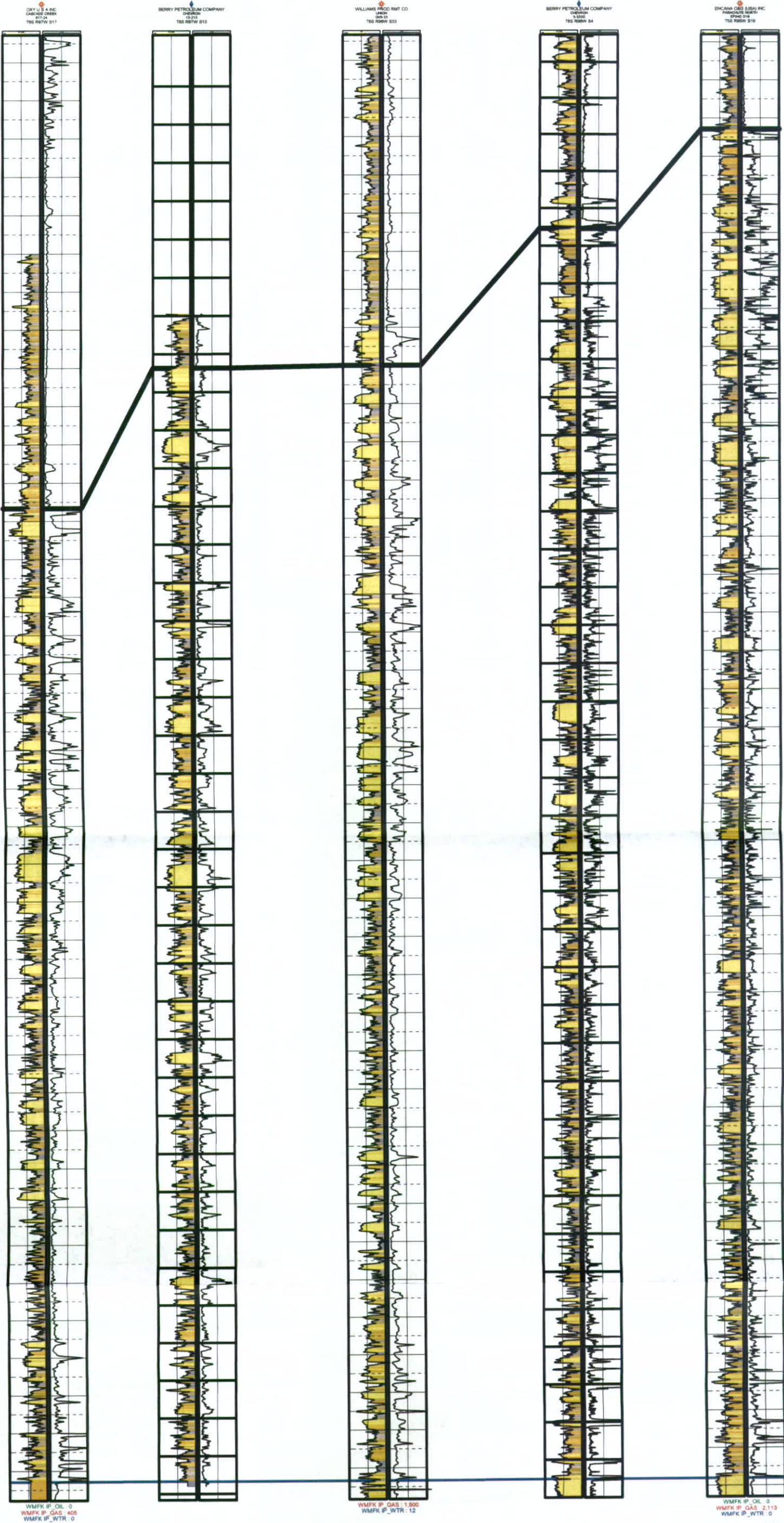
MESAVERDE

MESAVERDE

WILLIAMS FORK

ROLLINS SS

ROLLINS SS



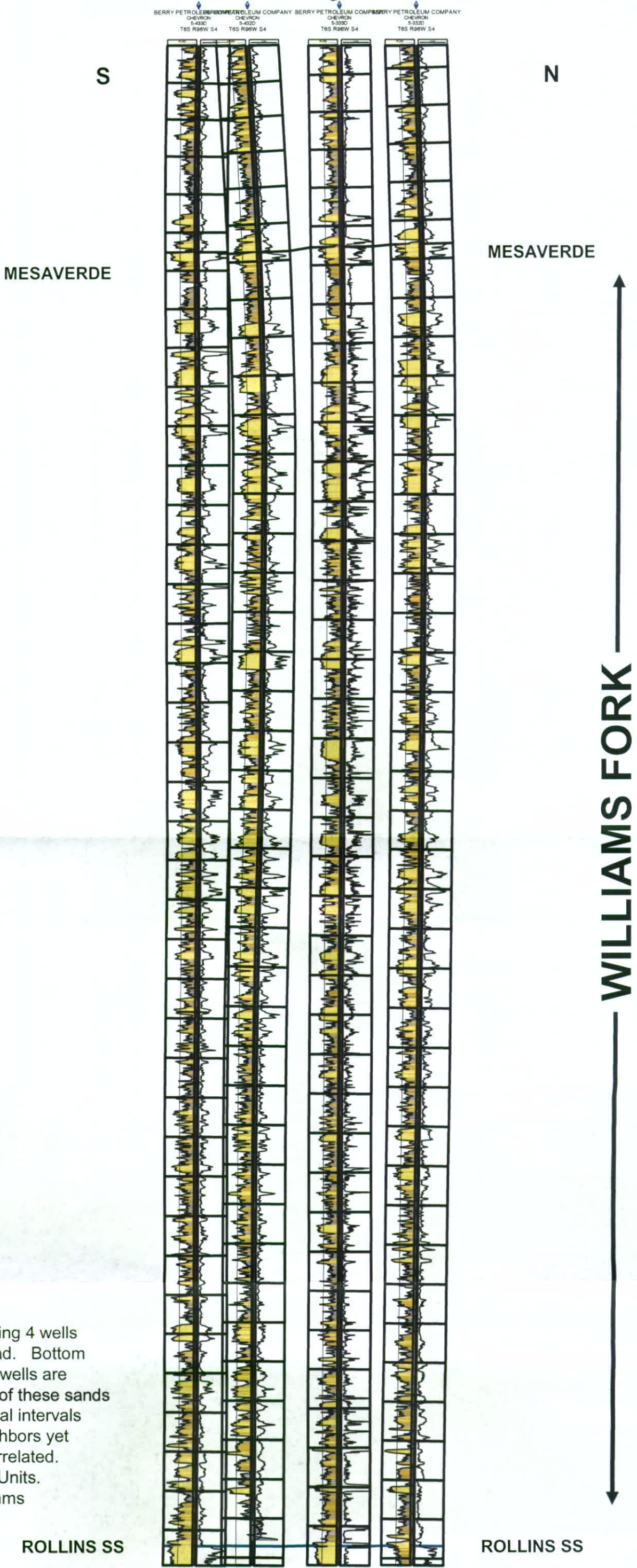
E-W cross section across the Application Area. Most sands cannot be correlated though there are many that appear similar in shape. These are isolated bars that do not communicate between wells. Line of section is shown on other Geologic exhibits.
Track 1: GR 0-150 API Units. Track 2: RES: 0-100 Ohms



