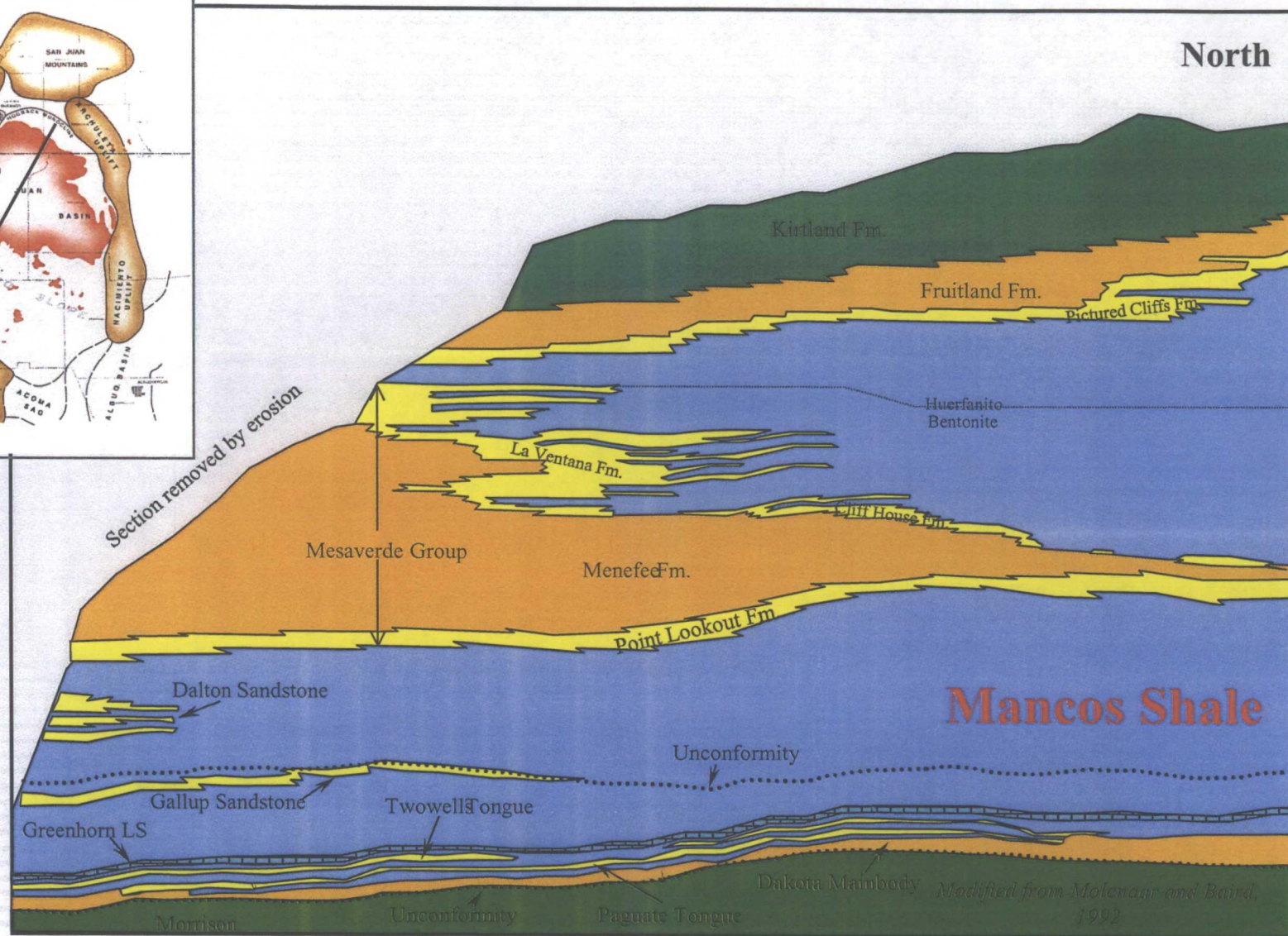
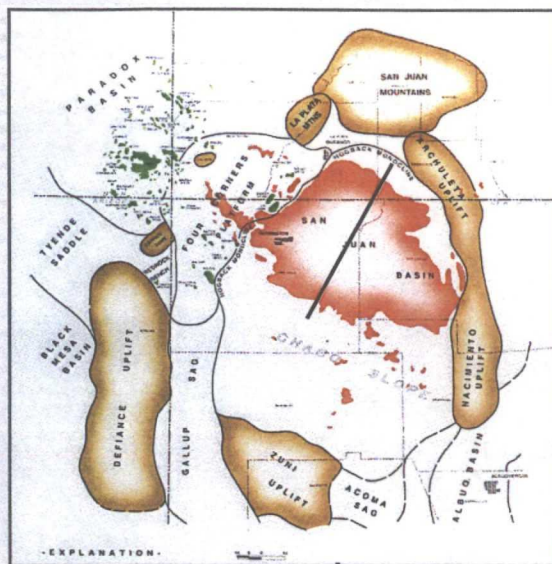


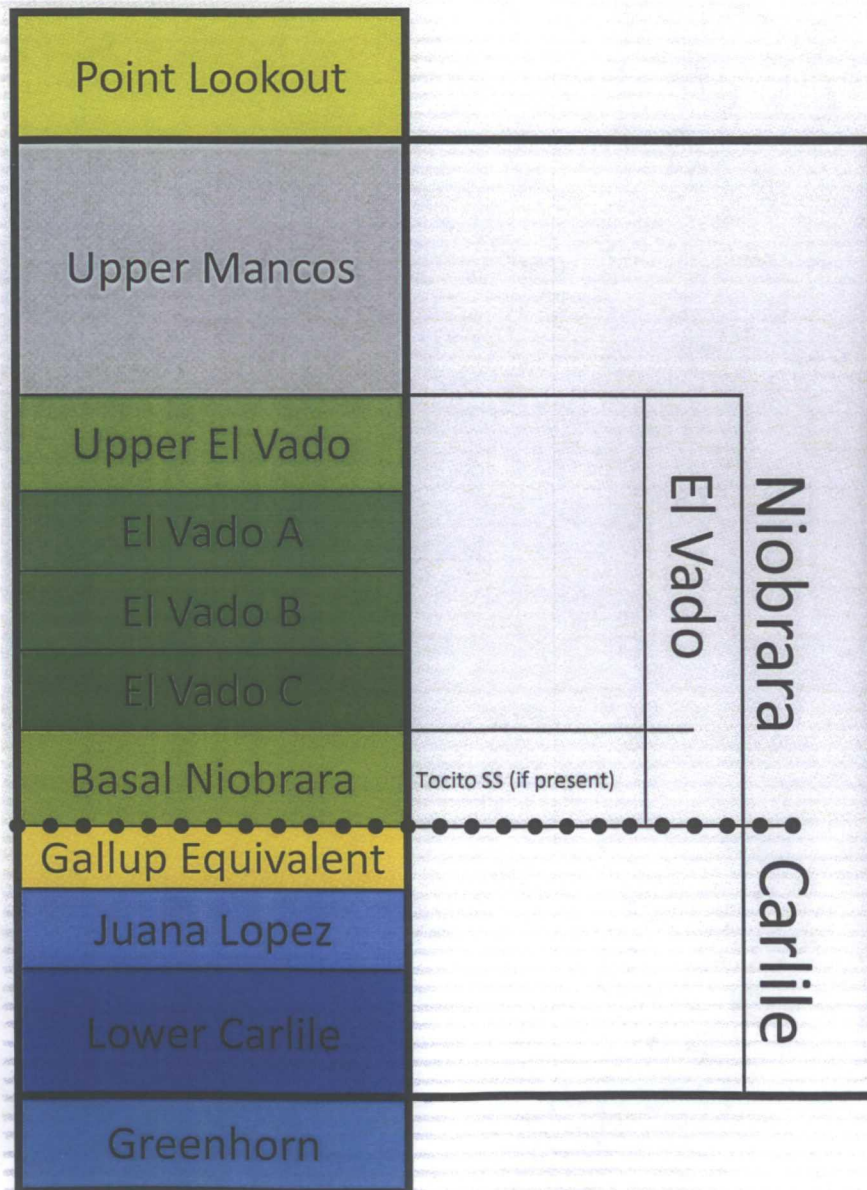
Geology Summary:

- San Juan Basin Cretaceous Stratigraphy
- Mancos stratigraphic terminology summary
- Mancos type logs.
- Cross-Section Depositional Dip

San Juan Basin Cretaceous Stratigraphy



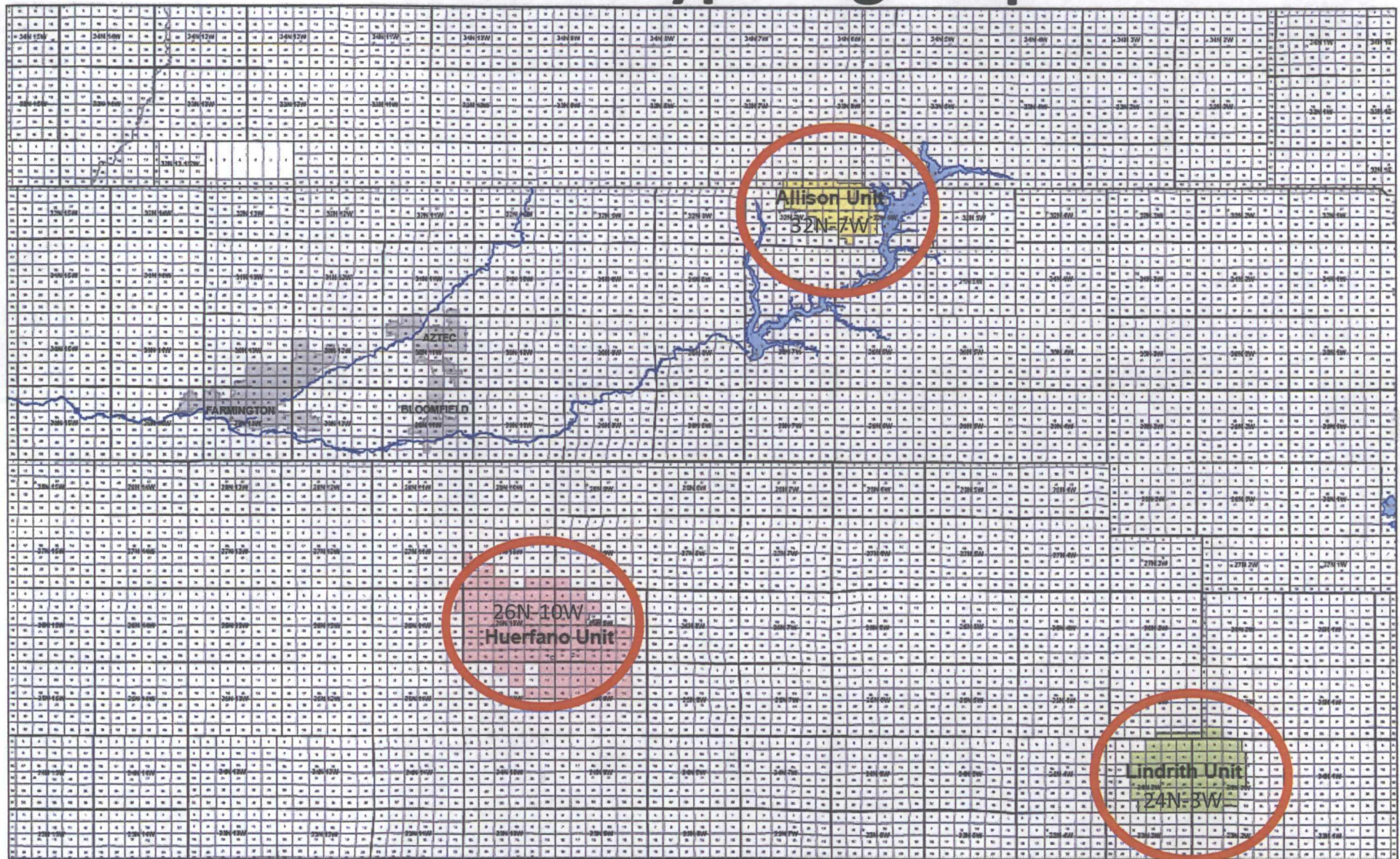
Mancos stratigraphic terminology summary



