

Appendix 1.

**SEVENTH APPROXIMATION
DATA FORM FOR CONVENTIONAL ASSESSMENT UNITS (Version 6, 9 April 2003)**

IDENTIFICATION INFORMATION

Assessment Geologist:	<u>P.D. Warwick</u>	Date:	<u>22-Jan-07</u>
Region:	<u>North America</u>	Number:	<u>5</u>
Province:	<u>Western Gulf</u>	Number:	<u>5047</u>
Total Petroleum System:	<u>Upper Jurassic-Cretaceous-Tertiary Composite</u>	Number:	<u>504701</u>
Assessment Unit:	<u>Wilcox Stable Shelf Oil and Gas</u>	Number:	<u>50470116</u>
Based on Data as of:	<u>Nehring Associates, Inc. (2006) (data current through 2004), IHS Energy Group (2005a,b) (data current through 2005)</u>		
Notes from Assessor:	<u>NRG reservoir growth factor</u>		

CHARACTERISTICS OF ASSESSMENT UNIT

Oil (<20,000 cfg/bo overall) or Gas (≥20,000 cfg/bo overall): Oil

What is the minimum accumulation size? 0.5 mmbœ grown
(the smallest accumulation that has potential to be added to reserves)

No. of discovered accumulations exceeding minimum size:	Oil:	<u>270</u>	Gas:	<u>83</u>
Established (>13 accums.) <u>X</u>	Frontier (1-13 accums.)	<u> </u>	Hypothetical (no accums.)	<u> </u>

Median size (grown) of discovered oil accumulations (mmbœ):			
	1st 3rd <u>2.3</u>	2nd 3rd <u>1.8</u>	3rd 3rd <u>1.3</u>

Median size (grown) of discovered gas accumulations (bcfg):			
	1st 3rd <u>24.4</u>	2nd 3rd <u>10.9</u>	3rd 3rd <u>11.1</u>

Assessment-Unit Probabilities:

<u>Attribute</u>	<u>Probability of occurrence (0-1.0)</u>
1. CHARGE: Adequate petroleum charge for an undiscovered accum. ≥ minimum size:	<u>1.0</u>
2. ROCKS: Adequate reservoirs, traps, and seals for an undiscovered accum. ≥ minimum size:	<u>1.0</u>
3. TIMING OF GEOLOGIC EVENTS: Favorable timing for an undiscovered accum. ≥ minimum size:	<u>1.0</u>

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3): 1.0

UNDISCOVERED ACCUMULATIONS

No. of Undiscovered Accumulations: How many undiscovered accums. exist that are ≥ min. size?:
(uncertainty of fixed but unknown values)

Oil Accumulations:	minimum (>0) <u>1</u>	mode <u>15</u>	maximum <u>100</u>
Gas Accumulations:	minimum (>0) <u>1</u>	mode <u>20</u>	maximum <u>80</u>

Sizes of Undiscovered Accumulations: What are the sizes (**grown**) of the above accums?:
(variations in the sizes of undiscovered accumulations)

Oil in Oil Accumulations (mmbœ):	minimum <u>0.5</u>	median <u>1.1</u>	maximum <u>10</u>
Gas in Gas Accumulations (bcfg):	minimum <u>3</u>	median <u>10</u>	maximum <u>100</u>

AVERAGE RATIOS FOR UNDISCOVERED ACCUMS., TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

<u>Oil Accumulations:</u>	minimum	mode	maximum
Gas/oil ratio (cfg/bo)	<u>354</u>	<u>708</u>	<u>1062</u>
NGL/gas ratio (bngl/mmcfg)	<u>14.5</u>	<u>29</u>	<u>43.5</u>
<u>Gas Accumulations:</u>	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcfg)	<u>16.5</u>	<u>33</u>	<u>49.5</u>
Oil/gas ratio (bo/mmcfg)	<u> </u>	<u> </u>	<u> </u>

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	mode	maximum		
API gravity (degrees)	<u>17</u>	<u>39.8</u>	<u>55</u>		
Sulfur content of oil (%)	<u>0</u>	<u>0.1</u>	<u>0.8</u>		
Depth (m) of water (if applicable)	<u>0</u>	<u>10</u>	<u>20</u>		
	minimum	F75	mode	F25	maximum
Drilling Depth (m)	<u>30</u>	<u>600</u>	<u>1520</u>	<u>2740</u>	<u>4260</u>
<u>Gas Accumulations:</u>	minimum	mode	maximum		
Inert gas content (%)	<u>0.6</u>	<u>1.3</u>	<u>5</u>		
CO ₂ content (%)	<u>0</u>	<u>1.5</u>	<u>6.7</u>		
Hydrogen-sulfide content (%)	<u>0</u>	<u>0</u>	<u>0</u>		
Depth (m) of water (if applicable)	<u>0</u>	<u>10</u>	<u>20</u>		
	minimum	F75	mode	F25	maximum
Drilling Depth (m)	<u>30</u>	<u>600</u>	<u>2100</u>	<u>3350</u>	<u>5500</u>

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES
Surface Allocations (uncertainty of a fixed value)

