

**PROPANE MARKET INTELLIGENCE  
MIDWEST U.S.**

*Prepared for*

**STATE OF ALASKA**

**October 2004**



**MUSE  
STANCIL**

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## **INTRODUCTION**

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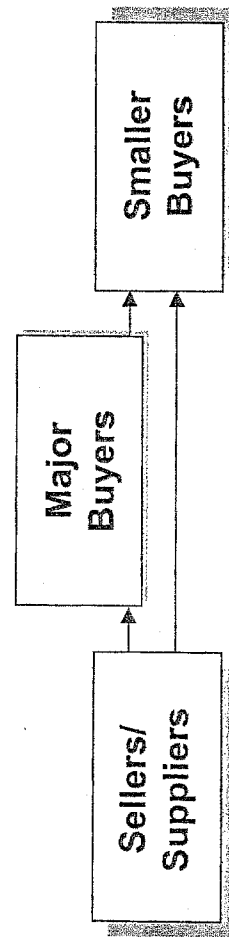
- Muse, Stancil & Co. (Muse) was retained by the Department of Natural Resources to gather and assess publicly-available information regarding the commercial propane market in the Midwestern U.S. and to evaluate the commercial terms for propane term sales
  
- This report summarizes information obtained from publicly-available sources and discussions with market participants regarding current commercial terms for the sale of propane into trucks and rail cars in this market

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## **BACKGROUND - STRUCTURE**

- Propane market structure
  - Major suppliers
    - Refineries
    - Gas producers and processors
    - Marketers operating on behalf of refineries and gas plants
  - Buyers
    - Major buyers
      - Large multi-state retailers
      - Large wholesalers
      - Large cooperatives
    - Smaller buyers
      - May buy from a wholesaler or directly from a major seller



## **BACKGROUND - SUPPLIERS**

- Major Midwest propane suppliers include:
  - Aux Sable - ExxonMobil
  - ConocoPhillips - Enterprise Products
  - Dynegy - Plains
  - Aux Sable - BP
- - Markets all of their own propane (designed to recover 19,000 b/d of propane)
  - Markets all of the propane manufactured by Citgo Lemont refinery (formerly marketed by Dynegy)
  - Has exchange agreements which provide access to U.S. Gulf Coast markets
  - Fort Chicago Energy Partners L.P., one of Canada's largest publicly traded income funds, owns 50 percent of Alliance Pipeline (Alliance) and 42.7 percent of Aux Sable
  - Alliance and Aux Sable have a keep-whole agreement whereby Aux Sable extracts natural gas liquids from the gas stream transported on Alliance and in return, Alliance shippers receive natural gas on an energy-equivalent basis

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## BACKGROUND - SUPPLIERS

- ConocoPhillips
  - Markets to wholesale and retail market
  - Owns over 2,300 LPG rail cars in North America
  - Adding more supply points and more rail cars to propane marketing fleet
  - Offers market-based or fixed-price contracts
  - Offers 1 percent discount from posted price when paying by Electronic Funds Transfer
  
- Dynegy – markets along the pipelines to multi-state and independent retailers
  
- ExxonMobil
- Enterprise Products
- Plains
- BP

Largely wholesale suppliers, very limited public information available

## **BACKGROUND - BUYERS**

- The major Midwest market propane buyers include:
  - Large multi-state marketers
  - Independent suppliers
  - Cooperatives
  
- Large multi-state marketers
  - Amerigas – wholesaler and retailer (largest retailer in 2003)
    - Over 90 percent of supply purchased under supply agreements with terms of one to three years
    - 92 percent of supply based on posted prices at time of delivery or index formulas
    - Some agreements provide maximum and minimum seasonal purchase volume commitments
  - Ferrellgas – wholesaler and retailer (second largest retailer in 2003)
  - Inergy – wholesaler and retailer (largest wholesaler and seventh largest retailer in 2003)
  - Heritage Propane
    - Fourth largest retailer
    - Strong in Michigan and central Minnesota
    - No presence in Illinois, Indiana, or Wisconsin