There is a hierarchy of terminology within the Mancos, similar to the Cliff House, Menefee, and Point Lookout within the Mesa Verde Group. The Mancos describes the entire section between the base of the Point Lookout and the top of the Greenhorn. This section is divided into the Upper Mancos (which has no further subdivisions), the Niobrara (which is subdivided into the El Vado and the Basal Niobrara), and the Carlile (which is subdivided into the Gallup equivalent, Juana Lopez, and Lower Carlile).

- Main Target:
 - El Vado (Upper, A, B, & C, variable quality)
- Possible Future Targets:
 - Juana Lopez
 - Lower Carlile
- Basal Niobrara
 - Represents the section where Tocito sands exist
 - The Basal Niobrara can be found with or without the presence of Tocito sands, though is generally not pay without the Tocito sands
- Gallup Equivalent
 - Rocks existing below the Base Niobrara unconformity (dotted line) and above the Juana Lopez
 - These are the only true Gallup age rocks in the basin, and are not sandstones. There is no Gallup sandstone in the productive part of the basin.
 - Throughout most of the basin, the unconformity has completely eroded and removed the Gallup equivalent section.

Lindrith type log map



Created by: Jennifer Neal (Husky) June 12, 2012

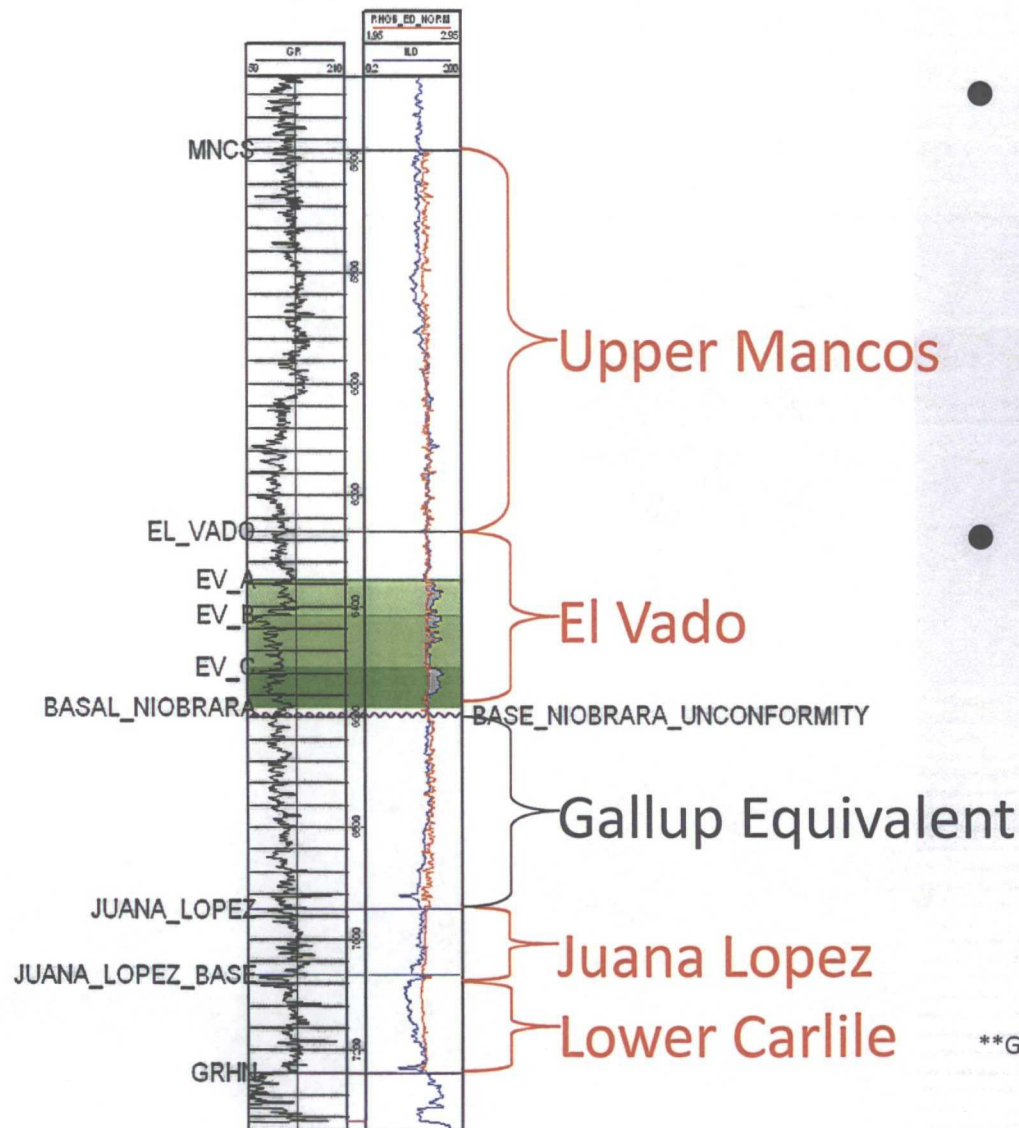
DO NOT COPY: ALL OWNERSHIP RIGHTS ARE RESERVED TO CONOCOPhillips OIL AND GAS COMPANY

ConocoPhillips

Lindrith B Unit #28

3003923037

Lindrith type log



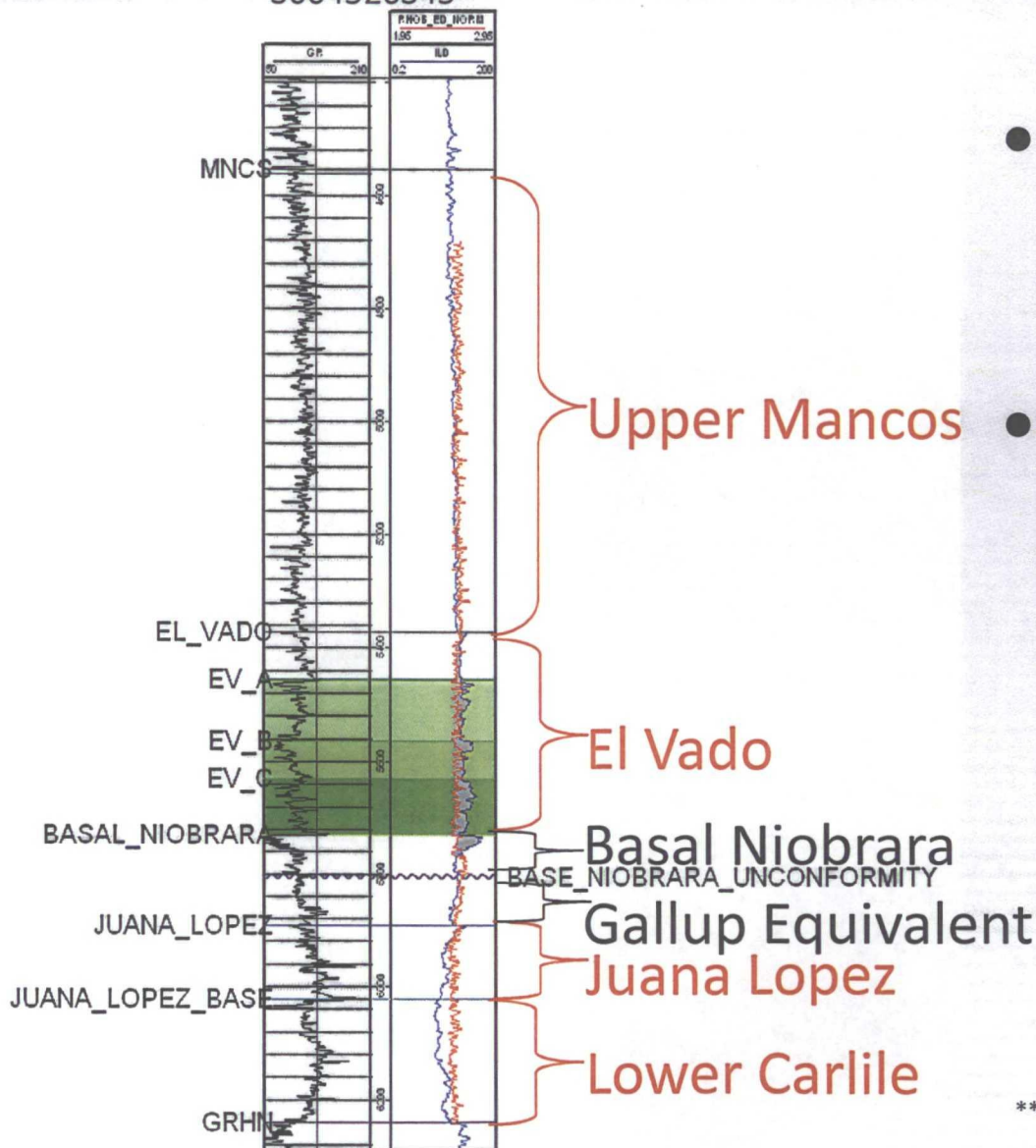
- At Lindrith, the Basal Niobrara section is very thin (between bottom of green highlight and purple wavy line), and the Gallup equivalent section is very thick
- Upper El Vado is not pay here, while El Vado A, B, & C are all pay

