

Role of Thailand's Department of Mineral Resources on Cross-Border Geological Survey and Mineral Investigation

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DMR. Establishment

- 1st of January, 1891 by King Chulalongkorn the Great
- Firstly involved mainly in tin mining
- Later cover all geologic functions
- Last reorganized on 3rd October 2002

DMR. Role

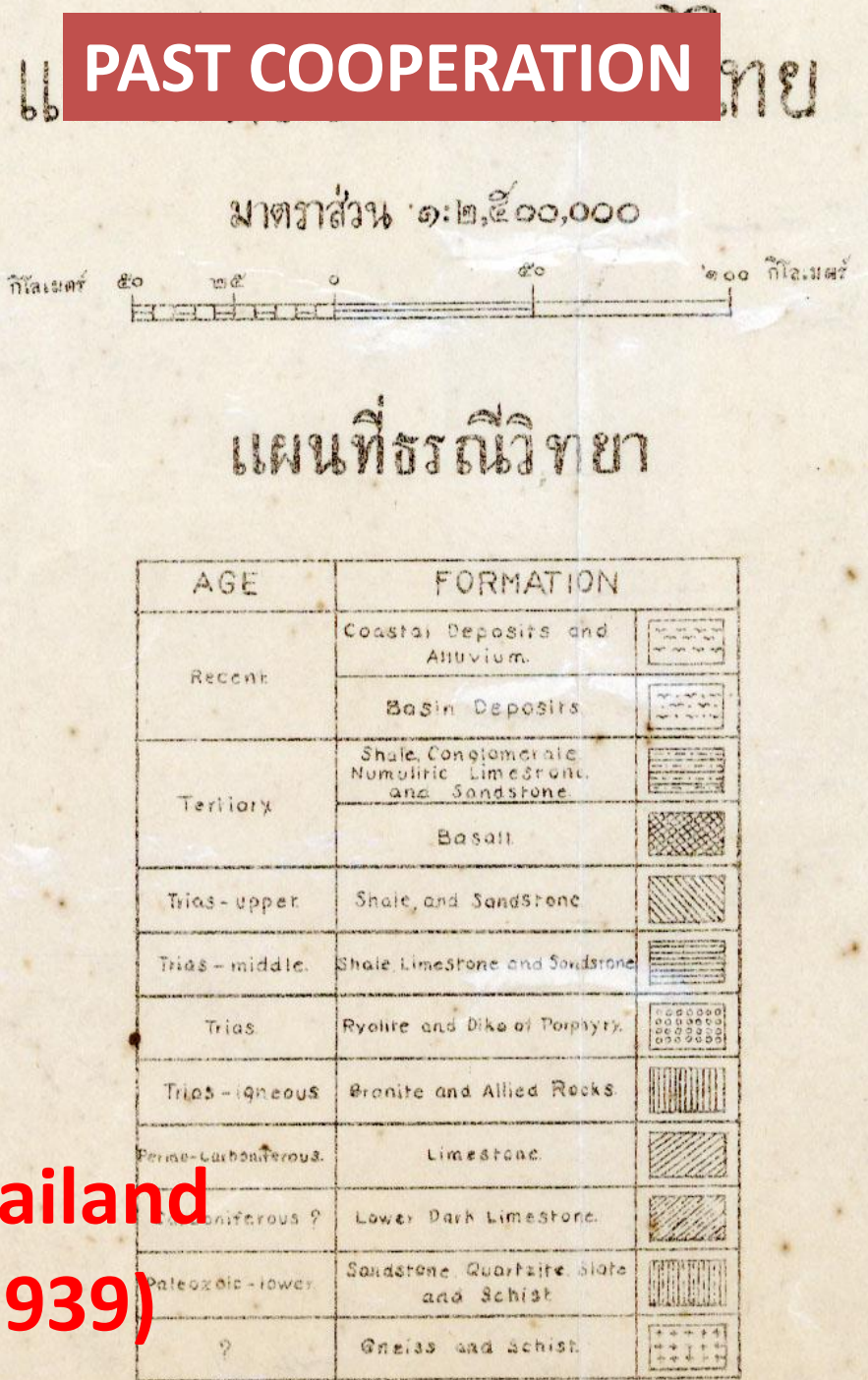
- We provide professional knowledge-based geosciences services to the community through geoscientific information and advice towards wisely use of geological resources, public awareness in understanding the earth and its environment, minimum loss of life from natural disasters and enhancement of our people quality of life.

DMR. Activities

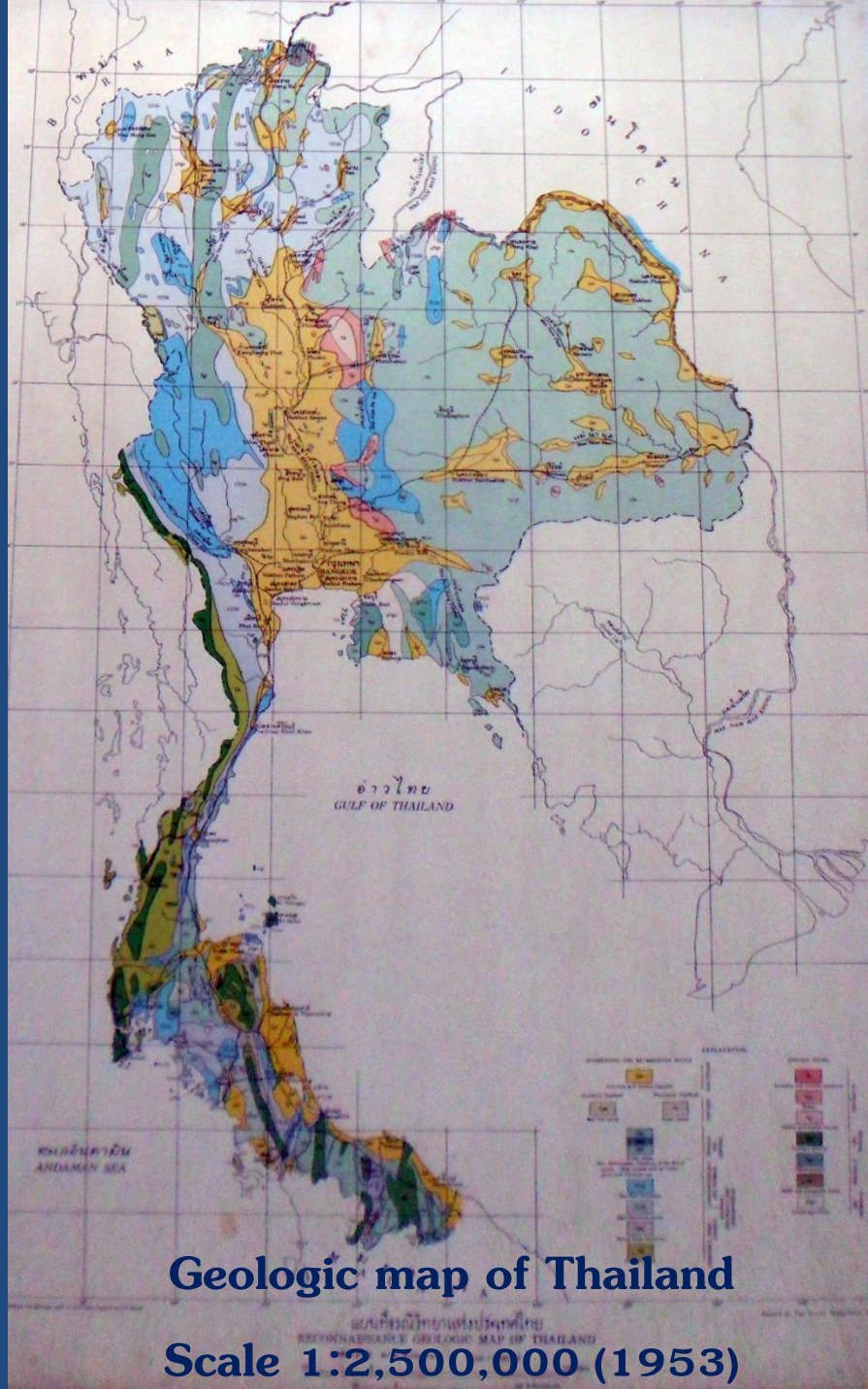
- **Geological exploration and research**
- **Mineral resources management**
- **Paleontological exploration and research**
- **Geotourism promotion**
- **Geophysical and geotechnical surveys**
- **Geological resources policy and planning**
- **International geological cooperation**



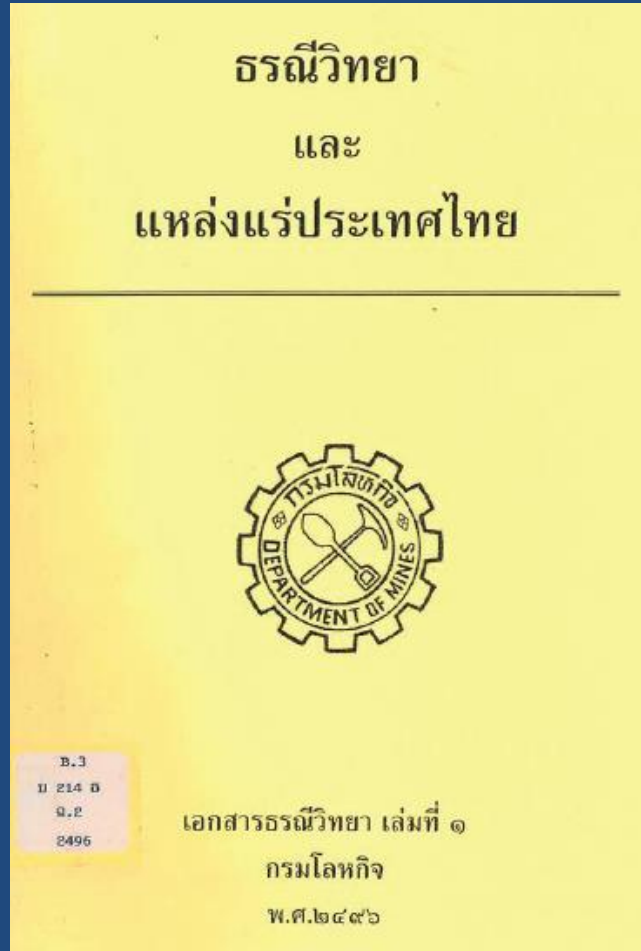
The First Geological map of Thailand scale 1:2,500,000 (1939)