Berry Petroleum Company

Exhibit G-5
Cause: #510
Docket #0608-SP-39

N-S Detailed Stratigraphic Cross Section: Flattened on Rollins SS



N-S cross section showing 4 wells drilled from the same pad. Bottom hole locations for these wells are about 300' apart. Many of these sands within the same structural intervals look similar to their neighbors yet cannot be definitively correlated.
Track 1: GR 0-150 API Units.
Track 2: RES: 0-100 Ohms



Berry Petroleum Company

Exhibit G-6
Cause: #510
Docket #0608-SP-39

Coal Canyon Williams Fork Outcrop



Coal Canyon Williams Fork outcrop, approximately 30 miles to the south of the Application Area. This outcrop has been extensively studied and reported in the literature. Lower Williams Fork sand bodies are well exposed here. Sand bodies equivalent to the ones exposed here are the reservoirs for most of the historical production in the large Williams Fork fields in the Piceance Basin: Grand Valley, Parachute, Rulison, and Mamm Creek. Note that most of the exposed sand bodies have a limited lateral extent. Most have been interpreted to be point bar sandstones, deposited by meandering streams. Point bar sandstones are well known to be restricted sand bodies, but they typically are good reservoir sands. The total outcrop exposure here is approximately 3 miles. Approximately 1 ½ miles is visible in the photo.

From Cumella and Otsby, 2003

Field measurements of all sand body yeild an average width of 528'. (Extracted from table from Cole and Cumella, 2005)



Berry Petroleum Company

Exhibit G-7
Cause: #510
Docket #0608-SP-39

Mississippi River Meanders

Satellite Image



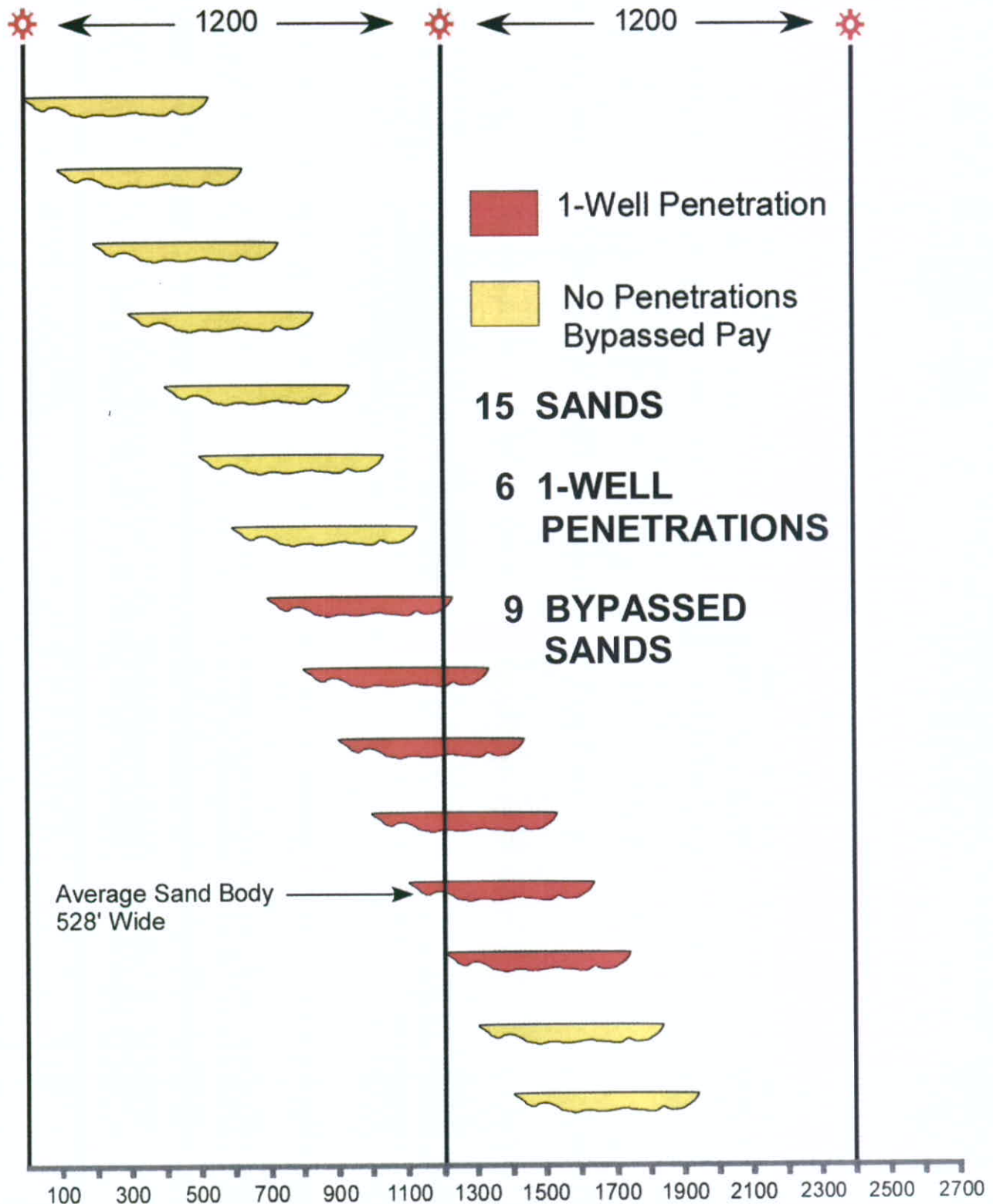
Satellite image of Mississippi River meander belt. Individual point bar sand bodies are surrounded by oxbow lakes formed when meanders are abandoned. Oxbow lakes fill with fine-grained muddy sediments that isolate the point bar sand bodies and prevent fluid communication between them. If this meander belt were preserved in the subsurface, the sand would appear to be nearly continuous on log cross-sections, but narrow impermeable barriers, usually not seen on logs would separate individual point bar sandstones.

