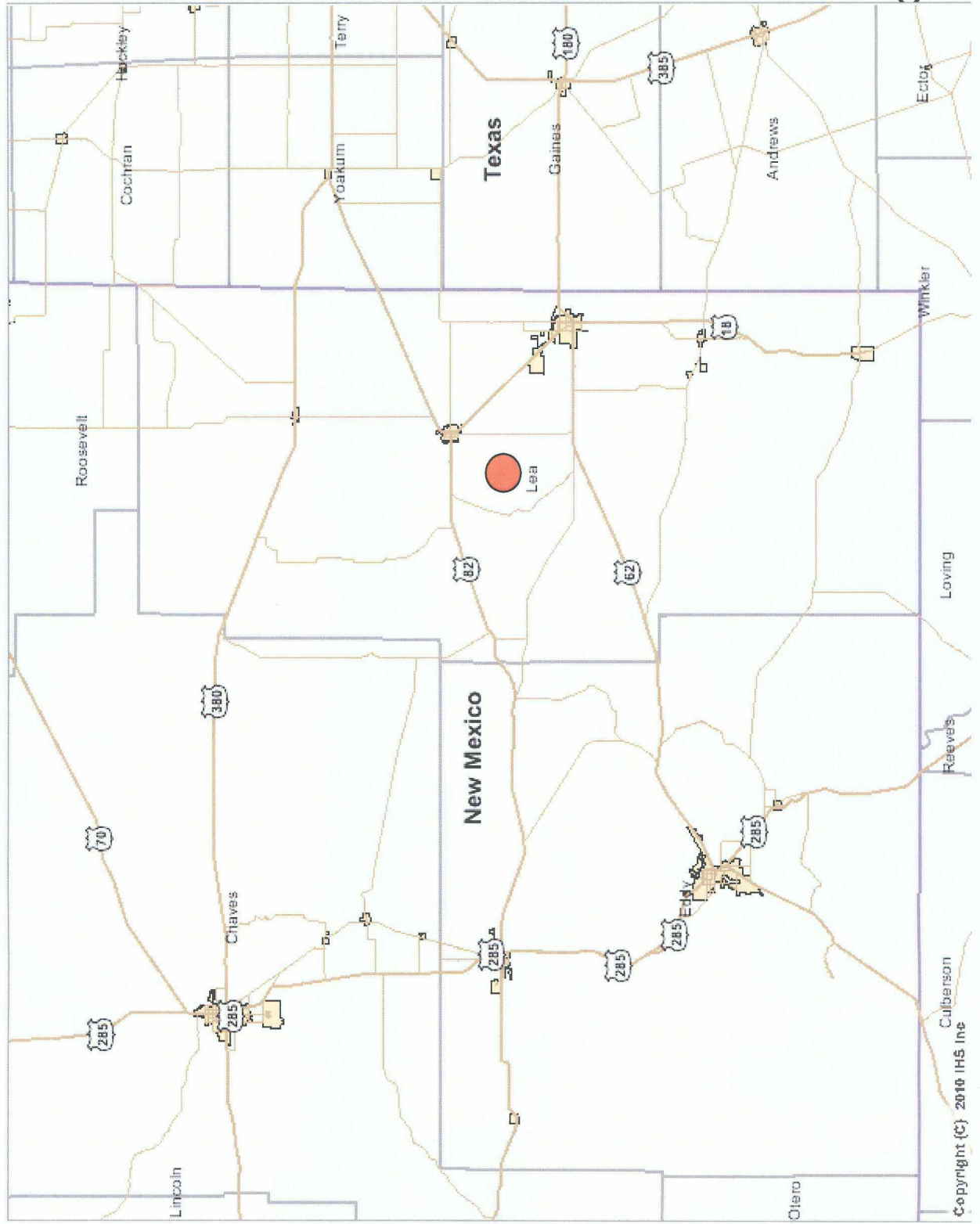


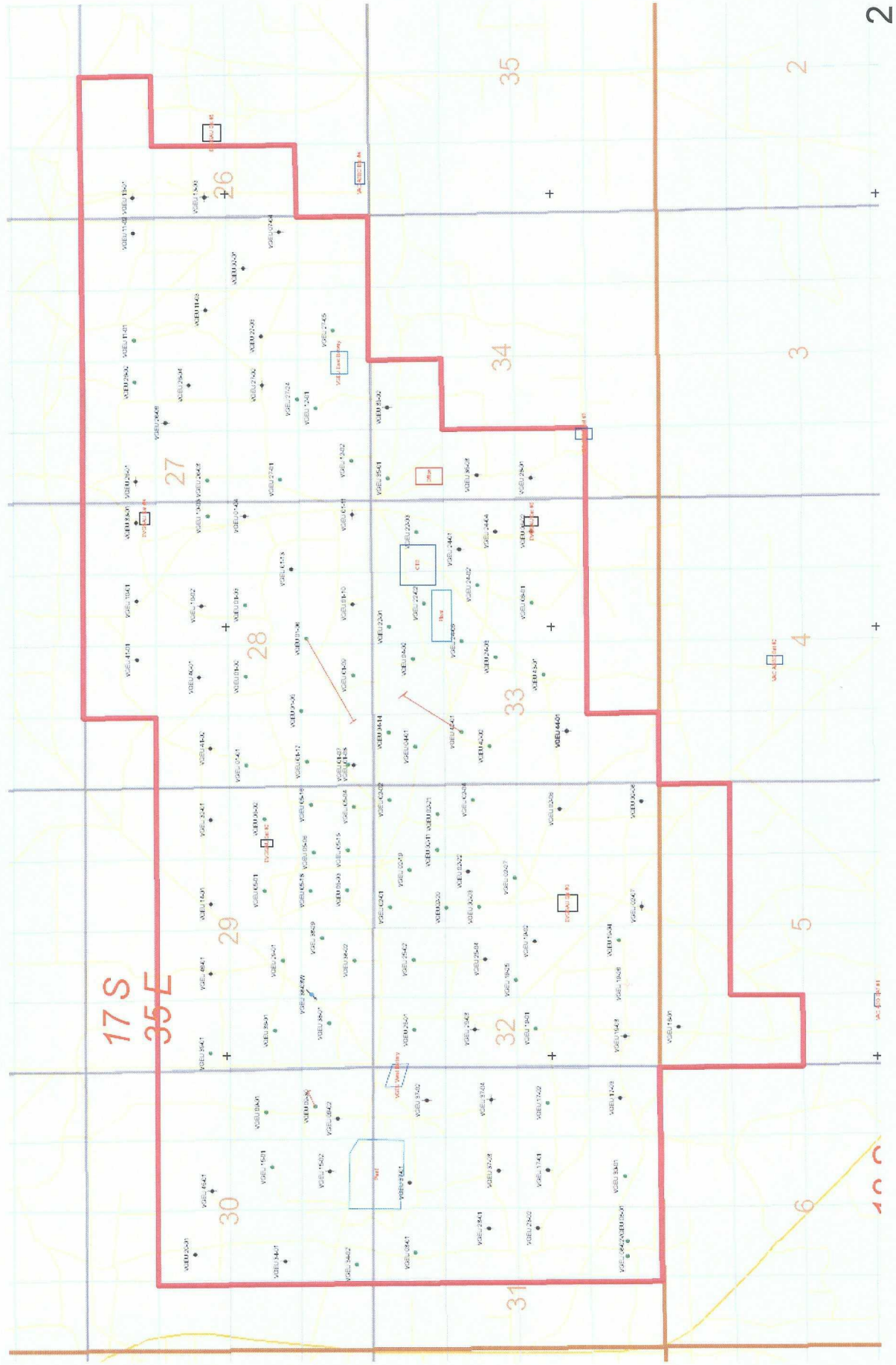
VGEU Laterals

October 28, 2010

Location map



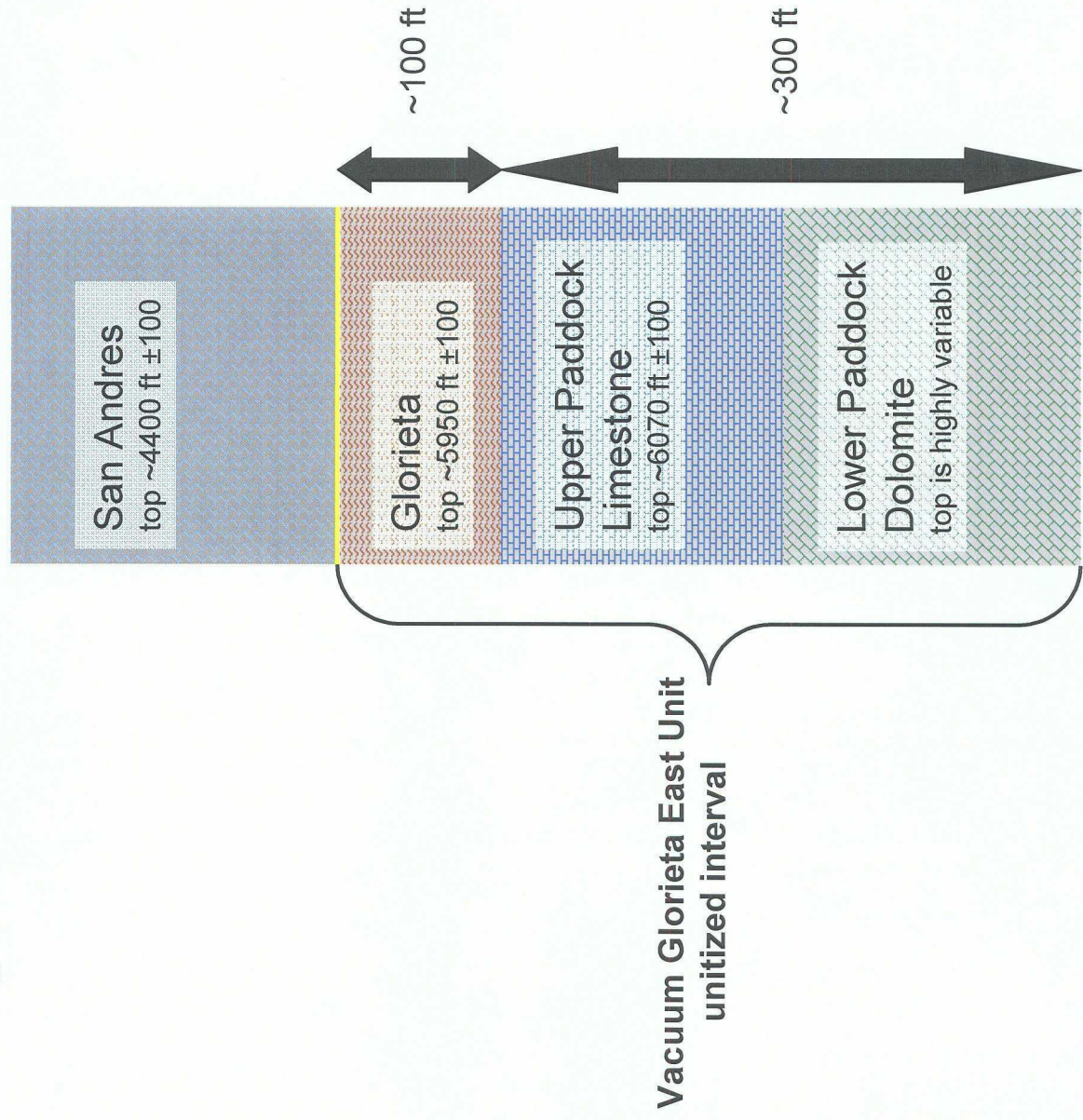
General Unit Map



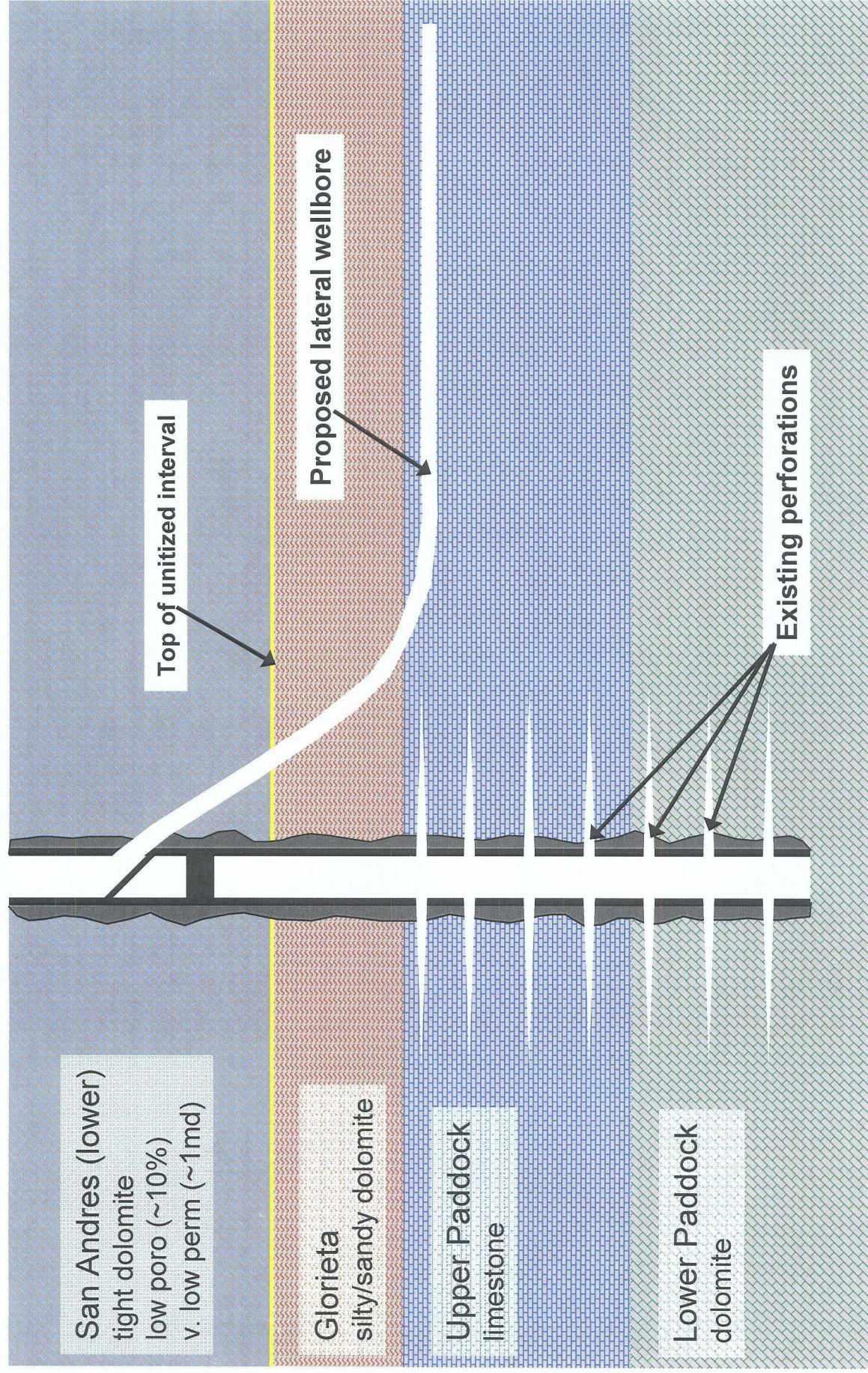
Offset Operators

- Chevron
- Shell
- BP
- ExxonMobil
- Chesapeake
- Oxy