Brown *et al.* (1951) "Geologic Reconnaissance of the Mineral Deposits of Thailand"



Geologic map of Thailand
Scale 1:2,500,000 (1953)



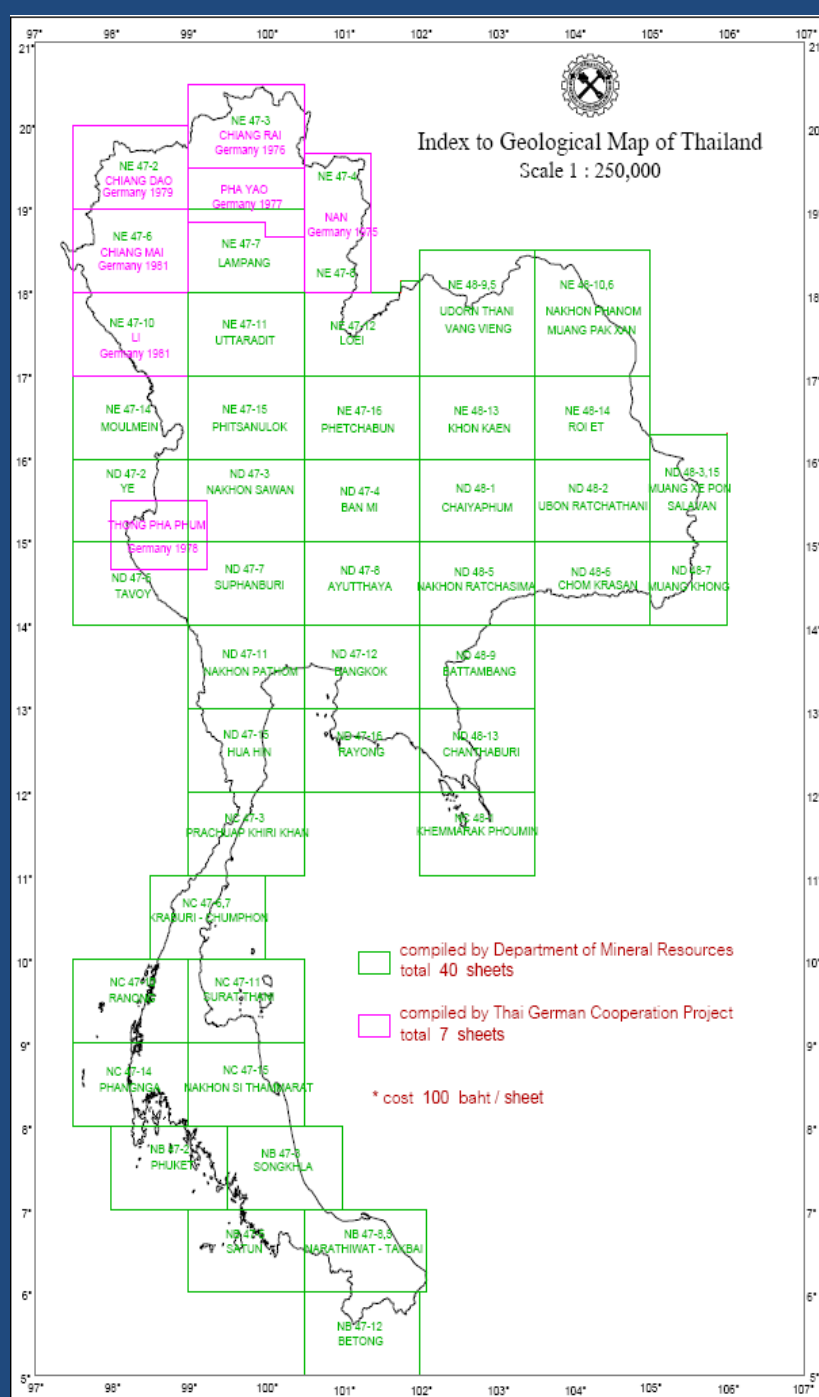
Geological map of Thailand scale 1:250,000

+Thai-German Cooperation mapping Project during
1975 to 1982,

-7 quadrangles; Nan, Chiang Rai, Phayao, Chiang Dao, Chiang Mai, Li and Thong Pha Phum

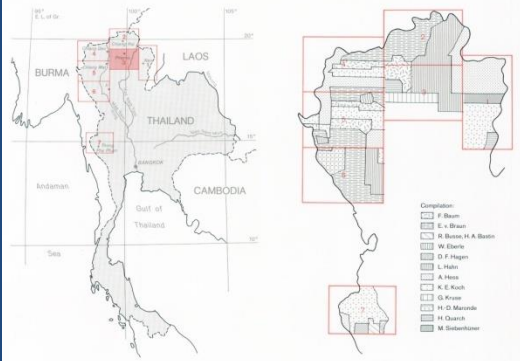
+Thai geologist since 1970 to 1980 - 39 quadrangles

+ INDIAN 1975

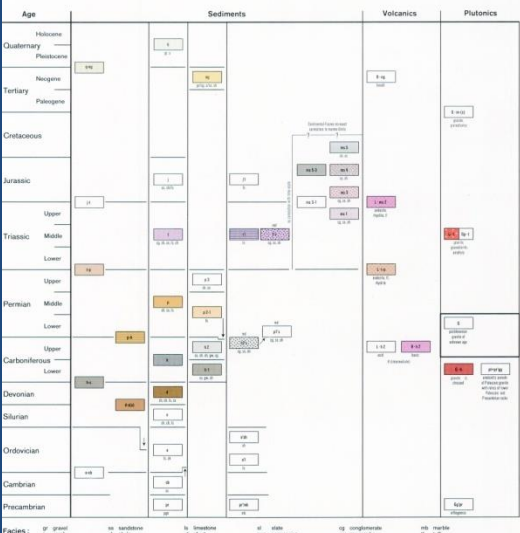
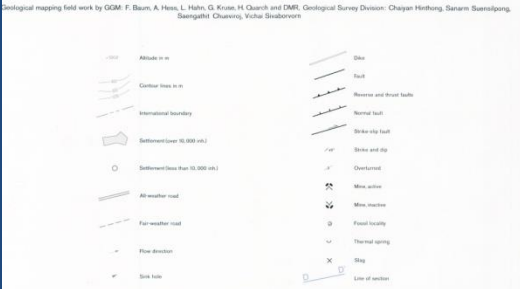
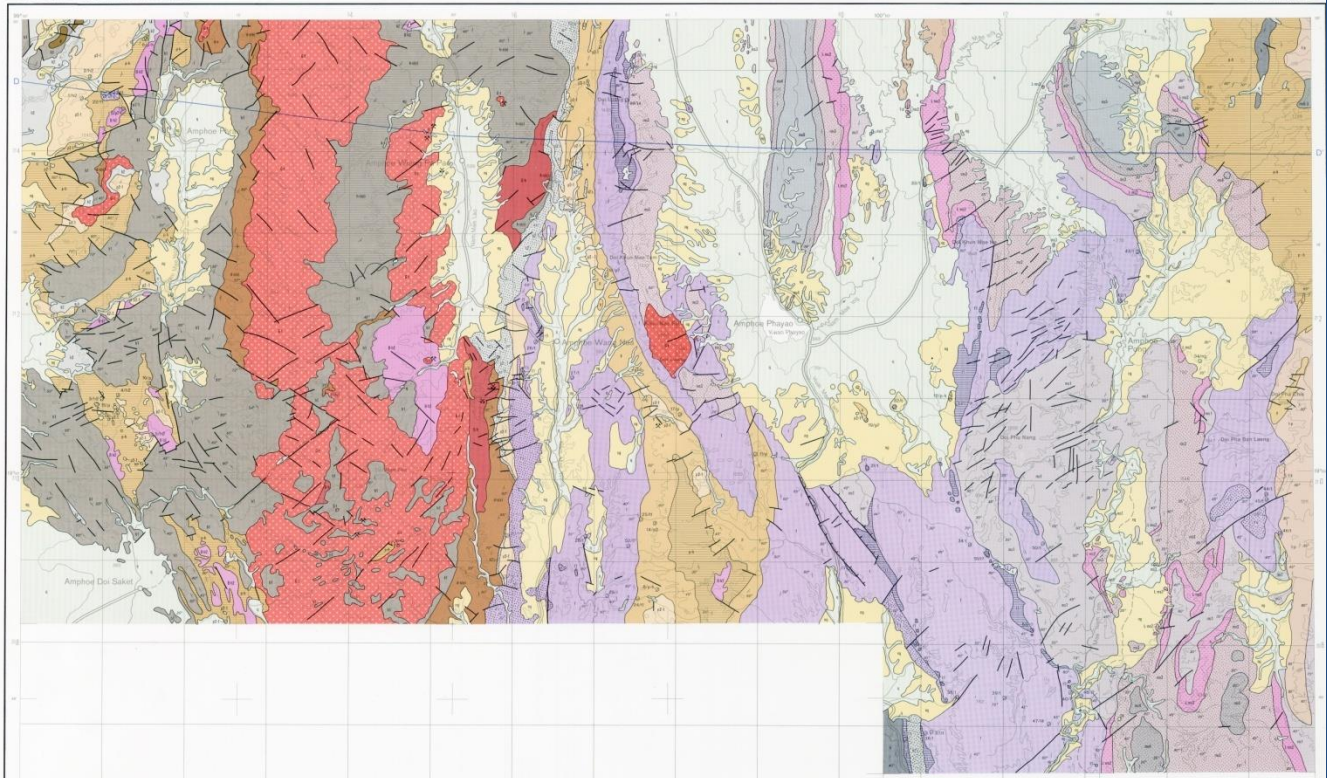


