# Summary of Core Measurement Group Discussion

- *1. Core Measurements on Site*
- *2. Core Measurements on Laboratory*
- *3. Policy of Core Measurements*
- *4. Policy of sample distributions*
- *5. Call for proposals*

# Core Measurements on Site

## 1. Works including:

a. Cutting collection and analysis
b. Fluid collection and analysis
c. Gas monitoring
d. Deep biosphere sampling
e. Photo and core scanning
g. Core descriptions
h. Contamination estimates
I. Thermal Properties
j. Stress Measurements (ASR & DSCA)

# Cuttings Handling

- **0-500 m in first section**
- **Sampling interval:** every 5 m
- **Sample volume:** 1 l or 1 kg (wet or fluid)
- **Number and sizes of sieves:** 4
- **Grain size fractions:** > 4mm / 4-1 mm / 1-0.25 mm / < 0.25mm
- **Which fraction(s) will be analyzed:** 4-1 mm
- **Lag time and depth:** provided by Mud logging service company
- **Storage place for cutting samples**: boxes, bottles, bags
- **Labeling:** sample number, well hole
- **Imaging:** digital images of cuttings samples
- **Petrology:** Shale?, sandstone? or siltstone---mineral assemblage, grain size, matrix, grain shape, cements…….
- **More analysis?:** Micro-Fossils? XRD? Geochemical analysis

# Core Measurements on Site

## 2. Working flow:

**Suggestions:**

(1): Cutting collection and analysis, and Gas monitoring

(2): Contamination estimates, Fluid collection and analysis and Deep biosphere sampling

(3): Photo and core scanning and Core descriptions

(4): Thermal Properties and Stress Measurements (ASR & DSCA)

## 3. Manpower (?)

How many people should be worked on one shift?

- 4-5 people for regular works
- Special measurements should provide manpower

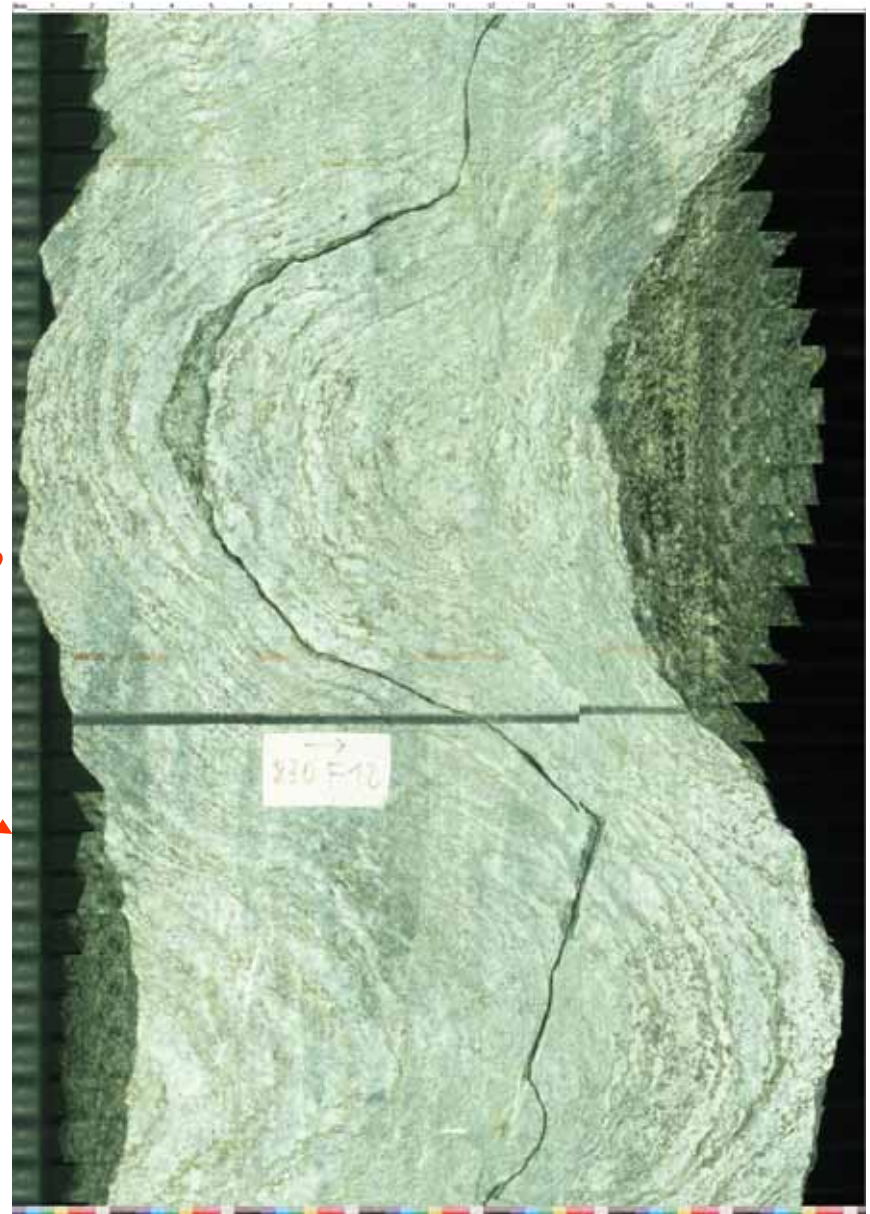
# Deep biosphere sampling and Evaluating the contaminated problem in coring

