

# The development of groundwater resources in low groundwater potential area by Riverbank Filtration (RBF) method

at Ban Ai Bue Tae,  
Chang Phueak Subdistrict, Chanae District, Narathiwat Province

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# Outlines



Introduction



Objectives



Methodology



Results



Conclusion



# Introduction





# The development of groundwater resources in low groundwater potential area by Riverbank Filtration (RBF) method

Sai Buri River

Ai Bue Tae Lek Canal

Area 3.0 km<sup>2</sup>

Model Farm Project in Her Majesty Queen Sirikit (Ban Ai Bue Tae)



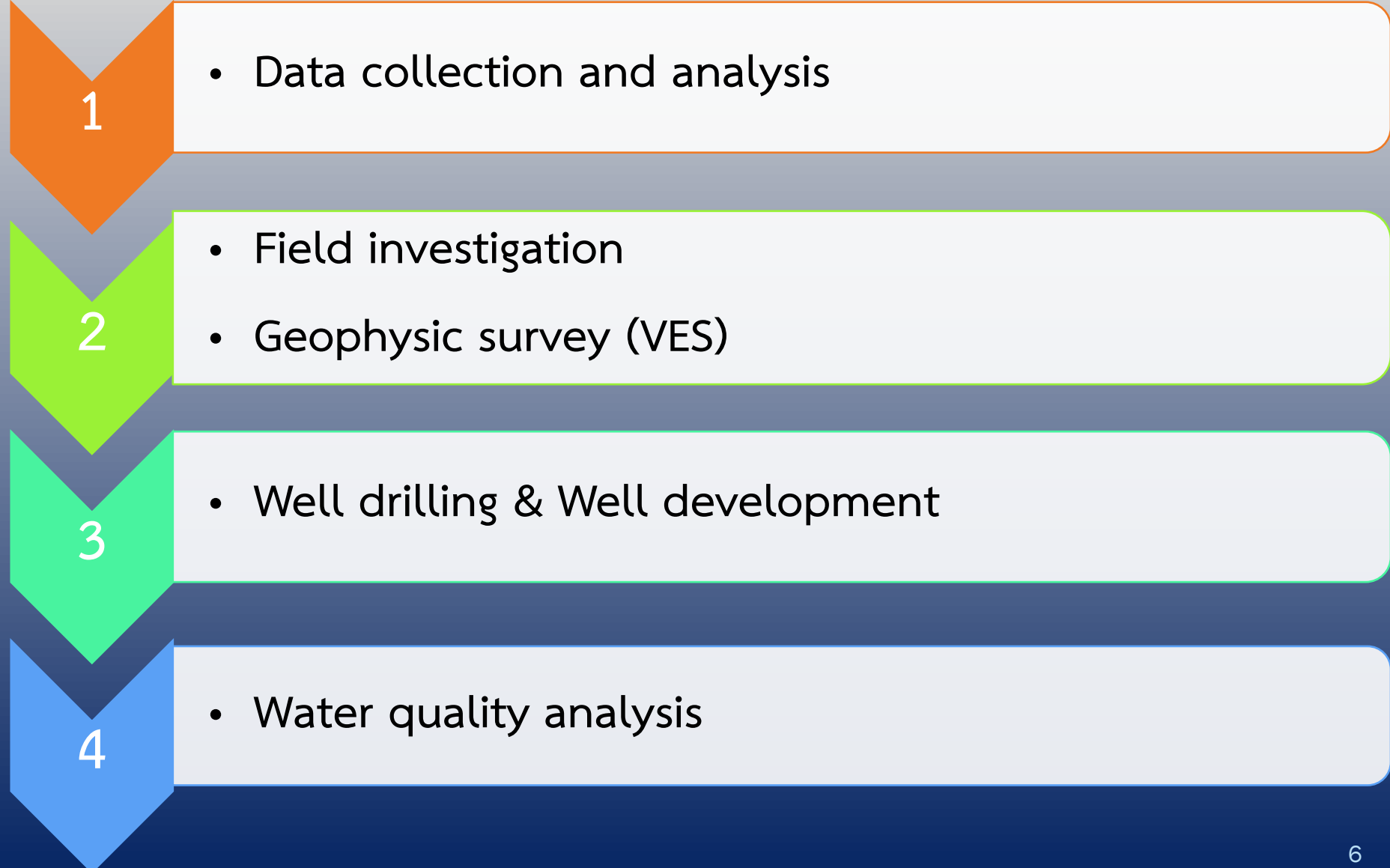
# Objectives

1. Investigate for available groundwater in low potential area

2. To alleviate shortage of water for consumption

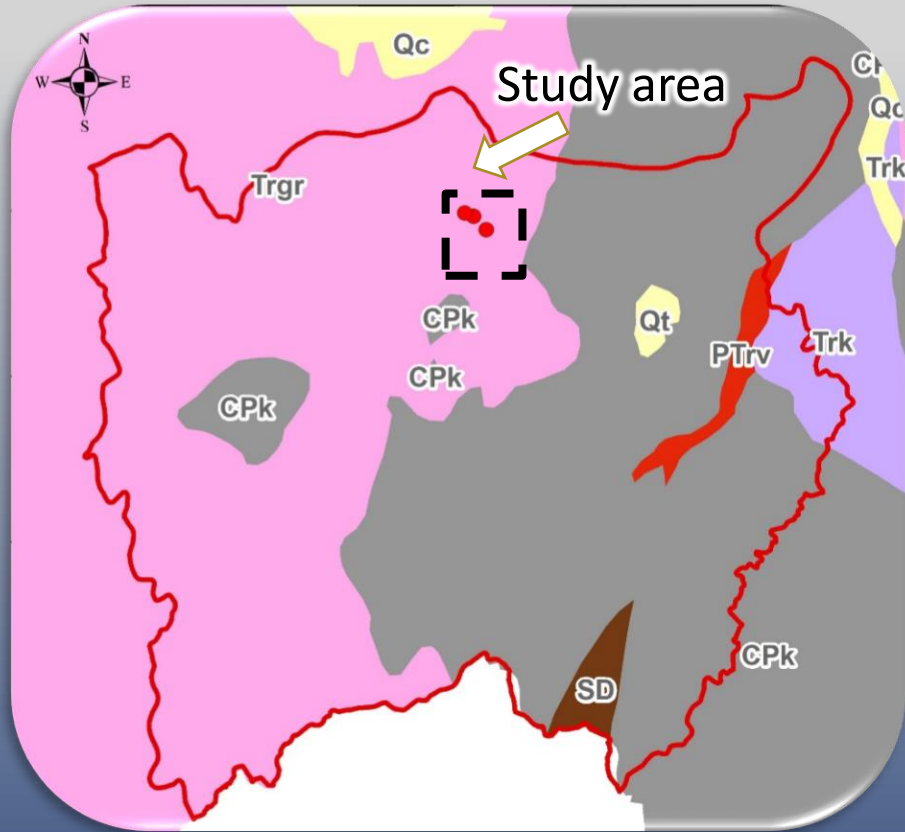


# Methodology

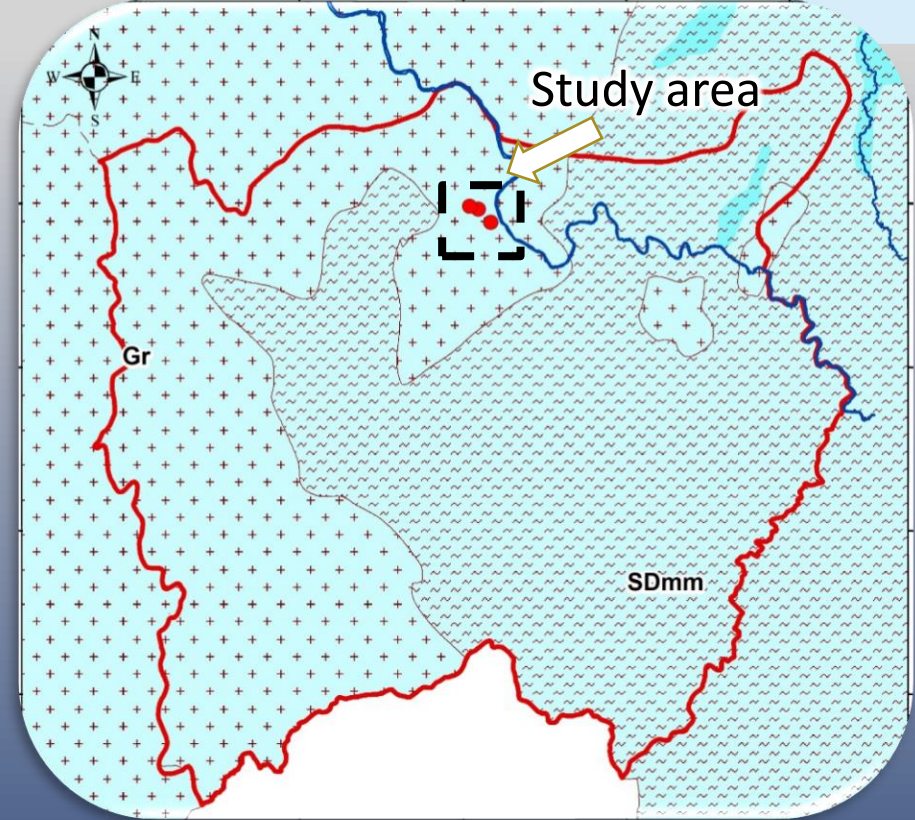




# The development of groundwater resources in low groundwater potential area by Riverbank Filtration (RBF) method



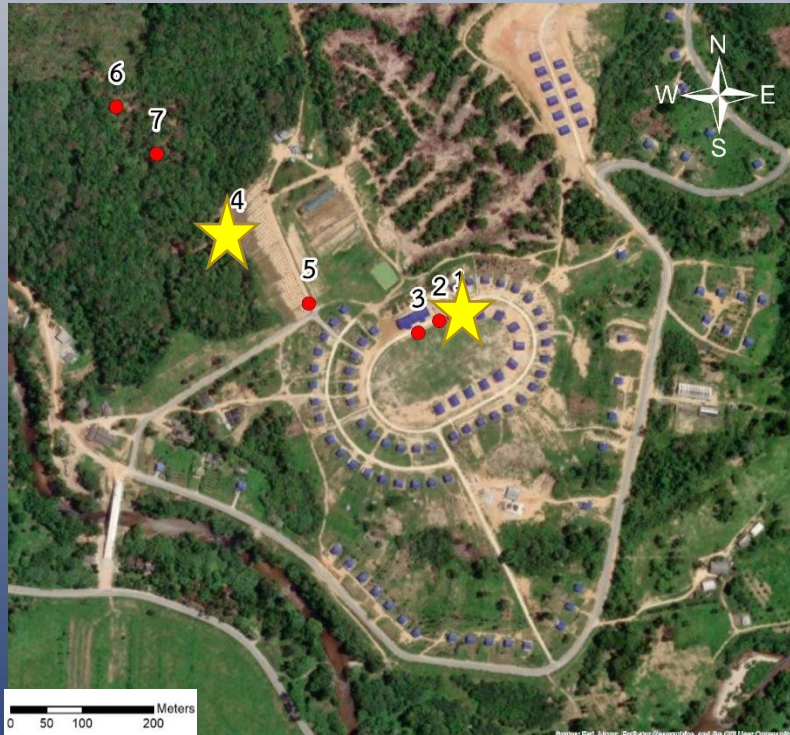
