

Kuche (Northern) Foldbelt Assessment Unit 31540102



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 Tarim Basin Geologic Province 3154

USGS PROVINCE: Tarim Basin (3154)

GEOLOGIST: R.T. Ryder

TOTAL PETROLEUM SYSTEM: Ordovician/Jurassic-Phanerozoic (315401)

ASSESSMENT UNIT: Kuche (Northern) Foldbelt (31540102)

DESCRIPTION: The assessment unit is characterized by structurally controlled oil and gas fields in Jurassic, Cretaceous, and Cenozoic sandstone reservoirs in the Kuche fold-and-thrust belt. Another characteristic of the assessment unit is a deeply buried pod of mature nonmarine Jurassic source rocks.

SOURCE ROCKS: Source rocks are lacustrine shale and coal beds of the Lower and Middle Jurassic sequence. The thickness of the source rock sequence ranges from about 500 to 1,000 m.

MATURATION: The Jurassic lacustrine shale and coal beds have been mature with respect to oil and gas generation since about the late Neogene (Pliocene). A geothermal gradient of about 20 to 22°C/km probably accompanied oil and gas generation.

MIGRATION: Oil and gas may have migrated laterally as much as 50 km from the pod of mature Jurassic source rocks before entrapment in Jurassic, Cretaceous, and Cenozoic sandstone reservoirs. Commonly, oil and gas derived from Jurassic source rocks migrated vertically along thrust faults for several thousands of meters into Cenozoic sandstone reservoirs.

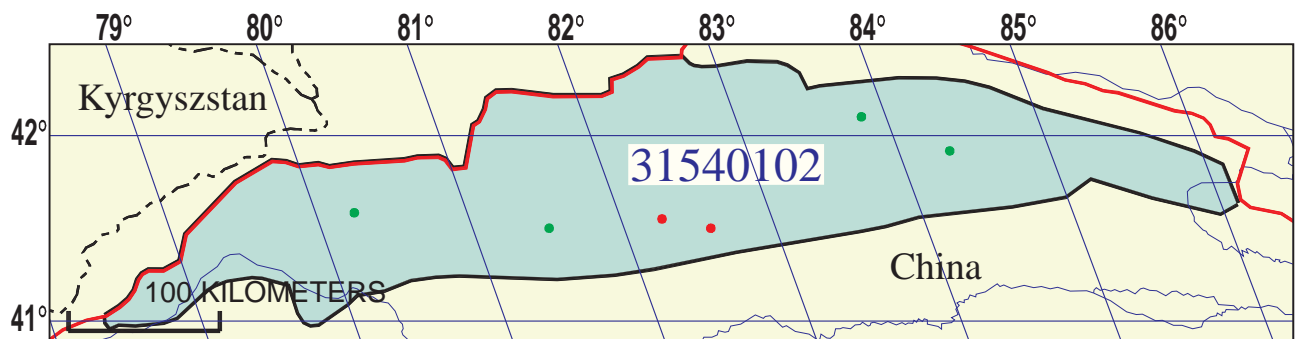
RESERVOIR ROCK: Primary reservoir rocks consist of Jurassic sandstone of fluvial and nearshore lacustrine origin. Reservoir quality of the sandstone is generally very poor because of its volcanic litharenite composition. Sandstone and conglomeratic sandstone reservoirs of Cenozoic and Early Cretaceous age are largely braided fluvial and fan delta deposits.

TRAPS AND SEALS: The major traps are anticlines and fault blocks of compressional origin. Stratigraphic traps (lithologic, diagenetic, onlap, and unconformity varieties) may account for additional entrapment. The 1000-m-thick, shale, mudstone, and gypsum sequence of Late Cretaceous through Miocene age provides the best regional seal. Also, seal rocks consist of red shale and mudstone units in Upper Jurassic alluvial plain and lacustrine sequences.

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EXPLANATION

-  Hydrography
-  Shoreline
- 3154**  Geologic province code and boundary
-  Country boundary
-  Gas field centerpoint
-  Oil field centerpoint
- 31540102**  Assessment unit code and boundary

Projection: Robinson. Central meridian: 0

AVERAGE RATIOS FOR UNDISCOVERED FIELDS, TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

<u>Oil Fields:</u>	minimum	median	maximum
Gas/oil ratio (cfg/bo).....	1100	2200	3300
NGL/gas ratio (bnl/mmcf).....	30	60	90
<u>Gas fields:</u>	minimum	median	maximum
Liquids/gas ratio (bnl/mmcf).....	22	44	66
Oil/gas ratio (bo/mmcf).....			

SELECTED ANCILLARY DATA FOR UNDISCOVERED FIELDS

(variations in the properties of undiscovered fields)

<u>Oil Fields:</u>	minimum	median	maximum
API gravity (degrees).....	30	40	50
Sulfur content of oil (%).....			
Drilling Depth (m)	500	1000	2000
Depth (m) of water (if applicable).....			
<u>Gas Fields:</u>	minimum	median	maximum
Inert gas content (%).....	1	5	10
CO ₂ content (%).....	0.5	2	5
Hydrogen-sulfide content (%).....			
Drilling Depth (m).....	500	1500	3500
Depth (m) of water (if applicable).....			