Photo from Cumella and Otsby, 2003

Exhibit G-8
Cause: #510
Docket #0608-SP-39

AVERAGE SAND BODY 1200 FEET BETWEEN WELLS

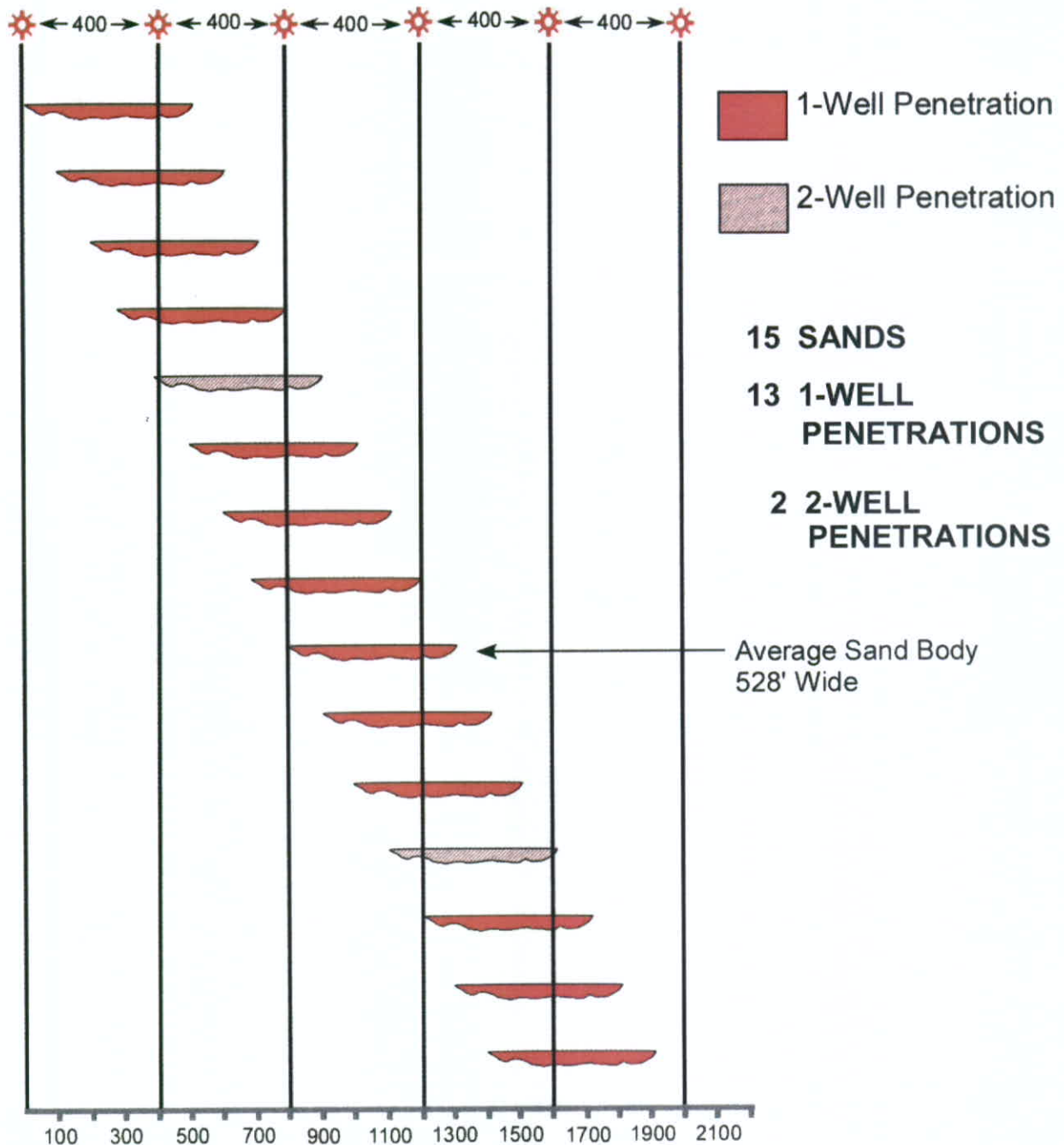
Exhibit G-9
Cause: #510
Docket #0608-SP-39



Average sand body widths are derived from Williams Fork outcrop studies in Coal Canyon published by Cole & Cumella, 2005 and by Cumella & Otsby, 2003.

