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Iran Onshore/Nearshore Assessment Unit 11120105

Iran Onshore/Nearshore Assessment Unit 11120105

South Caspian Basin Geologic Province 1112

Geologic Summary

Detailed map of this assessment unit

Assessment Input Data

Assessment Results

- Assessment Unit Summary
- Detailed Assessment Results
- Undiscovered Field-Size Distributions

USGS PROVINCE: South Caspian Basin (1112) **GEOLOGIST:** L.S. Smith-Rouch

TOTAL PETROLEUM SYSTEM: Oligocene-Miocene Maykop/Diatom (111201)

ASSESSMENT UNIT: Iran Onshore/Nearshore (11120105)

DESCRIPTION: This is a hypothetical assessment unit located in the southern sector of the South Caspian basin. The unit is completely within northern Iran, it occupies a narrow zone onshore and continental slope of the deep-water basin. Almost no data on the geology of the assessment unit is available. Rapid subsidence and sedimentation in the Elborz trough during Pliocene-Pleistocene time resulted in low geothermal gradient.

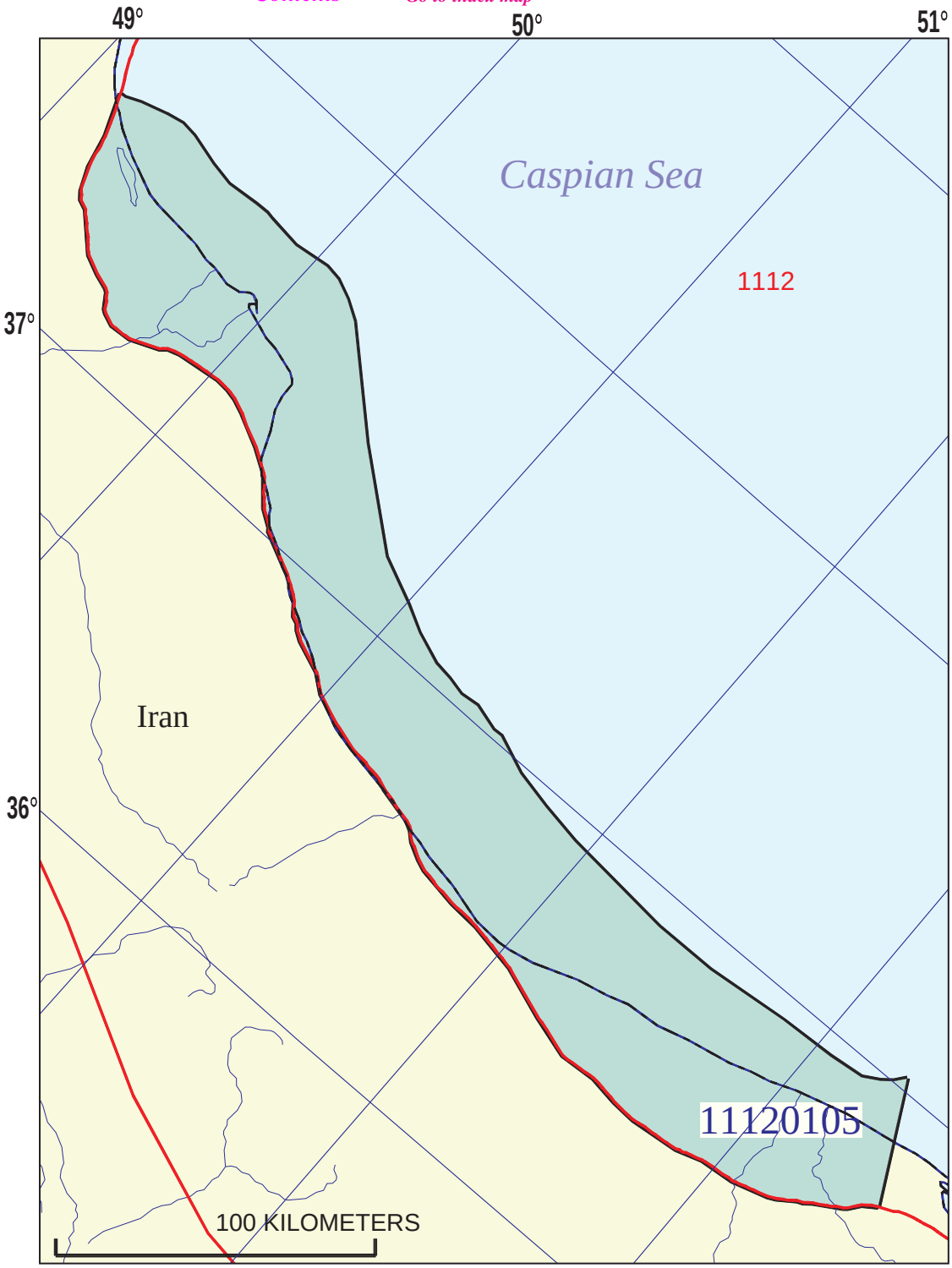
SOURCE ROCK: Paleogeographic reconstructions suggest that Oligocene-Miocene source rocks extend into the unit area. The source rocks are anoxic marine shales of Oligocene-lower Miocene Maykop series and the overlying middle-upper Miocene Diatom Formation. The source rocks contain primarily Type II kerogen; TOC in the rocks is as high as 10 percent and the Hydrogen Index values range from 150 to 500 mg hydrocarbons/g organic carbon.

