

**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>19-Jan-12</u>
Region:	<u>Middle East and North Africa</u>	Number:	<u>2</u>
Province:	<u>Qatar Arch</u>	Number:	<u>2022</u>
Total Petroleum System:	<u>Paleozoic Composite</u>	Number:	<u>202201</u>
Assessment Unit:	<u>Qatar Arch Paleozoic Reservoirs</u>	Number:	<u>20220101</u>
Scenario:		Number:	
Based on Data as of:	<u>IHS (2009)</u>		
Notes from Assessor:	<u>NRG field reserve growth factor, 30 years</u>		

CHARACTERISTICS OF ASSESSMENT UNIT

Area of assessment unit: 40,289 square kilometers

Minimum assessed accumulation size: 5 MMBOE (grown)

No. of discovered accumulations exceeding minimum size: Oil: 0 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> </u>	2nd 3rd	<u> </u>	3rd 3rd	<u> </u>
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Median size (grown) of discovered gas accumulations (BCFG):

1st 3rd	<u>1060530</u>	2nd 3rd	<u>41135</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.)

Qatar Arch Paleozoic Reservoirs, 20220101

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 _____
	_____ 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>0</u>	median <u>0</u>	maximum <u>0</u>
Gas Accumulations:	minimum <u>1</u>	median <u>2</u>	maximum <u>10</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 _____	median _____	maximum _____
Gas in Gas Accumulations (BCFG):	minimum <u>30</u>	median <u>72</u>	maximum <u>12000</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):	_____	_____	_____
NGL/gas ratio (BNGL/MMCFG):	_____	_____	_____
<u>Gas Accumulations:</u>	minimum	median	maximum
Liquids/gas ratio (BLIQ/MMCFG):	<u>5</u>	<u>30</u>	<u>75</u>

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum		median		maximum
API gravity (degrees):	_____		_____		_____
Viscosity (centipoise)	_____		_____		_____
Sulfur content of oil (%):	_____		_____		_____
Depth (m) of water (if applicable):	_____		_____		_____

	minimum	F75	median	F25	maximum
Drilling Depth (m):	_____				

<u>Gas Accumulations:</u>	minimum		median		maximum
Inert gas content (%):	0		1		4
Carbon dioxide content (%):	0		1		3
Hydrogen sulfide content (%):	0		0.5		6
Depth (m) of water (if applicable):	0		10		40

	minimum	F75	median	F25	maximum
Drilling Depth (m):	1300		3000		4500

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO COUNTRIES

1 Offshore

69.14 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 69.00 volume % of the AU

2 Onshore portion of:

Bahrain

0.10 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 0 volume % of the AU

3 Onshore portion of:

Qatar

27.53 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 28.00 volume % of the AU

4 Onshore portion of:

Saudi Arabia

3.23 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 3.00 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: Greater Ghawar Uplift, 2021

3.31 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 3.00 volume % of the AU

OFFSHORE portion of: Greater Ghawar Uplift, 2021

6.22 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 6.00 volume % of the AU

2 ONSHORE portion of: Qatar Arch, 2022

27.55 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 28.00 volume % of the AU

OFFSHORE portion of: Qatar Arch, 2022

62.51 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 63.00 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: Mesopotamian Foredeep Basin, 2024

0.30 area % of the AU

Oil in Oil Accumulations: _____ volume % of the AU

Gas in Gas Accumulations: 0 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: Zagros Fold Belt, 2030
_____ area % of the AU
Oil in Oil Accumulations: _____ volume % of the AU
Gas in Gas Accumulations: 0 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