

# Evaluating Large Scale Shale and Resource Transactions

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June 11, 2013

Society of Petroleum Evaluation Engineers – Coeur d'Alene

William A. Marko

Managing Director


Jefferies LLC

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# Jefferies' Track Record and Experience


- Broad and deep technical capabilities
- Completed 42 unconventional and shale transactions for a total value of \$152 billion since 2007
- Advised on 11 of the 15 largest U.S. onshore transactions since 2008
- Pioneered the Joint Venture transaction model
- Executed deals involving 15 of the 20 largest oil companies in the world
- Brought new entrants to the North American market, including CNOC, KNOC, Sasol and Gas Authority of India

Energy January 2012



**\$2,033,000,000**  
Utica Shale Joint Venture with  
**Total E&P USA, Inc.**  
Sole Financial Advisor

Energy February 2012



**C\$2,900,000,000**  
Sale of 40% Interest in Cutbank Ridge  
Partnership to **Mitsubishi Corporation**  
Joint Financial Advisor

Energy August 2011



Marcellus Shale Joint Venture with  
**Noble Energy, Inc.**  
**\$3,400,000,000**  
Sole Financial Advisor to  
**CONSOL Energy Inc.**

Energy June 2011



**\$3,500,000,000**  
Sale of Eagle Ford Shale  
assets to  
**Marathon Oil Corporation**  
Sole Financial Advisor



# Commodity Price Backdrop

## Oil:

- OPEC (especially Saudis) holds a strong hand
- Global excess deliverability is low
- But U.S. production growing
- But global demand is flat
- Price movement driven by demand change and/or supply disruption

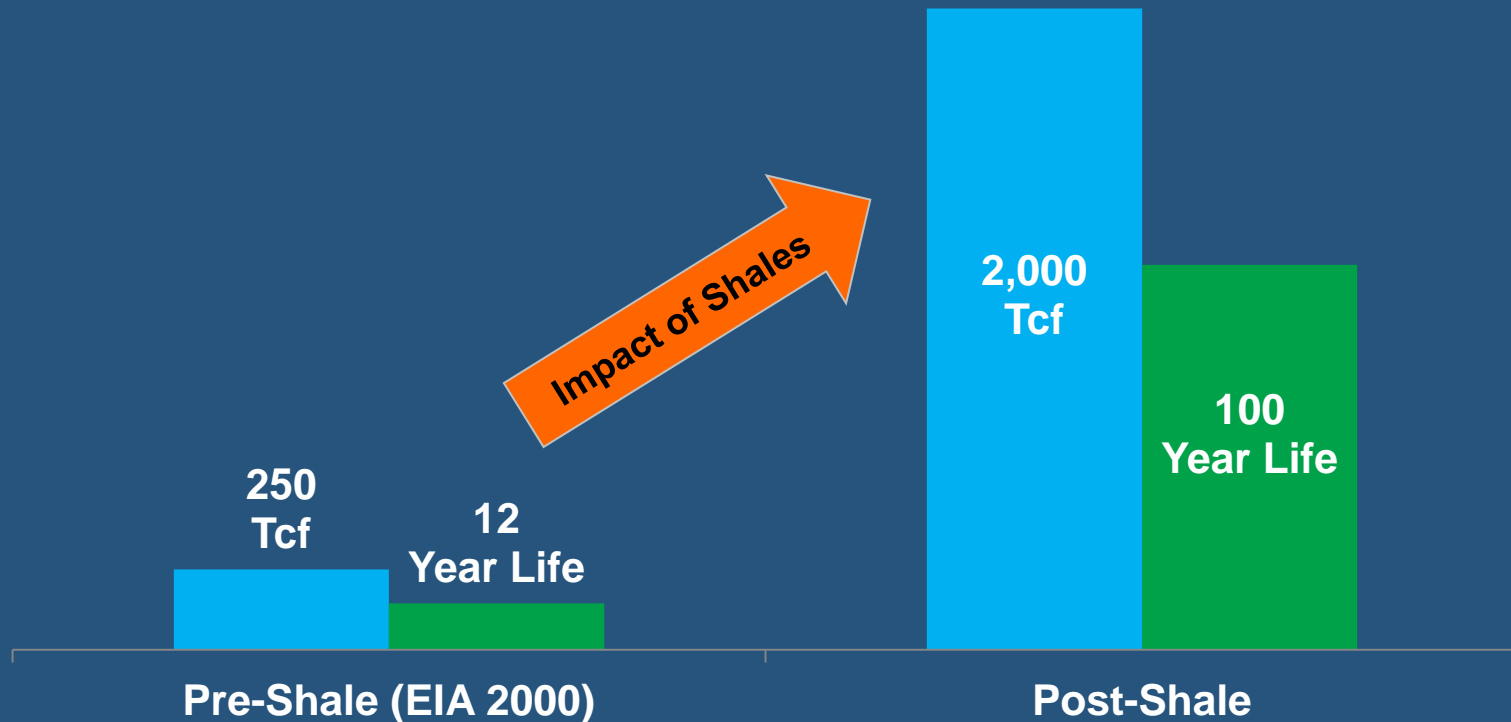
## North American Natural Gas:

- Huge resource discovered
- Excess drilling plus warm weather have created oversupply
- Rigs migrating to liquids plays; oversupply will abate
- Long-term price should trend to marginal cost, which is around \$5 / Mcf

## Potential Demand Growth:

- Natural gas displaces coal
- Manufacturing demand builds
- LNG exports
- Adoption of CNG / LNG for transportation

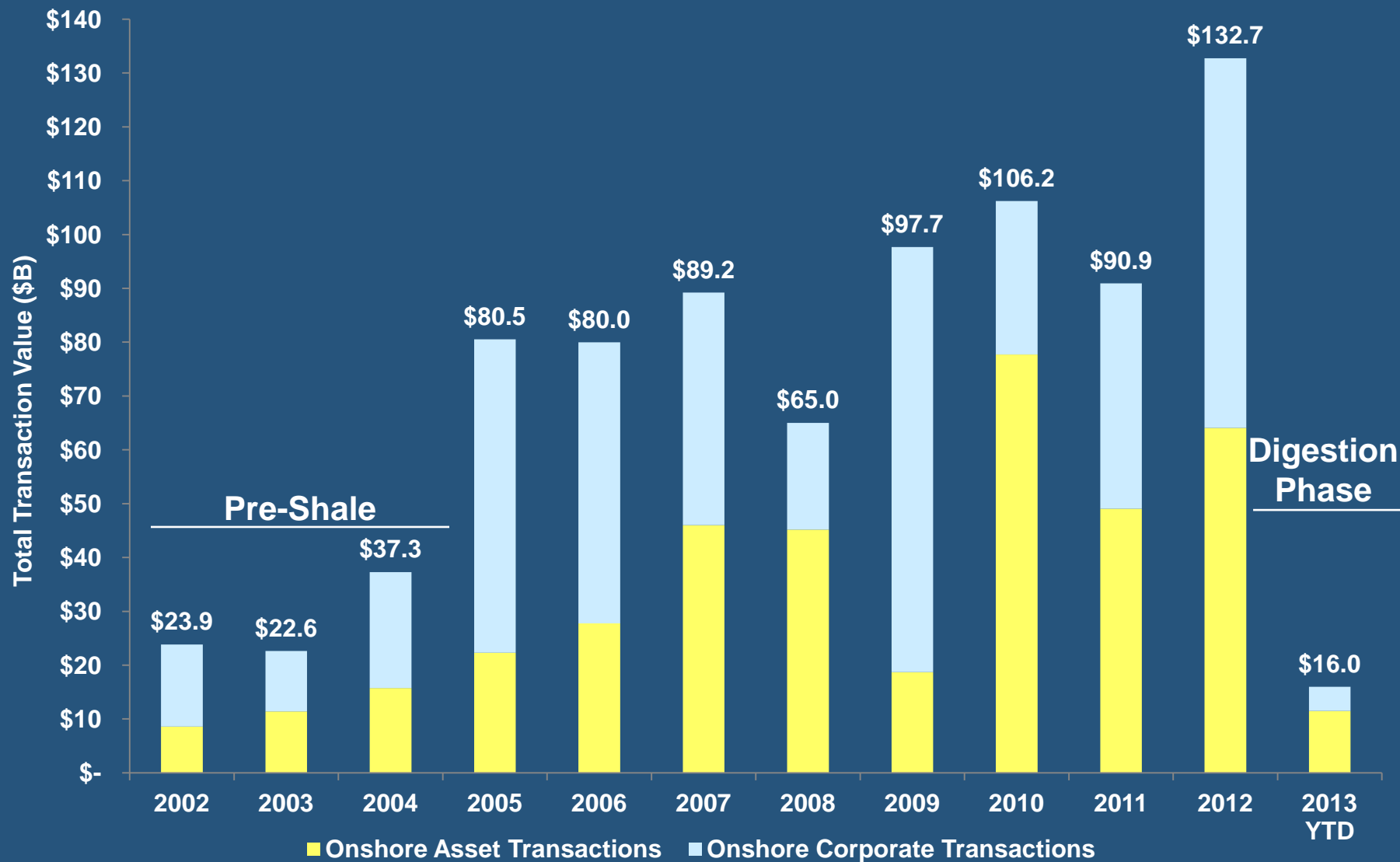
# U.S. Natural Gas Reserves / Reserve Life



