



Case # 14878

Application for Special Infill Well Development
Area in portion of Gavilan-Pictured Cliffs Gas Pool

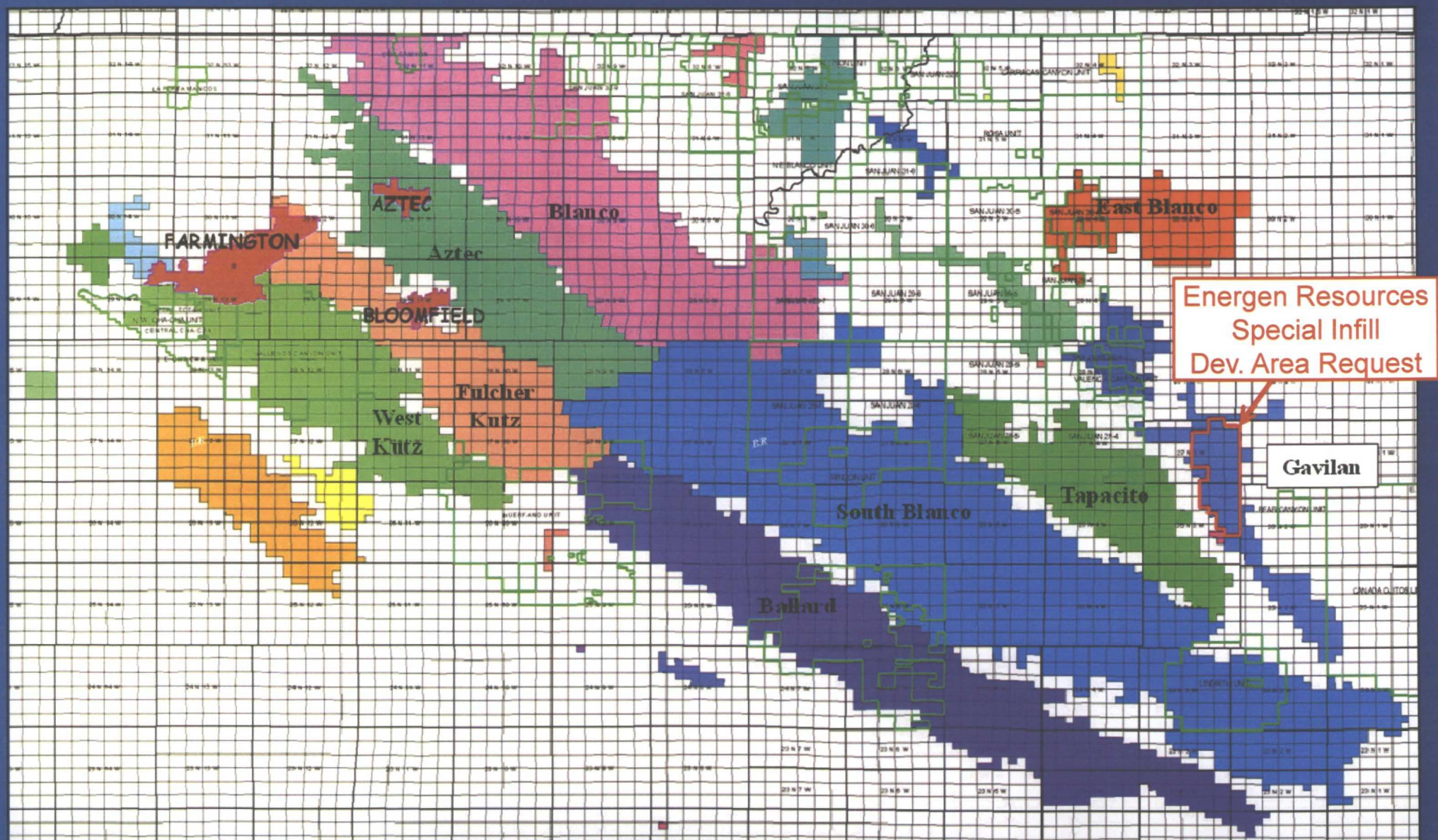
Agenda

- Introduction / Purpose
- Land Overview
- Geology
- Reservoir Engineering
- Conclusion / Summary

Introduction / Purpose

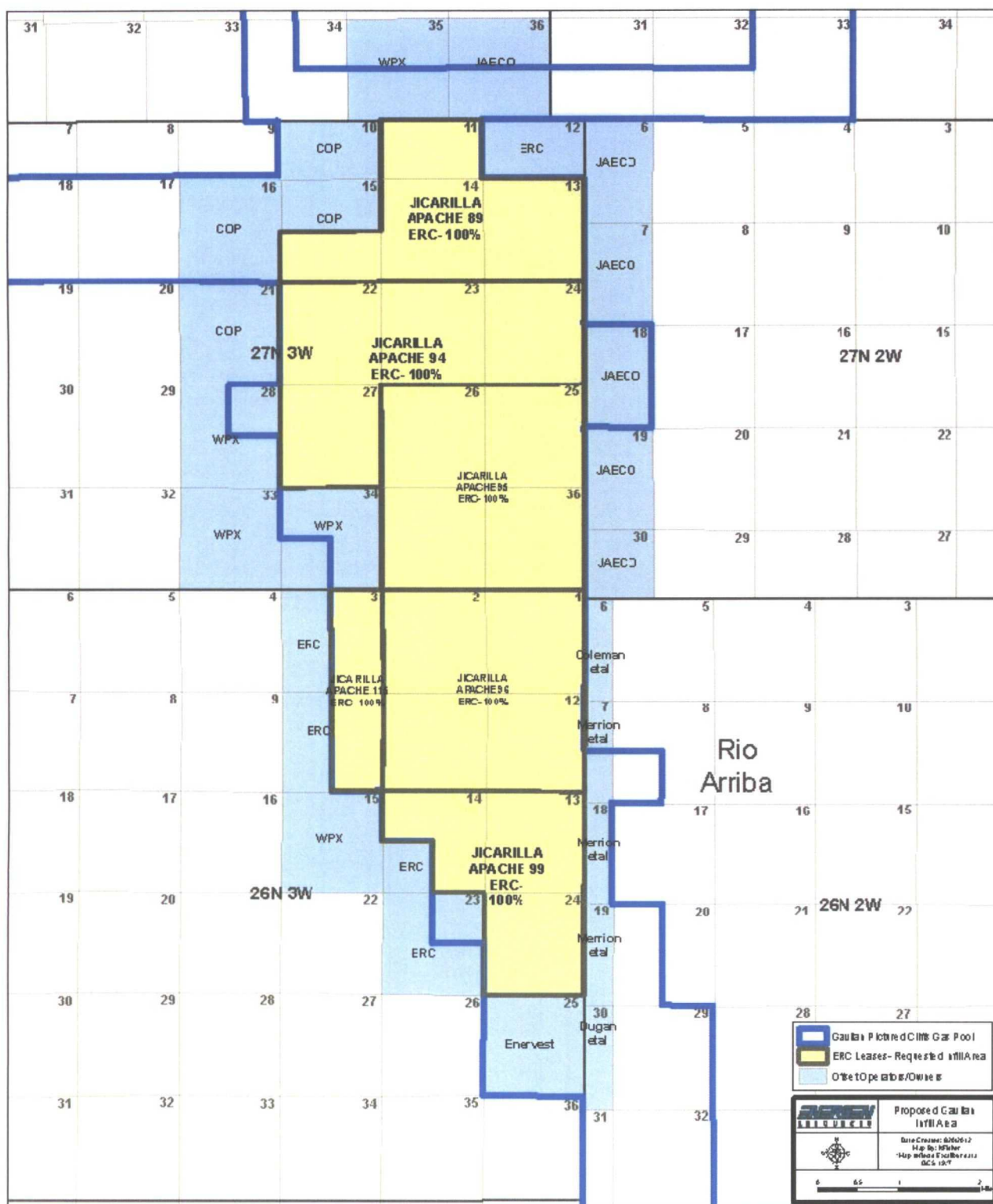
- Proposed Pictured Cliffs in-fill drilling/completions in the northern portion of Gavilan Pictured Cliffs Pool, Rio Arriba Co.
- Current PC drilling/spacing units – 160 Acres w/one well allowed per unit
- Current Mesaverde drilling/spacing units – 320 Acres w/four wells allowed per unit
- Pictured Cliffs would be pay-adds to existing or newly drilled Mesaverde wells
- No infringement of Correlative rights
- Cause No waste
- More efficient drainage of Pictured Cliffs reservoir
- Better economics for new drill wells

