

CWS Discussion, 24 Mei 2024

GUNUNG PADANG PYRAMID: Scientific Facts

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Geo-archaeological prospecting of Gunung Padang buried prehistoric pyramid in West Java, Indonesia

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Abstract

The multidisciplinary study of Gunung Padang has revealed compelling evidence of a complex and sophisticated megalithic site. Correlations between rock stratifications observed through surface exposures, trenching and core logs, combined with GPR facies, ERT layers, and seismic tomograms, demonstrate the presence of multi-layer constructions spanning approximately 20–30 m. Notably, a high-resistive anomaly in electric resistivity tomography aligns with a low-velocity anomaly detected in seismic tomography, indicating the existence of hidden cavities or chambers within the site. Additionally, drilling operations revealed significant water loss, further supporting the presence of underground spaces. Radiocarbon dating of organic soils from the structures uncovered multiple construction stages dating back thousands of years BCE, with the initial phase dating to the Palaeolithic era. These findings offer valuable insights into the construction history of Gunung Padang, shedding light on the engineering capabilities of ancient civilizations during the Palaeolithic era.

KEYWORDS

core drilling, geophysical prospecting, megalith, pre-history, pyramid

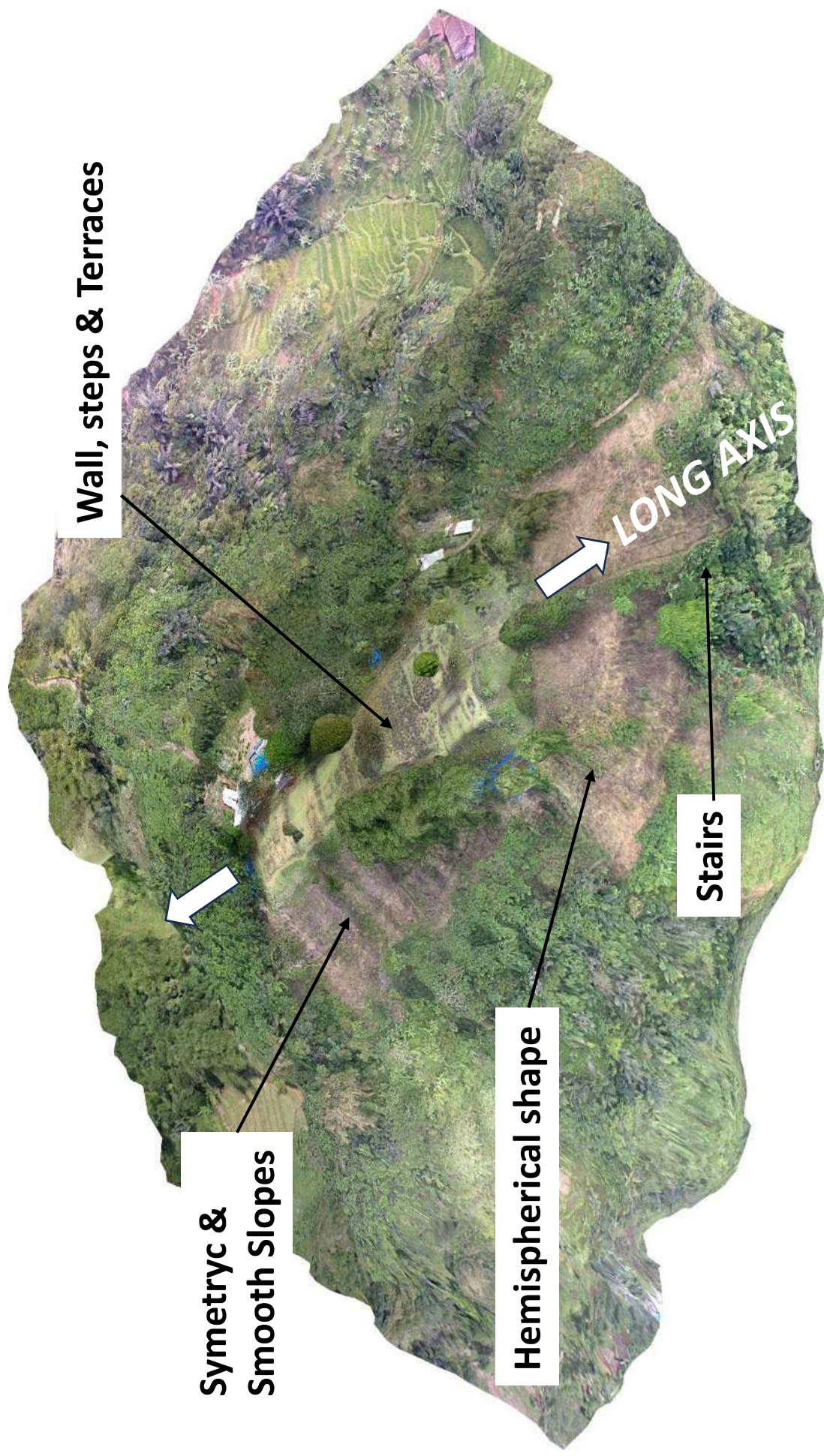
Multidisciplinary Team of Authors

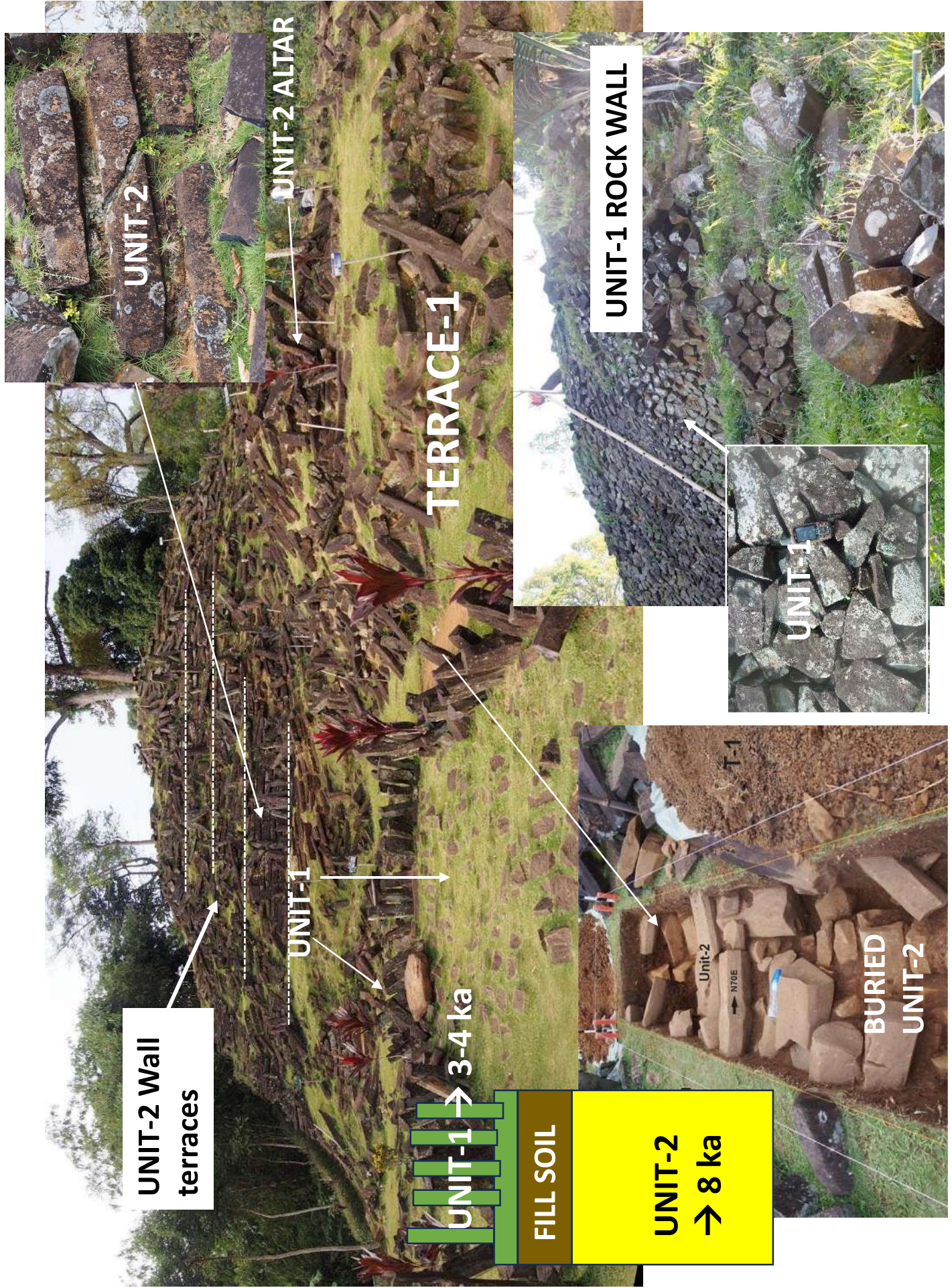
- Prof. Danny Hilman Natawidjaja, M. Sc, Ph. D – BRIN
- Dr. Andang Bachtiar M. Sc - Geologist – Senior Consultant
- Prof. Dr-eng Bagus E. B. Nurhandoko – Geophysics - ITB
- Dr. Ali Akbar – Archaeological Dept. UI – Head of Post-Graduate Studies
- Pon Purajatnika – Senior Architect
- Dr. Mudrik R Daryono MS – Senior Geologist at BRIN
- Dadan D Wardhana, MS (S3 Unpad) – Geophysicist at BRIN
- Dr. Andri S Subandriyo – Petrologist ITB
- Andri Krisyuniyanto – (Borehole) - Geologist consultant
- Dr. Taqyuddin SS – Archeo-Geodetic mapping – Geography Dept. UI
- Dr. Budianto Ontowiryo M. Sc – Civil EngineeringDept. Univ. Bakri
- Ir. Yusuf Maulana – Geologist and Cultural Activist - UNPAD

Comprehensive and integrated Multi – Methods

- **Surface archaeological geological-geomorphological-geodetic observations & mapping**
- **Trenching Archaeology & Geology (Geo-archaeology)**
- **Boreholes**
- **Ground Penetrating Radar (GPR)**
- **Electric Resistivity Tomography (ERT)**
- **Seismic Tomography (ST)**
- **Stratigraphic & Radiocarbon-Dating Analysis**
- **INTEGRATED ANALYSIS & INTERPRETATIONS**