**Trgr** Biotite granite, tourmaline granite, granodiorite, biotite-muscovite granite, muscovite-tourmaline granite, and biotite-tourmaline granite.



Gr Granite aquifer      SDmm SD Metamorphic Rocks

		Groundwater Quantity (m <sup>3</sup> /hr.)				
		<2	2-10	10-20	20-30	>30
Groundwater Quality TDS (mg/l)	<500					
	500-1,500					
	>1,500					

## Geophysical resistivity method



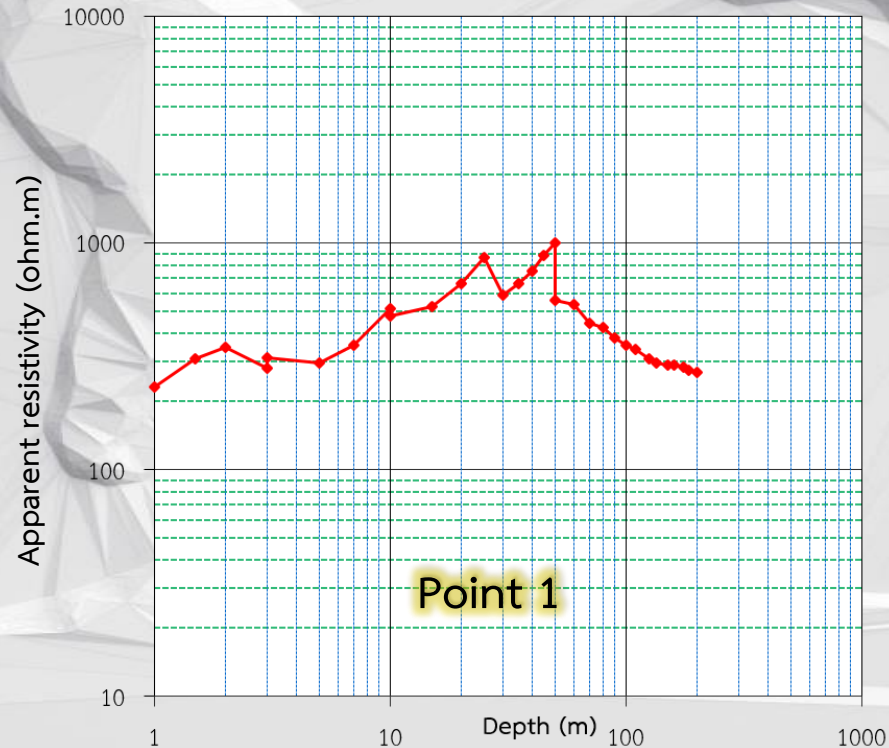
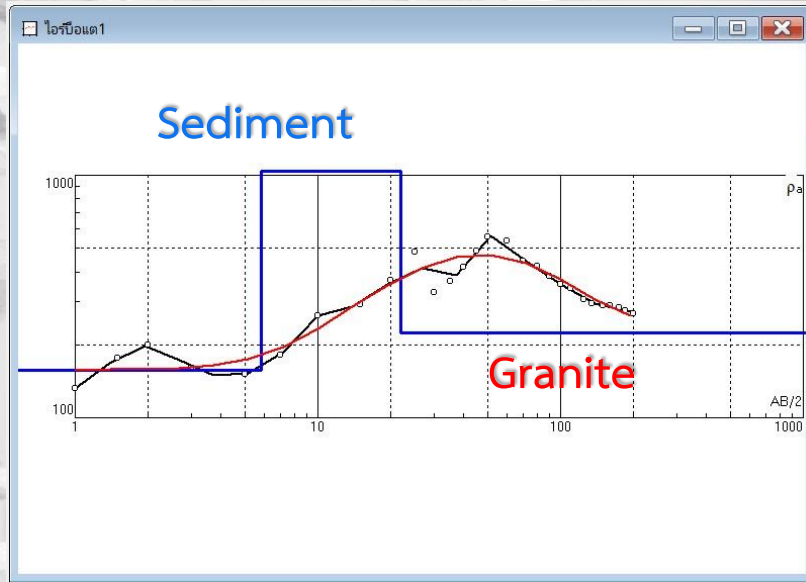
1<sup>st</sup> target area