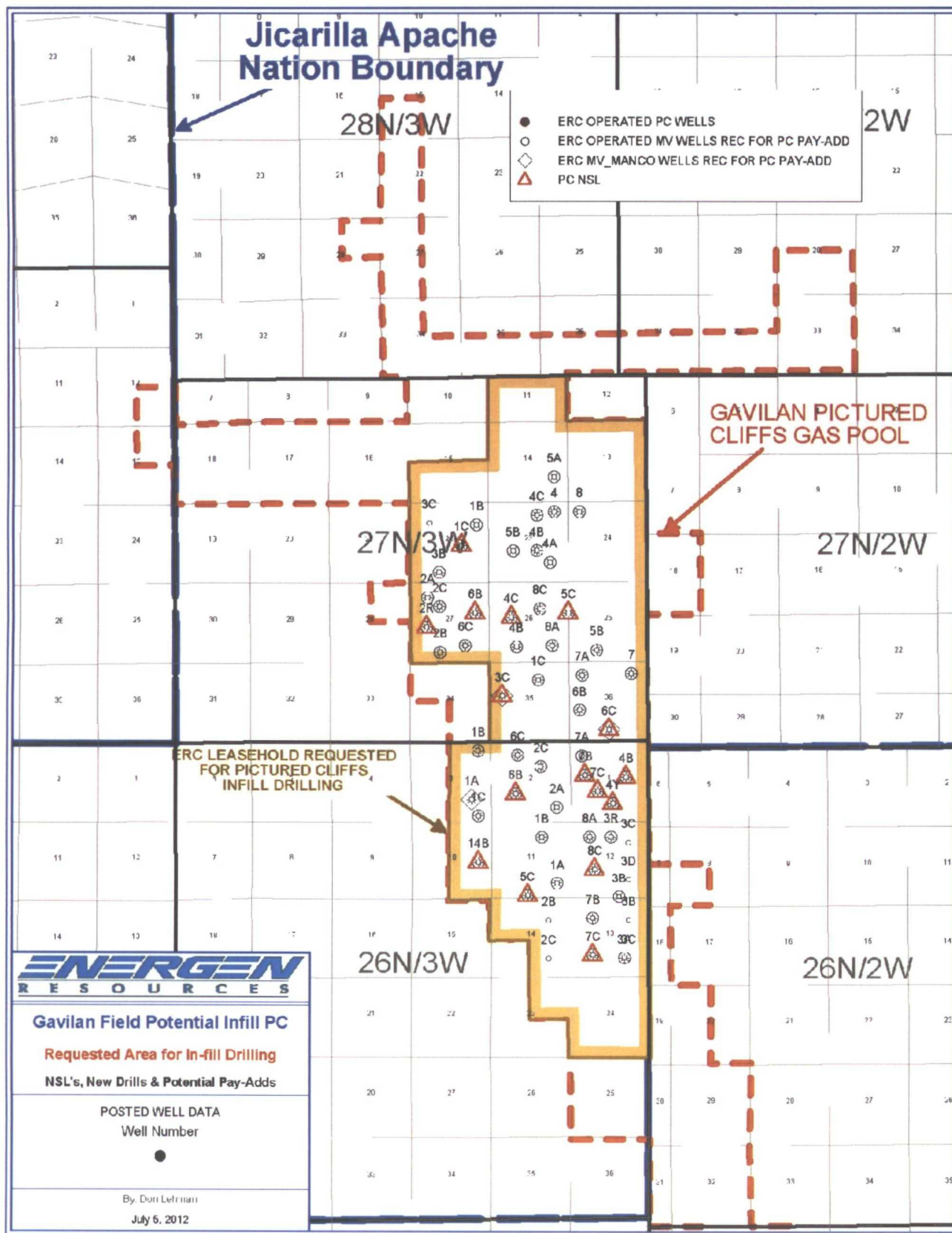
Pictured Cliffs Pools – San Juan Basin



Land Overview

- Energen land ownership Gavilan Pool (Land map)
 - 100% ownership
 - All Jicarilla lands
- Off-setting lease ownership/operators
- Proposed area for infill development (Spreadsheet and well spot map)
 - ERC operates 51 MV wells (circled wells on map) that have PC infill pay-add potential
 - 16 (red triangles) of the 51 are Non-Standard Locations (NSL's), due to location of existing MV wells. All NSL's are interior to ERC leasehold.
 - 7 possible undrilled Mesaverde wells that would have PC commingle potential and enhanced economics with additional zone to complete.