GUNUNG PADANG LANDSCAPE





UNIT-2 Wall
terraces

UNIT-1

UNIT-1 → 3-4 ka

FILL SOIL

UNIT-2
→ 8 ka

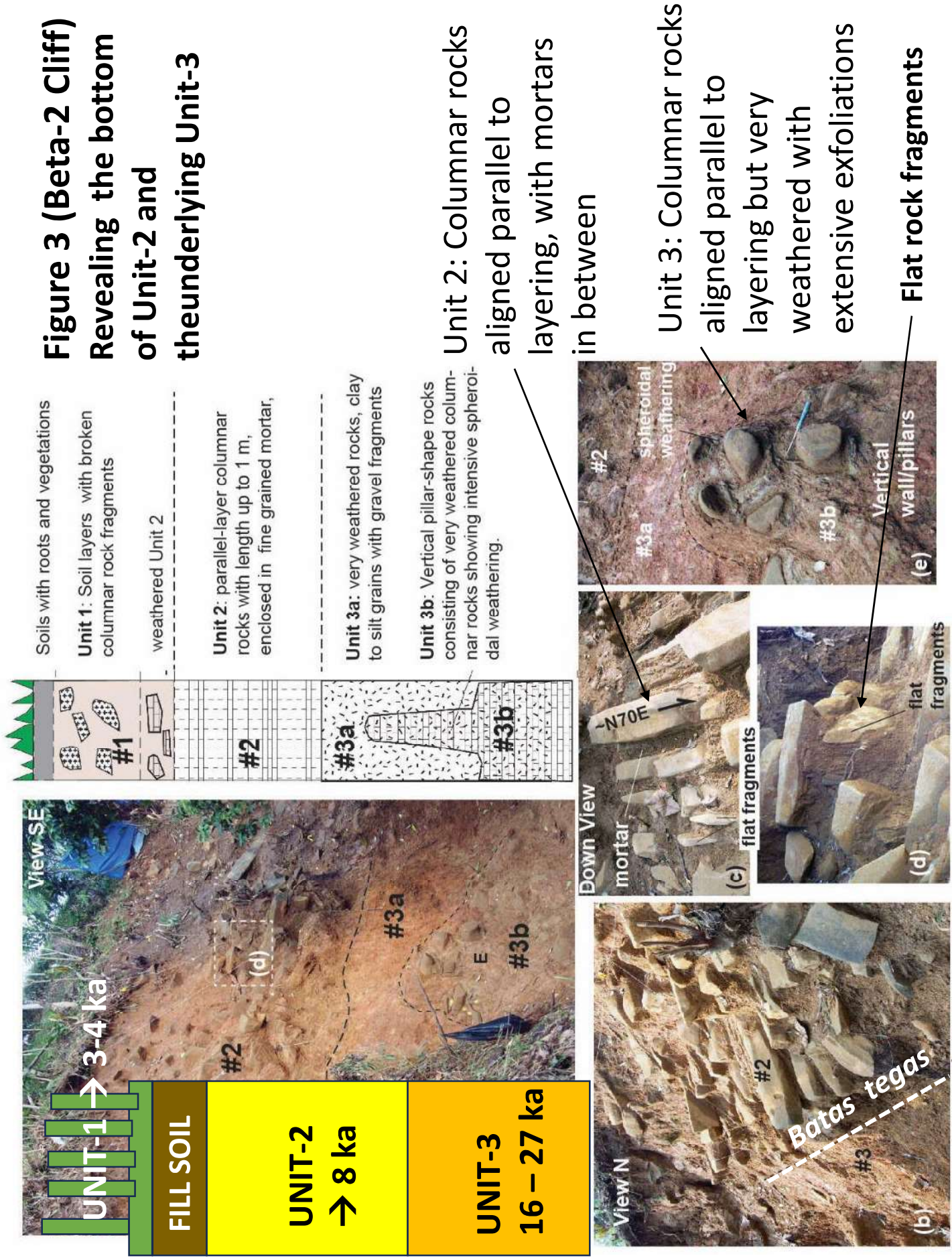
UNIT-1 ROCK WALL

UNIT-1

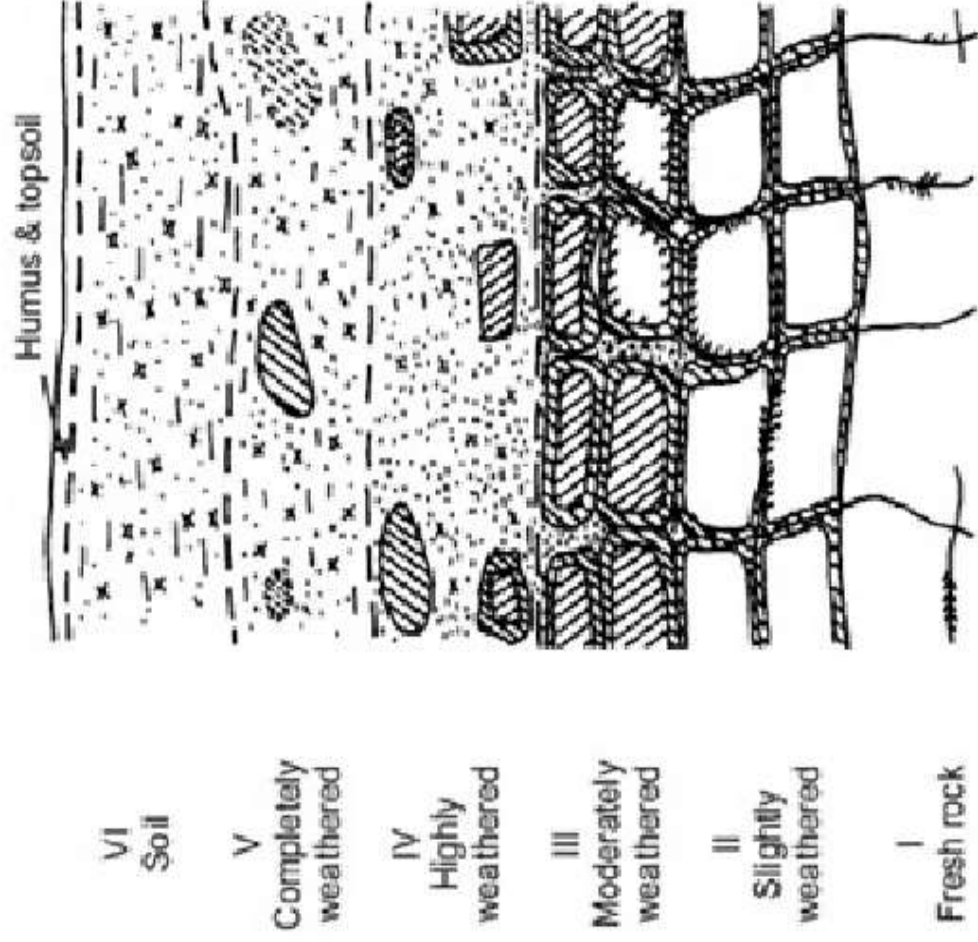
BURIED
UNIT-2

T-1

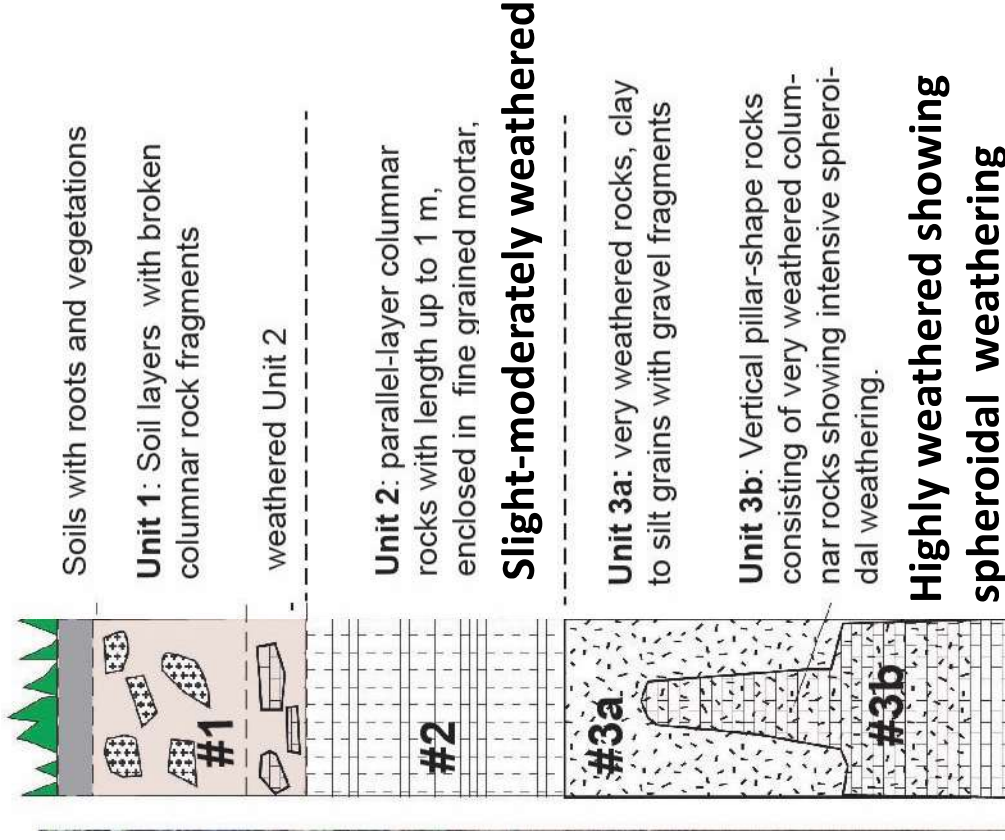
Unit-2
→ N70E



NORMAL/NATURAL WEATHERING PROFILE OF VOLCANIC ROCKS

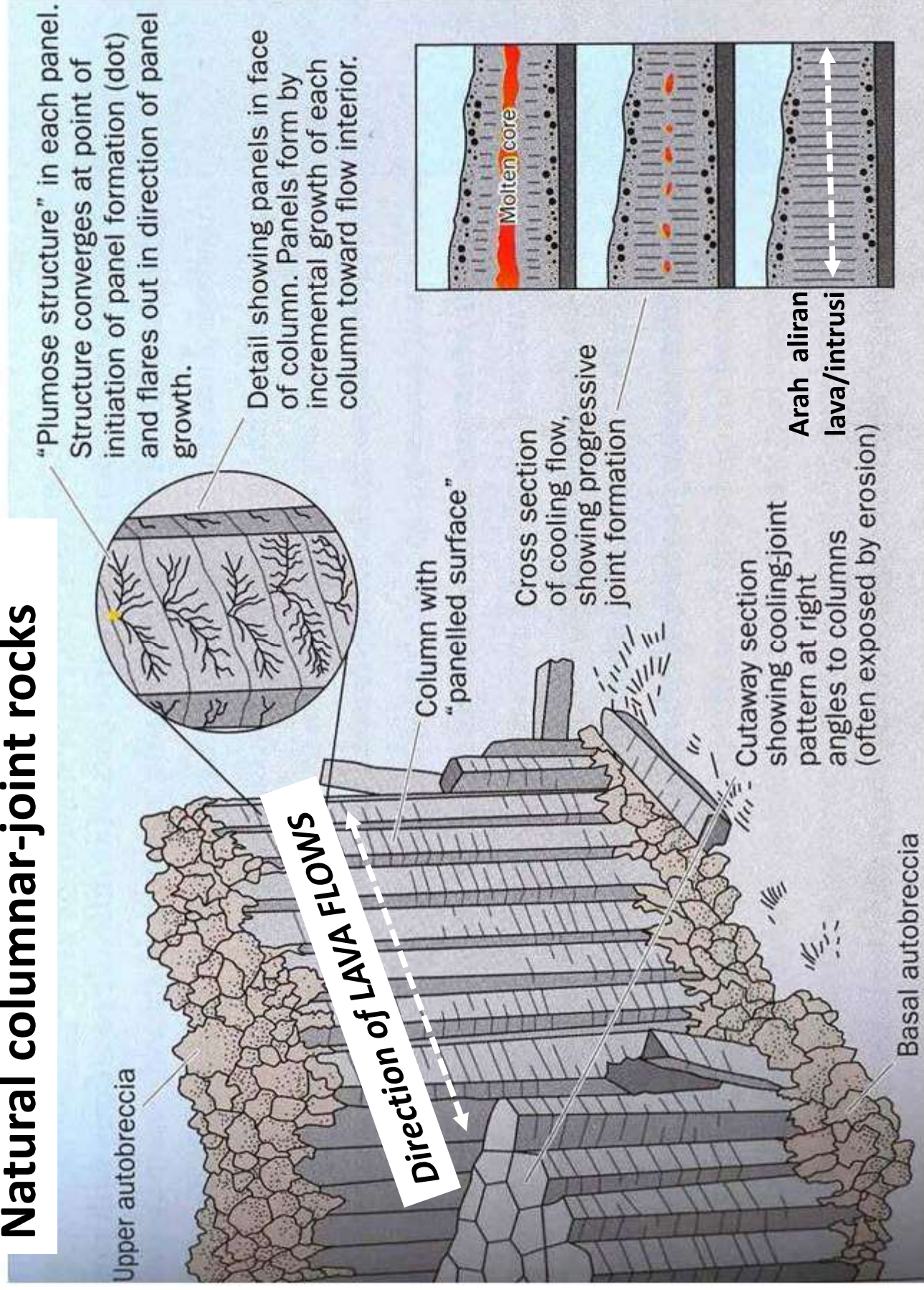


STRATIGRAFI BETA-2 CLIFF INVERSE WEATHERING PROFILE

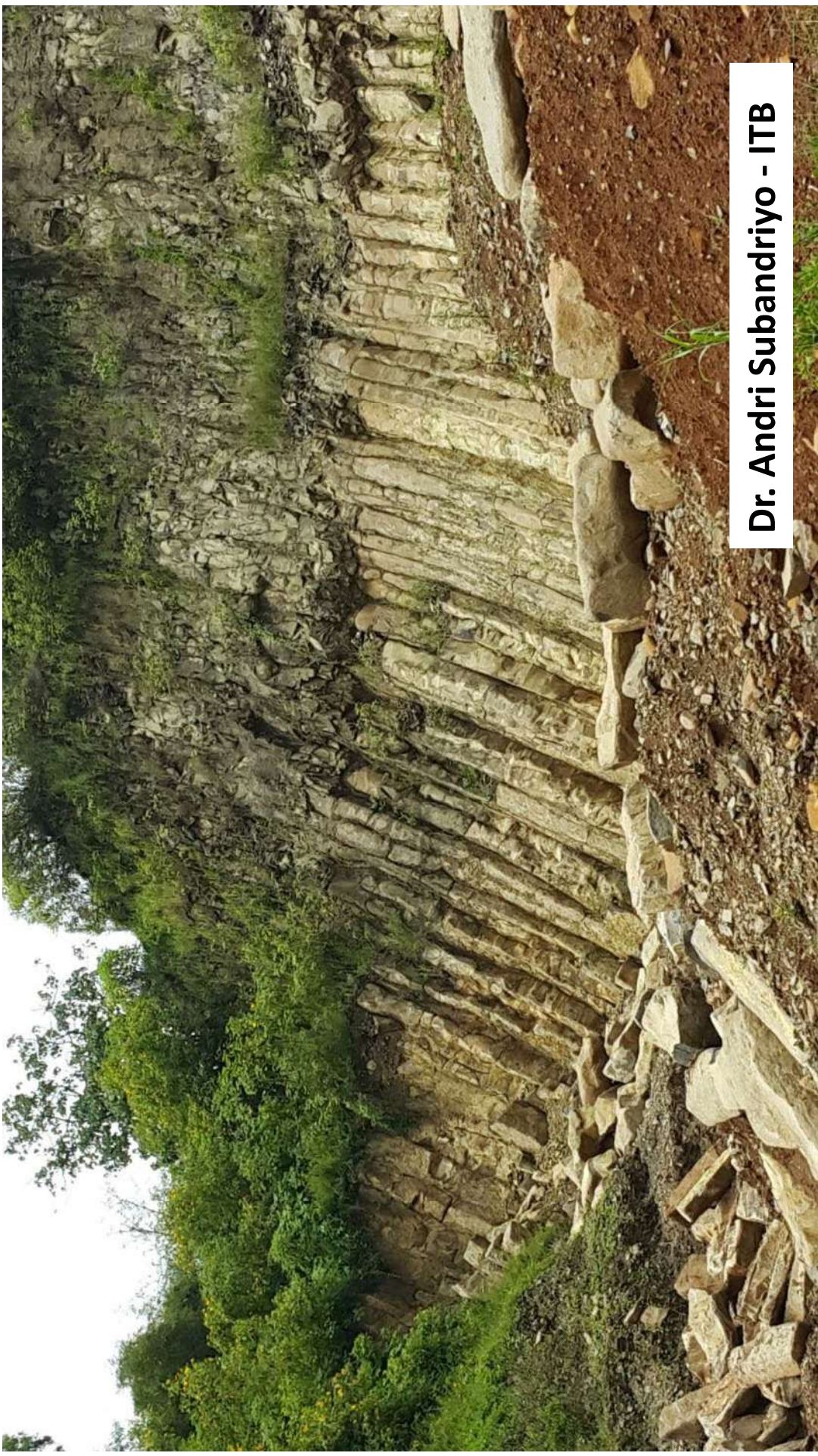


Unit-3 has been much more weathered than the overlying Unit 2. Hence, Unit 3 had been exposed for long time before it was covered by Unit 2