MATURATION: Probably, most maturation occurred in late Pliocene-Quaternary time.

MIGRATION: Both vertical migration and lateral migration updip the continental slope were probably active.

RESERVOIR ROCKS: Sediments shed from the Elborz Mountains by rivers may have produced hydrocarbon reservoirs onshore and offshore Iran. Turbidite reservoir rocks may be present on the continental slope.

TRAPS AND SEALS: No data on the presence of structural traps are available. Stratigraphic traps may be important in turbidite reservoirs. Most likely seals are intraformational and overlying shales from the late Pliocene-Pleistocene transgressions.



Iran Onshore/Nearshore Assessment Unit - 11120105

EXPLANATION

- Hydrography
- Shoreline
- 1112 Geologic province code and boundary
- Country boundary
- Gas field centerpoint
- Oil field centerpoint
- 11120105 Assessment unit code and boundary

Projection: Equidistant Conic. Central meridian: 100. Standard Parallel: 58 30

SEVENTH APPROXIMATION
NEW MILLENNIUM WORLD PETROLEUM ASSESSMENT
DATA FORM FOR CONVENTIONAL ASSESSMENT UNITS

Date:……..	1/11/00		
Assessment Geologist:……..	G.F. Ulmishek		
Region:……..	Former Soviet Union	Number:	1
Province:……..	South Caspian Basin	Number:	1112
Priority or Boutique……	Priority		
Total Petroleum System:……	Oligocene-Miocene Maykop/Diatom	Number:	111201
Assessment Unit:……	Iran Onshore/Nearshore	Number:	11120105
* Notes from Assessor	No data available. Assessment is based on supposed analog with the Gograndag-Okarem zone in Turkmenistan.		

CHARACTERISTICS OF ASSESSMENT UNIT

Oil (<20,000 cfg/bo overall) **or** Gas (≥20,000 cfg/bo overall):… Oil

What is the minimum field size?……. 5 mmboe grown (≥1mmboe)
(the smallest field that has potential to be added to reserves in the next 30 years)

Number of discovered fields exceeding minimum size:…… Oil: 0 Gas: 0
Established (>13 fields) _____ Frontier (1-13 fields) _____ Hypothetical (no fields) _____

Median size (grown) of discovered oil fields (mmboe):
1st 3rd _____ 2nd 3rd _____ 3rd 3rd _____
Median size (grown) of discovered gas fields (bcfg):
1st 3rd _____ 2nd 3rd _____ 3rd 3rd _____

Assessment-Unit Probabilities:

Attribute	Probability of occurrence (0-1.0)
1. **CHARGE:** Adequate petroleum charge for an undiscovered field ≥ minimum size……	1.0
2. **ROCKS:** Adequate reservoirs, traps, and seals for an undiscovered field ≥ minimum size……	0.9
3. **TIMING OF GEOLOGIC EVENTS:** Favorable timing for an undiscovered field ≥ minimum size	1.0

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3):…….. 0.9

4. **ACCESSIBILITY:** Adequate location to allow exploration for an undiscovered field ≥ minimum size…… 1.0

UNDISCOVERED FIELDS

Number of Undiscovered Fields: How many undiscovered fields exist that are ≥ minimum size?:
(uncertainty of fixed but unknown values)

Oil fields:……min. no. (>0)	1	median no.	5	max no.	14
Gas fields:……min. no. (>0)	1	median no.	10	max no.	28

Size of Undiscovered Fields: What are the anticipated sizes (**grown**) of the above fields?:
(variations in the sizes of undiscovered fields)

Oil in oil fields (mmbo)……min. size	5	median size	20	max. size	750
Gas in gas fields (bcfg):……min. size	30	median size	120	max. size	4500

Assessment Unit (name, no.)
Iran Onshore/Nearshore, 11120105

AVERAGE RATIOS FOR UNDISCOVERED FIELDS, TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

Oil Fields:	minimum	median	maximum
Gas/oil ratio (cfg/bo)……	2000	4000	6000
NGL/gas ratio (bngl/mmcfg)……	30	60	90

Gas fields:	minimum	median	maximum
Liquids/gas ratio (bngl/mmcfg)……	22	44	66
Oil/gas ratio (bo/mmcfg)……			

SELECTED ANCILLARY DATA FOR UNDISCOVERED FIELDS

(variations in the properties of undiscovered fields)

Oil Fields:	minimum	median	maximum
API gravity (degrees)……	30	37	52
Sulfur content of oil (%)……		0	
Drilling Depth (m) ……	2500	4000	7000
Depth (m) of water (if applicable)……	0	80	150