Energen Operated Mesaverde Wells and New Drills with PC Pay Add Potential

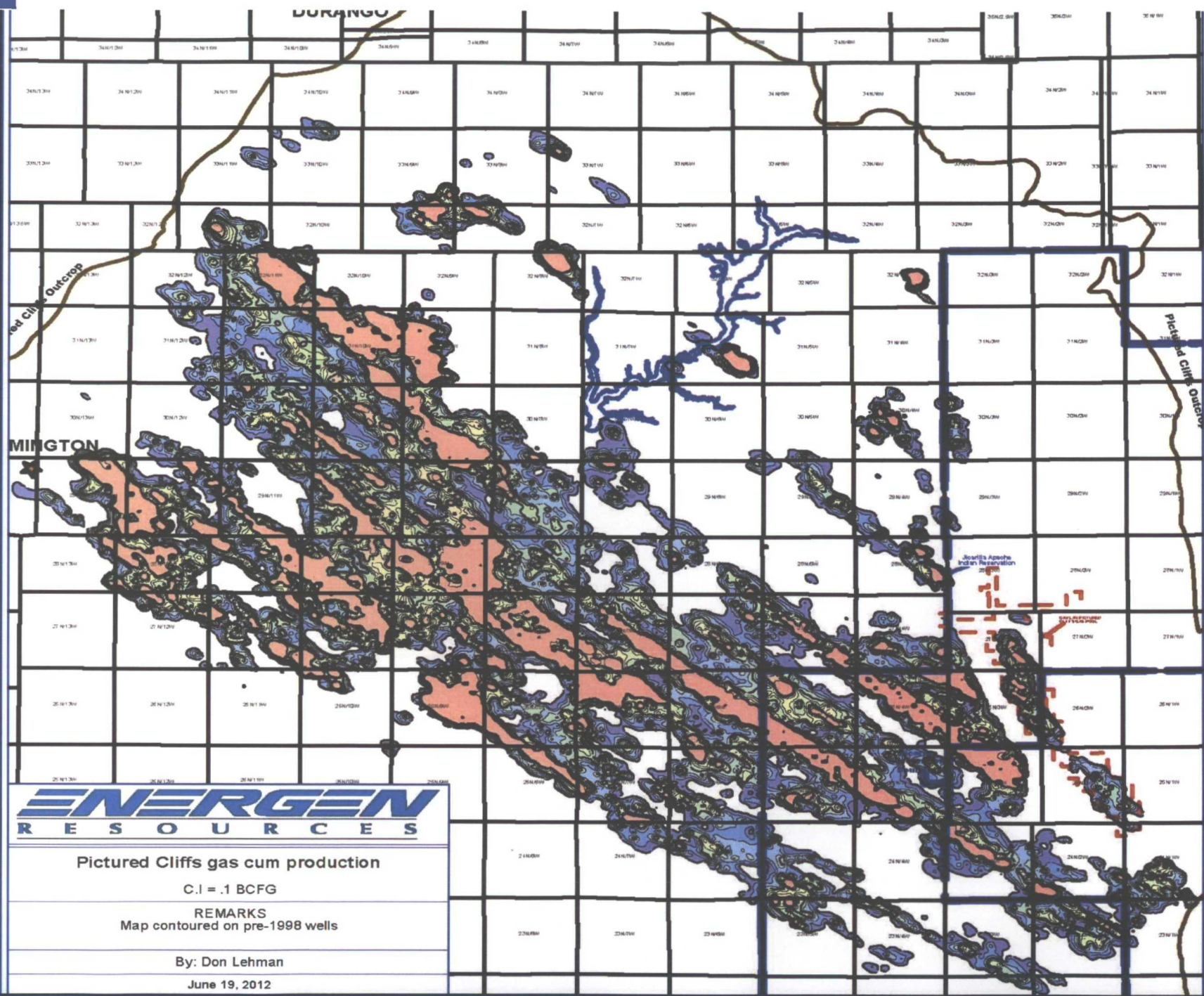
	UWI (APINum)	Operator	Well Label	Well #	NS Footage	NS Dir	EW Footage	EW Dir	NSL	Sec	Twp	Rge	COMP	Prod Fm
Mesaverde existing boreholes with PC pay-add potential:														
1	30039265480000	ENERGEN	JICARILLA 95 #3C	3C	2340	FNL	990	FWL	YES	35	27N	3W	4/9/2001	MANCOS/MESAVERDE
2	30039265510000	ENERGEN	JICARILLA 96 #6B	6B	2155	FSL	1845	FWL	YES	2	26N	3W	5/1/2001	MESAVERDE
3	30039265710000	ENERGEN	JICARILLA 96 #7B	7B	2330	FNL	1145	FWL	YES	1	26N	3W	5/1/2001	MESAVERDE
4	30039265880000	ENERGEN	JICARILLA 94 #6B	6B	2075	FNL	770	FEL	YES	27	27N	3W	4/1/2002	MESAVERDE
5	30039268430000	ENERGEN	JICARILLA 96 #8C	8C	2480	FSL	1750	FWL	YES	12	26N	3W	5/1/2002	MESAVERDE
6	30039268470000	ENERGEN	JICARILLA 115E #14B	14B	2400	FNL	680	FEL	YES	10	26N	3W	1/1/2002	MESAVERDE
7	30039268530000	ENERGEN	JICARILLA 94 #1C	1C	2400	FSL	1650	FEL	YES	22	27N	3W	3/1/2002	MESAVERDE
8	30039268880000	ENERGEN	JICARILLA 96 #4Y	4Y	1560	FSL	2340	FEL	YES	1	26N	3W	12/1/2002	MESAVERDE
9	30039268910000	ENERGEN	JICARILLA 96 #7C	7C	2360	FSL	1980	FWL	YES	1	26N	3W	10/1/2003	MESAVERDE
10	30039268920000	ENERGEN	JICARILLA 95 #6C	6C	660	FSL	2500	FEL	YES	36	27N	3W	5/6/2003	MANCOS/MESAVERDE
11	30039269140000	ENERGEN	JICARILLA 95 #4C	4C	2405	FNL	1650	FWL	YES	26	27N	3W	4/1/2002	MESAVERDE
12	30039273110000	ENERGEN	JICARILLA 96 #5C	5C	660	FSL	2600	FWL	YES	11	26N	3W	10/1/2003	MESAVERDE
13	30039274370000	ENERGEN	JICARILLA 99 #7C		2010	FSL	1600	FWL	YES	13	26N	3W	10/1/2003	MESAVERDE
14	30039274830000	ENERGEN	JICARILLA 94 #2R		2350	FSL	1125	FWL	YES	27	27N	3W	12/1/2003	MESAVERDE
15	30039276720000	ENERGEN	JICARILLA 95 #5C	5C	2140	FNL	105	FWL	YES	25	27N	3W	5/1/2004	MESAVERDE
16	30039301530000	ENERGEN	JICARILLA 96 #4B	4B	2500	FNL	1420	FEL	YES	1	26N	3W	5/7/2009	MESAVERDE
17	30039068500000	ENERGEN	JICARILLA 95 #7	7	900	FNL	990	FEL		36	27N	3W	10/1/1958	MESAVERDE
18	30039070210000	ENERGEN	JICARILLA 94 #4	4	790	FNL	790	FEL		23	27N	3W	9/1/1958	MESAVERDE
19	30039211270000	ENERGEN	JICARILLA 95 #7A	7A	990	FNL	990	FWL		36	27N	3W	12/1/1975	MESAVERDE
20	30039212360000	ENERGEN	JICARILLA 96 #7A	7A	990	FNL	790	FWL		1	26N	3W	11/1/1976	MESAVERDE
21	30039212370000	ENERGEN	JICARILLA 96 #2A	2A	990	FSL	990	FEL		2	26N	3W	8/1/1976	MESAVERDE
22	30039212590000	ENERGEN	JICARILLA 96 #1A	1A	990	FSL	990	FEL		11	26N	3W	11/1/1976	MESAVERDE
23	30039212600000	ENERGEN	JICARILLA 95 #8A	8A	990	FSL	990	FEL		26	27N	3W	12/1/1976	MESAVERDE
24	30039212730000	ENERGEN	JICARILLA 96 #8A	8A	990	FNL	1190	FWL		12	26N	3W	3/1/1977	MESAVERDE
25	30039214820000	ENERGEN	JICARILLA 94 #4A	4A	1190	FSL	1090	FEL		23	27N	3W	11/1/1977	MESAVERDE
26	30039214840000	ENERGEN	JICARILLA 94 #2A	2A	990	FNL	1190	FWL		27	27N	3W	1/1/1978	MESAVERDE
27	30039228000000	ENERGEN	JICARILLA 89 #5A	5A	1520	FSL	790	FEL		14	27N	3W	2/1/1982	MESAVERDE
28	30039228110000	ENERGEN	JICARILLA 94 #8	8	790	FNL	890	FWL		24	27N	3W	4/1/1982	MESAVERDE
29	30039262620000	ENERGEN	JOHNSTON SHEAR #1A	1A	1735	FSL	1105	FEL		3	26N	3W	3/8/2000	MANCOS/MESAVERDE
30	30039262690000	ENERGEN	JICARILLA 99 #3A	3A	1835	FSL	1620	FEL		13	26N	3W	6/1/2000	MESAVERDE
31	30039263540000	ENERGEN	JICARILLA 96 #3B	3B	660	FSL	1980	FEL		12	26N	3W	12/1/2001	MESAVERDE
32	30039263550000	ENERGEN	JICARILLA 94 #5B	5B	1980	FSL	1785	FWL		23	27N	3W	4/1/2000	MESAVERDE
33	30039265460000	ENERGEN	JICARILLA 94 #6C	6C	1065	FSL	1455	FEL		27	27N	3W	2/2/2001	MESAVERDE
34	30039265490000	ENERGEN	JICARILLA 96 #6C	6C	990	FNL	1970	FWL		2	26N	3W	4/1/2001	MESAVERDE
35	30039265730000	ENERGEN	JICARILLA 96 #1B	1B	720	FNL	1775	FEL		11	26N	3W	5/1/2001	MESAVERDE
36	30039265740000	ENERGEN	JICARILLA 95 #6B	6B	1980	FSL	800	FWL		36	27N	3W	5/1/2001	MESAVERDE
37	30039265860000	ENERGEN	JICARILLA 95 #1C	1C	1285	FNL	1940	FEL		35	27N	3W	11/1/2001	MESAVERDE
38	30039268270000	ENERGEN	JICARILLA 96 #2C	2C	1750	FNL	1825	FEL		2	26N	3W	1/1/2002	MESAVERDE
39	30039268440000	ENERGEN	JICARILLA 99 #7B	7B	790	FNL	1600	FWL		13	26N	3W	11/1/2002	MESAVERDE
40	30039268450000	ENERGEN	JOHNSTON SHEAR #1C	1C	660	FSL	660	FEL		3	26N	3W	12/1/2002	MESAVERDE
41	30039268460000	ENERGEN	JOHNSTON SHEAR #1B	1B	660	FNL	660	FEL		3	26N	3W	11/1/2002	MESAVERDE
42	30039268520000	ENERGEN	JICARILLA 95 #4B	4B	915	FSL	1975	FWL		26	27N	3W	3/1/2002	MESAVERDE
43	30039268560000	ENERGEN	JICARILLA 94 #2B	2B	660	FSL	1975	FWL		27	27N	3W	1/1/2002	MESAVERDE
44	30039268870000	ENERGEN	JICARILLA 94 #4B	4B	1980	FSL	1980	FEL		23	27N	3W	12/1/2002	MESAVERDE
45	30039268890000	ENERGEN	JICARILLA 95 #5B	5B	660	FSL	1975	FWL		25	27N	3W	9/1/2003	MESAVERDE
46	30039268900000	ENERGEN	JICARILLA 95 #8C	8C	1865	FNL	1795	FEL		26	27N	3W	3/1/2002	MESAVERDE
47	30039274130000	ENERGEN	JICARILLA 94 #2C	2C	1600	FNL	1980	FWL		27	27N	3W	6/1/2003	MESAVERDE
48	30039274380000	ENERGEN	JICARILLA 94 #1B	1B	1600	FNL	660	FEL		22	27N	3W	11/1/2003	MESAVERDE
49	30039274820000	ENERGEN	JICARILLA 94 #3B	3B	660	FSL	1980	FWL		22	27N	3W	12/1/2003	MESAVERDE
50	30039275280000	ENERGEN	JICARILLA 96 #3R	3R	660	FNL	2500	FEL		12	26N	3W	2/1/2004	MESAVERDE
51	30039301640000	ENERGEN	JICARILLA 94 #4C	4C	1000	FNL	1950	FEL		23	27N	3W	5/1/2009	MESAVERDE

