

FIELD REPORT

Jakarta, 4 – 12 September 2006



Rachmat Fajar Lubis

Ajat Sudrajat (Asistant & well operator)

Tarman (Driver & Technician)

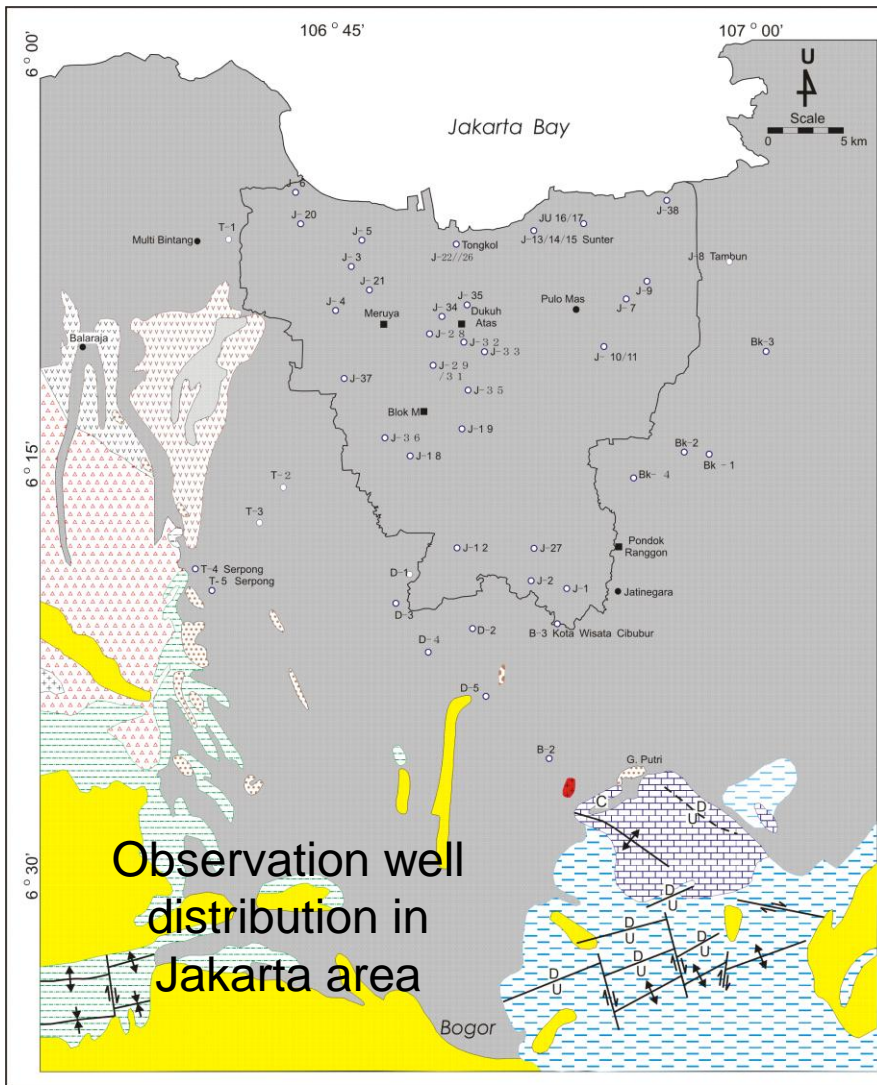
Akinobu Miyakoshi (4- 10 September 2006)

Makoto Taniguchi (9 – 12 September 2006)

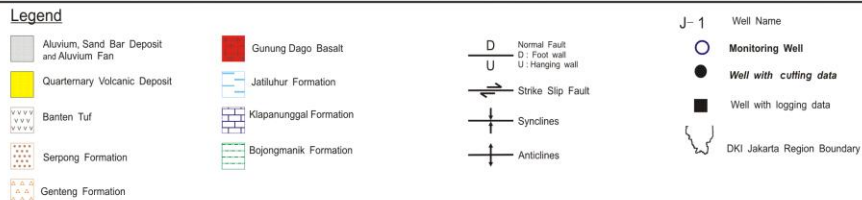
Reconstruction of the thermal environment evolution in Jakarta from underground temperature profiles

Heat island effect is one of major problematic effects in developed cities, and it is important to understand the relationship between air temperature change and developing stage of each city. Since temporal variation of the ground surface temperature (GST) slowly propagates into subsurface sediments and basement, the past GST history has been preserved in the underground temperature. We aim to reconstruct the GST history from temperature profiles measured in observation wells. We also plan to monitor the penetration of the GST variation by installing temperature recorders in some wells.