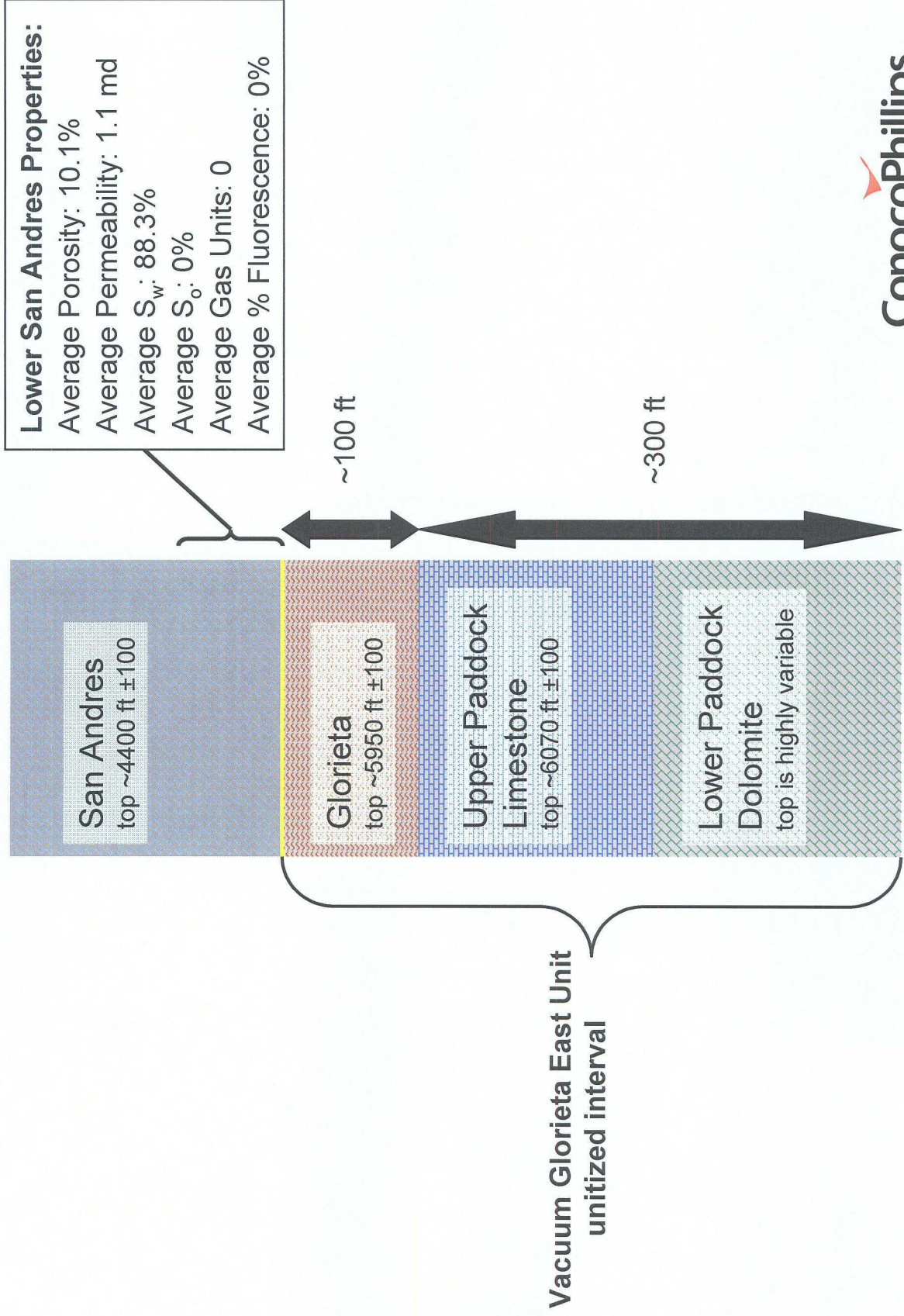
Depth/Thickness of Formations



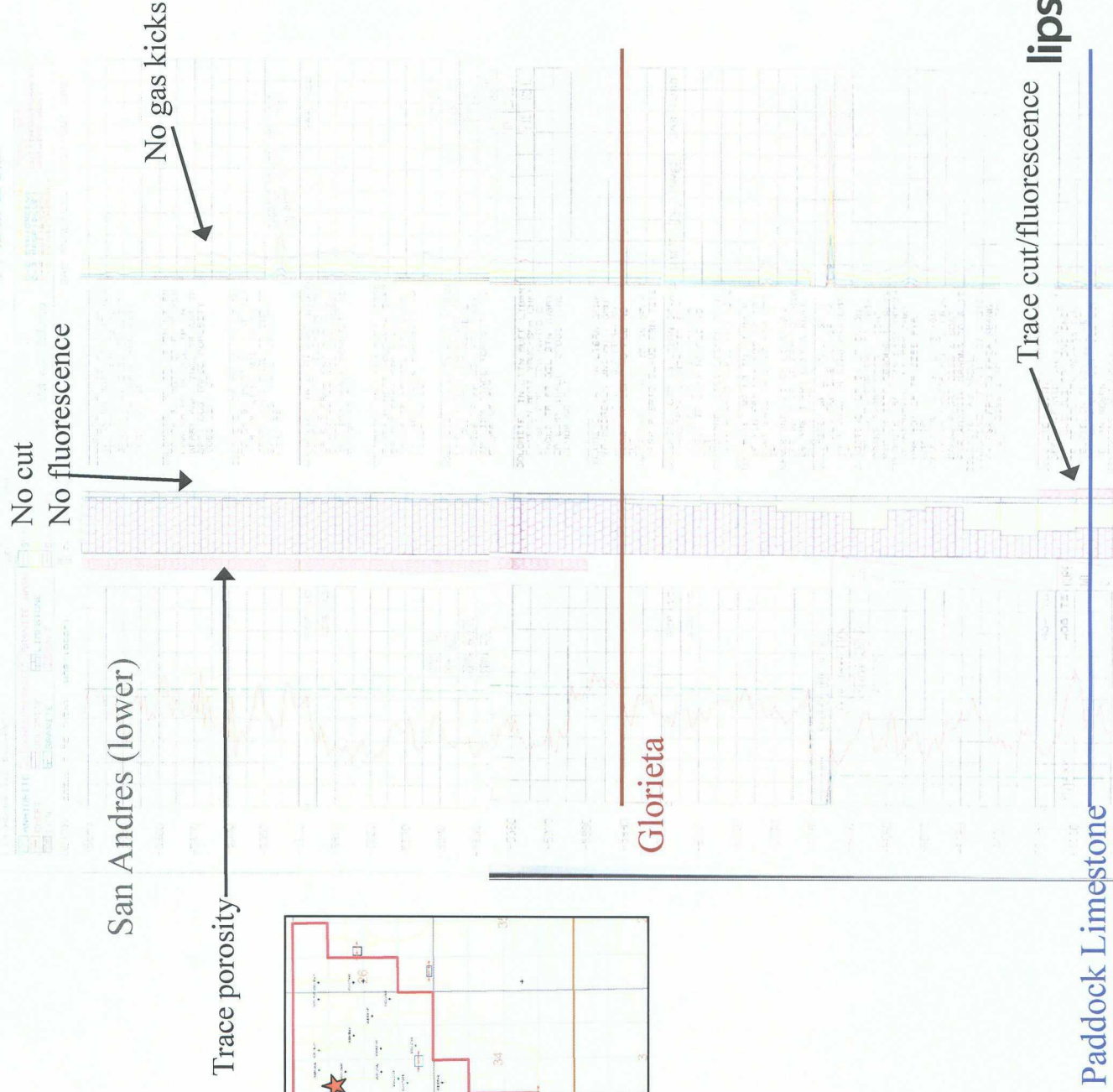
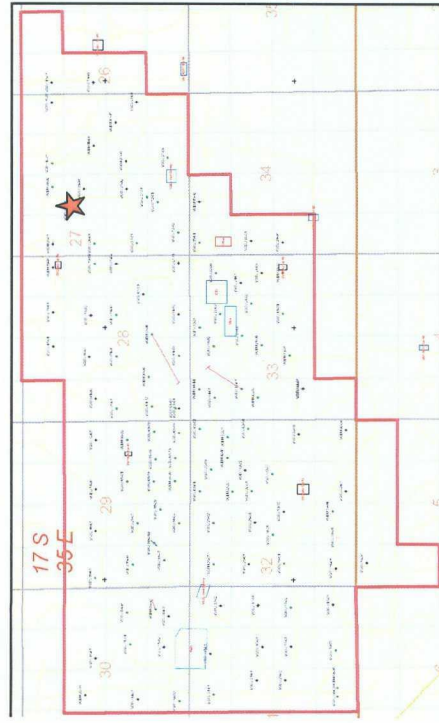
Geologic Schematic



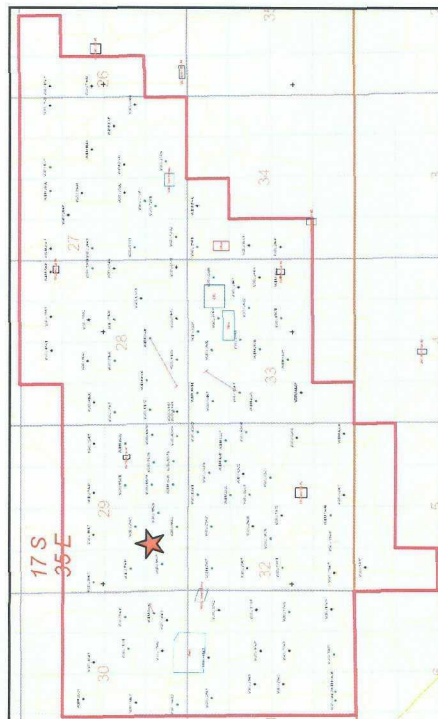
Sidewall Core Data



VGEU 26-06 Mudlog



DEPTH	DRILL RATE (MIN)	USING 10"	NO CUTTINGS FROM CUTTING
10"	10"	10"	10"
20"	20"	20"	20"