Potential Mesaverde New Drills with PC Pay-Add Potential:

1	NA	ENERGEN	JICARILLA 94 #3C	3C	1350	FNL	1350	FWL		22	27N	3W		
2	NA	ENERGEN	JICARILLA 99 #2B	2B	1350	FNL	1350	FEL		14	26N	3W		
3	NA	ENERGEN	JICARILLA 96 #3D	3D	1350	FSL	1350	FEL		12	26N	3W		
4	NA	ENERGEN	JICARILLA 96 #3B	3B	1350	FNL	1350	FEL		13	26N	3W		
5	NA	ENERGEN	JICARILLA 96 #3C	3C	1350	FSL	1350	FEL		13	26N	3W		
6	NA	ENERGEN	JICARILLA 96 #3C	3C	1350	FNL	1350	FEL		12	26N	3W		
7	NA	ENERGEN	JICARILLA 99 #2C	2C	1350	FSL	1350	FEL		14	26N	3W		

Geology Overview

- Basin wide PC pools – Gavilan Pool distinct and separate
- Pictured Cliffs cumulative gas production
- Type log
- Deeper and higher original and remaining BHP than other PC producing areas
- ERC operates 47 MV/PC commingle wells and 2 stand alone PC wells in requested infill area
- Success at finding good quality reservoir and production with 160 acre and infill pay-adds (Discussed in more detail by Reservoir Engineering)