Natural gas can now be viewed as a long-term energy solution

# North American Onshore M&A Market

Onshore Market is \$80 - \$100 B per Year



(1) Source: IHS Herold. North American onshore asset and corporate deals since 2002 with disclosed transaction values.

# Selected Precedent Resource Play Transactions

| Shale        | Date Announced | Buyers                                | Sellers                            | Transaction Value (\$MM) | Proved Res. (Bcfe) | Net Acreage    | Selected Metrics        |
|--------------|----------------|---------------------------------------|------------------------------------|--------------------------|--------------------|----------------|-------------------------|
| Bakken       | Nov-12         | Continental Resources                 | Undisclosed company(ies)           | \$ 650.0                 |                    | 120,000        | \$5,417 / acre          |
|              | Oct-12         | Halcon Resources Corporation          | Petro-Hunt Group                   | 1,450.0                  | 308                | 81,000         | \$17,901 / acre         |
|              | Sep-12         | Exxon Mobil; XTO                      | Denbury Resources                  | 1,965.0                  | 576                | 196,000        | \$3.41 / PR Mcfe        |
|              | Aug-12         | QEP Resources                         | Black Hills; Helis; Sundance; Unit | 1,380.0                  | NA                 | 27,600         | \$50,000 / acre         |
|              | <b>Oct-11</b>  | <b>Statoil ASA</b>                    | <b>Brigham Exploration</b>         | <b>1,400.0</b>           | <b>401</b>         | <b>375,000</b> | <b>\$12,381 / acre</b>  |
|              | Dec-10         | Occidental Petroleum                  | Undisclosed                        | 1,400.0                  | NA                 | 180,000        | \$7,778 / acre          |
|              | Nov-10         | Hess Corporation                      | Tracker Resource Development       | 1,050.0                  | NA                 | 167,000        | \$6,287 / acre          |
|              | Nov-10         | Williams Companies Inc                | Undisclosed                        | 925.0                    | 138                | 85,800         | \$10,781 / acre         |
|              | Aug-09         | Petrobank Energy & Resources          | TriStar Oil and Gas                | 2,546.8                  | NA                 | NA             | NA                      |
|              | May-08         | XTO Energy                            | Headington Oil Company             | 1,796.8                  | 408                | NA             | NA                      |
| Barnett      | Feb-11         | Legend Natural Gas IV                 | Range Resources Corporation        | 900.0                    | NA                 | 52,000         | \$17,308 / acre         |
|              | Sep-10         | Barclays Bank                         | Chesapeake Energy                  | 1,150.0                  | 390                | NA             | NA                      |
|              | <b>Jan-10</b>  | <b>Total S.A.</b>                     | <b>Chesapeake Energy</b>           | <b>2,250.0</b>           | <b>750</b>         | <b>67,500</b>  | <b>\$3.00 / PR Mcfe</b> |
|              | Jul-08         | XTO Energy Incorporated               | Undisclosed                        | 800.0                    | 300                | 12,900         | \$2.67 / PR Mcfe        |
|              | Jul-08         | Quicksilver Resources                 | Collins & Young                    | 1,307.0                  | 350                | 13,000         | \$3.73 / PR Mcfe        |
| Eagle Ford   | Jul-12         | KKR                                   | Comstock                           | 233.3                    | NA                 | 9,333          | \$25,000 / acre         |
|              | <b>May-12</b>  | <b>Marathon Oil</b>                   | <b>Paloma Partners II</b>          | <b>750.0</b>             | <b>NA</b>          | <b>17,000</b>  | <b>\$44,118 / acre</b>  |
|              | <b>Sep-11</b>  | <b>GAIL (India)</b>                   | <b>Carrizo Oil &amp; Gas</b>       | <b>95.0</b>              | <b>17</b>          | <b>4,040</b>   | <b>\$23,515 / acre</b>  |
|              | Jun-11         | Mitsui & Company, Ltd.                | SM Energy Company                  | 735.0                    | 24                 | 39,000         | \$18,846 / acre         |
|              | <b>Jun-11</b>  | <b>Marathon Oil</b>                   | <b>KKR / Hilcorp Energy</b>        | <b>3,500.0</b>           | <b>NA</b>          | <b>141,111</b> | <b>\$24,803 / acre</b>  |
|              | <b>Mar-11</b>  | <b>KNOC</b>                           | <b>Anadarko Petroleum</b>          | <b>1,550.0</b>           | <b>NA</b>          | <b>80,000</b>  | <b>\$19,375 / acre</b>  |
|              | <b>Oct-10</b>  | <b>CNOOC Limited</b>                  | <b>Chesapeake Energy</b>           | <b>2,160.0</b>           | <b>NA</b>          | <b>200,000</b> | <b>\$10,800 / acre</b>  |
|              | Oct-10         | Talisman / Statoil                    | Enduring Resources                 | 1,325.0                  | NA                 | 97,000         | \$13,660 / acre         |
|              | <b>Oct-10</b>  | <b>Plains Exploration &amp; Prod.</b> | <b>Dan A. Hughes Company</b>       | <b>578.0</b>             | <b>NA</b>          | <b>60,000</b>  | <b>\$9,633 / acre</b>   |
|              | Jun-10         | Reliance                              | Pioneer Natural Resources          | 1,315.0                  | NA                 | 118,000        | \$11,144 / acre         |
| Fayetteville | May-10         | Shell                                 | Undisclosed                        | 1,000.0                  | NA                 | 100,000        | \$10,000 / acre         |
|              | <b>Feb-11</b>  | <b>BHP Billiton</b>                   | <b>Chesapeake Energy</b>           | <b>4,750.0</b>           | <b>NA</b>          | <b>487,000</b> | <b>\$9,754 / acre</b>   |
|              | Dec-10         | XTO Energy                            | Petrohawk Energy                   | 575.0                    | 299                | NA             | \$1.92 / PR Mcfe        |
|              | <b>Sep-08</b>  | <b>BP plc</b>                         | <b>Chesapeake Energy</b>           | <b>1,900.0</b>           | <b>NA</b>          | <b>135,000</b> | <b>\$14,074 / acre</b>  |
| Haynesville  | Apr-08         | XTO Energy Incorporated               | Southwestern Energy                | 520.0                    | 160                | 55,631         | \$3.25 / PR Mcfe        |
|              | Jul-10         | ExxonMobil                            | Ellora Energy Inc                  | 570.0                    | 61                 | 46,000         | \$1.80 / PR Mcfe        |
|              | Apr-10         | EXCO Resources / BG Group             | Common Resources                   | 446.0                    | NA                 | 29,200         | \$15,300 / acre         |
|              | Jun-09         | BG Group                              | EXCO Resources                     | 1,055.0                  | 290                | 42,000         | \$19,000 / acre         |
|              | <b>Jul-08</b>  | <b>Plains Exploration &amp; Prod.</b> | <b>Chesapeake Energy</b>           | <b>3,300.0</b>           | <b>NA</b>          | <b>110,000</b> | <b>\$30,000 / acre</b>  |
|              | Jun-08         | Berry Petroleum Company               | SEPCO II                           | 620.0                    | 335                | 4,500          | \$1.85 / PR Mcfe        |