Geological Map of Northern Thailand 1 : 250000

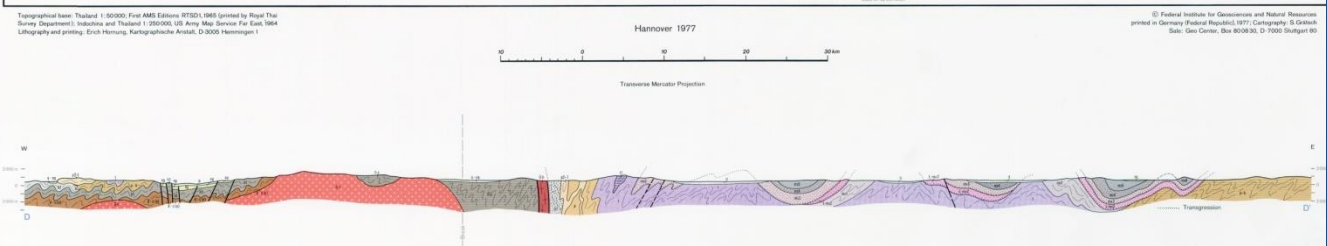
Compiled by F. Baum and L. Hahn



Prepared by German Geological Mission in Thailand
 in cooperation with Geological Survey Division, Department of Mines
 Published by Federal Institute for Geosciences and Natural Resources



FIRST DETAIL GEOLOGIC MAP

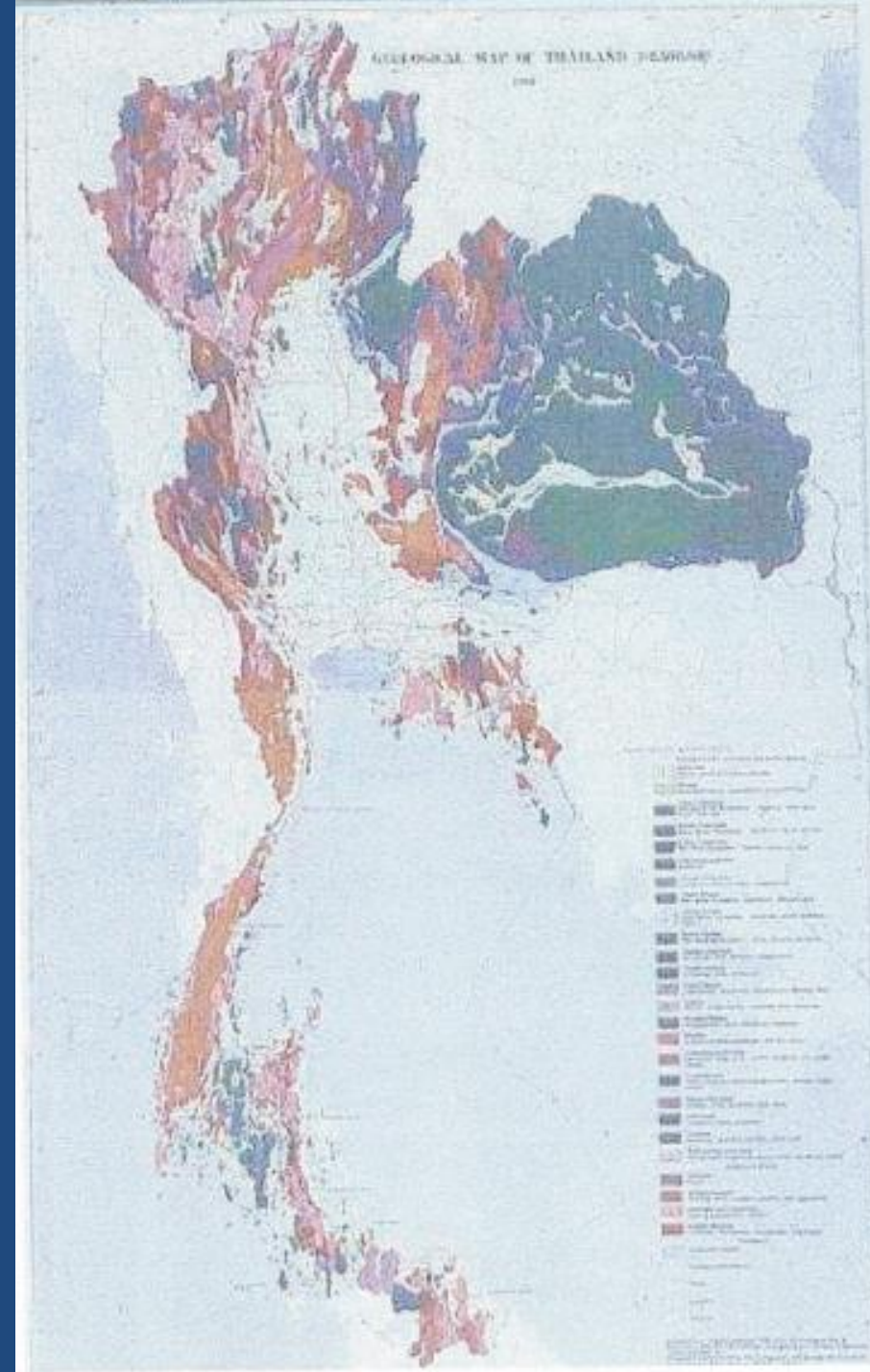


Topographic base: Thailand 1:50000 Final AMS Edition 1970; 1965 (printed by Royal Thai Survey Department) Indonesia and Thailand 1:50000 US Army Map Service Far East, 1964
 Lithography and printing: Erich Henning, Kartographische Anstalt, D-5300 Hemmerig 1

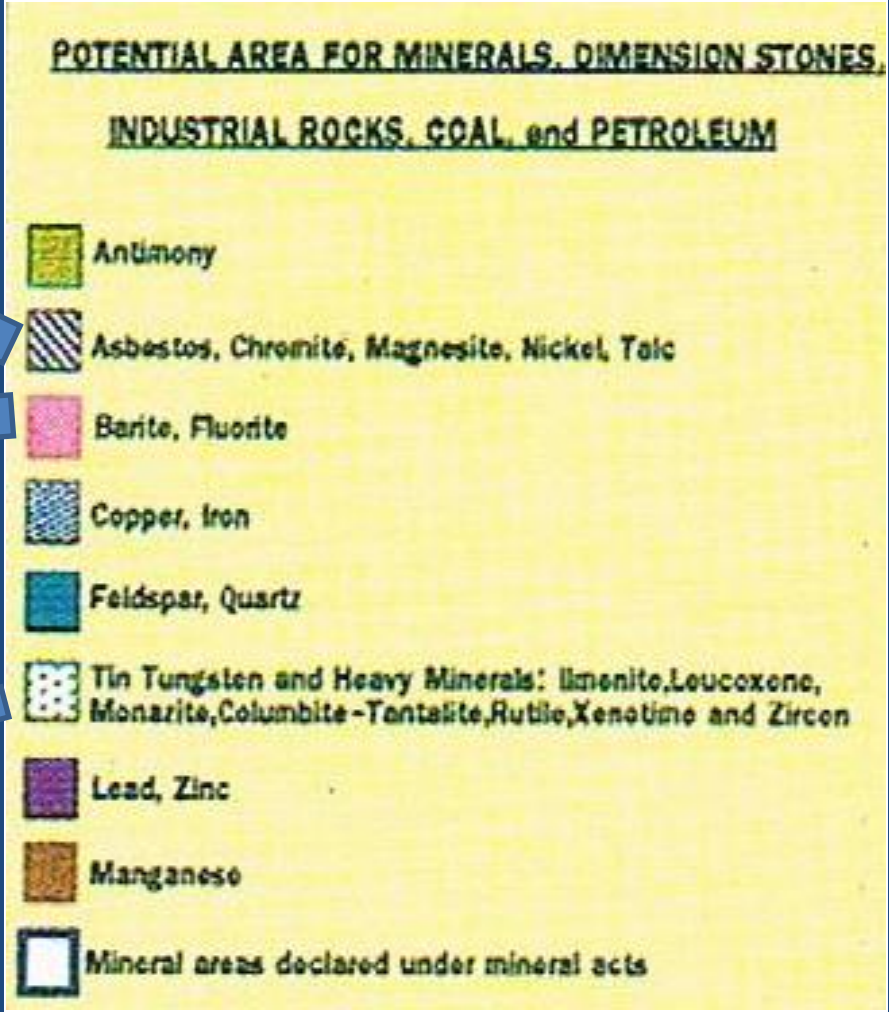
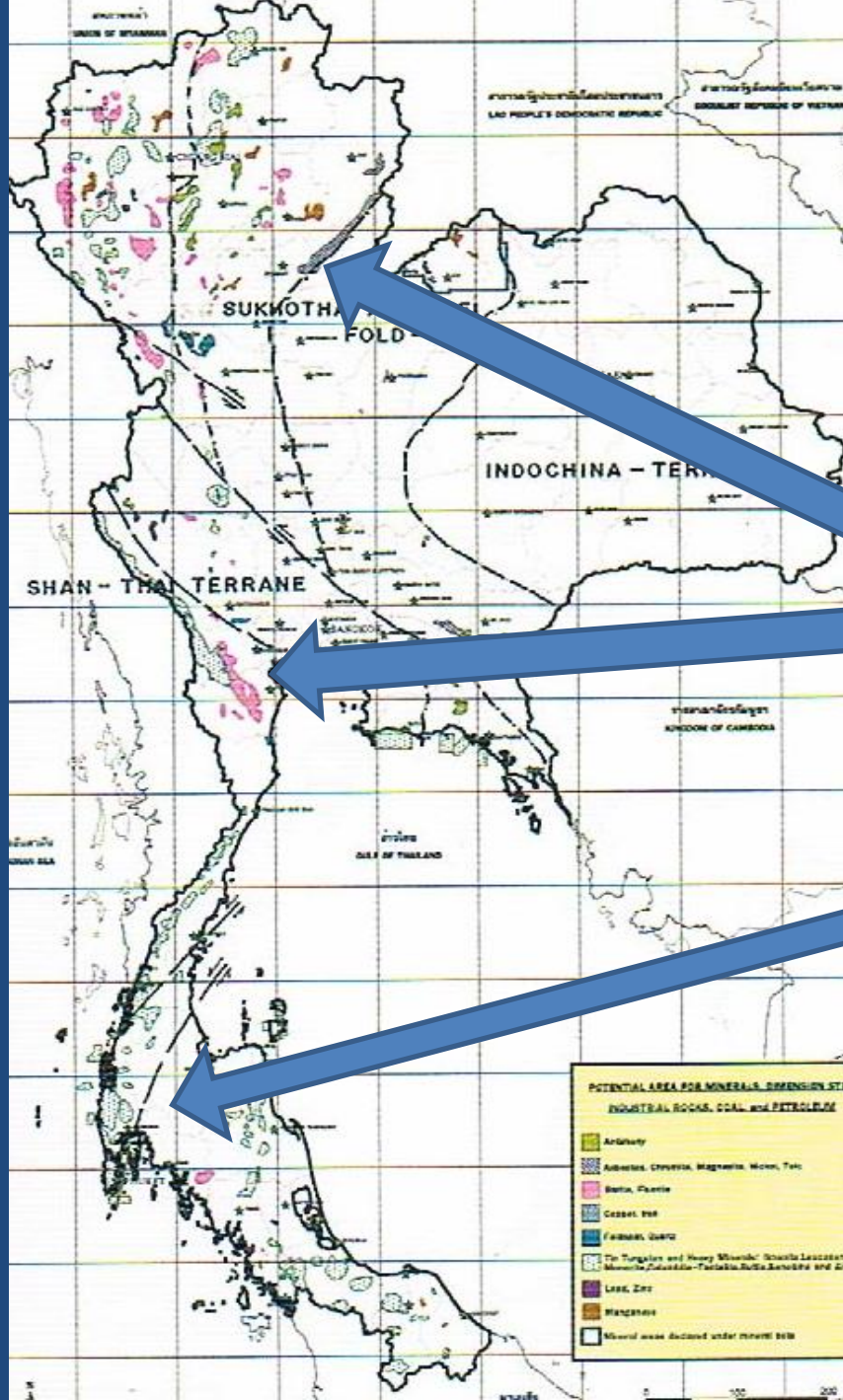
Federal Institute for Geosciences and Natural Resources
 printed in Germany (Federal Republic, 1977) Cartography: G. Grotzsch
 Satz: Gunter Grotzsch, Box 800/93, D-7000 Stuttgart 90