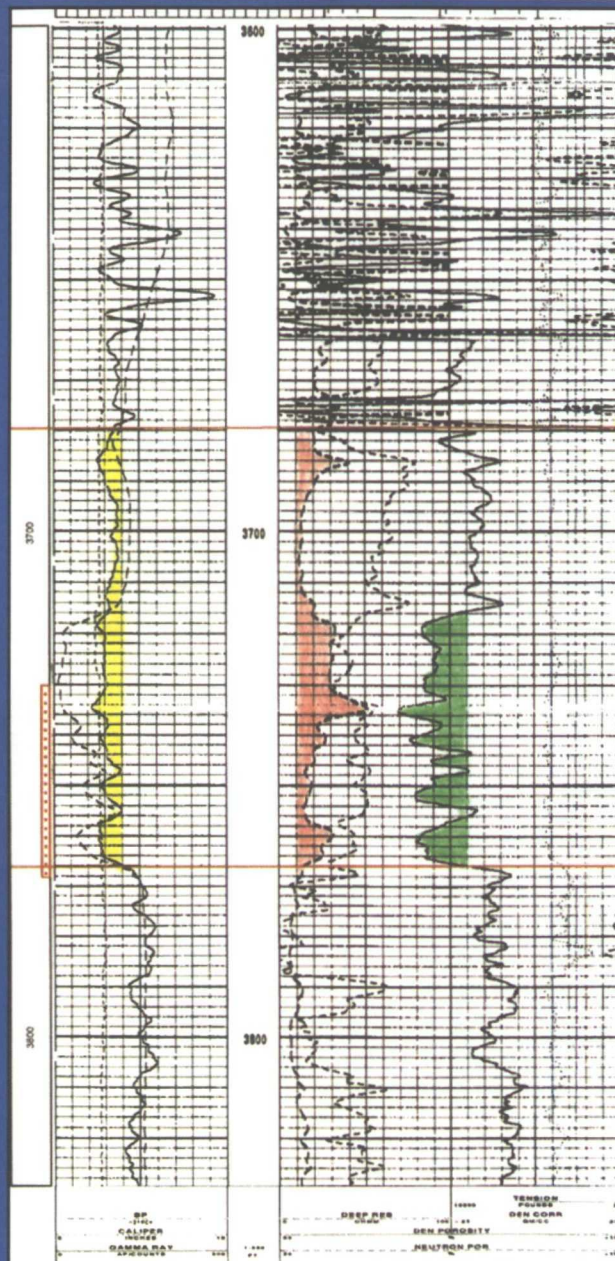


Energen

Jicarilla 96 #5B

T26N R2W S11

S2 SE NW



Fruitland Coal

PICTURED_CLIFFS [ERC]

BASE_OF_PICTURED_CLIFFS [DL]

