

**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>Interior Homocline-Central Arch</u>	Number:	<u>2020</u>
Total Petroleum System:	<u>Paleozoic Composite</u>	Number:	<u>202001</u>
Assessment Unit:	<u>Northwest Gulf Salt Basin Reservoirs</u>	Number:	<u>20200102</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: 84,110 square kilometers

Minimum assessed accumulation size: 5 MMBOE (grown)

No. of discovered accumulations exceeding minimum size: Oil: 3 Gas: 4

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>37833</u>	2nd 3rd	<u>15265</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>Numbers</u>	<u>Foreland</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.)

Northwest Gulf Salt Basin Reservoirs, 20200102

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> 10 </u>	maximum <u> 30 </u>
Gas Accumulations:	minimum <u> 1 </u>	median <u> 50 </u>	maximum <u> 150 </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> 5 </u>	median <u> 15 </u>	maximum <u> 1000 </u>
Gas in Gas Accumulations (BCFG):	minimum <u> 30 </u>	median <u> 90 </u>	maximum <u> 6000 </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> 500 </u>	<u> 3000 </u>	<u> 12000 </u>
NGL/gas ratio (BNGL/MMCFG):	<u> 5 </u>	<u> 40 </u>	<u> 120 </u>
<u>Gas Accumulations:</u>	minimum	median	maximum
Liquids/gas ratio (BLIQ/MMCFG):	<u> 5 </u>	<u> 40 </u>	<u> 80 </u>

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

Oil Accumulations:

	minimum	median	maximum
API gravity (degrees):	<u>20</u>	<u>45</u>	<u>55</u>
Viscosity (centipoise)	<u>9</u>	<u>3000</u>	<u>20000</u>
Sulfur content of oil (%):	<u>0</u>	<u>0.1</u>	<u>5</u>
Depth (m) of water (if applicable):	<u>0</u>	<u>10</u>	<u>30</u>

	minimum	F75	median	F25	maximum
Drilling Depth (m):	<u>1300</u>		<u>3500</u>		<u>4500</u>

Gas Accumulations:

	minimum	median	maximum
Inert gas content (%):	<u>0</u>	<u>1</u>	<u>4</u>
Carbon dioxide content (%):	<u>0</u>	<u>1</u>	<u>7</u>
Hydrogen sulfide content (%):	<u>0</u>	<u>0.1</u>	<u>3</u>
Depth (m) of water (if applicable):	<u>0</u>	<u>10</u>	<u>30</u>

	minimum	F75	median	F25	maximum
Drilling Depth (m):	<u>2000</u>		<u>4000</u>		<u>6000</u>

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO COUNTRIES

1 Offshore

89.30 area % of the AU

Oil in Oil Accumulations: 90.00 volume % of the AU

Gas in Gas Accumulations: 90.00 volume % of the AU

2 Onshore portion of:

Bahrain

0.71 area % of the AU

Oil in Oil Accumulations: 0.50 volume % of the AU

Gas in Gas Accumulations: 0.50 volume % of the AU

3 Onshore portion of:

Iran

2.13 area % of the AU

Oil in Oil Accumulations: 1.50 volume % of the AU

Gas in Gas Accumulations: 1.50 volume % of the AU

4 Onshore portion of:

Saudi Arabia

7.85 area % of the AU

Oil in Oil Accumulations: 8.00 volume % of the AU

Gas in Gas Accumulations: 8.00 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

5.38 area % of the AU

Oil in Oil Accumulations: 5.00 volume % of the AU

Gas in Gas Accumulations: 5.00 volume % of the AU

OFFSHORE portion of: Greater Ghawar Uplift, 2021

7.38 area % of the AU

Oil in Oil Accumulations: 8.00 volume % of the AU

Gas in Gas Accumulations: 8.00 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: Qatar Arch, 2022

0.48 area % of the AU

Oil in Oil Accumulations: 0 volume % of the AU

Gas in Gas Accumulations: 0 volume % of the AU

3 ONSHORE portion of: Mesopotamian Foredeep Basin, 2024

5.02 area % of the AU

Oil in Oil Accumulations: 5.00 volume % of the AU

Gas in Gas Accumulations: 5.00 volume % of the AU

OFFSHORE portion of: Mesopotamian Foredeep Basin, 2024

79.55 area % of the AU

Oil in Oil Accumulations: 80.00 volume % of the AU

Gas in Gas Accumulations: 80.00 volume % of the AU

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO PROVINCES

4 ONSHORE portion of: Zagros Fold Belt, 2030

0.30 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: Zagros Fold Belt, 2030

1.89 area % of the AU

Oil in Oil Accumulations: 2.00 volume % of the AU

Gas in Gas Accumulations: 2.00 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

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