Geological map of Thailand scale 1:2,500,000

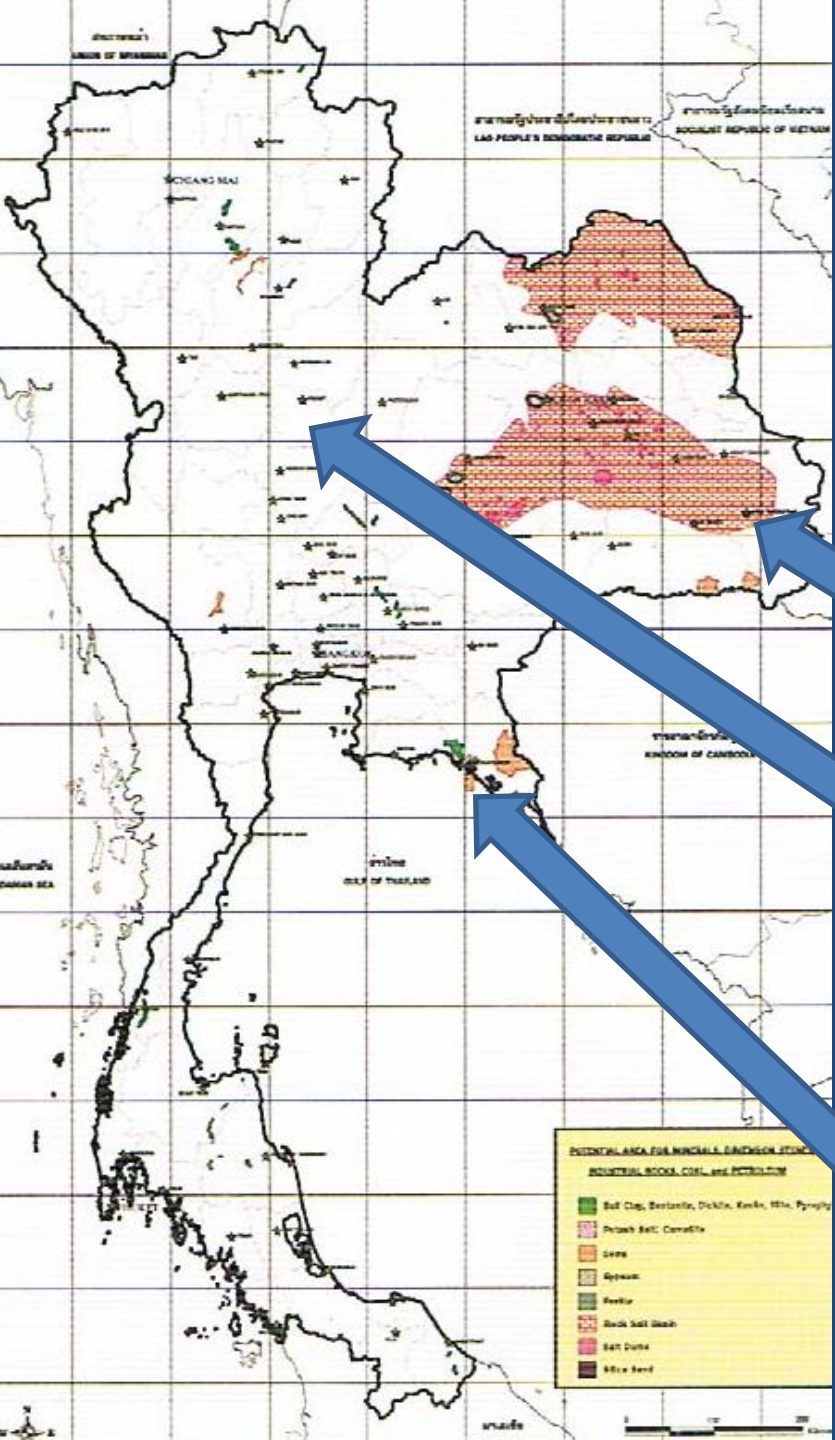
1984 (2527)



Metallic Minerals



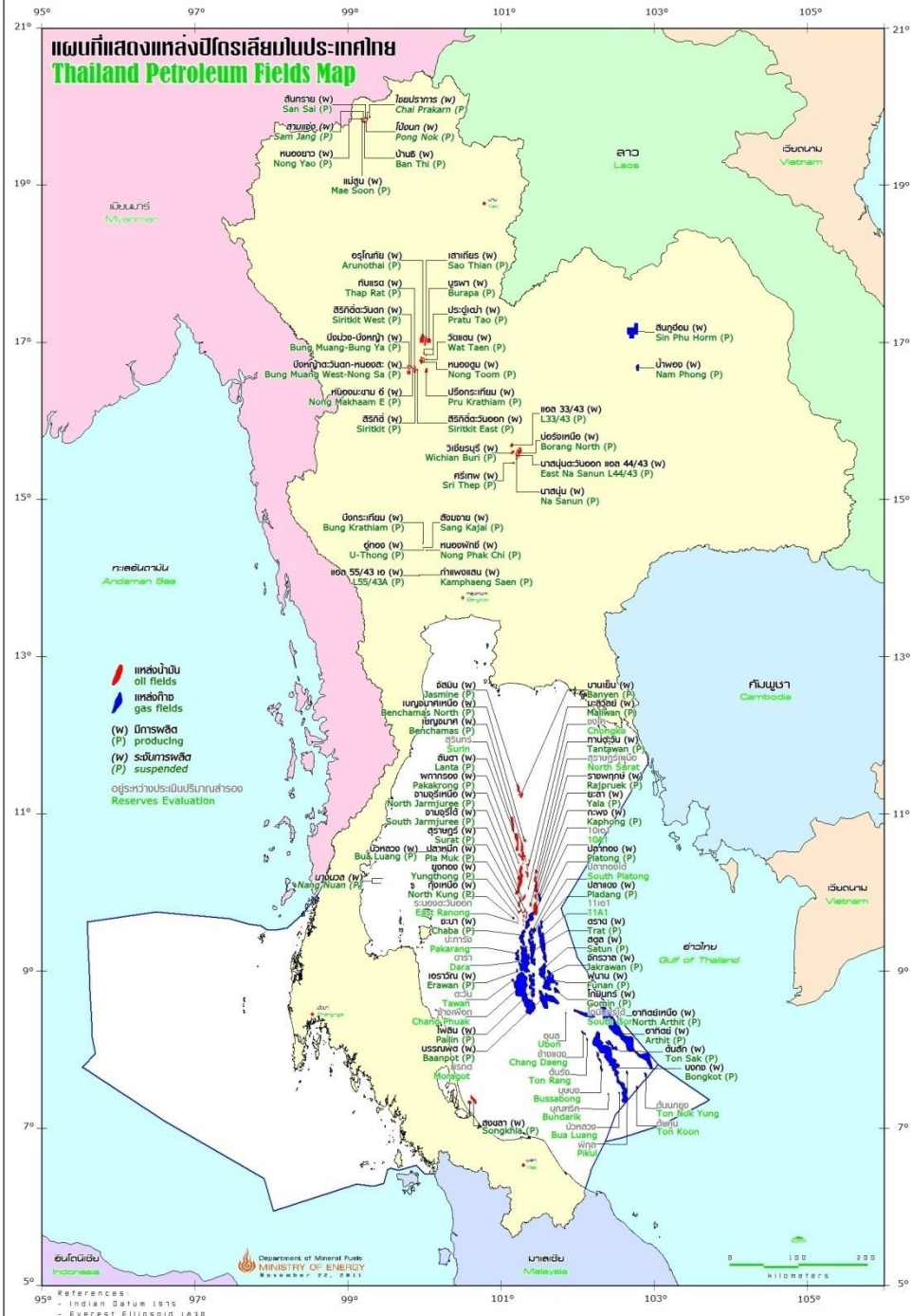
Non Metallic Minerals



POTENTIAL AREA FOR MINERALS, DIMENSION STONES,

INDUSTRIAL ROCKS, COAL, and PETROLEUM

-  Ball Clay, Bentonite, Dickite, Kaolin, Illite, Pyrophyllite
-  Potash Salt: Camalite
-  Gems
-  Gypsum
-  Perlite
-  Rock Salt Basin
-  Salt Dome
-  Silica Sand



Mineral Fuel

| | Product + Import | Export | Use |
|------|------------------|---------|---------|
| 2010 | 1,803.7 | 247.1 | 1,399.1 |
| 2011 | 1,701.2 | 222.1 | 1,446.9 |
| 2012 | 1,066 | No data | No data |

