



THE STUDY OF SALINITY, WATER TEMPERATURE AND SOIL QUALITY ON DIVERSITY OF FIDDLER CRABS IN MANGROVE SALINE HOT SPRINGS, HAT CHAO MAI NATIONAL PARK, TRANG PROVINCE

Researchers : Miss.Hataiphat Kanjanasrimek
Miss.Nattagrita Lunda

Advisor : Mrs. Patchara Pongmanawut, Miss.Neungruethai Chaimanee

Scientist : Assoc. Prof. Dr.Mullica Jaroensutasinee

Princess Chulabhorn Science High School Trang , Thailand



Introduction



Research Questions

1

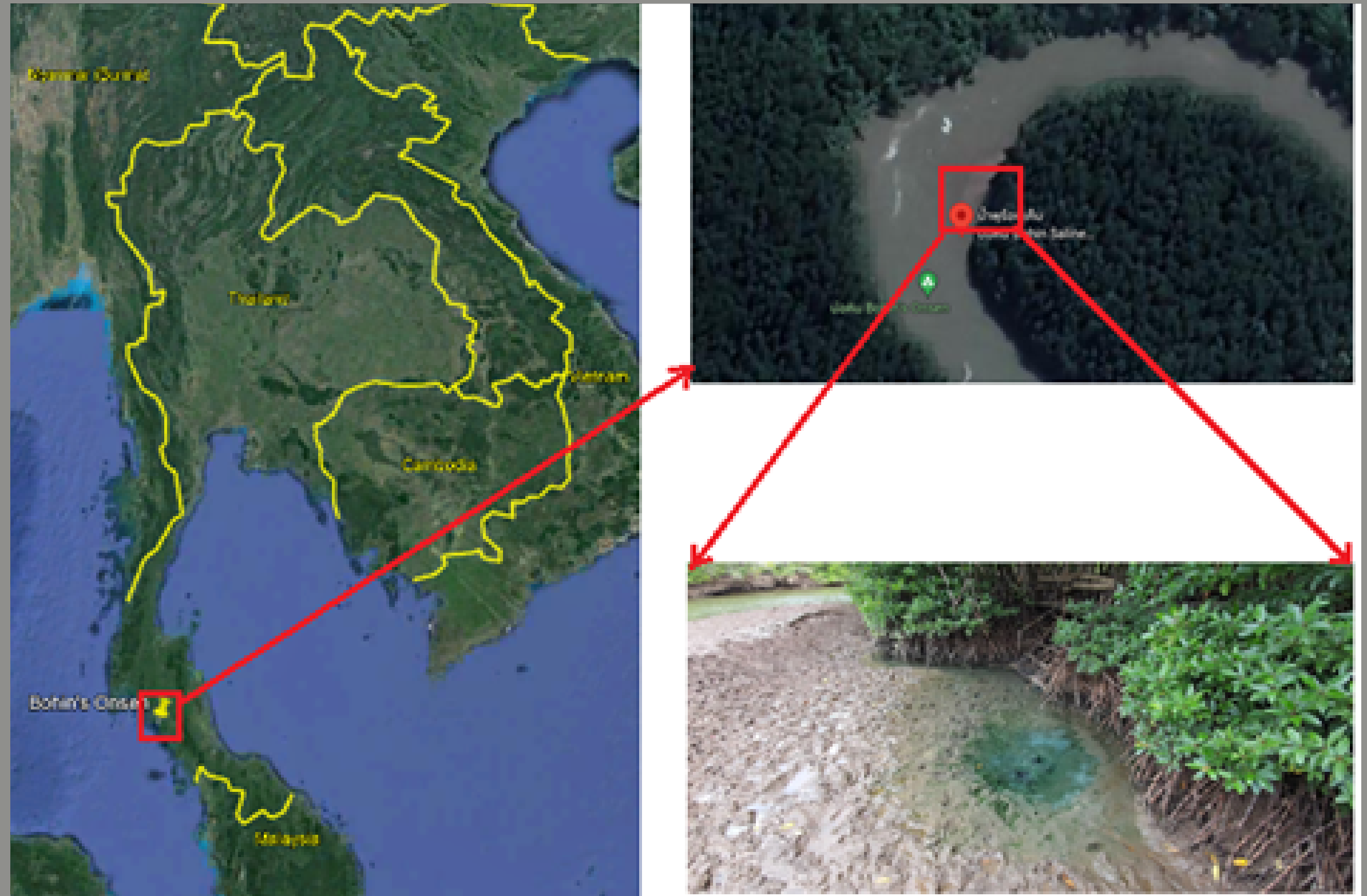
Is there any difference between salinity, water temperature and soil quality at different distances from the mangrove saline hot springs, Hat Chao Mai National Park, Trang Province?