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## BACKGROUND - BUYERS

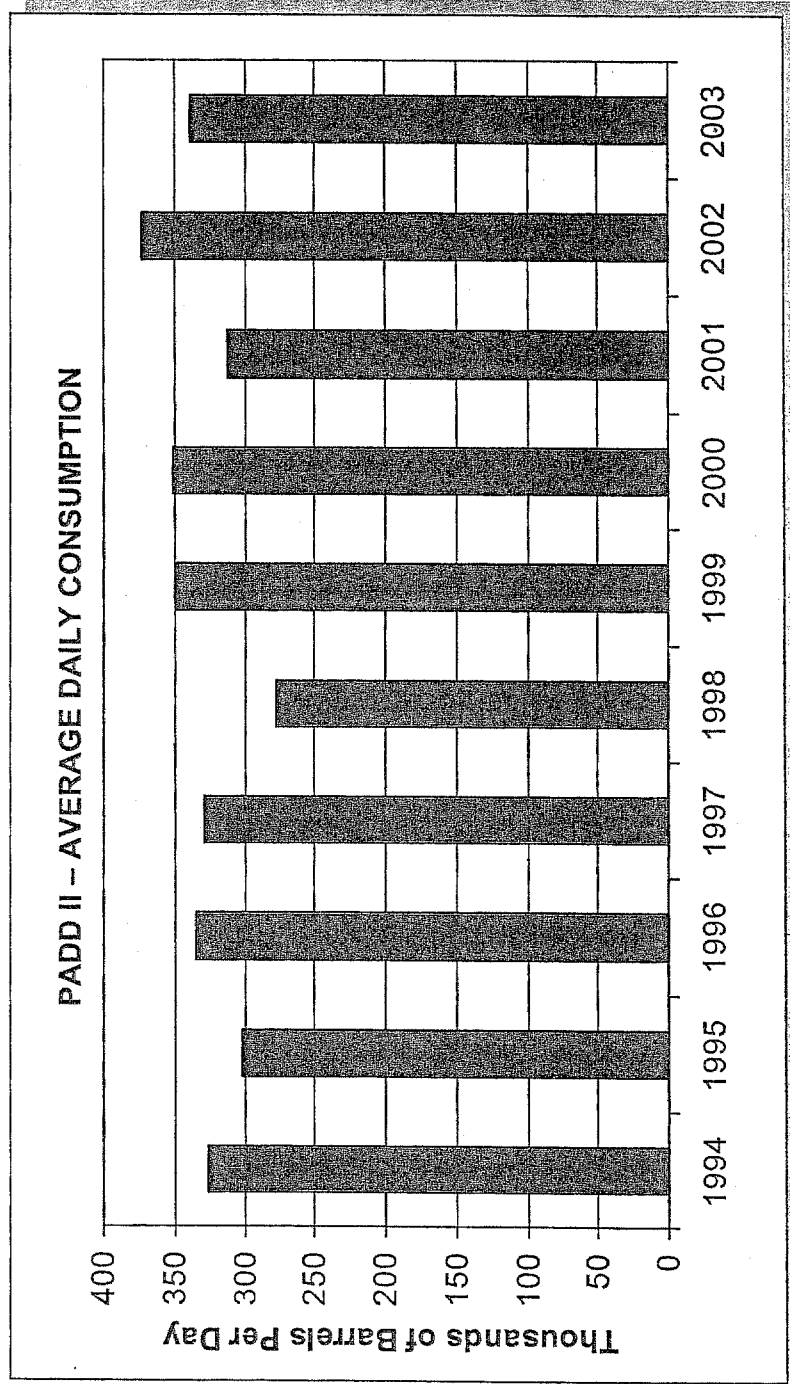
- Independent Suppliers
  - Smith Gas Liquids (wholesale only)
- Cooperatives
  - Growmark
    - Large agricultural coop
    - Part owner of National Cooperative Refinery Association (NCRA), which owns:
      - Refinery in McPherson, Kansas
      - 100 percent of Jayhawk pipeline and partial interests in others
      - Underground products storage facility at Conway, Kansas
  - Cenex
    - Multistate cooperative
    - Markets around pipelines
    - In the Midwest, strong in Wisconsin and the Cincinnati area
    - Small truck contract with Aux Sable