Unit: thousand barrels of oil equivalents per day

Source: www.dmf.go.th

Current Activities on International cooperation

Bi-lateral international cooperation :

Neighboring countries

1. Malaysia
2. Lao People's Democratic Republic
3. Republic of the Union of Myanmar
4. Socialist Republic of Vietnam

Other countries

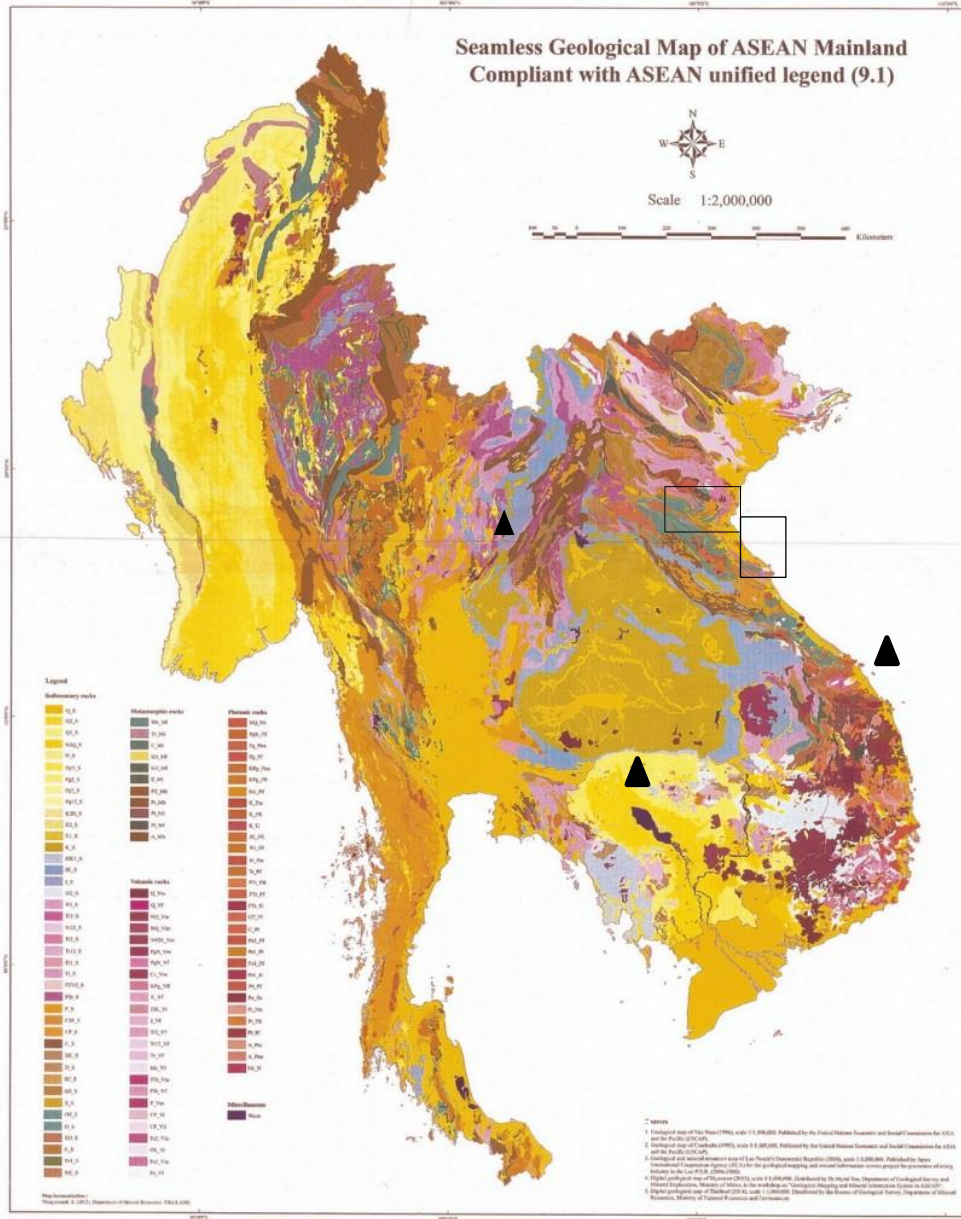
1. Japan
2. People's Republic of China
3. Australia
4. Korea
5. The United Republic of Tanzania

Current Activities on International cooperation

Multilateral international cooperation

1. Coordinating Committee for Geoscience Programmes in East and Southeast Asia : CCOP
2. International Union of Geological Sciences : IUGS
3. International Cartographic Conference : ICC
4. UNECE Expert Group Resources Classification
5. United Nations Convention on the Law of the Sea : UNCLOS

The On-going collaboration areas between Thailand and Neighbouring Countries



1. The geological correlation between Thailand and Malaysia (2003-present)

2. The stratigraphy correlation between Thailand and Laos (TICA 2012-2016)

3. Cross-border Collaboration on Geological Information of Cambodia-Laos-Myanmar-Thailand-Vietnam (2015-2019)

4. The High-grade Metamorphic sequences correlation between Thailand and Vietnam (2016-2018)

THE MALAYSIA - THAILAND BORDER JOINT GEOLOGICAL SURVEY PROJECT(MT-JGS)

Geo-Scientific Cooperation between
Department of Mineral Resources (DMR), Thailand
Minerals and Geoscience Department Malaysia (JMG)

Under the Joint Malaysia-Thailand commission



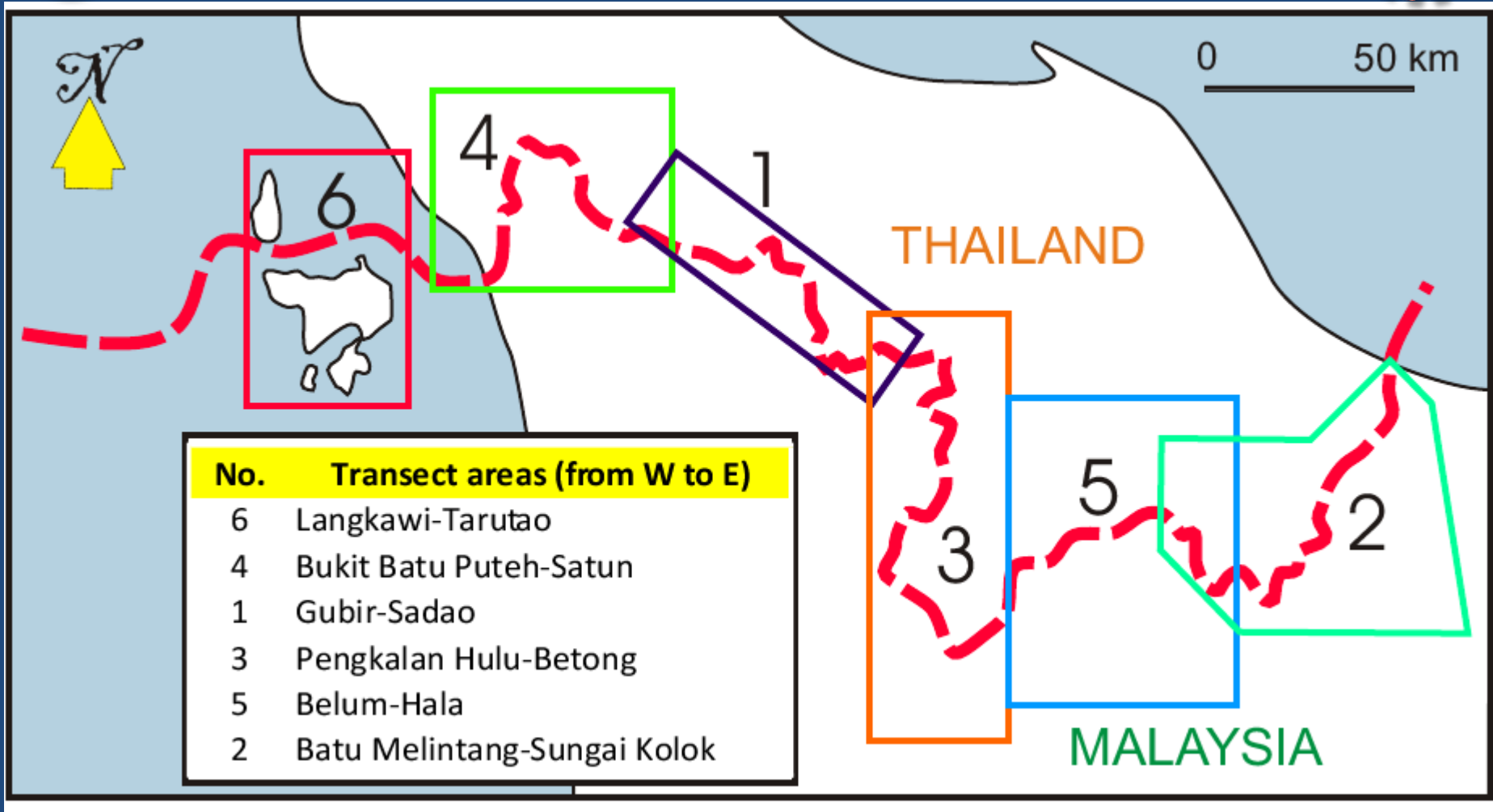
JMG

DMR





TRANSECT AREA 6



Output

THE MALAYSIA - THAILAND BORDER JOINT GEOLOGICAL SURVEY PROJECT(MT-JGS)

Geo-Scientific Cooperation between
Department of Mineral Resources (DMR), Thailand
Minerals and Geoscience Department Malaysia (JMG)

- Geological Map of the transect area no.1-6 with GIS (year 2003-2013)
- Report of Geology and Mineral Resources no 1-6
- Technical report on the stratigraphic correlation of rock unit
- Technical report on the litho and biostratigraphic of radiolaria chert
- Technical report on geoconservation and geotourism of the Langkawi- Tarutao Islands

