

CCOP  
EPPM P1W4 :  
North Sumatra – Mergui Basin Case Study :  
Workshop on seismic stratigraphy and  
petroleum play concepts

22<sup>nd</sup> – 25<sup>th</sup> February 2011,  
Chiangmai, Thailand

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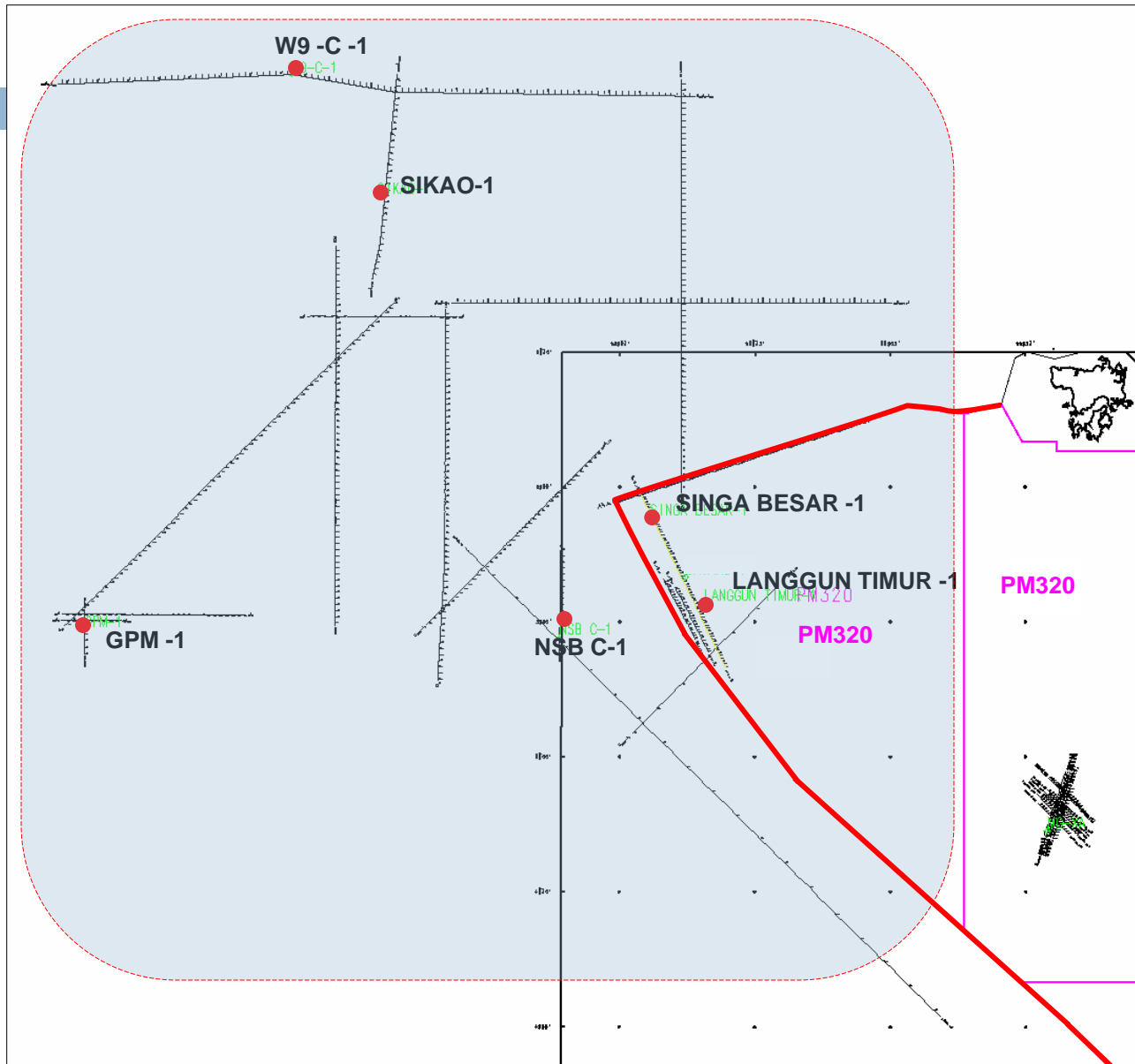
# Presentation Outline



- Objective
- Study Area
- General Information
- Project Progress:
  - Well Correlation
  - Seismic Facies Analysis
  - Chronostratigraphic Chart Template

## Objective

- ❑ To carry out the seismic facies mapping for Keutapang and Baong Formations that covers Indonesia and Thailand.
- ❑ To firm up the general understanding of the environment of deposition for Keutapang & Baong Formations throughout the cross-border study area.
- ❑ To observe the continuity of Keutapang & Baong Formations over Indonesia & Thailand.
- ❑ To construct chronostratigraphic chart and Common Risk Segment (CRS) map for Baong and Keutapang

# Study Area



-  Study Area
-  Malaysia Boundary

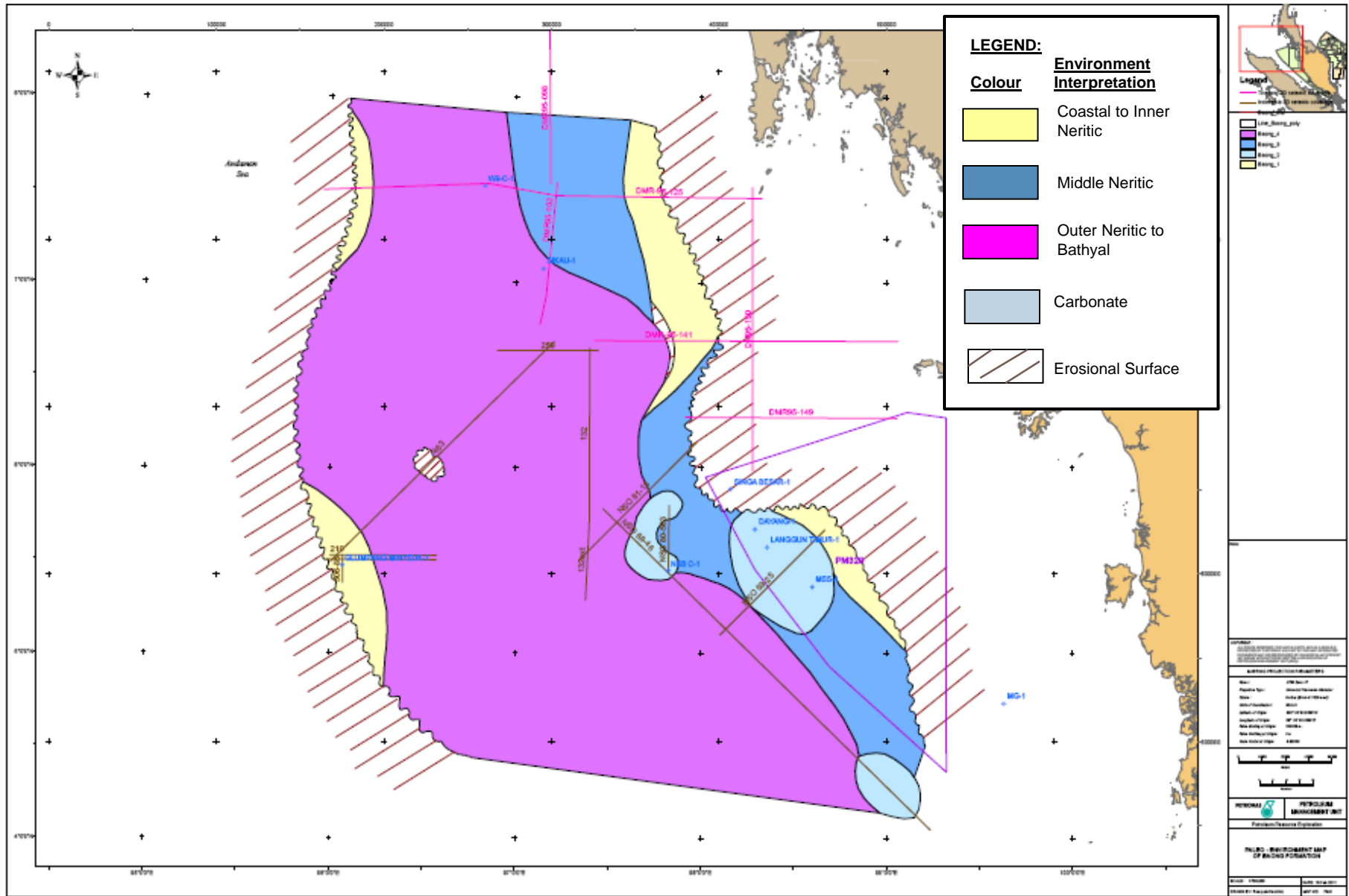
# General Information

- Well Control:
  - Singa Besar-1 (Malaysia)
  - Langgun Timur-1 (Malaysia)
  - NSB C-1 (Indonesia)
  - GPM-1 (Indonesia)
  - W9C-1 (Thailand)
  - Sikao-1 (Thailand)
  