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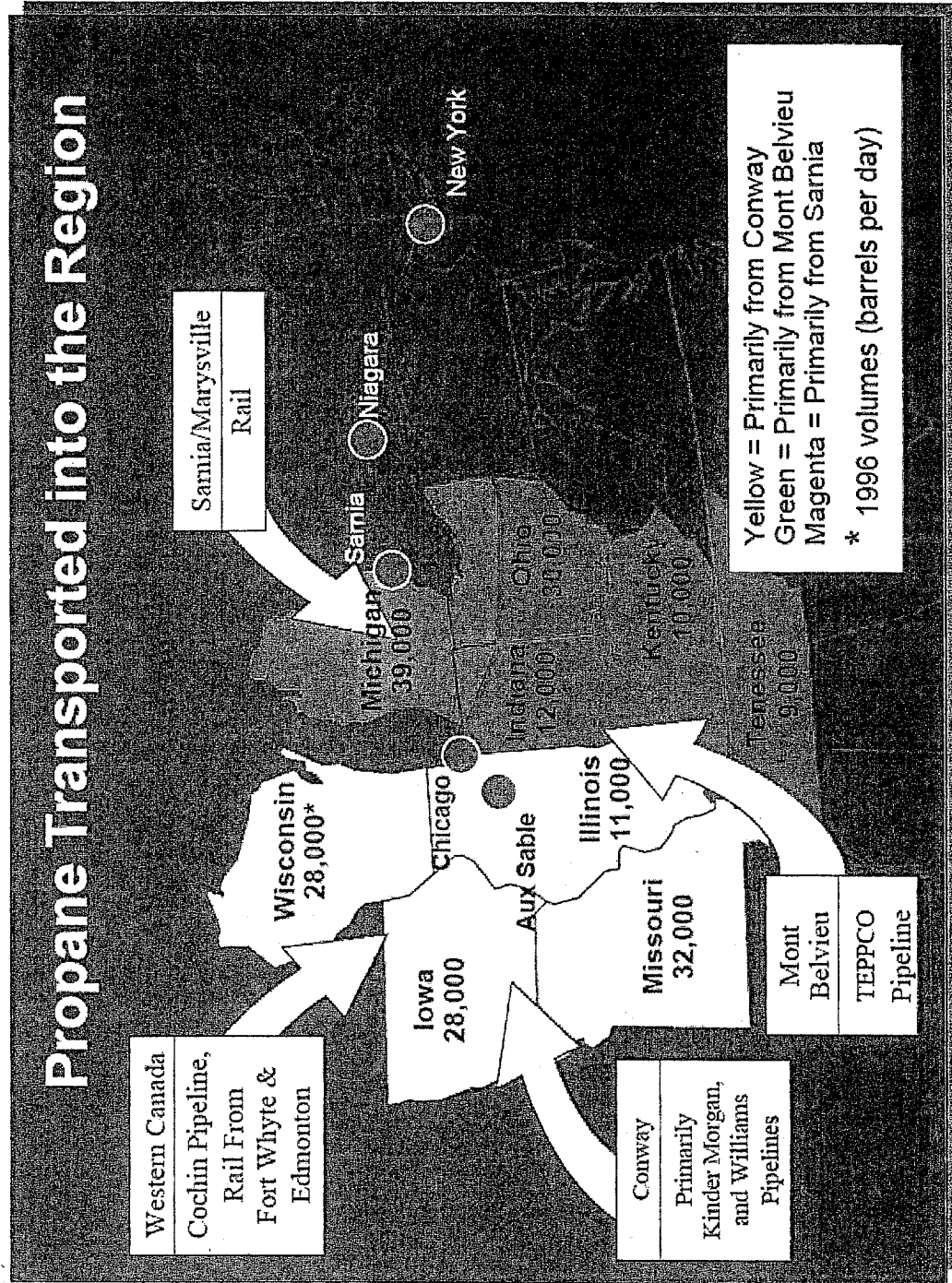
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## **BACKGROUND - DEMAND**

- Propane/propylene consumption in PADD II averaged 329 Mb/d over the last 10 years



