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“Unconventional” Discovery Thinking in Resource Plays: Haynesville Trend & John Amoruso Field, East Texas

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Learnings & Values

- ***Value Professional, Mentor & Peer Relationships***
- ***Challenge Dogma & Paradigms (with data and scientific thinking)***
 - “there are no more large fields to be found”
 - “deep is bad – high temperature, high pressure, high stress, poor porosity”
- ***IOIIIOII: Imagine, Observe, Interpret***
 - Re-iterate
 - Avoid “paralysis by analysis”
- ***Employ Multiple working hypotheses***
- ***Fully Utilize evolving technologies***
- ***Don't be shy about size / scale***

Unconventional Discovery Thinking

Take-aways:

- ***Resource Plays require exceptional collaboration & leadership***
- ***Resource Plays are more than unconventional***
- ***Resource plays often have a long history – require persistence***
- ***Resource plays aren't all low rate / return***
- ***Mega gas shale plays will be game changers***
- ***Supply and demand will be a continuing challenge***

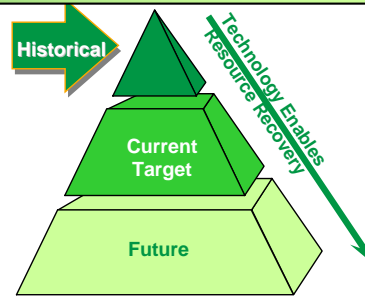
Resource Plays

A Continuous Spectrum

Deep Panuke	Doig N. Alberta/B.C.	Jean Marie N.E. B.C. Deep Bossier	Lance Formation Jonah Field Piceance Montney E TX CV/Bossier	CBM - Alberta Barnett Horne River Mid-Bossier Haynesville SAGD
Conventional Discontinuous	Tight Gas Fm's	Deep Basin "Basin Center"	Unconventional Continuous	
EnCana Resource Plays				

