

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

IDENTIFICATION INFORMATION

Assessment Geologist:	<u>C.J. Schenk</u>	Date:	<u>2-Feb-10</u>
Region:	<u>Central and South America</u>	Number:	<u>6</u>
Province:	<u>Middle Magdalena Valley Basin</u>	Number:	<u>6090</u>
Total Petroleum System:	<u>Gacheta</u>	Number:	<u>609001</u>
Assessment Unit:	<u>Pre-Andean and Andean Structures</u>	Number:	<u>60900101</u>
Scenario:	<u></u>	Number:	<u></u>
Based on Data as of:	<u>IHS Energy (2008)</u>		
Notes from Assessor:	<u></u>		

CHARACTERISTICS OF ASSESSMENT UNIT

Area of assessment unit: 34,995 square kilometers

Minimum assessed accumulation size: 0.5 MMBOE (grown)

No. of discovered accumulations exceeding minimum size: Oil: 65 Gas: 3

Uncertainty Class:	Check One	Number
Producing fields	<u>X</u>	<u></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>10</u>	2nd 3rd	<u>9.5</u>	3rd 3rd	<u>3.2</u>
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Median size (grown) of discovered gas accumulations (BCFG):

1st 3rd	<u>131</u>	2nd 3rd	<u>14</u>	3rd 3rd	<u></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.)

Pre-Andean and Andean Structures, 60900101

Probability of occurrence (0-1.0)

Scenario Probability:

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

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

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	_____
		_____				_____
		_____				_____
		_____				_____
Oil Accumulations:	minimum	1	median	50	maximum	100
Gas Accumulations:	minimum	1	median	10	maximum	30

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	0.5	median	3	maximum	500
Gas in Gas Accumulations (BCFG):	minimum	3	median	18	maximum	3000

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):		100		1400		12000
NGL/gas ratio (BNGL/MMCFG):		5		15		35
<u>Gas Accumulations:</u>	minimum	_____	median	_____	maximum	_____
Liquids/gas ratio (BLIQ/MMCFG):		5		15		25

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum		median		maximum
API gravity (degrees):	<u>12</u>		<u>25</u>		<u>40</u>
Viscosity (centipoise):	<u></u>		<u></u>		<u></u>
Sulfur content of oil (%):	<u>0.01</u>		<u>0.1</u>		<u>1</u>
Depth (m) of water (if applicable):	<u></u>		<u></u>		<u></u>

	minimum	F75	median	F25	maximum
Drilling Depth (m):	<u>500</u>		<u>2500</u>		<u>4000</u>

<u>Gas Accumulations:</u>	minimum		median		maximum
Inert gas content (%):	<u>0.1</u>		<u>1</u>		<u>3</u>
Carbon dioxide content (%):	<u>0.1</u>		<u>1</u>		<u>7</u>
Hydrogen sulfide content (%):	<u></u>		<u></u>		<u></u>
Depth (m) of water (if applicable):	<u></u>		<u></u>		<u></u>

	minimum	F75	median	F25	maximum
Drilling Depth (m):	<u>500</u>		<u>2500</u>		<u>4500</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:

Colombia

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: Middle Magdalena Valley Basin, 6090

100 area % of the AU

Oil in Oil Accumulations: 100 volume % of the AU

Gas in Gas Accumulations: 100 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: _____

_____ 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

3 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

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