- *About a sample (half meter) per 150-200 meters and several samples (30 cm) on alternates of sandstone and shale*
- *Rodamine (1000 ppm ) + $10^6$ sphere/ml (fluorescence labeled microsphere, size 1 $\mu$m) mixed with drilling fluid and mud*
- *Using UV-spectroscopy (wavelength 550 nm) to detect the fluorescent signal*

# Images of Core Scanner

*Splitted sample*

*Unrolled sample*



# Core Measurements on Laboratory

## *Non-destroy measurements*

- **Core-A:** Core descriptions; Photo and core scanning; Suggestion: MST
- **Core-B:** Core descriptions; Photo and core scanning; MST
- **After splitting of Core-B:** X-ray scanning; surface XRF scanning; Color Reflectance; High resolution X-Ray imaging and identification of “radio active elements” along the fault zone

# Core Measurements on Laboratory

## *Destroy or partly destroy:*

1. Paleomagnetic analysis
2. Lithostratigraphy
3. Mineralogy and Petrology — OM, XRD, SEM, TEM, EMPA
4. Meso- and Microstructures
5. Geochemistry — Major (XRF), trace(ICP-MS), isotope (ICP-MS or TIMS)
6. Gas geochemistry — GC and GC-M
7. Pore water analysis:Anions (IC), Cations (IC or ICP-AES or MS)
8. Thermal event or age dating: ESR, TL dating, He or Ar-degasing, Vitrinite
9. Physical properties and rock mechanic analysis
10. Biogeologic analysis

# Inter-correlation Problem

- **Core-A:** Core descriptions and Photo scanning; but no Physical property measurements
- **Core-B:** Core descriptions and Photo scanning; and physical properties; but no logging

# Policy of Core Measurements

- ***Procedures:***

(1) On-site experiment

(2) Non-destructive analysis

(3) Destructive: Lab. Analysis

- ***Proposal needed***
- ***Sample party will be held in CPC***

# Policy of sample distributions

## 1. Proposal evaluated by core committee

## 2. Based on classification of research groups by priority

- **The first priority groups:**

(1) Taiwanese scientists and their students,

(2) International scientists and their students who have contributed funds, apparatus or on-site manpower to drilling and/or data collection for public use

(3) ICDP charter members of TCDP project.

**The second priority groups:**

researchers who will participate and send proposals in the "Sampling party".

- **The third priority groups:**

people who do not match the above two conditions, for example, people who request the core sample only by e-mail.

# Call for proposals

- Deadline for on-site measurements: Before end of November
- Deadline for Core-A:not decided yet
- Deadline for Core-B:not decided yet

## What Special instructions needed for core handling?

- *As soon as possible*

## What Special instructions needed in drilling plan?

- *It need have a time table of drilling plan*