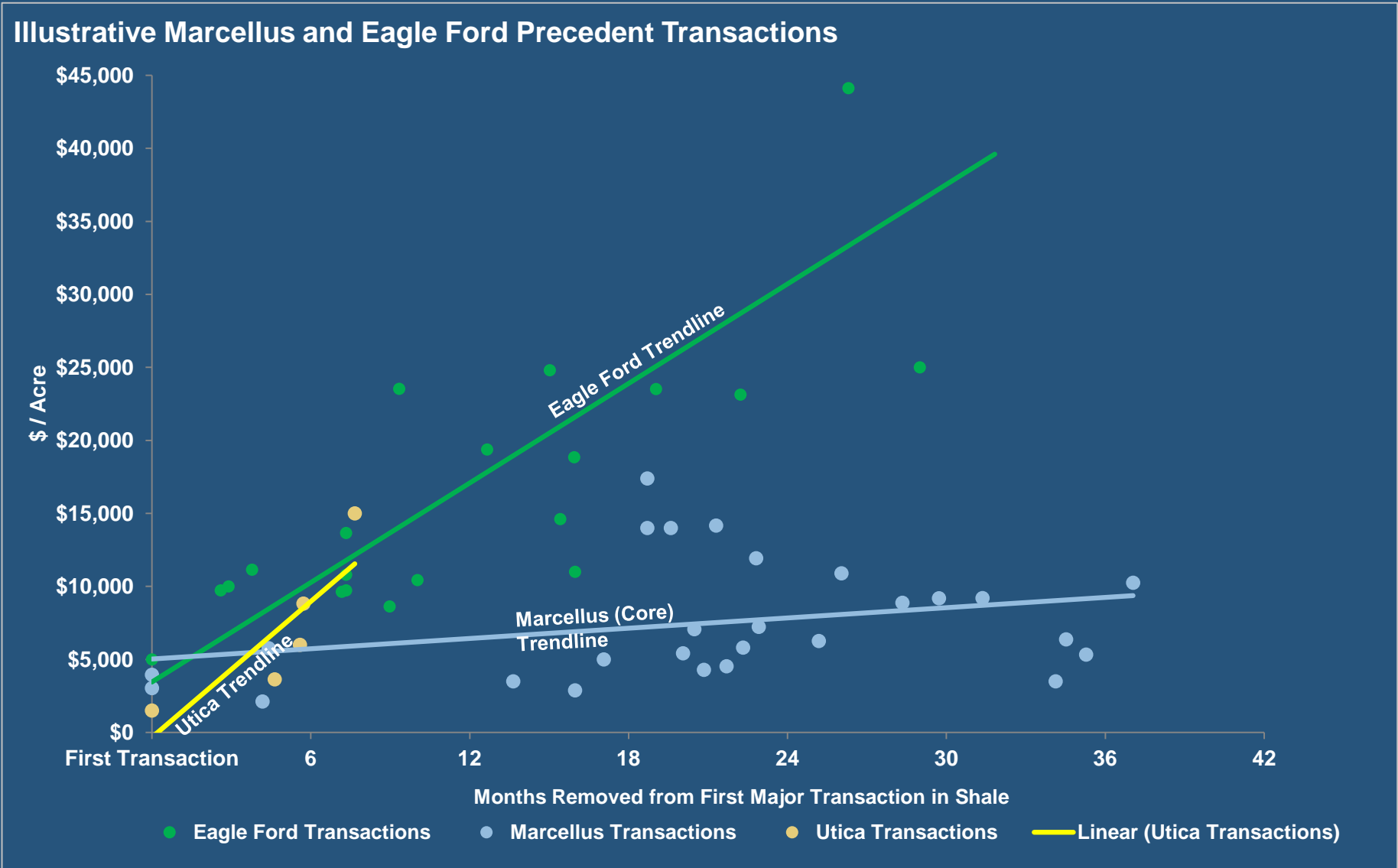
Jefferies transactions in BOLD and highlighted.

