

**USGS WORLD PETROLEUM RESOURCES ASSESSMENT
INPUT FORM FOR CONVENTIONAL ASSESSMENT UNITS (Version 6.0, September 2, 2008)**

IDENTIFICATION INFORMATION

Assessment Geologist:	<u>D.K. Higley</u>	Date:	<u>24-Jan-12</u>
Region:	<u>North America</u>	Number:	<u>5</u>
Province:	<u>Alberta Basin</u>	Number:	<u>5243</u>
Total Petroleum System:	<u>Exshaw-Fernie-Mannville Composite</u>	Number:	<u>524302</u>
Assessment Unit:	<u>Triassic through Lower Cretaceous Reservoirs</u>	Number:	<u>52430201</u>
Scenario:	<u></u>	Number:	<u></u>
Based on Data as of:	<u>IHS (2011)</u>		
Notes from Assessor:	<u>Number and sizes represent pools. Pool sizes are not grown.</u>		

CHARACTERISTICS OF ASSESSMENT UNIT

Area of assessment unit: 951,140 square kilometers

Minimum assessed accumulation size: 0.25 MMBOE (grown)

No. of discovered accumulations exceeding minimum size: Oil: 1371 Gas: 4159

Uncertainty Class:	Check One	Number
Producing fields	<u>X</u>	<u>1612</u>
Discoveries	<u></u>	<u></u>
Wells	<u></u>	<u></u>
Seismic	<u></u>	<u></u>
No seismic	<u></u>	<u></u>

Median size (grown) of discovered oil accumulations (MMBO):

1st 3rd	<u>4.08</u>	2nd 3rd	<u>1.83</u>	3rd 3rd	<u>0.78</u>
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Median size (grown) of discovered gas accumulations (BCFG):

1st 3rd	<u>5.46</u>	2nd 3rd	<u>3.44</u>	3rd 3rd	<u>2.7</u>
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ANALOGS USED IN ESTIMATING INPUT

<u>Purpose</u>	<u>Analog or Analog Set</u>
1 <u></u>	<u></u> <u></u> <u></u>
2 <u></u>	<u></u> <u></u> <u></u>
3 <u></u>	<u></u> <u></u> <u></u>
4 <u></u>	<u></u> <u></u> <u></u>

Assessment Unit (name, no.)
 Scenario (name, no.)

Triassic through Lower Cretaceous Reservoirs, 52430201

Probability of occurrence (0-1.0)

Scenario Probability: _____

Assessment-Unit Probabilities: (Adequacy for at least one undiscovered field of minimum size)

<u>Attribute</u>	<u>Probability of occurrence (0-1.0)</u>
1. CHARGE: Adequate petroleum charge:	<u>1.0</u>
2. ROCKS: Adequate reservoirs, traps, and seals:	<u>1.0</u>
3. TIMING OF GEOLOGIC EVENTS: Favorable timing:	<u>1.0</u>
Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3):	<u>1.0</u>

UNDISCOVERED ACCUMULATIONS

Number of Undiscovered Accumulations: How many undiscovered accumulations exist that are at least the minimum size?: (uncertainty of fixed but unknown values)

Total Accumulations:	minimum (>0) _____	median _____	maximum _____
Oil/Gas Mix:	minimum _____	mode _____	maximum _____
	_____ number of oil accumulations / number of total accumulations		
	_____ number of oil accumulations / number of gas accumulations		
	_____ number of gas accumulations / number of oil accumulations		
Oil Accumulations:	minimum <u>1</u>	median <u>1375</u>	maximum <u>2750</u>
Gas Accumulations:	minimum <u>1</u>	median <u>4150</u>	maximum <u>8300</u>

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

Oil in Oil Accumulations (MMBO):	minimum <u>0.25</u>	median <u>0.4</u>	maximum <u>0.6</u>
Gas in Gas Accumulations (BCFG):	minimum <u>1.5</u>	median <u>3</u>	maximum <u>15</u>

RATIOS FOR UNDISCOVERED ACCUMULATIONS, TO ASSESS COPRODUCTS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	median	maximum
Gas/oil ratio (CFG/BO):	<u>1</u>	<u>1500</u>	<u>20000</u>
NGL/gas ratio (BNGL/MMCFG):	<u>0.1</u>	<u>0.4</u>	<u>85</u>
<u>Gas Accumulations:</u>	minimum	median	maximum
Liquids/gas ratio (BLIQ/MMCFG):	<u>1</u>	<u>24</u>	<u>120</u>

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	median	maximum
API gravity (degrees):	<u>15</u>	<u>27</u>	<u>33</u>
Viscosity (centipoise):	<u> </u>	<u> </u>	<u> </u>
Sulfur content of oil (%):	<u>0.01</u>	<u>0.16</u>	<u>4.47</u>
Depth (m) of water (if applicable):	<u> </u>	<u> </u>	<u> </u>

	minimum	F75	median	F25	maximum
Drilling Depth (m):	<u>200</u>		<u>1500</u>		<u>4500</u>

<u>Gas Accumulations:</u>	minimum	median	maximum
Inert gas content (%):	<u>0.01</u>	<u>0.62</u>	<u>99</u>
Carbon dioxide content (%):	<u>0.01</u>	<u>1.6</u>	<u>93</u>
Hydrogen sulfide content (%):	<u>0.01</u>	<u>0.65</u>	<u>45</u>
Depth (m) of water (if applicable):	<u> </u>	<u> </u>	<u> </u>

	minimum	F75	median	F25	maximum
Drilling Depth (m):	<u>300</u>		<u>1900</u>		<u>6500</u>

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO COUNTRIES

1 Offshore

0 area % of the AU

Oil in Oil Accumulations: 0 volume % of the AU

Gas in Gas Accumulations: 0 volume % of the AU

2 Onshore portion of:

Canada

100 area % of the AU

Oil in Oil Accumulations: 100 volume % of the AU

Gas in Gas Accumulations: 100 volume % of the AU

3 Onshore portion of:

 area % of the AU

Oil in Oil Accumulations: volume % of the AU

Gas in Gas Accumulations: volume % of the AU

4 Onshore portion of:

 area % of the AU

Oil in Oil Accumulations: volume % of the AU

Gas in Gas Accumulations: volume % of the AU

5 Onshore portion of:

 area % of the AU

Oil in Oil Accumulations: volume % of the AU

Gas in Gas Accumulations: volume % of the AU

6 Onshore portion of:

 area % of the AU

Oil in Oil Accumulations: volume % of the AU

Gas in Gas Accumulations: volume % of the AU

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO PROVINCES

1 ONSHORE portion of: Alberta Basin, 5243
49.60 area % of the AU
Oil in Oil Accumulations: 80.00 volume % of the AU
Gas in Gas Accumulations: 70.00 volume % of the AU

OFFSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

2 ONSHORE portion of: Williston Basin, 5244
45.34 area % of the AU
Oil in Oil Accumulations: 15.00 volume % of the AU
Gas in Gas Accumulations: 5.00 volume % of the AU

OFFSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

3 ONSHORE portion of: Rocky Mountain Deformed Belt, 5245
5.06 area % of the AU
Oil in Oil Accumulations: 5.00 volume % of the AU
Gas in Gas Accumulations: 25.00 volume % of the AU

OFFSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO PROVINCES

4 ONSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

OFFSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

5 ONSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

OFFSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

6 ONSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU

OFFSHORE portion of: _____
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: _____ volume % of the AU