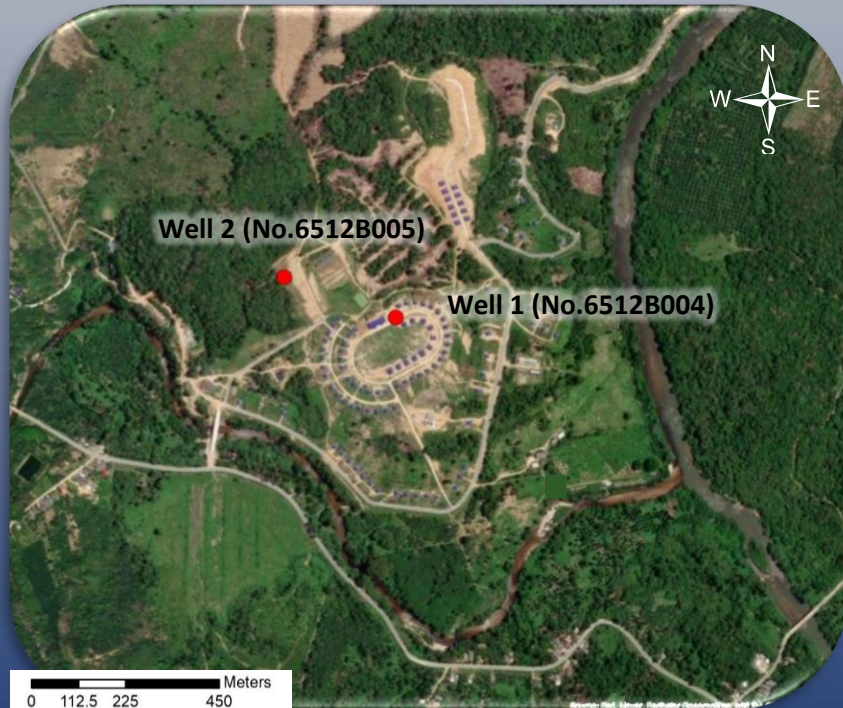
# Results

## Resistivity results



- ❑ Survey point 1 : Sedimentary thickness might be 22 m, fractures in granite might be at depths of 25-30, 50-60, and 125-135 m.
- ❑ Survey point 4 : Sedimentary thickness might be 20 m, Fractures in granite might be at depths of 35-40, 45-50, and 60-70 m.

