

# NBL

**NOBLE ENERGY**

**Energizing the World, Bettering People's Lives**

**CNG and LNG Initiatives**

**Curtis Rueter  
Brian Lockard  
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# CNG Vehicle Initiatives

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- ▶ **14 field pumper trucks converted in Wattenberg**

  - ⌘ 1-3 trucks converted in Piceance

- ▶ **Waiting on delivery of 5 2012 Ford F-250s with WiNG system**

- ▶ **Goal is that all new trucks will be bifuel starting Fall 2012 (2013 model year)**

- ▶ **Key economic considerations**

  - ⌘ 150,000 mile life @ 12 mpg – typically 30,000 miles/year for 5 years

  - ⌘ Incremental cost of \$11k offset by 55% Colorado tax credit in 2012 – net cost is \$4,950/vehicle

  - ⌘ At \$1/gallon gas savings, conversion pays out in 2 years

- ▶ **2 Honda Civics w/ Employee Awareness Program**

# Additional CNG Initiatives

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## ▶ Participant in Weld Co. Smart Energy Initiative

- ▲ Contributed ~\$80-85k in co-funding toward first four stations

## ▶ CNG School Bus Project

- ▲ \$5 million over next 5 years
- ▲ Phase I project with Valley RE-1 and Greeley/Evans RE-6
- ▲ Includes CNG station and bus barn in Gilcrest plus ~10 buses for school districts
- ▲ Hope to include additional districts in future phases

# DJ Basin LNG Rig Pilot

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- ▶ Initiated in early 2011, the purpose of the pilot is to demonstrate the operational and economic viability of displacing diesel and powering the majority of Noble's rigs with LNG.
- ▶ **Pilot consists of two LNG rigs in the DJ Basin Horizontal Niobrara program, 1<sup>st</sup> quarter 2011**
  - ▲ Ensign 121, 132 previously operating in Johah field
  - ▲ Running off of conditioned field gas



Ensign ADR-  
1000

- ▶ **Entered contract with Prometheus Energy to provide fuel supply, mobile LNG storage and regasification kit**
- ▶ **LNG sources for DJ operation include:**
  - Opal, Wyoming
  - Lisbon Valley, Utah
  - Southwest Colorado

# Mobile LNG Storage and Regasification Kit



**VAPORIZOR TURNS LNG FROM LIQUID TO VAPOR & WARMES TO AMBIENT TEMPERATURE OF 51° F**

# LNG vs Diesel Comparison

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▶ **Compared 3 rigs:**

- Ensign 121 running off LNG
- Ensign 132 running off LNG
- H & P 315 running off diesel

▶ **Same type of wells:**

- Niobrara Horizontal  
(+/- 6800' TVD)  
(+/- 4500' Lateral)

▶ **Same operations:**

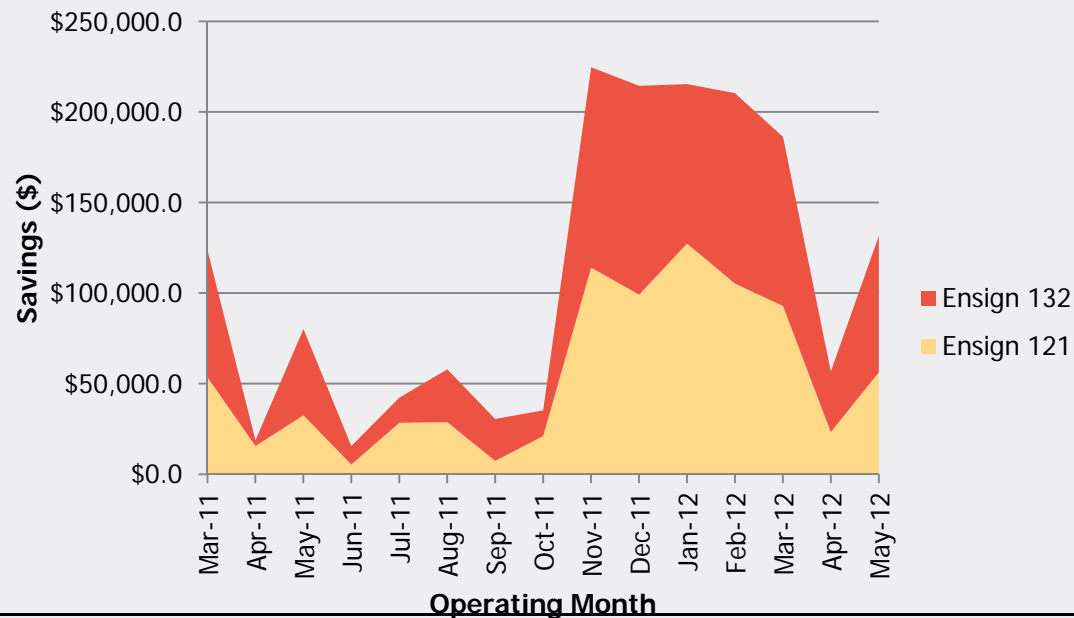
- Full 12 months of operating data
- Full days of highest power demands
- How do the LNG rigs perform compared to the diesel rig?

▶ **Capital cost differential for LNG Rigs ~\$1.0MM premium**

- ⤴ Tracked fuel use and fuel cost of the three rigs
- ⤴ Does the LNG fuel cost benefit payback the rig premium?

# Peak Consumption Average Daily Savings

- ▶ Actual fuel costs 03/2011 - 4/2012
- ▶ LNG costs include additional transportation, equipment and operator charges
- ▶ 12 month average savings of \$1,100-\$2,000 per day
- ▶ Total fuel savings over 12 months (03/11-02/12): \$1.3MM



## LNG Trucks (Class 8 Tractors)

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- ▶ **Recently worked with water hauler to facilitate purchase of 10 LNG trucks**
- ▶ **Purchase premium of approx. \$75-80k/truck**
- ▶ **Projected payout of roughly 3 years**
  - ▲ Savings of \$1/diesel gallon equivalent
  - ▲ Trucks run 24/7 (more or less)
  - ▲ Avg daily usage of 70 gallons diesel
- ▶ **Having further discussions with other members of Noble's supply chain**