Observation well target : 28 obs well

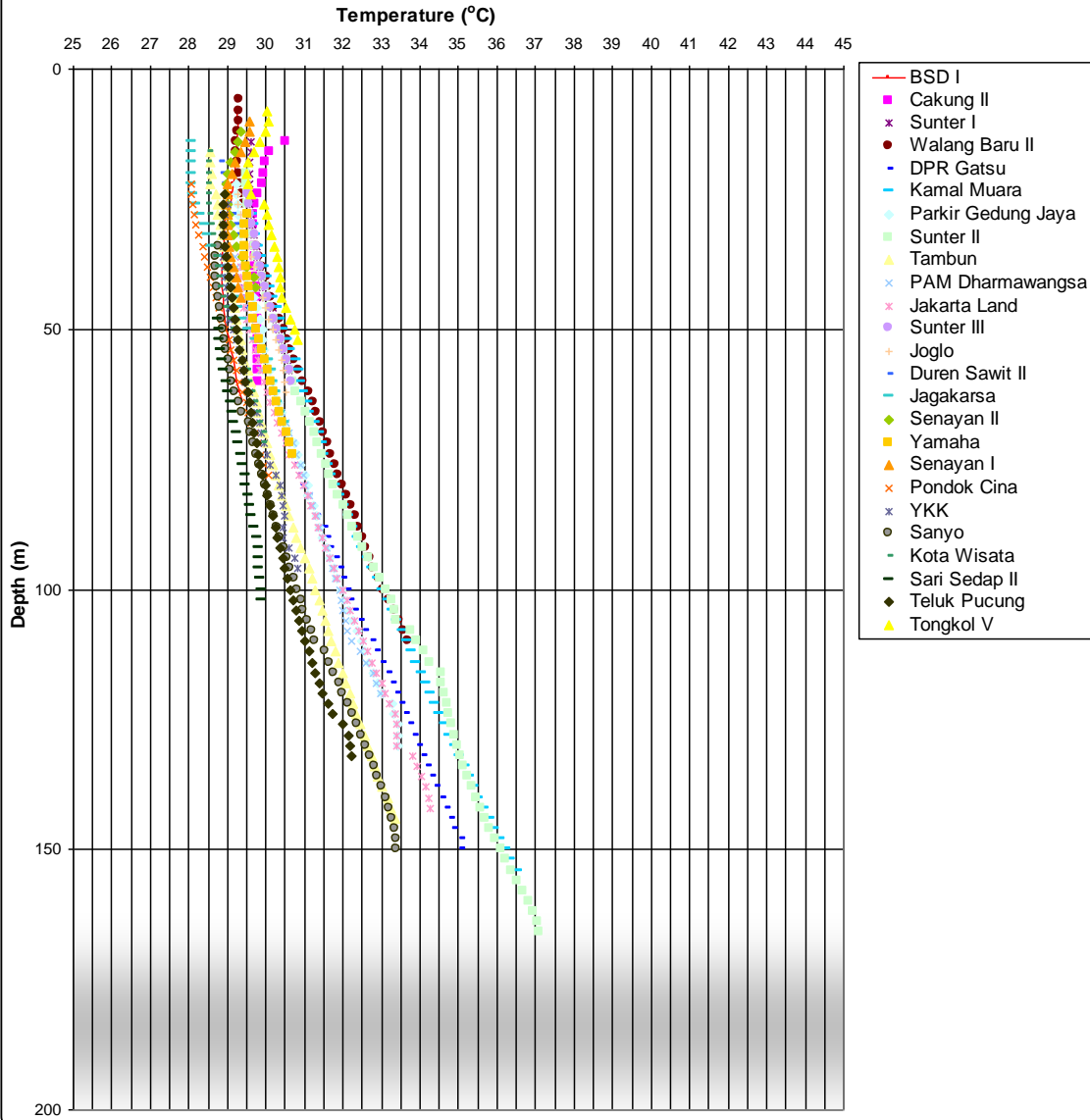


**Observation well
distribution in
Jakarta area**



Centex	J - 1	Tongkol X	J - 26
SCTI	J - 2	Pasar Rebo	J - 27
Cengkareng 2	J - 3	DPR Gatsu	J - 28
Cengkareng 3	J - 4	Senayan II	J - 29
Kapuk	J - 5	Senayan III	J - 30
Kamal Muara	J - 6	Senayan I	J - 31
Yamaha -1	J - 7	Jakarta Land	J - 32
Tambun Rawa Rengas	J - 8	DPLH DKI	J - 33
Cakung - II	J - 9	DPRD DKI	J - 34
Duren Sawit I	J - 10	Parkir Gd Jaya	J - 35
Duren Sawit II	J - 11	Wisma Timah	J - 36
Jagakarsa	J - 12	Joglo	J - 37
Sunter 3	J - 13	Marunda	J - 38
Sunter 2	J - 14	Pulo Mas	
Sunter 1	J - 15	Bogor	
Walang Baru I	J - 16	Ades Alpindo Putrasetia	B-2
Walang Baru II	J - 17	Kota Wisata	B - 3
PAM Darmawangsa	J - 18	Tangerang	