30"	30"	30"	30"
40"	40"	40"	40"
50"	50"	50"	50"
60"	60"	60"	60"
70"	70"	70"	70"
80"	80"	80"	80"
90"	90"	90"	90"
100"	100"	100"	100"
110"	110"	110"	110"
120"	120"	120"	120"
130"	130"	130"	130"
140"	140"	140"	140"
150"	150"	150"	150"
160"	160"	160"	160"
170"	170"	170"	170"
180"	180"	180"	180"
190"	190"	190"	190"
200"	200"	200"	200"
210"	210"	210"	210"
220"	220"	220"	220"
230"	230"	230"	230"
240"	240"	240"	240"
250"	250"	250"	250"
260"	260"	260"	260"
270"	270"	270"	270"
280"	280"	280"	280"
290"	290"	290"	290"
300"	300"	300"	300"
310"	310"	310"	310"
320"	320"	320"	320"
330"	330"	330"	330"
340"	340"	340"	340"
350"	350"	350"	350"
360"	360"	360"	360"
370"	370"	370"	370"
380"	380"	380"	380"
390"	390"	390"	390"
400"	400"	400"	400"
410"	410"	410"	410"
420"	420"	420"	420"
430"	430"	430"	430"
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510"	510"	510"	510"
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930"	930"	930"	930"
940"	940"	940"	940"
950"	950"	950"	950"</