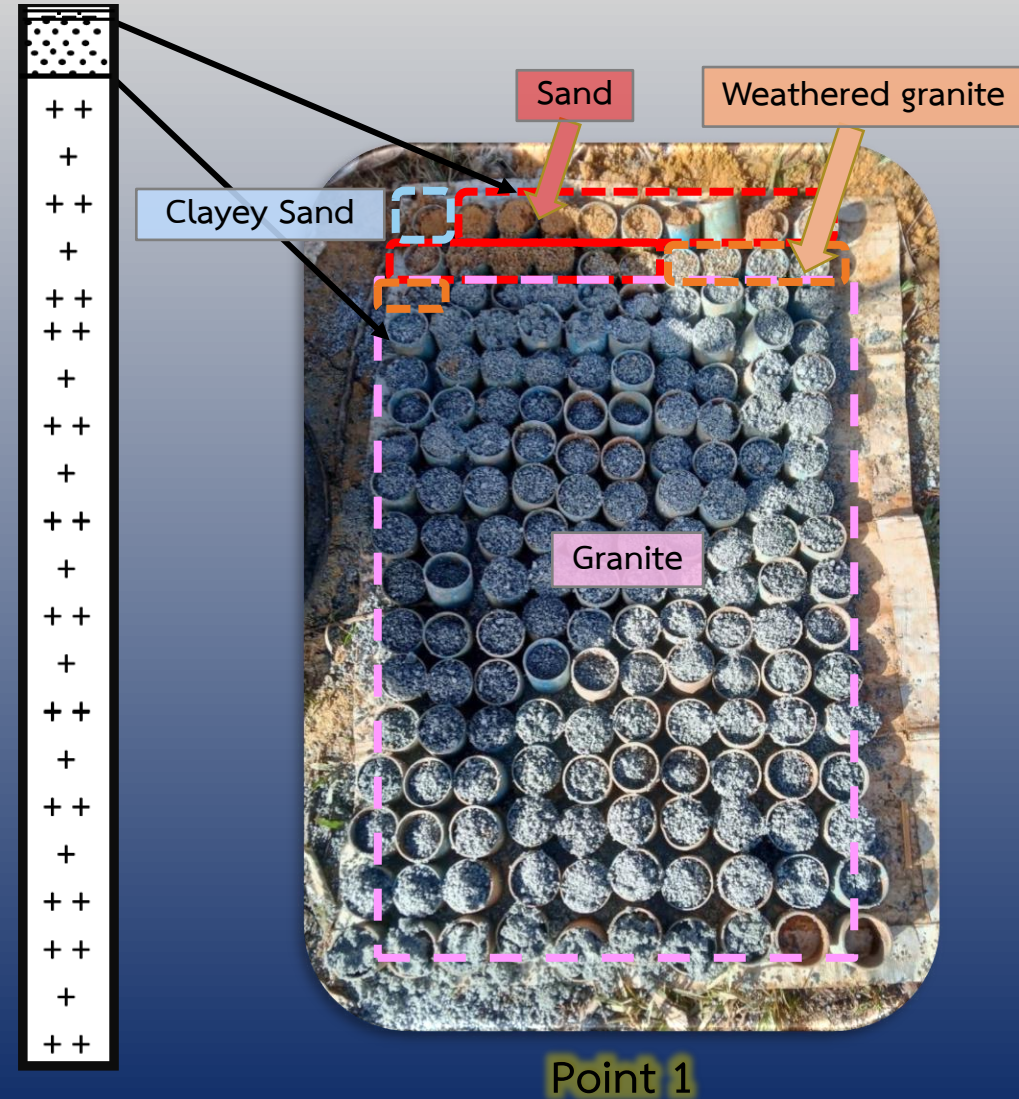
## Well drilling & Well development



# Results

## Drilling results

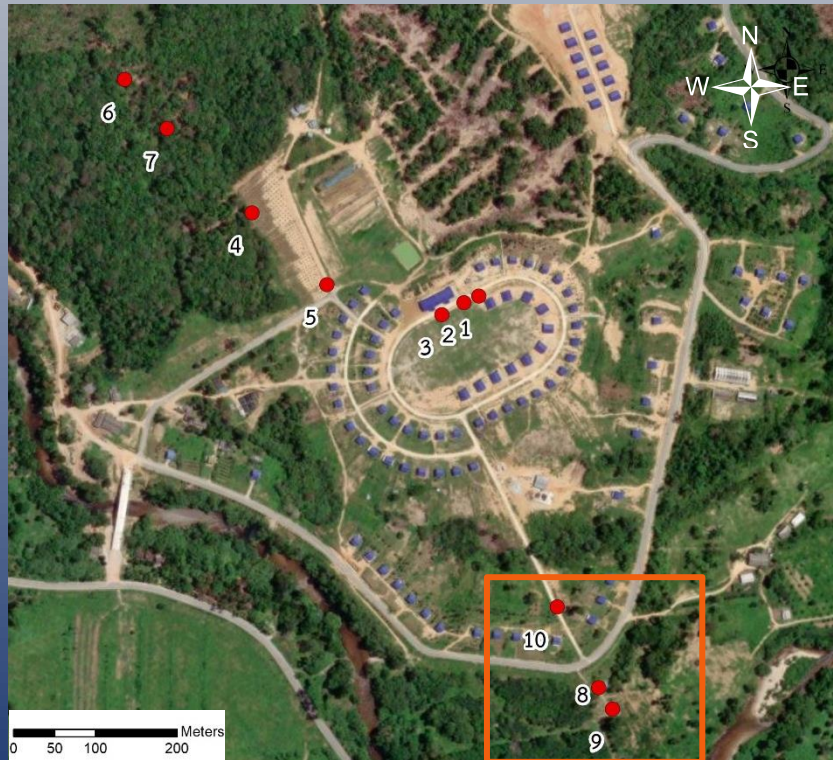
- Well no.1 (No.6512B004) found clayey sand at depth of 0-1 m, sand at depth of 1-16 m, weathered granite at depth of 16-21 m, and fresh granite at depth of 21-168 m.
- Well no.2 (No.6512B005) found clayey sand at depth of 0-1 m, sand at depth of 1-12 m, weathered granite at depth of 12-19 m, and fresh granite at depth of 19-130 m
- Groundwater yield was merely **1-1.5** m<sup>3</sup>/hr. from well no. 1 and well no. 2