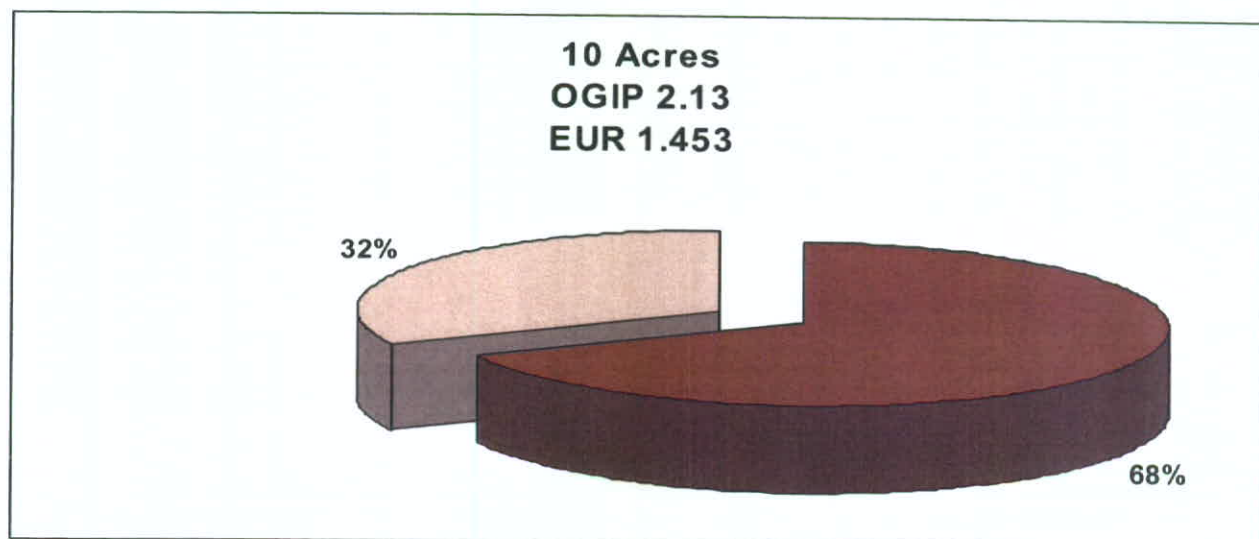
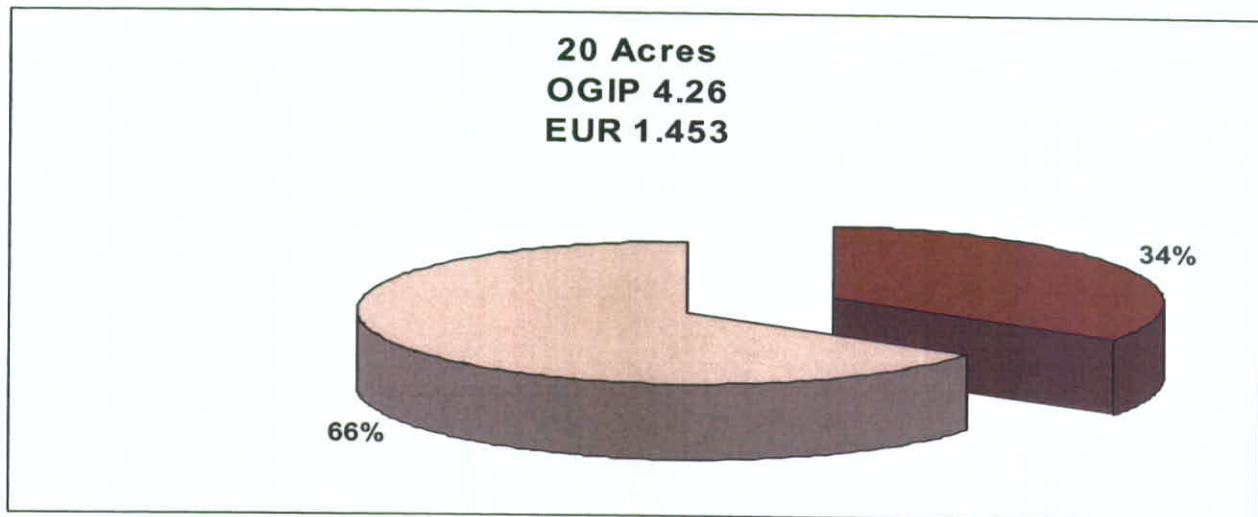
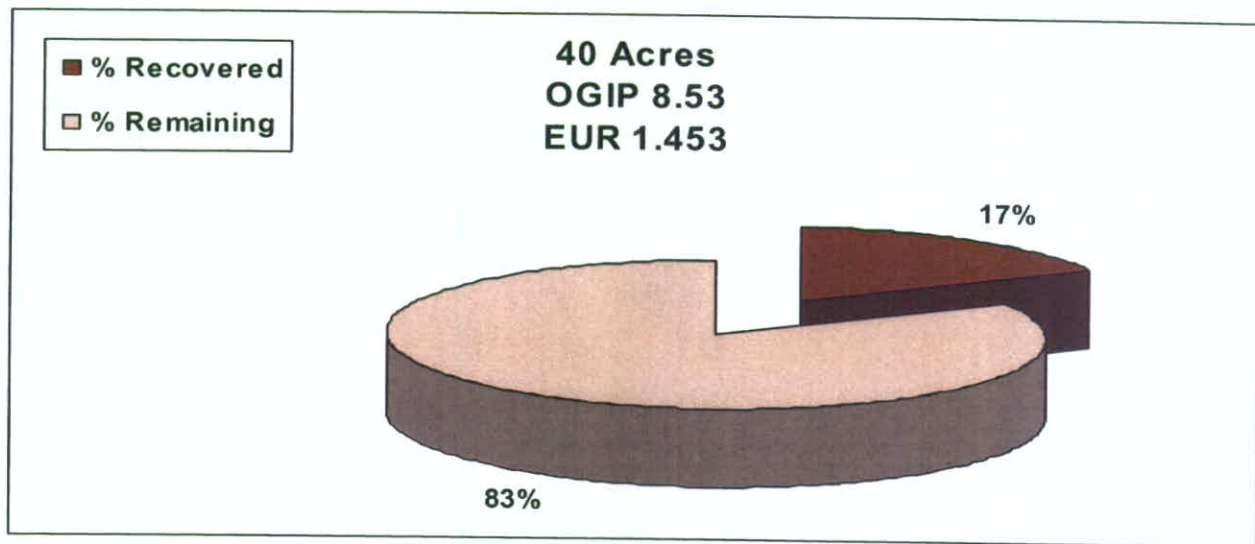
AVERAGE SAND BODY 400 FEET BETWEEN WELLS

Exhibit G-10
Cause: #510
Docket #0608-SP-39



Average sand body widths are derived from Williams Fork outcrop studies in Coal Canyon published by Cole & Cumella, 2005 and by Cumella & Otsby, 2003.