# BACKGROUND – SUPPLY SOURCES



SOURCE: Aux Sable presentation

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## PROPANE TERM DEALS

- Generally one-to-three-year term deals
- Predetermined committed ratio of winter to summer volume required
- Can have take or pay provisions
- Can have minimum delivery requirements with penalties if volumes are not met
- Storage Access
  - The value of storage access may be integral to value of pipeline tariffs and terminal fees; however, access to storage ultimately is a function of market location and contractual arrangements
  - Kinder Morgan provides storage for its shippers' propane originating in Illinois and Indiana moving to Kinder Morgan's facility in Bushton, Kansas, based on volumes shipped from March 15 through September 15
    - Any propane not removed from storage by the following March 1, is subject to a storage fee of \$0.02 per barrel per day
  - Major propane underground storage facilities are in Conway and Bushton, Kansas, and Mt. Belvieu, Texas
  - Some local underground storage is operated in the Midwest and New England
    - Aux Sable has a 250,000 barrel NGL storage cavern
    - TEPPCO's cavern at Watkins Glen, New York, holds more than one million barrels of propane

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## BASIS OF TERM PROPANE TRUCK SALES AT AUX SABLE

- Generally one-year term deals
- If volume commitment is less than one million gallons annually:
  - Posted price at the terminal on day of lifting
  - Ratio of winter to summer volume: 3.5 to 1.0
    - Winter: October – March
    - Summer: April – September
- If volume commitment is equal to, or greater than, one million gallons annually:
  - Pricing is the lower of:
    - Aux Sable terminal posted price on day of lifting, or
    - OPIS average of the 'any' and 'prompt' current month for Conway/Group 140 Propane Mapco as reported daily in OPIS, plus a terminal differential based on the season
      - Summer (May – August): +1.50 cpg
      - Winter (November – February): +5.50 to +6.25 cpg
      - Shoulder (March, April, September, October): +3.00 cpg
      - Access to three terminals: Lemont, Morris, and Monee
  - Ratio of winter to summer volume: 3.5 to 1.0
  - Weighted seasonal-average terminal differential for Lemont is 4.20 cpg
- At the end of the day, Aux Sable has to be competitive with BP and ExxonMobil as do all other market participants