Pasar Minggu I	J - 19	Poris Gaga 2	T - 1
Tegal Alur	J - 20	Cipondoh 2	T - 2
PAM Jelambar	J - 21	Bintaro 2 Sek IX	T - 3
Tongkol VII	J - 22	BSD 1	T - 4
Tongkol V	J - 23	BSD 2	T - 5
Tongkol VI	J - 24	Bekasi	
Tongkol IX	J - 25	Coca Cola Pantau I	BK - 1
		Teluk Pucung	BK - 2
		Pemda Bekasi	BK - 3
		Sari Sedap II	BK - 4
		Depok	
		Cilodong	D - 1
		Pondok Cina	D - 2
		YKK	D - 3
		Sanyo Jaya Komponen	D - 4
		Malaktek D - 5	

Jakarta Groundwater Basin
Subsurface Temperature Profile (April 2004)



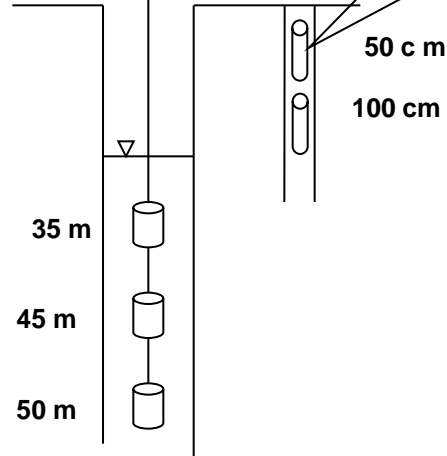
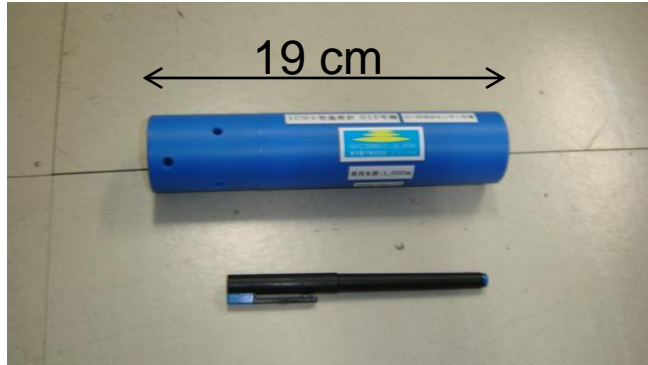
Selected
observation
well in
Jakarta
City

Replacement new Water level recorder pressure measurement type

AWLR

Soil temp measurement
(1 meter above)