# Selected Precedent Resource Play Transactions (Cont'd)

| Shale         | Date Announced | Buyers                      | Sellers                        | Transaction Value (\$MM) | Proved Res. (Bcfe) | Net Acreage | Selected Metrics |
|---------------|----------------|-----------------------------|--------------------------------|--------------------------|--------------------|-------------|------------------|
| Marcellus     | Aug-11         | Noble Energy                | CONSOL Energy                  | 3,400.0                  | 200                | 331,675     | \$10,251 / acre  |
|               | Nov-10         | Chevron                     | Atlas Energy                   | 4,300.0                  | NA                 | NA          | NA               |
|               | Oct-10         | Chesapeake Energy           | Anschutz Exploration           | 850.0                    | NA                 | 500,000     | NA               |
|               | Aug-10         | Reliance Industries Ltd     | Carrizo Oil & Gas Incorporated | 392.0                    | NA                 | 62,600      | \$6,262 / acre   |
|               | May-10         | Shell                       | East Resources, Inc.           | 4,700.0                  | NA                 | 650,000     | \$7,231 / acre   |
|               | May-10         | Williams                    | Alta Resources                 | 501.0                    | NA                 | 42,000      | \$14,000 / acre  |
|               | May-10         | BG Group                    | EXCO Resources                 | 950.0                    | 133                | 93,000      | \$5,914 / acre   |
|               | Apr-10         | Reliance Industries         | Atlas Energy                   | 1,700.0                  | NA                 | 120,000     | \$14,100 / acre  |
|               | Mar-10         | Consol Energy               | Dominion Resources Inc         | 3,475.0                  | 1,040              | 491,000     | \$4,000 / acre   |
|               | Feb-10         | Mitsui & Company, Ltd.      | Anadarko Petroleum Corporation | 1,400.0                  | NA                 | 100,000     | \$14,000 / acre  |
|               | Jan-10         | Undisclosed                 | Hunt Oil                       | 500.0                    | NA                 | NA          | NA               |
|               | Dec-09         | Ultra Petroleum             | NCL Appalachian Partners       | 400.0                    | NA                 | 80,000      | \$5,000 / acre   |
|               | Aug-09         | Enerplus Resources          | Chief Oil & Gas                | 406.0                    | NA                 | 116,000     | \$3,500 / acre   |
|               | Nov-08         | StatoilHydro                | Chesapeake Energy              | 3,375.0                  | NA                 | 585,000     | \$5,769 / acre   |
| Mississippian | Apr-08         | XTO Energy Incorporated     | Linn Energy LLC                | 600.0                    | 145                | 152,000     | \$4.14 / PR Mcfe |
|               | Feb-13         | Sinopec                     | Chesapeake Energy              | 1,020.0                  | 840                | 425,000     | \$2,400 / acre   |
|               | Aug-12         | Midstates Petroleum Company | Riverstone                     | 650.0                    | 220                | 103,000     | \$2.95 / PR Mcfe |
|               | Dec-11         | Repsol YPF, S.A.            | SandRidge Energy, Inc.         | 1,000.0                  | NA                 | 363,636     | \$2,750 / acre   |
| Niobrara      | Sep-11         | Atinum Partners Co., Ltd    | SandRidge Energy, Inc.         | 500.0                    | NA                 | 113,000     | \$4,425 / acre   |
|               | May-12         | PDC Energy                  | Undisclosed                    | 327.0                    | 74                 | 35,000      | \$9,343 / acre   |
|               | Jan-11         | CNOOC                       | Chesapeake Energy              | 1,267.0                  | NA                 | 266,400     | \$4,756 / acre   |
| Utica         | Nov-11         | Total E&P USA, Inc.         | Chesapeake Energy / Enervest   | 2,033.0                  | NA                 | 154,750     | \$13,137 / acre  |
|               | Nov-11         | ElG Global Energy Partners  | Chesapeake Energy              | 1,250.0                  | NA                 | NA          | NA               |
|               | Sep-11         | Hess Corporation            | CONSOL Energy                  | 593.0                    | NA                 | 100,000     | \$6,000 / acre   |
|               | Sep-11         | Hess Corporation            | Marquette Exploration          | 750.0                    | NA                 | 85,000      | \$8,824 / acre   |
| Woodford      | Jul-08         | BP plc                      | Chesapeake Energy              | 1,750.0                  | NA                 | 90,000      | \$19,444 / acre  |
| Montney       | Oct-12         | ExxonMobil                  | Celtic Exploration             | 3,213.1                  |                    | 649,000     | \$3000 / acre    |
|               | Feb-12         | Mitsubishi                  | EnCana                         | 2,906.0                  | 900                | 163,600     | \$17,726 / acre  |
|               | Jun-11         | Petronas                    | Progress Energy                | 1,090.0                  | NA                 | 74,955      | \$14,542 / acre  |
|               | Mar-11         | Sasol Ltd.                  | Talisman Energy                | 1,078.8                  | NA                 | 28,600      | \$0.19 / Mcfe    |
|               | Dec-10         | Sasol Ltd.                  | Talisman Energy                | 1,049.7                  | NA                 | 25,500      | \$0.22 / Mcfe    |
|               | Jun-10         | ARC Energy Trust            | Storm Exploration Inc          | 659.4                    | 173                | 51,300      | \$7,800 / acre   |
| Diversified   | Mar-10         | KOGAS                       | EnCana                         | 533.0                    | NA                 | 77,000      | \$6,922 / acre   |
|               | Jan-12         | Apache Corporation          | Cordillera Energy Partners     | 2,857.2                  | 528                | 254,000     | \$3.69 / PR Mcfe |
|               | Jan-12         | Sinopec                     | Devon Energy                   | 2,200.0                  | NA                 | 404,250     | \$5,442 / acre   |
|               | Nov-11         | KKR; NGP; Crestview; Itochu | Samson Investment Company      | 7,200.0                  | NA                 | NA          | NA               |
|               | Jul-11         | BHP Billiton                | Petrohawk Energy               | 15,223.3                 | 3,392              | NA          | \$2.75 / PR Mcfe |
| Total         | Dec-09         | ExxonMobil                  | XTO Energy                     | 35,000.0                 | 13,682             | NA          | \$2.93 / PR Mcfe |
|               |                |                             |                                | \$ 150,434.2             |                    |             |                  |

Jefferies transactions in BOLD and highlighted.

# Rapidly Advancing Valuations Into 2012



Note: First transaction defined as Chesapeake / Statoil for Marcellus, BP / Lewis for Eagle Ford and Chesapeake / Undisclosed for Utica.

# Development Activity at the Time of Evaluation – Large Transactions

| Location       | Transaction Value (\$MM) | Transaction Net Acres <sup>(1)</sup> | Total Net Acres | Metric (\$ / Acre) | Wells Drilled | Rig Count       |               |
|----------------|--------------------------|--------------------------------------|-----------------|--------------------|---------------|-----------------|---------------|
|                |                          |                                      |                 |                    |               | At time of Sale | Peak in Model |
| Eagle Ford     | \$ 750                   | 17,000                               | 17,000          | \$ 44,118          | 16            | 2               | 4             |
| Anadarko Basin | 2,850                    | 254,000                              | 254,000         | 11,220             | 70            | 11              | 30            |
| Utica          | 2,320                    | 154,750                              | 619,000         | 14,992             | 12            | 5               | 40            |
| Marcellus      | 3,400                    | 331,675                              | 663,350         | 10,251             | 60            | 4               | 16            |
| Eagle Ford     | 3,500                    | 141,111                              | 141,111         | 24,803             | 35            | 5               | 24            |
| Eagle Ford     | 1,550                    | 80,000                               | 288,000         | 19,375             | 53            | 8               | 17            |
| Montney        | 1,079                    | 28,600                               | 57,200          | 37,727             | 5             | 4               | 16            |
| Montney        | 1,050                    | 25,500                               | 51,000          | 41,176             | 22            | 3               | 16            |
| Marcellus      | 4,300                    | NA                                   | NA              | NA                 | >200 *        | 4               | 25            |
| Eagle Ford     | 2,160                    | 200,000                              | 600,000         | 10,800             | 5             | 6               | 45            |
| Marcellus      | 4,700                    | 650,000                              | 650,000         | 7,231              | 65            | 5               | 20            |
| Marcellus      | 1,700                    | 120,000                              | 300,000         | 14,167             | >200 *        | 3               | 25            |
| Barnett        | 2,250                    | 67,500                               | 270,000         | 33,333             | ~1,500        | 17              | 40            |
| Marcellus      | 3,375                    | 585,000                              | 1,800,000       | 5,769              | 25            | 8               | 50            |

\* Predominantly vertical wells at the time of acquisition.

(1) If transaction was a JV, the transaction net acres are less than the total net acres. For sale, transaction net acres equals total net acres.

# Future Development

| Location       | Total Net Acres | Remaining Net Drilling Inventory (# Wells) | Future Drilling Capital (\$B) | Drilling Years Remaining |
|----------------|-----------------|--|-------------------------------|--------------------------|
| Eagle Ford     | 17,000          | 200  | \$ 2                          | 6                        |
| Anadarko Basin | 254,000         | 3,825                                      | 31                            | 20 +                     |
| Utica          | 619,000         | 2,925                                      | 16                            | 12                       |
| Marcellus      | 663,350         | 3,150                                      | 17                            | 10                       |
| Eagle Ford     | 141,111         | 1,125                                      | 7                             | 7                        |
| Eagle Ford     | 288,000         | 2,700                                      | 15                            | 13                       |
| Montney        | 57,200          | 1,125                                      | 10                            | 11                       |
| Montney        | 51,000          | 775  | 8                             | 10                       |
| Eagle Ford     | 600,000         | 5,625                                      | 51                            | 11                       |
| Marcellus      | 650,000         | 3,750                                      | 11                            | 12                       |
| Marcellus      | 300,000         | 2,250                                      | 8                             | 10                       |
| Barnett        | 270,000         | 2,550                                      | 7                             | 8                        |
| Marcellus      | 1,800,000       | 13,500                                     | 48                            | 17                       |
| <b>Average</b> | <b>439,282</b>  | <b>3,358</b>                               | <b>17</b>                     | <b>12</b>                |

# Investor Return Spectrum for Resource Plays – Before Tax IRR

25% - 35%

15% - 18%

- Emerging opportunity with little well control or industry activity

- Partially de-risked acreage
- Limited well data
- Less established EUR & capex track record