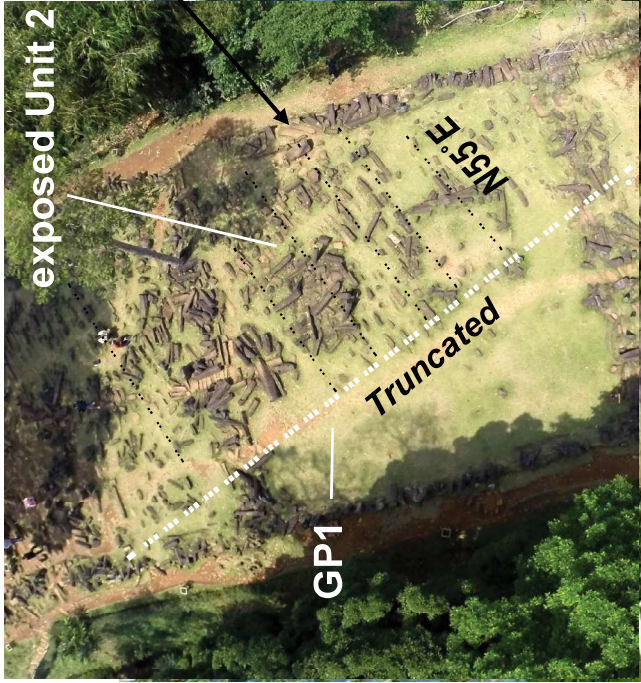
Natural columnar-joint rocks



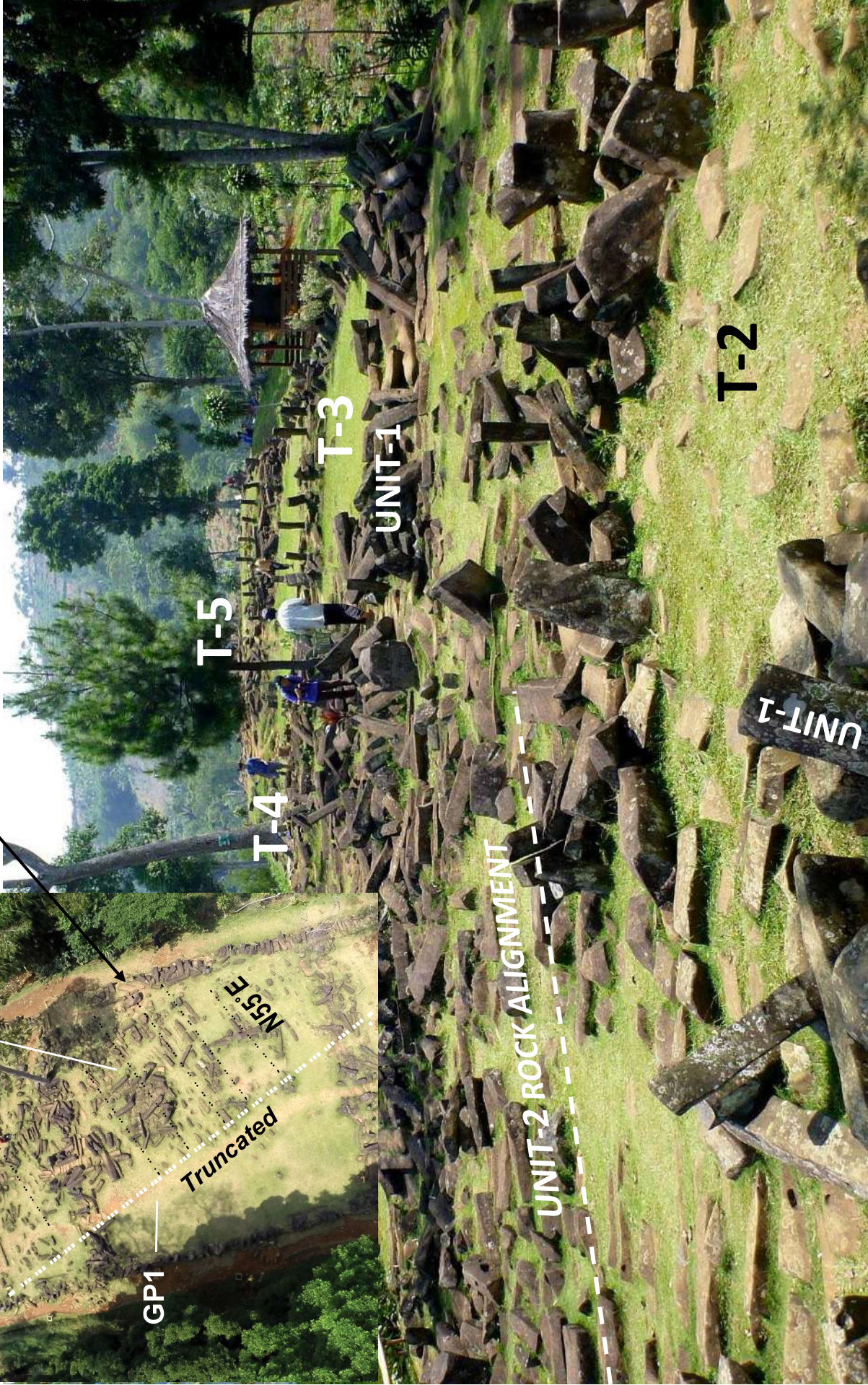
COLUMNAR-JOINT ROCK LAYER IN SUMEDANG REGENCY, WEST JAVA



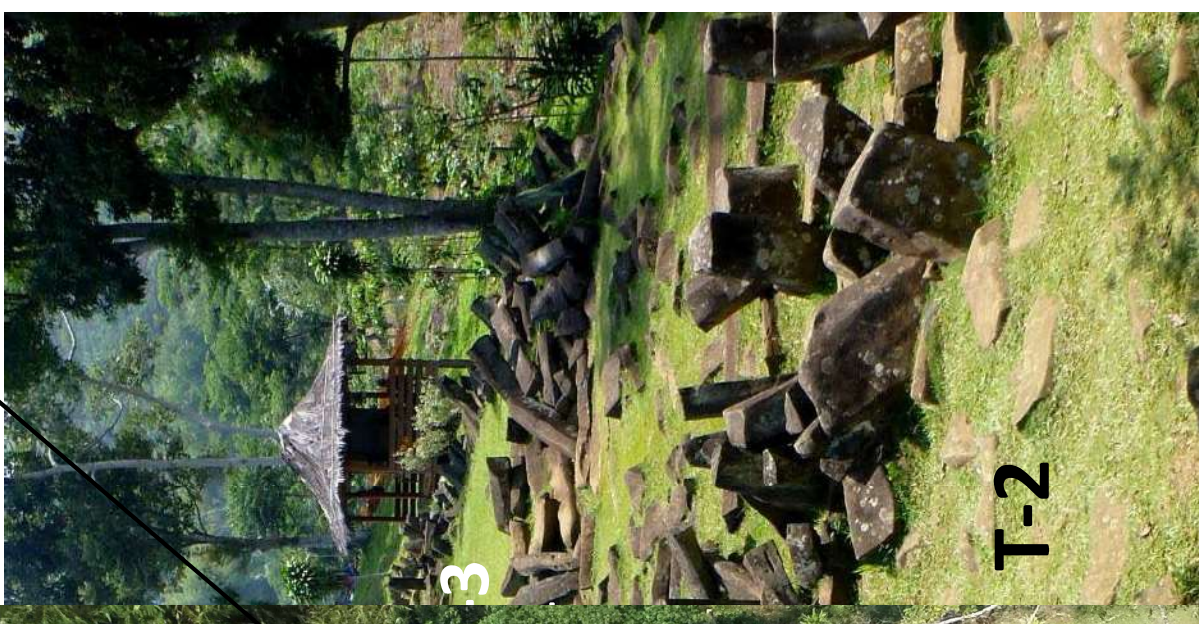
Dr. Andri Subandriyo - ITB



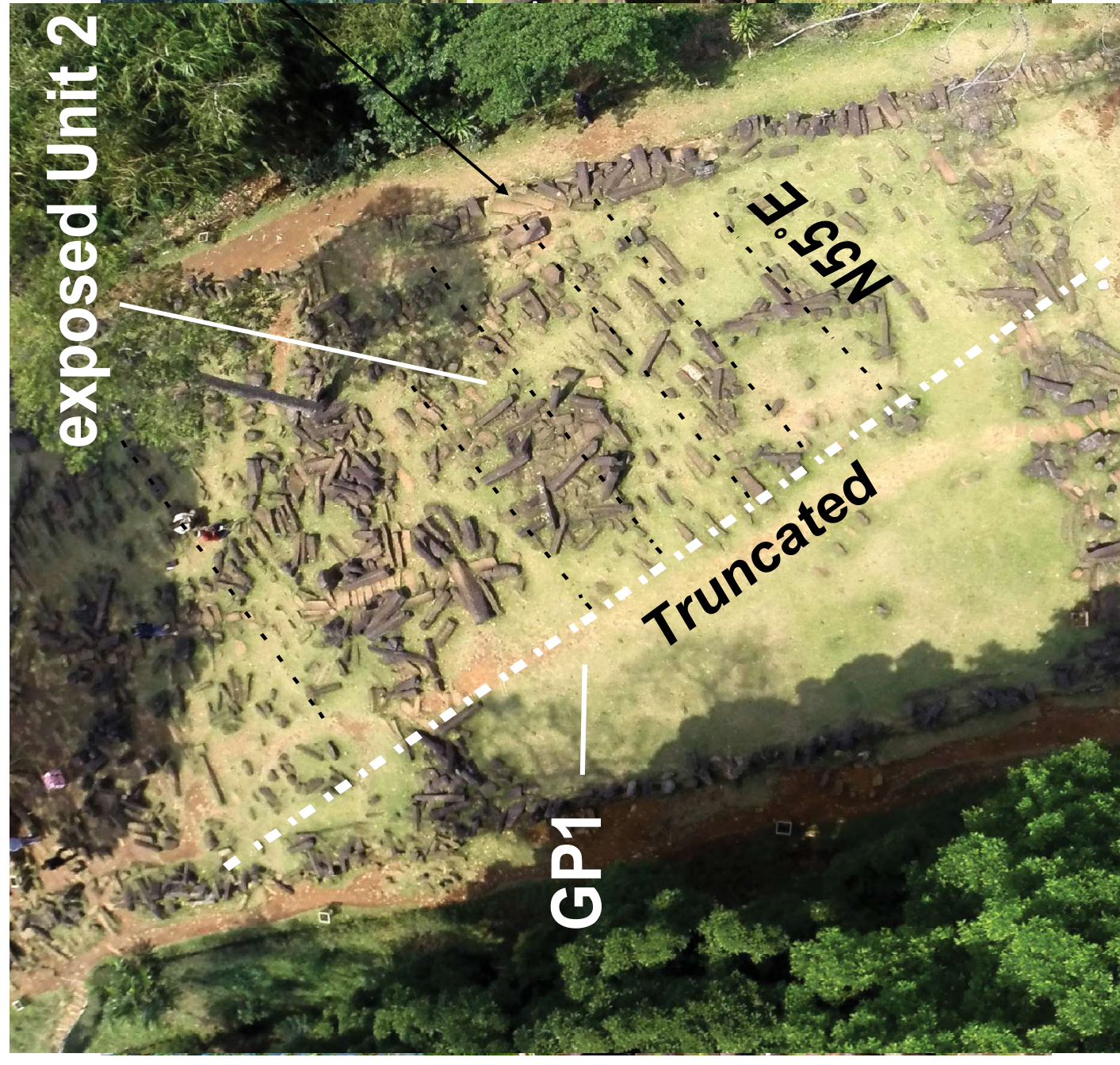
Unit 1

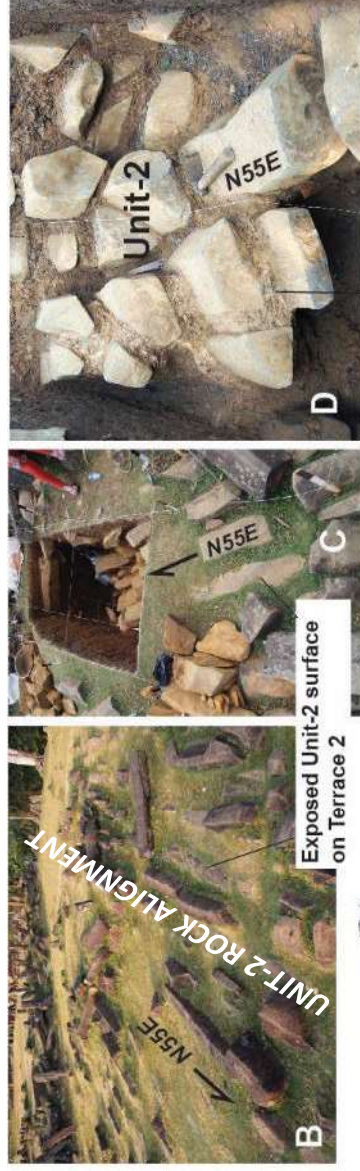


Unit 1

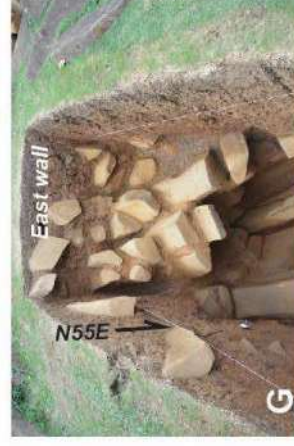
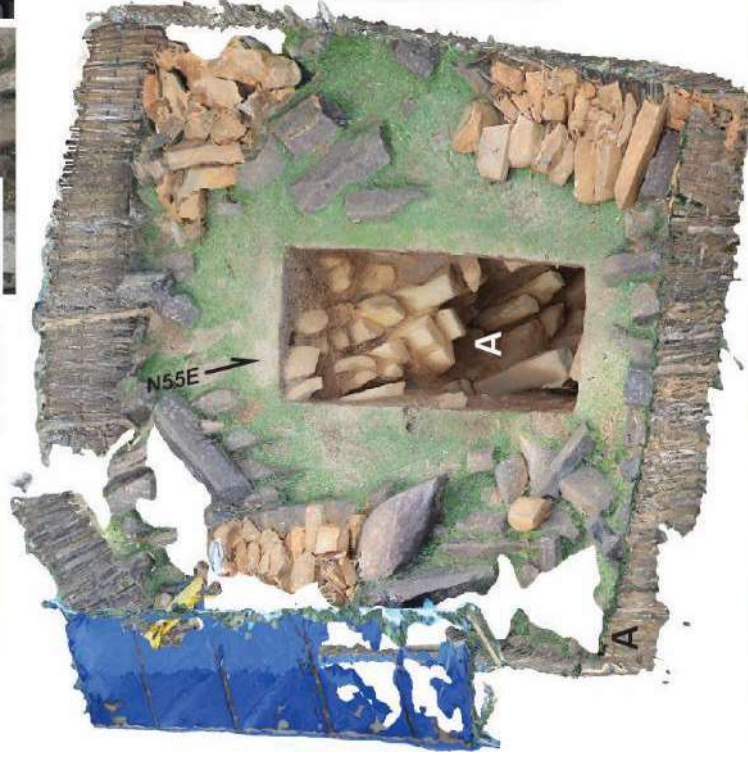


exposed Unit 2





**FANTA Trench
on Terrace 2**

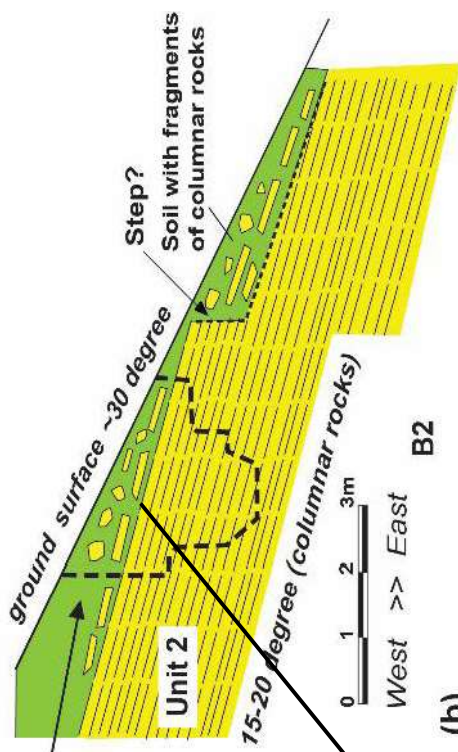


The fillers are not produced by weathering processes mortars. Columnar rocks are still relatively fresh with sharp edges.

Unit 2 formed the floors of Terrace 2&3. It continues down more than 3.5 meters. Along the perimeter, Unit 2 are covered by Unit 1

ON EAST SLOPE

CHARLIE-1 Trench



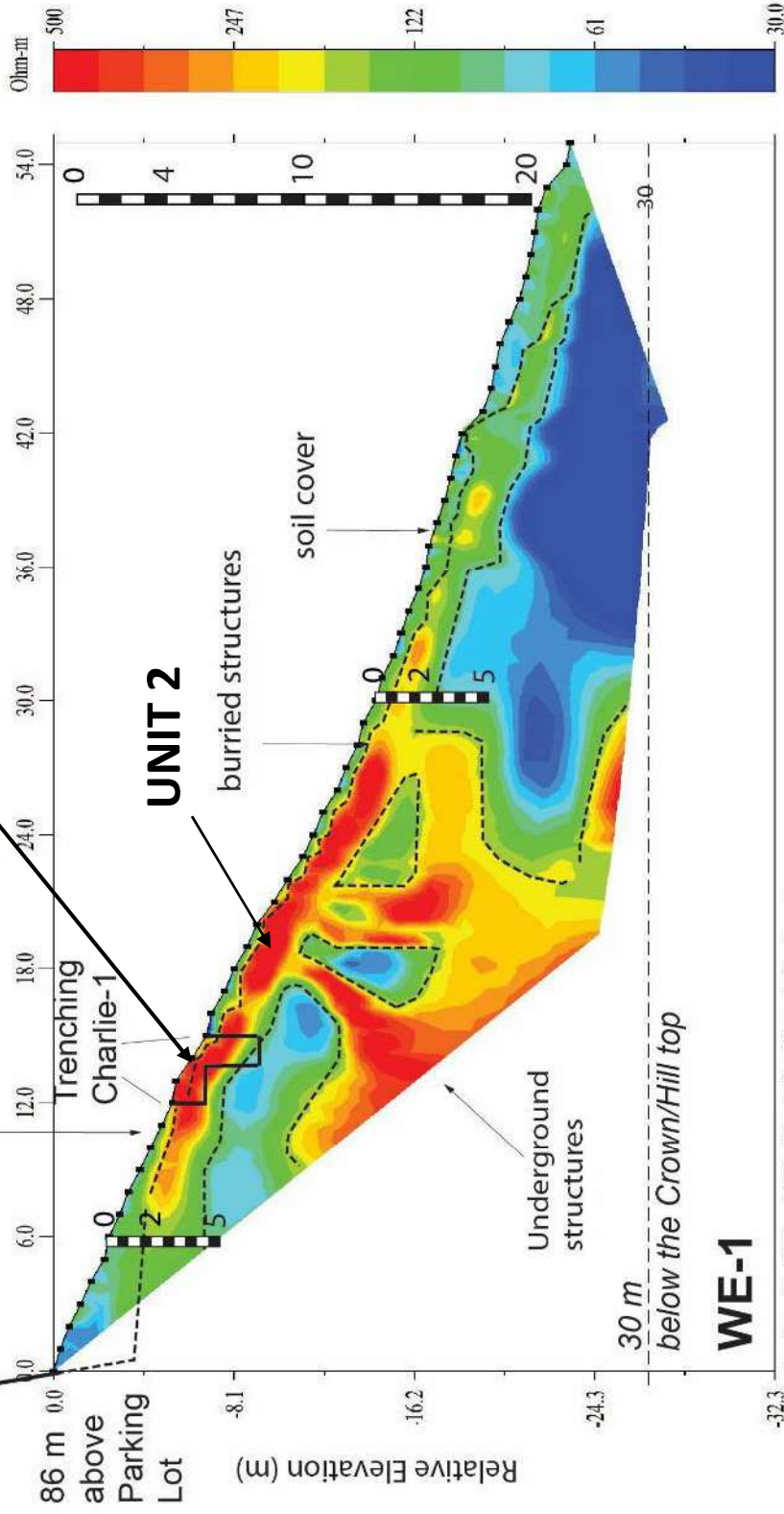
TRENCHING CHARLIE-1



T-1 wall

NS1-2

Relative Distance in meters



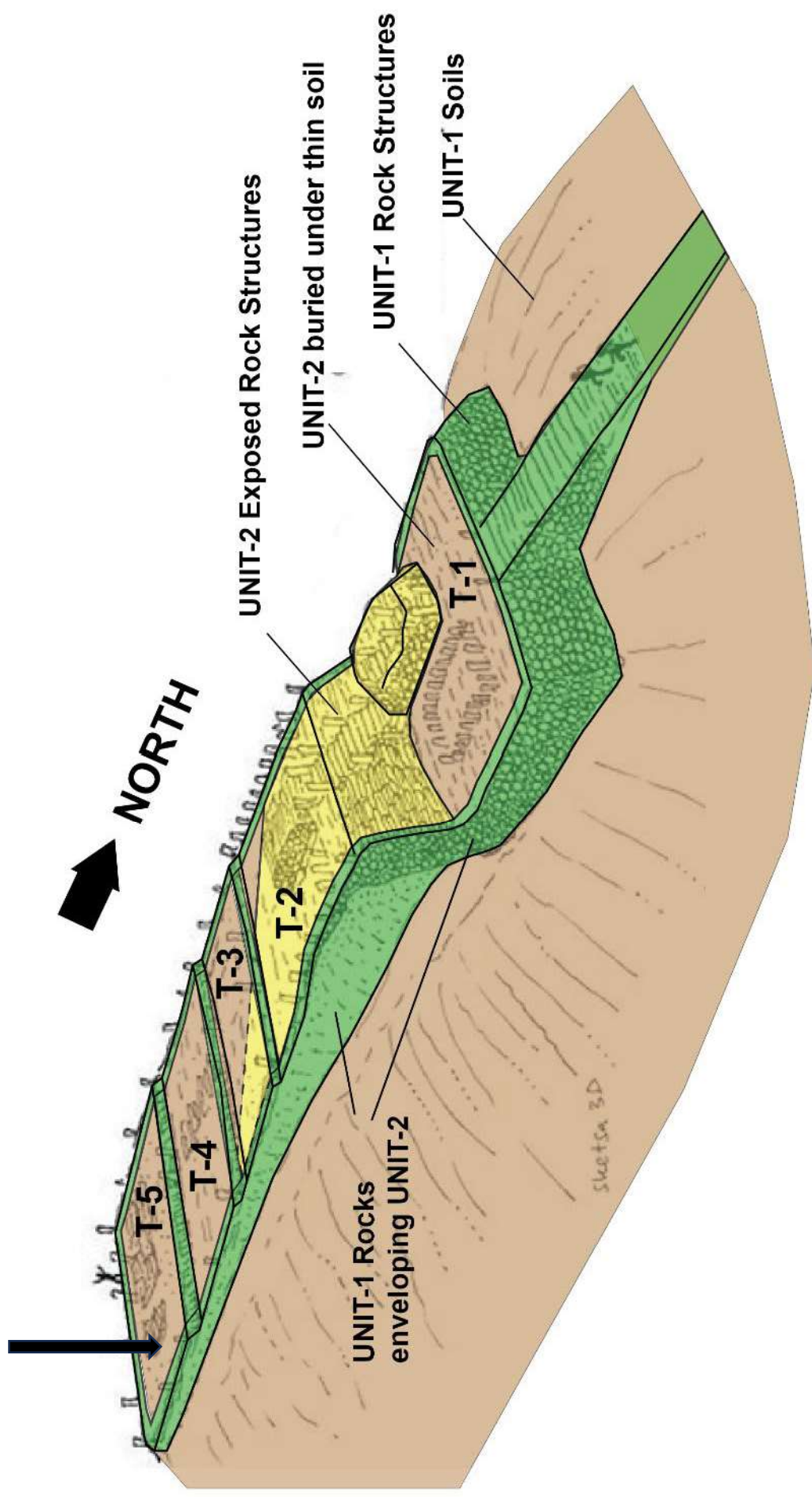
Iteration = 7 RMS = 4.11% L2 = 4.23 Electrode Spacing = 1 m

(D) E

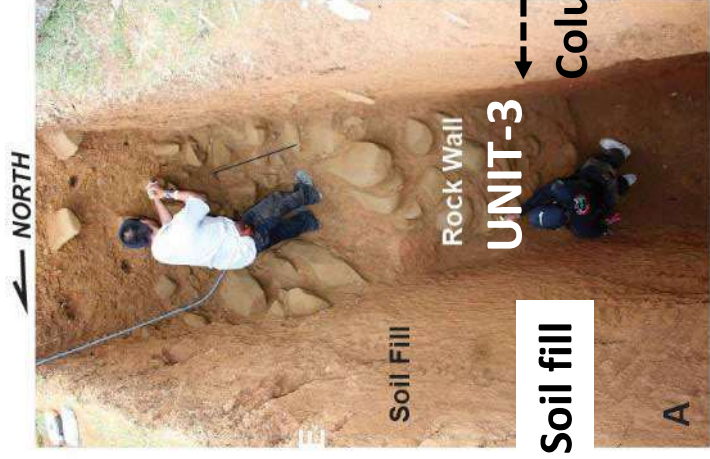
ECHO-2

TRENCH

GUNUNG PADANG SURFACE EXPOSURES

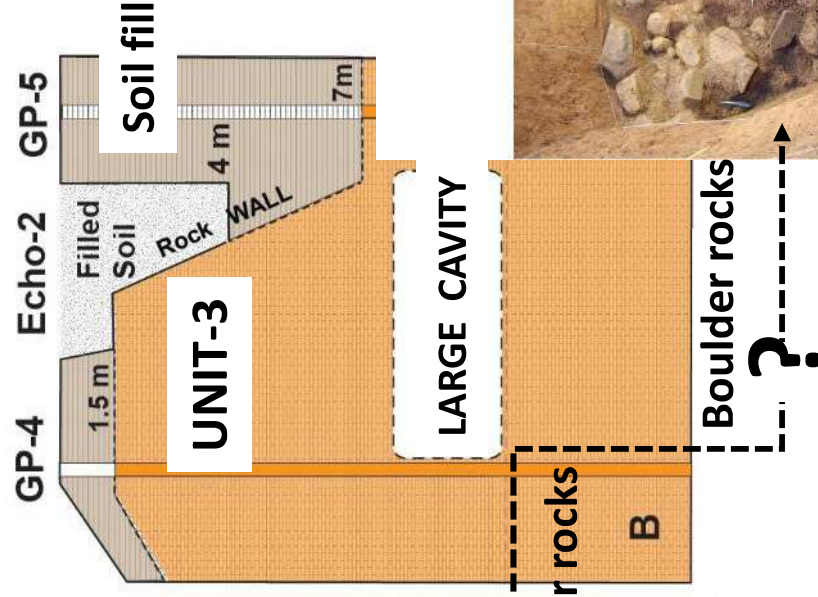


**NO NATURAL GEOLOGICAL FORMATION, ALL COLUMNAR-JOINT ROCKS
HAVE BEEN ARRANGED BY HUMAN**



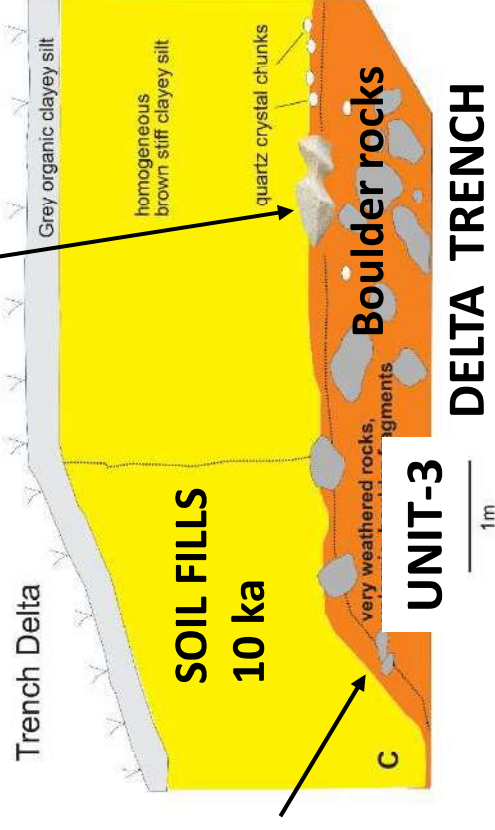
ECHO-2 TRENCH

UNIT 3 is not only columnar rocks but also consists of rounded rocks (boulders).



UNIT 3 exposed on the Excavation at Terrace 5

KUJANG STONE ARTIFACT



Abrupt contact with Soil fills

AMALYSIS of KUJANG STONE ARTIFACT at PHYSIC LAB, ITB

Prof. Dr. Bagus Endar Prihandoko



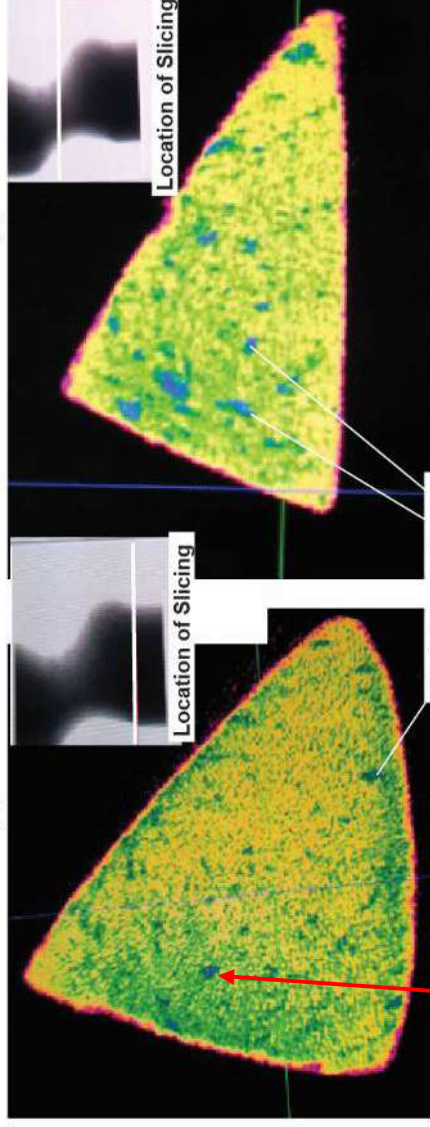
Phi number ? (22/7)

— UNIQUE SHAPE...