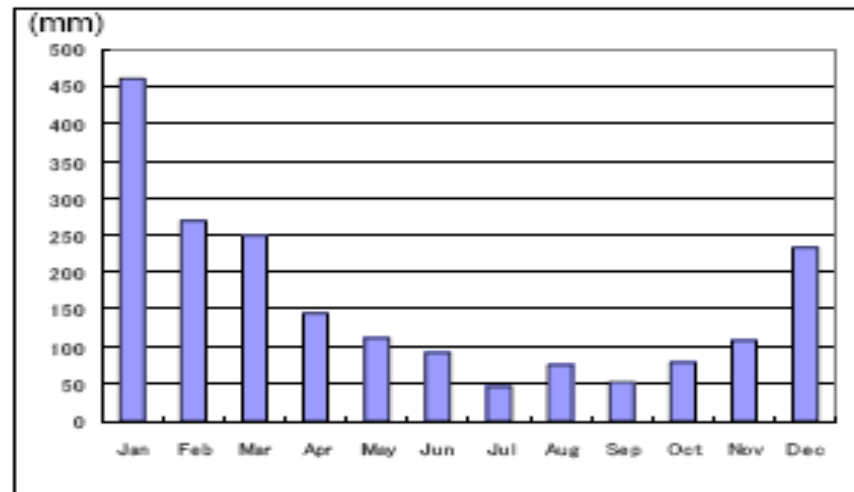
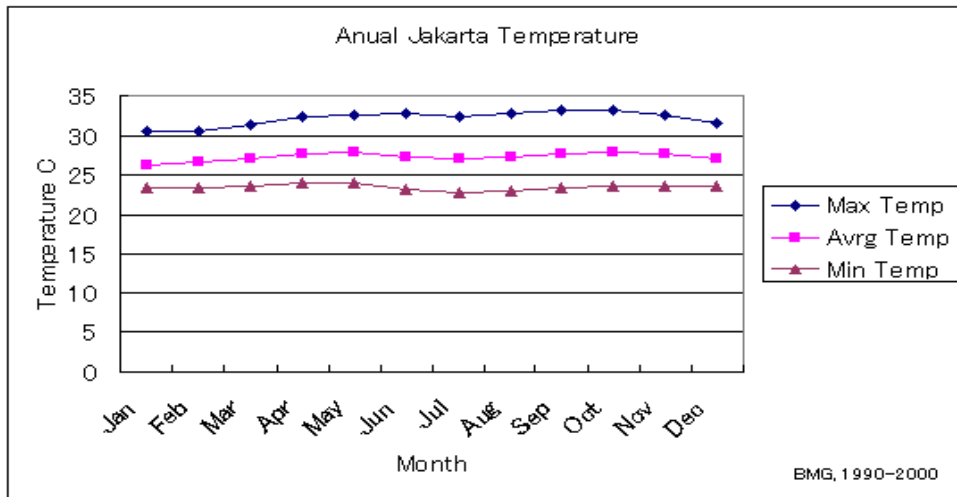
Continuous GST Measurement & Schematic Site Location



- It will put on 35 – 45 -50 m under the surface.
- Together with automatic soil temperature measurement (50 cm & 1 meter under the surface), automatic air