USA Division | HAYNESVILLE SHALE & EAST TEXAS

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The New Encana: the clear energy choice
Haynesville Shale, East Texas, Fort Worth
Haynesville Shale
Advancing the 2010 Development Program

Production
MMcfe/d

2010 Objectives
• Drill bit land retention
• Mid Bossier testing
• Gas Factory pilot
• San Augustine extension

24 hour IPs

AMI area

Encana Acreage: 429,000 net; including 63,000 net mineral interest

AMI area

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AMI area

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Haynesville Land Retention Strategy

- Top performing asset in Encana portfolio
  - Superb shale quality
  - Massive NGIP (175-225 Bcf/Sec)
  - Up to 8 Tcf recoverable*
  - High deliverability
  - Close proximity to infrastructure
- 2010 budget is focused on retaining land
  - 109 net wells (225 gross)
  - Gas Factory pilot
  - 20-25 operated rigs
  - 7-10 non-operated rigs (Shell)
- Will lead Encana’s production and reserve growth

NGIP = Natural Gas in Place
*Based on 2P Proved + Probable Reserves & 2C Economic Contingent Resources
Haynesville Well Performance
Confidence in Productivity

Well rates limited by infrastructure flowing pressures: 7,000 to 10,000 psi

Gas Rate (MMcf/d)

Productivity increases driven by:
- Additional frac stages
- Refining perforation clusters
- Increased proppant concentrations

Cumulative Gas (MMcf)

20 stages

12 stages

7.5 Bcf Type Curve
12 Fracs
**Horizontal Haynesville Completion Design**

Longer laterals, more frac stages = better wells

**Current Frac Design**
- 5” production casing
- 10 - 14 stages
- 300-350K lb proppant per stage
- 12,000 bbl of slick water & linear gel per stage
- Pump rate of 70-75 bpm

**Forward Testing**
- 5 ½” production casing
- 12 -16 stages
- Increased proppant concentrations
- Sand and other proppants
- More perf clusters per stage
- Increased lateral length (>4,200 ft)

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250-300' Stages

50’ - 70’ Spacing

1’ - 2’ Clusters @ 6 Shots/ft

10K Composite Bridge Plugs
BHT: 370-400 degrees
BHP: 11,000 psi

Note: Diagram not to scale
Haynesville – Focus on Cost Reductions
Improving Operational Performance

DC&T Costs
$MM

DC&T Costs reduced 40%
• Best 3 well average $7.4 million
• Drilling longer laterals
• Spud to release decreased by 16 days

IP (30 Day)
MMcf/d

IP (30 day) increasing
• Increasing number of frac stages
• Increasing clusters per frac stage
• More proppant & fluid pumped
• Gathering system growth
Haynesville Horizontal Drilling Design
Bit and Motor Optimization

Current Drill Design
• 55 day spud to release
• Faster rig moves
• Built for purpose bits and use of faster motors
• More geological control
• Well section accountability
• Improved formation pressure control

Drill Design Progression
• <35 day spud to release
• Consistency
• Pre-set surface casing
• Drill lateral with water based mud
• Optimization – casing, bit selection, motors, etc.
• Utilizing 3D Seismic

Surface Hole
13⅜” @ 1,850’ Fresh Water

Inter’ Hole
9⅝” @ 10,500’ Water Based Mud 11.5 ppg

Lateral Section
6½” Hole @ 12,500 TVD, 16,500 MD’ Oil Based Mud 16 ppg
Haynesville
Manufacturing Process

Step Change in Development

- Gas Factory
  - Multi-well pads; simultaneous operations
  - Manufacturing process
  - Skidding FFP rigs
  - Single pipeline connection
  - Reduced overall footprint
- Downhole spacing ~660 feet
- Well orientation N-S
- 4,000’+ laterals (12+ stages)
- Improved overall gas recovery

= pressure monitoring well
North Louisiana
Mid Bossier

Mid Bossier Shale

- 100 to 200 Bcf/section
- Encouraging results
- High quality shale as good as Haynesville
- 10-15 wells for 2010F
- 150,000 to 200,000 acres
- 6 Tcfe potential*

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*Based on 2P Proved + Probable Reserves & 2C Economic Contingent Resources

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North Louisiana
Mid Bossier - Haynesville Comparison

Gas Rate (MMcf/d)

*3 stages producing

EUR = 7.8 BCF HSVL
EUR = *2.5 BCF MBSSR

ECA Walker 2H
ECA Jimmy Brown 9-1
ECA Douciere 13-1
Rate limited

Day 0 60 120 180 240 300 360
Haynesville and Mid Bossier NGIP
Overlap of 100 Bcf/section in each zone

Imagine…

- Stacked pay
- 14 Tcfe total resource*
- Potential longer laterals
- Double well count
- Double production volumes
- Existing infrastructure

NGIP = Natural Gas in Place
*Based on 2P Proved + Probable Reserves & 2C Economic Contingent Resources
Encana Haynesville
Total Resource

Total net well inventory
• 1P + 1C = 1,600

Average F&D cost:
• $1.70/Mcfe

Average supply cost
• $3.75/MMBtu

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F&D & supply cost based on 1P Reserves & 1C Economic Contingent Resources
Responsible Development
Haynesville & Mid Bossier Shales

• Environmental Management System
• Use of surface water for operations
• Potential water recycling project
• Natural gas powered rigs
• CNG fleet trucks & filling station
• Multi-well drilling pad development (Gas Factory)
• Local workforce training
• Energy Summer Camps
Haynesville Shale Production Growth

**Production**

- **2010F**
  - 110 net wells
  - Land retention drilling
  - Gas Factory pilot
  - Play extension drilling

**Activity**

- **2010F**
  - 110 net wells
  - Land retention drilling
  - Gas Factory pilot
  - Play extension drilling
East Texas Growth Opportunities
Amoruso Development Expanding

Growth

• Successful step-out to East
• Testing 2-4 analogous prospects
• Working to unlock tight sand potential in northern area

Deep Bossier Net Production

Deep Bossier Development

N. Amoruso
74 Bcf/Sec

E. Amoruso
66 Bcf/Sec

Planned curtailment
East Texas – Deep Bossier
Strong Well Results

• Strongest well results in onshore North America
• Deep Bossier generates some of the strongest returns in Encana’s portfolio
• Encana is the leader in identifying and developing these plays
• We’re growing what we have and are on the hunt for more!

Highest North American Average 3 Month Gross Gas Production (‘05 – ‘09)

* Indicates modeled production due to 2009 curtailment
Source: HPDI
Aggressively Pursuing Growth
Gulf Coast Jurassic Trend

Significant Growth Opportunities

- Targeting follow-up to Amoruso step-out success
- Expect to drill 2-4 wells in 2010
Summary

• Haynesville exceeding predictions
• 2010F land retention strategy
• Mid Bossier results encouraging
• Gas Factory pilot for 2010F
• East Texas assets performing very well
• Growth opportunities abound!
• Total net well inventory:
  • 1P + 1C = 1,600