(a)

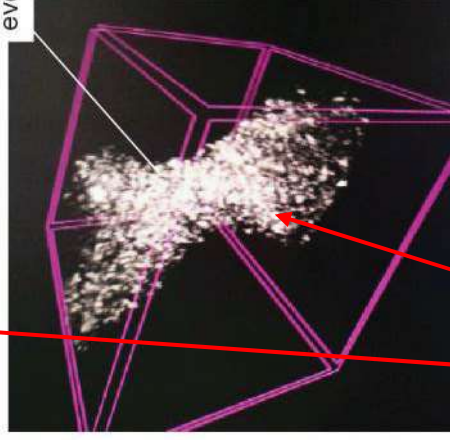
(b)



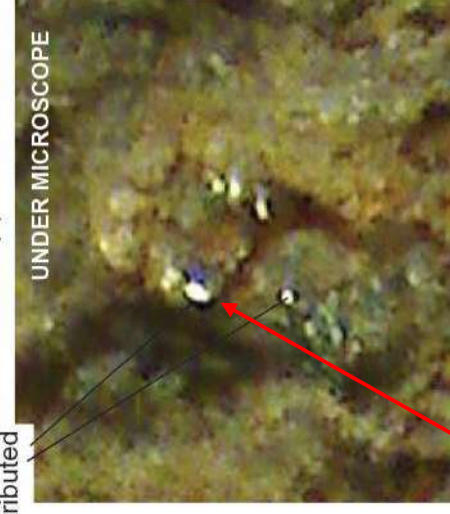
(d)

Metal granules
evenly distributed

(c)



(e)



(f)

METAL GRAINS EVENLY DISTRIBUTED

GP-3 CORE LOG

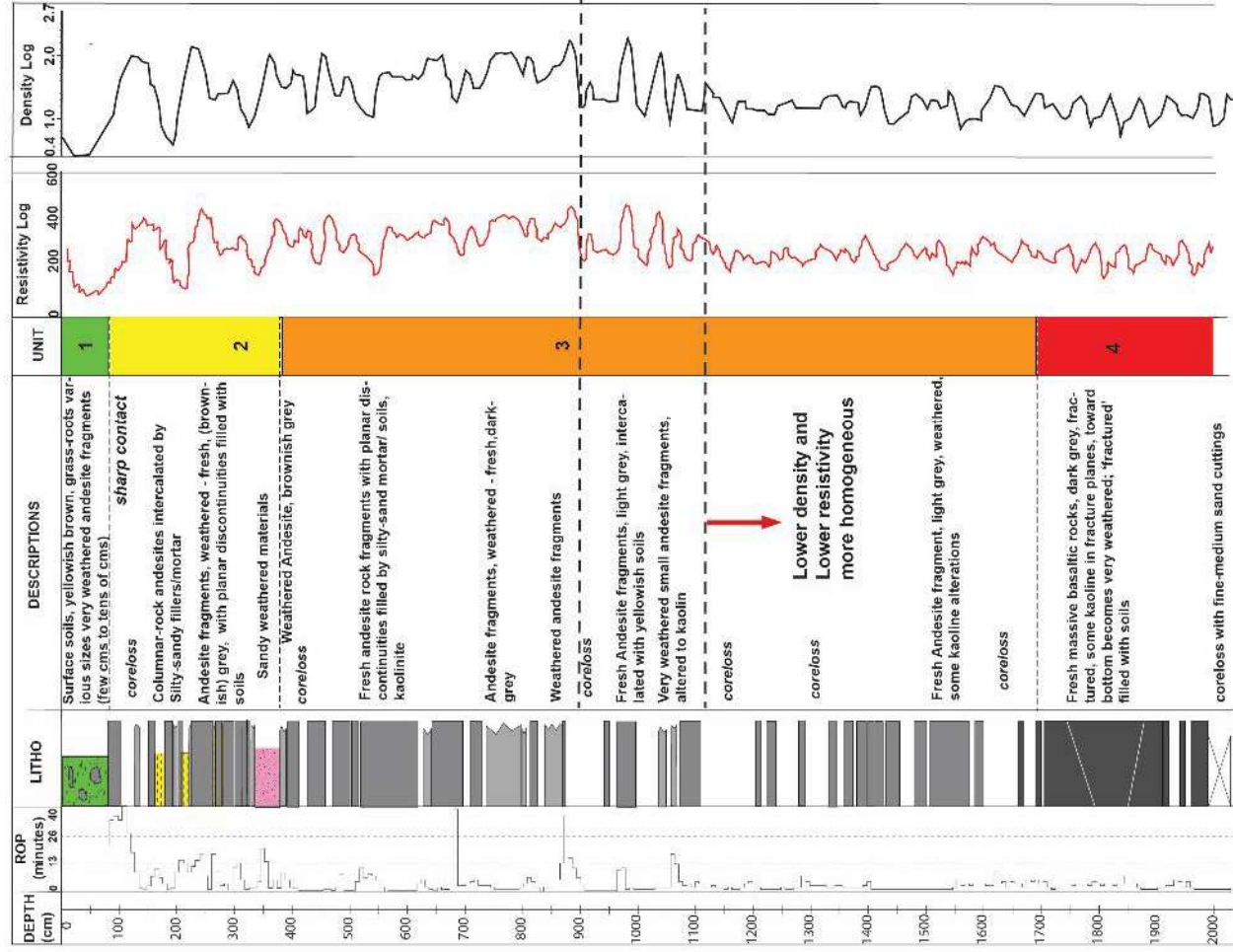


Figure 4 Boreholes

(DR. ANDANG BACHTIAR & TEAM)

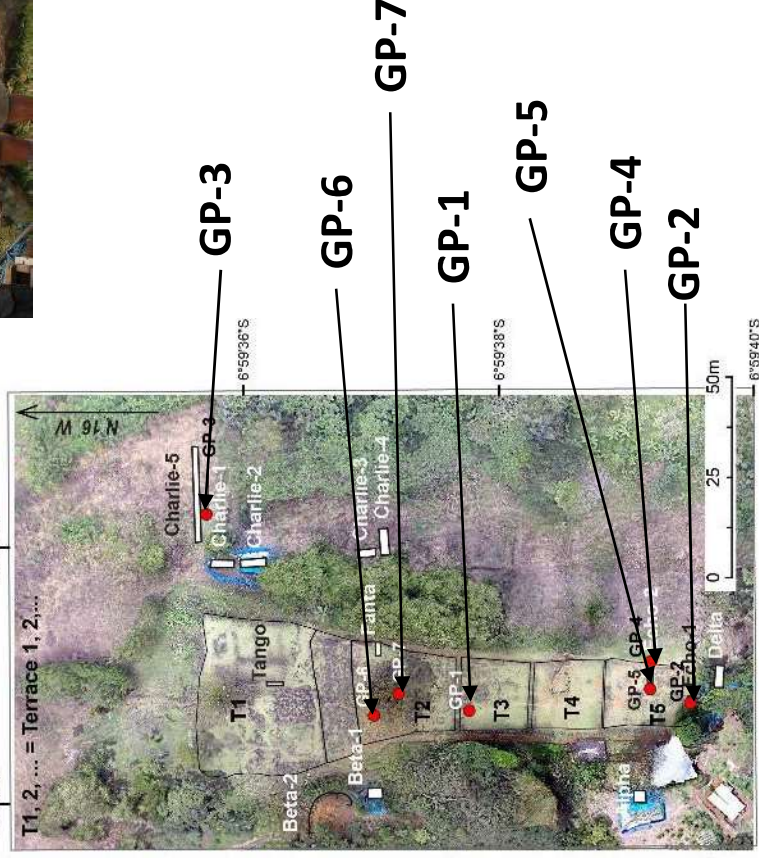
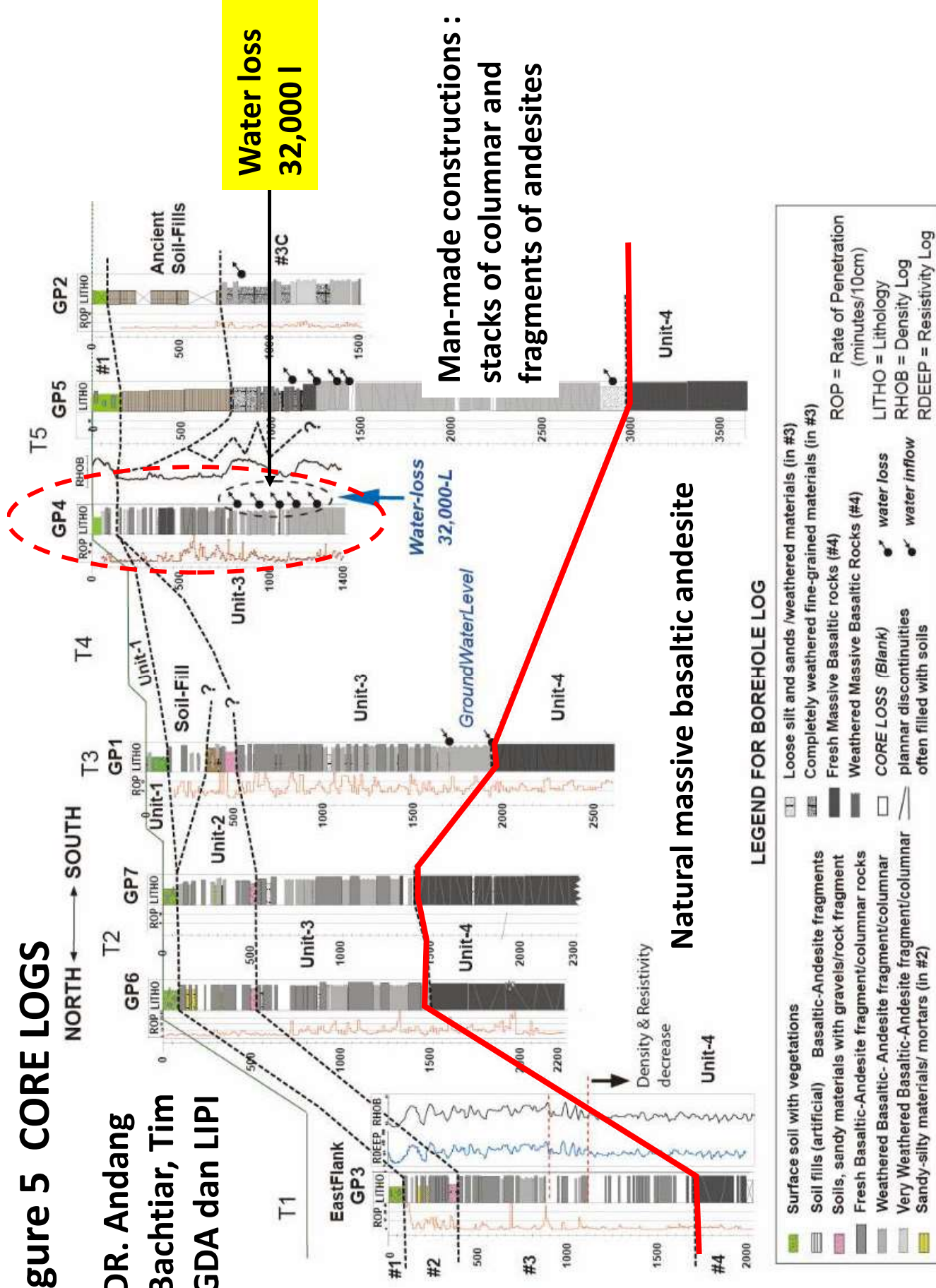


Figure 5 CORE LOGS

DR. Andang
Bachtiar, Tim
GDA dan LIPI



Ground Penetrating Radar

DR. Mudrik Daryono MS & Team

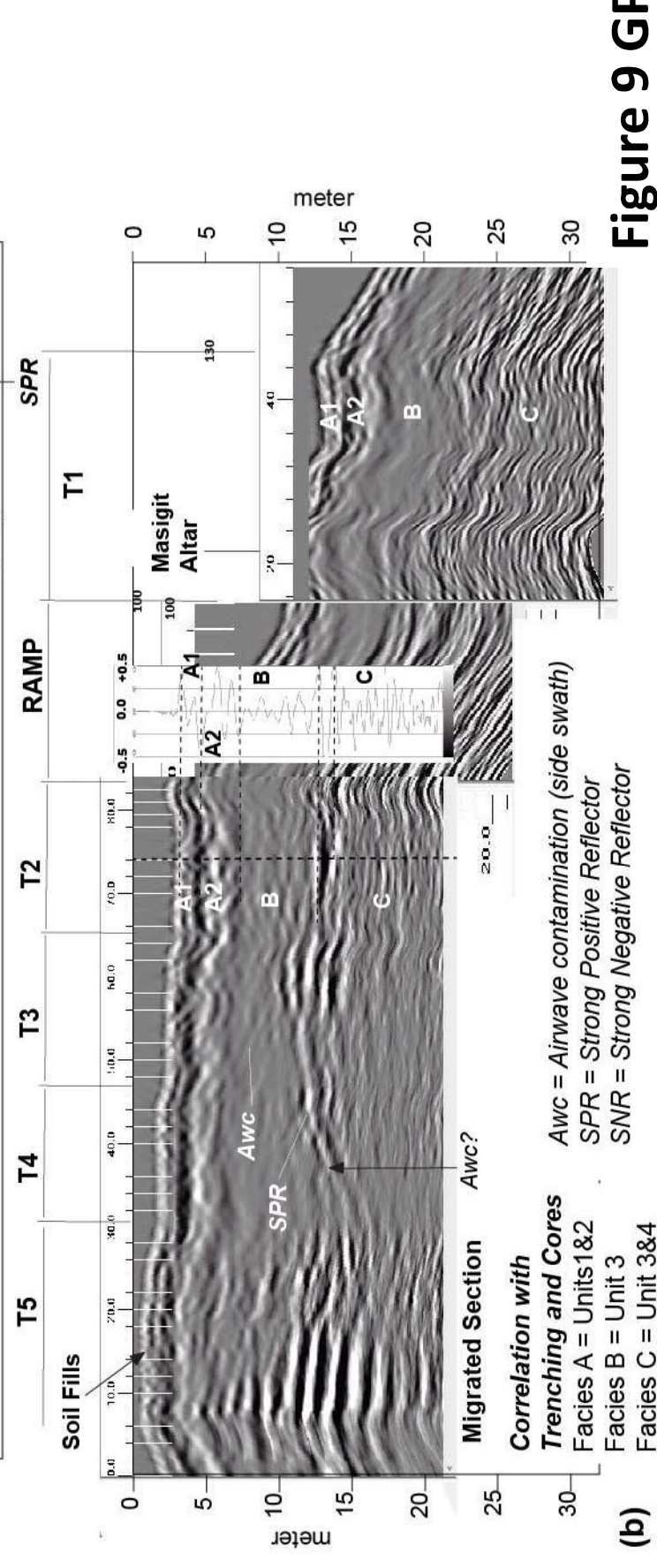
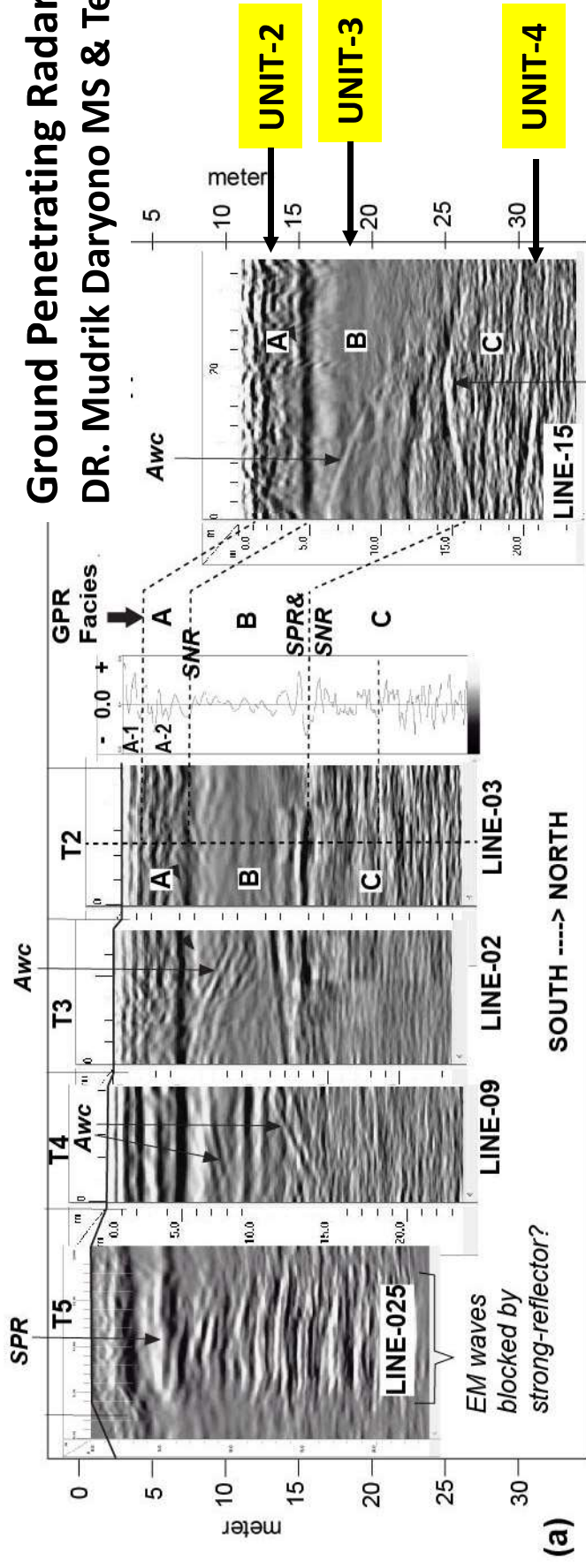
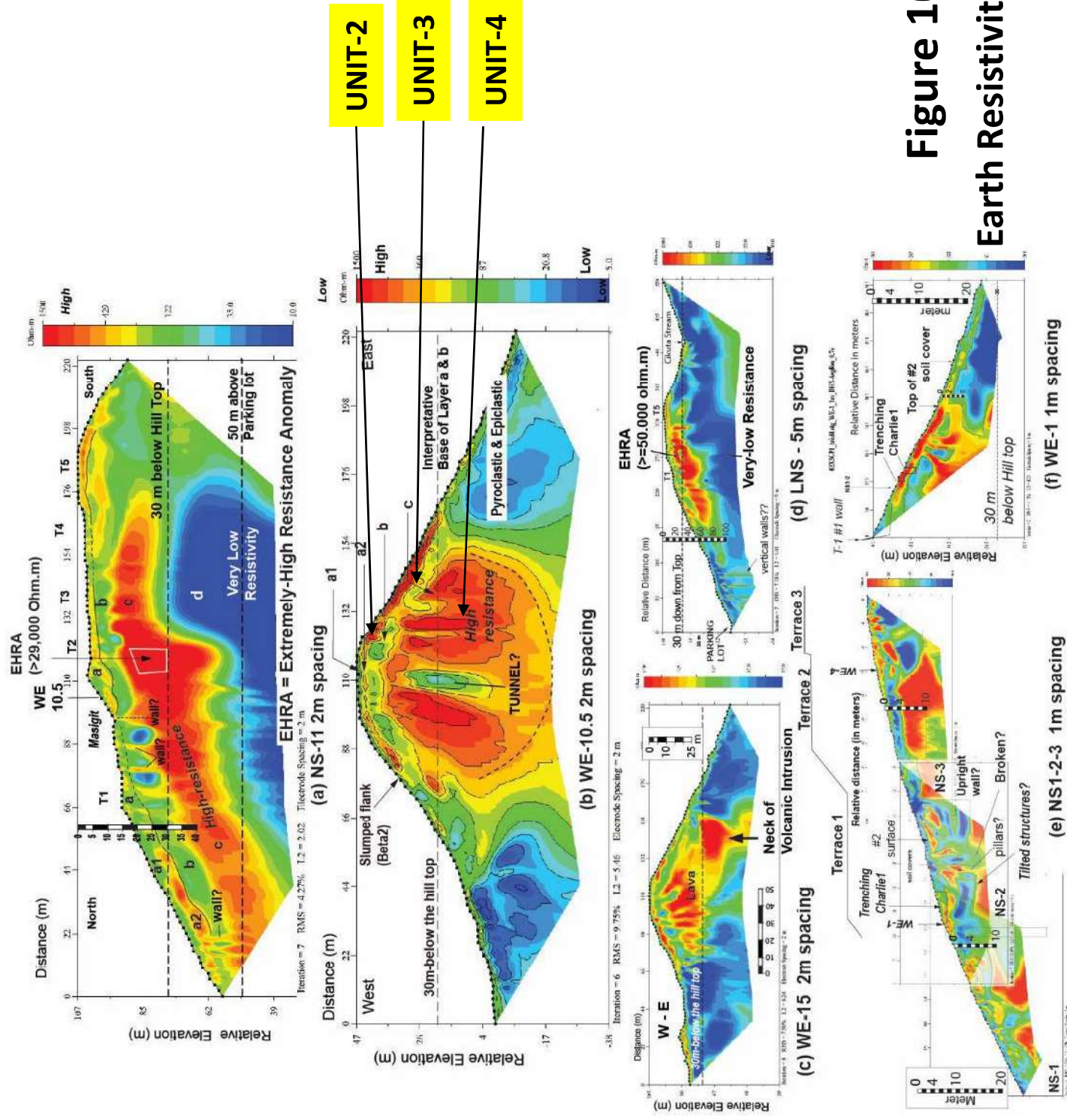