ENERGEN
RESOURCES

Pictured Cliffs Type Log

Energen Jicarilla Area

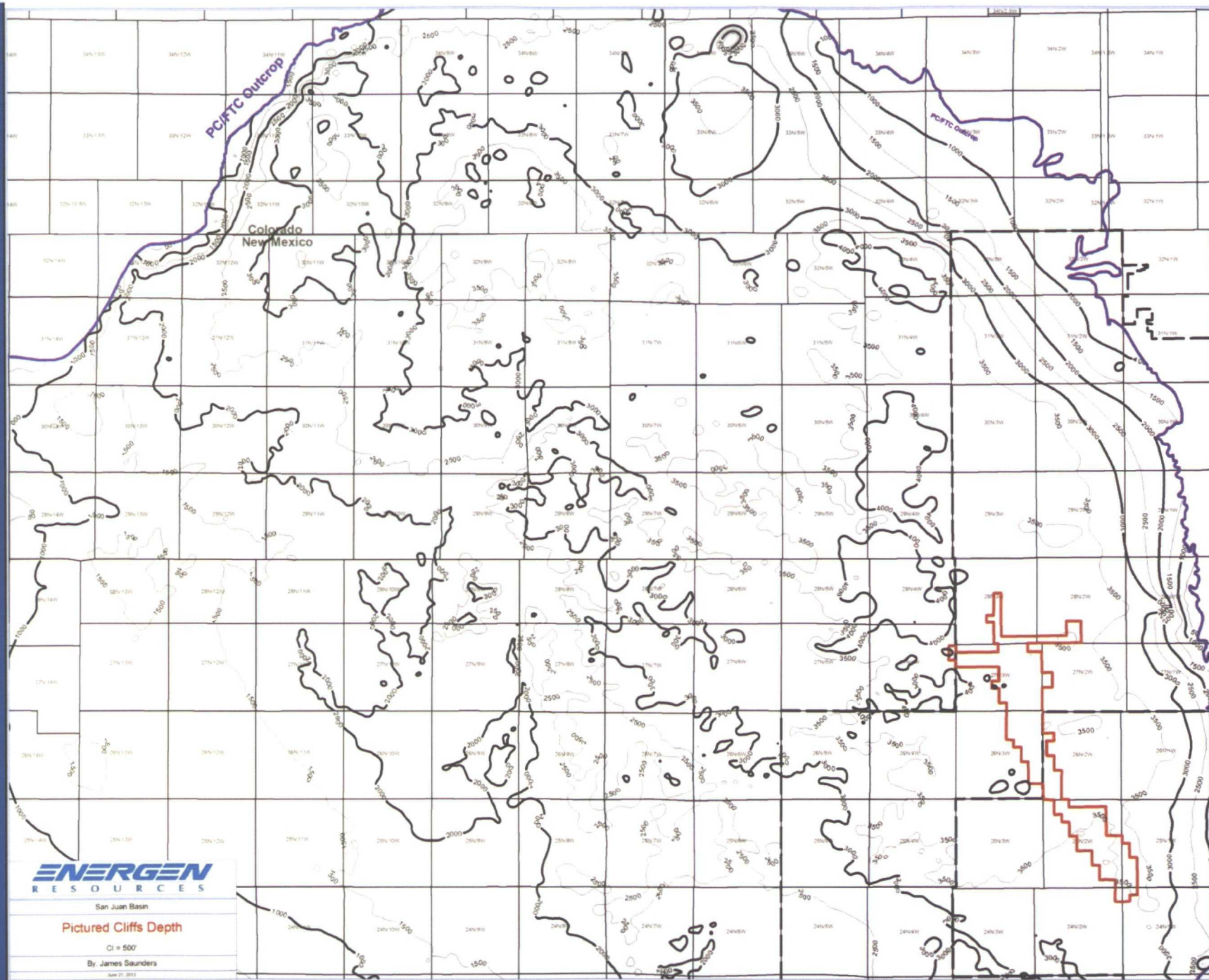
Gavilan Field 26N - 3W

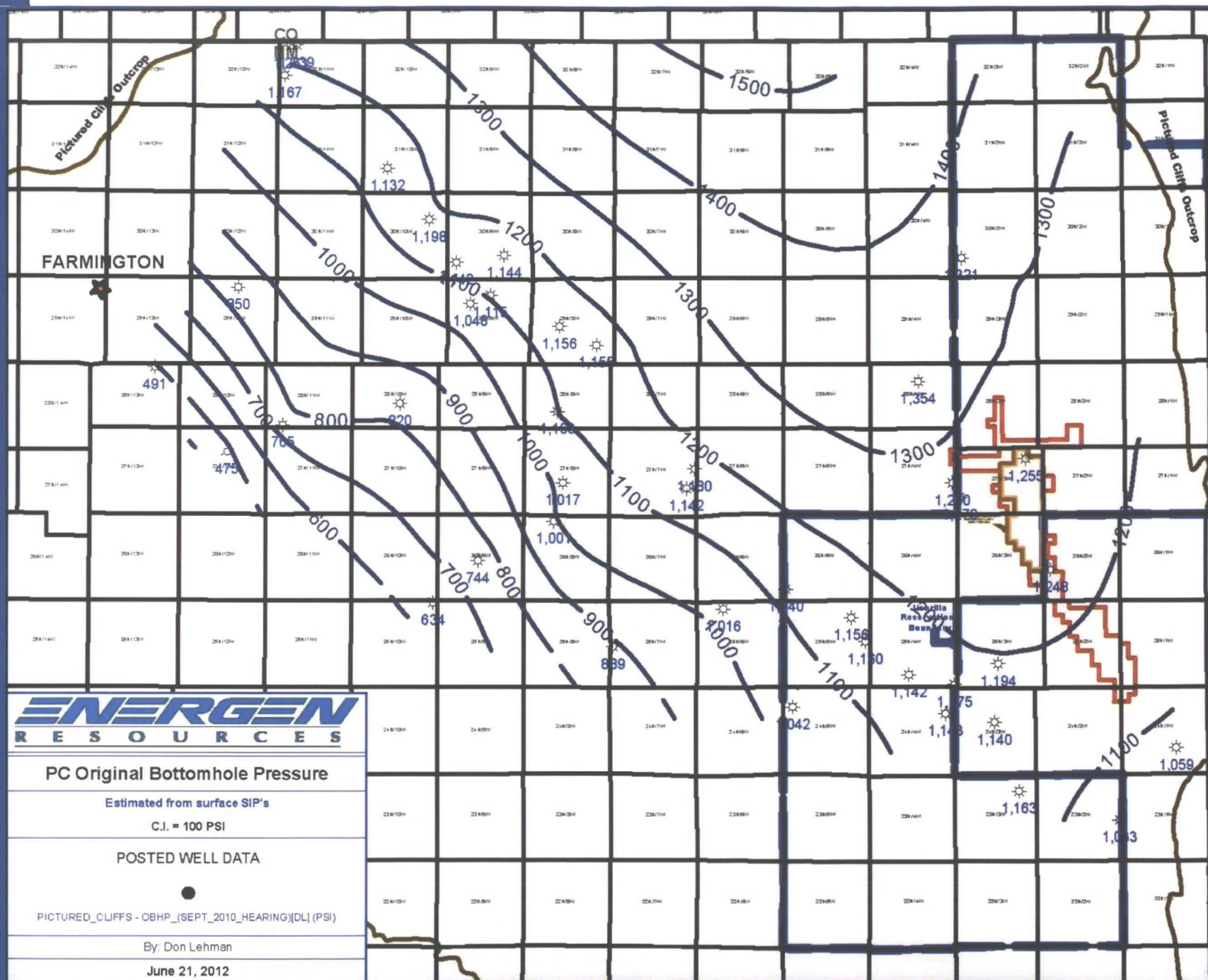
Rio Arriba Co.