- Slightly higher execution risk

- De-risked
- Strong economics
- Established EUR / capex

## Example Play Types

Utica, Niobrara

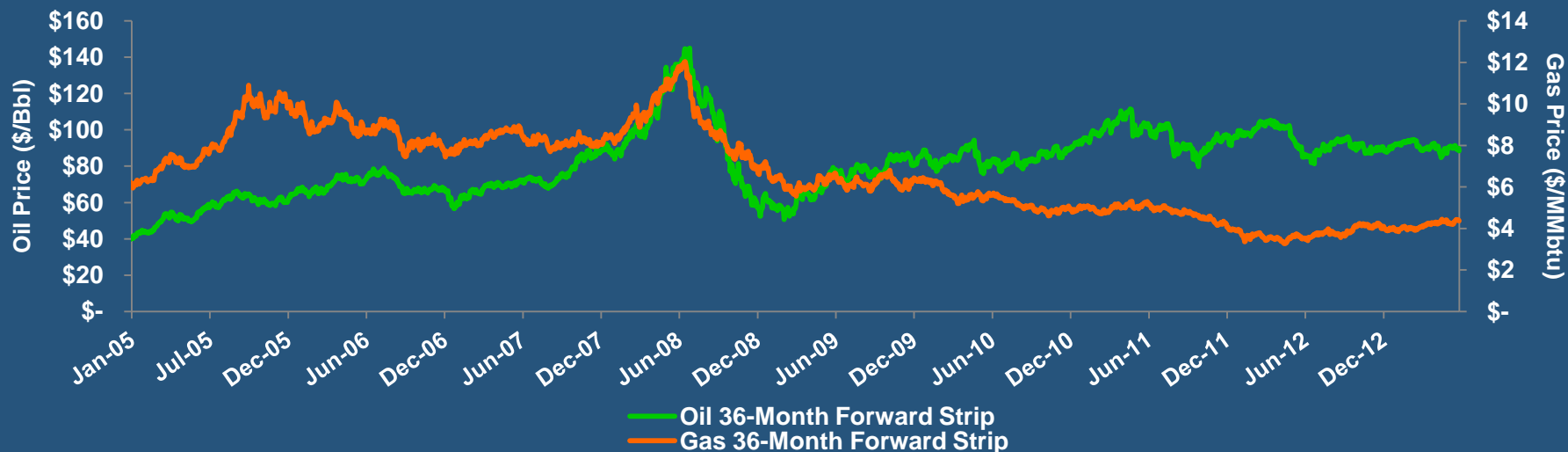
Marcellus, Haynesville

Eagle Ford Liquids Rich

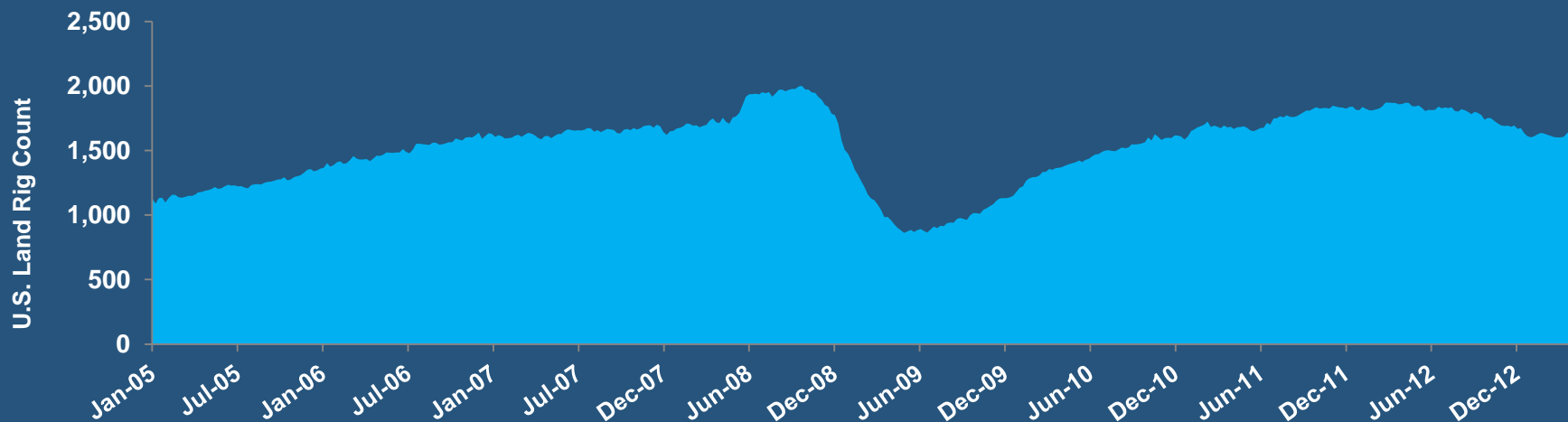
Barnett, Bakken

# Rig Count Rebuilt and Peaking

Historical 36-Month Forward Strip for Oil & Gas <sup>(1)</sup>



U.S. Total Rig Count <sup>(2)</sup>

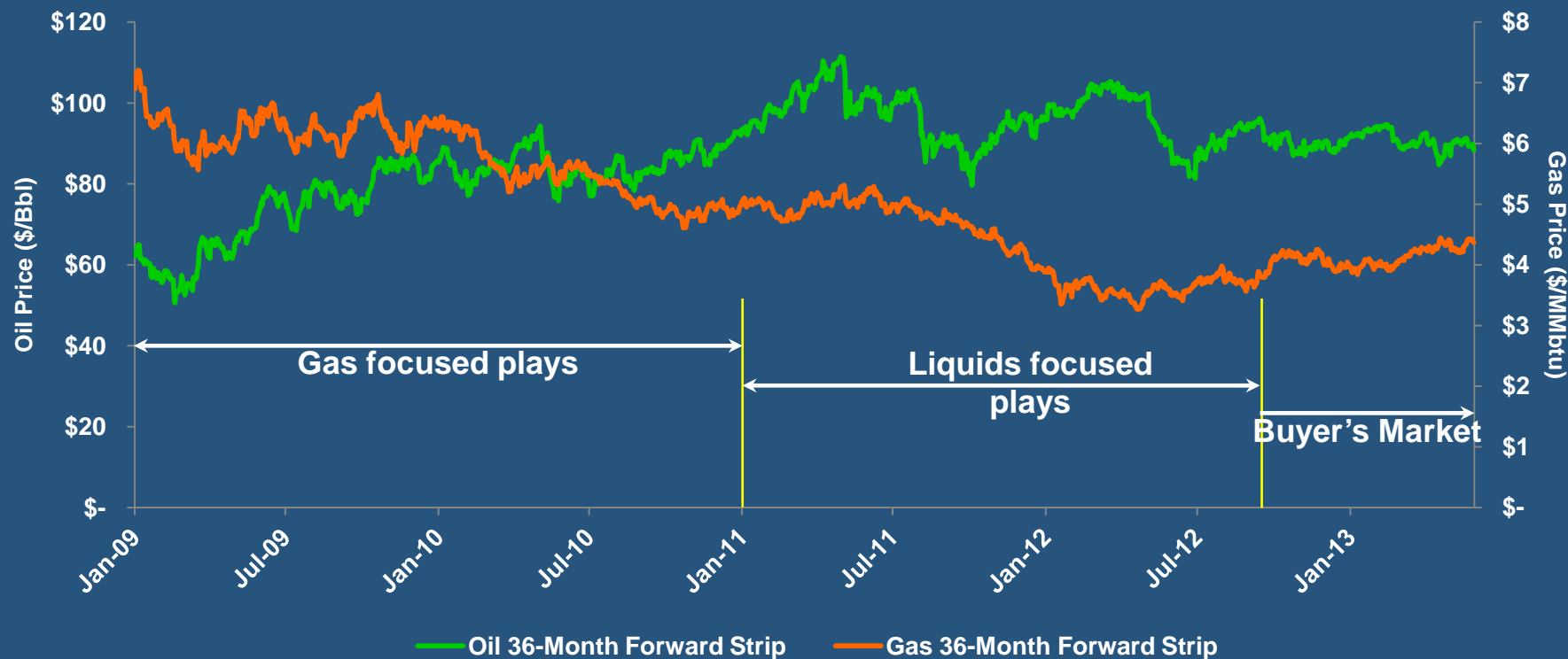


(1) Bloomberg Financial 5/29/2013

(2) LandRig Newsletter, Smith Rig Counts, Jefferies LLC estimates

# Commodity Prices During the Recent Shale Rush

Historical 36-Month Forward Strip for Oil & Gas <sup>(1)</sup>



(1) Bloomberg Financial 5/29/2013

# Transaction Valuation Benchmarking

Assumes Unrisked Base Case

| Transaction                           | Deal 1 | Deal 2 | Deal 3 | Deal 4 | Deal 5 | Average |
|---------------------------------------|--------|--------|--------|--------|--------|---------|
| \$80.00 / Bbl & \$4.00 / MMBtu        |        |        |        |        |        |         |
| Development Program Pre-Tax IRR       | 14.3%  | 9.2%   | 26.6%  | 19.4%  | 17.8%  | 17.4%   |
| TV / Year 1 EBITDA                    | 23.4x  | 22.3x  | 6.3x   | 8.4x   | 4.3x   | 13.0x   |
| TV / Year 2 EBITDA                    | 11.8x  | 9.5x   | 2.5x   | 3.3x   | 3.9x   | 6.2x    |
| NYMEX Pricing at Time of Announcement |        |        |        |        |        |         |
| Development Program Pre-Tax IRR       | 24.6%  | 16.4%  | 29.2%  | 30.6%  | 26.0%  | 25.4%   |
| TV / Year 1 EBITDA                    | 23.2x  | 17.8x  | 5.6x   | 6.5x   | 4.4x   | 11.5x   |
| TV / Year 2 EBITDA                    | 10.0x  | 6.7x   | 2.2x   | 2.5x   | 3.7x   | 5.0x    |
| Other Transaction Metrics             |        |        |        |        |        |         |