Figure 9 GPR



EHRA = Extremely High – Resistive Anomaly

EHRA = Extremely-High Resistive Anomaly

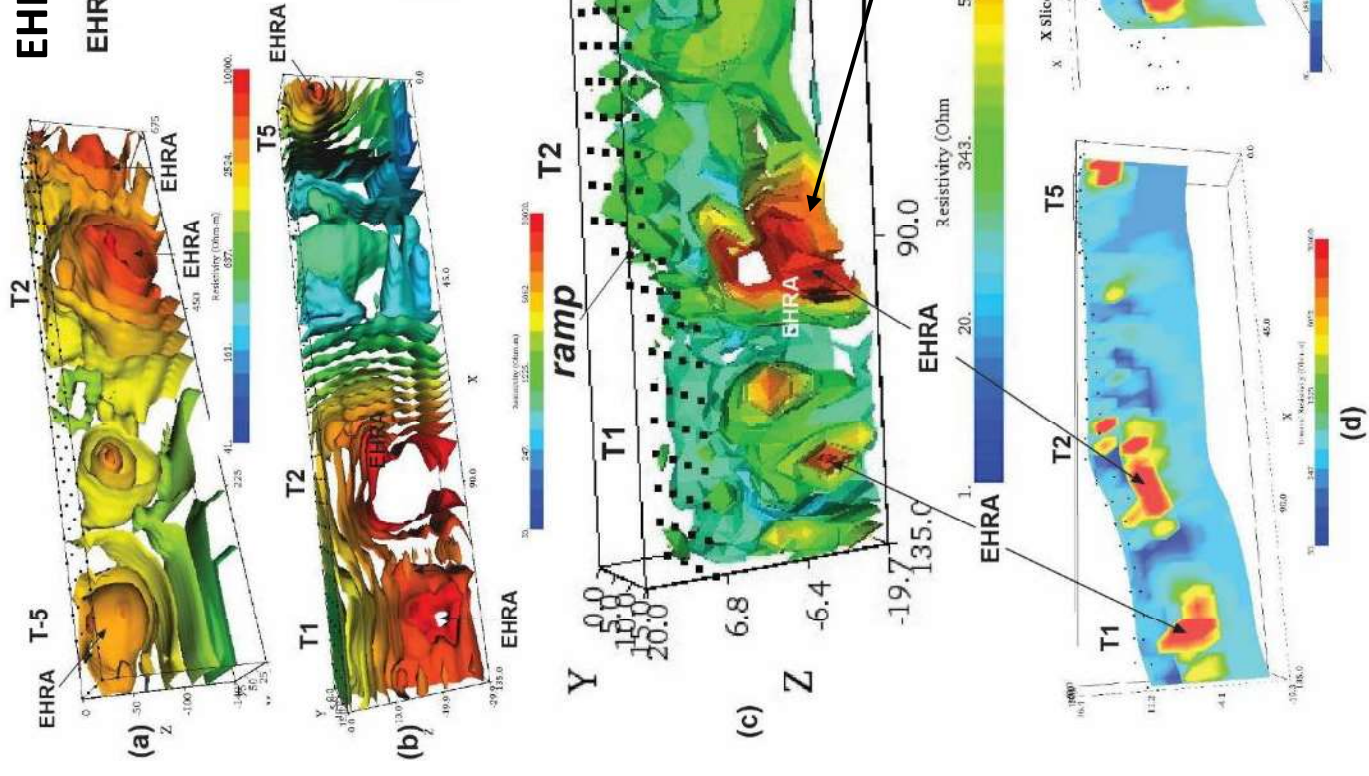
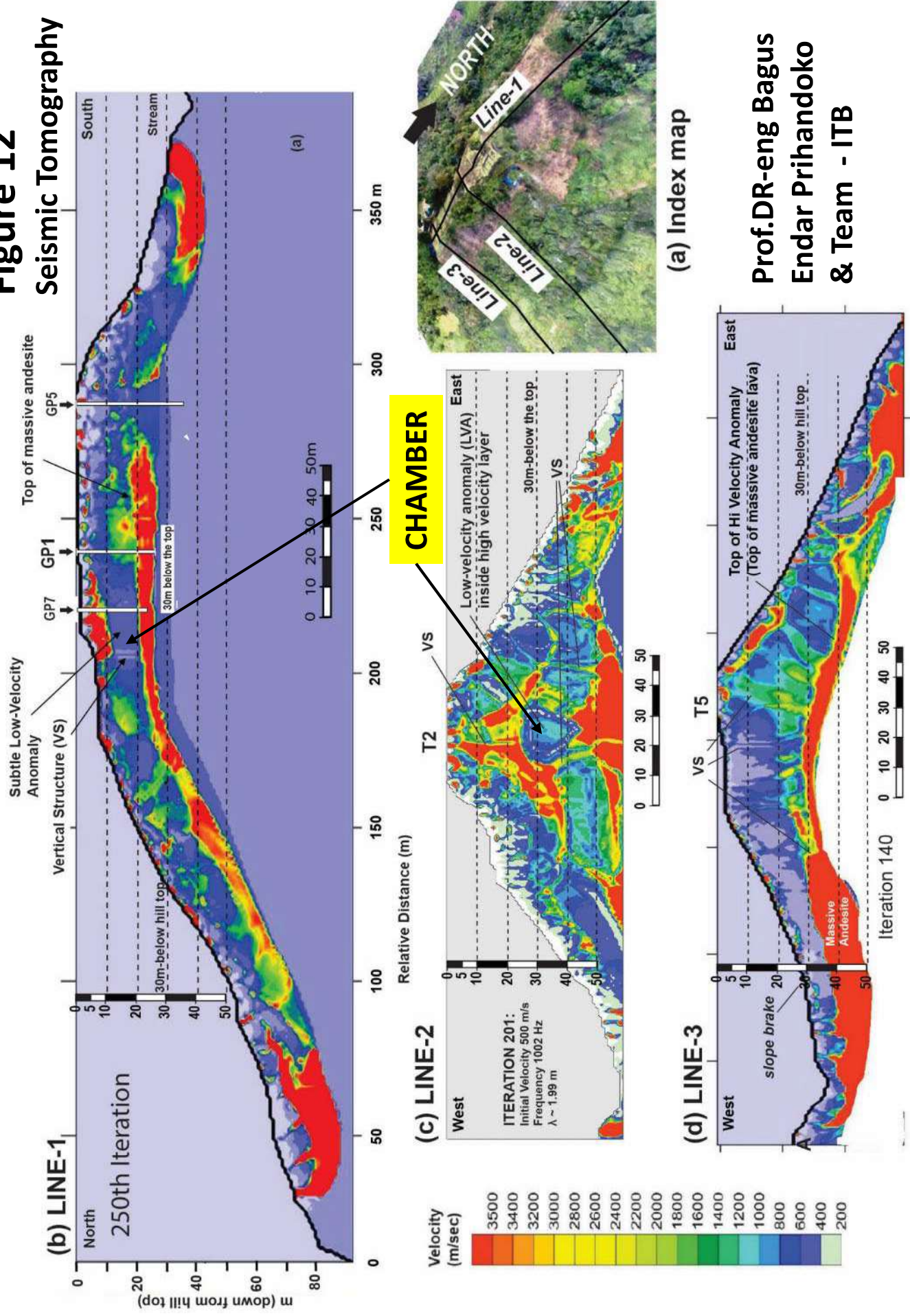


Figure 11 3D ERT

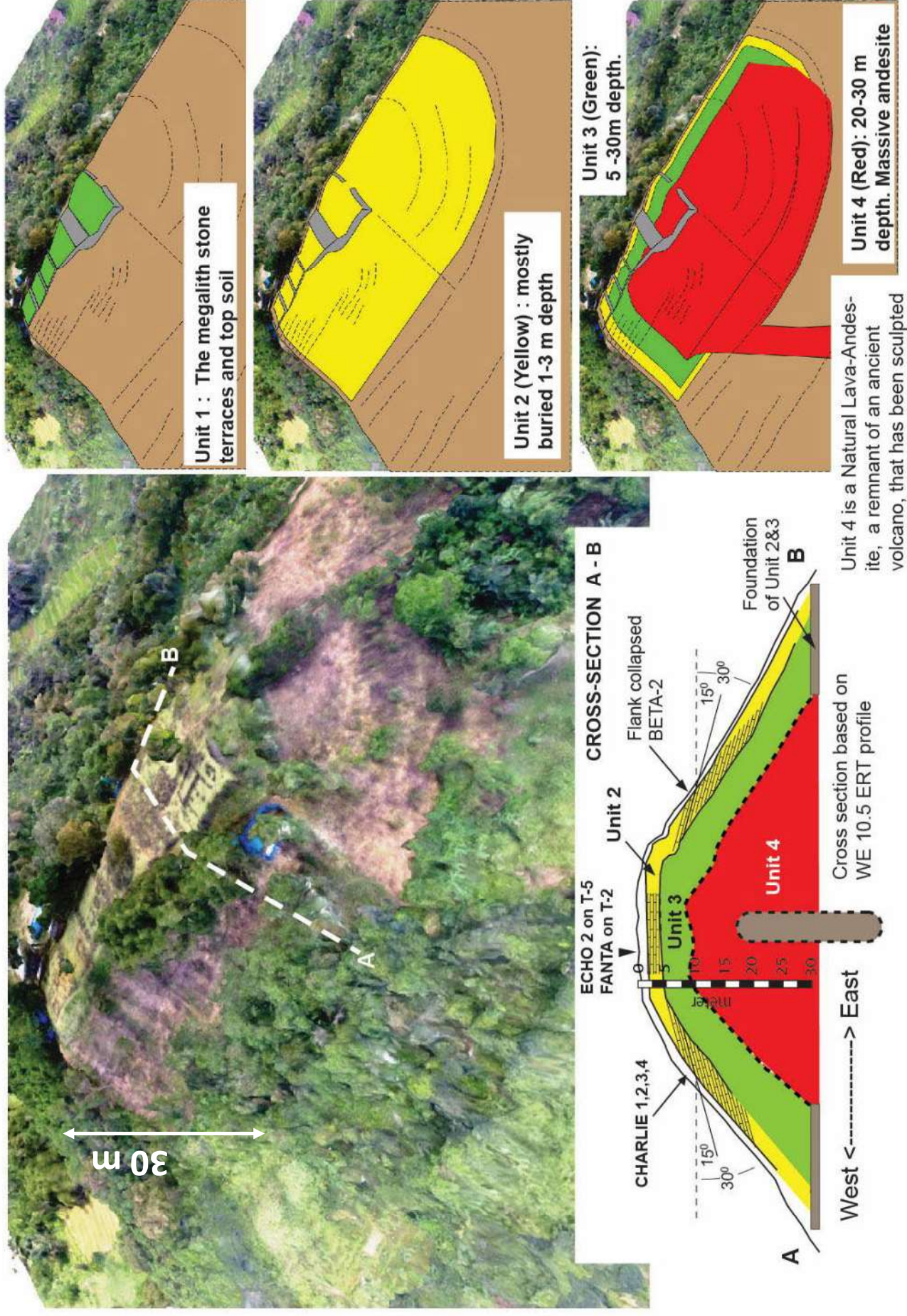
Figure 12

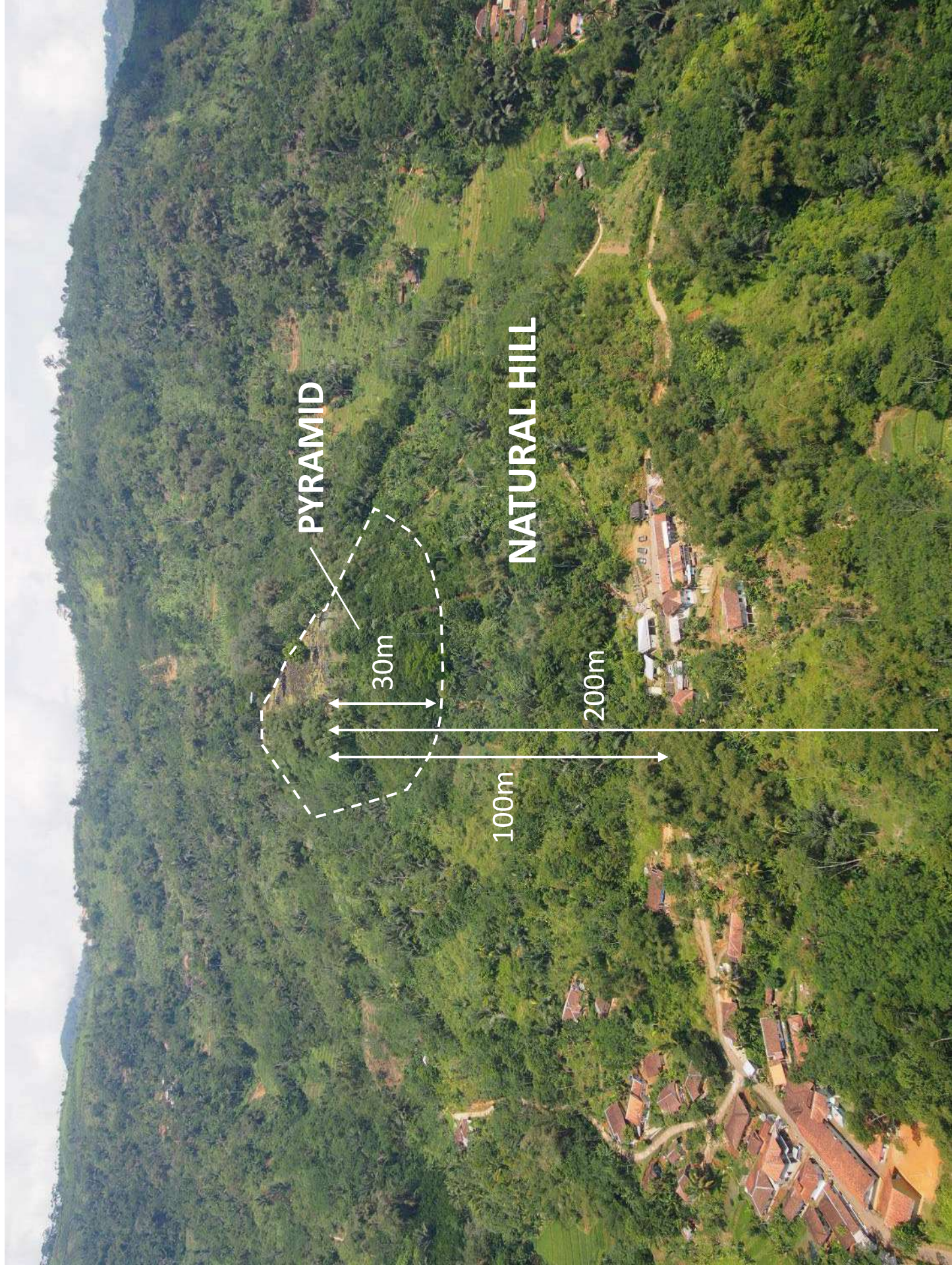
Seismic Tomography



Prof.DR-eng Bagus
Endar Prihandoko
& Team - ITB

Figure 14 Reconstructions of the Gunung Padang Pyramid Layers





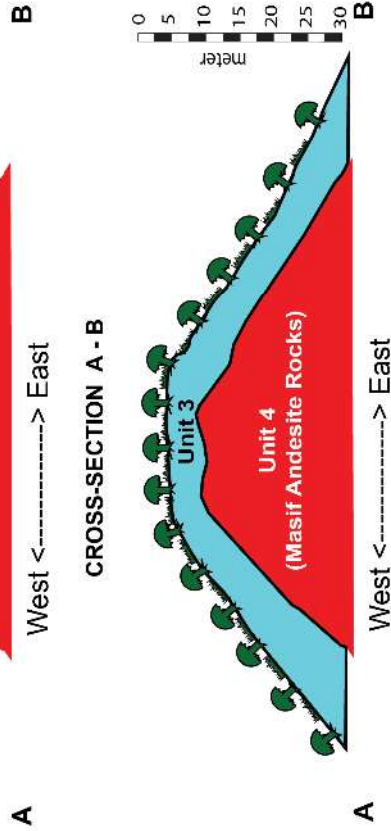
CARBON DATING METHOD



- Unit 1 : The megalithic stone terraces
- Unit 2 (Yellow): mostly buried 1-2 m
- Unit 3 (Blue)
- Unit 4 (Red): Masif Andesite

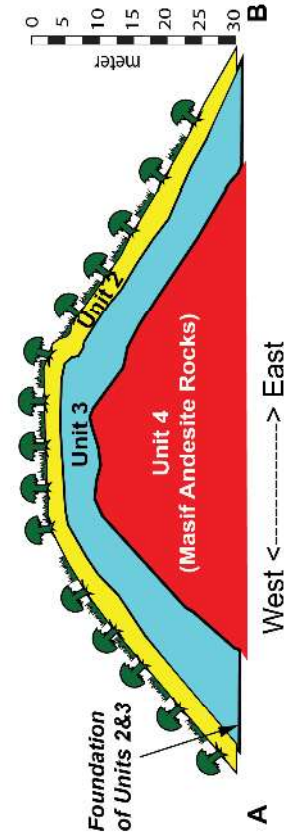
NATURAL HILL

Gunung Padang stands as the remnant of ancient volcanic hill, formed by basaltic-andesite rock intrusions



UNIT-3 (25,000 - 14,000 BCE)

Unit 3 was constructed atop Unit 4. There were possibly some organic matters associated with constructions and some bio-organic activities since the constructions. After it was abandoned for thousands of years the rock constructions significantly weathered, trees and grasses and bio-organisms occupied the ancient ground surface atop Unit-3 Layer. Their roots and rootlets penetrated Unit 3 Layer. The died trees, grasses, and bio-organisms leaves carbons in the matrix of Unit-3 rock constructions.