Gas Fields:	minimum	median	maximum
Inert gas content (%)……	0.5	0.8	1.5
CO_2 content (%)……	0.2	0.6	1.2
Hydrogen-sulfide content (%)……		0	
Drilling Depth (m)……	2500	4000	7000
Depth (m) of water (if applicable)……	0	80	150

Assessment Unit (name, no.)
Iran Onshore/Nearshore, 11120105

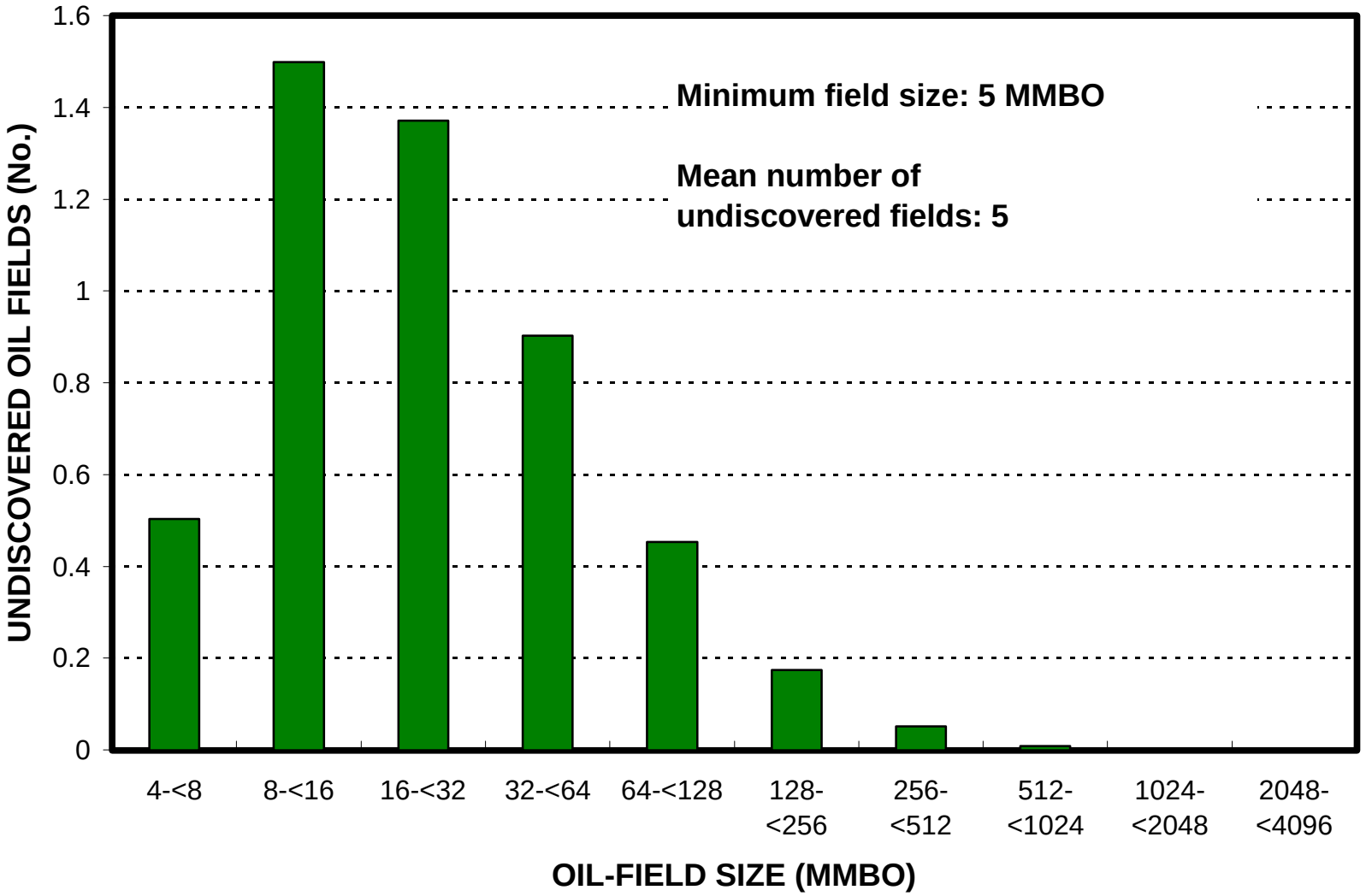
ALLOCATION OF UNDISCOVERED RESOURCES IN THE ASSESSMENT UNIT TO COUNTRIES OR OTHER LAND PARCELS (uncertainty of fixed but unknown values)

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

Oil in Oil Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		100	
Portion of volume % that is offshore (0-100%)……		90	

Gas in Gas Fields:	minimum	median	maximum
Richness factor (unitless multiplier):……			
Volume % in parcel (areal % x richness factor):…		100	
Portion of volume % that is offshore (0-100%)……		90	

Iran Onshore/Nearshore, AU 11120105
Undiscovered Field-Size Distribution



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Undiscovered Field-Size Distribution