| 10-Year Avg. NYMEX Gas Strip          | \$5.63 | \$6.59 | \$4.63 | \$6.20 | \$5.21 | \$5.65  |
| TV / Unrisked Resource (\$/Mcfe)      | \$0.18 | \$0.31 | \$0.12 | \$0.74 | \$0.31 | \$0.33  |
| Production (Mmcfe/d)                  | 83.30  | 60.00  | 108.00 | 42.00  | 700.00 | 199     |
| PDP Value / Transaction Value         | 17.6%  | 10.2%  | 29.7%  | 4.0%   | 56.1%  | 23.5%   |
| % Liquids                             | 1.4%   | 1.0%   | 39.5%  | 74.3%  | 58.3%  | 34.9%   |

# Preliminary Timeline

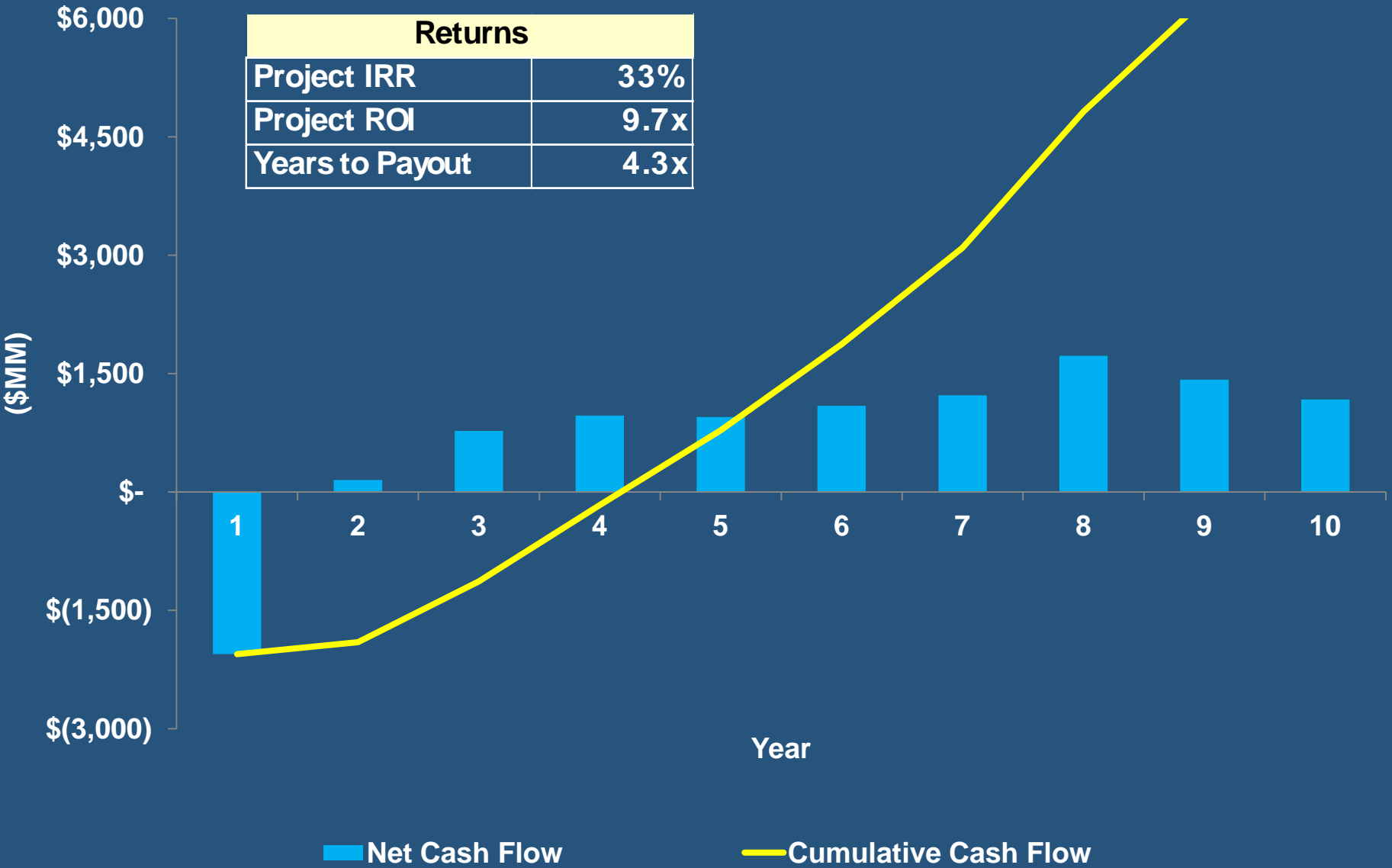
|  | Week |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|--|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
|  | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Event                                    |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Schedule initial marketing meetings      |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Prepare, assemble and organize data set  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| International marketing trip             |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Distribute CAs / schedule data rooms     |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Open VDR                                 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Data room presentations                  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ongoing valuation and reviews            |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Bids due and term sheet signed           |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Confirmatory diligence and documentation |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Sign transaction documents               |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |