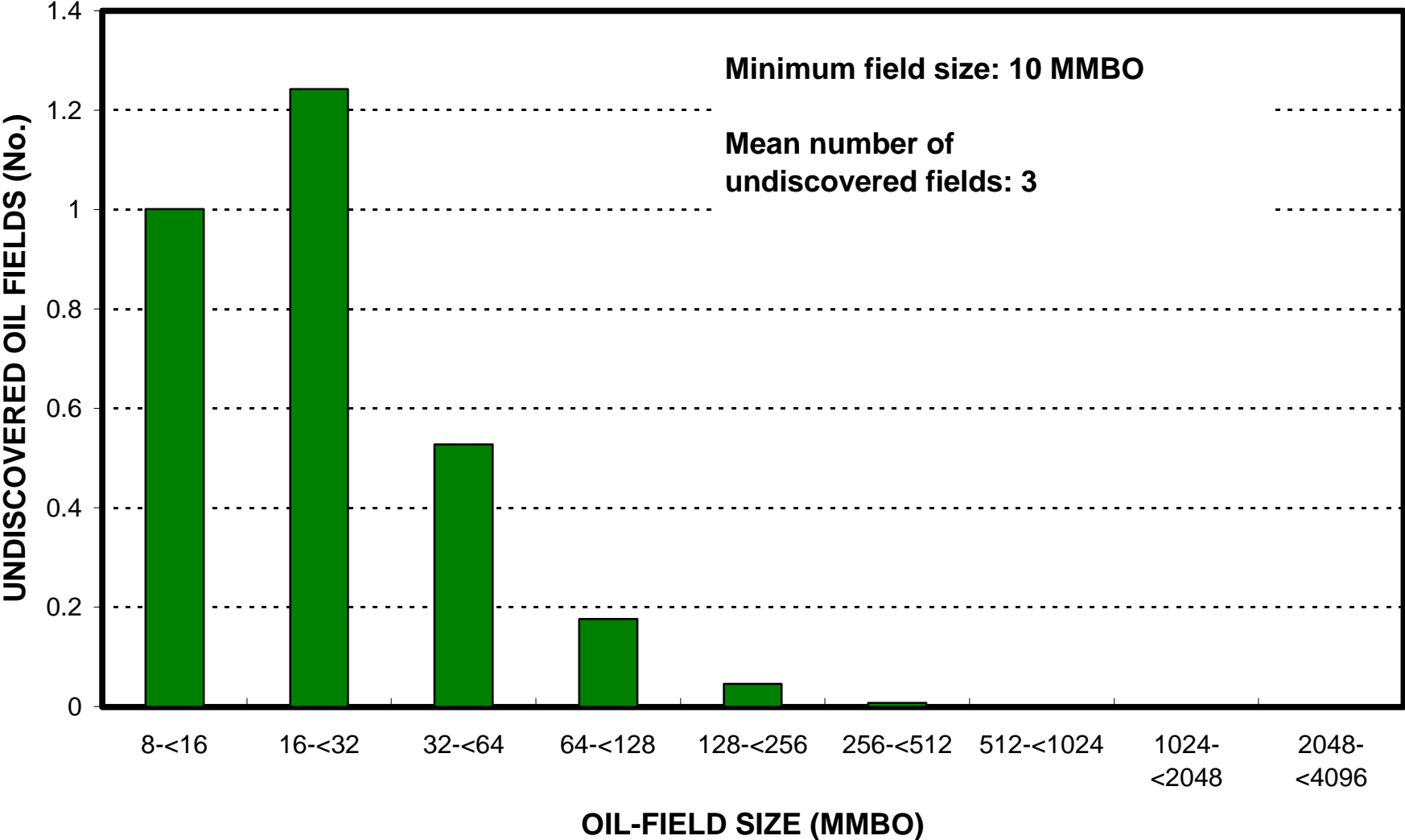
**ALLOCATION OF UNDISCOVERED RESOURCES IN THE ASSESSMENT UNIT
 TO COUNTRIES OR OTHER LAND PARCELS** (uncertainty of fixed but unknown values)

1. China represents 100 areal % of the total assessment unit

<u>Oil in Oil Fields:</u>	minimum	median	maximum
Richness factor (unitless multiplier):.....	_____	_____	_____
Volume % in parcel (areal % x richness factor):...	_____	100	_____
Portion of volume % that is offshore (0-100%).....	_____	0	_____
 <u>Gas in Gas Fields:</u>	 minimum	 median	 maximum
Richness factor (unitless multiplier):.....	_____	_____	_____
Volume % in parcel (areal % x richness factor):...	_____	100	_____
Portion of volume % that is offshore (0-100%).....	_____	0	_____

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Undiscovered Field-Size Distribution



Kuche (Northern) Foldbelt, AU 31540102

Undiscovered Field-Size Distribution