- Seismic Lines:
  - Key Seismic Lines: 12 seismic lines from Indonesia, 4 seismic lines from Thailand and 2 seismic lines from Malaysia
  
- Previous study/ projects:
  - Straits of Malacca Regional Study, 2000 (Shell & PRSS)

# Project Progress

- Well Correlation:
  - Singa Besar-1 – Sikao-1 – W9C-1
  - Langgun Timur-1 – NSBC-1 – GPM-1
  
- Seismic Facies Map:
  - Two (2) seismic facies map – Top Keutapang and Top Baong that covers Indonesia & Thailand
  
- Chronostratigraphic chart across Malaysia, Thailand and Indonesia
  
- Common Risk Segment (CRS) map for Baong and Keutapang

# Paleo-environment Map of Baong Formation



**LEGEND:**

Environment Interpretation	Colour
Coastal to Inner Neritic	Yellow
Middle Neritic	Blue
Outer Neritic to Bathyal	Magenta
Carbonate	Light Blue
Erosional Surface	Hatched

**LEGEND:**

Environment Interpretation
Inner Neritic
Middle Neritic
Outer Neritic
Bathyal

Map title: PALEO-ENVIRONMENT MAP OF BAONG FORMATION

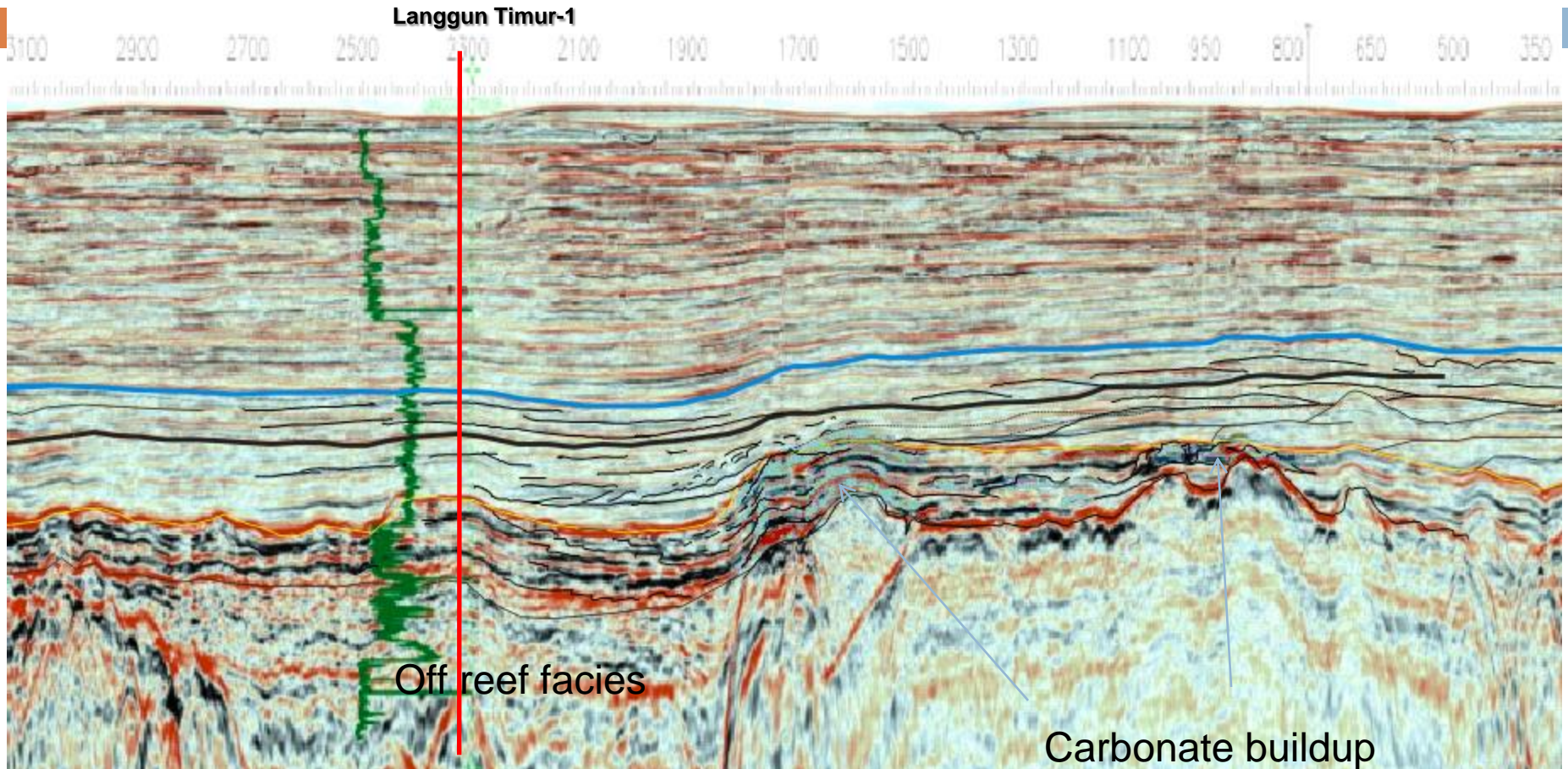
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Date: 2014-01-01

Project: Baong Formation

Author: [Name]

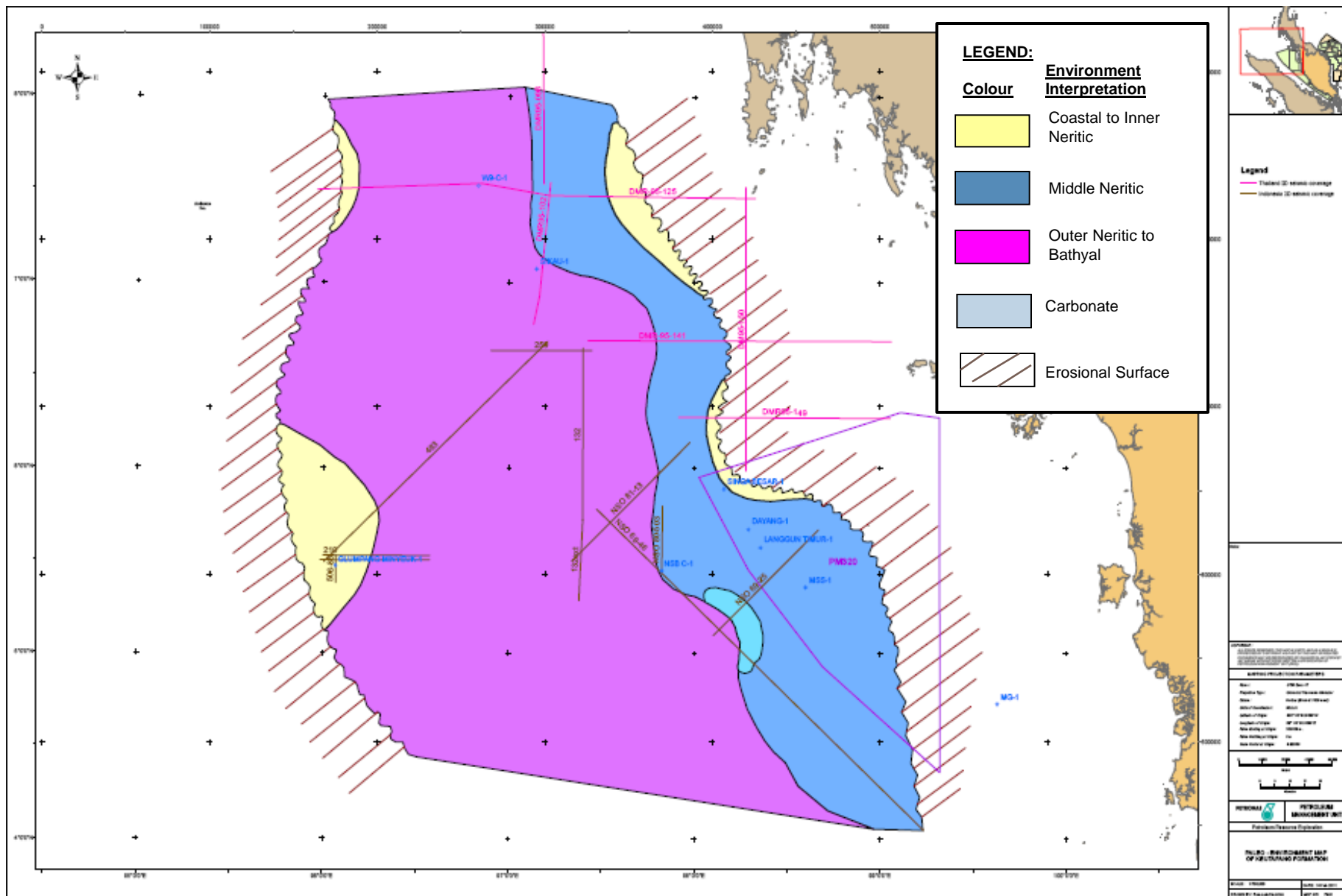
# Seismic cross section through Langgun Timur-1 well