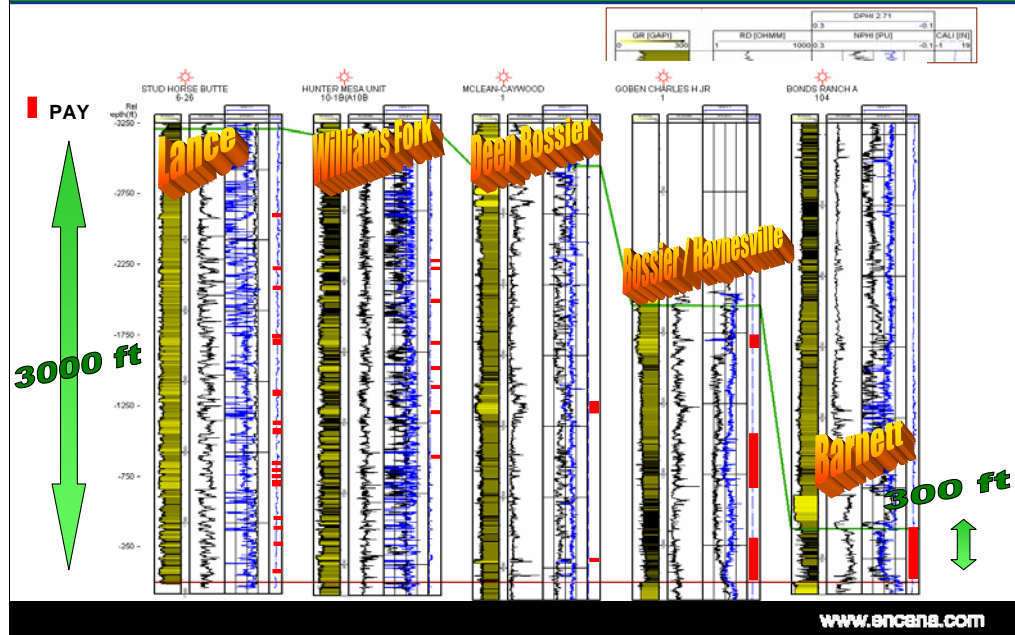


The Future is Resource



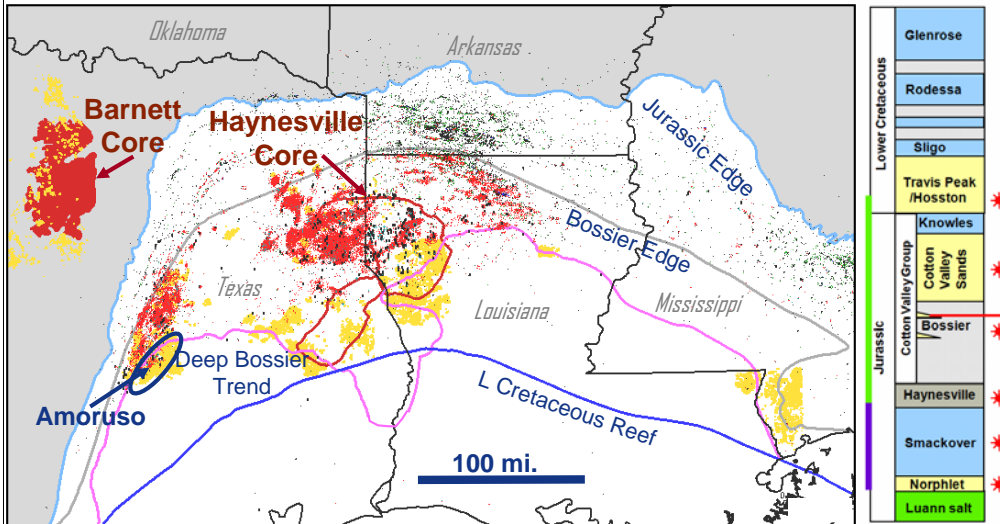
Key & Emerging Resource Plays

EnCana Oil & Gas (USA) Inc.



Gulf Coast Jurassic Trend

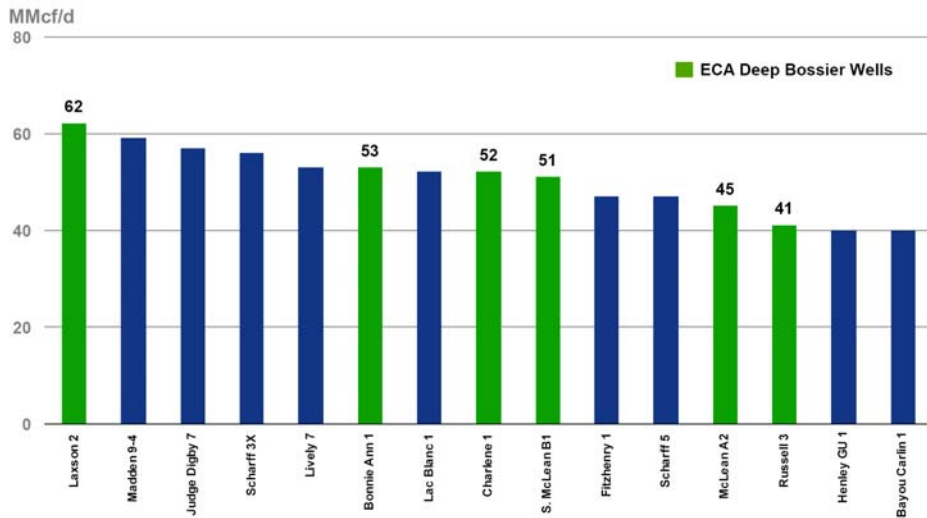
> 1 Million Acres on Trend



Deep Bossier Amoruso

Exceptional Rates / Reserves

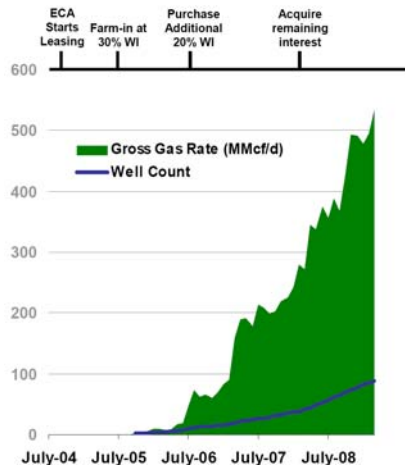
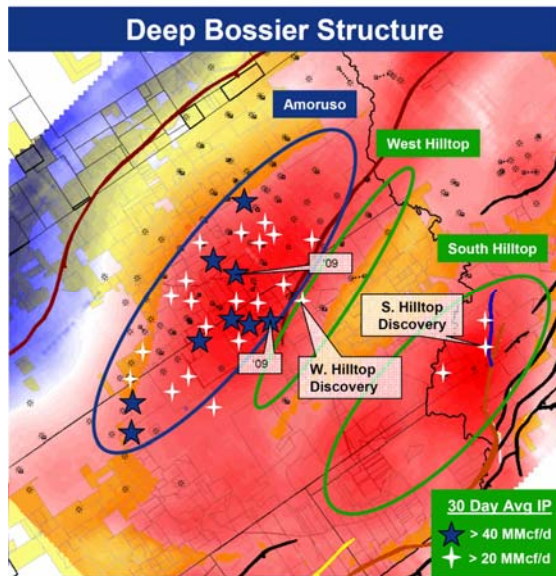
Highest Average 3 Month Gross Gas Production Rate (2003 – 2009)