** Grey crossover on log is pay **

Huerfano Unit #106E

3004526345

Huerfano Type Log



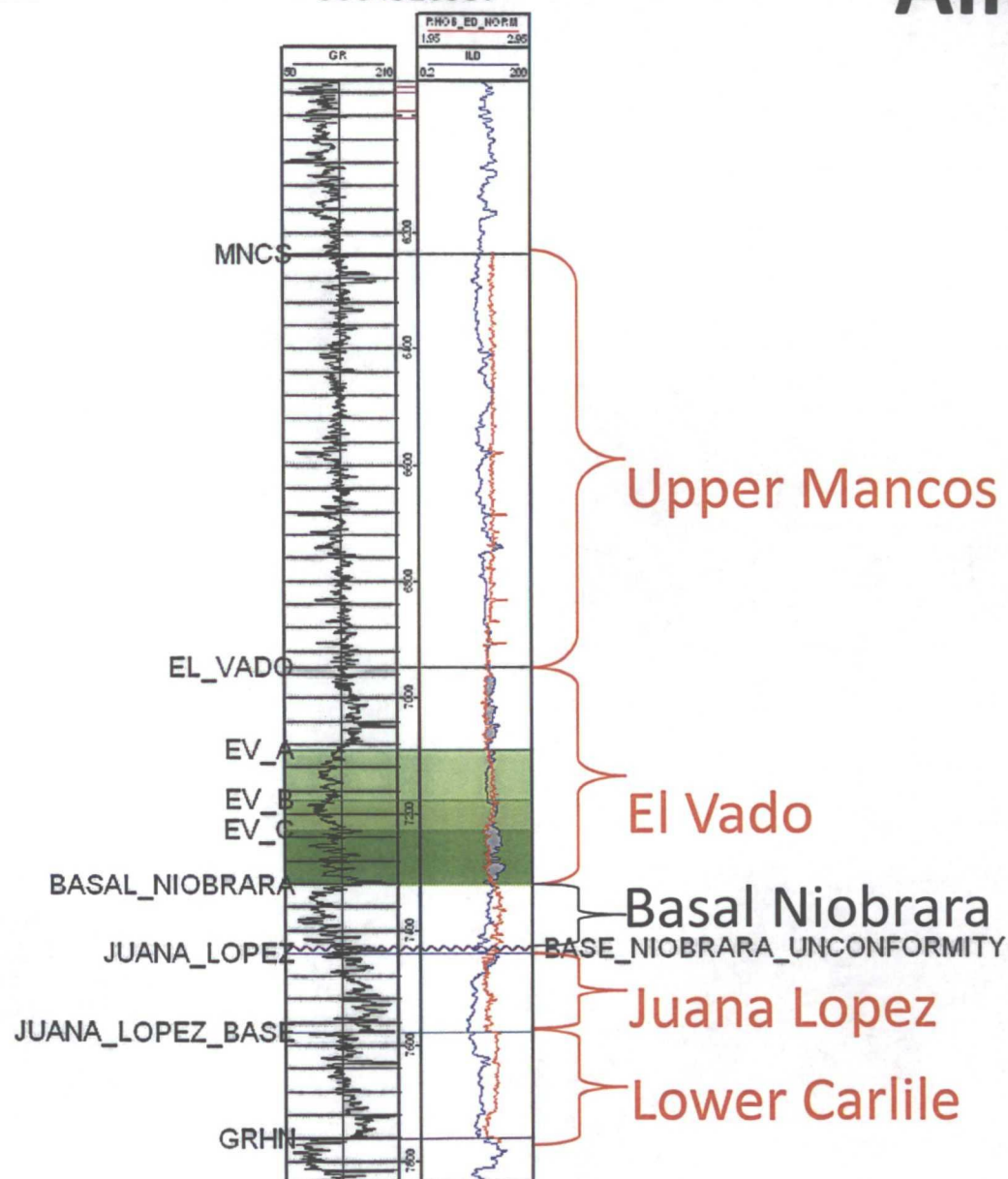
- At Huerfano, El Vado A, B, & C are all pay, as well as the Tocito sand within the Basal Niobrara Section
- The Gallup Equivalent has been eroded much more in Huerfano than Lindrith, resulting in a much thinner Gallup Equivalent and thicker Basal Niobrara

Grey crossover on log is pay

Allison Unit #1R

3004528957

Allison Type Log



- At Allison, the Base Niobrara unconformity has eroded completely through the Gallup Equivalent section and lies just above the Juana Lopez top. This is how the unconformity exists in most of the basin.
- Here, again, all of the currently identified pay is in the El Vado. Pay zones within the El Vado at Allison:
 - Upper El Vado
 - El Vado B
 - El Vado C
- Mancos stratigraphy in Allison Unit is a carbon copy of that at Rosa Unit

Grey crossover on log is pay

ConocoPhillips

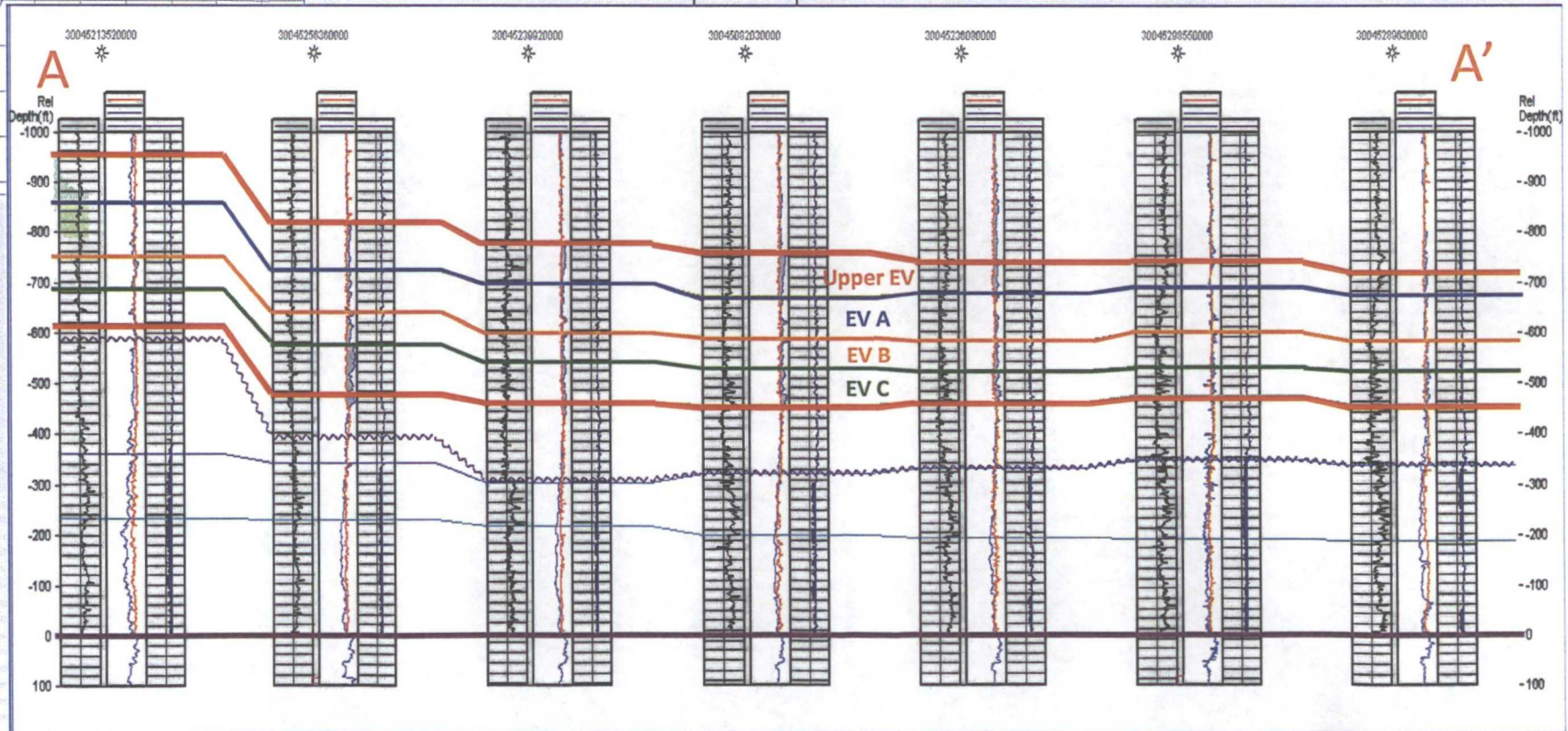
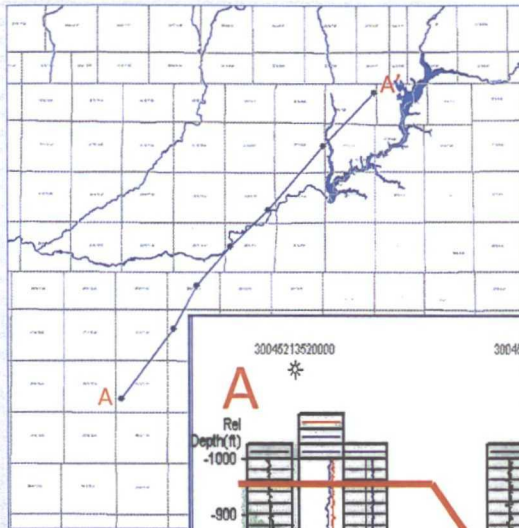
Mancos Terminology

- All of our current targets are El Vado, which specifically describes the silty section with high resistivity in the middle of the Mancos, and specifically excludes the Tocito sands (which are within the Basal Niobrara).
- There are possible pay zones within the Upper Mancos; however, these are secondary to the El Vado targets.
- Other Future targets include the Juana Lopez and the Lower Carlile, which are known to be hydrocarbon-bearing, but are difficult to stimulate.