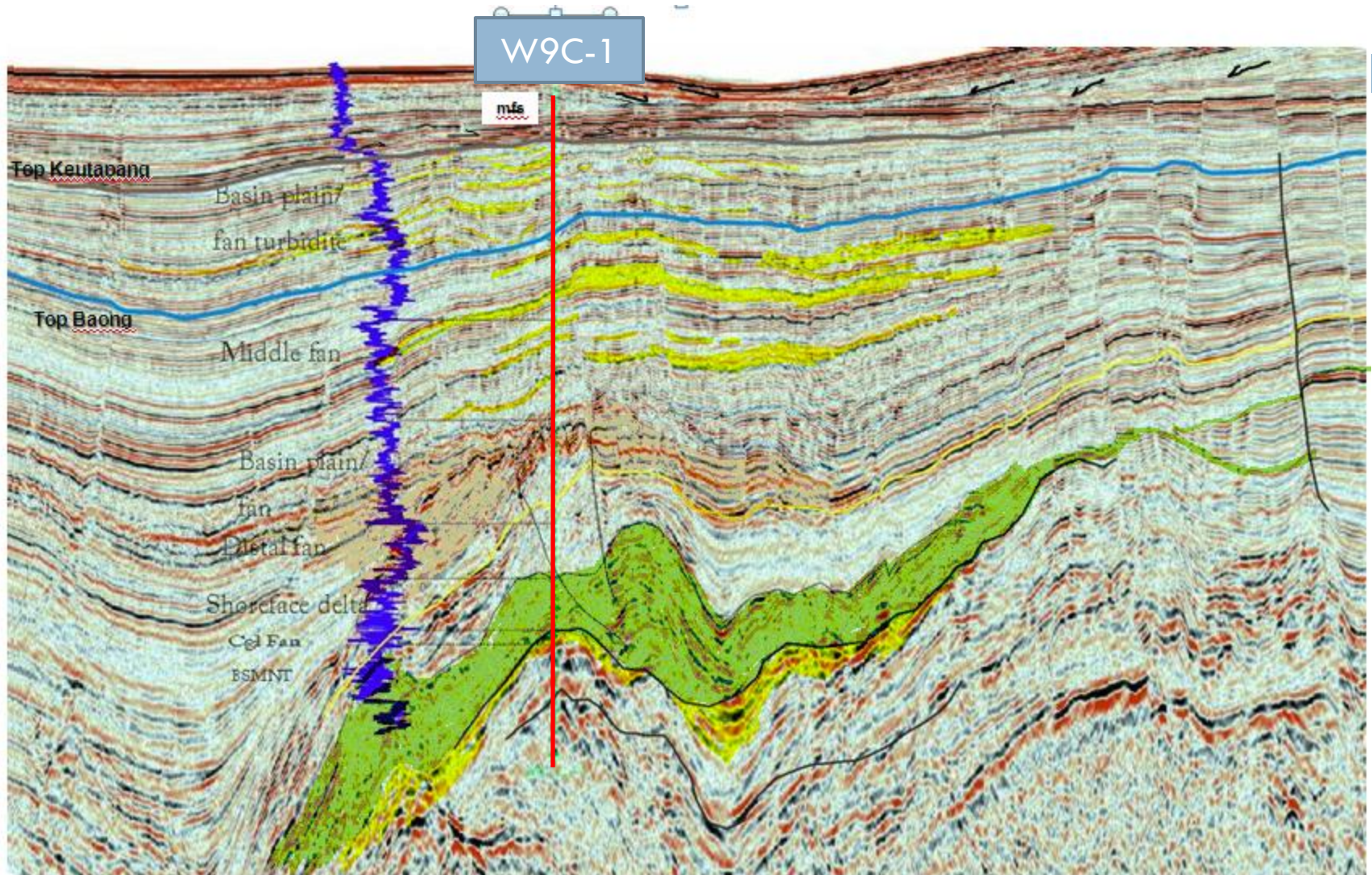
**Line 83-MS-09**



# Paleo-environment Map of Keutapang Formation

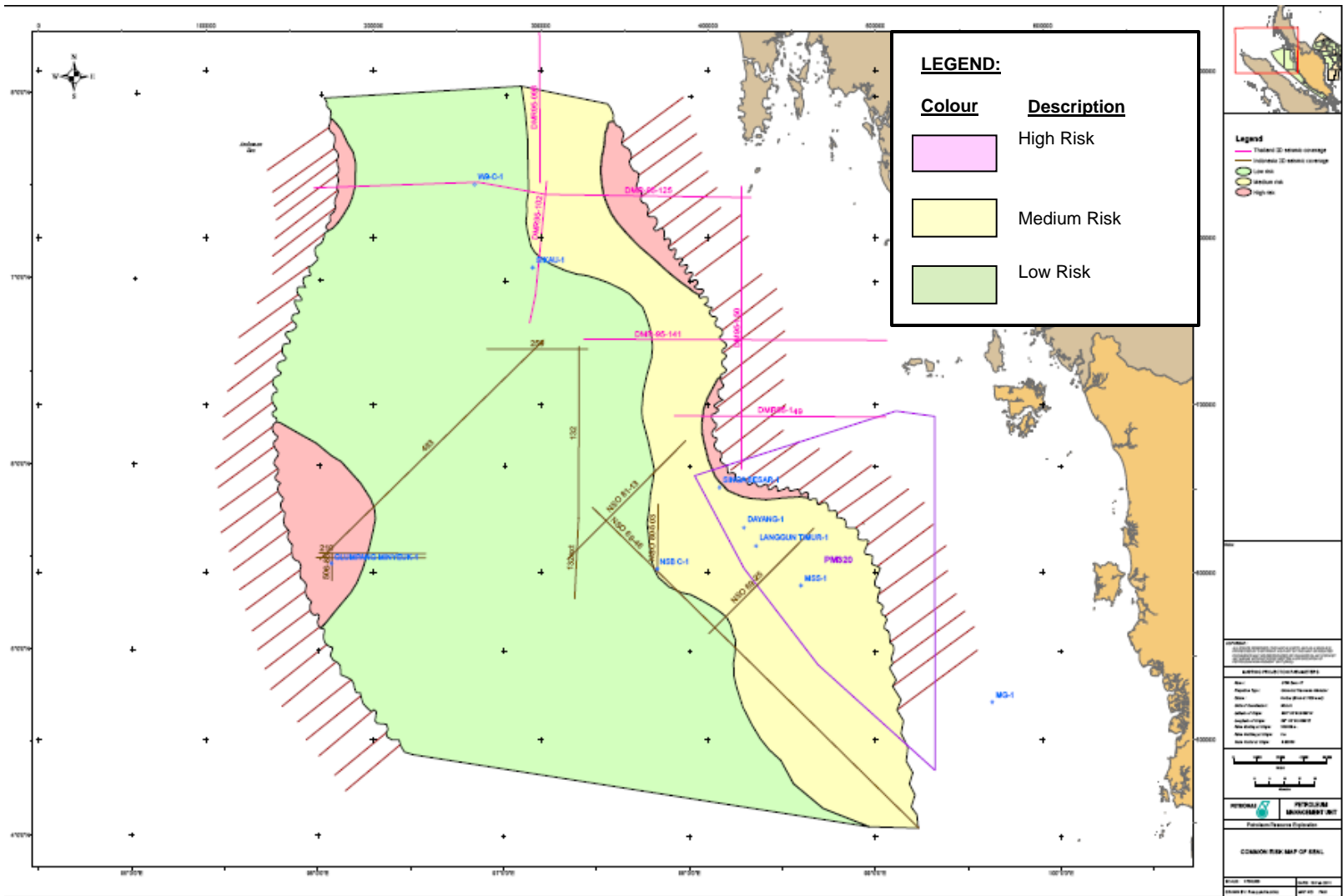