Source: HPDI

www.encana.com

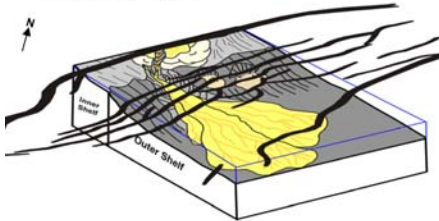
Deep Bossier Amoruso History / Status



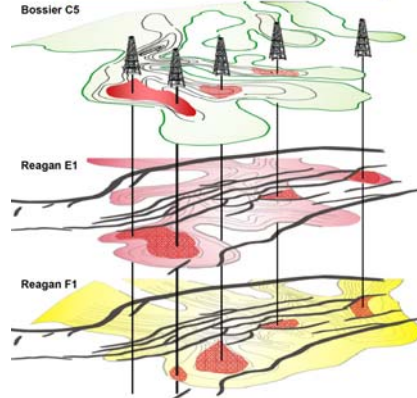
Deep Bossier Amoruso Subsurface

Deep Bossier

- Basinward to SE
- Submarine fans and turbidites
- Abnormally pressured – porosity preserved
- High porosity sands in Outer Shelf
- Thicker, tighter sands within Shelf Margin



Amoruso

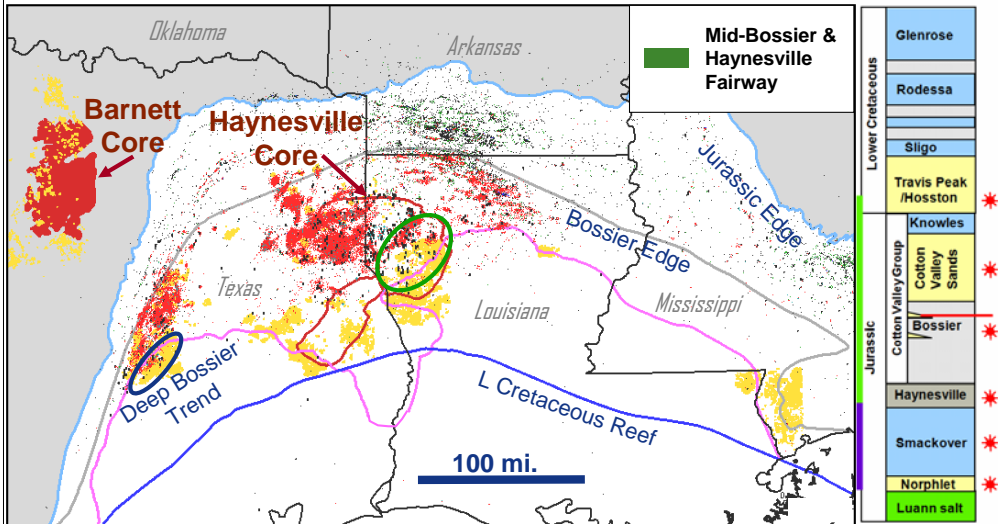


- Stacked pay potential
- Continuous and compartmentalized
- Stratigraphic traps and fault separation