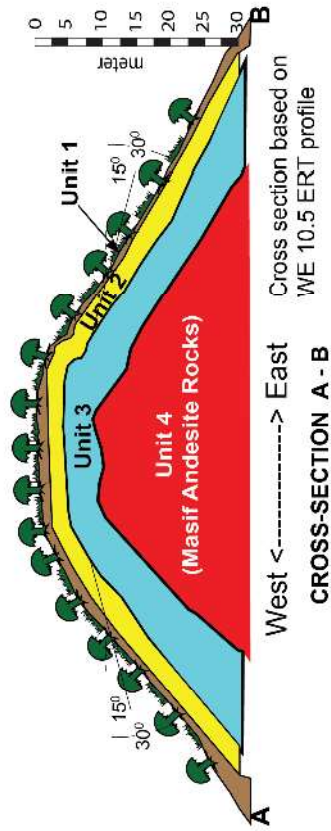


UNIT-3 BURIAL (8,000 - 6,000 BCE)

Soil fills deliberately buried Unit 3.

UNIT-2 (6,000 - 5,500 BCE)

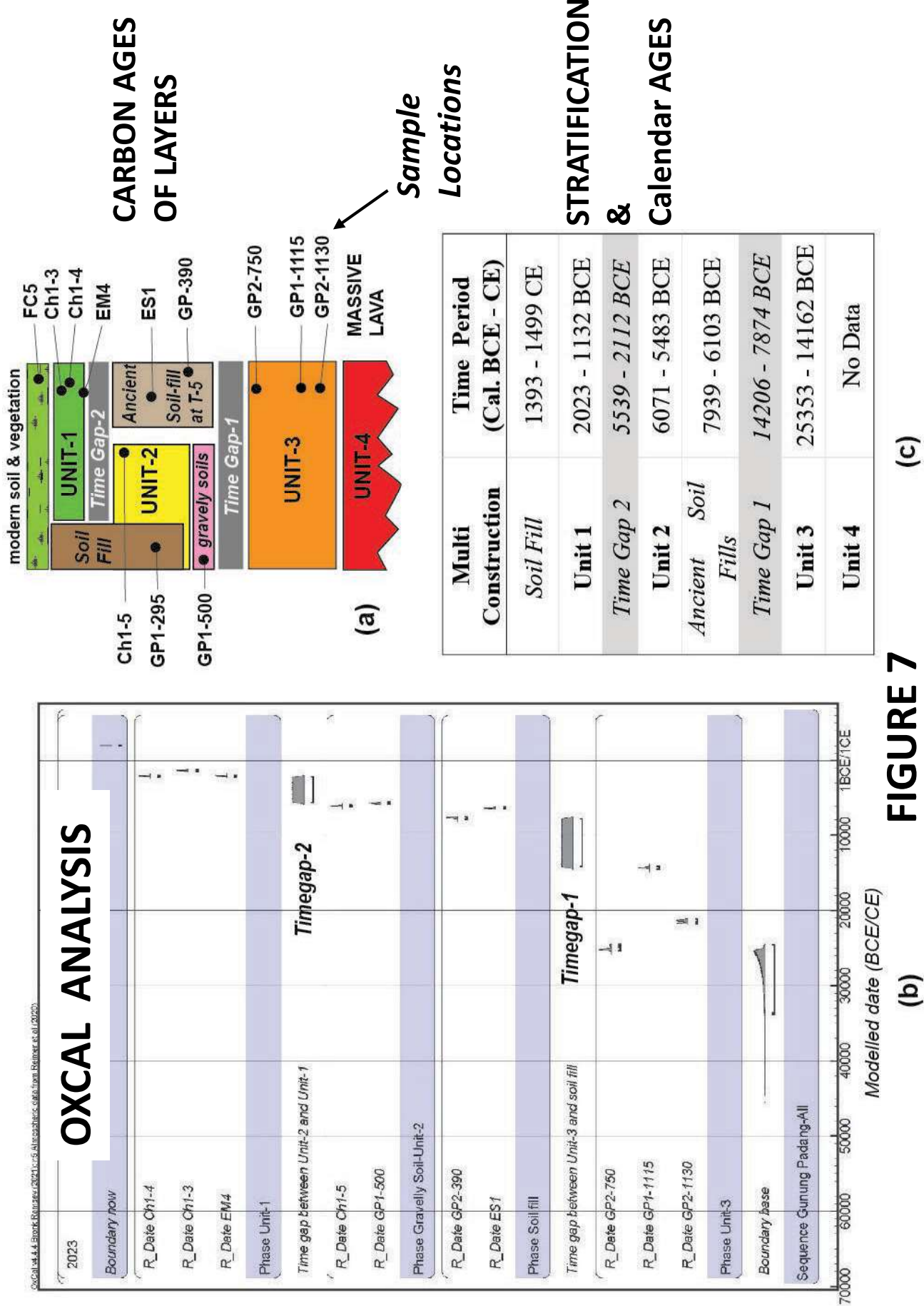
Unit-2 constructed enveloping Unit-3. Over millennia of abandonment, the upper part of Unit-2 weathered, creating a habitat for trees, grasses, and bio-organisms on its ancient ground surface. Their roots penetrated the ground, depositing carbon traces in the rock matrix upon their demise.



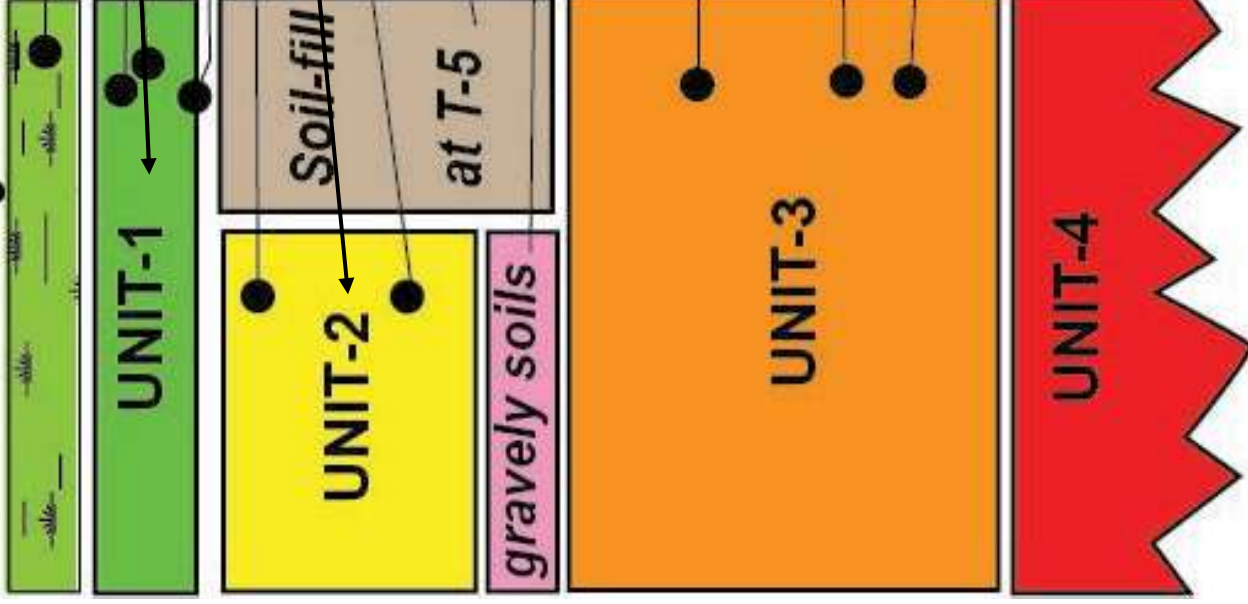
Abandonment of UNIT-2 (5,500 - 2,000 BCE)

UNIT-1 (2,000 - 1,000 BCE)

Most of Unit-2 was deliberately covered by soil. Subsequently, the construction of Unit-1, including rock terraces and megalithic structures, took place. Once again, the site was abandoned, left unmaintained, and reclaimed by trees and grasses.



modern soil & vegetation



UNIT-1 constructed 2000 – 1000 SM

MISSING TIME (HYATUS)

UNIT-2 constructed about 6000 – 5500 SM

Deliberately buried by soil fills about
8000 – 6000 SM

MISSING TIME (HYATUS)

UNIT-3 constructed in the period
~ 14000 – 25000 BCE (SM)

MASSIVE
LAVA

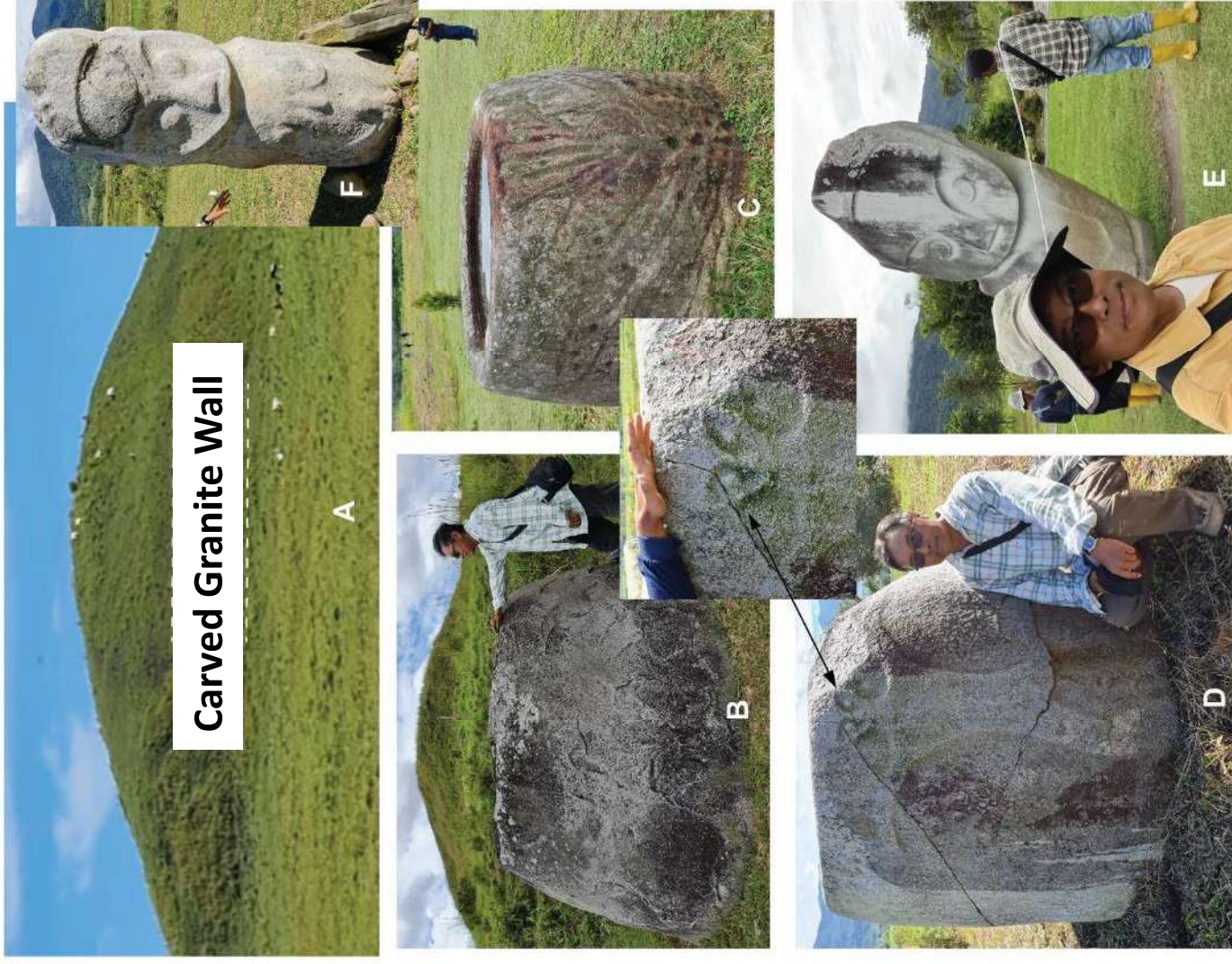
→ Probably has been carved

FASCINATING UN-EXPLORED LARGE ANCIENT STRUCTURES IN INDONESIA

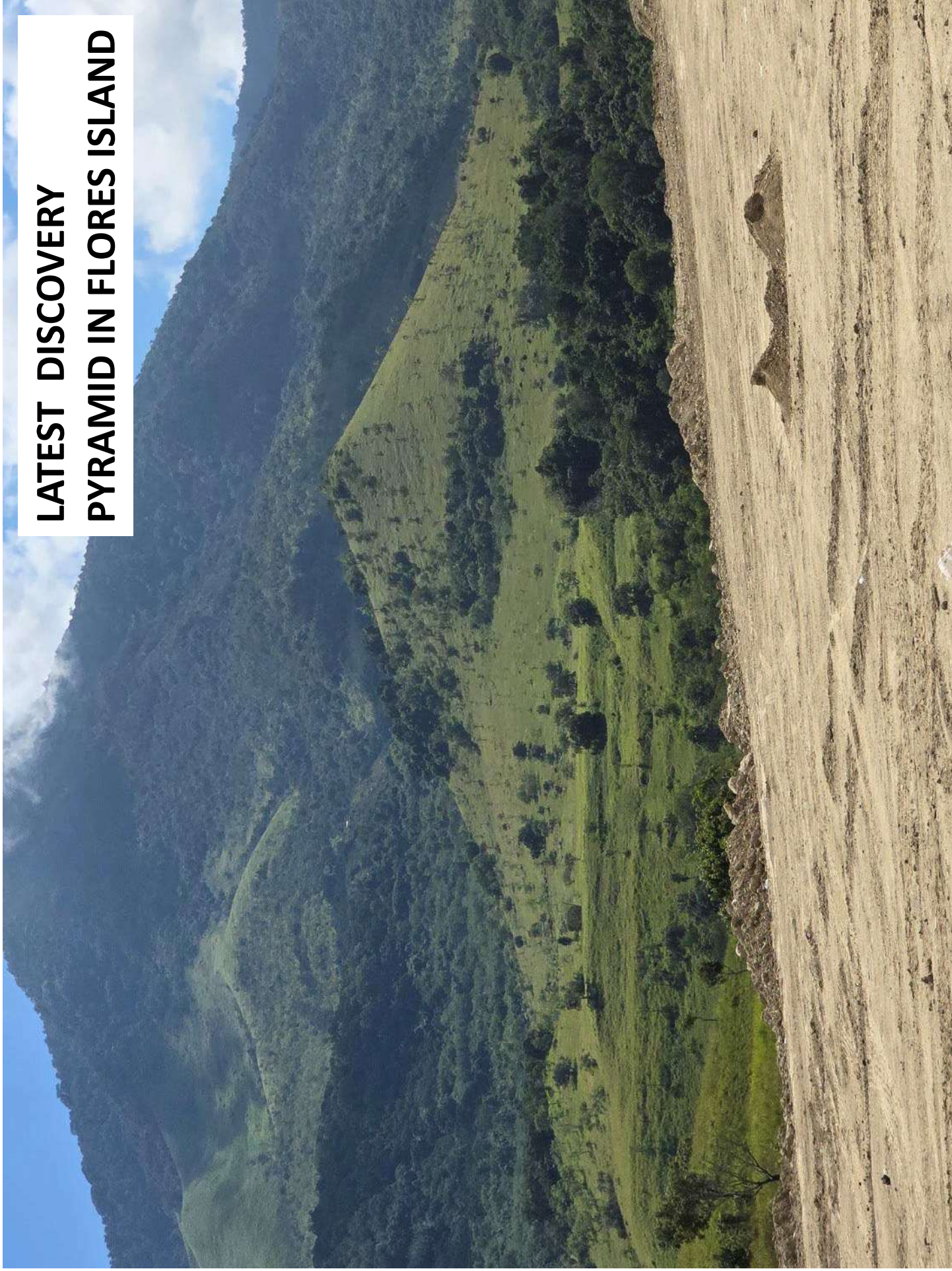


**TOBA
PYRAMID**
Discovery in 2022

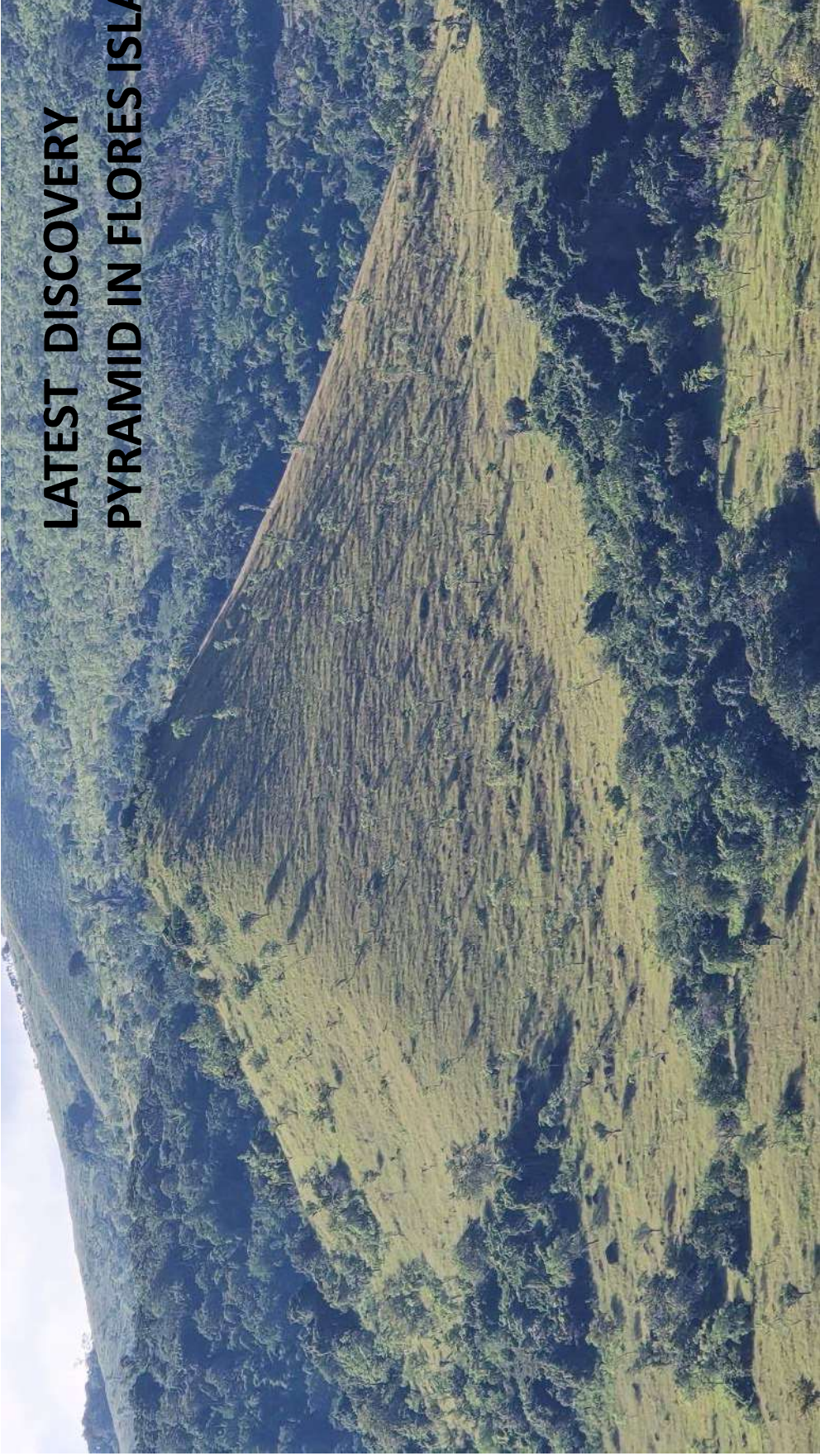
**2022 Discovery :
PYRAMID IN
CENTRAL SULAWESI
(NAPU-BADA-BESO
MEGALITH VALLEYS**