Gas Recovery Factor as a Function of Well Density



 Berry Petroleum Company

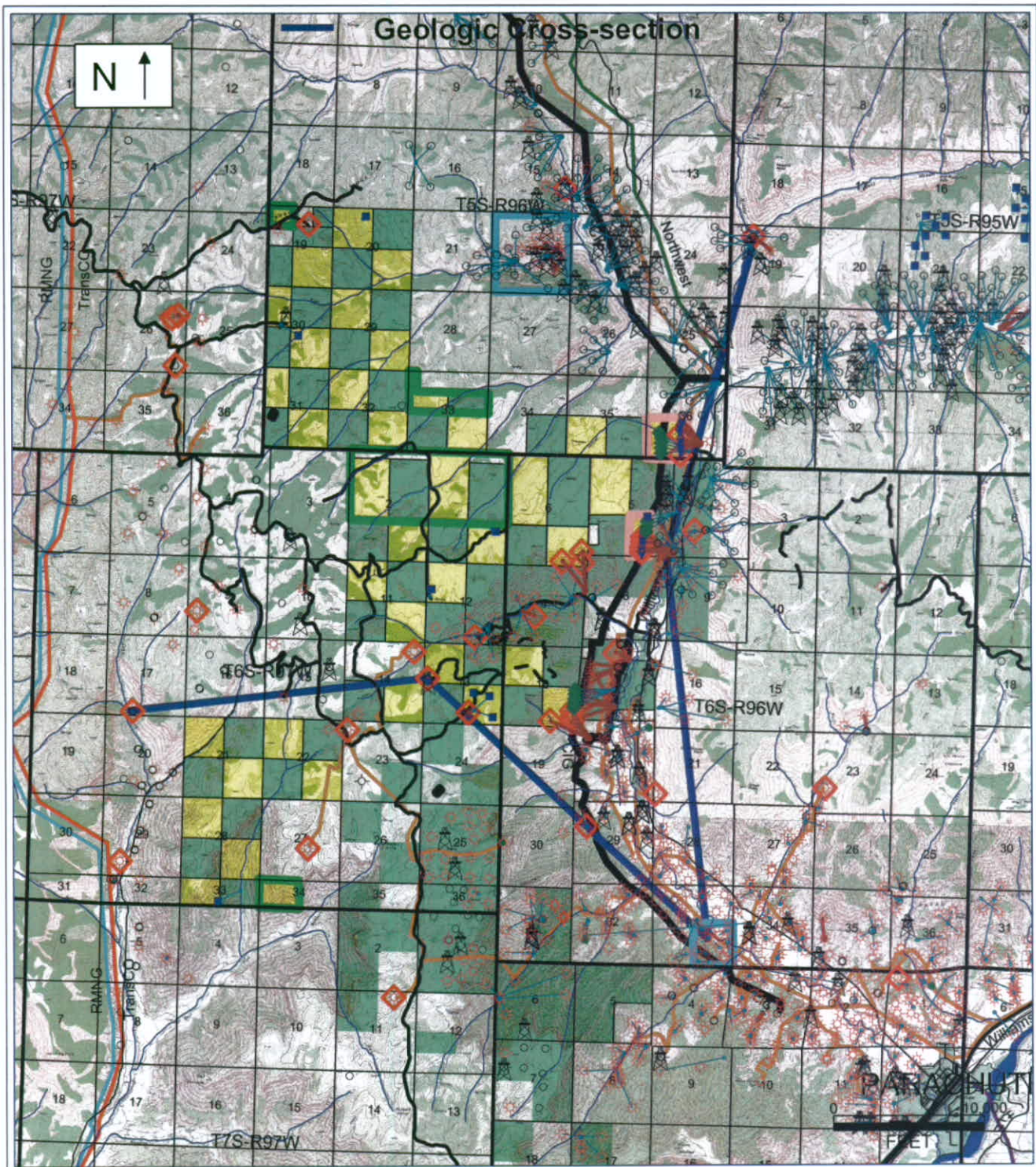
 Petroleum Development Company

 Study wells

 10 Acre Density

 10 Acre Pilot

 10 Acre Spacing



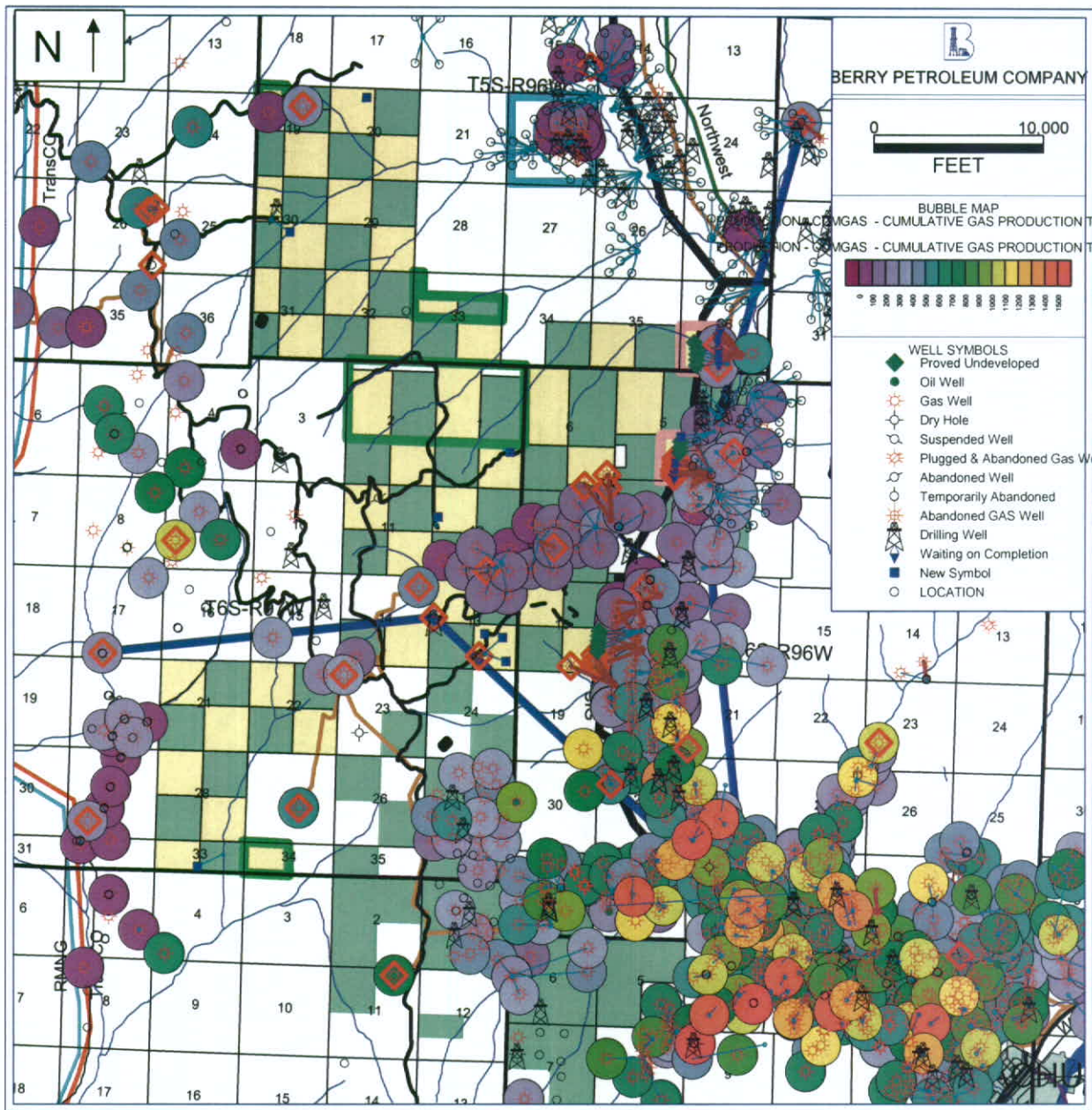
PETRA 8/1/2006 2:34:24 PM



Berry Petroleum Company

**Exhibit E-3
Cause# 510
Docket# 0608-SP-39**