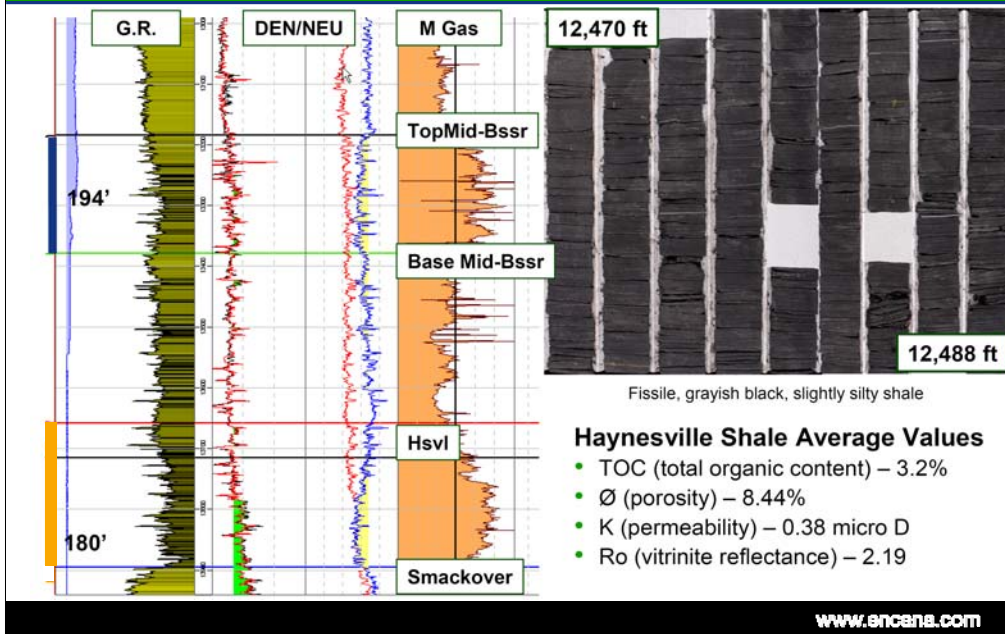
Early Cretaceous	Travis Peak
	Cotton Vly
	Bossier A
	Bossier B
Late Jurassic	Bossier C
	Bossier D
	Mid-Bossier Unc.
	A
	B
	Rgn C
	Reagan D
	Reagan E
	Reagan F
	Bossier Shale
	Src. Rock