# Seismic cross section through W9C-1 well

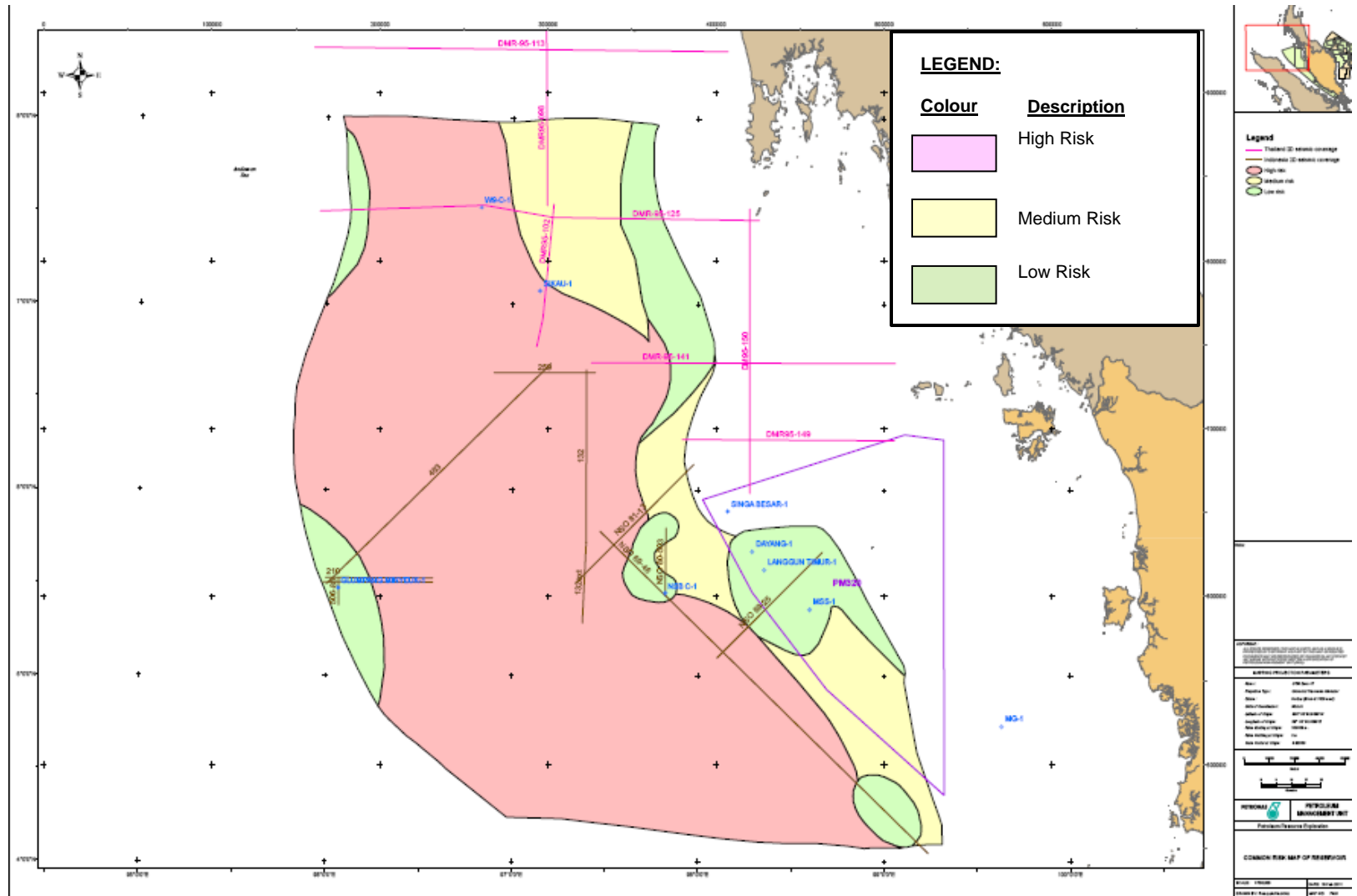


Line: DMR95-125

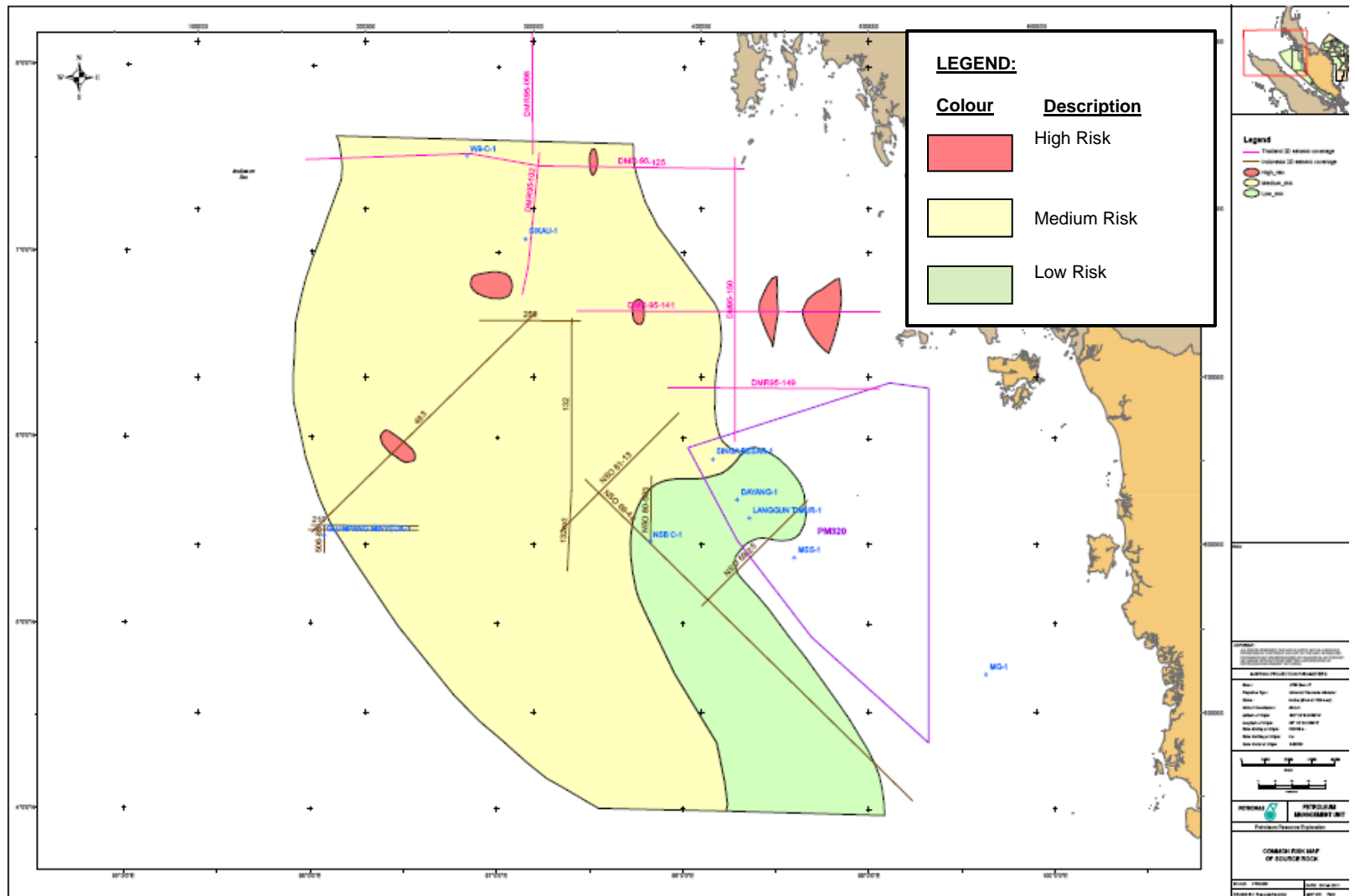
# CRS map for Seal (Keutapang Formation)