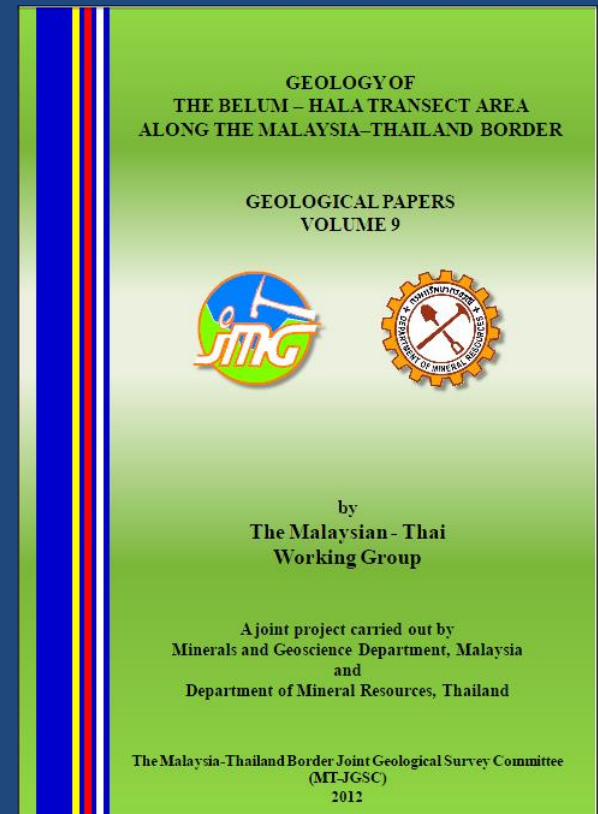
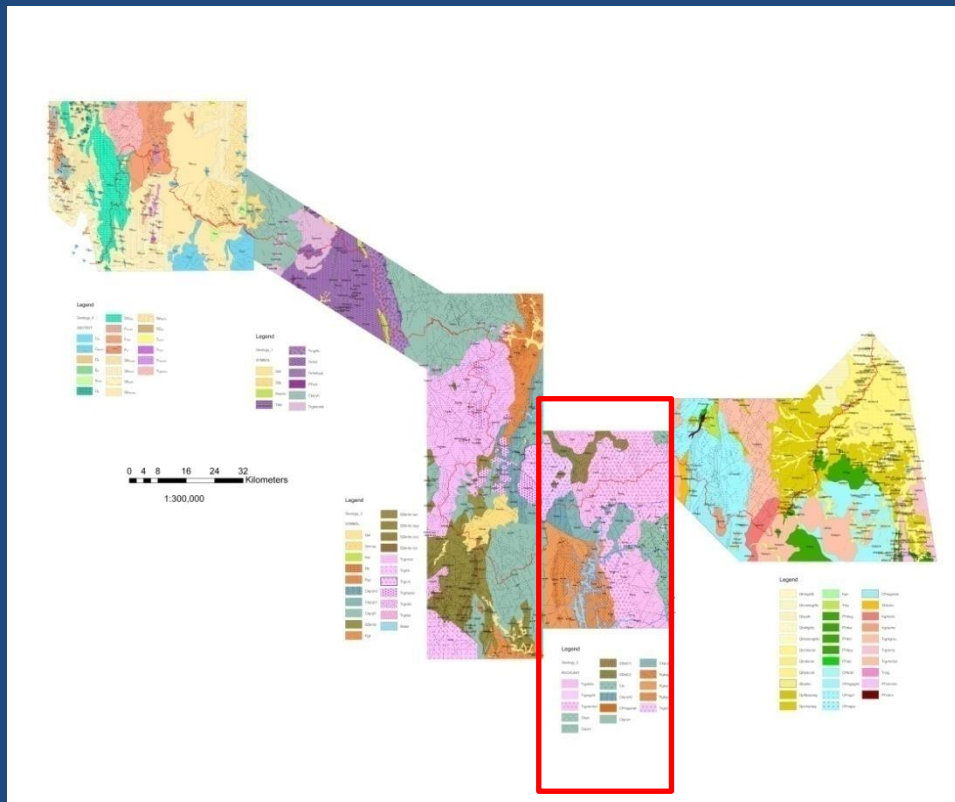


JMG

DMR

Output :Geology

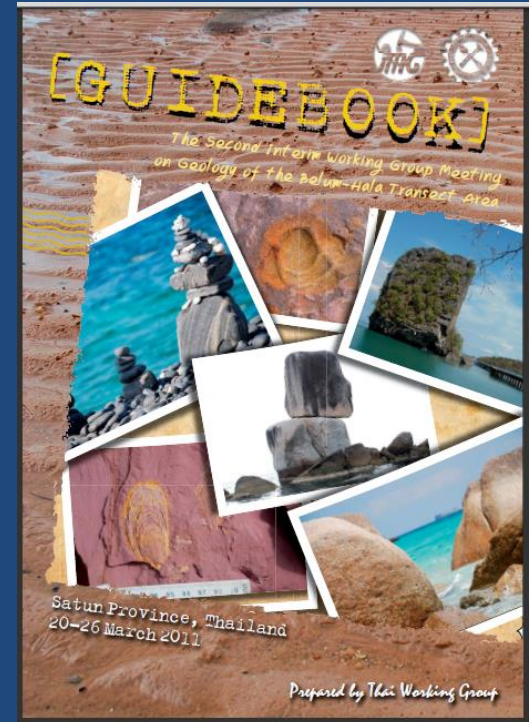
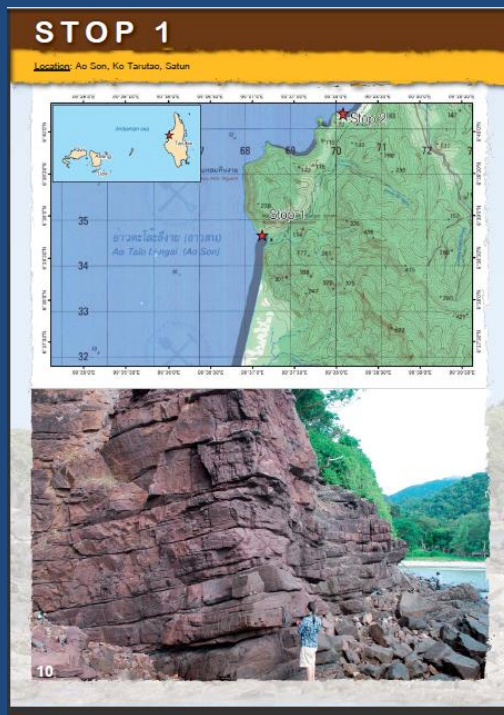
THE MALAYSIA - THAILAND BORDER JOINT GEOLOGICAL SURVEY PROJECT(MT-JGS) year 2010-2011



Belum -Hala Transect: granite

Output : Database

THE MALAYSIA - THAILAND BORDER JOINT GEOLOGICAL SURVEY PROJECT(MT-JGS) year 2001-2013



At least 15 Guidebooks and 100 outcrop stations of rock unit, fossils, minerals, geosites, hazards were done

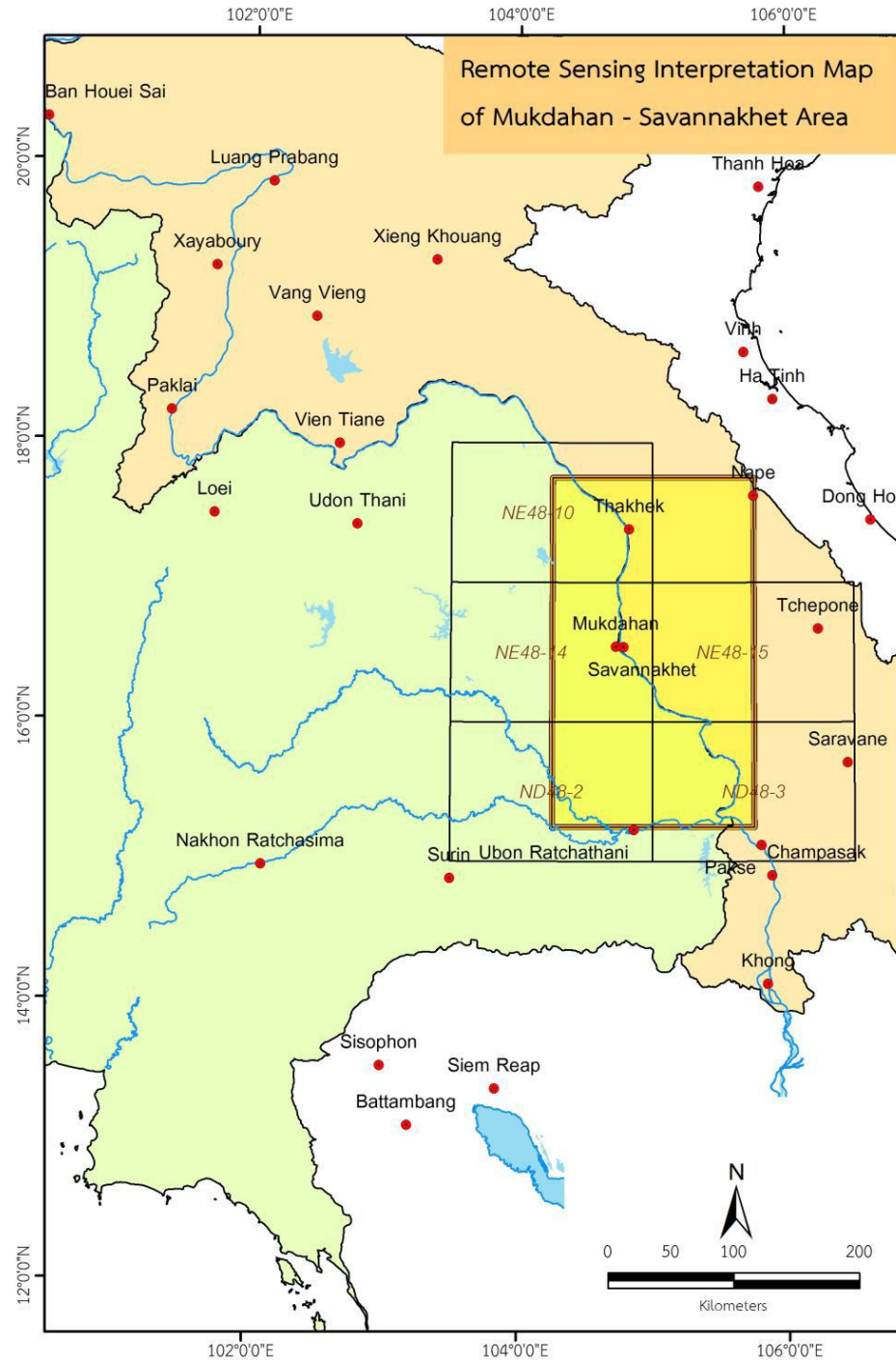
The stratigraphy correlation between Thailand and Laos (2012-2016)