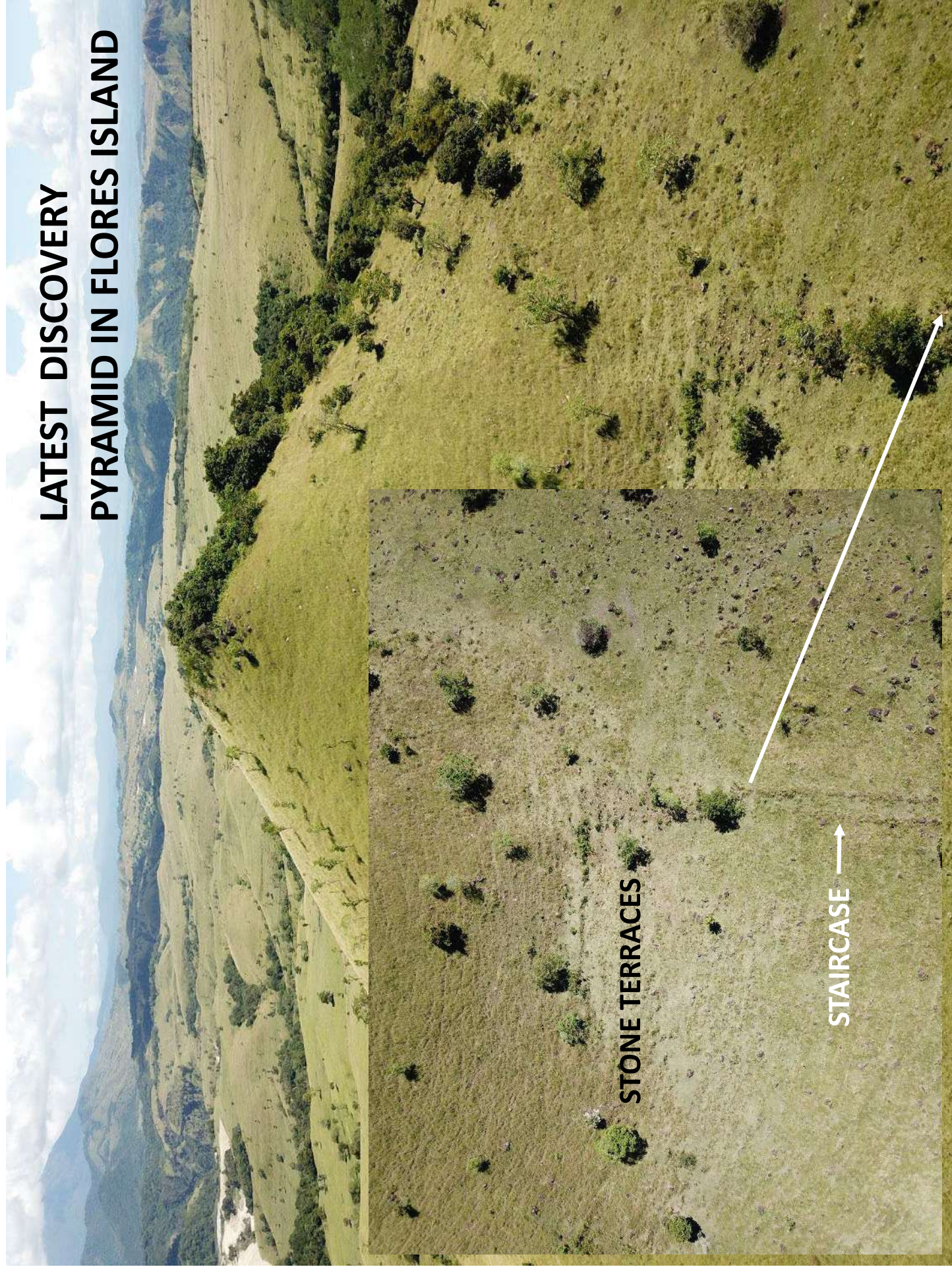
LATEST DISCOVERY PYRAMID IN FLORES ISLAND



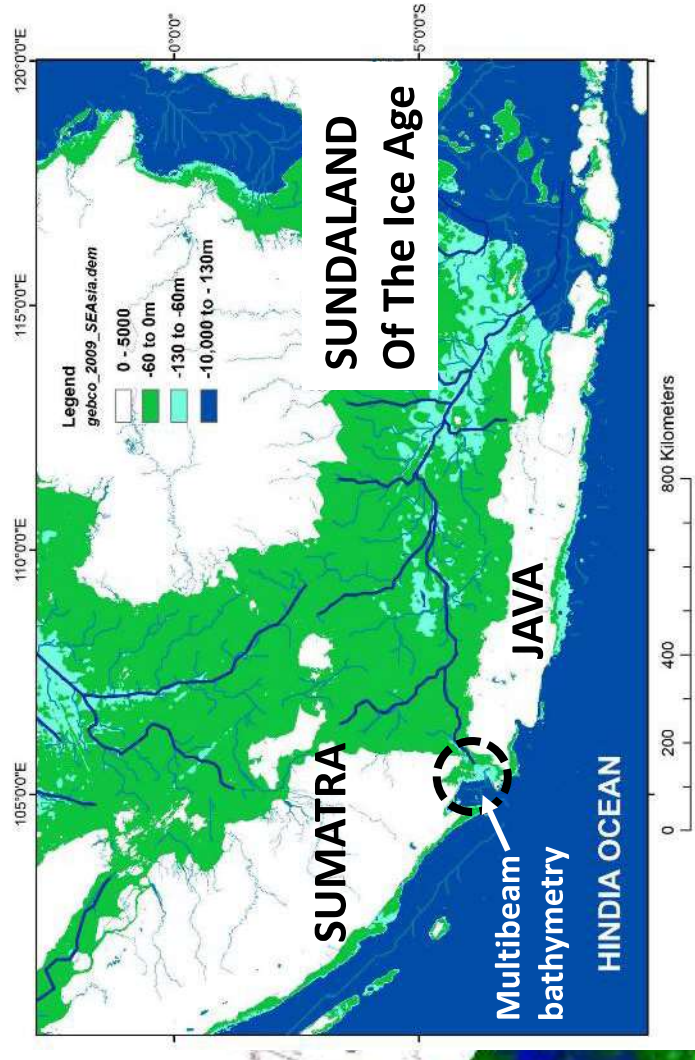
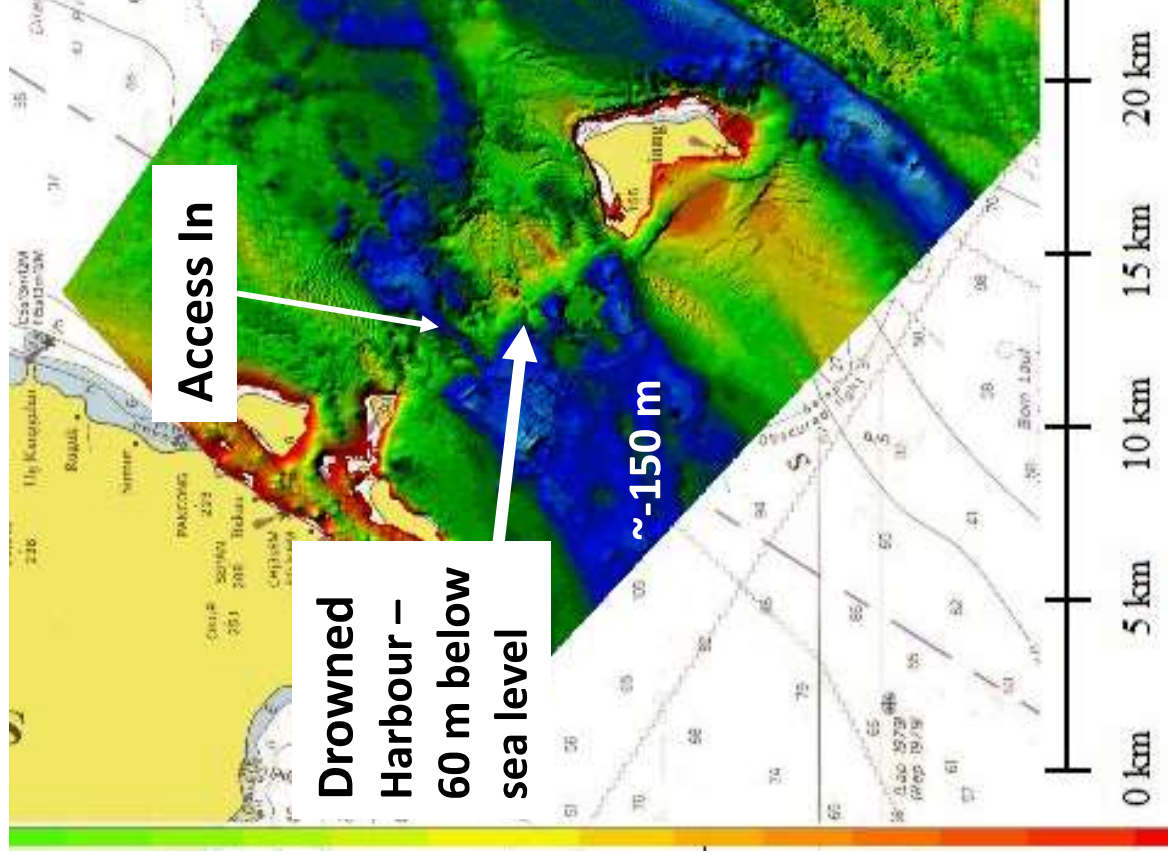
LATEST DISCOVERY PYRAMID IN FLORES ISLAND



LATEST DISCOVERY PYRAMID IN FLORES ISLAND



More than 11,000 years old DROWNED HARBOUR?