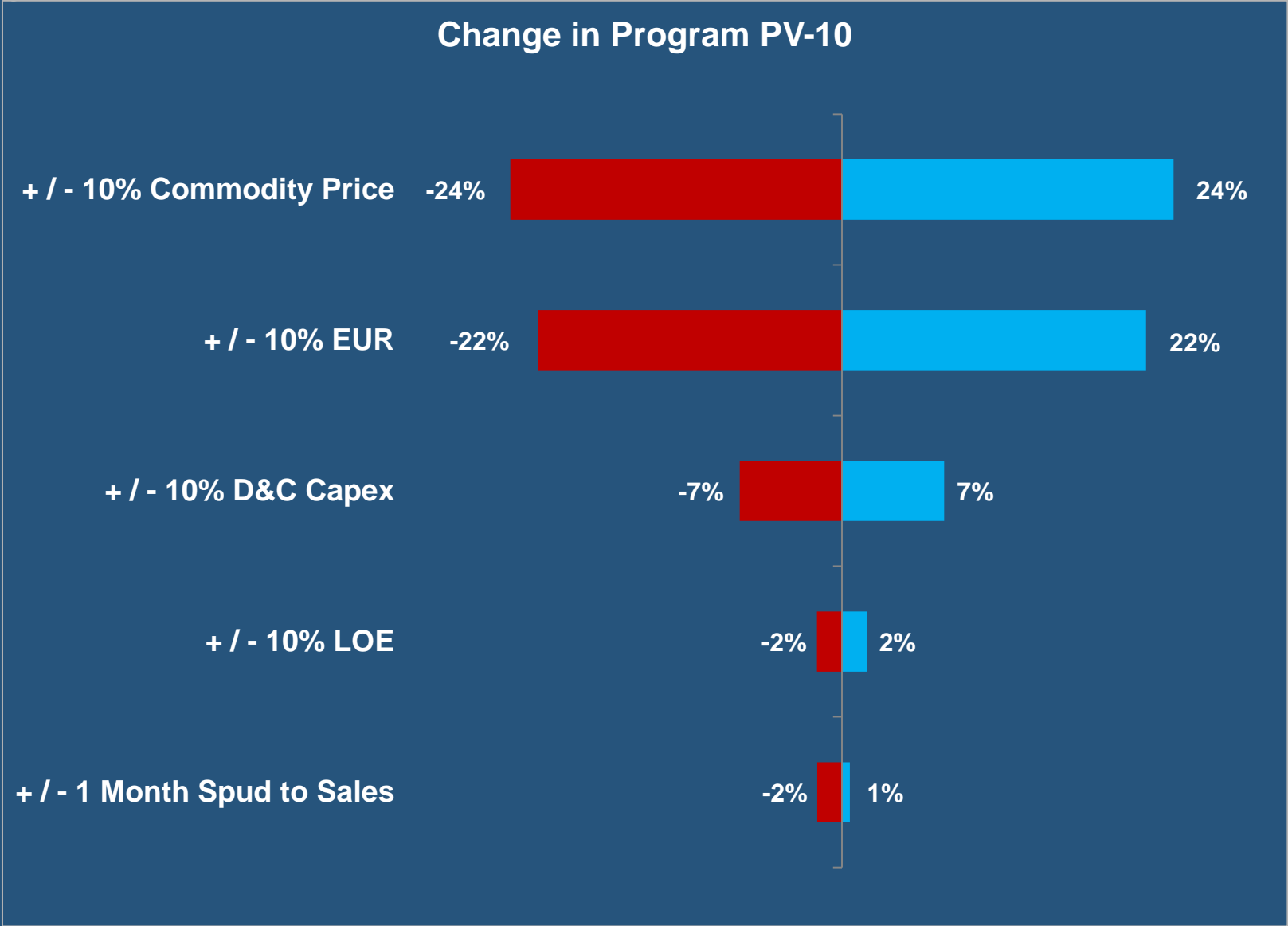
Data and Valuation Work by Buyer

# Illustrative Eagle Ford Transaction Analysis – Summary

| Returns         |      |
|-----------------|------|
| Project IRR     | 33%  |
| Project ROI     | 9.7x |
| Years to Payout | 4.3x |



# Illustrative Eagle Ford Transaction Analysis – Assumptions Analysis



# Key M&A Themes – Sellers

- Continuing need for capital and portfolio re-alignment are driving activity
  - JVs, asset sales, company sales
  - Limited equity issuance given low valuations
- Period of high activity has made the market more selective
  - Only better assets selling
  - Clear preference for liquids
  - Asset maturity much more important
- Operating capability and a well-defined development plan are critical assets
- Capital markets are robust, especially for leverage (recap, LBOs, etc.)
- Holding periods for investments likely to lengthen

**Outlook: More selective strategic buyers, but strong financial markets**

# Key M&A Themes – Buyers

- Major oil companies have tremendous cash resources
  - Constrained by operating capability
  - Mainly seek bolt-ons
- North American independents are generally full, but seek portfolio upgrades. Smaller companies will assume a more prominent role given capital available from financial markets
- International buyers seek oil or gas for LNG projects. Two basic transaction styles:
  - Joint Venture with a recognized operator
  - Purchase of a “platform”
- Generalist PE firms are making a big push in U.S. oil & gas. Require assets with cash flow and a management team

**Operating capacity is a key constraint**

# Trends Affecting the Investment Environment

- Ability to execute large scale drilling campaign is a key value driver
  - Mainly an issue of people and process
  - Ability to accelerate drilling is a competitive advantage
- Discovery of emerging plays has slowed; nothing large since Utica.
- Well results continue to improve in virtually all plays
- Regional product price differentials increasingly complex; U.S. midstream and pipeline infrastructure is being re-invented
- Environmental regulation likely to increase costs
- Four potential demand growth areas emerging:
  - Natural gas switching from coal
  - New manufacturing
  - CNG export
  - CNG / LNG for transportation

# Appendix

# Encana and Mitsubishi Announce Montney Development Agreement

Mitsubishi Acquires ~164,000 Net Montney Acres for C\$2.9 Billion

## Key Points

- Jefferies and RBC Capital Markets acted as joint financial advisors to Encana
- Strong reinforcement of the high resource potential of Montney assets



Mitsubishi Corporation

- On February 17, 2012, Encana Corporation ("ECA") and Mitsubishi Corporation ("Mitsubishi") announced a partnership agreement for the development of Encana's Cutbank Ridge assets in northeast British Columbia
- Mitsubishi purchased a 40% working interest in Encana's Cutbank Ridge Assets for C\$2.9 Billion
- Encana's Cutbank Ridge assets include 409,000 undeveloped Montney net acres, plus additional development potential in the Cadomin and Doig geological formations
- Encana will be the managing partner and operator of the partnership
- This transaction does not include any of Encana's current Cutbank Ridge production of ~600 MMcfpd, processing plants, gathering systems or Montney assets in Alberta

## Transaction Summary <sup>(1)</sup>

|                                    |   |
|------------------------------------|---|
| Transaction Value:                 | C\$2,900 Million  |
| Up-Front Payment:                  | C\$1,450 Million  |
| Future Obligations:                | Mitsubishi funds C\$1,450 million of Encana's future capital expenditures |
| Montney:                           | 409,000 acres (163,600 net to Mitsubishi)                                 |
| Proved Reserves: <sup>(2)</sup>    | 0.9 Tcfe (0.36 Tcfe net to Mitsubishi)                                    |
| Resource Potential: <sup>(3)</sup> | 35.0 Tcfe (14.0 Tcfe net to Mitsubishi)                                   |

## Transaction Metrics

|                      |                   |
|----------------------|-------------------|
| Resource (\$ / Mcfe) | C\$ 0.21 / Mcfe   |
| Acre (\$ / acre)     | C\$ 17,726 / acre |

- To date, the transaction represents:
  - The largest upstream joint venture transaction in Canada to date
  - Strong confirmation of the attractiveness of Montney assets

## Transaction Highlights

- Enables Encana to realize:
  - Immediate asset monetization (C\$1,450 Million)
  - Incremental capital for near-term development with C\$1,450 Million capex carry
- Provides Mitsubishi with:
  - Substantial long term production and reserves growth
  - Significant exposure to a low-risk, low-cost resource play as a platform to develop its knowledge of unconventional resources
  - Meaningful natural gas supply for LNG conversion and delivery to global markets

NOTE: Transaction announced February 17, 2012. Transaction is expected to close late February 2012.

