

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

**IDENTIFICATION INFORMATION**

Assessment Geologist:	M.E. Brownfield and M.E. Tennyson	Date:	14-Mar-06
Region:	North America	Number:	5
Province:	Eastern Oregon and Washington	Number:	5005
Total Petroleum System:	Cretaceous-Tertiary Composite	Number:	500501
Assessment Unit:	Republic Graben Gas	Number:	50050102
Based on Data as of:			
Notes from Assessor:	Not quantitatively assessed.		

**CHARACTERISTICS OF ASSESSMENT UNIT**

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

What is the minimum accumulation size? \_\_\_\_\_ mmmboe grown  
(the smallest accumulation that has potential to be added to reserves)

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

Median size (grown) of discovered oil accumulations (mmbo):  
1st 3rd \_\_\_\_\_ 2nd 3rd \_\_\_\_\_ 3rd 3rd \_\_\_\_\_  
Median size (grown) of discovered gas accumulations (bcfg):  
1st 3rd \_\_\_\_\_ 2nd 3rd \_\_\_\_\_ 3rd 3rd \_\_\_\_\_

**Assessment-Unit Probabilities:**

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

**Assessment-Unit GEOLOGIC Probability** (Product of 1, 2, and 3): \_\_\_\_\_

**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) _____	mode _____	maximum _____
Gas Accumulations:	minimum (>0) _____	mode _____	maximum _____

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

Oil in Oil Accumulations (mmbo):	minimum _____	median _____	maximum _____
Gas in Gas Accumulations (bcfg):	minimum _____	median _____	maximum _____

**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)	_____	_____	_____
NGL/gas ratio (bnl/mmcfg)	_____	_____	_____
<u>Gas Accumulations:</u>	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcfg)	_____	_____	_____
Oil/gas ratio (bo/mmcfg)	_____	_____	_____

---

**SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS**

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	mode	maximum		
API gravity (degrees)	_____	_____	_____		
Sulfur content of oil (%)	_____	_____	_____		
Depth (m) of water (if applicable)	_____	_____	_____		
	minimum	F75	mode	F25	maximum
Drilling Depth (m)	_____				

<u>Gas Accumulations:</u>	minimum	mode	maximum		
Inert gas content (%)	_____	_____	_____		
CO <sub>2</sub> content (%)	_____	_____	_____		
Hydrogen-sulfide content (%)	_____	_____	_____		
Depth (m) of water (if applicable)	_____	_____	_____		
	minimum	F75	mode	F25	maximum
Drilling Depth (m)	_____				

---

**THIS PAGE IS INTENTIONALLY BLANK**

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

1.	_____	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.	_____	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.	_____	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.	_____	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	_____		_____	_____
5.	_____	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.	_____	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	_____		_____	_____

Assessment Unit (name, no.)

---

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	_____	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>Private Lands</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>Tribal Lands</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>Other Lands</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	_____	_____	_____
5. <u>State 1 Lands</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. _____	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	_____	_____	_____

Assessment Unit (name, no.)

---

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 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	_____	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	_____	_____	_____
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	_____	_____	_____

Assessment Unit (name, no.)

---

7. <u>US Forest Service (FS)</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	_____		_____	_____
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	_____	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. <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	_____		_____	_____

Assessment Unit (name, no.)

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	_____	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	_____		_____	_____
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	_____		_____	_____

Assessment Unit (name, no.)

---

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.	_____	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.	_____	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.	_____	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.	_____	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		_____	_____	_____
5.	_____	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.	_____	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. \_\_\_\_\_ 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	_____	_____	_____

