

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

IDENTIFICATION INFORMATION

Assessment Geologist:	S.M. Swanson, C.B. Enomoto, and K. Dennen	Date:	27-Apr-10
Region:	North America	Number:	5
Province:	Gulf Coast Mesozoic	Number:	5049
Total Petroleum System:	Upper Jurassic-Cretaceous-Tertiary Composite	Number:	504901
Assessment Unit:	Fredericksburg-Buda Carbonate Platform-Reef Gas and Oil	Number:	50490127
Based on Data as of:	NRG (2009, data current through 2007), IHS (2009)		
Notes from Assessor:	NRG reservoir growth factor, 30 years		

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 mmboc grown
(the smallest accumulation that has potential to be added to reserves)

No. of discovered accumulations exceeding minimum size: Oil: 37 Gas: 48
Established (>13 accums.) X Frontier (1-13 accums.) Hypothetical (no accums.)

Median size (grown) of discovered oil accumulations (mmboc):
1st 3rd 8.36 2nd 3rd 1.58 3rd 3rd 2.95
Median size (grown) of discovered gas accumulations (bcfg):
1st 3rd 57.11 2nd 3rd 12.09 3rd 3rd 24.45

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>12</u>	maximum <u>30</u>
Gas Accumulations:	minimum (>0) <u>1</u>	mode <u>20</u>	maximum <u>60</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 (mmboc):	minimum <u>0.5</u>	median <u>1.5</u>	maximum <u>60</u>
Gas in Gas Accumulations (bcfg):	minimum <u>3</u>	median <u>9</u>	maximum <u>500</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>1400</u>	<u>2800</u>	<u>4200</u>
NGL/gas ratio (bngl/mmcfg)	<u>24</u>	<u>48</u>	<u>72</u>
<u>Gas Accumulations:</u>	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcfg)	<u>9</u>	<u>18</u>	<u>27</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>20</u>	<u>36</u>	<u>55</u>		
Sulfur content of oil (%)	<u>0</u>	<u>0.8</u>	<u>1</u>		
Depth (m) of water (if applicable)	<u>0</u>	<u>10</u>	<u>20</u>		
Drilling Depth (m)	minimum	F75	mode	F25	maximum
	<u>150</u>		<u>2700</u>		<u>3700</u>

<u>Gas Accumulations:</u>	minimum	mode	maximum		
Inert gas content (%)	<u>0</u>	<u>0.3</u>	<u>5</u>		
CO ₂ content (%)	<u>0</u>	<u>7</u>	<u>12</u>		
Hydrogen-sulfide content (%)	<u>0</u>	<u>0</u>	<u>6</u>		
Depth (m) of water (if applicable)	<u>0</u>	<u>10</u>	<u>20</u>		
Drilling Depth (m)	minimum	F75	mode	F25	maximum
	<u>600</u>		<u>4000</u>		<u>8800</u>