

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

IDENTIFICATION INFORMATION

| | | | |
|-------------------------|---|---------|------------------|
| Assessment Geologist: | <u>L.O. Anna</u> | Date: | <u>16-Sep-08</u> |
| Region: | <u>North America</u> | Number: | <u>5</u> |
| Province: | <u>Williston Basin</u> | Number: | <u>5031</u> |
| Total Petroleum System: | <u>Red River</u> | Number: | <u>503103</u> |
| Assessment Unit: | <u>Interlake-Stonewall-Stony Mountain</u> | Number: | <u>50310303</u> |
| Based on Data as of: | <u></u> | | |
| Notes from Assessor: | <u></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 mmboc grown
(the smallest accumulation that has potential to be added to reserves)

No. of discovered accumulations exceeding minimum size: Oil: 29 Gas: 1
Established (>13 accums.) X Frontier (1-13 accums.) Hypothetical (no accums.)

Median size (grown) of discovered oil accumulations (mmboc):
1st 3rd 2.2 2nd 3rd 1.32 3rd 3rd 1.26

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. 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>3</u> | mode <u>10</u> | maximum <u>30</u> |
| Gas Accumulations: | minimum (>0) <u>0</u> | mode <u>0</u> | maximum <u>0</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>1.25</u> | maximum <u>15</u> |
| Gas in Gas Accumulations (bcfg): | minimum <u></u> | median <u></u> | maximum <u></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>500</u> | <u>1000</u> | <u>1500</u> |
| NGL/gas ratio (bnl/mmcf) | <u>50</u> | <u>100</u> | <u>150</u> |
| <u>Gas Accumulations:</u> | minimum | mode | maximum |
| Liquids/gas ratio (bliq/mmcf) | <u> </u> | <u> </u> | <u> </u> |
| Oil/gas ratio (bo/mmcf) | <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>30</u> | <u>45</u> | <u>55</u> | | |
| Sulfur content of oil (%) | <u>0.1</u> | <u>1</u> | <u>2</u> | | |
| Depth (m) of water (if applicable) | <u> </u> | <u> </u> | <u> </u> | | |
| Drilling Depth (m) | minimum | F75 | mode | F25 | maximum |
| | <u>2600</u> | <u>3800</u> | <u>4475</u> | | |

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

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

| | | | |
|----------------------------------|------------|--------------|------------------|
| 1. <u>Montana</u> | represents | <u>44.40</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>42.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| 2. <u>North Dakota</u> | represents | <u>51.98</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>57.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| 3. <u>South Dakota</u> | represents | <u>3.63</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>1.00</u> | _____ |
| <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 | _____ | | _____ | _____ |

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

| | | | |
|----------------------------------|------------|--------------|------------------|
| <u>1. Federal Lands</u> | represents | <u>10.68</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>10.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| <u>2. Private Lands</u> | represents | <u>77.58</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>78.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| <u>3. Tribal Lands</u> | represents | <u>5.26</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>5.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| <u>4. Other Lands</u> | represents | <u>1.84</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>0.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| <u>5. MT State Lands</u> | represents | <u>2.95</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>2.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| <u>6. ND State Lands</u> | represents | <u>1.21</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>3.00</u> | _____ |
| <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 | <u>5.33</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>5.00</u> | _____ |
| <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 | <u>0.22</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>0.00</u> | _____ |
| <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 | _____ | _____ | _____ |

| | | | | |
|-----|---|------------|-------------|------------------|
| 7. | <u>US Forest Service (FS)</u> | represents | <u>3.75</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 | _____ | _____ | _____ |
| 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>0.98</u> | area % of the AU |
| | <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| | Volume % in entity | _____ | <u>1.00</u> | _____ |
| | <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 | _____ | _____ | _____ |

| | | | |
|---|------------|-------------|------------------|
| <u>13. 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 | _____ | _____ | _____ |
| <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. 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. Department of Defense (DOD)</u> | represents | <u>0.40</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>0.00</u> | _____ |
| <u>Gas in Gas Accumulations:</u> | | | |
| Volume % in entity | _____ | _____ | _____ |
| <u>17. Bureau of Reclamation (BOR)</u> | represents | <u>0.01</u> | area % of the AU |
| <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| Volume % in entity | _____ | <u>0.00</u> | _____ |
| <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 | _____ | _____ | _____ |

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>Northeastern Glaciated Plains (NEGP)</u> | represents | <u>9.41</u> | area % of the AU |
| | <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| | Volume % in entity | _____ | <u>9.00</u> | _____ |
| | <u>Gas in Gas Accumulations:</u> | | | |
| | Volume % in entity | _____ | _____ | _____ |
| 2. | <u>Northern Glaciated Plains (NGPL)</u> | represents | <u>27.91</u> | area % of the AU |
| | <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| | Volume % in entity | _____ | <u>29.00</u> | _____ |
| | <u>Gas in Gas Accumulations:</u> | | | |
| | Volume % in entity | _____ | _____ | _____ |
| 3. | <u>Northwestern Glaciated Plains (NWGL)</u> | represents | <u>11.36</u> | area % of the AU |
| | <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| | Volume % in entity | _____ | <u>11.00</u> | _____ |
| | <u>Gas in Gas Accumulations:</u> | | | |
| | Volume % in entity | _____ | _____ | _____ |
| 4. | <u>Northwestern Great Plains (NWGP)</u> | represents | <u>34.65</u> | area % of the AU |
| | <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| | Volume % in entity | _____ | <u>37.00</u> | _____ |
| | <u>Gas in Gas Accumulations:</u> | | | |
| | Volume % in entity | _____ | _____ | _____ |
| 5. | <u>Powder River Basin (PRBA)</u> | represents | <u>16.66</u> | area % of the AU |
| | <u>Oil in Oil Accumulations:</u> | minimum | mode | maximum |
| | Volume % in entity | _____ | <u>14.00</u> | _____ |
| | <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> Volume % in entity | minimum _____ | mode _____ | maximum _____ |
| <u>Gas in Gas Accumulations:</u> Volume % in entity | _____ | _____ | _____ |

8. _____ 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. _____ 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. _____ 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. _____ 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 | _____ | _____ | _____ |

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 | _____ | _____ | _____ |