

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

IDENTIFICATION INFORMATION

Assessment Geologist:	<u>M.E. Brownfield</u>	Date:	<u>8-Dec-10</u>
Region:	<u>Sub-Saharan Africa and Antarctica</u>	Number:	<u>7</u>
Province:	<u>Sud</u>	Number:	<u>7146</u>
Total Petroleum System:	<u>Cretaceous-Cenozoic Composite</u>	Number:	<u>714601</u>
Assessment Unit:	<u>Central African Rifts</u>	Number:	<u>71460101</u>
Scenario:	<u></u>	Number:	<u></u>
Based on Data as of:	<u>IHS (2009)</u>		
Notes from Assessor:	<u>NRG Field Reserve-Growth Function, 30 yrs.</u>		

CHARACTERISTICS OF ASSESSMENT UNIT

Area of assessment unit: 848,825 square kilometers

Minimum assessed accumulation size: 1 MMBOE (grown)

No. of discovered accumulations exceeding minimum size: Oil: 106 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>18.9</u>	2nd 3rd	<u>14.3</u>	3rd 3rd	<u>9.8</u>
---------	-------------	---------	-------------	---------	------------

Median size (grown) of discovered gas accumulations (BCFG):

1st 3rd	<u></u>	2nd 3rd	<u></u>	3rd 3rd	<u></u>
---------	---------	---------	---------	---------	---------

ANALOGS USED IN ESTIMATING INPUT

<u>Purpose</u>	<u>Analog or Analog Set</u>
1 <u>Numbers and sizes</u>	<u>Rift/sag and Continental</u>
2 <u></u>	<u></u>
3 <u></u>	<u></u>
4 <u></u>	<u></u>

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

Central African Rifts, 71460101

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) <u> </u>	median <u> </u>	maximum <u> </u>
Oil/Gas Mix:	minimum <u> </u>	mode <u> </u>	maximum <u> </u>
	<u> </u> number of oil accumulations / number of total accumulations		
	<u> </u> number of oil accumulations / number of gas accumulations		
	<u> </u> number of gas accumulations / number of oil accumulations		
Oil Accumulations:	minimum <u> 1 </u>	median <u> 225 </u>	maximum <u> 675 </u>
Gas Accumulations:	minimum <u> 1 </u>	median <u> 75 </u>	maximum <u> 300 </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> 1 </u>	median <u> 5 </u>	maximum <u> 2500 </u>
Gas in Gas Accumulations (BCFG):	minimum <u> 6 </u>	median <u> 30 </u>	maximum <u> 15000 </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> 20 </u>	<u> 100 </u>	<u> 5000 </u>
NGL/gas ratio (BNGL/MMCFG):	<u> 5 </u>	<u> 25 </u>	<u> 85 </u>
<u>Gas Accumulations:</u>	minimum	median	maximum
Liquids/gas ratio (BLIQ/MMCFG):	<u> 5 </u>	<u> 25 </u>	<u> 75 </u>

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

Oil Accumulations:

	minimum	median	maximum
API gravity (degrees):	14	32	45
Viscosity (centipoise):	1.3	48	8650
Sulfur content of oil (%):	0	0.07	0.5
Depth (m) of water (if applicable):			

	minimum	F75	median	F25	maximum
Drilling Depth (m):	1500		2000		4000

Gas Accumulations:

	minimum	median	maximum
Inert gas content (%):			
Carbon dioxide content (%):			
Hydrogen sulfide content (%):			
Depth (m) of water (if applicable):			

	minimum	F75	median	F25	maximum
Drilling Depth (m):	2000		3000		7000

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:

Chad

14.91 area % of the AU

Oil in Oil Accumulations: 18.00 volume % of the AU

Gas in Gas Accumulations: 18.00 volume % of the AU

3 Onshore portion of:

Central African Republic

2.22 area % of the AU

Oil in Oil Accumulations: 2.00 volume % of the AU

Gas in Gas Accumulations: 2.00 volume % of the AU

4 Onshore portion of:

Sudan

58.05 area % of the AU

Oil in Oil Accumulations: 60.00 volume % of the AU

Gas in Gas Accumulations: 60.00 volume % of the AU

5 Onshore portion of:

Kenya

22.50 area % of the AU

Oil in Oil Accumulations: 18.00 volume % of the AU

Gas in Gas Accumulations: 18.00 volume % of the AU

6 Onshore portion of:

Tanzania

0.17 area % of the AU

Oil in Oil Accumulations: 0 volume % of the AU

Gas in Gas Accumulations: 0 volume % of the AU

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO COUNTRIES

7 Onshore portion of: Ethiopia

2.15 area % of the AU

Oil in Oil Accumulations: 2.00 volume % of the AU

Gas in Gas Accumulations: 2.00 volume % of the AU

8 Onshore portion of: _____

_____ area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: _____ volume % of the AU

9 Onshore portion of: _____

_____ area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: _____ volume % of the AU

10 Onshore portion of: _____

_____ area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: _____ volume % of the AU

11 Onshore portion of: _____

_____ area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: _____ volume % of the AU

12 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: Amhara Plateau, 7161

10.77 area % of the AU

Oil in Oil Accumulations: 10.00 volume % of the AU

Gas in Gas Accumulations: 10.00 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: East African Rift, 7246

0.01 area % of the AU

Oil in Oil Accumulations: 0 volume % of the AU

Gas in Gas Accumulations: 0 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: Khartoum, 7087

9.54 area % of the AU

Oil in Oil Accumulations: 10.00 volume % of the AU

Gas in Gas Accumulations: 10.00 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

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

Central African Rifts, 71460101

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO PROVINCES

4 ONSHORE portion of: Somali, 7255

11.33 area % of the AU

Oil in Oil Accumulations: 11.00 volume % of the AU

Gas in Gas Accumulations: 11.00 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

5 ONSHORE portion of: Sud, 7146

65.72 area % of the AU

Oil in Oil Accumulations: 67.00 volume % of the AU

Gas in Gas Accumulations: 67.00 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

6 ONSHORE portion of: Tanzania Coastal, 7273

2.53 area % of the AU

Oil in Oil Accumulations: 2.00 volume % of the AU

Gas in Gas Accumulations: 2.00 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

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

Central African Rifts, 71460101

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO PROVINCES

7 ONSHORE portion of: Western Nubian Shield, 7151

0.10 area % of the AU

Oil in Oil Accumulations: 0 volume % of the AU

Gas in Gas Accumulations: 0 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

8 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

9 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