Cross-Section

Depositional Dip

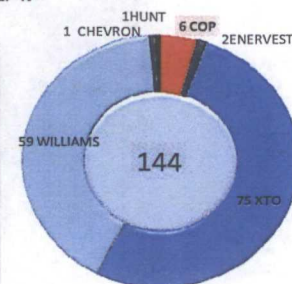
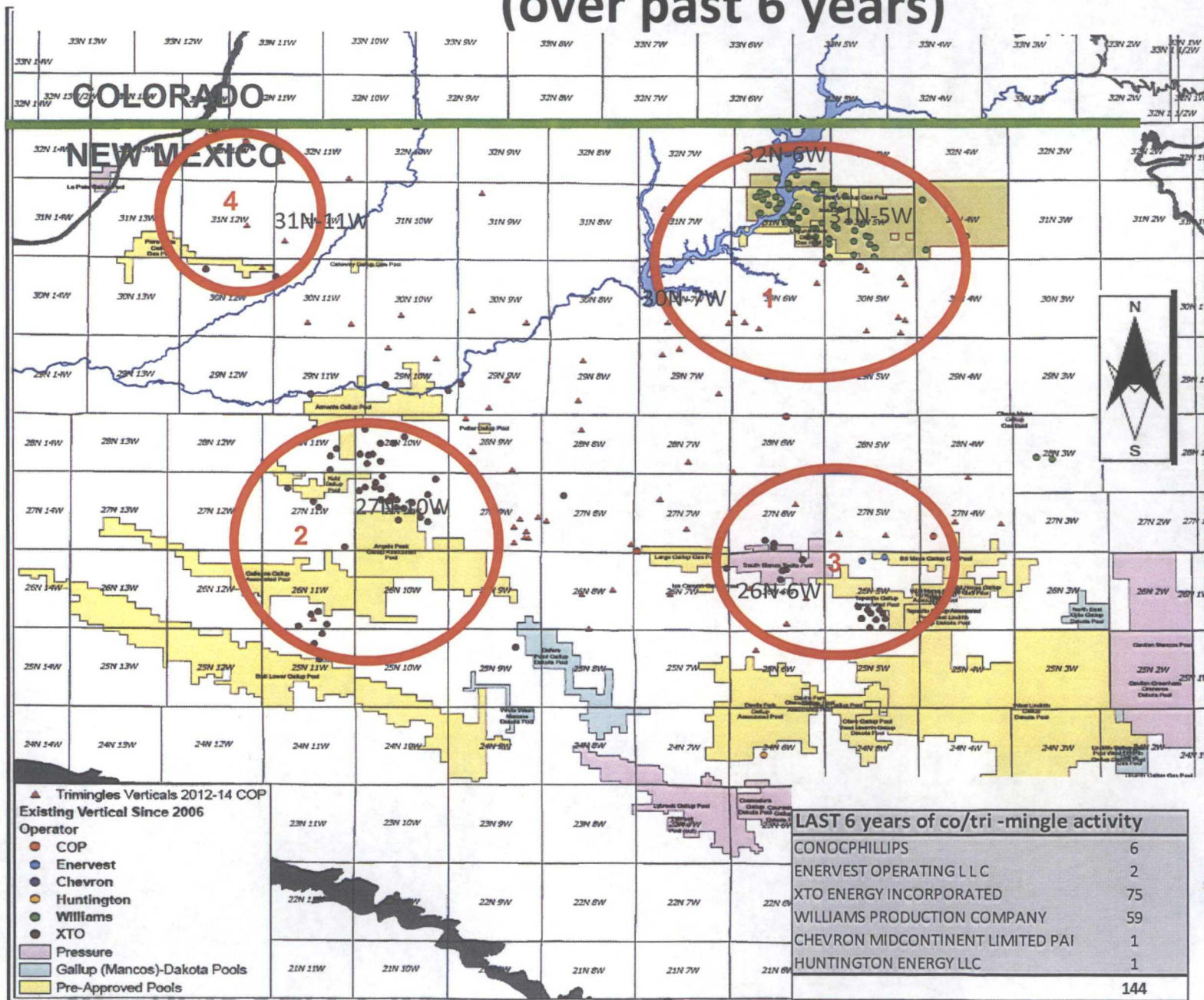
~50 Miles



Engineering Summary:

- Trimingle activity over the past 6 years.
- Mancos marginal performance as stand alone wells.
- Stand alone economics.
- Precedent for pre-approval (C-107A's filed on every well).
- Reservoir Pressures

Mancos-Dakota-Mesaverde trimingled activity overview (over past 6 years)

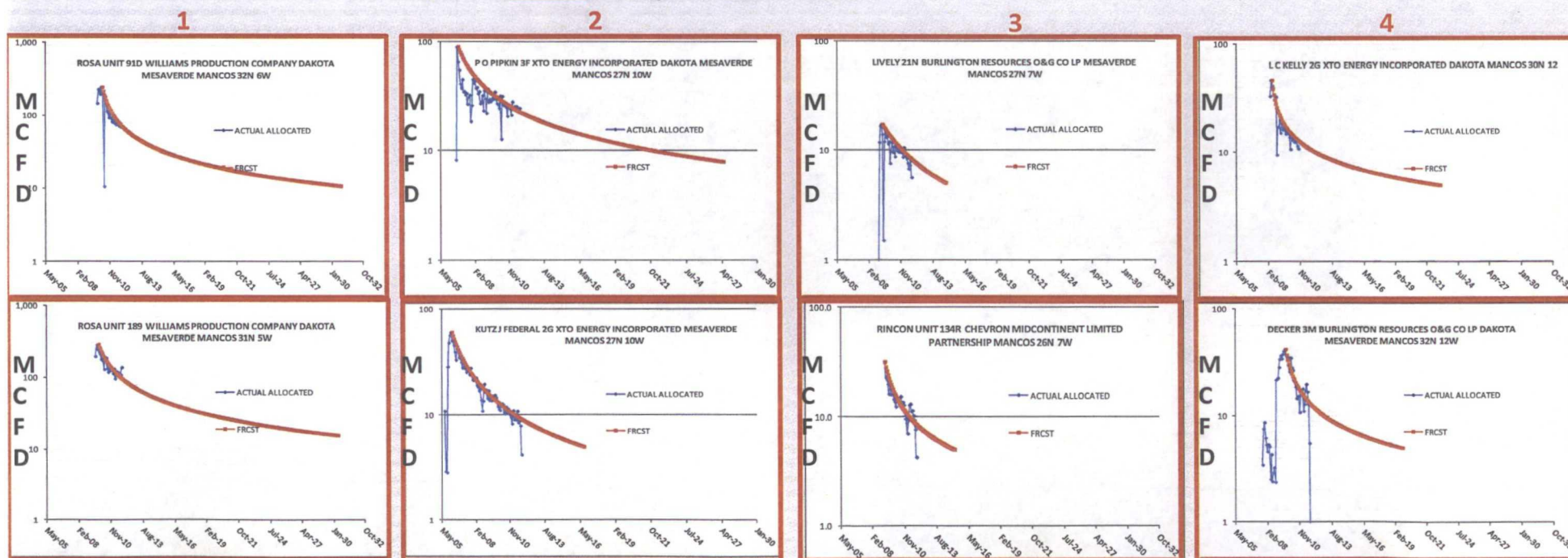


Mancos production is generally not enough to cover new drill expenses unless commingled or trimmingle with Dakota and/or Mesaverde

LAST 6 years of co/tri -mingle activity	
CONOCPHILLIPS	6
ENERVEST OPERATING L L C	2
XTO ENERGY INCORPORATED	75
WILLIAMS PRODUCTION COMPANY	59
CHEVRON MIDCONTINENT LIMITED PAI	1
HUNTINGTON ENERGY LLC	1
	144

6 operators have been completing and Tri-mingling the Mancos with and/ or DK/MV- very actively over the past 6 year activity, with no negative impact on individual formation productivity.

Actual prod of a type well located in the area, completed over the past 6 years
History Match and Forecast



