

On-site and Off-site Laboratory and Facility

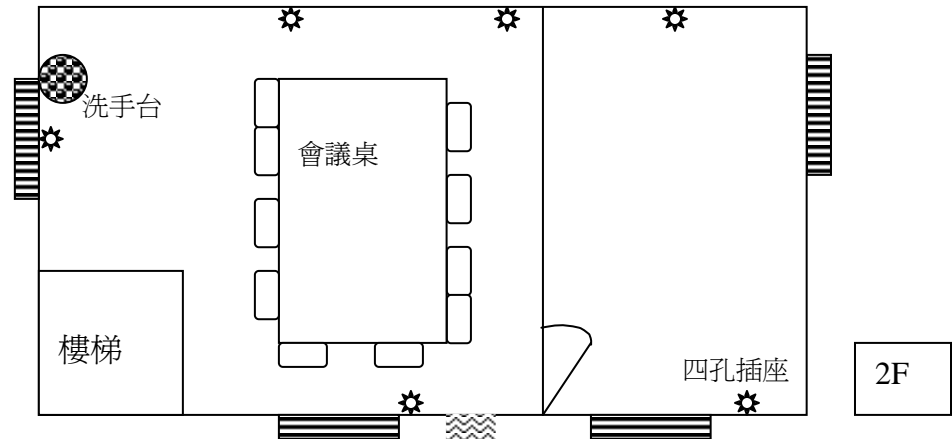
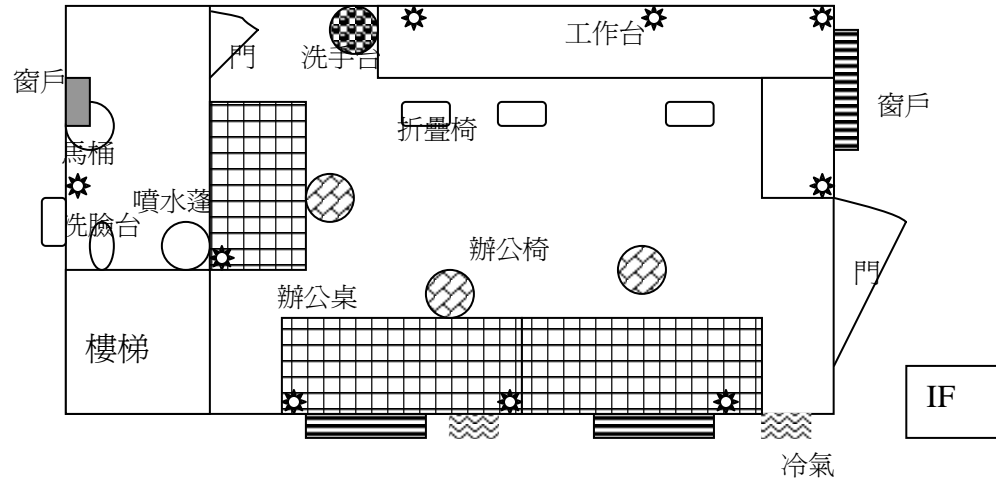
- **ICDP Lab: Computer Network, DIS System**
- **Other On-site Apparatus**
- **Core cutting and storage facilities at CPC**

On-site Facility (Indoor Office)

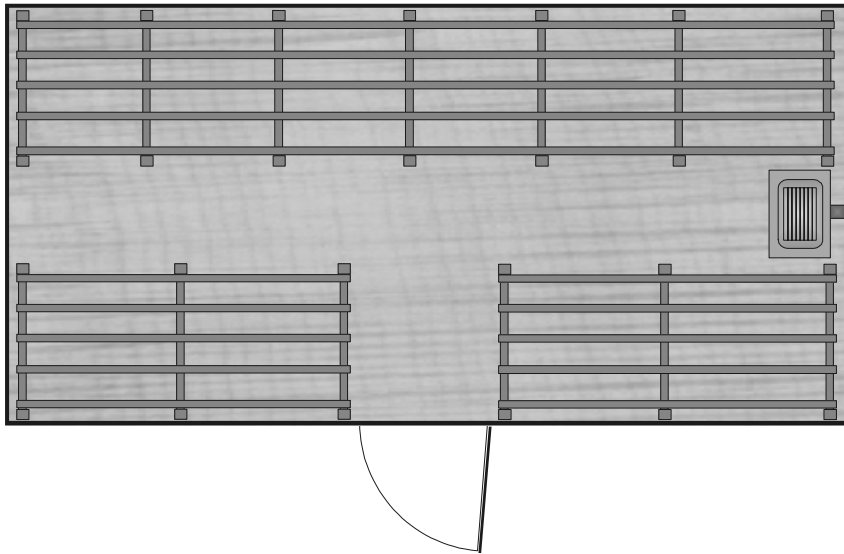


Two-story Assembly Building

85 m² for each floor
66 m² for Lab at floor 1



On-site Facility (Outdoor)