Small gas kicks

No cut

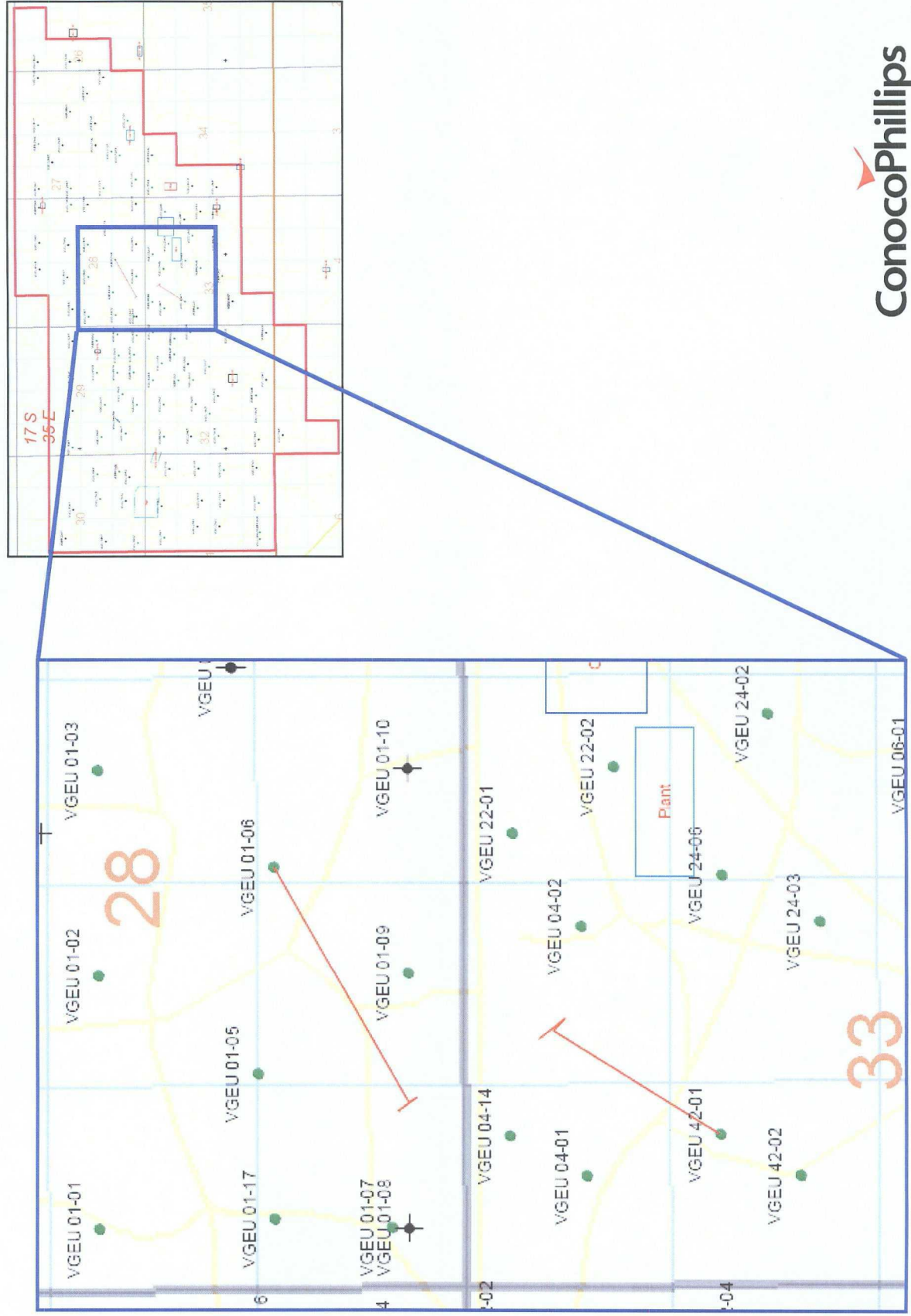
No fluorescence

Glorieta

Paddock Limestone

Trace cut/fluorescence

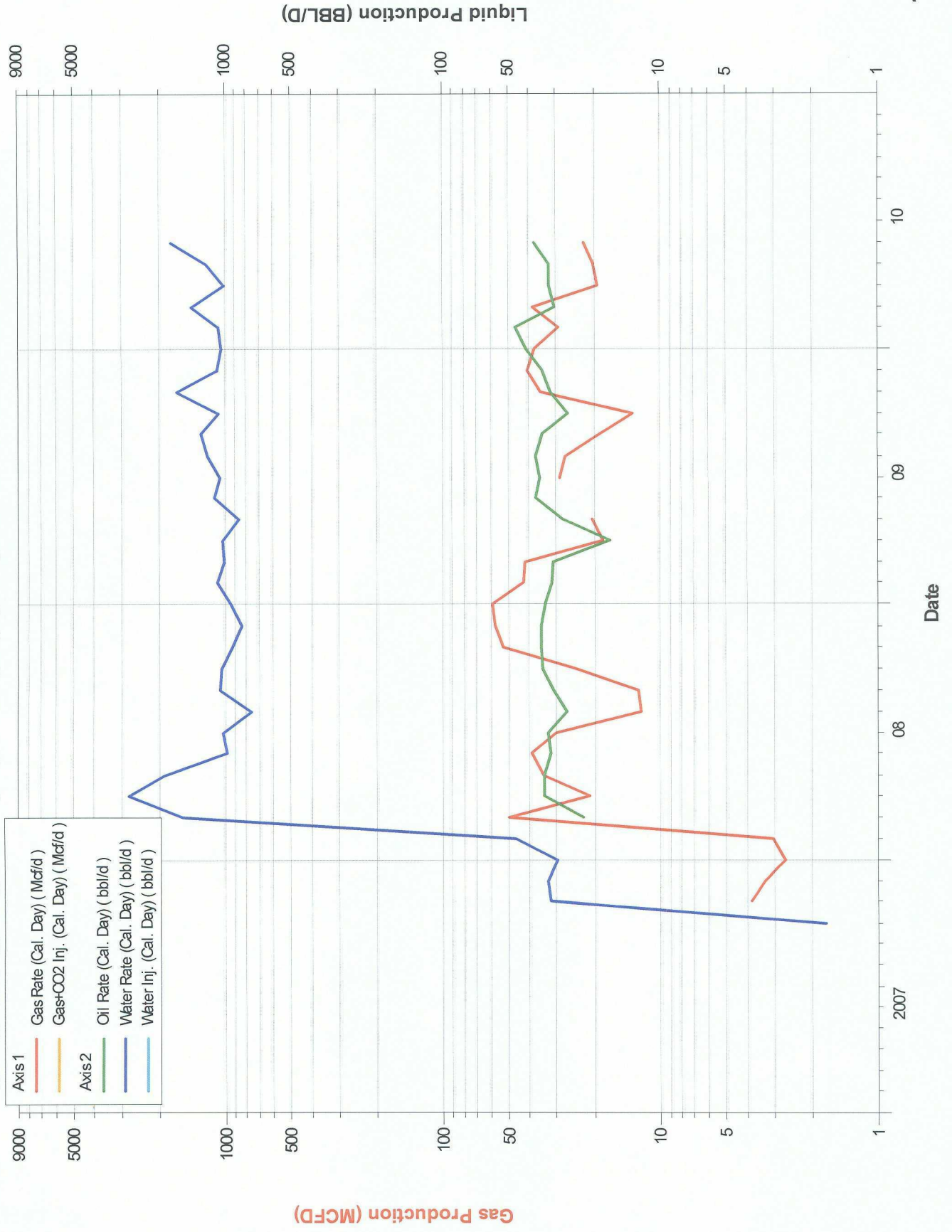
COP Drilled Laterals



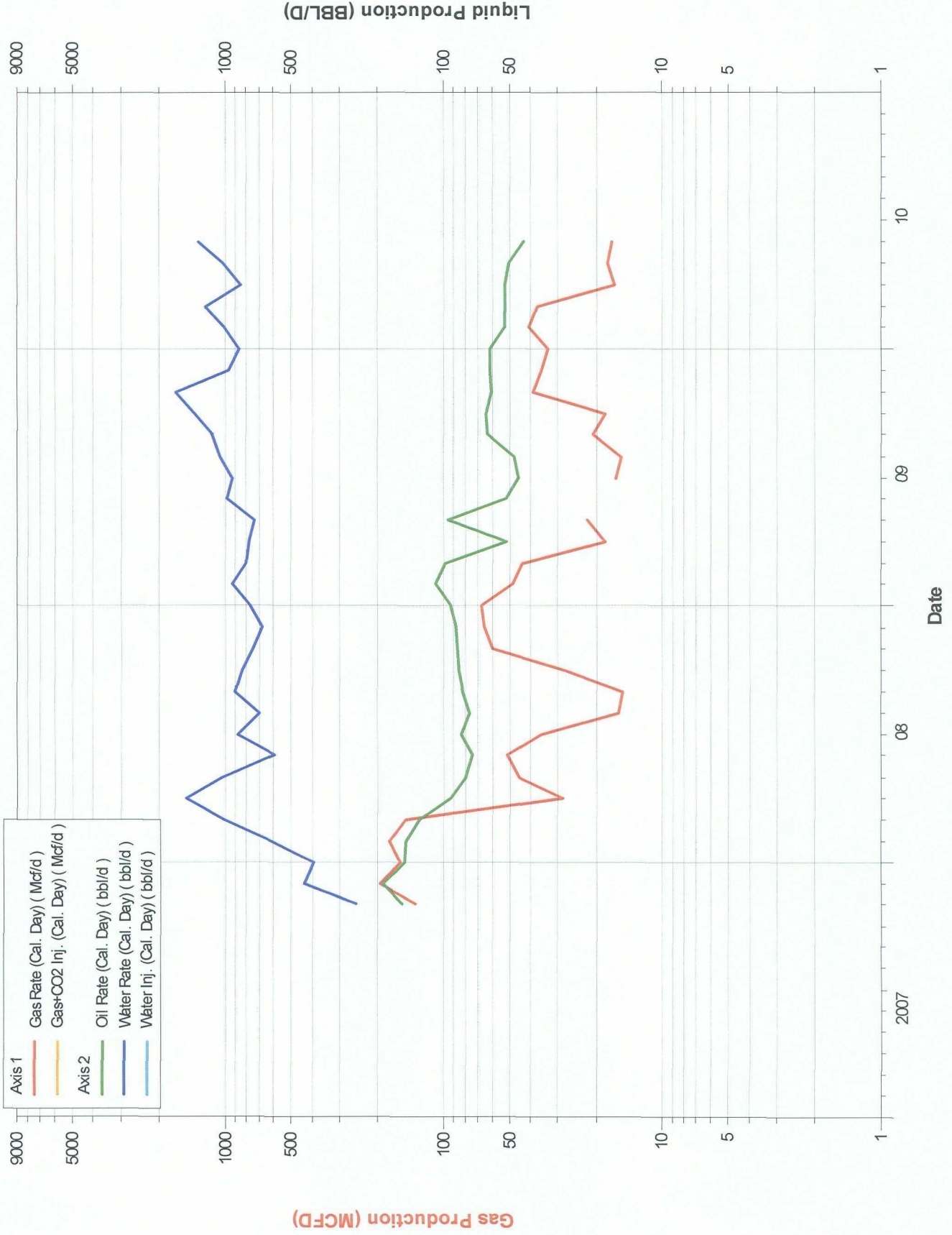
History of Approval of 2007 Laterals

- VGEU 42-01
 - 1988 - Drilled vertical well (TD: 6350')
 - April 2007 – Lateral Permit Approved (KOP: 5941')
 - Aug 2007 – Drilled lateral starting at 5821'
- VGEU 01-06
 - 1988 – Drilled vertical well (TD: 6300')
 - April 2007 – Lateral Permit Approved (KOP: 5902')
 - Sept 2007 – Lateral Permit Approved (KOP: 5808')
 - Sept 2007 – Drilled lateral starting at 5811'