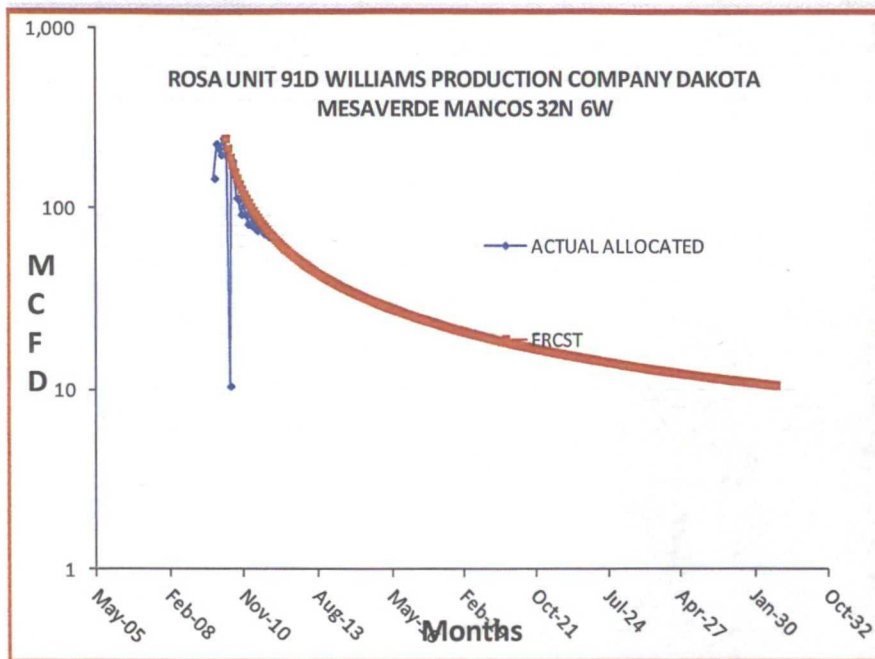
B	1.16
Di	65%
Qi	258
Qa	5

B	1.54
Di	52%
Qi	92
Qa	5

B	1.10
Di	41%
Qi	56.1
Qa	5

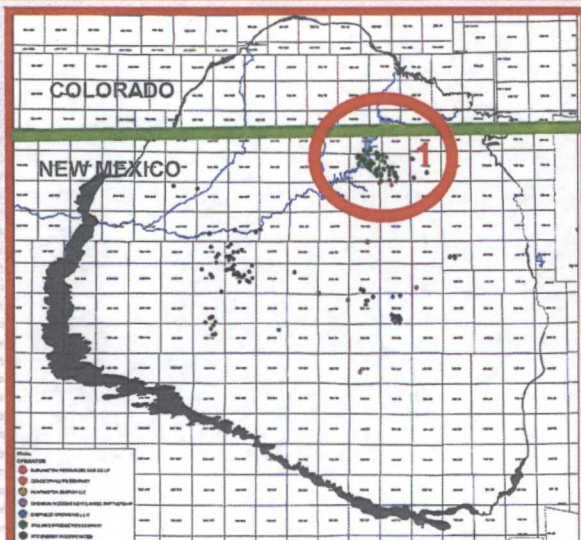
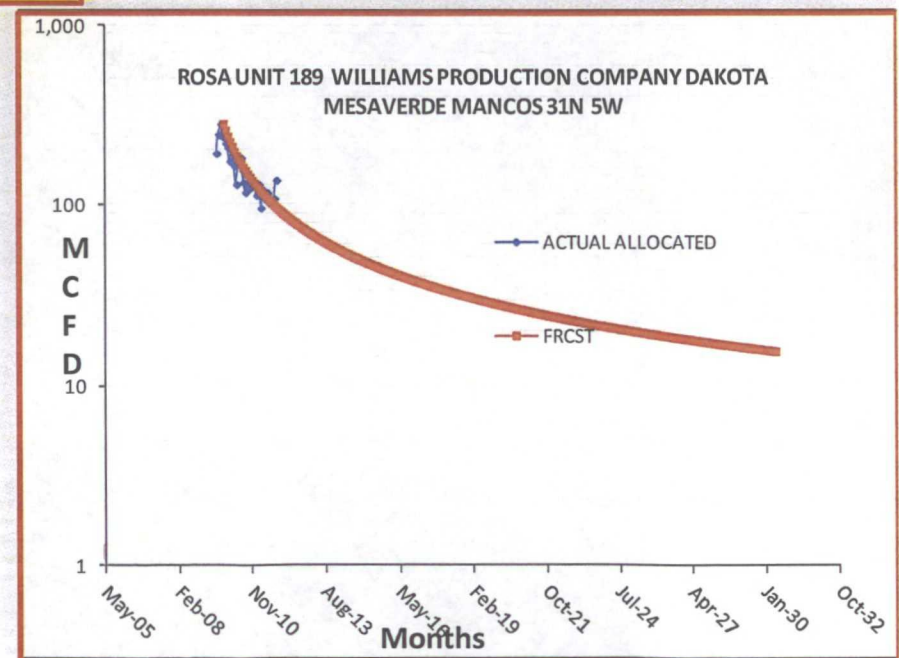
B	1.20
Di	40%
Qi	47
Qa	5

Mancos production is generally not enough to cover new drill expenses unless commingled or trimmed with Dakota and/or Mesaverde

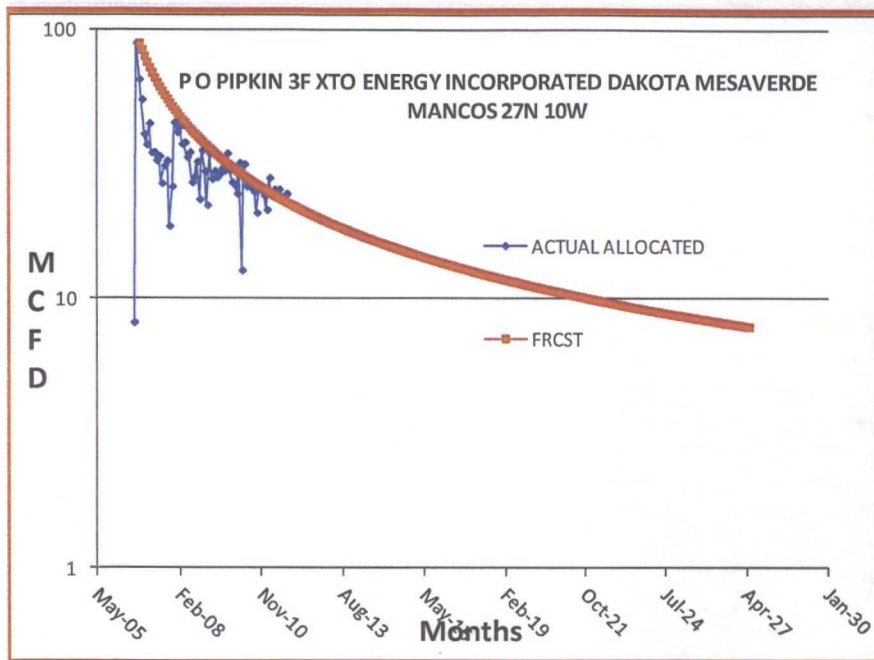


Actual prod of a type well located in the area, completed over the past 6 years
History Match and Forecast

B	1.16
Di	65%
Qi	258
Qa	5

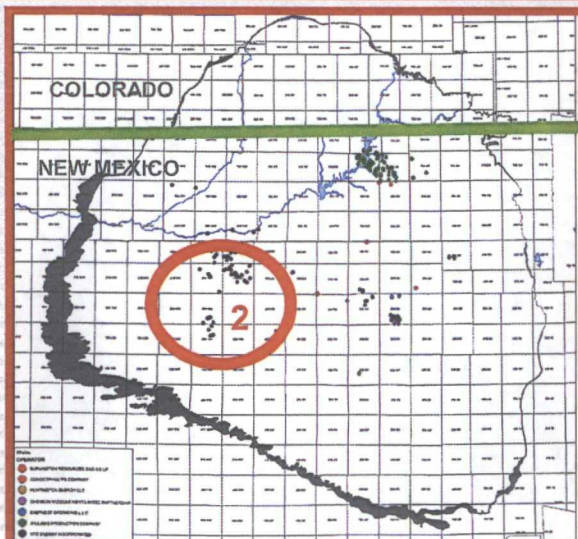
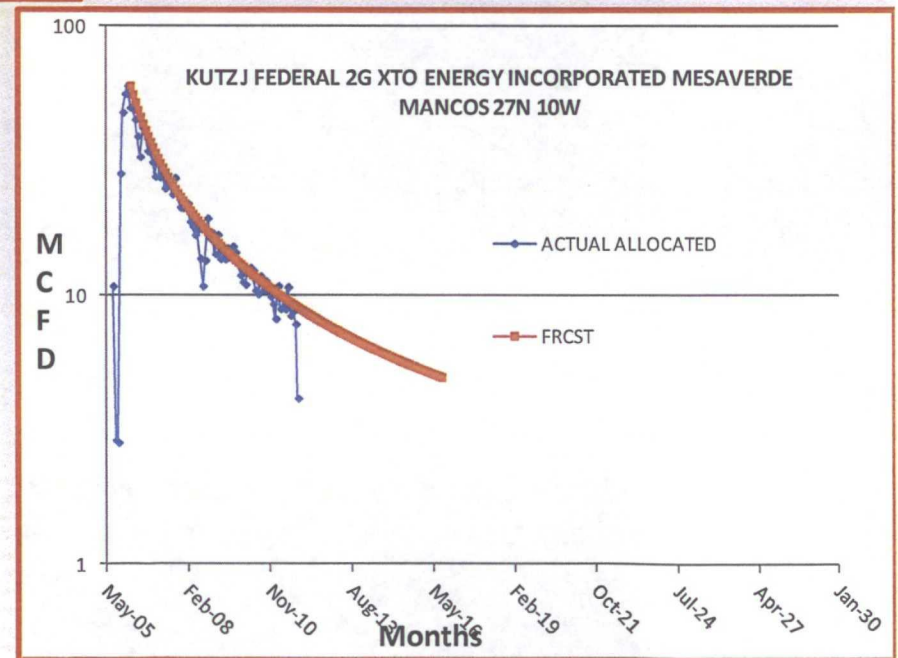


Mancos production is generally not enough to cover new drill expenses unless commingled or trimmingle with Dakota and/or Mesaverde

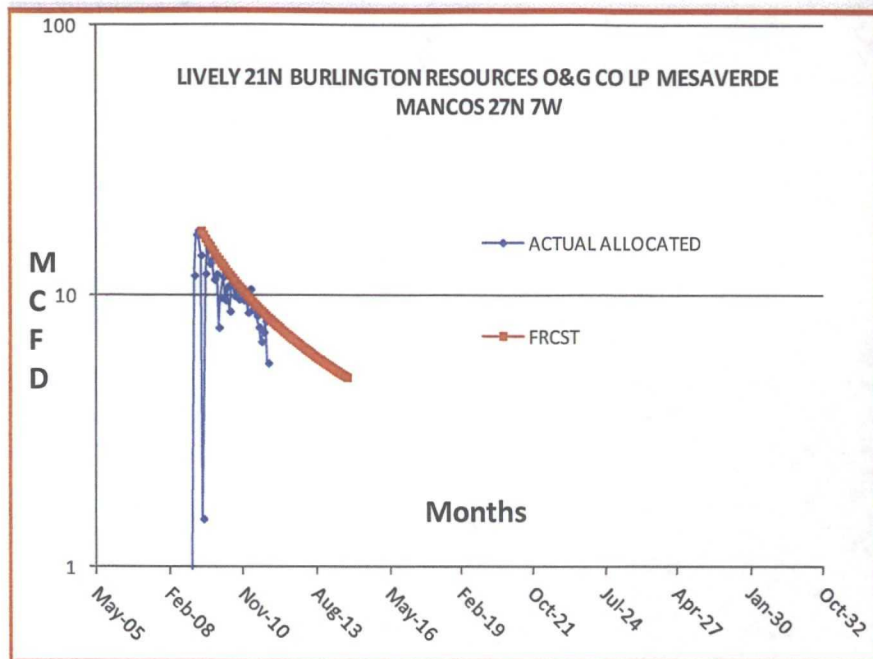


Actual prod of a type well located in the area, completed over the past 6 years
 History Match and Forecast