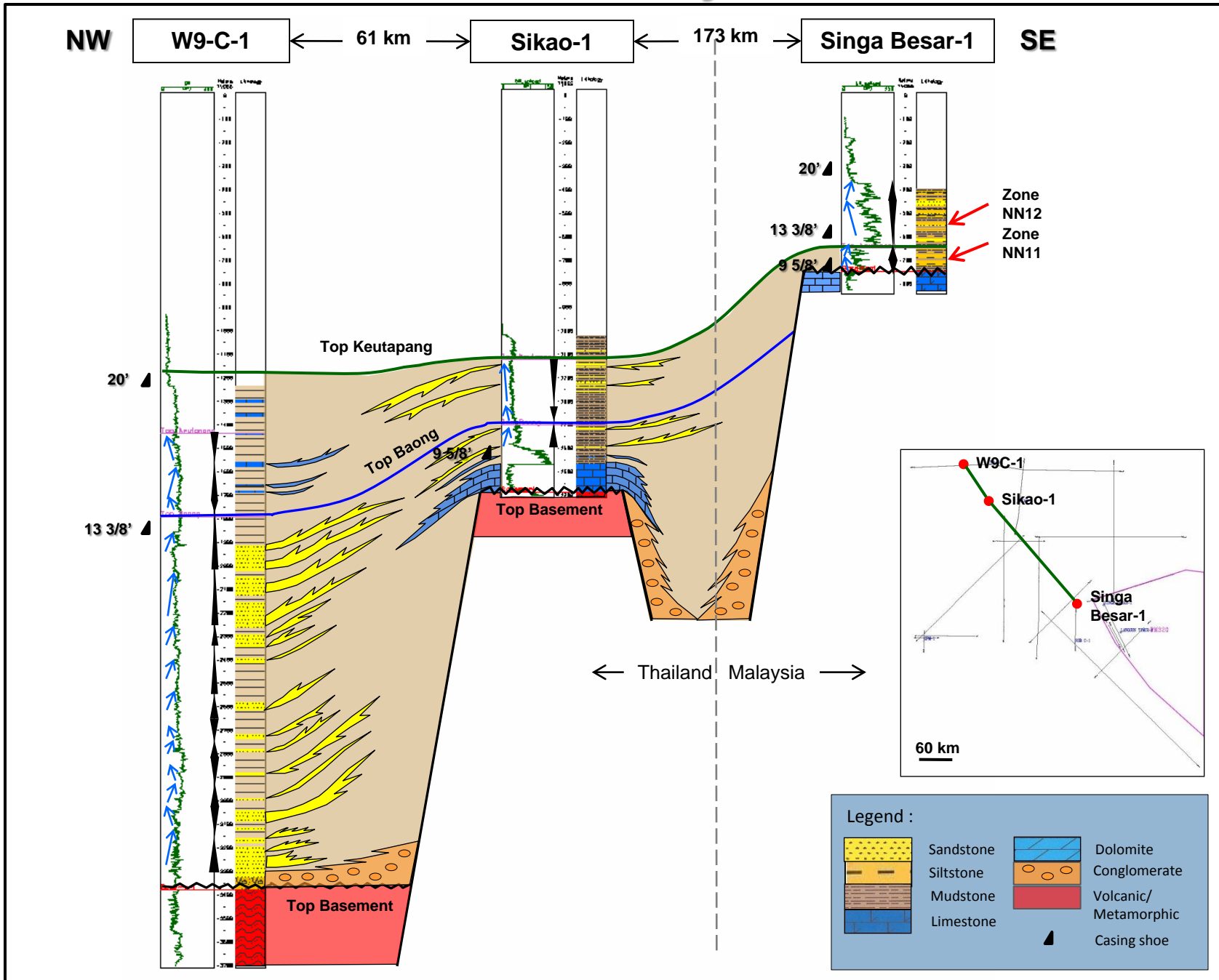
# CRS map for Reservoir (Baong Formation)