temperature measurement (1.2 meter) and automatic water level measurement (Pressure system)



Greater Jakarta has a humid tropical climate; annual rainfall is high between 1500 - 2500 mm due to influence of monsoon

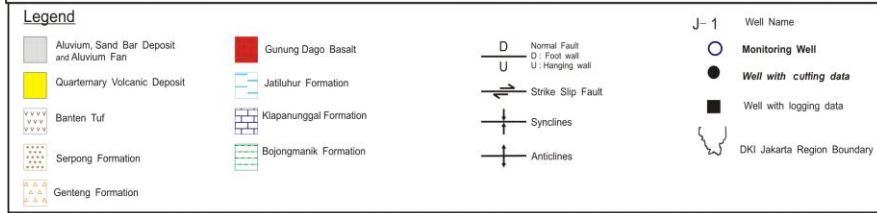
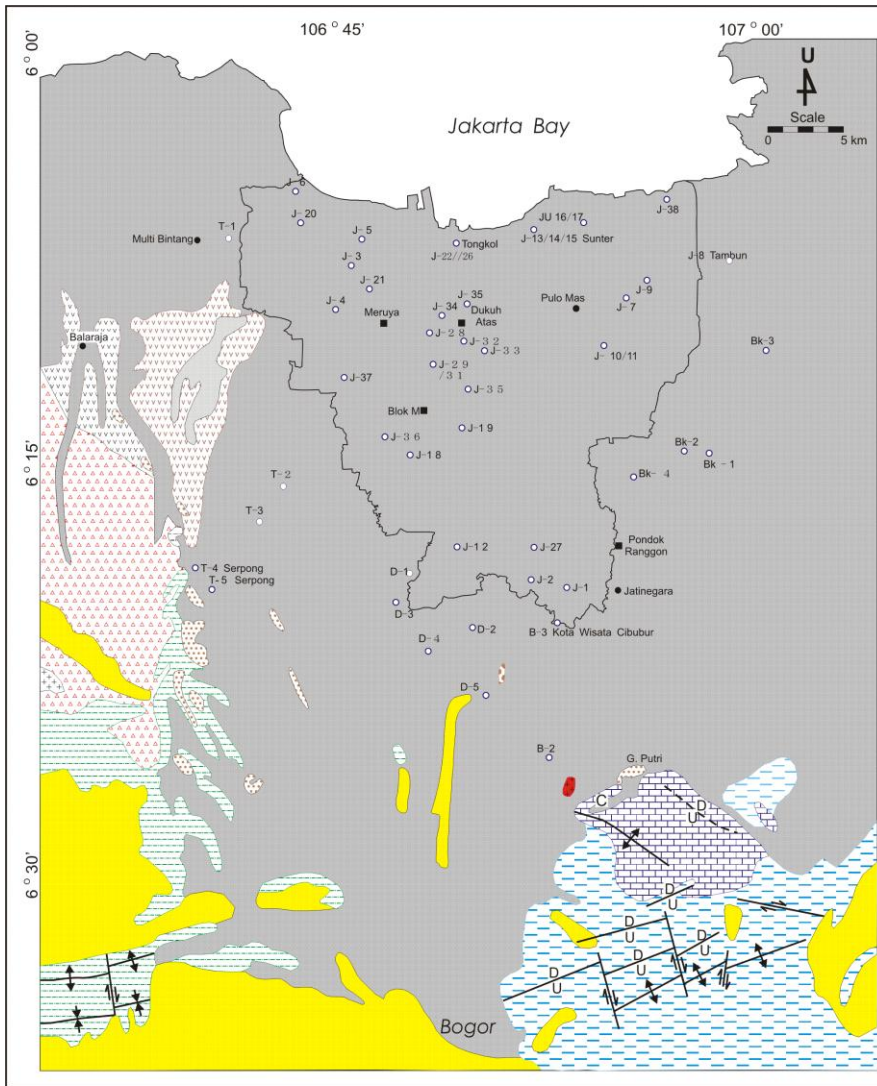