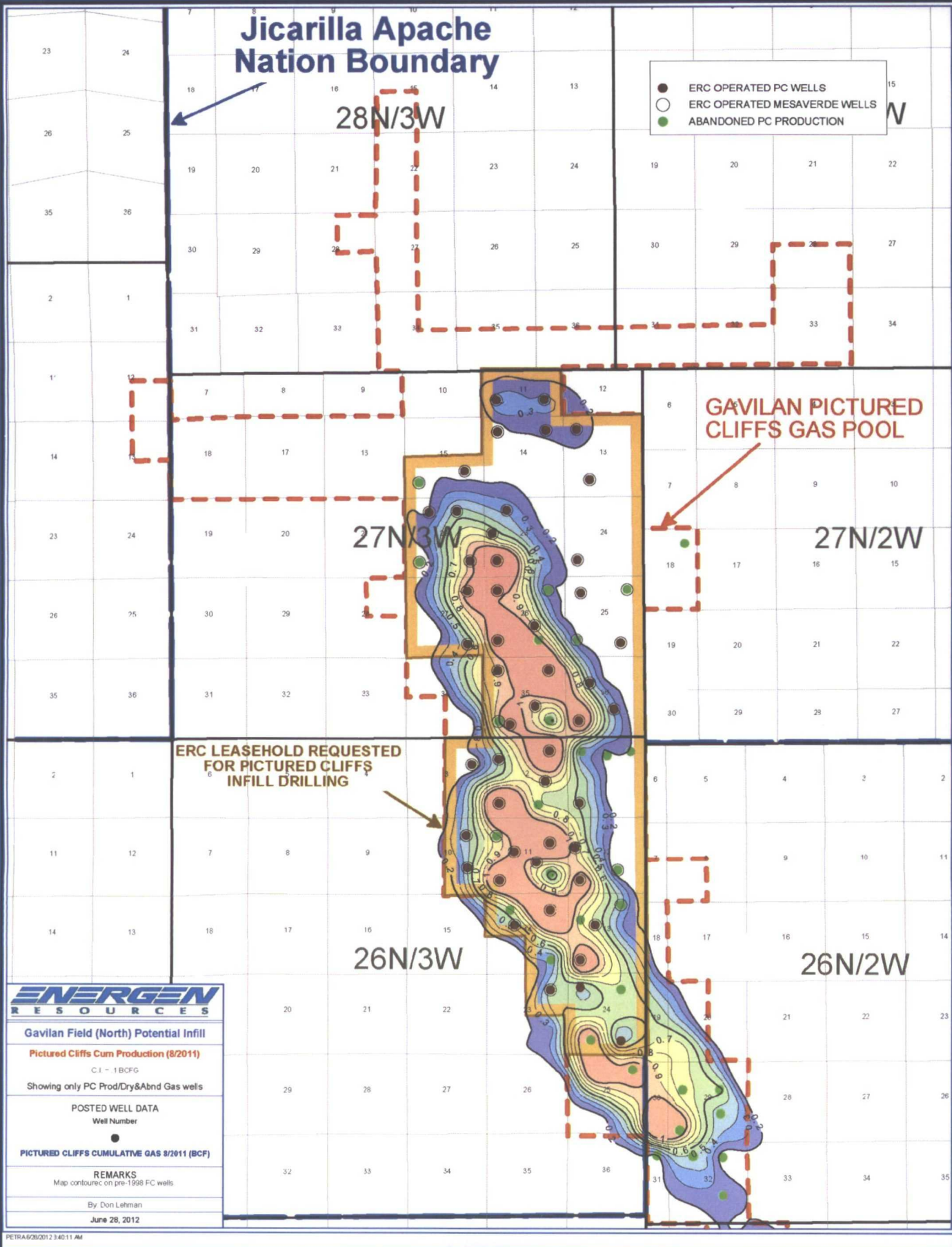
By: Don Lehman

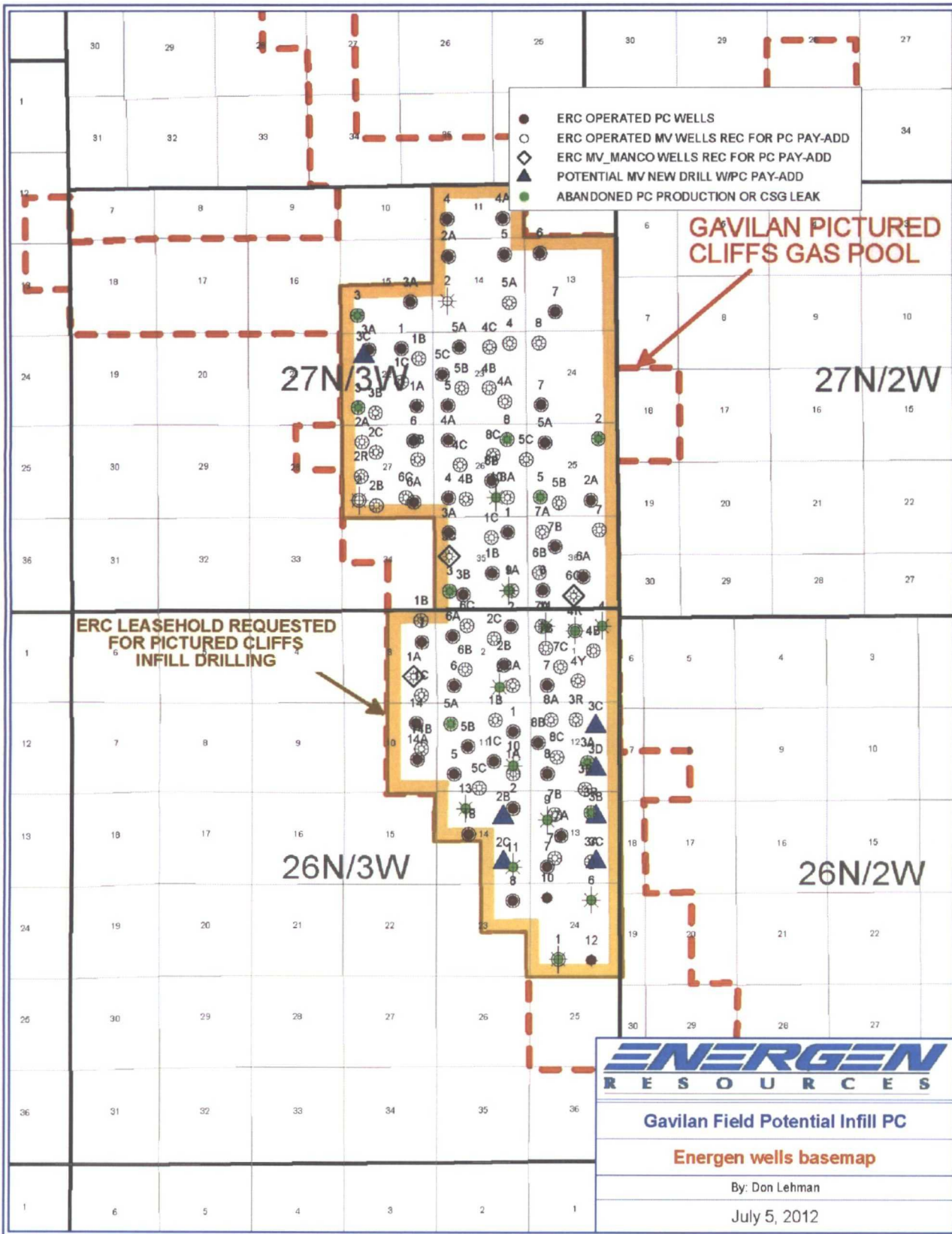
August 19, 2010 4:08 PM

ENERGEN
RESOURCES





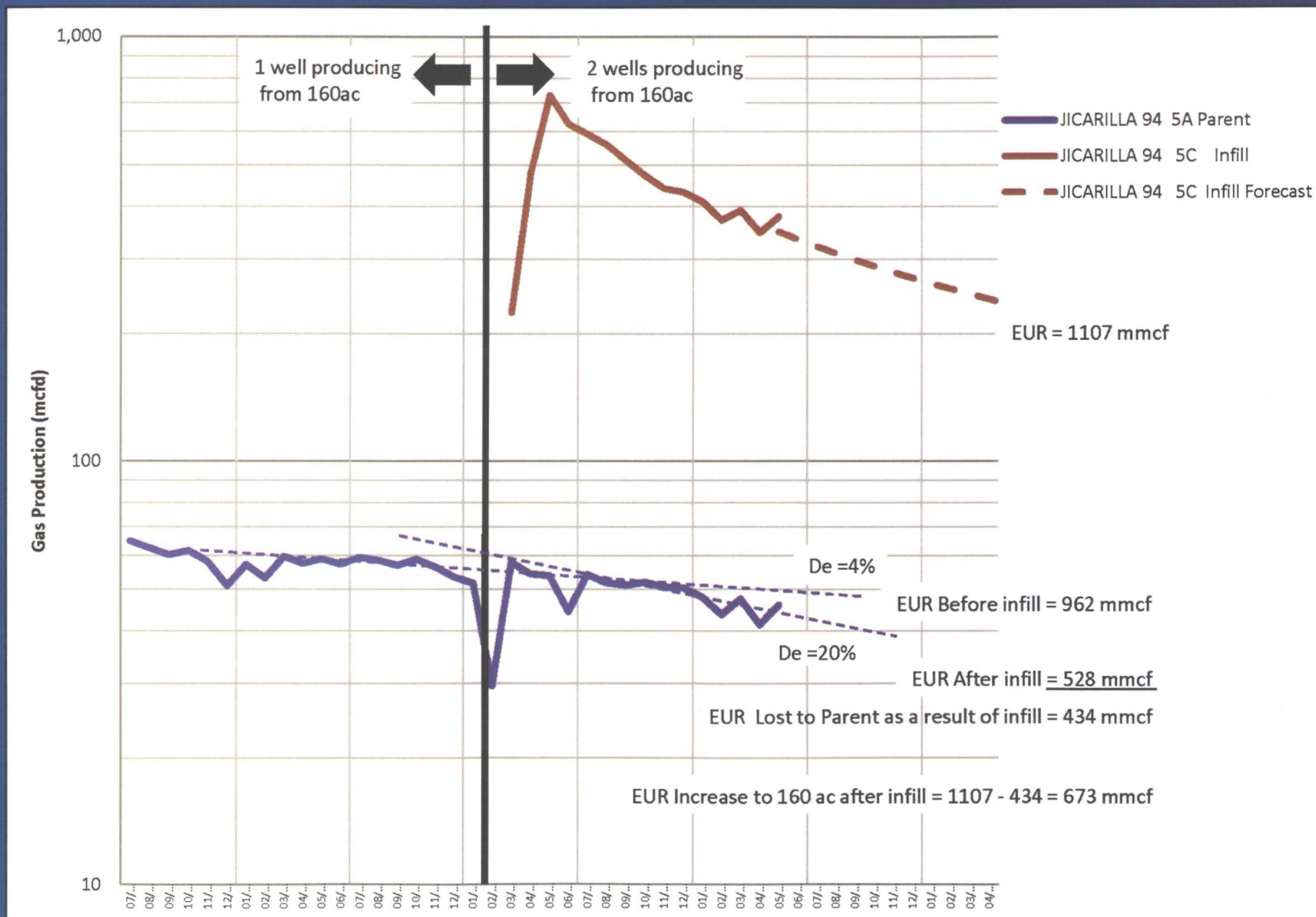




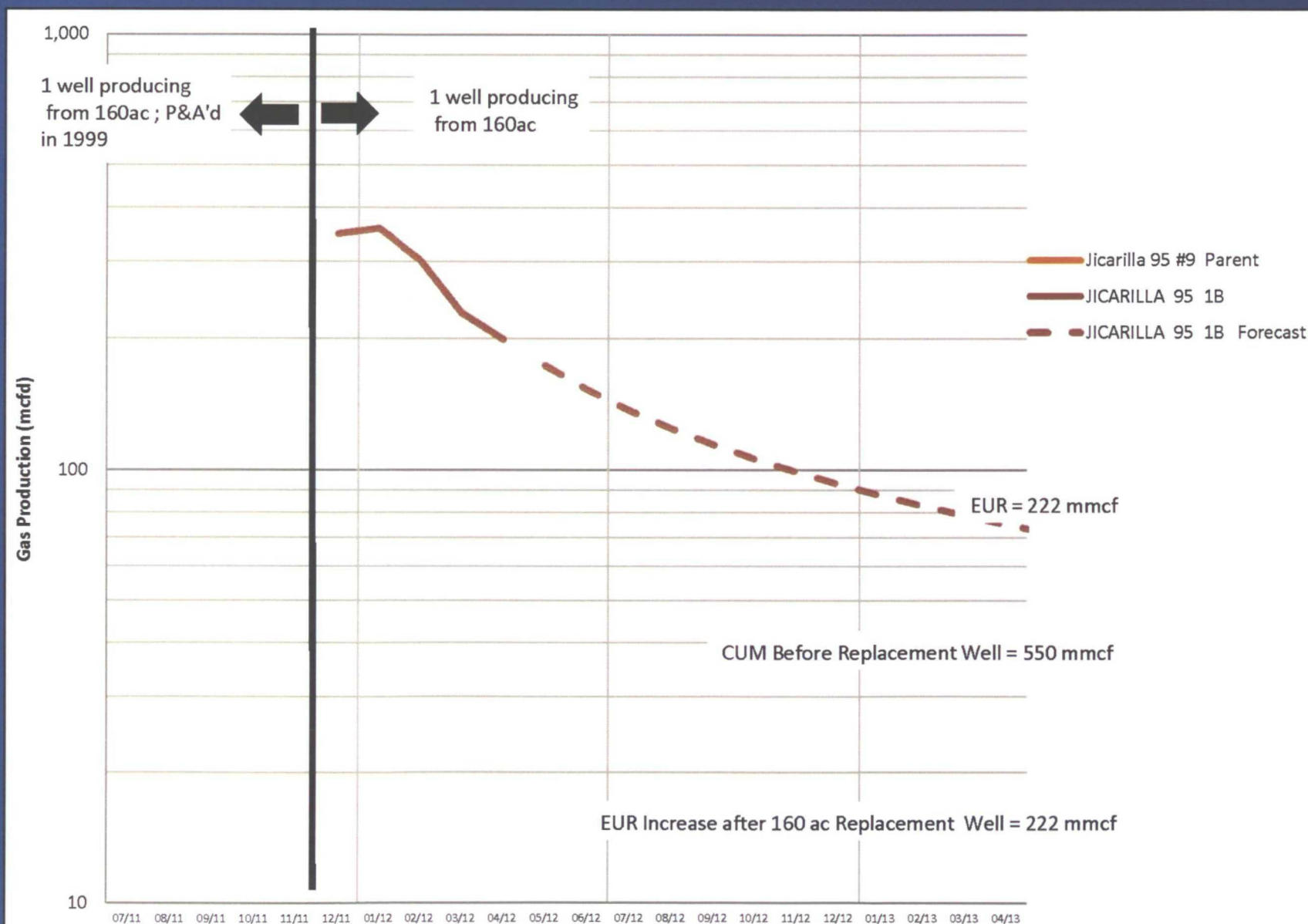
Reservoir Engineering

- Review results from 2 Pictured Cliffs Infill wells in the Gavilan Pool - 2011 infill pilot program.
- Summarize the results of 3 Pictured Cliffs infill wells in the Gavilan Pool - 2003 infill pilot program.
- Review the Bottom Hole Pressure data for the 2011 and 2003, infill wells in the Gavilan Pool.

Jicarilla 94 5C Pictured Cliffs Infill Well



Jicarilla 95 1B 160 ac Replacement Well (Similar to Infill)



Gavilan Pool Pictured Cliffs

2011 Infill Program

INFILL WELL			
Pool	Gavilan	Gavilan	AVERAGE
Name of Well	Jicarilla 94 5C	Jicarilla 95 1B	
Township	27N	27N	
Range	3W	3W	
Section	23	35	
Quarter Section	NW	SE	
EUR for the infill (MMCF)	1107	222	665

PARENT WELL			
Name of Parent Well in Same 1/4 Section	Jicarilla 94 5A	Jicarilla 95 9 (P&A'99)	
EUR Before infill well(MMCF)	962	550	756
EUR After infill (MMCF)	528	550	539
Net Change in EUR for Parent (MMCF)	-434	0	-217

Net EUR Increase for 1/4 Section (MMCF)	673	222	448
Total EUR for 1/4 Section (MMCF)	1635	772	1204

The average EUR increase as a result of Infill is 448 MMCF

Gavilan Pool Pictured Cliffs

2003 Infill Program

INFILL WELL				
Pool	Gavilan	Gavilan	Gavilan	AVERAGE
Name of Infill Well	Jicarilla 99 18	Jicarilla 96 2B	Jicarilla 95 8B	
Township	26N	26N	27N	
Range	3W	3W	3W	
Section	14	2	26	
Quarter Section	NW	SE	SE	
EUR for the Infill (MMCF)	287	243	319	283