(1) Source: Encana Corporation February 17, 2012 press release.

(2) Reserve estimate as of December 31, 2011, after royalties, using forecast prices and costs.

(3) Source: Mitsubishi Corporation February 20, 2012 press release.

# CHK and Total Form Utica Shale Joint Venture

Transaction Implies a \$8.1 Billion Value for Chesapeake's Utica Shale Assets

## Key Points

- Jefferies initiated this transaction and acted as exclusive financial advisor to Chesapeake Energy



- On January 3, 2012, Chesapeake Energy Corp. ("CHK") and Total E&P USA, Inc., a wholly owned subsidiary of Total S.A. ("Total") announced the formation of a JV to further develop CHK and EnerVest, Ltd's ("EnerVest") combined 619,000 net acre position in the wet gas window of the Utica Shale in eastern Ohio
- Total purchased a 25.0% working interest in CHK and EnerVest's combined leasehold for \$15,000 / acre
  - 542,000 net acres contributed to the JV by CHK
  - 77,000 net acres contributed to the JV by EnerVest
- Total will have the option to acquire a 25% share in any additional leasehold in the JV AMI and the option to participate with CHK for a 25% interest in any midstream infrastructure related to JV production
- Jefferies initiated this transaction and acted as exclusive financial advisor to CHK

## Transaction Summary (Including EnerVest)

|                     |   |
|---------------------|---|
| Transaction Value:  | \$2.321 Billion<br>(25.0% WI)                                       |
| Up-Front Payment:   | \$0.696 Billion   |
| Future Obligations: | Total funds \$1.625 Billion of CHK and EnerVest's development capex |
| Assets of Interest  | 619,000 net acres in the Utica Shale (100% wet gas window)          |

- This transaction represents:

- The largest joint venture transaction in the Utica Shale to date
- Strong confirmation of the attractiveness of Utica assets
- The largest single commitment of capital to this play
- CHK's seventh industry joint venture in the U.S. shale plays

## Transaction Highlights

- Enables CHK to realize
  - Immediate asset monetization (\$610 Million)
  - Incremental capital for near-term development with \$1,423 Million in Utica capex carry
  - Alignment with Total to explore additional unconventional initiatives
- Provides Total with
  - Substantial position in an emerging liquids shale play
  - Opportunity to expand upon its existing partnership with CHK in the Barnett Shale (dry gas)
  - Significant long term production and reserve growth potential

# Shell Announces the Acquisition of East Resources

Transaction Implies a \$4.7 Billion Value for East

## Key Points

- Jefferies initiated this transaction and acted as sole financial advisor to East Resources
- Largest transaction in the Marcellus Shale to date
- The entrance of Shell into the Appalachian Basin



## Transaction Overview

- On May 28, 2010 Royal Dutch Shell Plc (“Shell”) announced the acquisition of East Resources, Inc. (“East” or the “Company”) for approximately \$4.7 B in cash consideration
  - Jefferies initiated this transaction and served as sole financial advisor to East
- East was founded in 1983 and today is one of the most active operators in the Appalachian Basin
  - The Company has approximately 650,000 highly contiguous net acres prospective for the Marcellus Shale and has drilled over 1,000 wells in the past five years

## Background

- Jefferies previously advised East in its June 2009 convertible preferred equity investment from Kohlberg Kravis Roberts (“KKR”)
- With additional liquidity from KKR, East was able to significantly expand its organization and its Marcellus Shale operations
- The resulting success of East’s drilling program led the Company to approach Jefferies regarding a potential sale

## Jefferies Process

- Jefferies assisted East in evaluating an array of structural alternatives in order to maximize the value underlying East’s asset portfolio
- Jefferies was actively involved in:
  - Structuring of the transaction
  - Preparation of marketing materials
  - Drafting of financial plan
  - Conducting thorough due diligence
  - Negotiation of deal terms

## Transaction Highlights

- Demonstrates the continuing appeal of the superior economic and operating profile of American shale gas plays
- At the time, the transaction represented:
  - The largest energy-industry corporate M&A transaction in 2010
  - The seventh major oil company to publicly announce a transaction in the U.S. shales
  - The largest upstream oil and gas transaction in the Appalachian Basin
- The combination represents a clear commitment by Shell to build a U.S. natural gas business designed to meet long-term U.S. energy demand

# East Resources - Creating Value by De-Risking Acreage

## Key Points

- With additional liquidity from KKR, East was able to significantly expand its Marcellus Shale operations
- Created significant value by drilling 64 horizontal wells & de-risking acreage
- At the time of the Shell transaction, the transaction represented:
  - The largest energy-industry corporate M&A transaction in 2010
  - The largest upstream oil and gas transaction in the Appalachian Basin
  - The seventh major oil company to publicly announce a transaction in the U.S. shales
- **Jefferies served as sole advisor to East Resources on both transactions**



|                         | KKR Equity Investment | Shell Sale         |
|-------------------------|-----------------------|--------------------|
| Date                    | June 2009             | May 2010           |
| Net Acres               | 650,000               | 650,000            |
| Wells Drilled           | 19                    | 86                 |
| <i>Horizontal</i>       | 1                     | 65                 |
| <i>Vertical</i>         | 18                    | 21                 |
| EUR (Bcfe)              | 3.75                  | 3.75               |
| D&C (\$MM)              | \$3.5                 | \$2.8              |
| 24-hour Avg IP (MMcf/d) | 4.3 <sup>(1)</sup>    | 5.1 <sup>(1)</sup> |
| TEV (\$MM)              | Not Disclosed         | \$4,700            |

- Jefferies has recommended the use of private capital to derisk and delineate assets over a period of time before engaging in a larger liquidity event, such as a corporate sale, initial public offering or strategic joint venture

(1) KRR investment IP represents the marketed IP as there was only one well result. IP for Shell sale is the average based on actual results.

# Marathon Oil Announces Acquisition of Eagle Ford Shale Assets

Marathon Acquires ~141,000 net Eagle Ford acres from Hilcorp Resources for \$3.5 billion

## Key Points

- Jefferies acted as Sole Financial Advisor to Hilcorp Resources

 Hilcorp Energy Company

**KKR**

## Transaction Overview

- On June 1, 2011, Hilcorp Resources Holdings LP ("Hilcorp Resources"), a partnership formed by affiliates of Hilcorp Energy Company ("HEC") and Kohlberg Kravis Roberts & Co. L.P. ("KKR"), announced the sale of its Eagle Ford shale assets to Marathon Oil Corporation for \$3.5 billion in cash
- The sale includes all of the oil and gas interests and operations of Hilcorp Resources consisting of approximately 141,000 net acres in the Eagle Ford and includes approximately 7,000 Boe/d of daily net production

## Background

- Jefferies previously advised HEC on the formation of its Eagle Ford partnership, Hilcorp Resources, with KKR
- The partnership provided Hilcorp an attractive source of capital to aggressively develop the asset
- Hilcorp ramped to 6 rigs and drilled 40 producing wells, with some of the best results in the play
- Through the partnership, KKR gained substantial exposure to one of the premier liquids-rich U.S shale plays

## Jefferies Process

- Jefferies assisted Hilcorp Resources in evaluating an array of structural alternatives in order to maximize the value of its assets
- Jefferies was actively involved in:
  - Structuring of the transaction
  - Preparation of marketing materials
  - Drafting of financial plan
  - Conducting thorough due diligence
  - Negotiation of deal terms

## Transaction Highlights

- This transaction is the largest transaction in the Eagle Ford to date and reflects the continued maturation of the play
- Transaction further demonstrates Jefferies continued leadership in advising on large oil and gas transactions
- Enables Hilcorp Resources to realize immediate asset monetization and high return on investment
- Provides Marathon with a large position in a world class shale asset and substantial long term production and reserves growth