Average monthly rainfall of Jakarta City (BMG, Jakarta 1960-1999)



Field Work Begins....





DPR Gatsu J - 28
 DPRD DKI J - 34
 Pulo Mas

Bogor
 Ades Alpindo Putrasetia B-2
 Kota Wisata B - 3

Kamal Muara J - 6

Tambun Rawa Rengas J - 8

Bekasi
 Teluk Pucung BK - 2
 Pemda Bekasi BK - 3
 Sari Sedap II BK - 4
Depok
 YKK D - 3
 Malaktek D - 5

Jagakarsa J - 12

Sunter 2 J - 14

Progress Report
 Observation well
 measurement in
 Jakarta area
 (17 well)

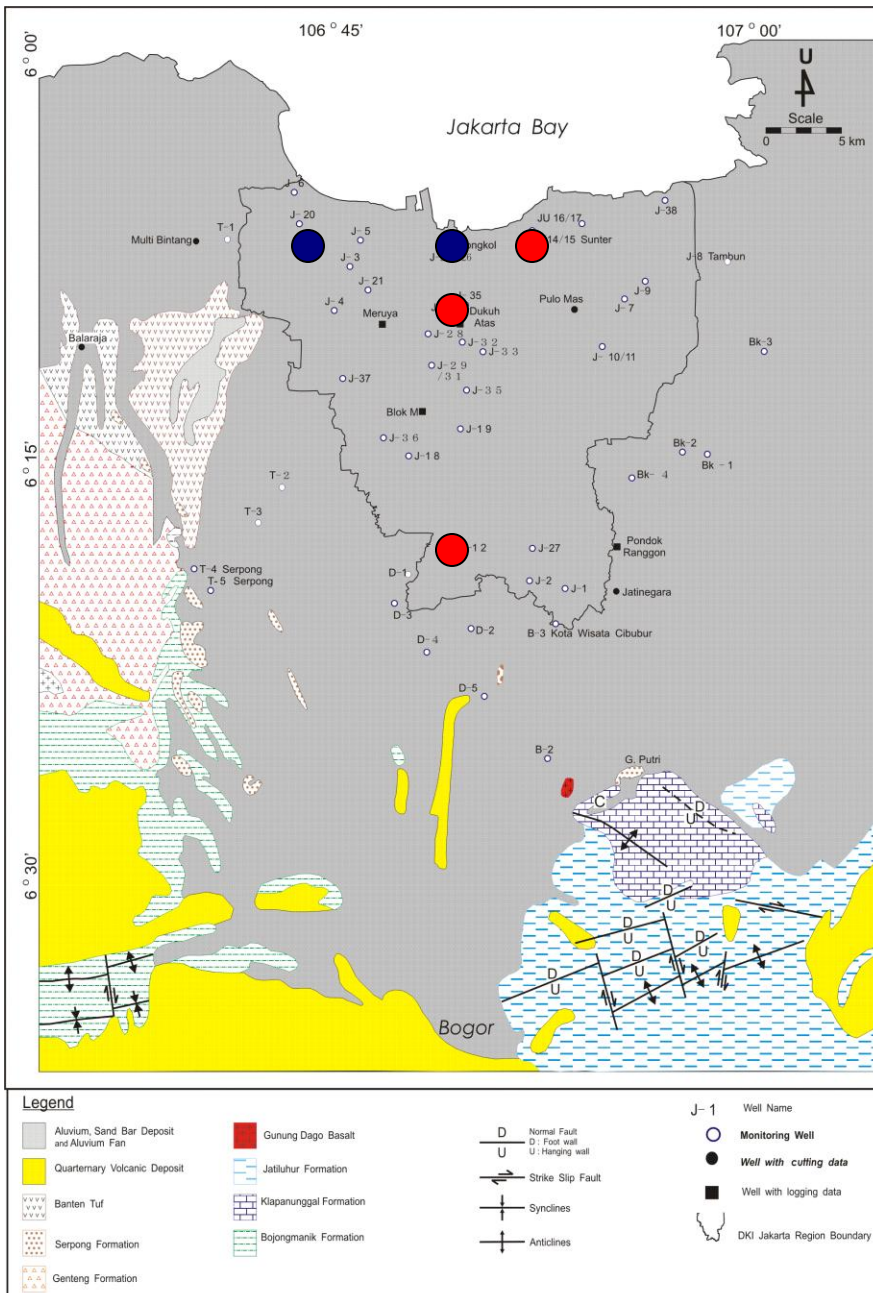
PAM Darmawangsa J - 18

Pasar Minggu I J - 19

Tongkol V J - 23

GST Location

Base on Data Analysis from 17 selected well

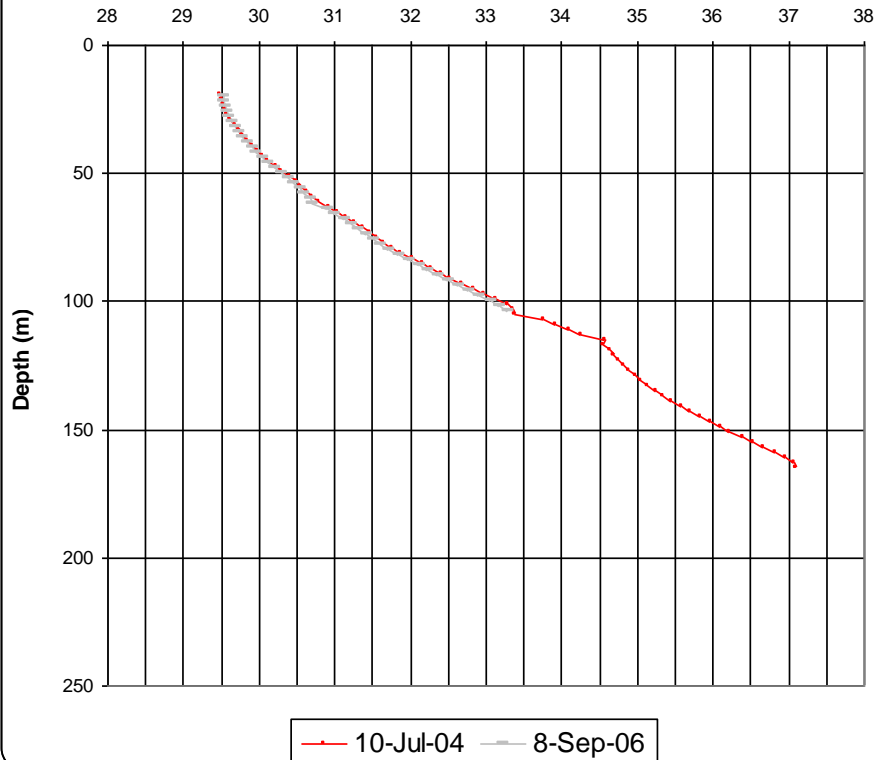


Compilation from Turkandi et. all (1992), Effendi et. all (1992) & Achdan et. all (1992).