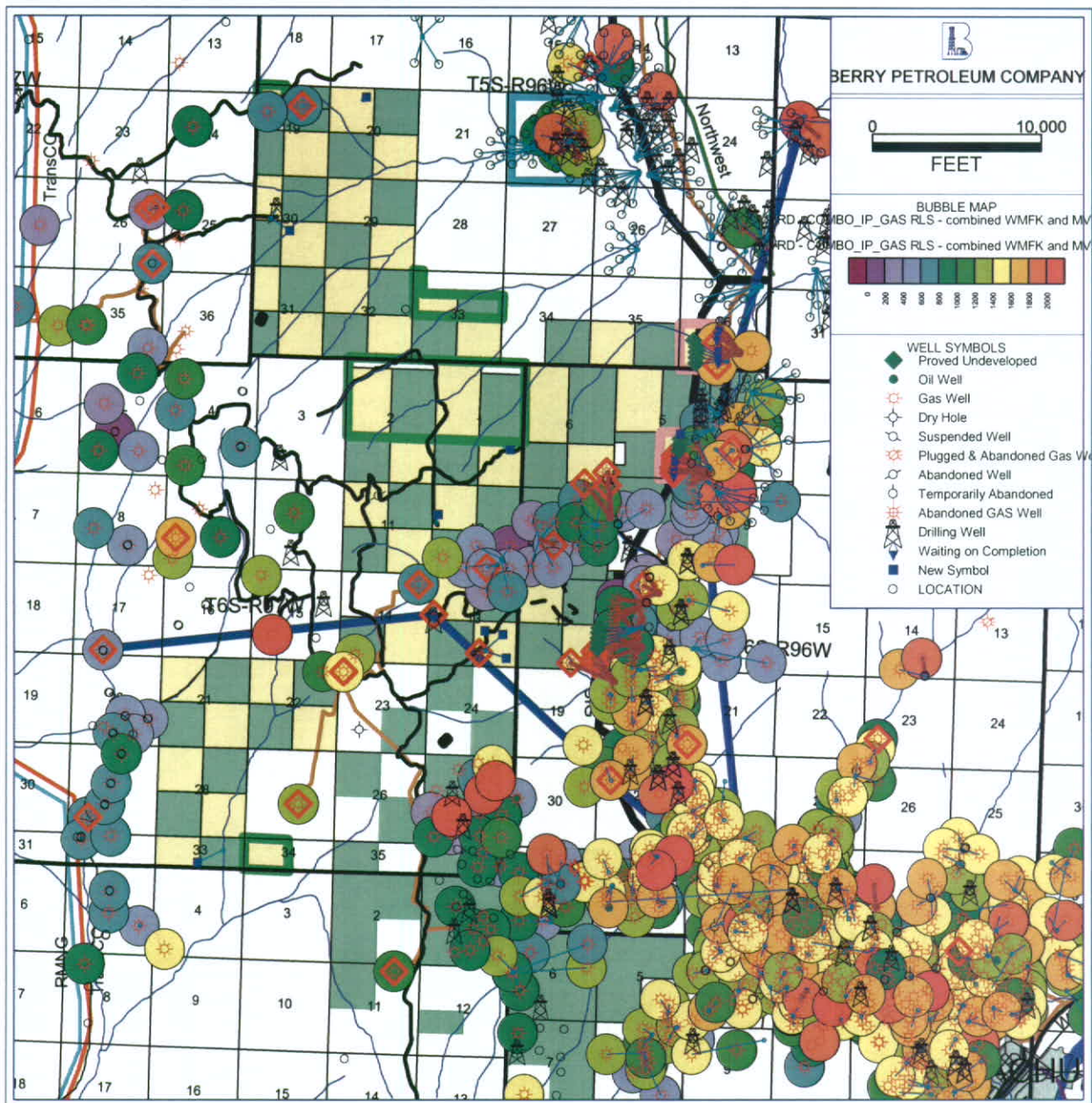
Cumulative Gas Production Bubble Map



Berry Petroleum Company

Exhibit E-4
Cause# 510
Docket# 0608-SP-39

Bubble Map of IP Values for the WMFK



DETRA R/1/2006 2:42:18 PM



Berry Petroleum Company

**Exhibit E-5
Cause# 510
Docket# 0608-SP-39**

• Type Well •

Forecast Parameters (154 well average):