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## **BASIS OF TERM PROPANE RAIL SALES AT AUX SABLE**

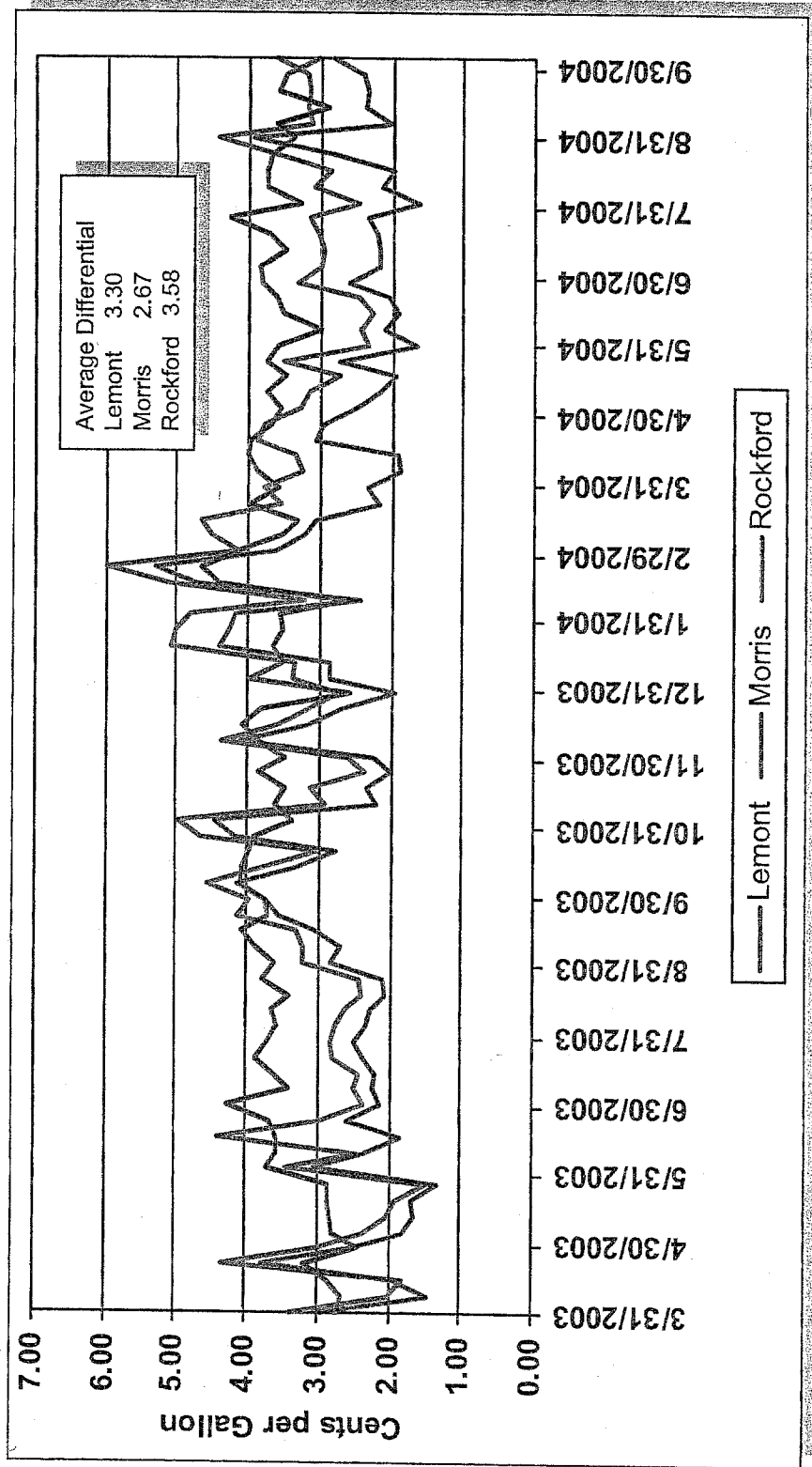
- Generally one-to-three-year term deals
- Local rail connection is EJ&E/CSX
- Capacity per rail car is 30,000 gallons
- Pricing is the daily OPIS average of 'any' and 'prompt' current month for Mt. Belvieu TET as reported daily in OPIS, plus a seasonal differential
  - Winter only (October – March): +2.50 cpg
  - Year-round
    - Summer (April – September): -0.50 cpg
    - Winter (October – March): +1.50 cpg
  - Ratio of winter to summer volume: 3.5 to 1.0
  - Weighted seasonal-average terminal differential for year-round program is 2.06 cpg
- Rail cars can be provided for additional fee:
  - Summer: +2.25 cpg
  - Winter: +3.25 cpg