B	1.54
Di	52%
Qi	92
Qa	5

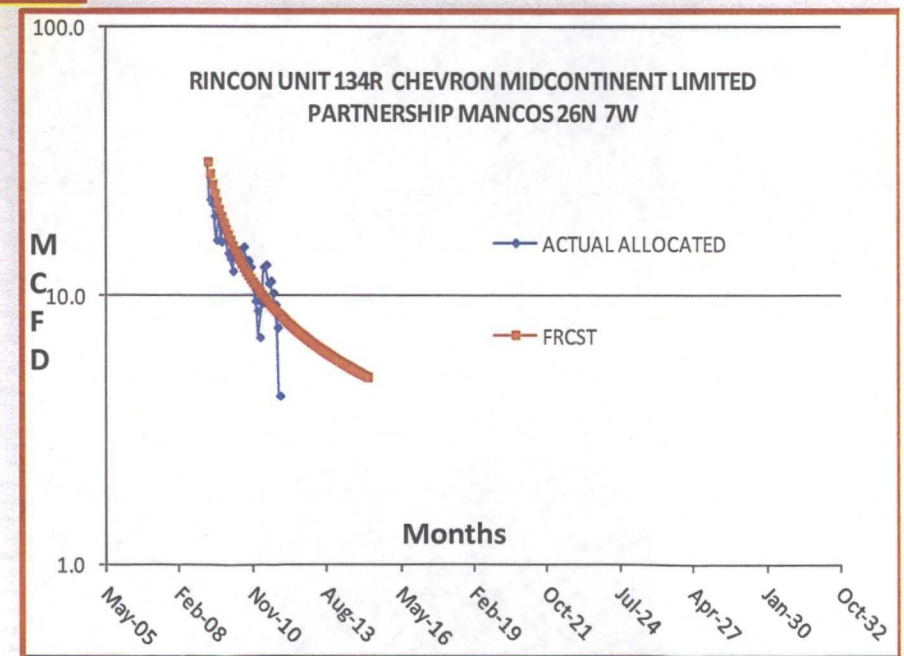
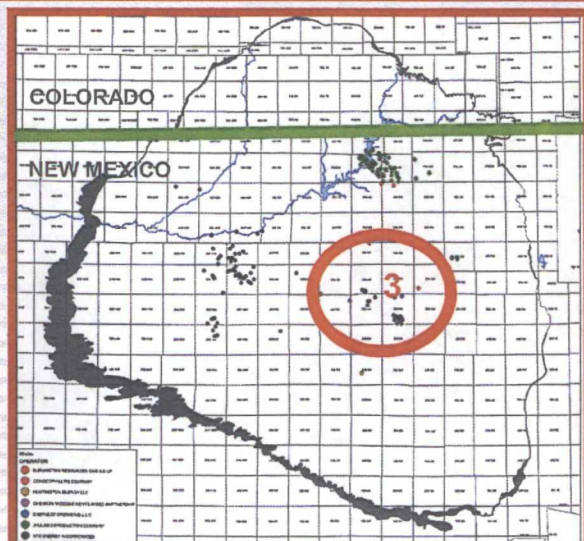


Mancos production is generally not enough to cover new drill expenses unless commingled or trimmingle with Dakota and/or Mesaverde

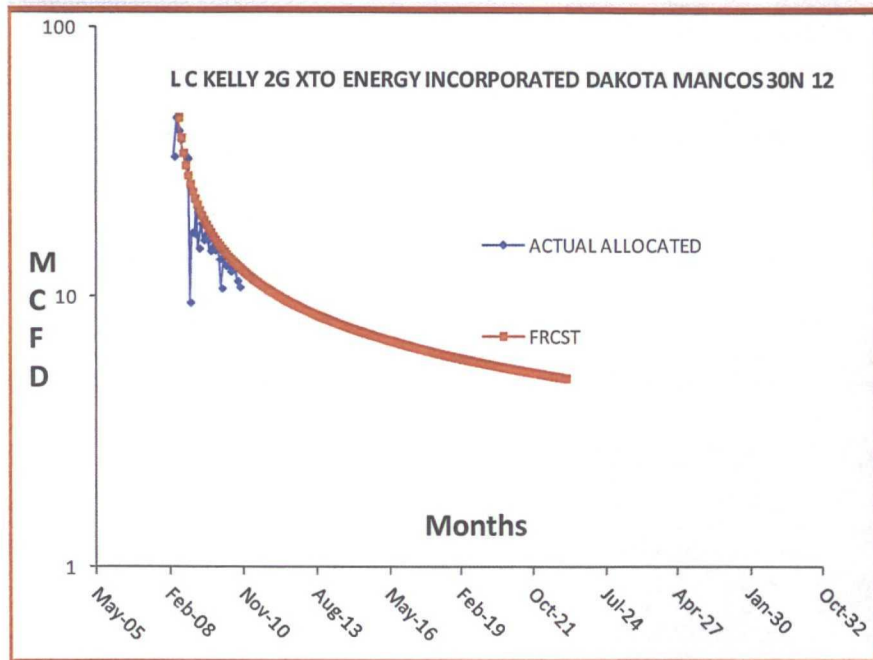


Actual prod of a type well located in the area, completed over the past 6 years
History Match and Forecast

B	1.10
Di	41%
Qi	56.1
Qa	5

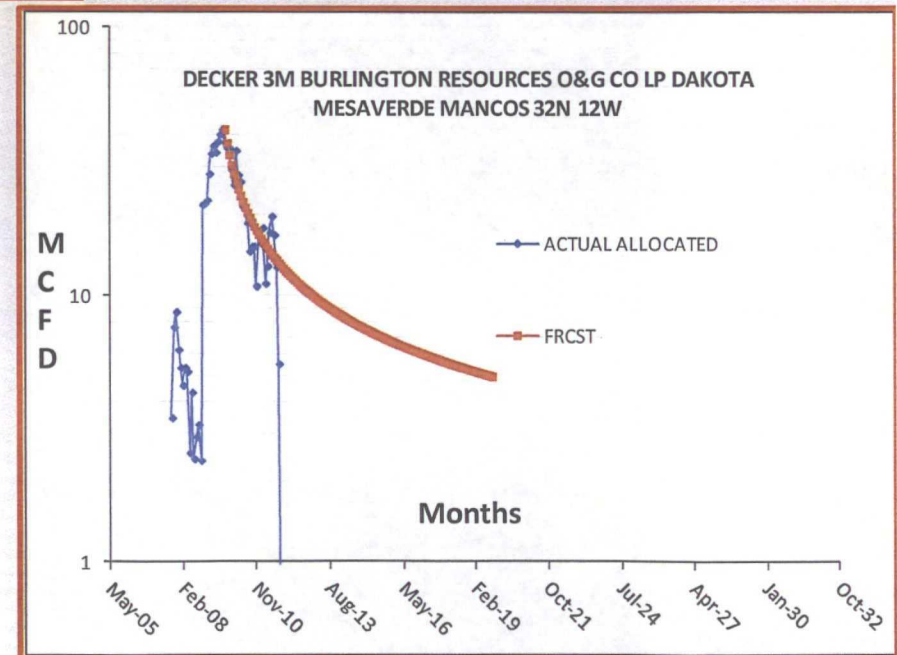
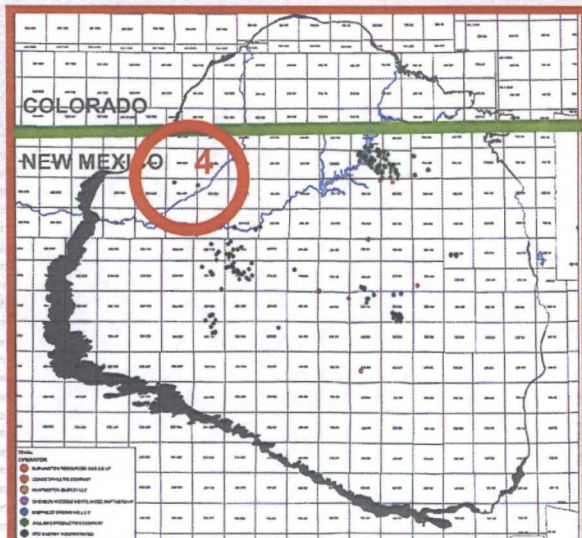


Mancos production is generally not enough to cover new drill expenses unless commingled or trimmingle with Dakota and/or Mesaverde



Actual prod of a type well located in the area, completed over the past 6 years
History Match and Forecast

B	1.20
Di	40%
Qi	47
Qa	5



Mancos stand alone economics

LAST 6 years of co/tri -mingle activity

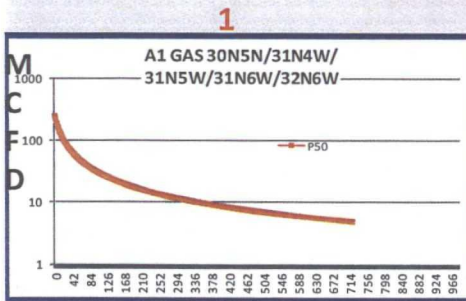
CONOCPHILLIPS	6
ENERVEST OPERATING L L C	2
XTO ENERGY INCORPORATED	75
WILLIAMS PRODUCTION COMPANY	59
CHEVRON MIDCONTINENT LIMITED PAI	1
HUNTINGTON ENERGY LLC	1
	144

6 operators have been completing and commingling the Mancos with and/or DK/MV- very actively over the past 6 year activity, with no productivity issues.

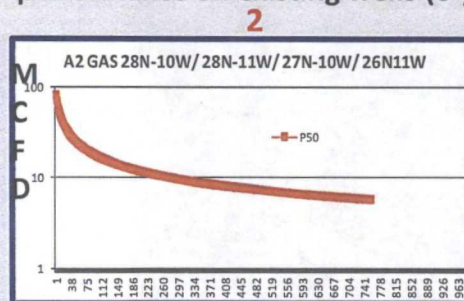


Activity likely to go up in the next years, increasing the burden on both Company staff and Agency staff

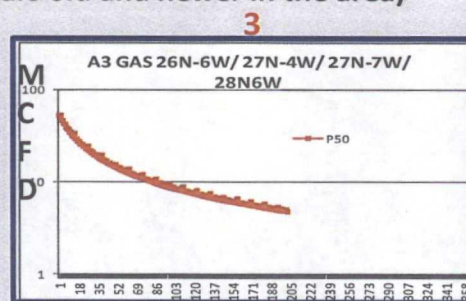
Estimated forecast for New wells in the area derived from average observed performance on existing wells (6 years old and newer in the area)



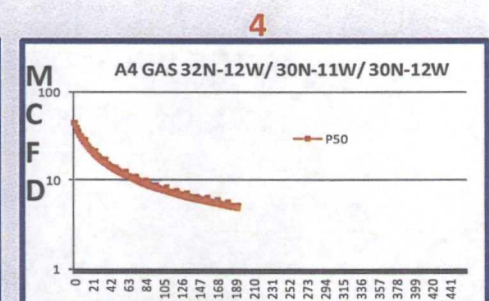
NPV @ 10% -715 \$
Gas price 2\$/Mcf
escalated 2.5%
Drilling 1.250 MM\$
251MMcf stranded



NPV @ 10% -680 \$
Gas price 2\$/Mcf. Oil 90\$/Bbl
escalated 2.5%
Drilling 1.250 MM\$
174MMcf stranded ~6Mbbbls oil



NPV @ 10% -750 \$
Gas price 2\$/Mcf
escalated 2.5%
Drilling 1.250 MM\$
78MMcf stranded -1.5 Mbbbls oil