IP: 1332 Mcf/D

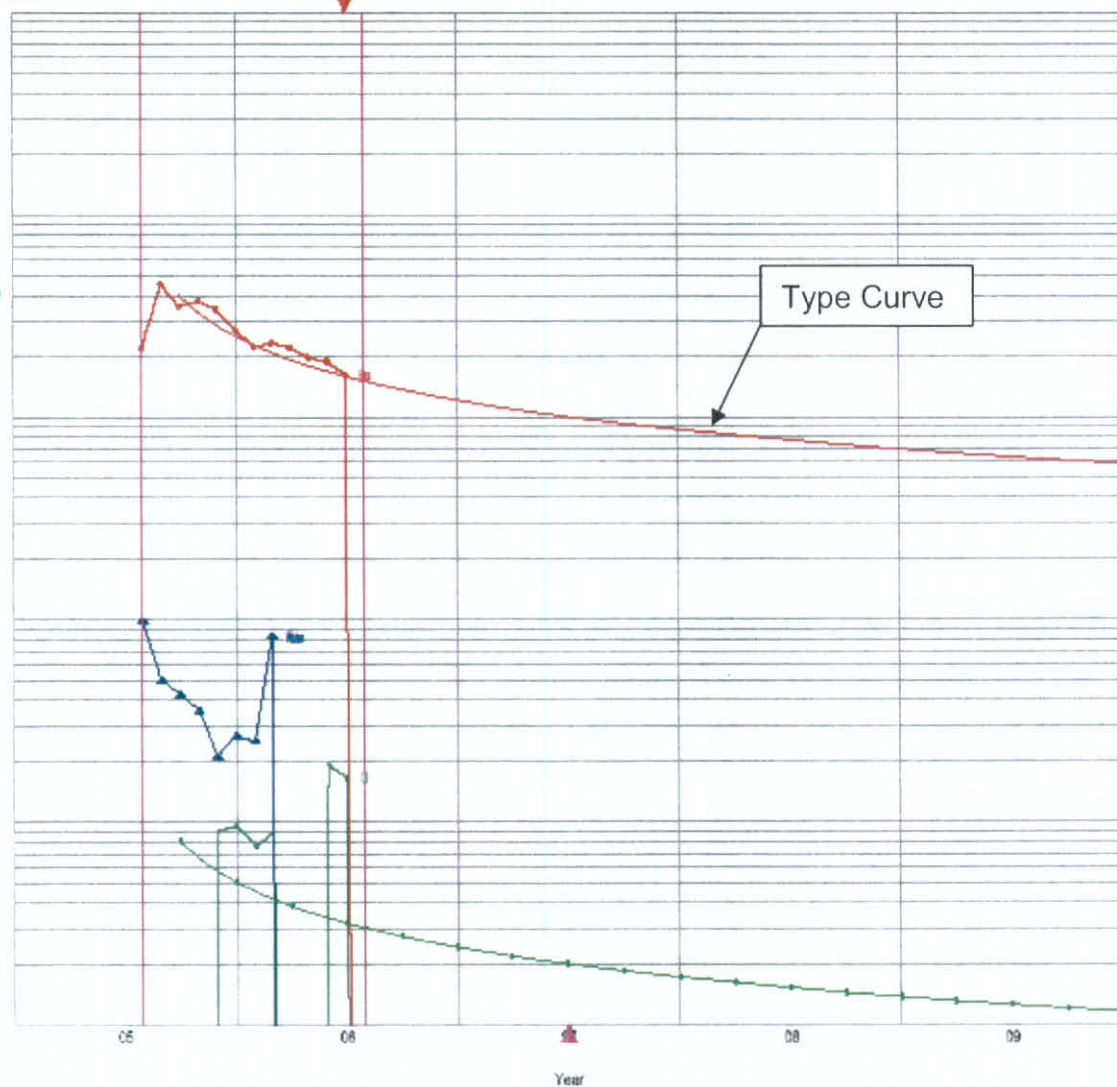
Hyperbolic: B/1.5

Initial Decline 66%

Outer Decline 6% (Exponential)

1.453 Bcf EUR

LEASE: CHEVRON 36-42D WELL: 36-42D
FIELD: GRAND VALLEY
COUNTY: GARFIELD, STATE: CO



Oil, bbl/mo	●
Qual=	MH.0506
Ref=	7/2006
Cum=	710
Rem=	2450
EUR=	3160
Yrs=	41.586
Grat=	32.0
De=	0.000000
Dmin=	0.000
b=	0.000000
Qab=	0.0

Gas, mcf/mo	●
Qual=	MH.0506
Ref=	7/2006
Cum=	324062
Rem=	1224869
EUR=	1548931
Yrs=	41.586
Grat=	15984.5
De=	37.061254
Dmin=	6.000
b=	1.500000
Qab=	457.3

Water, bbl/mo	●
Ref=	7/2006
Cum=	3827



Berry Petroleum Company

**Exhibit E-6
Cause# 510
Docket# 0608-SP-39**

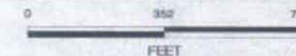
Grand Valley 10-Acre Pilot SE/4 33-T6S-R96W

Well Name



Spud Date

Cum Prod (BCF)

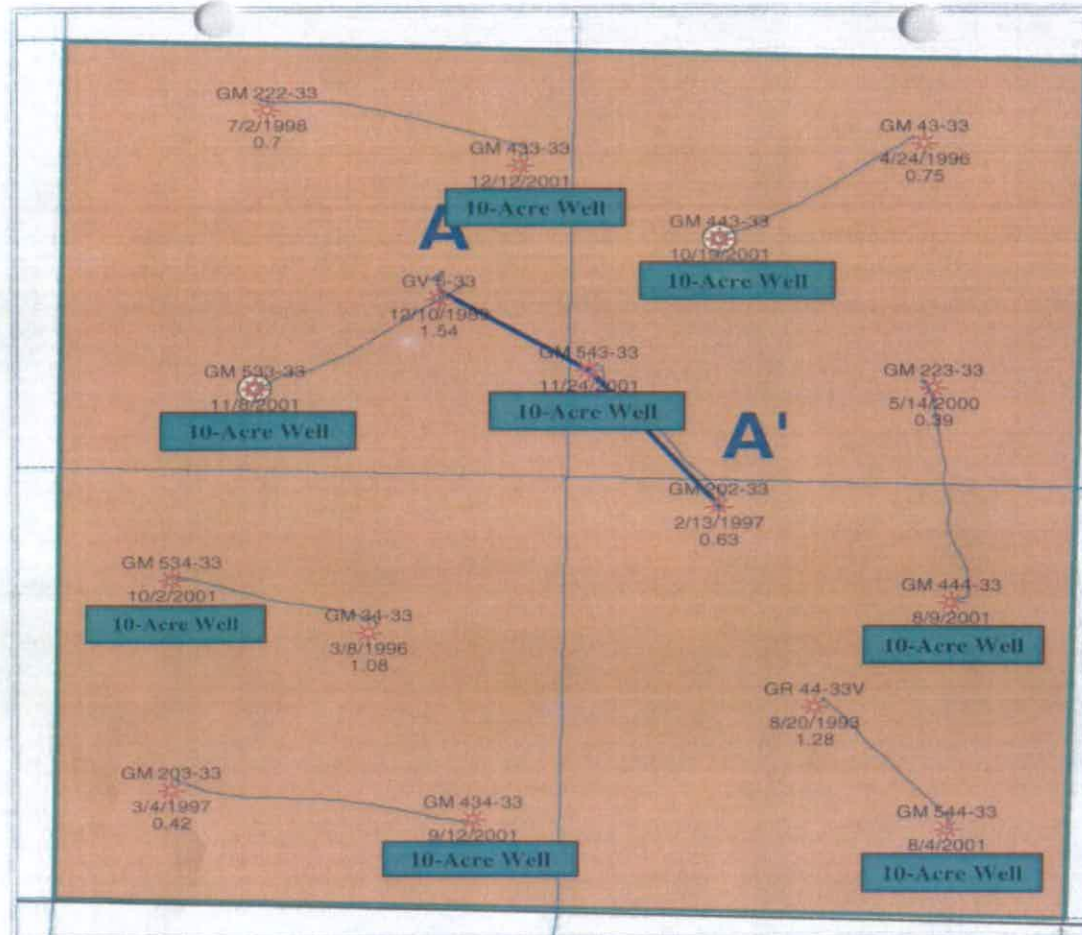


POSTED WELL DATA

Well Label

WELL - SPUD DATE
WELL - CUMPROD (BCF)

ATTRIBUTE MAP



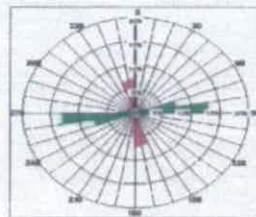
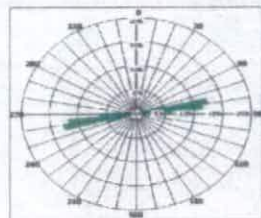
Berry Petroleum Company

