

Appendix 1. Basic Input Data for the Albian Clastic Assessment Unit

Basic input data form in appendix 1 for the Albian Clastic Assessment Unit (50490125). SEVENTH APPROXIMATION DATA FORM (NOGA, Version 6, 4-09-03). [Abbreviations: accums., accumulations; AU, assessment unit; bcfg, billion cubic feet of gas; bliq/mmcf, barrels of liquid per million cubic feet of gas; bngl/mmcf, barrels of natural gas liquids per million cubic feet of gas; bo/mmcf, barrels of oil per million cubic feet of gas; cfg/bo, cubic feet of gas per barrel of oil; F, fractile (in percent); m, meters; min., minimum; mmboe, million barrels of oil equivalent; mmo, million barrels of oil; NGL, natural gas liquids, no., number.]

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

IDENTIFICATION INFORMATION

Assessment Geologist:	<u>M. Merrill</u>	Date:	<u>27-Apr-10</u>
Region:	<u>North America</u>	Number:	<u>5</u>
Province:	<u>Gulf Coast Mesozoic</u>	Number:	<u>5049</u>
Total Petroleum System:	<u>Upper Jurassic-Cretaceous-Tertiary Composite</u>	Number:	<u>504901</u>
Assessment Unit:	<u>Albian Clastic</u>	Number:	<u>50490125</u>
Based on Data as of:	<u>NRG (2009, data current through 2007), IHS (2009)</u>		
Notes from Assessor:	<u>NRG reservoir growth factor, 30 years</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: 115 Gas: 55
Established (>13 accums.) X Frontier (1-13 accums.) Hypothetical (no accums.)

Median size (grown) of discovered oil accumulations (mmbœ):
1st 3rd 3.22 2nd 3rd 3.34 3rd 3rd 1.83
Median size (grown) of discovered gas accumulations (bcfg):
1st 3rd 56.82 2nd 3rd 13.12 3rd 3rd 9.77

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>20</u>	maximum <u>50</u>
Gas Accumulations:	minimum (>0) <u>1</u>	mode <u>15</u>	maximum <u>30</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</u>	maximum <u>25</u>
Gas in Gas Accumulations (bcfg):	minimum <u>3</u>	median <u>6</u>	maximum <u>65</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)	450	900	1350
NGL/gas ratio (bngl/mmcf)	21	42	63
<u>Gas Accumulations:</u>	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcf)	13	26	39
Oil/gas ratio (bo/mmcf)			

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	mode	maximum
API gravity (degrees)	15	40	55
Sulfur content of oil (%)	0.2	0.4	4
Depth (m) of water (if applicable)	0	10	20
Drilling Depth (m)	minimum F75	mode F25	maximum
	760	2440	4900

<u>Gas Accumulations:</u>	minimum	mode	maximum
Inert gas content (%)	0	0	6
CO ₂ content (%)	0	2.5	7
Hydrogen-sulfide content (%)	0	0	0
Depth (m) of water (if applicable)	0	10	20
Drilling Depth (m)	minimum F75	mode F25	maximum
	760	3350	4900

THIS PAGE IS INTENTIONALLY BLANK

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

1. <u>Alabama</u>	represents	<u>6.91</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>2.25</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>2.25</u>	_____
2. <u>Arkansas</u>	represents	<u>3.34</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>9.82</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>3.24</u>	_____
3. <u>Florida</u>	represents	<u>2.07</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.50</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.50</u>	_____
4. <u>Louisiana</u>	represents	<u>27.24</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>17.00</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>17.00</u>	_____
5. <u>Mississippi</u>	represents	<u>25.43</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>30.43</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>33.43</u>	_____
6. <u>Texas</u>	represents	<u>35.00</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>40.00</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>43.58</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)

<u>1. Federal Lands</u>	represents	<u>6.19</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>6.19</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>6.19</u>	_____
<u>2. Private Lands</u>	represents	<u>89.59</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>89.59</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>89.59</u>	_____
<u>3. MS Offshore</u>	represents	<u>0.84</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.84</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.84</u>	_____
<u>4. Other 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>	_____
<u>5. AR State Lands</u>	represents	<u>0.04</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.04</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.04</u>	_____
<u>6. FL State Lands</u>	represents	<u>0.06</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.06</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.06</u>	_____

Assessment Unit (name, no.)
 Albian Clastic, 50490125

7.	<u>LA State Lands</u>	represents	<u>0.69</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>0.69</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>0.69</u>	_____
8.	<u>MS State Lands</u>	represents	<u>0.18</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>0.18</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>0.18</u>	_____
9.	<u>TX 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>	_____
10.	<u>AL Offshore</u>	represents	<u>0.80</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>0.80</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>0.80</u>	_____
11.	<u>FL Offshore</u>	represents	<u>0.60</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>0.60</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>0.60</u>	_____
12.	<u>LA Offshore</u>	represents	<u>0.79</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>0.79</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>0.79</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	0.02	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	0.02	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	0.02	_____
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	_____	_____	_____

7. <u>US Forest Service (FS)</u>	represents	<u>5.34</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>5.34</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>5.34</u>	_____
8. <u>USFS Wilderness Areas (FSW)</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	_____	_____	_____
9. <u>USFS Roadless Areas (FSR)</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	_____	_____	_____
10. <u>USFS Protected Withdrawals (FSP)</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	_____	_____	_____
11. <u>US Fish and Wildlife Service (FWS)</u>	represents	<u>0.49</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.49</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.49</u>	_____
12. <u>USFWS Wilderness Areas (FWSW)</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	_____	_____	_____

13. <u>USFWS 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	_____	_____	_____
14. <u>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	_____	_____	_____
15. <u>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	_____	_____	_____
16. <u>Department of Defense (DOD)</u>	represents	0.35	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	0.35	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	0.35	_____
17. <u>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	_____	_____	_____
18. <u>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	_____	_____	_____

19. Other Federal 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	_____	_____	_____

20. _____ 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>3.68</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>3.68</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>3.68</u>	_____
2. <u>Coastal Plains and Flatwoods, Lower (CPFL)</u>	represents	<u>17.85</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>22.85</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>22.85</u>	_____
3. <u>Coastal Plains and Flatwoods, Western Gulf (CPFWS)</u>	represents	<u>8.53</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>4.00</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>4.00</u>	_____
4. <u>Coastal Plains, Middle (CPMD)</u>	represents	<u>13.94</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>13.94</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>13.94</u>	_____
5. <u>Florida Coastal Lowlands (Western) (FCLW)</u>	represents	<u>0.56</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>0.56</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>0.56</u>	_____
6. <u>Louisiana Coast Prairies and Marshes (LCPM)</u>	represents	<u>1.42</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	<u>1.42</u>	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	<u>1.42</u>	_____

Assessment Unit (name, no.)
Albian Clastic, 50490125

7.	<u>Mid Coastal Plains, Western (MCPW)</u>	represents	<u>25.16</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>30.42</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>30.42</u>	_____
8.	<u>Mississippi Alluvial Basin (MABA)</u>	represents	<u>11.74</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>6.00</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>6.00</u>	_____
9.	<u>Oak Woods and Prairies (OWPR)</u>	represents	<u>14.10</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	_____	<u>14.10</u>	_____
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	_____	<u>14.10</u>	_____
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	_____	_____	_____