J-14 Sunter II

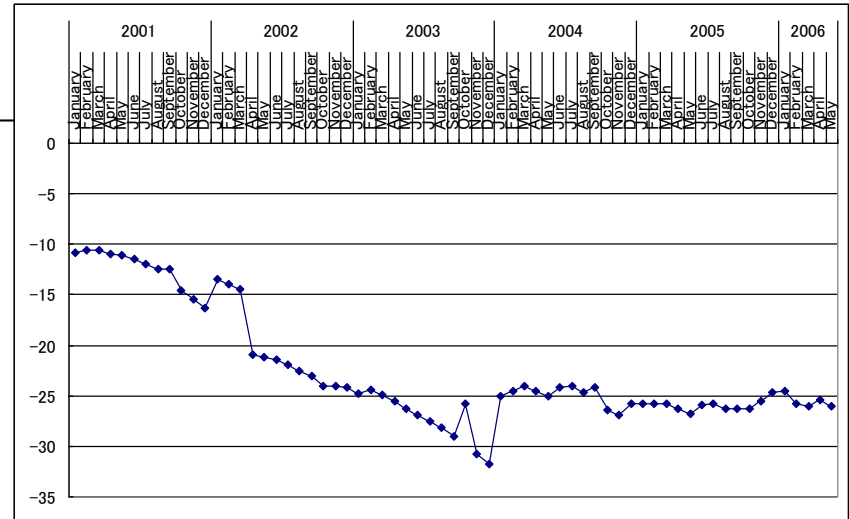
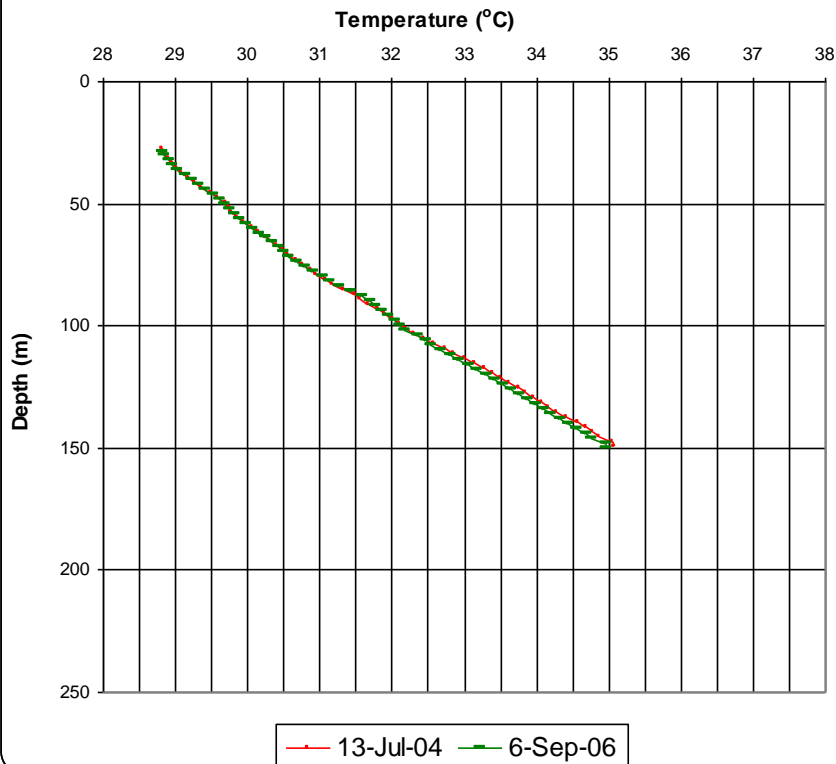
Sunter 2
(Screen : 172 - 177 m)

Temperature (°C)



DPR GATOT SUBROTO (Parliament Building) J-28

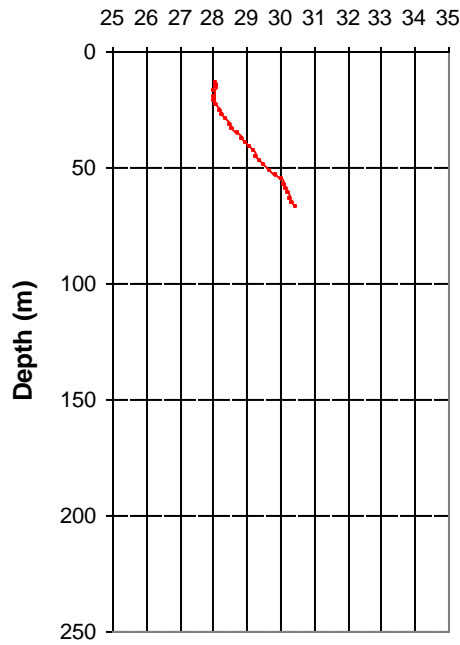
DPR GATSU
(Screen : 147 - 185 m)





J-12 Jagakarsa (Screen : 60 -67 m)