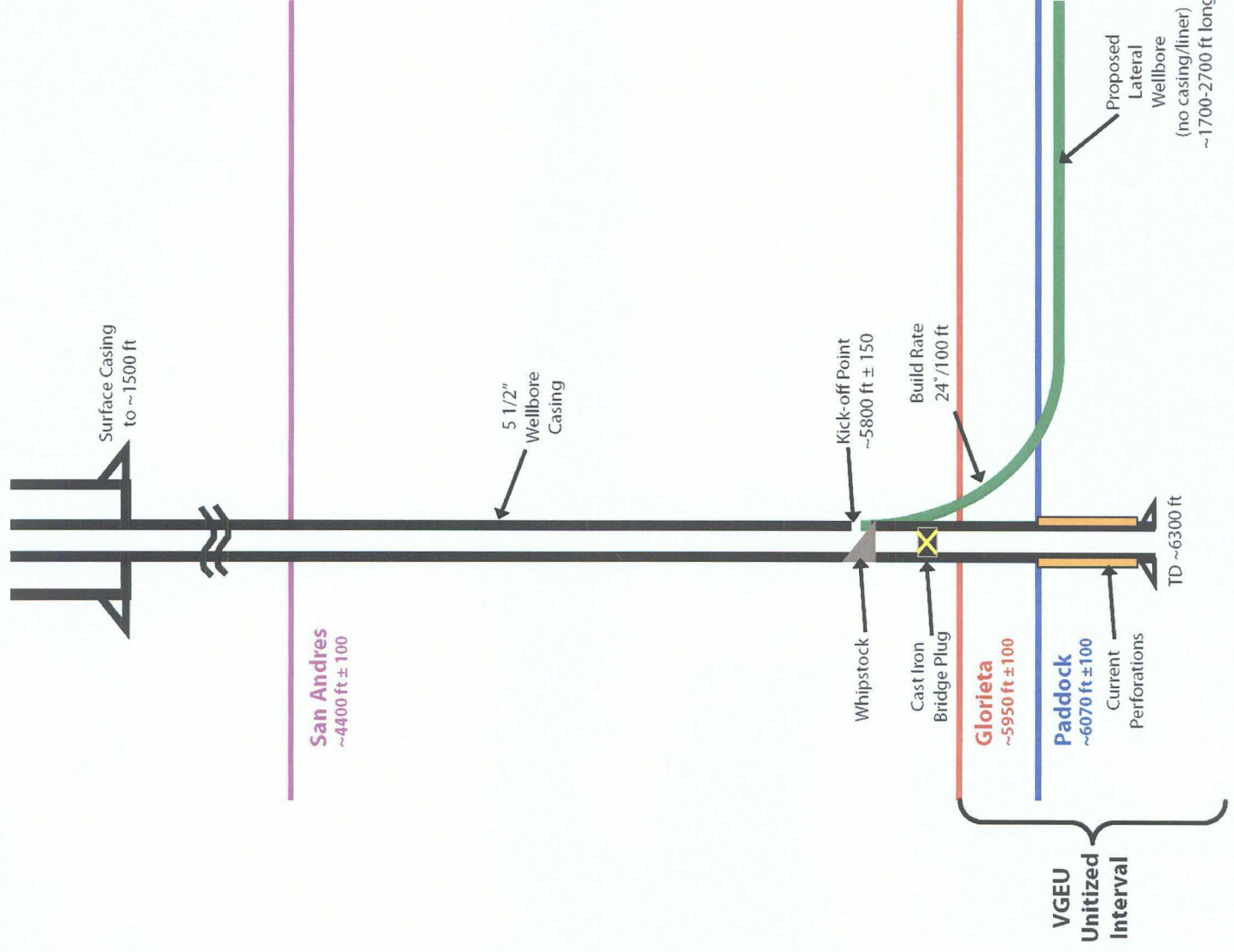
VGEU 01-06 Lateral Production



VGEU 42-01 Lateral Production



Example of Existing and Planned Laterals



Economic Impact

- Lateral out of existing vertical wellbore ~ \$1 MM
- Grassroots Lateral ~ \$2 MM

Offset Operators have done this as well

Vacuum Glorieta West Unit (VGWU)

"A total of 31 *open hole* laterals (24 producers and 7 injectors) have been drilled and completed to date in existing wellbores, where each lateral (1000ft-1800ft in length) was typically drilled out of 5 ½" casing at an average cost of \$305,000 per well. ... Cumulative incremental production attributed to horizontal drilling through August 2001 is 1.2 million barrels of oil and the ultimate incremental production is expected to be 2.6 million barrels of oil." -from Horizontal Drilling at Vacuum Glorieta West Unit, Lea County, New Mexico: A Case History; by Robert L. Martin and Kevin F. Hickey; WTGS Publ. #02-111, Fall Symposium Oct. 2002

