Billiton Basin Hypothetical
Assessment Unit 38240401

Java
Sea

Sumatra

5

110

Jakarta ★

Bandung ★

Semarang ★

Java

Indian
Ocean

Indonesia

| 0 | 100 | 200 | 300 | KILOMETERS |

☐ Billiton Basin Hypothetical Assessment Unit 38240401

☐ Northwest Java Basin Geologic Province 3824

USGS PROVINCE: Northwest Java Basin (3824)   **GEOLOGIST:** M.G. Bishop

TOTAL PETROLEUM SYSTEM: Tertiary-Cenozoic (382404)

ASSESSMENT UNIT: Billiton Basin Hypothetical (38240401)

DESCRIPTION: This petroleum system consists of offshore sedimentary basins mapped as containing more than 2000 m of Cenozoic sediments. Several wells have been drilled to basement and have encountered more than 2500 m of sedimentary column. The basins might contain lacustrine sediments or coals and, extrapolating from the general depositional history of the province, could be overlain by clastic fluvial, shoreline, deltaic, and marine deposits as well as carbonate platform deposits.

SOURCE ROCKS: No possible source rock has been described.

**MATURATION:** Maturation might be expected at between 1000 m and 2000 m burial depth.

MIGRATION: Migration could occur vertically and laterally.

RESERVOIR ROCKS: Clastic and carbonate reservoirs might be present.

TRAPS AND SEALS: The Pliocene to Pleistocene Cisubuh Formation is composed of claystones that act as seals in the province. No trap style has been described. Basement highs have been encountered during drilling suggesting that possible drape structures, stratigraphic pinchouts or carbonate buildups could be present.

REFERENCES:

Hamilton, Warren, 1974, Map of sedimentary basins of the Indonesian Region: U.S. Geological Survey Miscellaneous Investigations Series MAP 1-875-B.

Kingston, John, 1988, Undiscovered Petroleum Resources of Indonesia: U.S. Geological Survey Open-File Report 88-379, 217 p.

Noble, R.A., Pratomo, K.H., Nugrahanto, K., Ibrahim, A.M.T., Prasetya, I., Mujahidin, N., Wu, C.H., and Howes, J.V.C., 1997, Petroleum systems of Northwest Java, Indonesia, *in* Howes, J.V.C., and Noble, R.A., eds., Proceedings of an International Conference on Petroleum Systems of SE Asia and Australasia: Indonesian Petroleum Association, p. 585-600.

Yaman, F., Ambismar, T., Bukhari, T., 1991, Gas exploration in Parigi and pre-Parigi carbonate buildups, NW Java Sea: Proceedings of the Twentieth Annual Convention; Indonesian Petroleum Association, v. 1, p. 319-346.
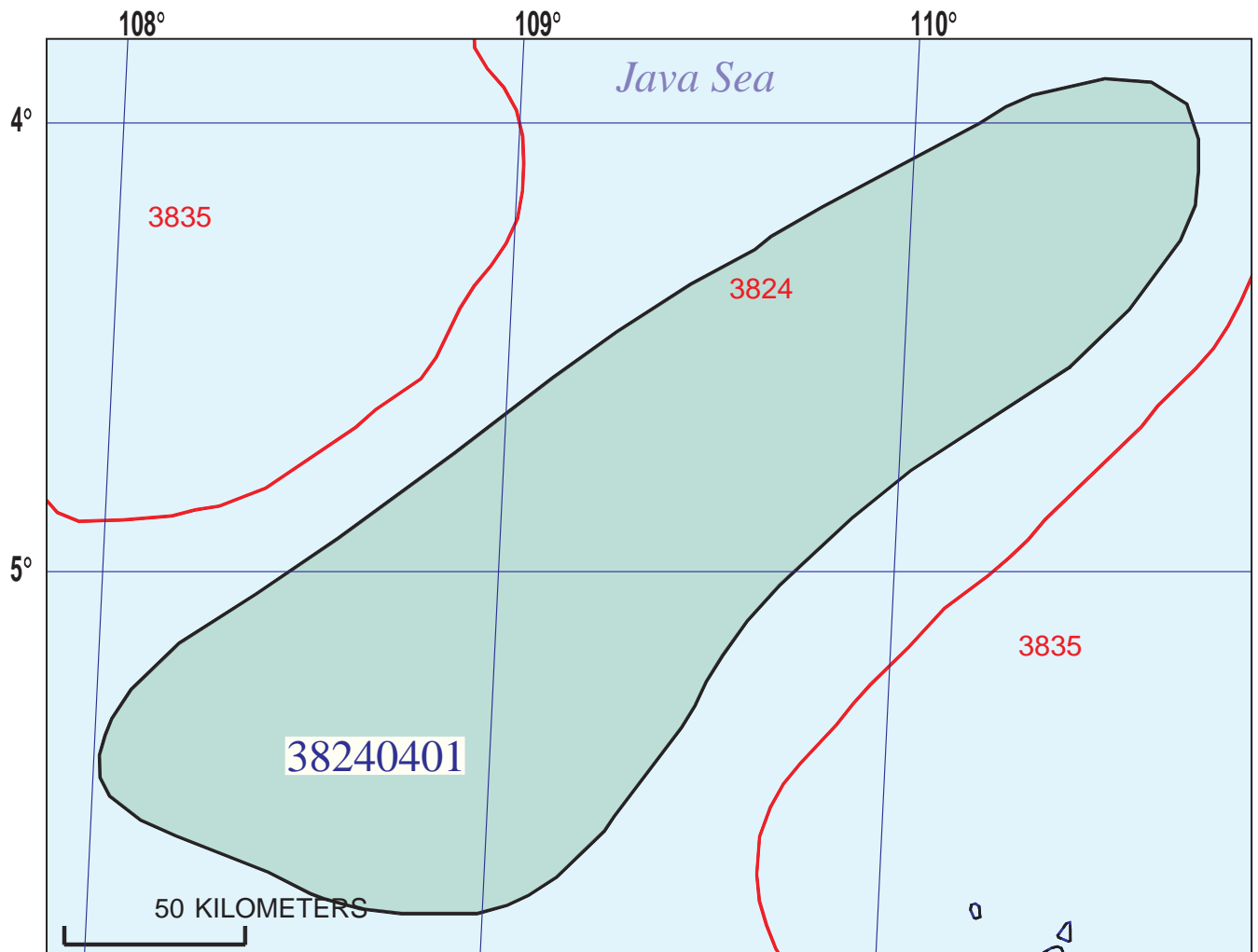
**Billiton Hypothetical
Assessment Unit - 38240401**