Cooperative study areas “on the job training”

1. 2012 : Mukdahan-Savannakhet-Khammouan areas
2. 2013-2014: Nongkhai-Vientiane- Bori Khamxay areas
3. 2015-2016: Loei-Vangviang areas





Technical Report TL 1-2012



2012

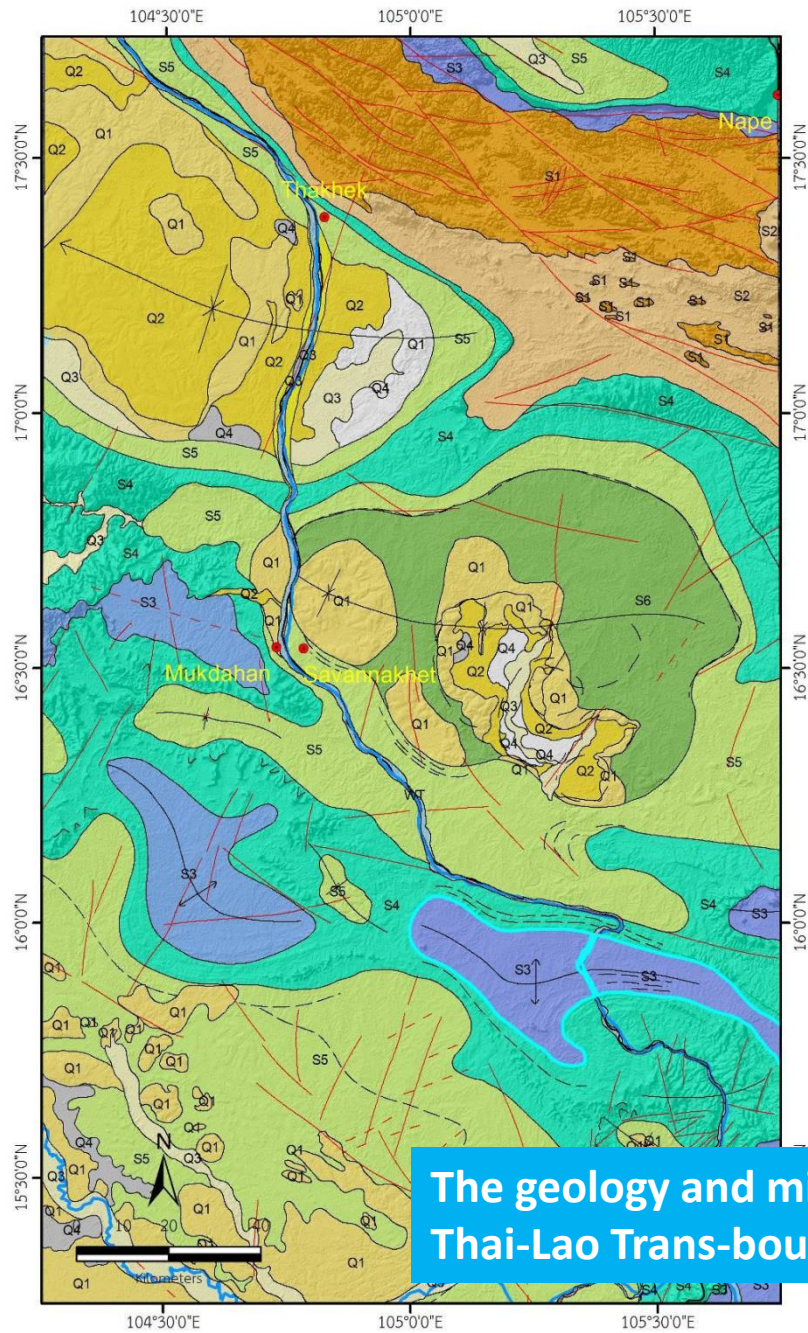
THAI-LAO

The Technical Report on Geology of Mukdahan-Savannakhet- Khammouan Area Along Thailand-Lao PDR Border

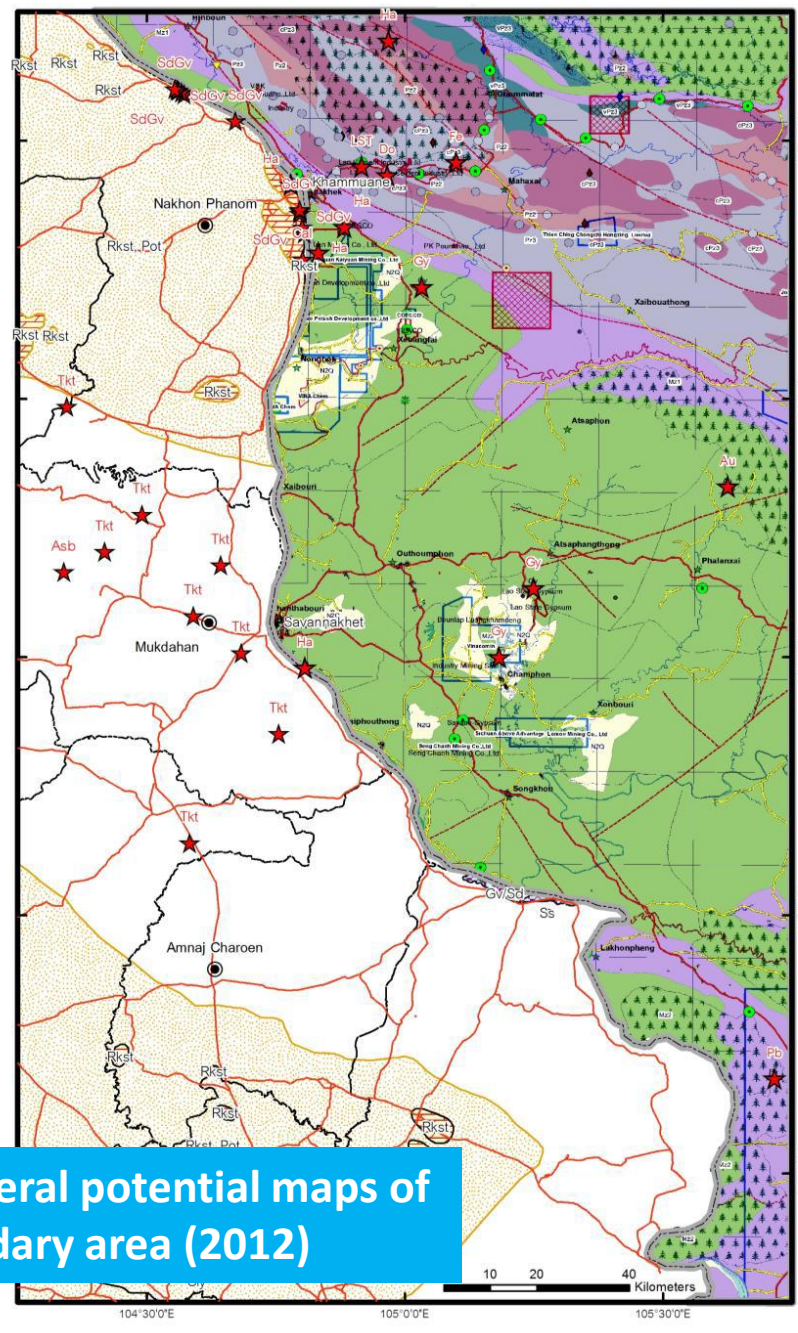
by THAI - LAO WORKING GROUP

The Thai-Lao Cooperation Project for Sustainable Development of Geological Resources

supported by Thailand International Development Cooperation Agency (TICA), Ministry of Foreign Affairs, Thailand



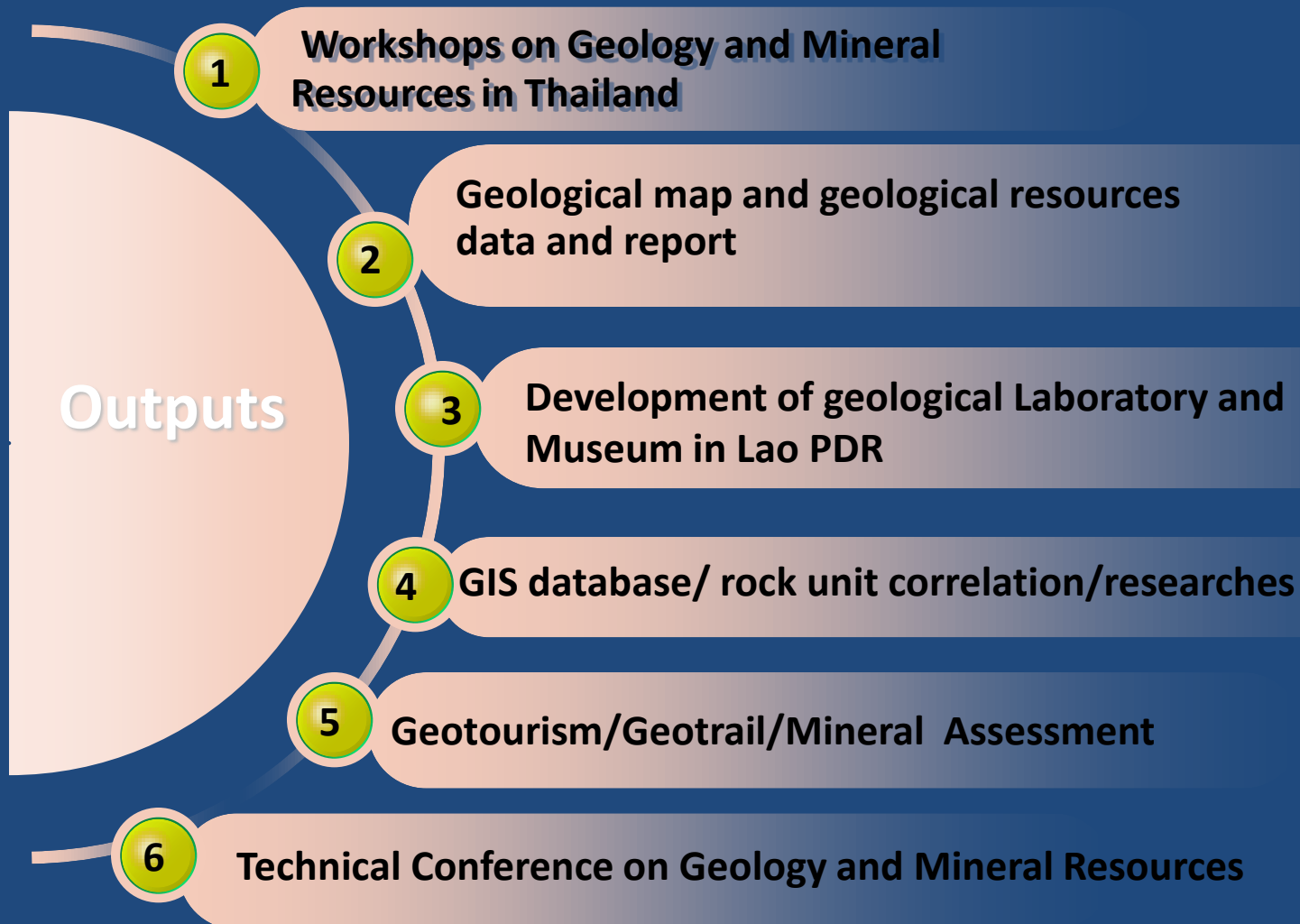
The geology and mineral potential maps of Thai-Lao Trans-boundary area (2012)