Gulf Coast Jurassic Trend

Haynesville / Bossier Shale Fairway

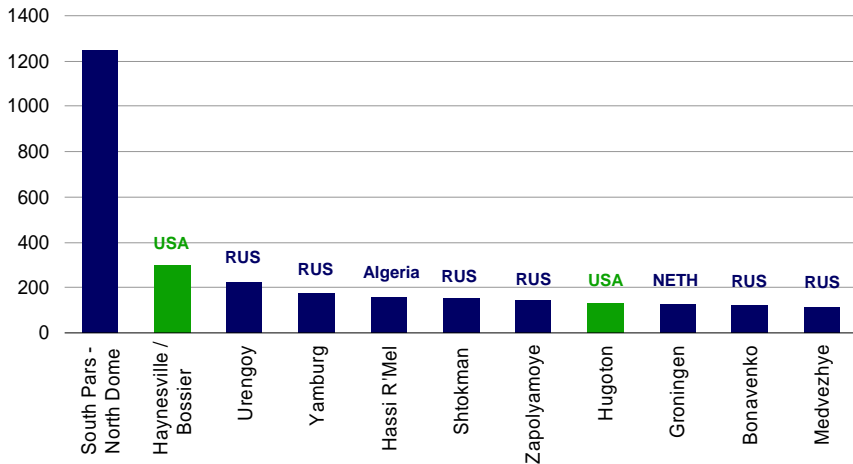


Haynesville / Bossier Play Fairway Stack Pay

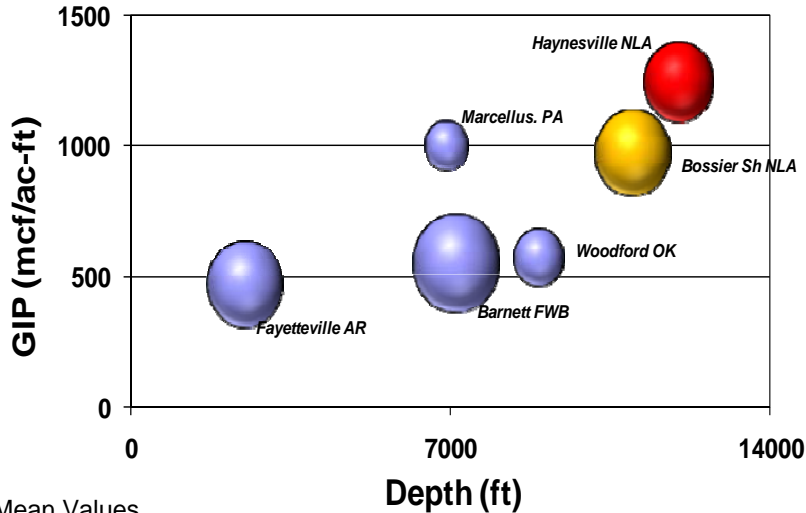


Haynesville / Bossier Play World Class Resource

Tcf EUR



Haynesville / Bossier Play World Class Resource

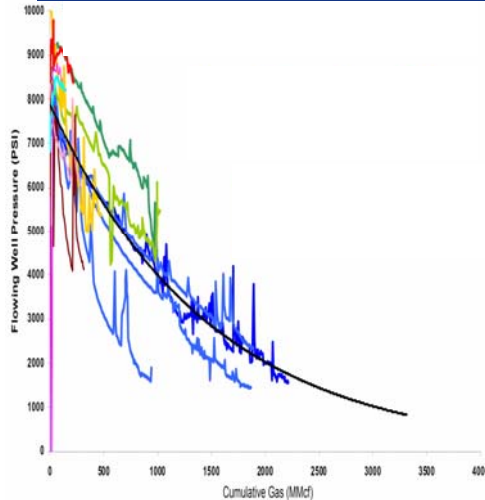


Play Mean Values

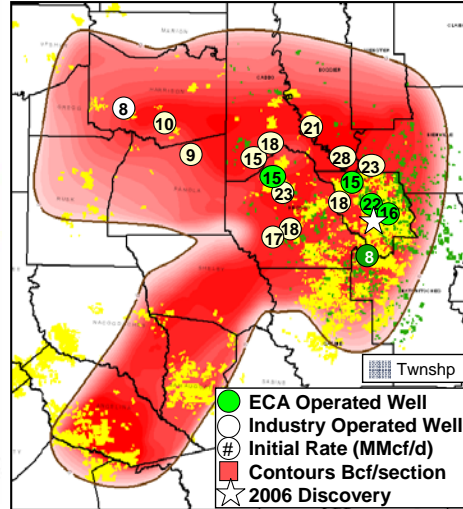
Bubble size – relative thickness

Haynesville Play Status Well Performance

Potential to produce over 3 Bcf
before hitting line pressures



Exceptional OGIP
Developing Fairway

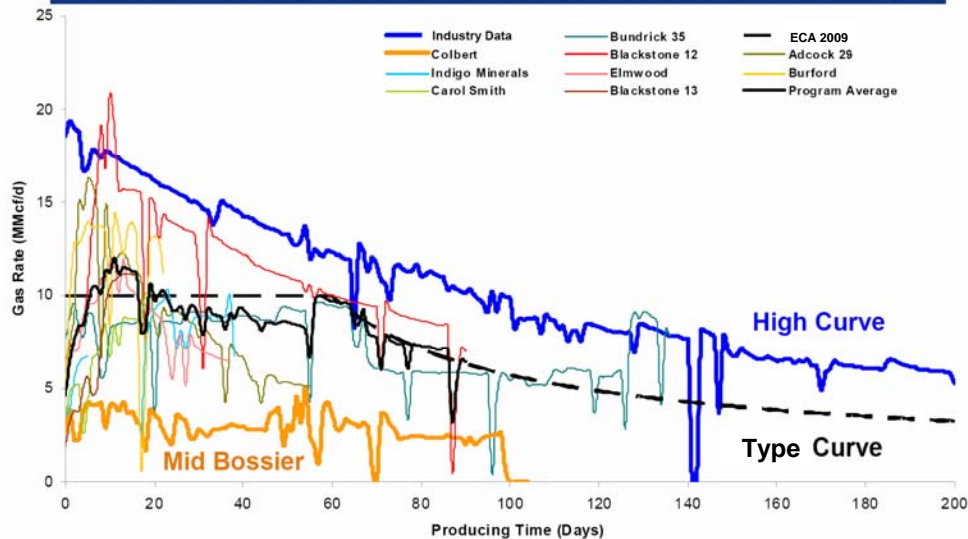


www.encana.com

Presenter's Notes: EnCana has drilled 16 horizontal wells and over that period it has decreased well costs by 30% to about \$9 million per well, increased IPs, decreased cycle time from 60 days to 50 with the most recent wells in the 40's.

Haynesville Play Status Well Performance

Well rates limited by infrastructure flowing pressures: 7,000 to 9,000 psi



Thanks to the AAPG 100th Anniversary Committee, Charles Sternbach, Ed Dolly and Paul Weimer for their efforts to preserve the legacy of experience-based discovery thinking!



Denver 1898



Denver 2008