EXPLANATION

— Hydrography

— Shoreline

3824 — Geologic province code and boundary

--- Country boundary

• Gas field centerpoint

• Oil field centerpoint

38240401 —— Assessment unit code and boundary

Projection: Robinson. Central meridian: 0

Date:………………………... 5/25/99
Assessment Geologist:…….. R.T. Ryder
Region:……………………... Asia Pacific   Number: 3
Province:…………………… Northwest Java Basin   Number: 3824
Priority or Boutique………… Priority
Total Petroleum System:…… Tertiary-Cenozoic   Number: 382404
Assessment Unit:…………… Billiton Basin Hypothetical   Number: 38240401
* Notes from Assessor

CHARACTERISTICS OF ASSESSMENT UNIT

Oil (<20,000 cfg/bo overall) **or** Gas ($\geq$20,000 cfg/bo overall):… _____

What is the minimum field size?………. _____ mmboe grown ($\geq$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: _____   Gas: _____
          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 $\geq$ minimum size……………… _____
2. **ROCKS:** Adequate reservoirs, traps, and seals for an undiscovered field $\geq$ minimum size…… _____
3. **TIMING OF GEOLOGIC EVENTS:** Favorable timing for an undiscovered field $\geq$ minimum size _____

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

4. **ACCESSIBILITY:** Adequate location to allow exploration for an undiscovered field
   $\geq$ minimum size…………………………………………………….……………..….…..………… _____

UNDISCOVERED FIELDS
Number of Undiscovered Fields: How many undiscovered fields exist that are $\geq$ minimum size?:
                              (uncertainty of fixed but unknown values)

Oil fields:…………………………………min. no. (>0) _____ median no. _____ max no. _____
Gas fields:………………………………min. no. (>0) _____ median no. _____ max no. _____

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 _____ median size _____ max. size _____
Gas in gas fields (bcfg):……………………min. size _____ median size _____ max. size _____

AVERAGE RATIOS FOR UNDISCOVERED FIELDS, TO ASSESS COPRODUCTS
(uncertainty of fixed but unknown values)

Oil Fields:	minimum	median	maximum
Gas/oil ratio (cfg/bo)…………………….…..………			
NGL/gas ratio (bngl/mmcfg)………………....….			

Gas fields:	minimum	median	maximum
Liquids/gas ratio (bngl/mmcfg)….…………..……..			
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)………………….………….			
Sulfur content of oil (%)…………………....……			
Drilling Depth (m) …………….....………….…….			
Depth (m) of water (if applicable)……………..….			

Gas Fields:	minimum	median	maximum
Inert gas content (%)……………………....……			
CO_2 content (%)…………………………....….			
Hydrogen-sulfide content (%)………………..…..			
Drilling Depth (m)………………………………….			
Depth (m) of water (if applicable)………………….			

Assessment Unit (name, no.)

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

1. _____ represents _____ areal % of the total assessment unit

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

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