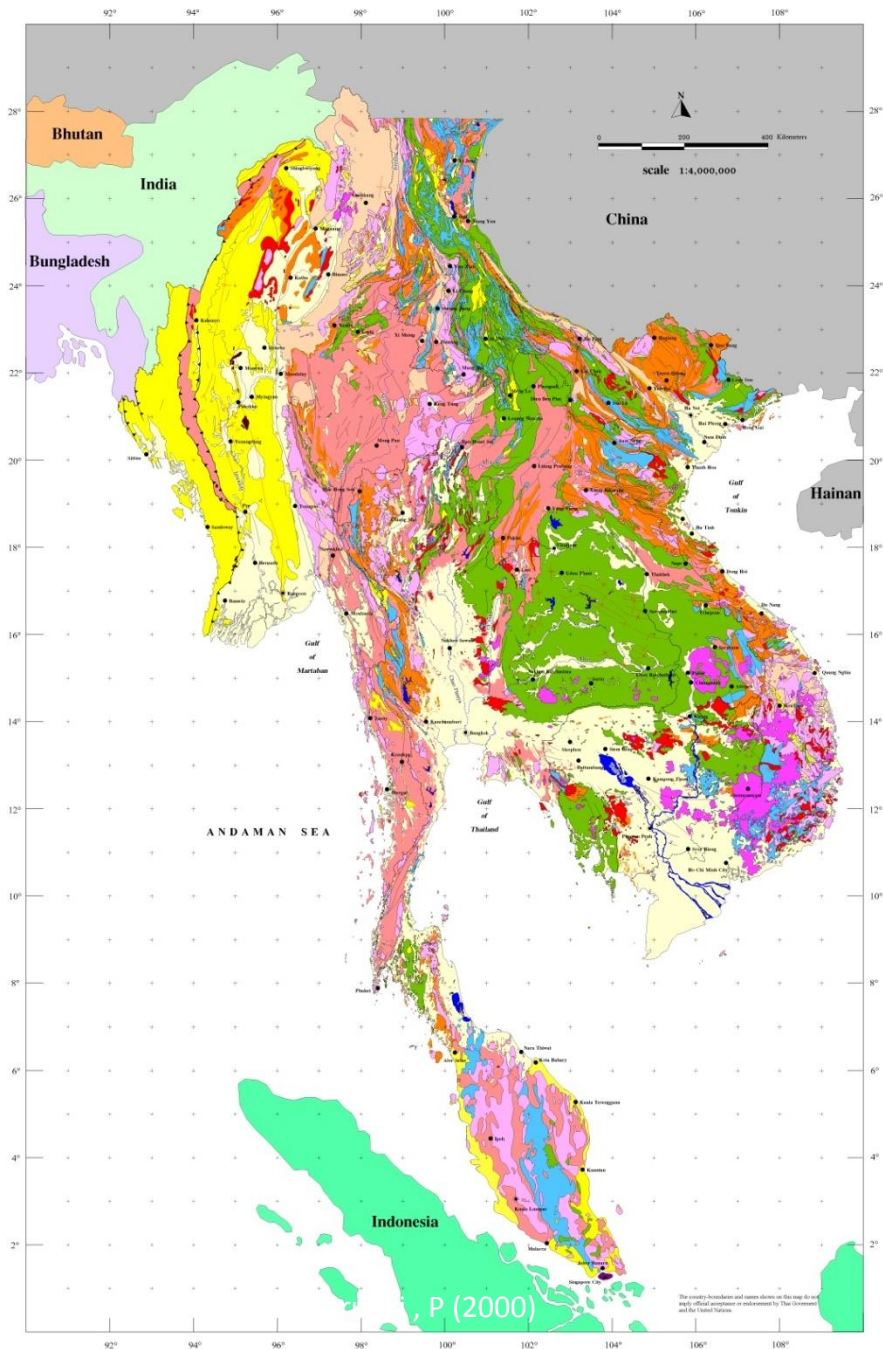
- Legend**
- Projection area
 - Minarea**
 - Clay
 - Gravel/Sand
 - Salt dome
 - Rock salt
 - Sandstone
 - Mineral Occurrence
 - Road
 - Boundary city
 - Boundary country



Project Outputs in year 2012-2016



Geological Map of Mainland Southeast Asia

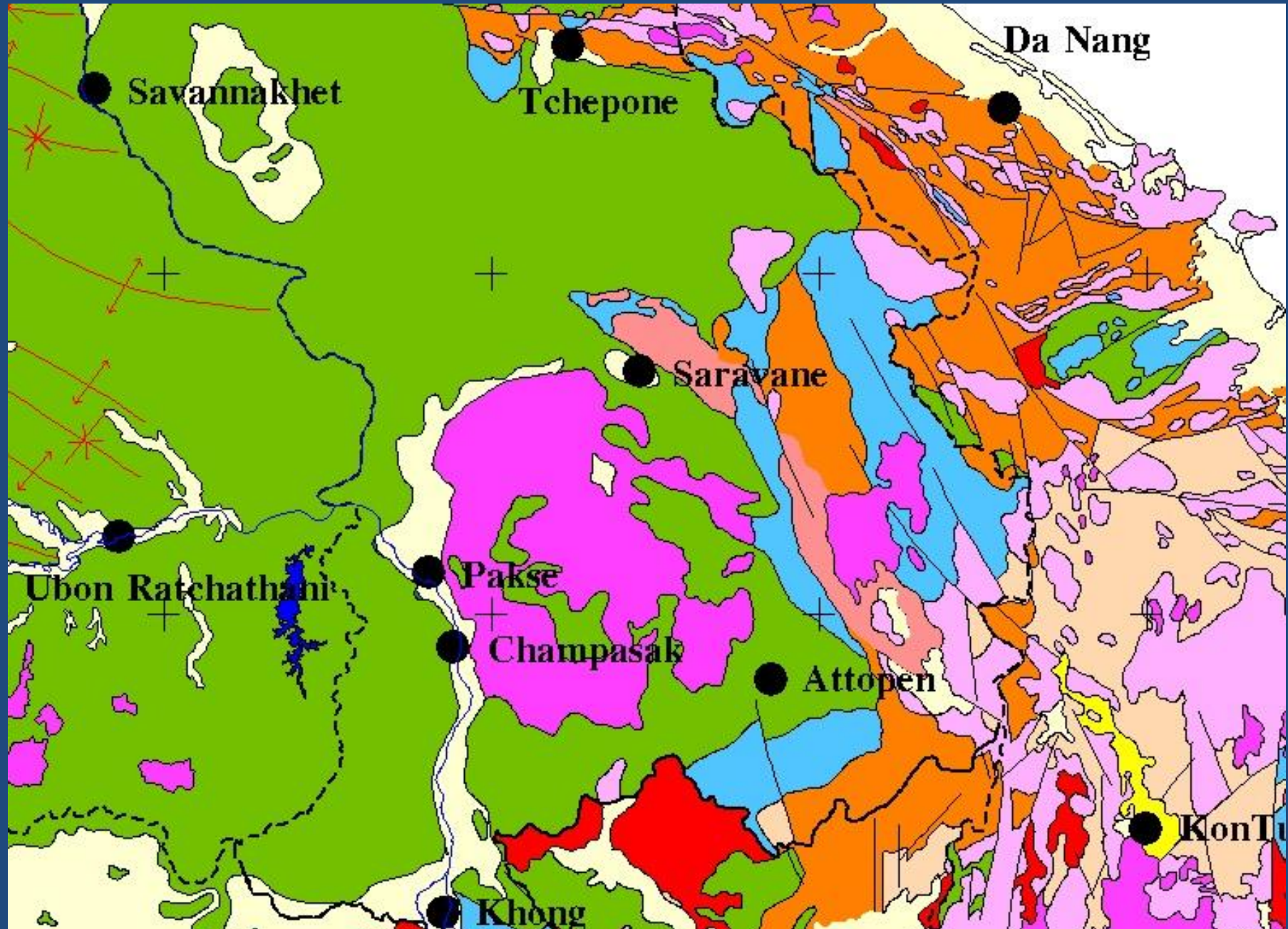


Cross-Border Collaboration on Geological Information of Cambodia-Laos-Myanmar- Thailand-Vietnam

Background information

- Geological Map of Mainland SE-Asia
- One Geology
- CCOP-ASEAN Harmonized Geology Project

examples of discontinuous geological boundaries



CLMTV Cross-border Activity Plan

Duration: 2015-2019 (5 years)

Scope: +Kickoff Meeting

+ Working Group Activity

-Workshop

-Training Course

-Remote Sensing Data Interpretation

-Field Investigations (Bi-lateral / Multi-lateral)

-Sample Analysis

-Sample Exchange

-Geological Information System

+Annual Committee Meeting

+International Symposium

THANKS YOU