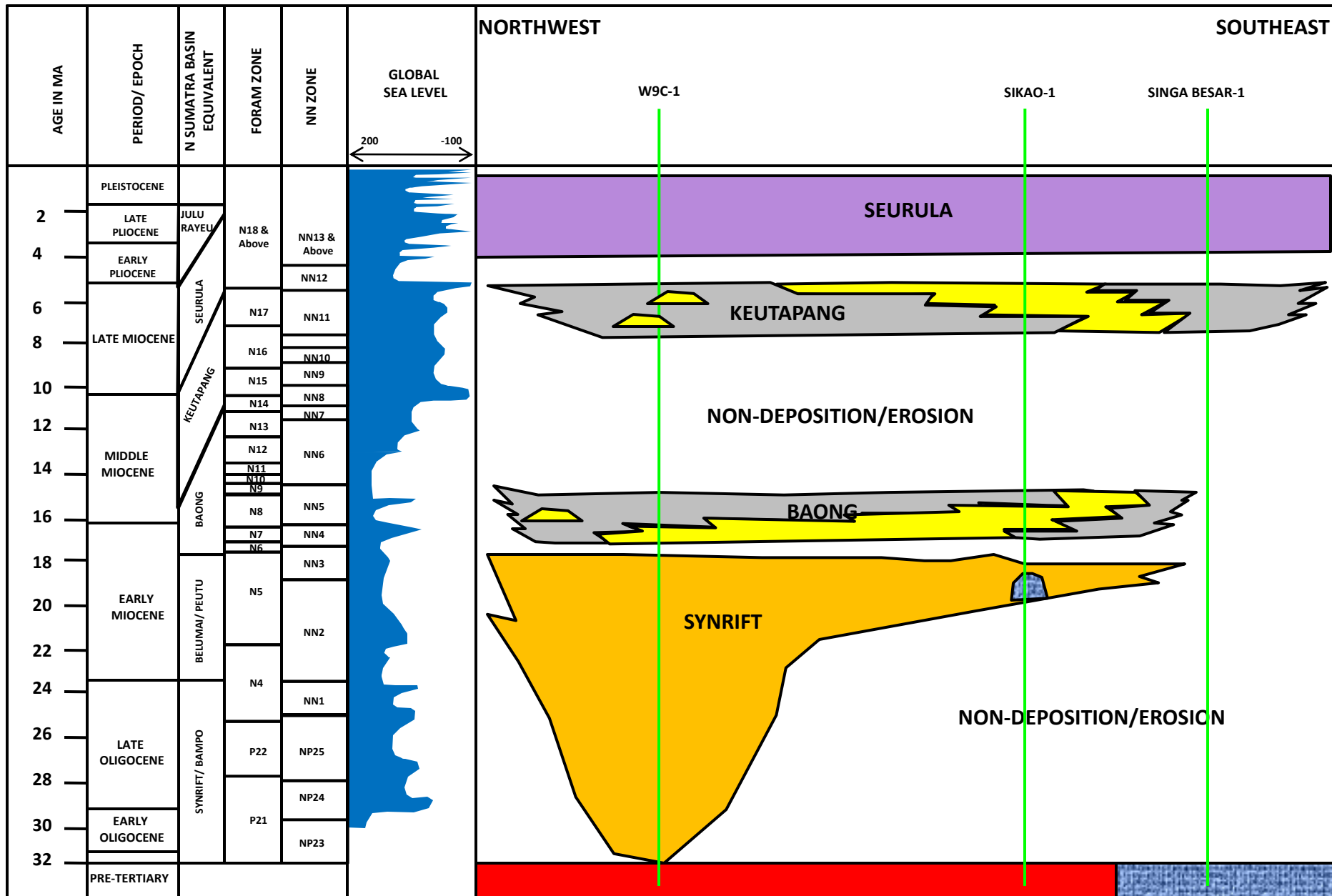


# CRS map for Source Rock (Synrift Formation)

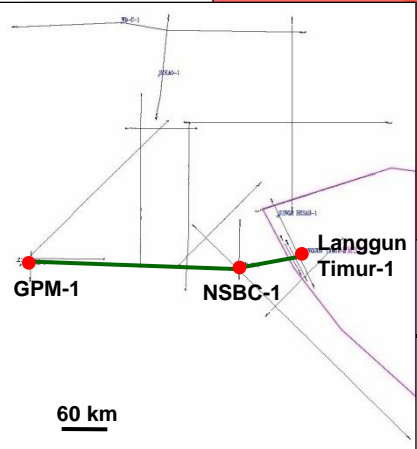
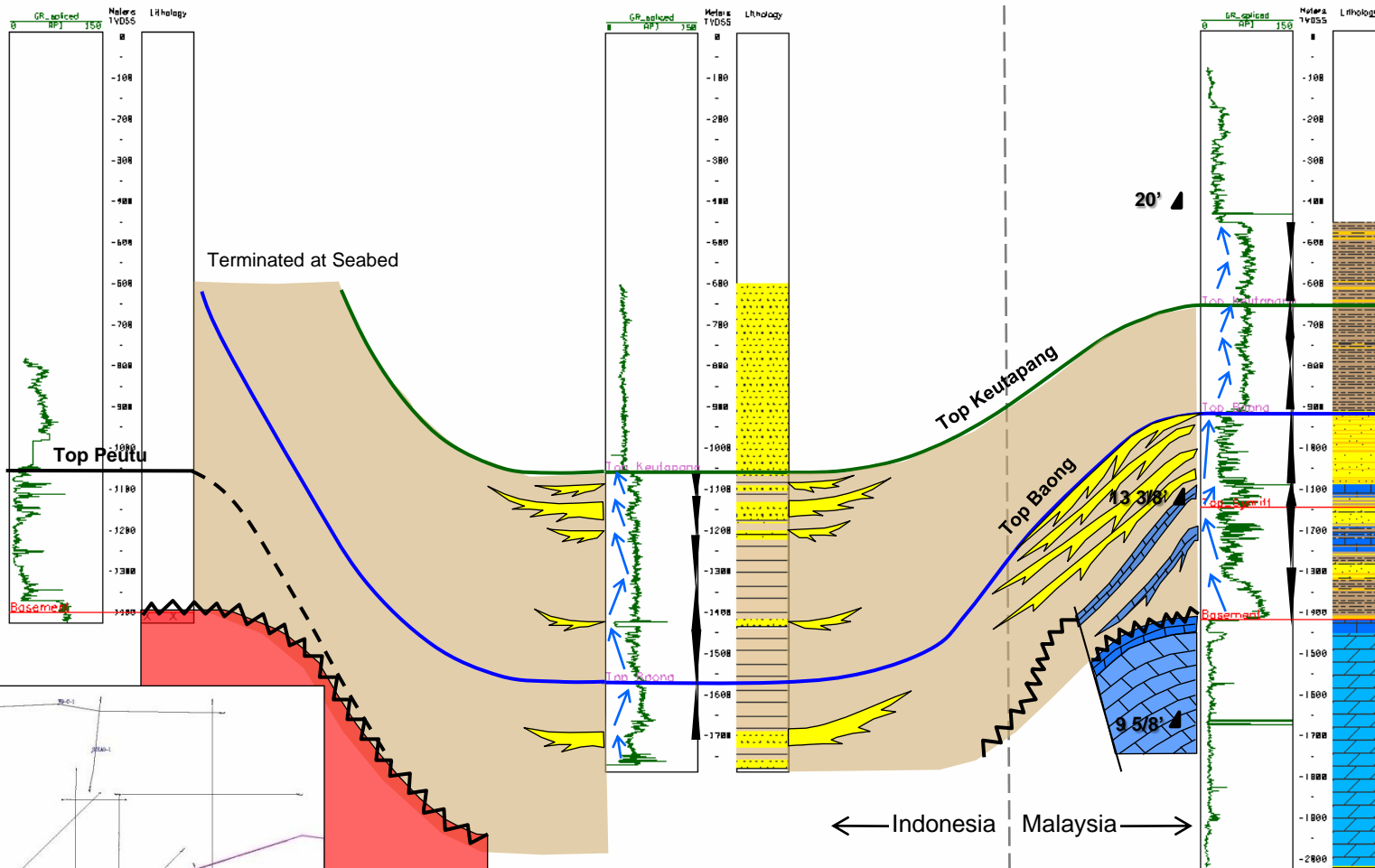
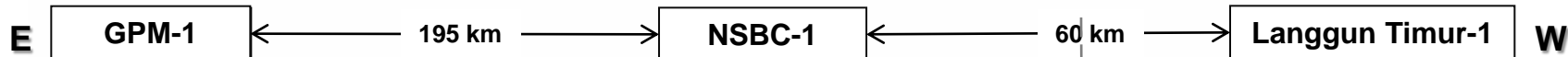


# Well Correlation – Malaysia to Thailand





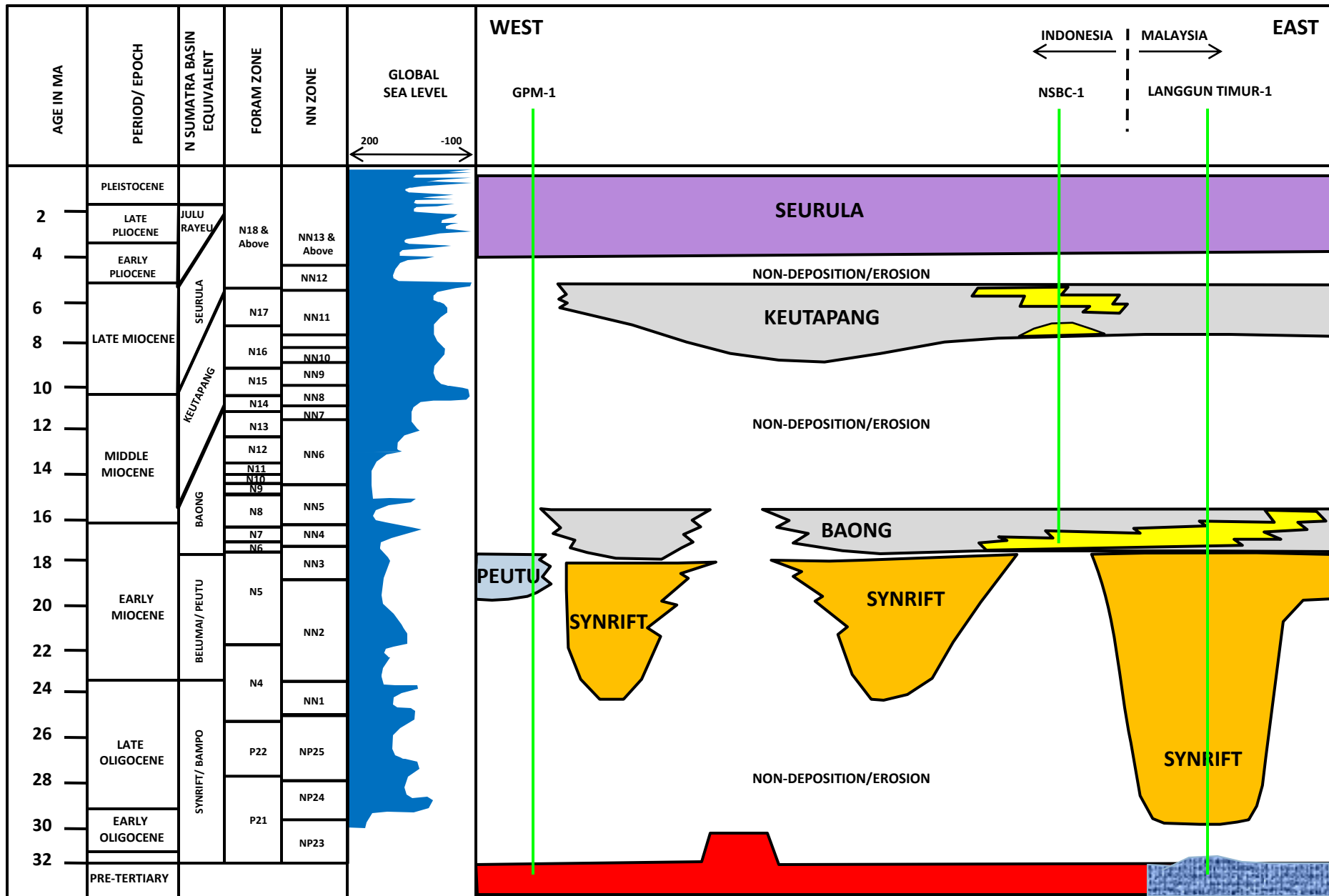
# Well Correlation – Malaysia to Indonesia