## Data collection and analysis II



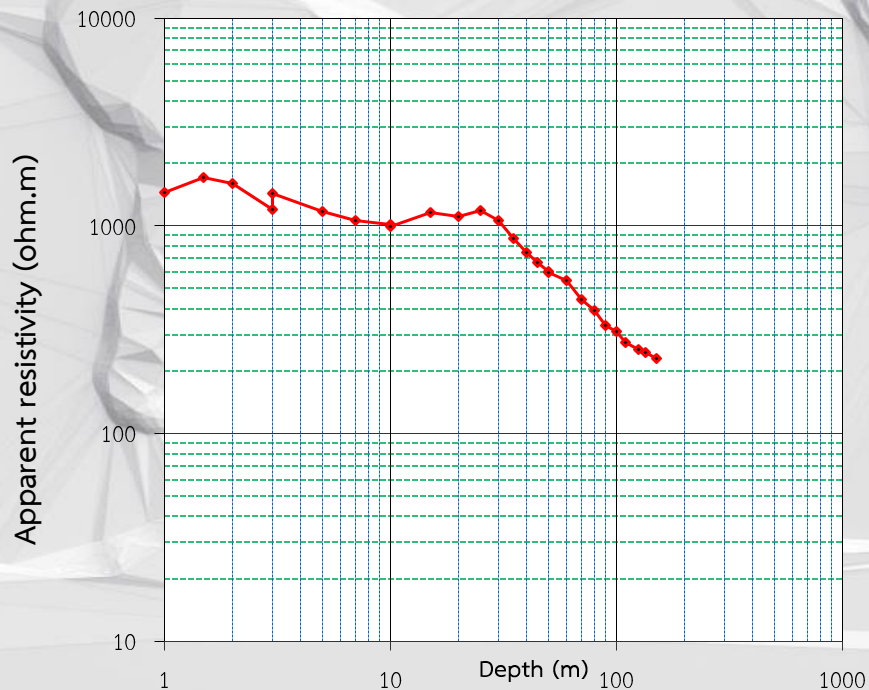
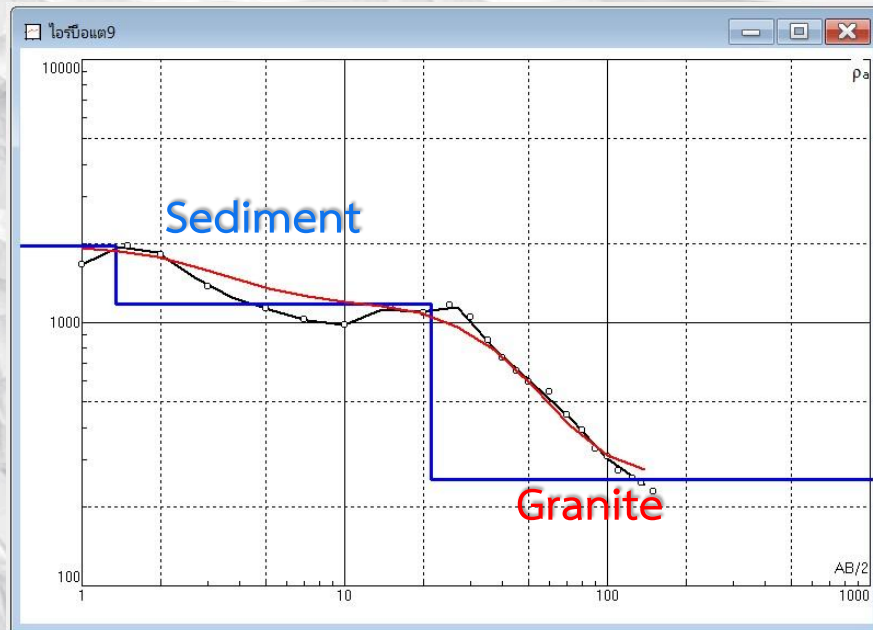
## Geophysical resistivity method II