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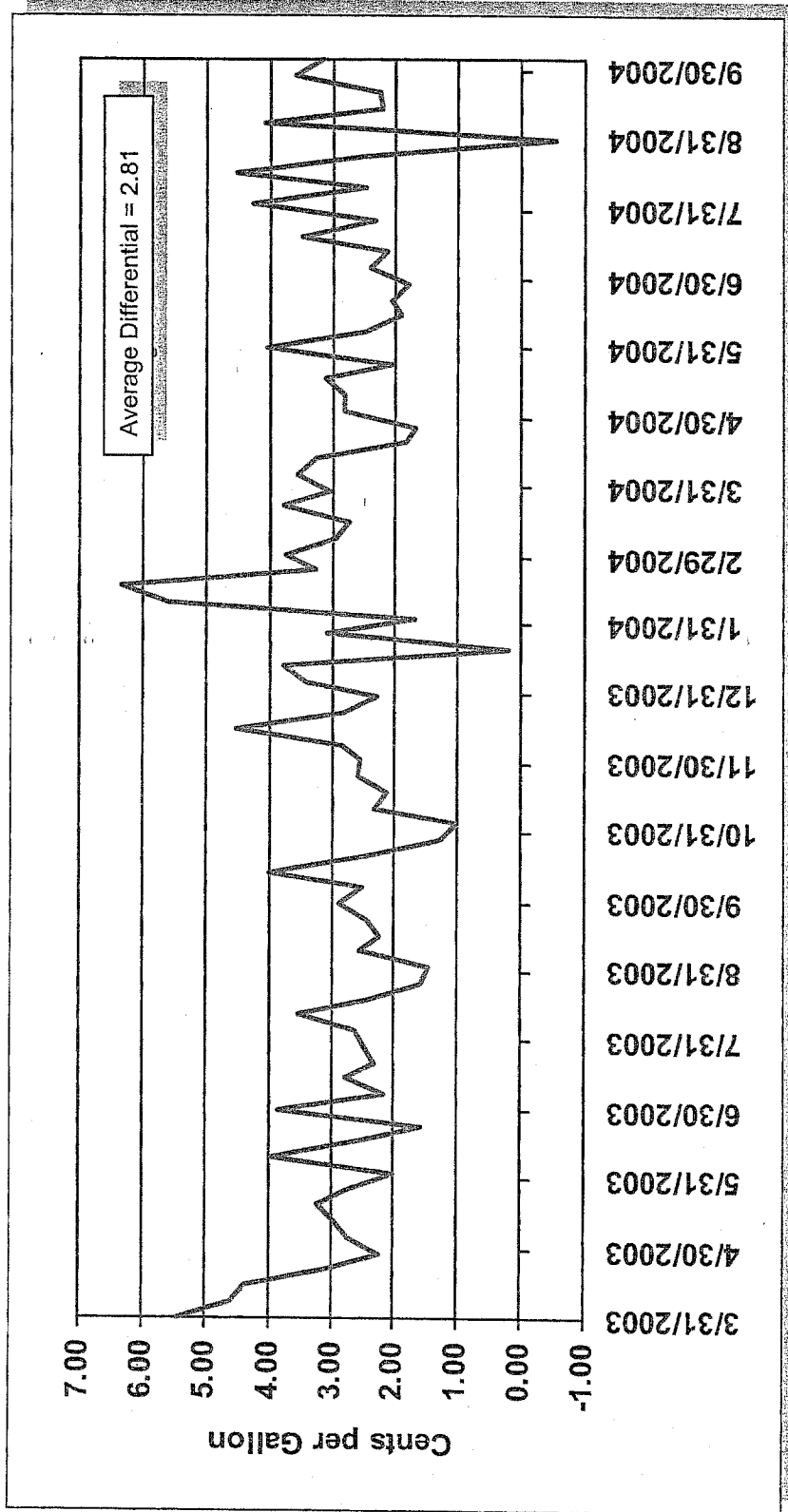
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# AVERAGE POSTED PROPANE PRICE CHICAGO AREA LESS CONWAY

- ▶ Chicago propane price trades within a narrow price band of Conway (+1.34 cpg to +5.98 cpg)
- ▶ One standard deviation is less than 1.00 cpg
- ▶ Chicago area propane pricing basis for trucks is the Conway price