PARENT WELL				
Name of Parent Well in Same 1/4 Section	Jicarilla 99 13	Jicarilla 96 9	Jicarilla 95 10	
EUR Before Infill well (MMCF)	932	864	1335	1044
EUR After Infill (MMCF)	688	682	1046	805
Net Change in EUR for Parent (MMCF)	-244	-182	-289	-238

Net EUR Increase for 1/4 Sect. (MMCF)	43	61	30	45
Total EUR for 1/4 Section (MMCF)	975	925	1365	1088

The average EUR increase as a result of Infill is 45 MMCF

Summary of Bottom Hole Pressure Data

Gavilan Pool Pictured Cliffs 2003/2011 Infill Programs

Year	2011	2011	2003	2003	2003	
INFILL WELL						
Name of Infill Well	Jicarilla 94 5C	Jicarilla 95 1B	Jicarilla 99 18	Jicarilla 96 2B	Jicarilla 95 8B	AVERAGE
Township	27N	27N	26N	26N	27N	
Range	3W	3W	3W	3W	3W	
Section	23	35	14	2	26	
Quarter Section	NW	SE	NW	SE	SE	
Description of BHP Measurement	DFIT Falloff	DFIT Falloff	30 Day B/U	30 Day B/U	30 Day B/U	
Original Est BHP (from Map) PSIG	1270	1270	1250	1250	1250	1258
Measured BHP (P*) PSIG	1270	617	464	569	427	669
% Pressure Depletion	0%	51%	63%	54%	66%	47%

PARENT WELL						
Name of Parent Well in Same 1/4 Sect.	Jic 94 5A	Jic 95 9 (P&A'91)	Jicarilla 99 13	Jicarilla 96 9	Jicarilla 95 10	
Cum Prod. at time of BHP (MMCF)	445	550	669	655	1021	668

Summary/Conclusions

- Pictured Cliffs pay-adds in ERC Gavilan area will:
 - Will cause NO new surface disturbance, utilizing existing well pads and facilities
 - Produce gas reserves that would not otherwise be produced
 - Will cause NO waste or infringement upon Correlative Rights.
 - Provide for better economics to help justify new drill Mesaverde wells