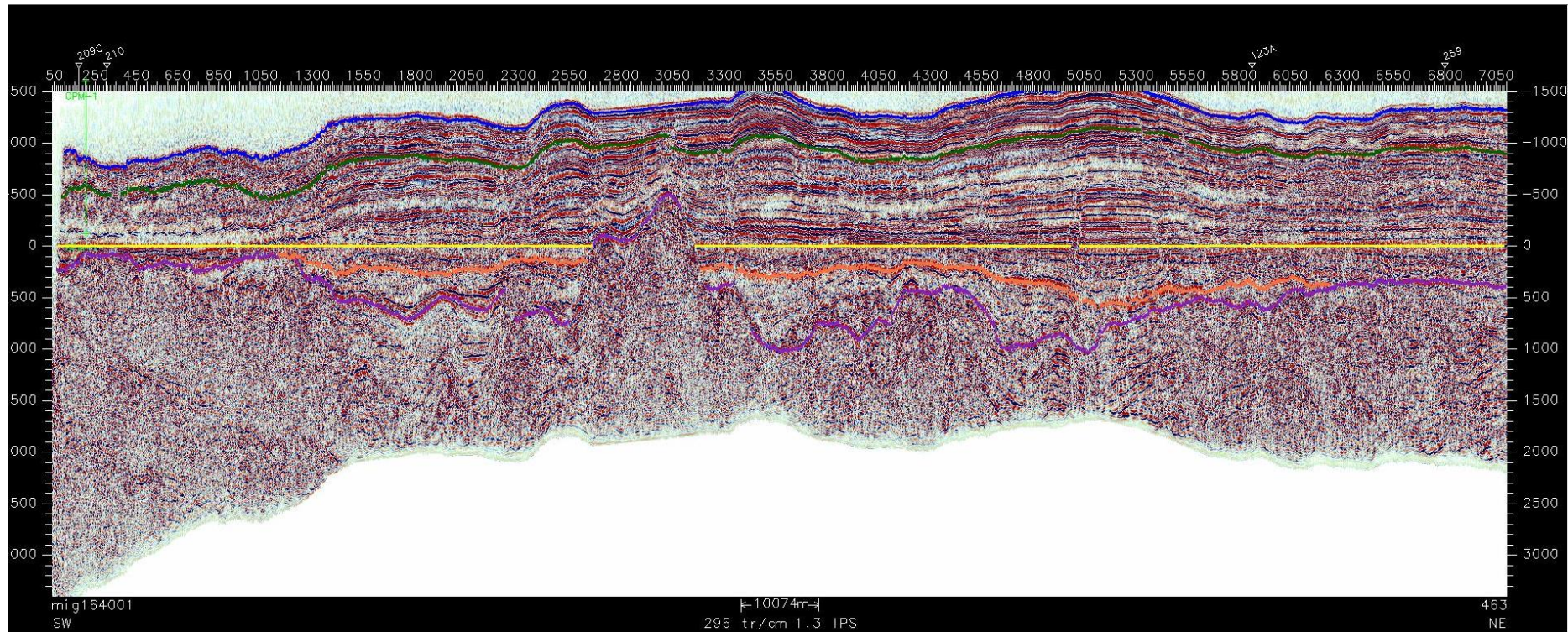
**Legend :**

	Sandstone		Dolomite
	Siltstone		Conglomerate
	Mudstone		Volcanic/ Metamorphic
	Limestone		Casing shoe





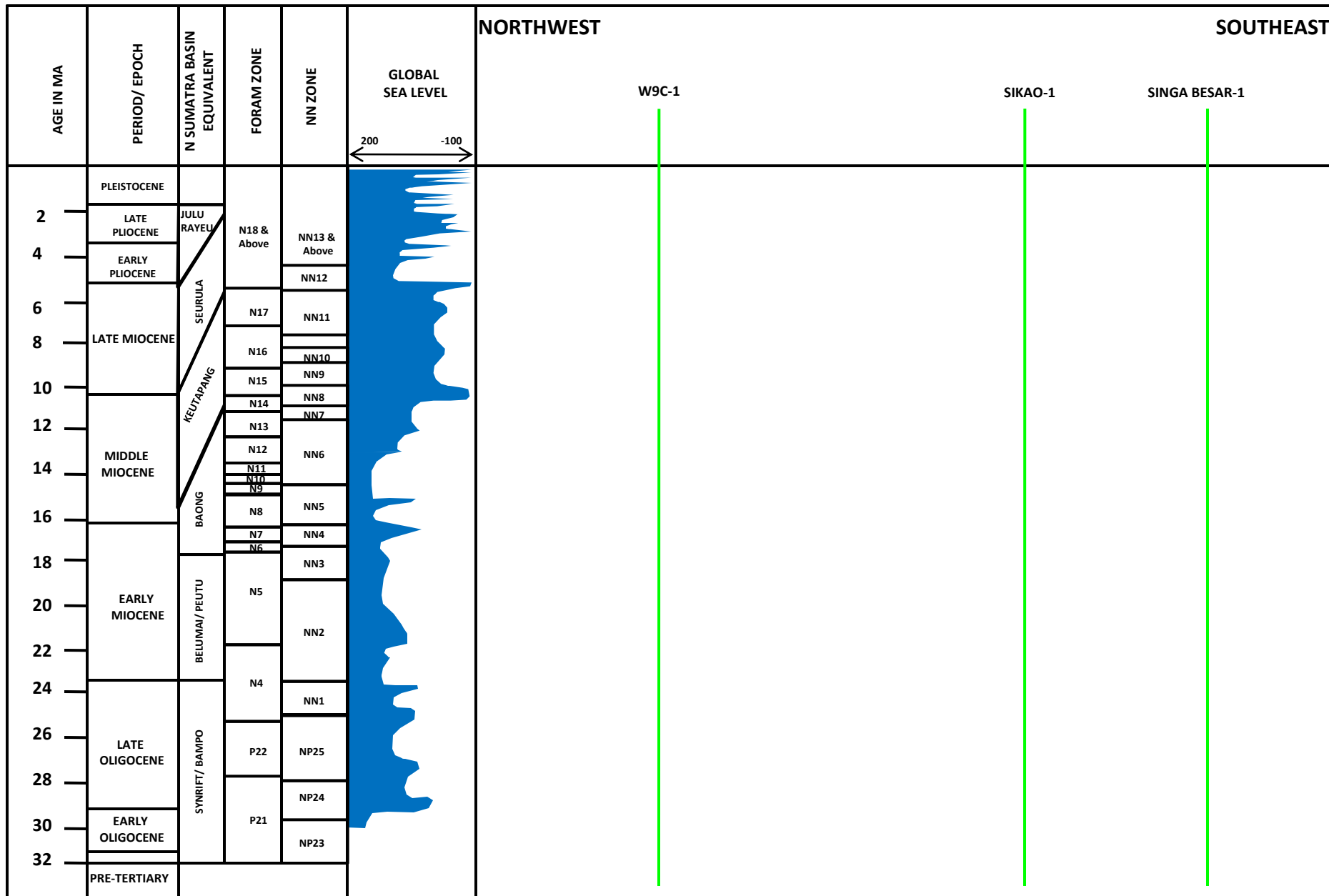
# Seismic cross section through GPM-1

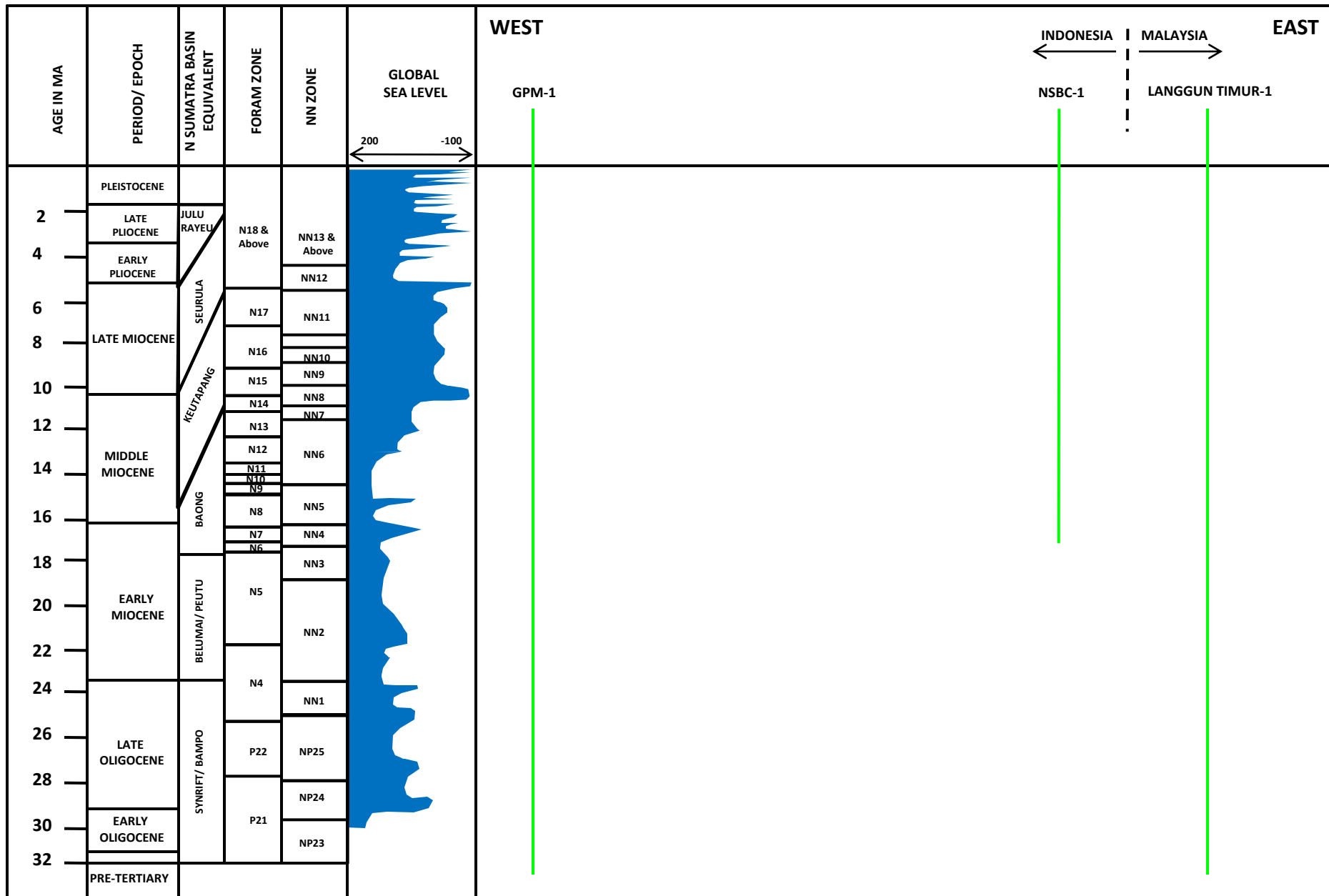


# Summary

- Integrated seismic facies character to come out with the paleo-environment map
- Integrated paleo-environment to deliver CRS map to risk the area by petroleum system elements
- Established 2 chronostratigraphic charts based on well correlation, paleo-environment map and well data

