Issues to be Discussed

- Crude Oil Supply
- Crude Oil Pricing
- Refining Capacity
- Products Supply
- Products Pricing
- Future of the Industry
CRUDE OIL SUPPLY

A WORLD LOOK
Crude Oil Supply (2006)

World Crude Oil Production
Millions of Barrels Per Day

- FSU/E. Europe: 12.6
- W. Europe: 6.3
- Latin America: 10.6
- US/Canada: 11.3
- Africa: 9.3
- Asia/Pacific: 11.3
- Middle East: 25.5

Total: 84 MMB/D

World Proven Crude Oil Reserves
Billions of Barrels

- FSU/E. Europe: 79
- W. Europe: 116
- Latin America: 36
- US/Canada: 201
- Asia/Pacific: 102
- Africa: 15
- Middle East: 743

Total: 1,292 BB
CRUDE OIL PRICING
WTI Price by Year
WTI Price by Month

The chart shows the monthly WTI oil prices from January 2004 to June 2006. The prices range from approximately $30 to $70 per barrel. The trend is generally upward, with fluctuations throughout the period.
REFINING CAPACITY
U. S. Refining Capacity

Last New U. S. Refinery Built in 1976

Source: Oil & Gas Journal
Total U.S. Capacity Utilization

- Demand growth has outpaced capacity expansion
- Investment focused on clean fuels
- Insufficient global capacity to process more difficult crudes

Source: U.S. Department of Energy

1 Percent utilization defined as: gross input to refineries / operable capacity.
U. S. Asphalt Refining Capacity

Production Range: 600 B/D to 60,000 B/D

Source: Oil & Gas Journal
U. S. Refining Coking Capacity

- **# Refineries w/Cokers**
  - 1995: 50
  - 2000: 56
  - 2006: 58

- **Coke Production, MT/D**
  - 1995: 81
  - 2000: 120
  - 2006: 138
U.S. Coker Construction Projects
2005 - 2011

- Engineering, Procurement & Const. Phase
  - Total Refineries: 245 MB per day
  - Asphalt Refineries: 135 MB per day

- Planning or Early Engineering Phase
  - Total Refineries: 176 MB per day
  - Asphalt Refineries: 121 MB per day

* Source: Argus Asphalt Report
Worldwide Coker Additions

- Refinery Coker Additions – 1,570M Barrels
- Crude Upgraders - 1,214M
- Total Resid Destruction - 2,784M*

*Reduces world asphalt and resid supply

Source – Argus Asphalt Report
Refinery Yield (% of Crude Intake)
PRODUCTS
SUPPLY/DEMAND
Supply Source for U. S. Demand

- Domestic Crude Production
- Imported Crude
- Imported Products

Years: '95 to '05
Measure: MMB/D
U. S. Product Demand, MB/D

- Gasoline
- Diesel
- Jet
- Resid
- Asphalt

Historical Asphalt Supply/Demand
Millions Tons - Liquid

Source: Oil & Gas Journal
PRODUCTS PRICING
Prices by Quarter
Prices by Quarter

- WTI
- Gasoline
- Asphalt

Price changes over quarters from 1Q '00 to 1Q '06.
Light-Heavy Product Price Spread Drives Refinery Investment Cycle

1995-2000
Six New Cokers
Economic Analysis

Gasoline/Diesel Pricing

- Jan., 06 Price: $70.00/BBL
- Less Distribution: 6.30/BBL
- Net to Refinery: $63.70/BBL

Ohio Asphalt Pricing

- 12/05 YTD: $32.94/BBL*
- ($35/Ton): 6.25/BBL
- $26.69/BBL

- Lost Value: $37.01/BBL

* Source – Poten & Partners
Coking Economics

- 30,000 BBLs/Day Asphalt Production
- X 70% Gasoil Production
- 21,000 BBLs Gasoil for Gasoline/Diesel
- X $37.01/BBL Gasoline/Diesel diff. To Asphalt
- $771,210 per day added margin
- $1 Billion / $771,210 = 1,297 days (3.55 years payoff)
QUESTIONS