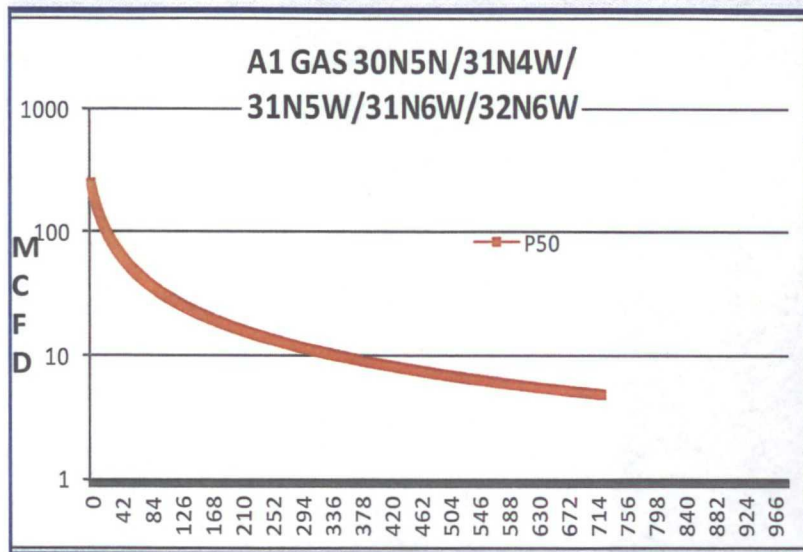
NPV @ 10% -794 \$
Gas price 2\$/Mcf
escalated 2.5%
Drilling 1.250 MM\$
68MMcf stranded ~0.17 Mbbbls

Oil 90\$/Bbl

Mancos stand alone economics

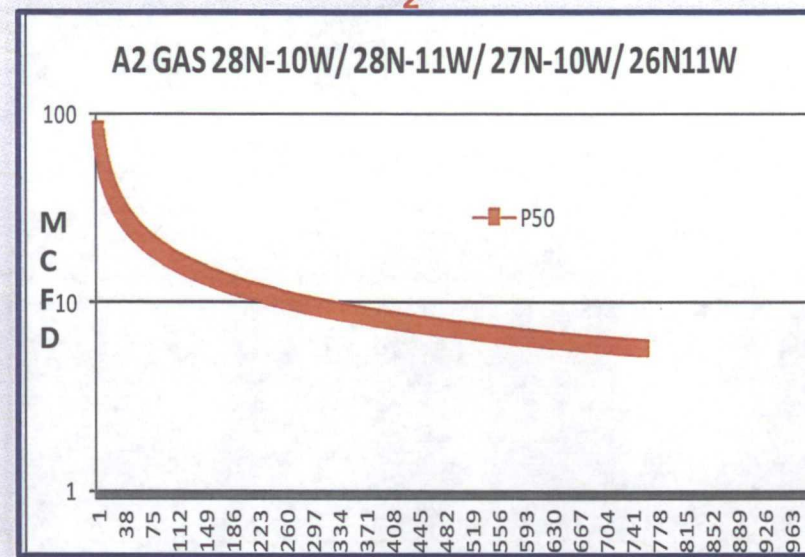
Estimated forecast for New wells in the area derived from average observed performance on existing wells (6 years old and newer in the area)

1



NPV @ 10% -715 \$
Gas price 2\$/Mcf
escalated 2.5%
Drilling 1.250 MM\$
251MMcf stranded

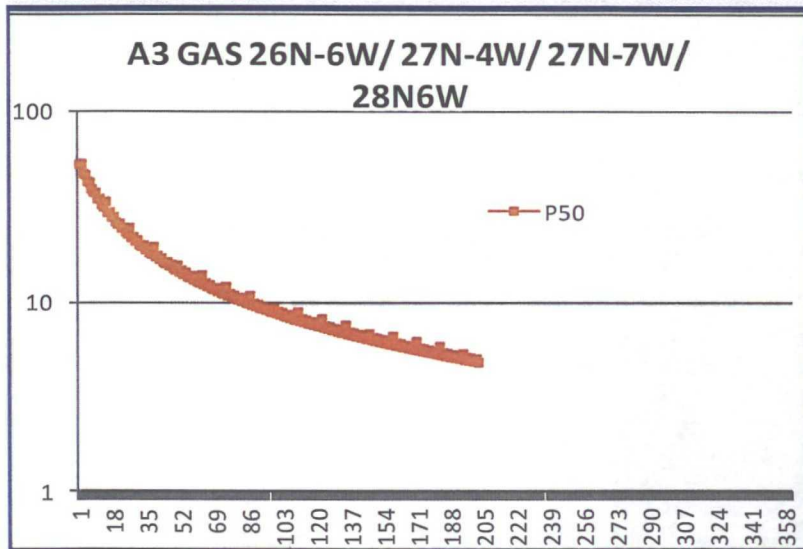
2



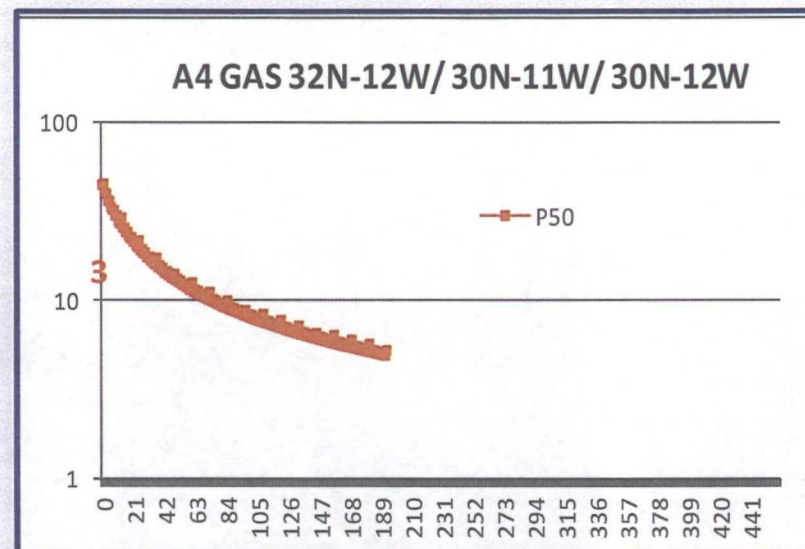
NPV @ 10% -680 \$
Gas price 2\$/Mcf. Oil 90\$/Bbl
escalated 2.5%
Drilling 1.250 MM\$
174MMcf stranded ~6Mbbls oil

Mancos stand alone economics

Estimated forecast for New wells in the area derived from average observed performance on existing wells (6 years old and newer in the area)



NPV @ 10% -750 \$
Gas price 2\$/Mcf
escalated 2.5%
Drilling 1.250 MM\$
78MMcf stranded -1.5 Mbbls oil



NPV @ 10% -794 \$
Gas price 2\$/Mcf
escalated 2.5%
Drilling 1.250 MM\$
68MMcf stranded ~0.17 Mbbls

Precedent

COP 107A's filed vs approved (since 2011)

FILED	APPROVED
27	19
	No rejections

8 pending approval

WPX Energy, LLC was pre-approved for tri-mingling prod from DK-MC-MV in Rosa unit (31N6W, 32N6W, 31N5W, 31N4W) order R-12991

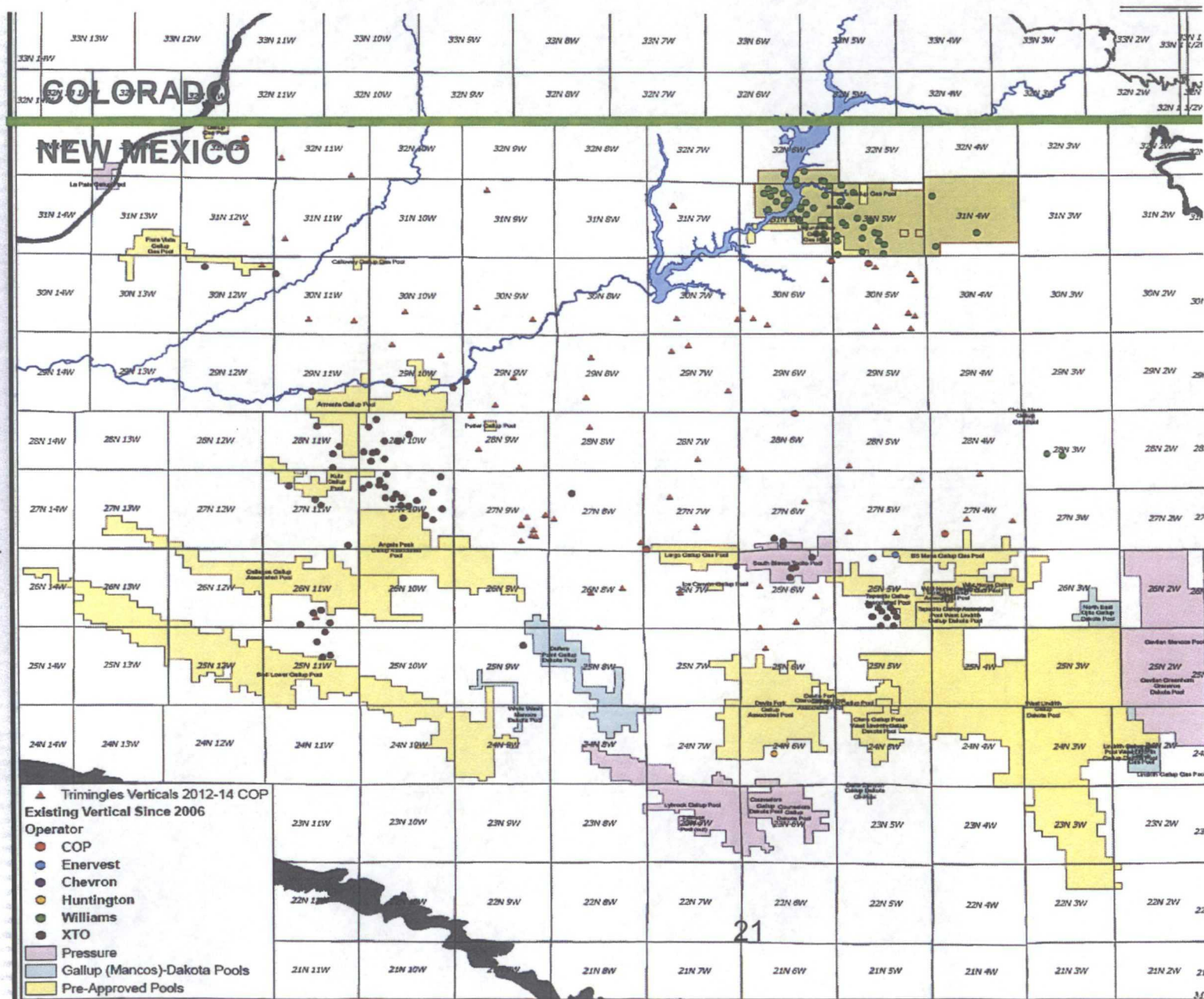
Well Name	LOC
CAT DRAW 1F	NM030N05W004K
FEDERAL 11M	NM026N06W023I
FEDERAL C 1M	NM030N11W028M
HORTON 1B	NM032N11W035O
HUBBARD 1B	NM032N12W022J
HUERFANITO UNIT 79N	NM027N09W026P
HUERFANITO UNIT 85M	NM027N09W026C
HUERFANITO UNIT 88N	NM027N09W023J
HUERFANITO UNIT 99E	NM027N09W035F
KLEIN 19P	NM026N06W034G
NAVAJO B 6N	NM027N08W019K
SAN JUAN 27-4 UNIT 102P	NM027N04W033F
SAN JUAN 27-4 UNIT 155A	NM027N04W024M
SAN JUAN 27-5 UNIT 128N	NM027N05W027I
SAN JUAN 28-6 UNIT 181P	NM027N06W014C
SAN JUAN 29-7 UNIT 138M	NM029N07W025D
SAN JUAN 29-7 UNIT 141M	NM029N07W008G
SAN JUAN 29-7 UNIT 82M	NM029N07W004I
SAN JUAN 30-5 UNIT 84A	NM030N05W033I
SAN JUAN 30-5 UNIT 86M	NM030N05W035J
SAN JUAN 30-6 UNIT 15C	NM030N07W029P
SAN JUAN 30-6 UNIT 51B	NM030N06W030J
SAN JUAN 32-9 UNIT 24B	NM031N09W005J
SCOTT FEDERAL 6P	NM026N06W017L
STEWART LS 8N	NM030N10W028D
WALLER 1B	NM032N11W011J
SAN JUAN 28-6 Unit 117N	NM032N11W011J