Exhibit E-10
Cause# 510
Docket# 0608-SP-39

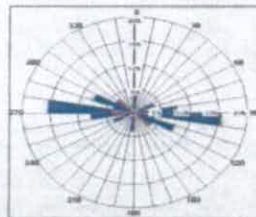
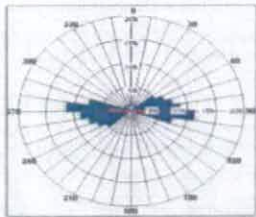
Exhibit: D-1
Docket #: 0304-AW-03

FMI and Microseismic Results

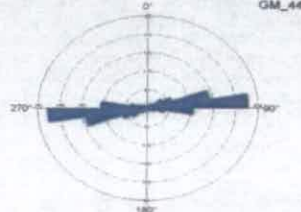
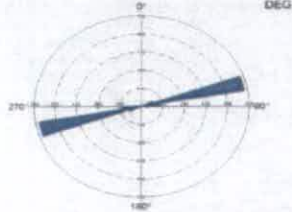
Grand Valley



Drilling Induced Fractures

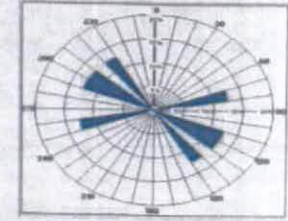
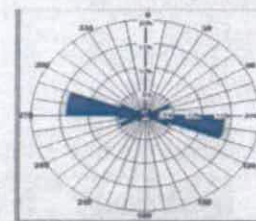
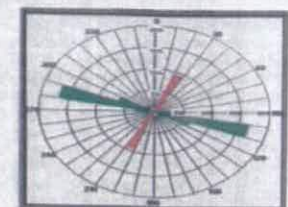
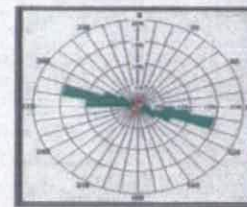


Natural Fractures



Hydraulic Fractures

Rulison



FMI and Microseismic confirm both hydraulic and natural fracture orientations are approximately the same



Exhibit: D-4
Docket #: 0304-AW-03



Berry Petroleum Company

Exhibit E-11
Cause# 510
Docket# 0608-SP-39

Grand Valley Average Monthly Production Comparison

*10-Acre Average Does Not Include GM 443-33 "Orientation Well"

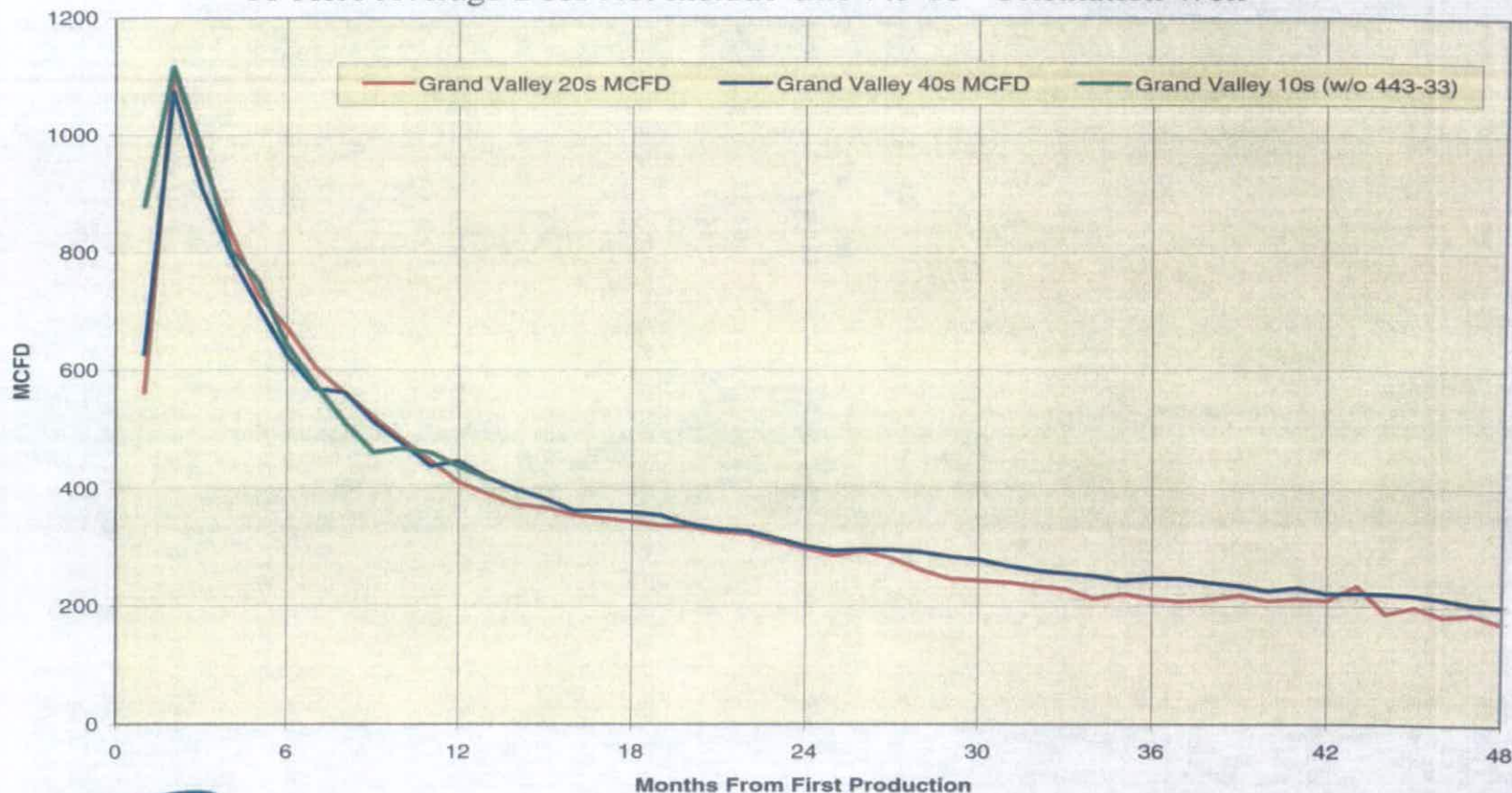


Exhibit: D-9
Docket #: 0304-AW-03



Berry Petroleum Company

Exhibit E-14
Cause# 510
Docket# 0608-SP-39