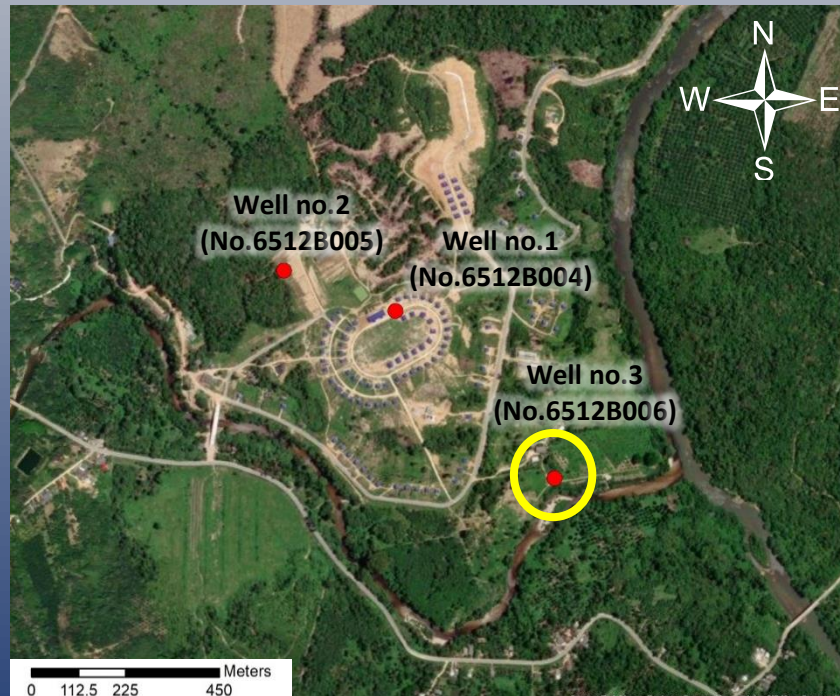
# Results

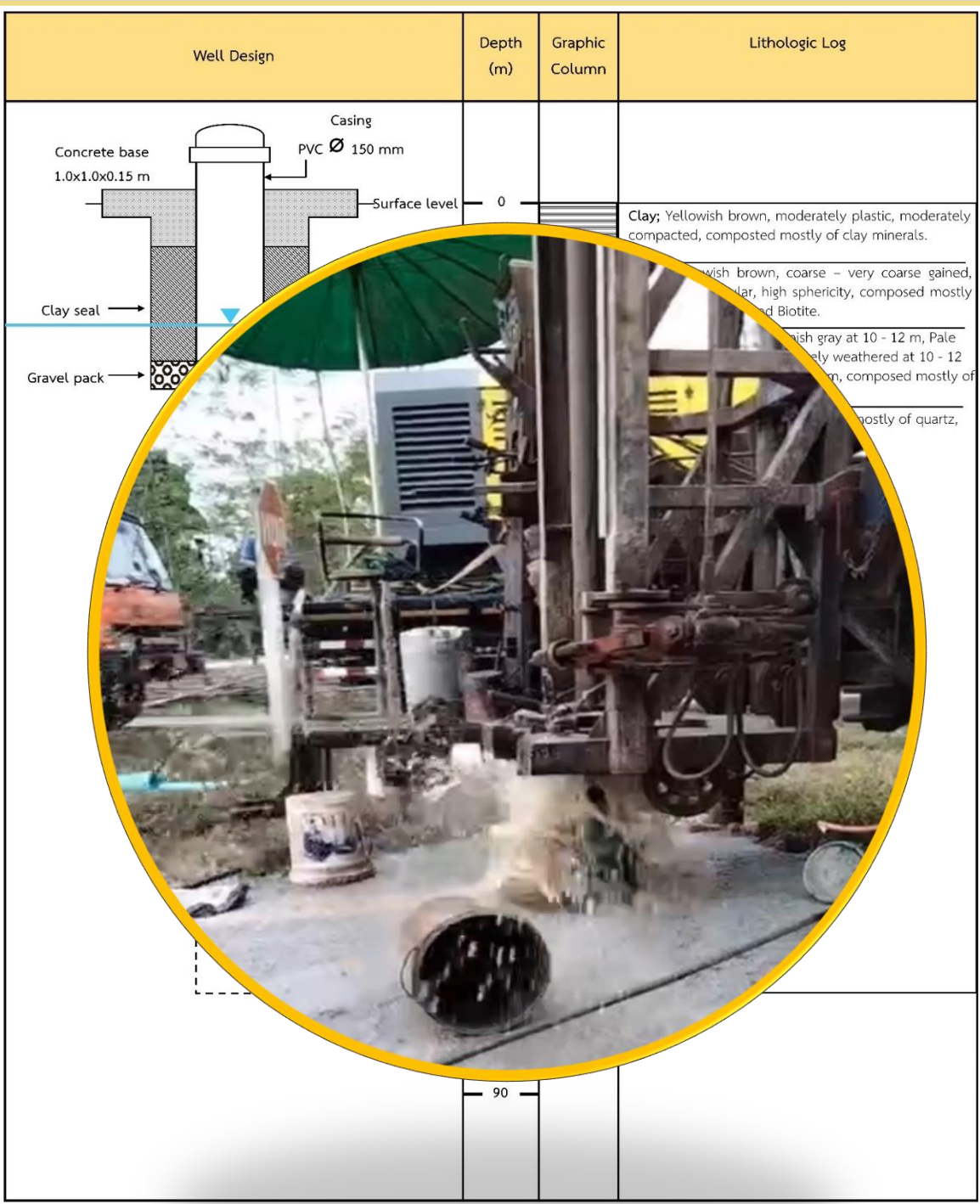
## Resistivity results

- Survey point 9 : Sedimentary thickness might be 21 m, fractures in granite might be at depths of 25-30, and 60-80 m.