1. <u>Texas</u>	represents	<u>32.59</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>32.59</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>32.59</u>	_____
2. <u>Louisiana</u>	represents	<u>18.02</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>18.02</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>18.02</u>	_____
3. <u>Mississippi</u>	represents	<u>21.93</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>21.93</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>21.93</u>	_____
4. <u>Alabama</u>	represents	<u>11.17</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>11.17</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>11.17</u>	_____
5. <u>Arkansas</u>	represents	<u>9.50</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>9.5</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>9.5</u>	_____
6. <u>Florida</u>	represents	<u>6.79</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>6.79</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>6.79</u>	_____

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES
Surface Allocations (uncertainty of a fixed value)

1. <u>Federal lands</u>	represents	<u>5.12</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>5.12</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>5.12</u>	_____
2. <u>Private lands</u>	represents	<u>45.43</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>45.43</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>45.43</u>	_____
3. <u>Other lands</u>	represents	<u>45.37</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>45.37</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>45.37</u>	_____
4. <u>Tex. State lands</u>	represents	<u>0.13</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.13</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.13</u>	_____
5. <u>La. State lands</u>	represents	<u>0.38</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.38</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.38</u>	_____
6. <u>Miss. State lands</u>	represents	<u>0.15</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.15</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.15</u>	_____

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7. <u>Ark. State lands</u>	represents	<u>0.11</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.11</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.11</u>	_____
8. <u>Fla. State lands</u>	represents	<u>0.45</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.45</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.45</u>	_____
9. <u>La. offshore</u>	represents	<u>0.32</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.32</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.32</u>	_____
10. <u>Miss. offshore</u>	represents	<u>0.54</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.54</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.54</u>	_____
11. <u>Ala. offshore</u>	represents	<u>0.52</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.52</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.52</u>	_____
12. <u>Fla. offshore</u>	represents	<u>1.48</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>1.48</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>1.48</u>	_____

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS
Surface Allocations (uncertainty of a fixed value)

1. <u>Bureau of Land Management (BLM)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
2. <u>BLM wilderness areas (BLMW)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
3. <u>BLM roadless areas (BLMR)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
4. <u>National Park Service (NPS)</u>	represents	0.13	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	0.13	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	0.13	_____
5. <u>NPS wilderness areas (NPSW)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
6. <u>NPS protected withdrawals (NPSP)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____

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7. <u>United States (U.S.) Forest Service (FS)</u>	represents	<u>3.61</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>3.61</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>3.61</u>	_____
8. <u>U.S.FS wilderness areas (FSW)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode _____	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	_____	_____
9. <u>U.S.FS roadless areas (FSR)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode _____	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	_____	_____
10. <u>U.S.FS protected withdrawals (FSP)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode _____	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	_____	_____
11. <u>U.S. Fish and Wildlife Service (FWS)</u>	represents	<u>0.56</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>0.56</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>0.56</u>	_____
12. <u>U.S.FWS wilderness areas (FWSW)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode _____	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	_____	_____

<u>13. U.S.FWS protected withdrawals (FWSP)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
<u>14. Wilderness study areas (WS)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
<u>15. U.S. Department of Energy (DOE)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
<u>16. U.S. Department of Defense (DOD)</u>	represents	0.83	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	0.83	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	0.83	_____
<u>17. Bureau of Reclamation (BOR)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
<u>18. Tennessee Valley Authority (TVA)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS
Surface Allocations (uncertainty of a fixed value)

1. <u>Blackland prairies (BLPR)</u>	represents	<u>1.92</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>1.92</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>1.92</u>	_____
2. <u>Coastal plains and flatwoods, lower (CPFL)</u>	represents	<u>17.26</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>17.26</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>17.26</u>	_____
3. <u>Coastal plains and flatwoods, western Gulf (CPFw)</u>	represents	<u>5.17</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>5.17</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>5.17</u>	_____
4. <u>Coastal plains, middle (CPMD)</u>	represents	<u>15.13</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>15.13</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>15.13</u>	_____
5. <u>Florida coastal lowlands western (FCLW)</u>	represents	<u>2.19</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>2.19</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>2.19</u>	_____
6. <u>Louisiana coast prairies and marshes (LCPM)</u>	represents	<u>0.72</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.72</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.72</u>	_____

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7. <u>Mid-coastal plains, western (MCPW)</u>	represents	<u>20.97</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>20.97</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>20.97</u>	_____
8. <u>Mississippi alluvial basin (MABA)</u>	represents	<u>14.15</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>14.15</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>14.15</u>	_____
9. <u>Oak woods and prairies (OWPR)</u>	represents	<u>10.64</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>10.64</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>10.64</u>	_____
10. <u>Ouachita Mountains (OUMT)</u>	represents	<u>0.11</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>0.11</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>0.11</u>	_____
11. <u>Rio Grande plain (RGPL)</u>	represents	<u>8.88</u>	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode <u>8.88</u>	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	<u>8.88</u>	_____
12. _____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u> Volume % in entity	minimum _____	mode _____	maximum _____
<u>Gas in Gas Accumulations:</u> Volume % in entity	_____	_____	_____