Trailer Container: 20mx 8mx 8.5m
air-condition for core storage
Core-box deck



Steel- roof hut outside the
container : 20m x 8m

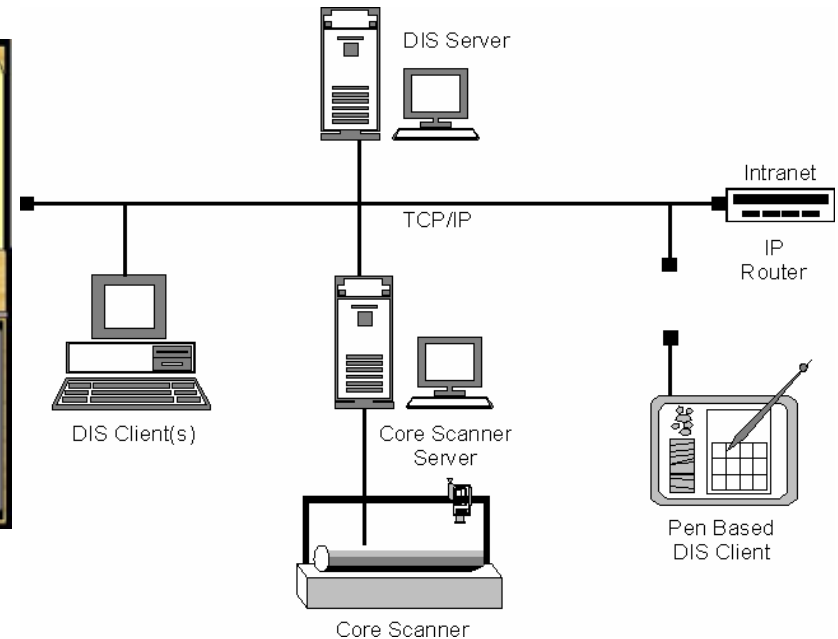
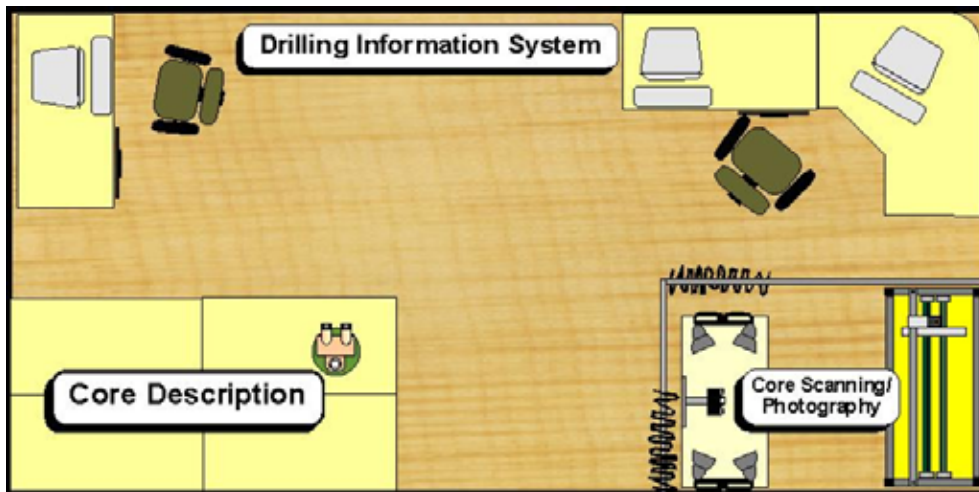
On-site Science Lab-1 (Indoor)

Power Supply (110 and 220V)

ICDP DIS System: Computer & Network

Core Scanner (Smartcube Scanner)

Core and Cutting Image and Exam.



On-site Personnell

- **System Administrator:** Mr. Hung-Yu Wu (NCU)
 - maintenance of hardware, operating system and network operability, user support
- **DIS Administrator, Data Curator:** Mr. Hung-Yu Wu (NCU), Ms. Hsiao-Chi Chen(NTU), Ms. S.M. Wu (NCU)
 - maintenance of DIS database and user interface, user support
- **Chief Geologists:** Sheng-Rong Song (NTU), Jih-Hao Hung (NCU) and Faculties from NCU and NTU
 - defining the standard for lithological description and sampling
- **Supervisor:** En-Chiao Yeh (JAMSTEC), Tien-Sun (Andrew), Lin (NCU)
 - in charge per shift responsible for the logging workflow and training on the job
- **Students, technicians, volunteers**
 - cutting and core handling, documentation and lithological description

On-site Science Lab-2

On-site Lab: **Non-destructive Experiment**

- **Continuous Gas monitoring (Gas Chemistry) - Mud logging System**
- **Gas from Mud: GC, GC Mass (Gas Chemistry)**
- **Fluid from Mud: Fluid Chemistry**
- **Thermal Tools (thermal properties)**

On-site Lab: **Destructive**

ASR, DSCA (strain and stress state, discrete samples 5 cm cube)

Methods of Sampling Gas and Fluid

During Drilling:

- *Gas from Degasser of mud flow system (need independent outdoor working space)*
- *Fluid from either*
 - *drilling mud (a sample per 10 m), or*
 - *perforation in the casing (permeability is low in shale)*

Post Drilling

- *Gas extract from cores through vacuum bottle*
- *Pore Fluid from squeezing of porous cores*

Monitoring Stage:

- *Gas from below the casing through pipe*
- *Fluid from regularly pumping out from pipe (option, depending on the underground water level and other instrumentation)*

Degasser mounted in the Mud Pit of a Drill Rig



Sketch of the Degasser and its Installation