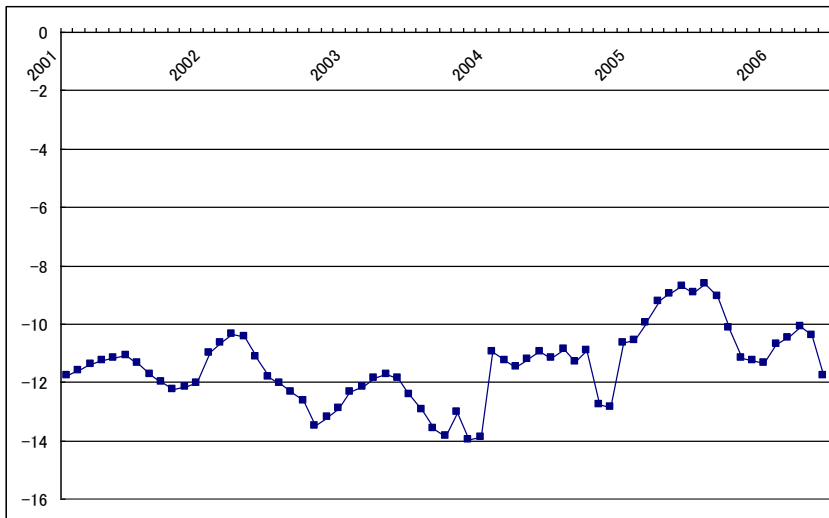
Temperature (°C)



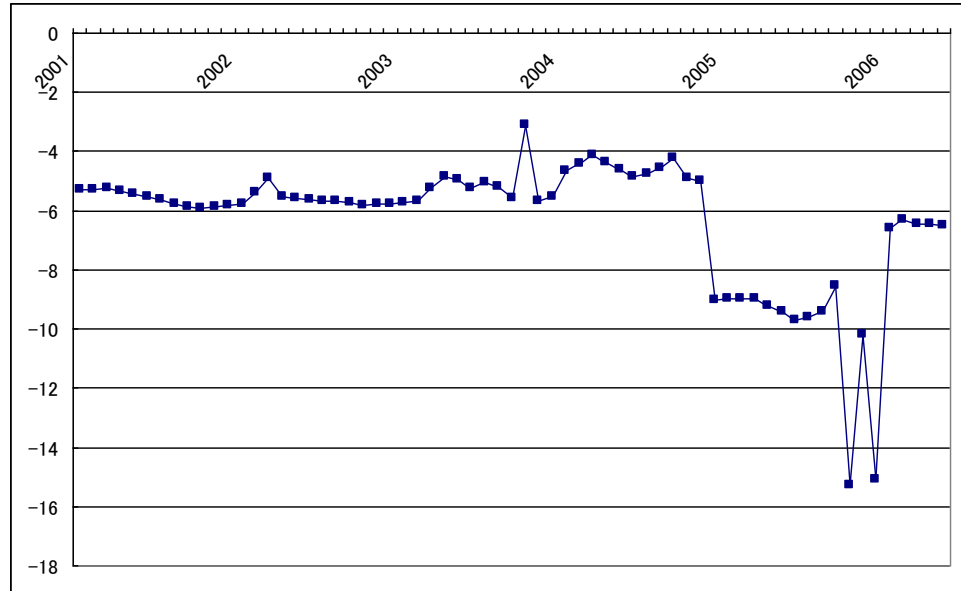
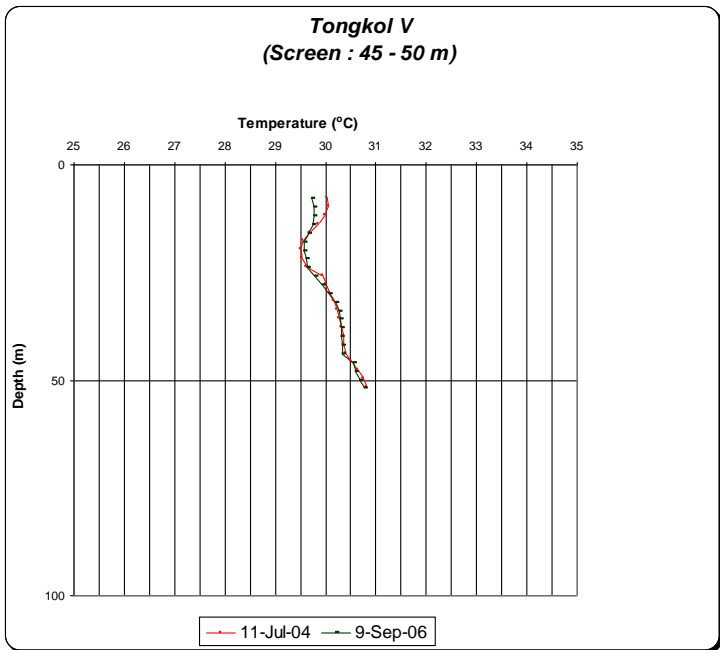
Temperature(C)



Jagakarsa J-12



Tongkol V J-23



THANK YOU FOR YOUR ATTENTION