# PROPANE PRICE - CONWAY POSTED LESS CONWAY SPOT



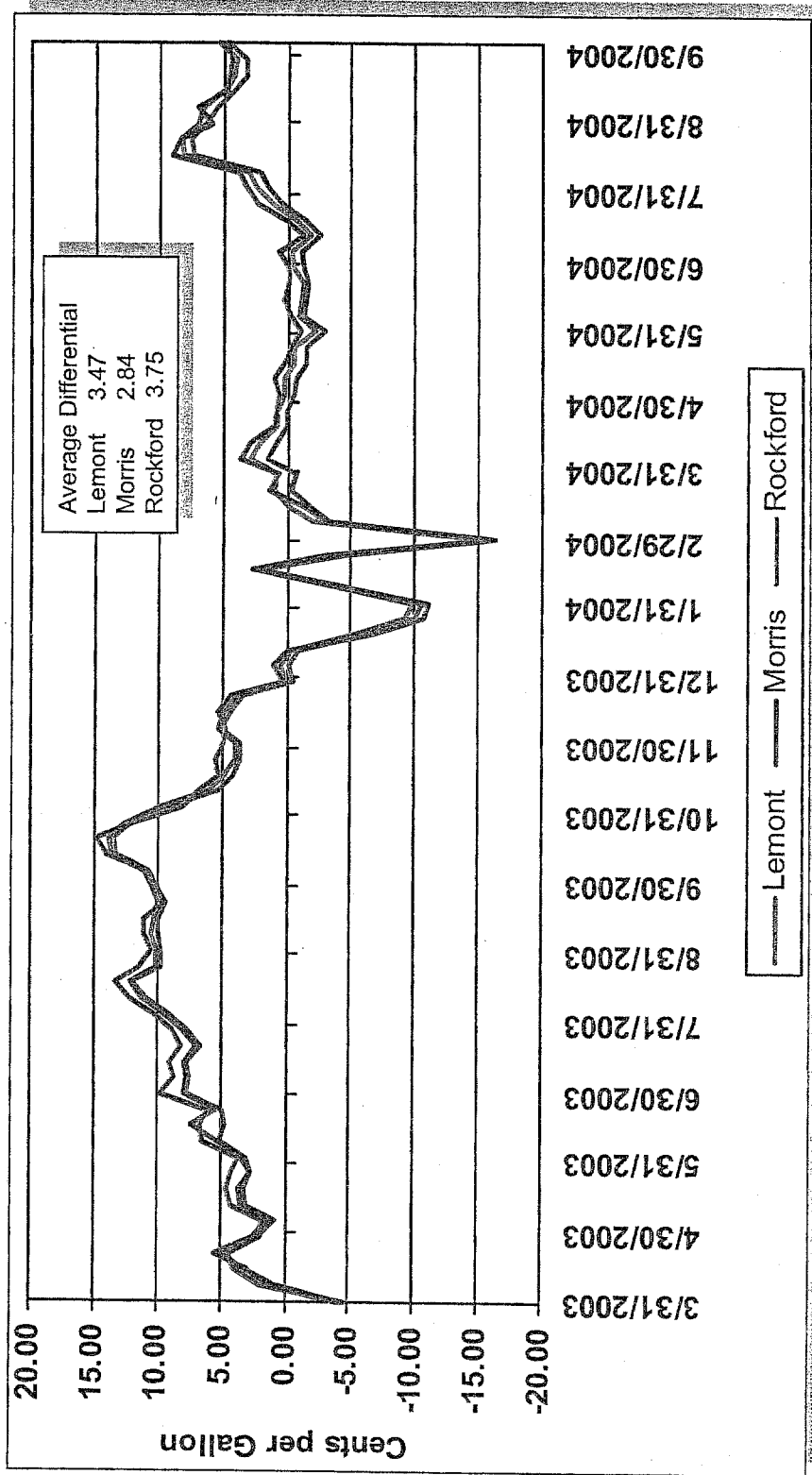
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# AVERAGE POSTED PROPANE PRICE CHICAGO AREA LESS MT. BELVIEU

- ▶ Chicago propane price trades within a wide price band of Mt. Belvieu (-16.364 cpg to 14.78 cpg)
- ▶ One standard deviation is approximately 5.50 cpg
- ▶ Chicago area propane pricing basis for rail is the Mt. Belvieu price



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## CONCLUSIONS

- Aux Sable seasonal-average weighted terminal differential for year-round term deals:
  - Trucks at Lemont: 4.20 cpg
  - Rail: 1.06 cpg
- Aux Sable term deals are based on index prices
  - Conway for truck deliveries
  - Mt. Belview for rail deliveries
- Spot price deals are available on large volumes for propane going to pipe and to barges
- Posted price is the basis for breaking bulk on propane delivered via rail and into trucks

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## **PROPANE PRICING**

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- Spot pricing is utilized for larger volumes of propane delivered into pipelines and barges
- Posted price
  - Utilized when breaking bulk for rail and truck deliveries
  - Must cover the cost of operating the terminal (daily operating cost, capital recovery, profit)
- Index price is a published spot price
  - Basis for many larger contract settlements
  - Contract may specify a 'first of the month' spot price
  - Contract may specify the monthly average of the daily spot prices

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## **SUMMARY**

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- Realized revenue stream for terminal sales is posted price less related terminal costs including:
  - Operating expense
  - Return of and return on capital
  - Third-party storage fees, or capital recovery, and operating expenses of owned storage
  
- Aux Sable term deals are priced off of index prices at other market locations reflecting import and export parity pricing
  - Conway for trucks
  - Mt. Belvieu for rail
  
- Term deals can vary depending on different factors
  - Trucks vs. rail
  - Year round vs. winter only
  - Larger buyers with term commitments obtain more favorable terms