INCOME APPROACH: LEASE BONUS AND DCF ANALOG WELL METHODS OF ROYALTY AND LEASEHOLD APPRAISALS

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2013 SME Annual Meeting & Colorado Mining Assoc. 115th National Western Mining Conference
Denver, CO Feb 26, 2013
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• Example of Client’s PUD Acreage Valuation 8/2011 in DeWitt Co. Eagleford Actual Production vs. Decline Projection Post-D&C/Valuation Shows Oil IP (too high, “b” too low vs. analog well in oil window, 1.5 Mi. NW). Client in wet gas window.

Dewitt COUNTY, TX

McX PUD (Hamilton Tr B Analog)

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<tr>
<th>Date</th>
<th>Oil [bbls]</th>
<th>Water [bbls]</th>
<th>Gas [mcf]</th>
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<tr>
<td>2015</td>
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<td>2020</td>
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<td>2030</td>
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Forecast Data
- t = 11/2011
- Oil Q(t) = 21362.5
- D(t) = 99.50%
- b = 0.570
- Gas Q(t) = 94903.4
- D(t) = 99.73%
- b = 0.550
- Wat Q(t) = 0.0

Operator: GEOSOUTHERN ENERGY CORPORATION
Field: Contact
Reservoir: Eagleford
Cum Oil [bbls]: 282280
Cum Gas [mcf]: 519003
Cum Water [bbls]: 0
FACTORS AFFECTING DCF METHOD RISK AND CASH FLOW:

- Distance of subject acreage from producing wells and offset (PUD) well potential
- Decline history of analog wells (exponential/hyperbolic)
- Distance of subject from recent drilling activity
- Dry holes in and around subject acreage, nearby abandoned re-entry wells to lower drilling cost, drill, & complete cost (Baanen fracturing can cost as much as drilling)
- Time elapsed, oil & gas pricing environment (volatility), especially with fast-decline shales
- Cost of money and alternative investment rates
- Pooling-adds contiguous development, can dilute royalty%
- Restrictions in lease such as Pugh clause water, damages

FACTORS AFFECTING LEASE BONUS MULTIPLE METHOD

- Activity and bonus paid for nearby acreage
- Prospects for renewal of leases, depth of open acreage, seismic option
- Relevant and available arm’s length fee mineral interest sale comparables
- Dry holes in and around subject acreage, vs. nearby production and offset (PUD) well potential
- Extension option bonus – increases bonus multiple in DCF
- Executive right to participate in leasing and bonus
- Cost of money and alternative investment rates
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