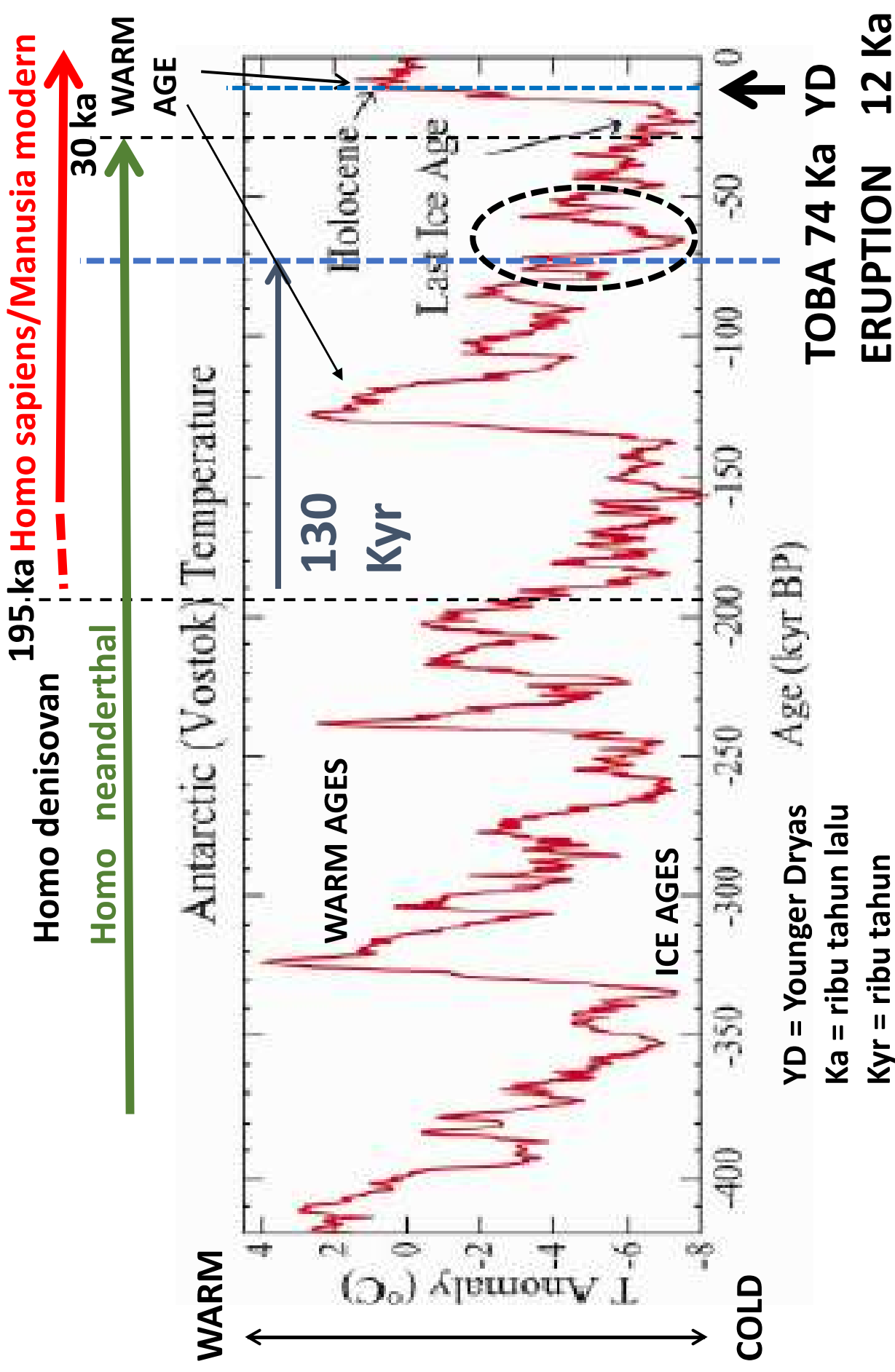


Sunda Strait Multibeam

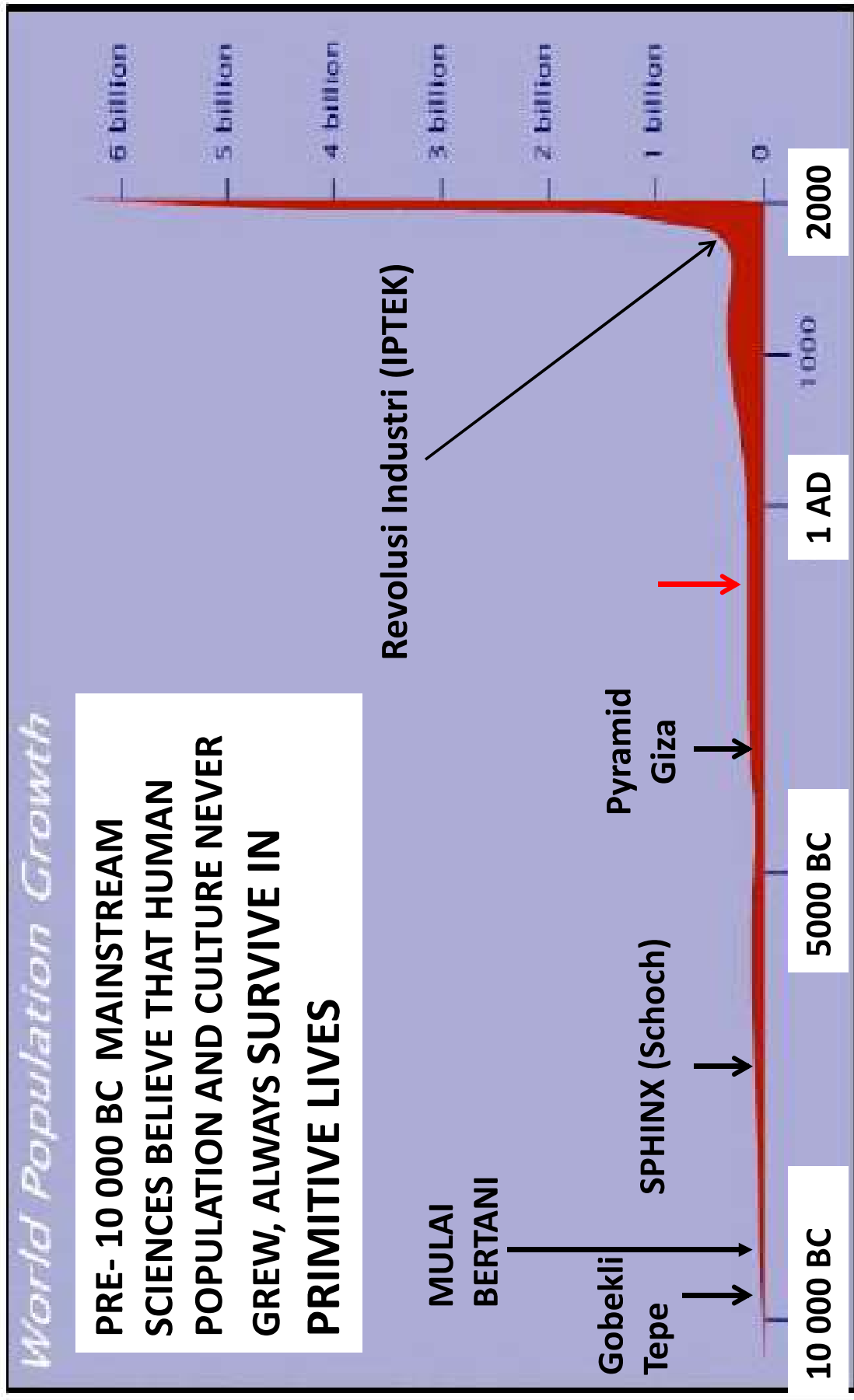
Courtesy of
Dr. Gagar Prasetya

SIGNIFICANCE OF GUNUNG PADANG RESEARCH TO THE HISTORY OF HUMAN CIVILIZATIONS

Global Weather Cycle and Catastrophic Events since 400 ka

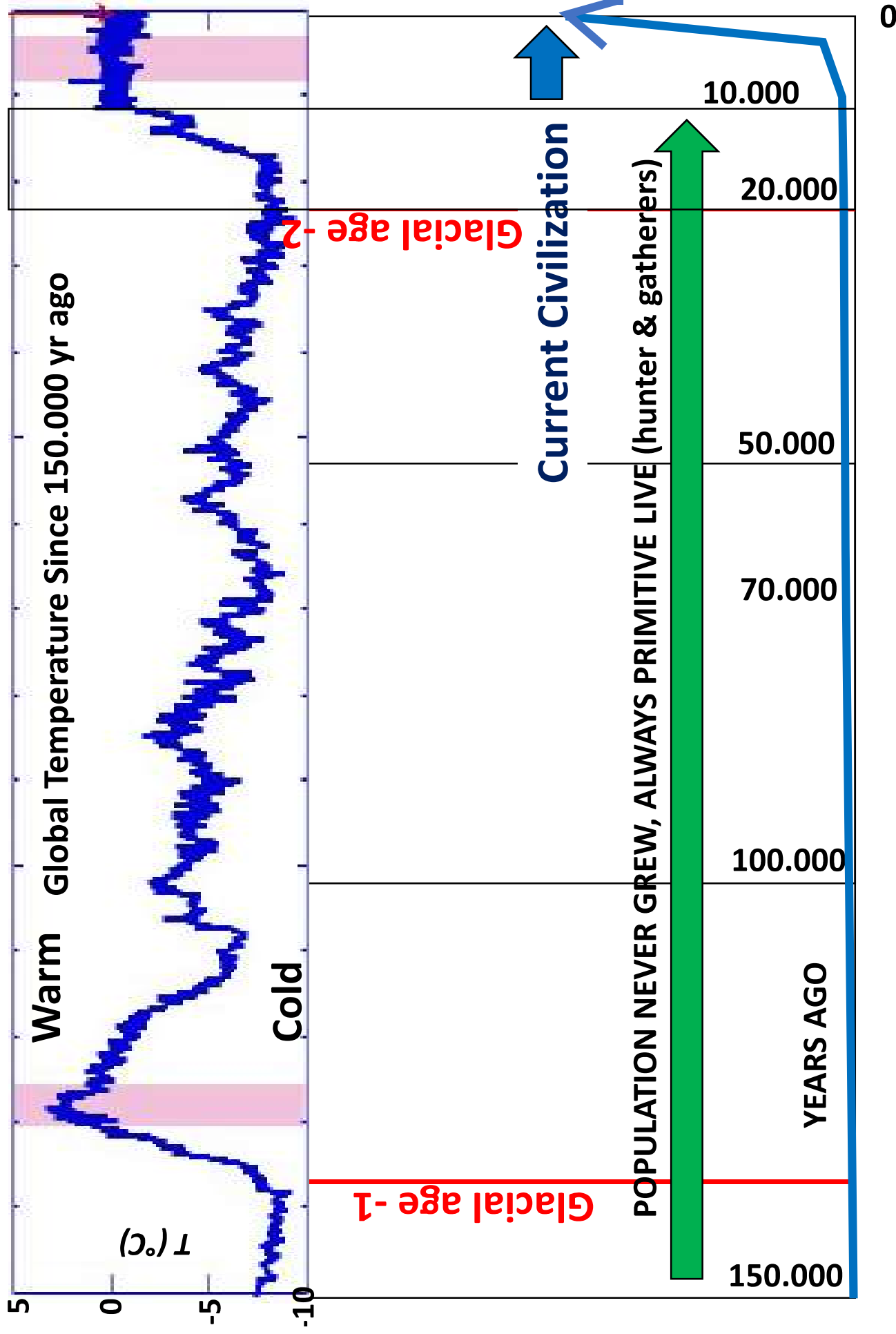


ENIGMA OF HUMAN POPULATION AND CIVILIZATIONS

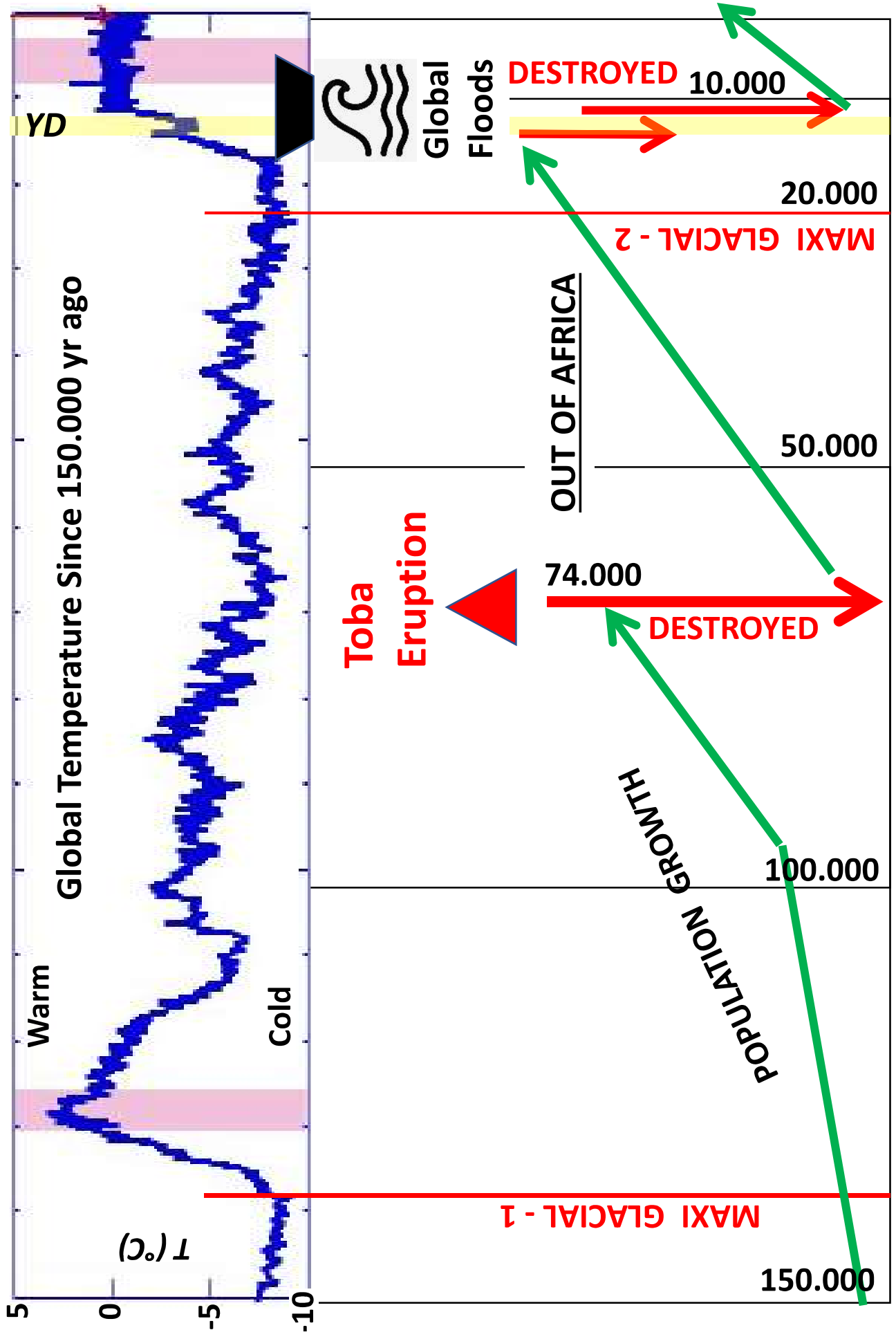


Established Belief of Human History

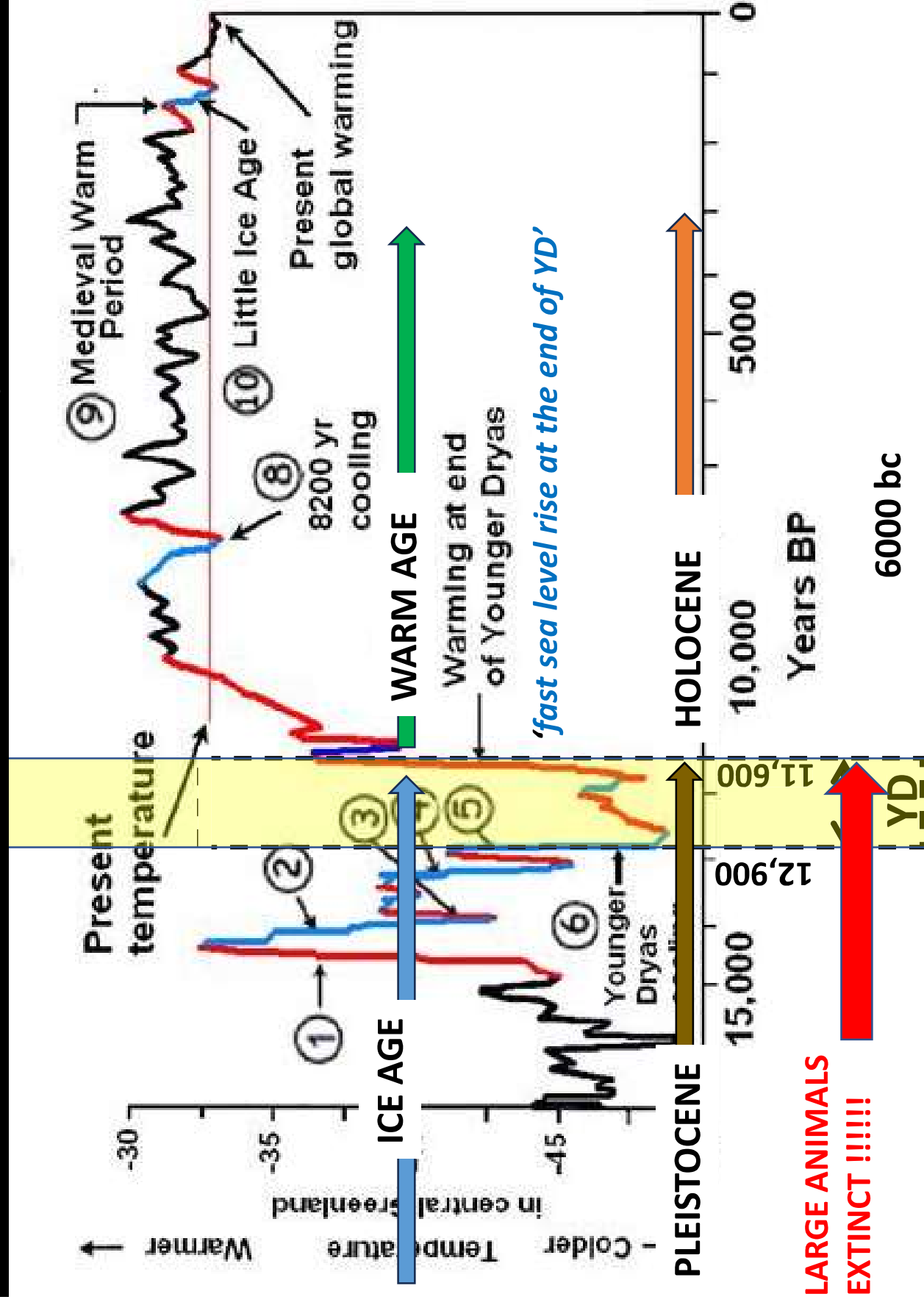
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ALTERNATIVE HUMAN HISTORY: CATASTROPHIC AND CULTURE CYCLES



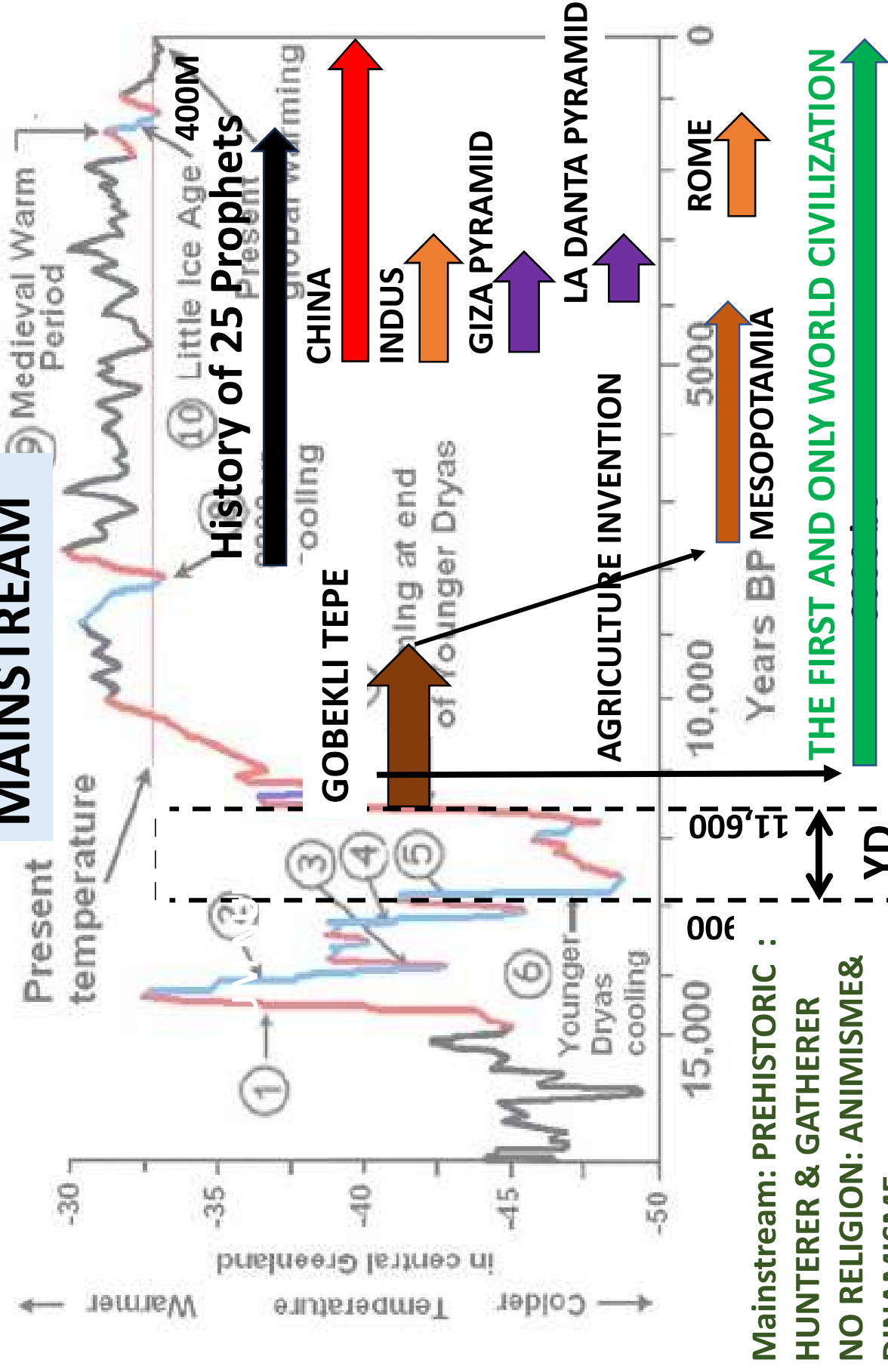
Earth & Human History



**LARGE ANIMALS
EXTINCT !!!!!**

Earth & Human History

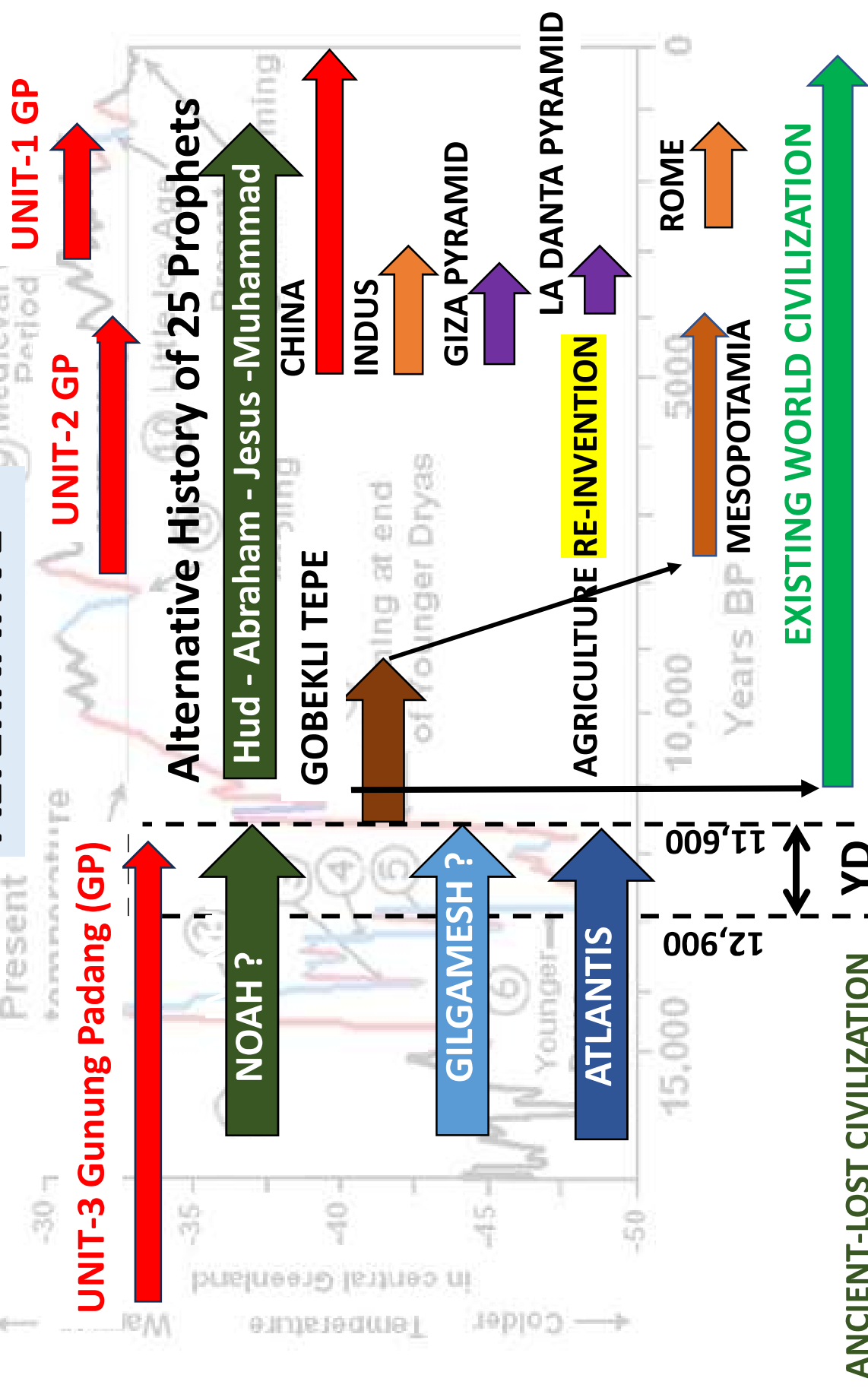
MAINSTREAM



The past 17Ka Global Temperatures From Esterbrook, 2012

Earth & Human History

ALTERNATIVE



The past 17Ka Global Temperatures From Esterbrook, 2012