Thank You



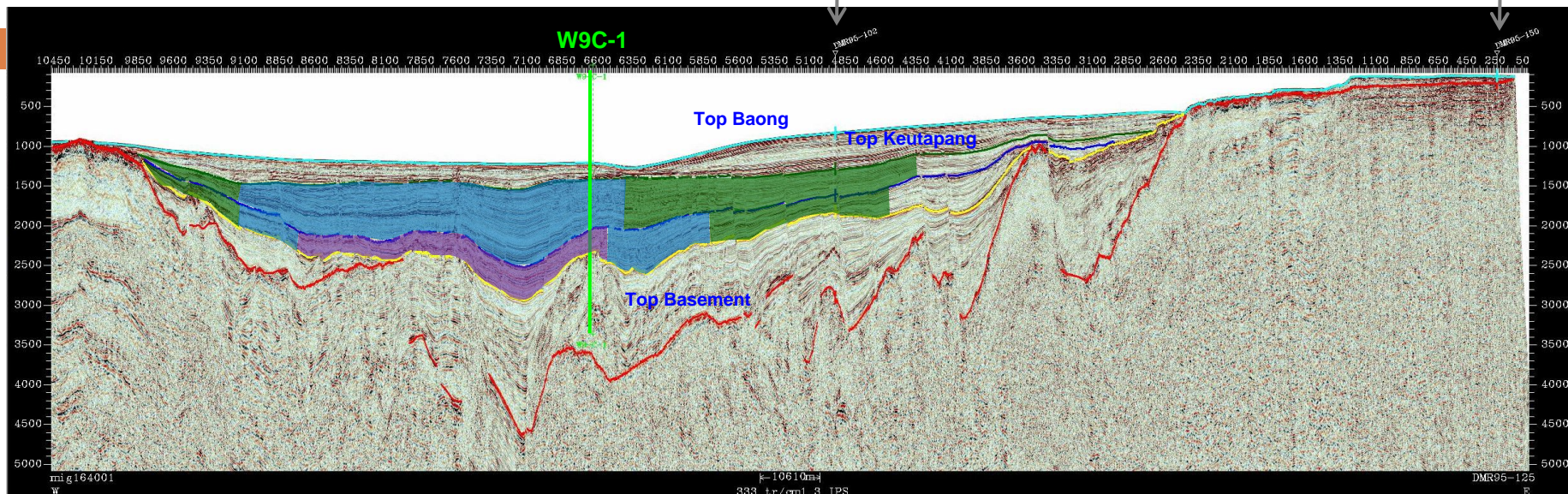


# Seismic Facies Analysis

W

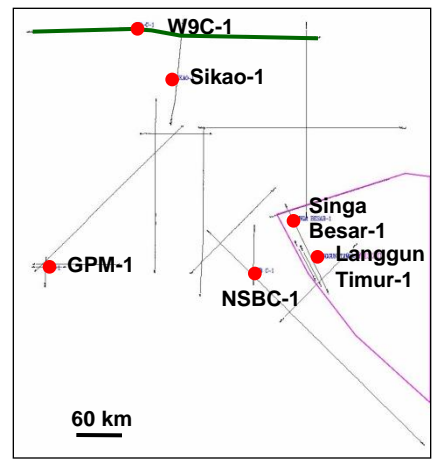
DMR95-102

DMR95-150 E



Line DMR95-125

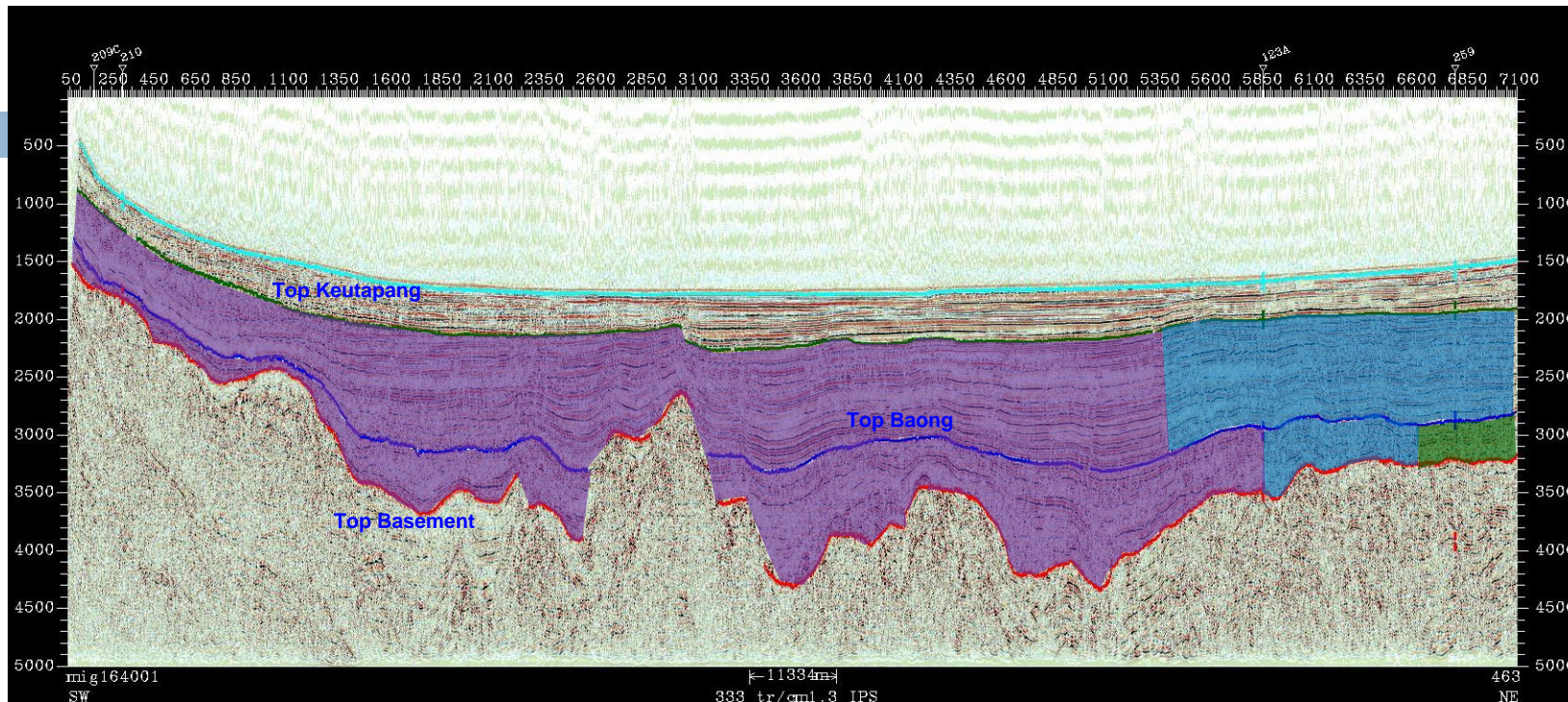
Seismic	Seismic Attributes	Colour
	Good reflection and low continuity, sub-parallel	
	Moderate to low reflection, low continuity, sub-parallel	
	Moderate to poor reflection, low continuity, slightly divergent	
	Good reflection and continuity, slightly mounded	



# Seismic Facies Analysis

SW

NE



Line 463

Seismic	Seismic Attributes	Colour
	Good reflection and low continuity, sub-parallel	
	Moderate to low reflection, low continuity, sub-parallel	
	Moderate to poor reflection, low continuity, slightly divergent	
	Good reflection and continuity, slightly mounded	