## Well drilling & Well development

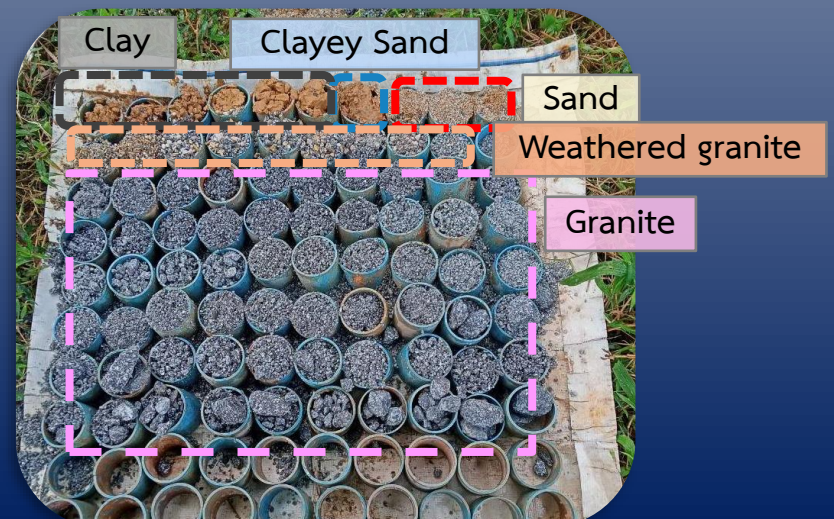




# Results

## Drilling results

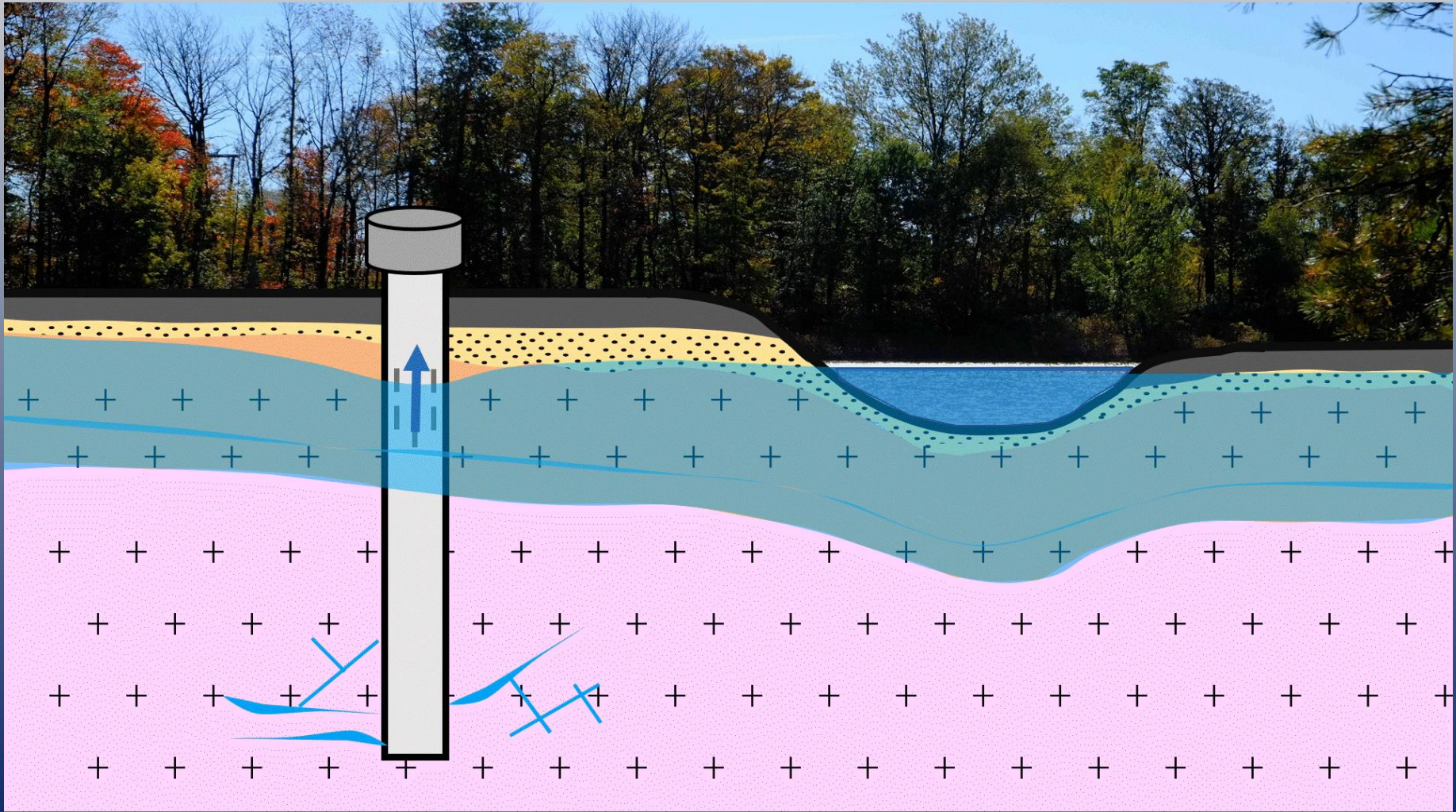
- Well no.3 (No.6512B006) found Clay at depth of 0-6 m, Clayey Sand at depth of 6-7 m, Sand at depth of 7-10 m, weathered granite at depth of 10-19 m and granite at depth of 19-80 m
- Groundwater yield from well no.3 was 6 m<sup>3</sup>/hr.










# Riverbank Filtration (RBF)



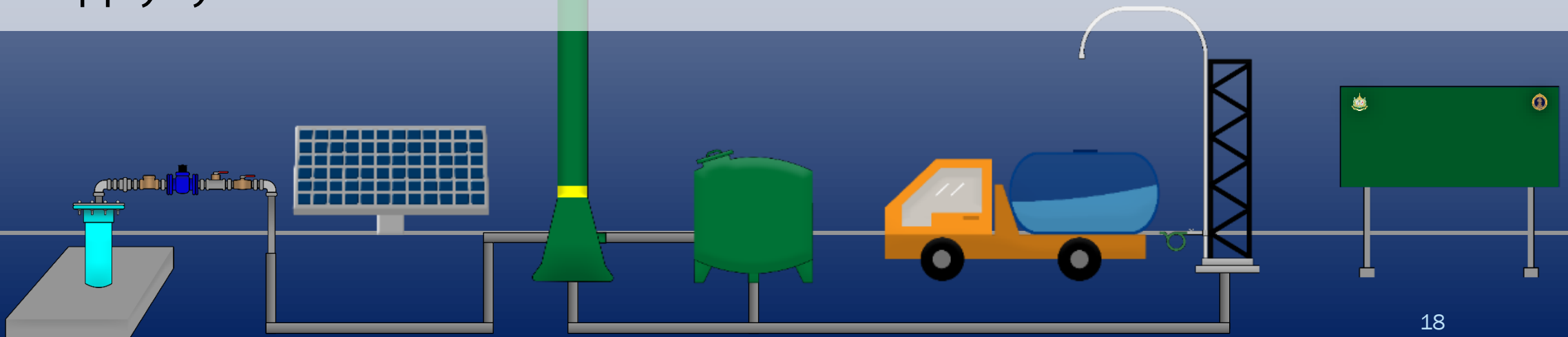
### Symbols

-  Sand
-  Weathered granite
-  Granite



# Conclusion

- ❑ Groundwater in low potential area can be developed the riverbank filtration (RBF) method .
- ❑ The groundwater yield from RBF was 6 m<sup>3</sup>/hr., which is sufficient and able to alleviate shortage of water for consumption in this area.
- ❑ This project will be used for further development of constructed groundwater supply system.





Thank you  
For  
Your attention