LAST 6 years of co/tri -mingle activity	
CONOCOPHILLIPS	6
ENERVEST OPERATING L L C	2
XTO ENERGY INCORPORATED	75
WILLIAMS PRODUCTION COMPANY	59
CHEVRON MIDCONTINENT LIMITED PAI	1
HUNTINGTON ENERGY LLC	1
	144

Pressures observed in the Mancos are at/ or below hydrostatic gradient

Geographic control given by initial pressures on existing pools/ pre-approved Gallup pools & wells producing from the Basin Mancos.

Mancos pressures have been found to be close or below Hydrostatic gradient, so there should not be any issues during extended shut in times resulting in pressures above fracing gradient of any of the mingled pools



Estimated Mancos Pressures in Proposed wells

Mancos pressures have been found to be close or below Hydrostatic gradient, so there should not be any issues during extended shut in times resulting in pressures above fracing gradient of any of the mingled pools.

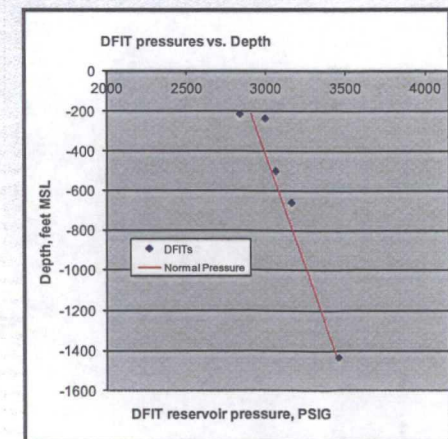
WELLNAME	LOC	P GRADIENT	API	Min	Max	Avg
DAVIS A FEDERAL 1N	Unit M, Sec. 25, 030N, 11W	0.37	3004535290000	0.148	0.493	0.361
ELLIOTT GAS COM H 1C	Unit J, Sec. 26, 030N, 009W	0.36	3004535353000			
FEDERAL 11M	Unit I, Sec. 23, 026N, 006W	0.49	3003930673000			
HEATON COM B 2N	Unit J, Sec. 30, 031N, 011W	0.36	3004535326000			
HEATON LS 5B	Unit N, Sec. 21, 031N, 011W	0.36	3004535352000			
HODGES 12E	Unit M, Sec. 34, 026N, 008W	0.30	3004535229000			
HODGES 14E	Unit B, Sec. 21, 026N, 008W	0.32	3004535261000			
HUERFANITO UNIT 85M	Unit C, Sec. 26, 027N, 009W	0.32	3004535287000			
HUERFANITO UNIT 88N	Unit J, Sec. 23, 027N, 009W	0.17	3004535267000			
HUERFANITO UNIT 82N	Unit M, Sec. 25, 027N, 009W	0.37	3004535310000			
HUERFANITO UNIT 82P	Unit E, Sec. 25, 027N, 009W	0.36	3004535329000			
HUERFANITO UNIT 99E	Unit F, Sec. 35, 027N, 009W	0.32	3004535257000			
Klein 19P	Unit G, Sec. 34, 026N, 006W	0.29	3003930770000			
MUDGE B 20M	Unit G, Sec. 8, 031N, 011W	0.37	3004535318000			
RIPLEY 2M	Unit O, Sec. 26, 032N, 013W	0.31	3004535311000			
SAN JUAN 27-4 UNIT 56N	Unit K, Sec. 21, 027N, 04W	0.38	3003931105000			
SAN JUAN 27-4 UNIT 155A	Unit M, Sec. 24, 027N, 004W	0.43	3003930967000			
SAN JUAN 27-5 UNIT 128N	Unit I, Sec. 27, 027N, 005W	0.48	3003930611000			
SAN JUAN 28-6 UNIT 181P	Unit F, Sec. 14, 027N, 006W	0.48	3003931090000			
SAN JUAN 28-7 UNIT 131N	Unit C, Sec. 34, 028N, 007W	0.44	3003930663000			
SAN JUAN 28-7 UNIT COM 298	Unit C, Sec. 27, 027N, 007W	0.37	3003931093000			
SAN JUAN 30-5 UNIT 28A	Unit P, Sec. 23, 030N, 005W	0.38	3003931104000			
SAN JUAN 30-5 UNIT 84A	Unit J, Sec. 33, 030N, 005W	0.44	3003930927000			
SAN JUAN 30-5 UNIT 86M	Unit I, Sec. 35, 030N, 005W	0.43	3003931049000			
SAN JUAN 30-5 UNIT 86N	Unit I, Sec. 35, 030N, 005W	0.43	3003931055000			
SAN JUAN 30-5 UNIT 91M	Unit L, Sec. 25, 030N, 005W	0.45	3003931037000			
SAN JUAN 30-5 UNIT 92M	Unit G, Sec. 26, 030N, 005W	0.40	3003931102000			
SAN JUAN 30-5 UNIT COM 1N	Unit O, Sec. 4, 030N, 05W	0.39	3003930662000			
SAN JUAN 31-6 UNIT 4R	Unit G, Sec. 4, 030N, 006W	0.38	3003930593000			
SAN JUAN 32-8 UNIT 30	Unit G, Sec. 14, 031N, 008W	0.45	3004535228000			
SCOTT FEDERAL 6P	Unit N, Sec. 17, 026N, 006W	0.17	3003931010000			
SOONER 1E	Unit C, Sec. 27, 026N, 007W	0.36	3003931029000			
STEWART LS 8N	Unit F, Sec. 28, 030N, 010W	0.48	3004535330000			
Waller 1B	Unit P, Sec. 11, 032N, 011W	0.44	3004535196000			
San Juan 32-9 Unit 24B	Unit P, Sec. 5, 031N, 009W	0.36	3004535208000			
San Juan 30-6 Unit 51B	Unit P, Sec. 30, 030N, 006W	0.38	3003930996000			
San Juan 30-6 Unit 15C	Unit P, Sec. 29, 030N, 007W	0.36	3003931062000			
San Juan 29-7 Unit 138M	Unit E, Sec. 25, 029N, 007W	0.15	3003930961000			
San Juan 29-7 Unit 82M	Unit O, Sec. 4, 029N, 007W	0.16	3003931080000			
San Juan 29-5 Unit 77M	Unit E, Sec. 26, 029N, 005W	0.40	3003931044000			
Navajo B 6N	Unit K, Sec. 19, 027N, 008W	0.33	3004534444000			
San Juan 30-6 Unit 15C	Unit P, Sec. 29, 030N, 007W	0.36	3003931062000			
Federal C 1M	Unit M, Sec. 28, 030N, 011W	0.31	3004534825000			
Horton 1B	Unit I, Sec. 35, 032N, 011W	0.43	3004535252000			
Hubbard 1B	Unit I, Sec. 22, 032N, 012W	0.16	3004535201000			
Huerfanito Unit 79N	Unit P, Sec. 26, 027N, 009W	0.32	3004534950000			

Pressures observed in the Mancos are at/ or below hydrostatic gradient

- Pressures obtained from Basin Mancos (during pressure tests) + pressures from Gallup Pools

WELL NAME	OPERATOR	LOC	MC** Pressure	DK* Pressure	TOP PERFS SHALLOW	MAX PRESS ALLO BY RULE
ROSA UNIT 634A	WILLIAMS PRODUCTION COMPANY	31N6WS23	2300	2100	6180	4017
ROSA UNIT 630	WILLIAMS PRODUCTION COMPANY	31N4WS7	2400	3000	7000	4550
San Juan 32-7 Unit 17B	CONOCOPHILLIPS	31W7S17	2359	3400	5324	3460
San Juan 28-6 Unit 117N	CONOCOPHILLIPS	28N6WS10	2300	2800	4610	2997
Lindrith B Unit #2	CONOCOPHILLIPS	24N3WS28	1386	3000	6361	4135
Lindrith B Unit #27	CONOCOPHILLIPS	24N3WS10	1455	3200	6568	4269
Lindrith B Unit #78	CONOCOPHILLIPS	24N3WS6	1529	3200	6808	4425
			** Measured	*Estimated		

Mancos pressures have been found to be very close to Hydrostatic gradient, so there should not be any issues during extended shut in times resulting in pressures above fracing gradient of any of the mingled pools



Mancos Gas Composition Compared with typical MV-DK

DK vs Mancos							
METHANE		ETHANE		PROPANE		TOTAL BUTANE	
C1MC	C1DK	C2MC	C2DK	C3MC	C3DK	C4MC	C4DK
86.26%	97.74%	8.09%	1.83%	2.52%	0.20%	1.66%	0.13%
15.6		28.1		24.7		11.1	
MV vs Mancos							
METHANE		ETHANE		PROPANE		TOTAL BUTANE	
C1MV	C1MC	C2MV	C2MC	C3MV	C3DMC	C4MV	C4MC
84.92%	86.26%	8.61%	8.09%	3.65%	2.52%	1.66%	1.36%
2.0		1.4		5.3		1.6	