2

Does the salinity, water temperature and soil quality in the mangrove saline hot springs, Hat Chao Mai National Park, Trang Province affect the diversity and density of fiddler crabs?

- **Study area**

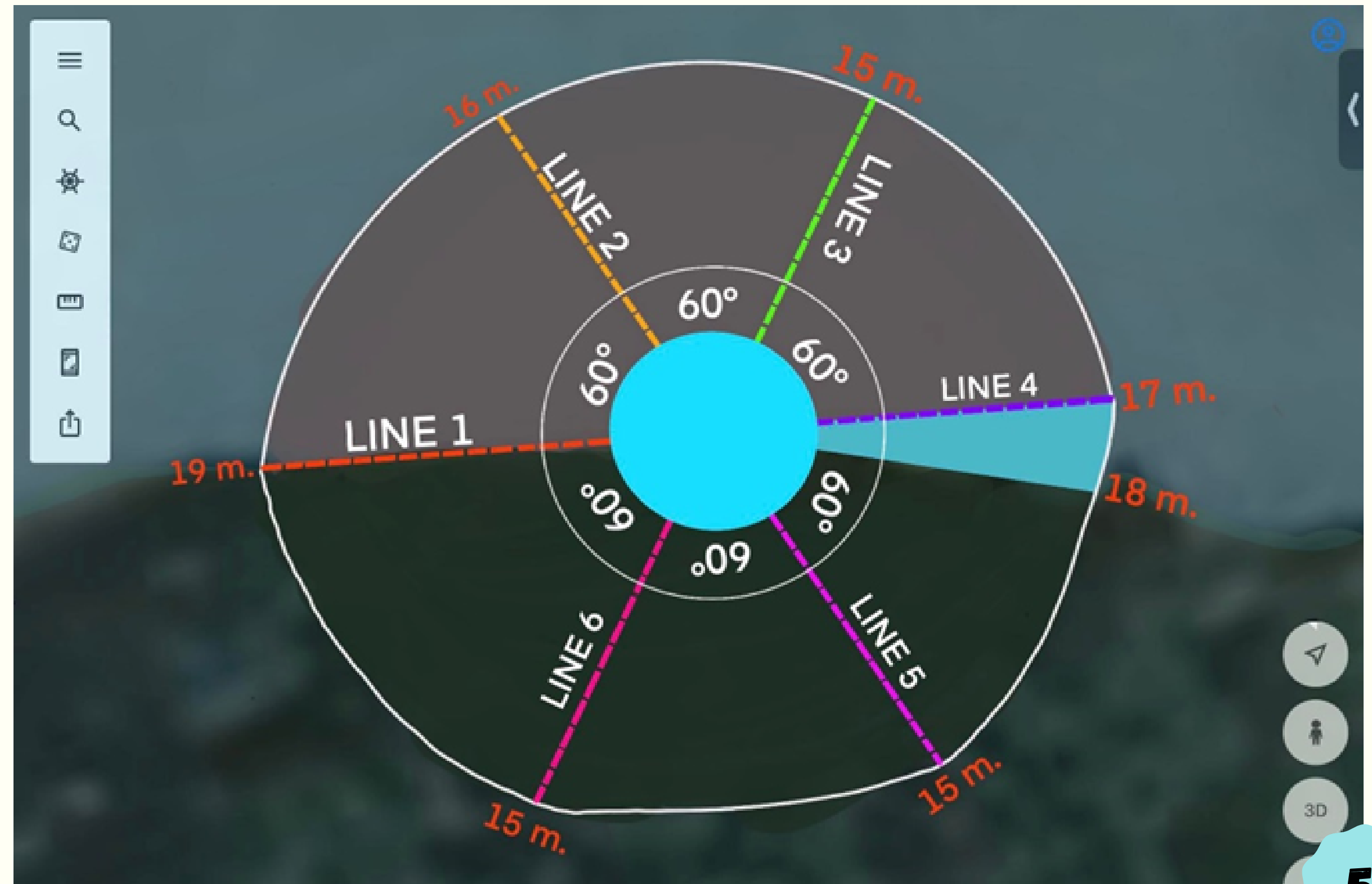
Hat Chao Mai
National Park,
Trang Province



Methodology

Step1 :

Determine
the study Point



Methodology

Step2 : Water quality data collection

1

Measure the water temperature by using the thermometer

2

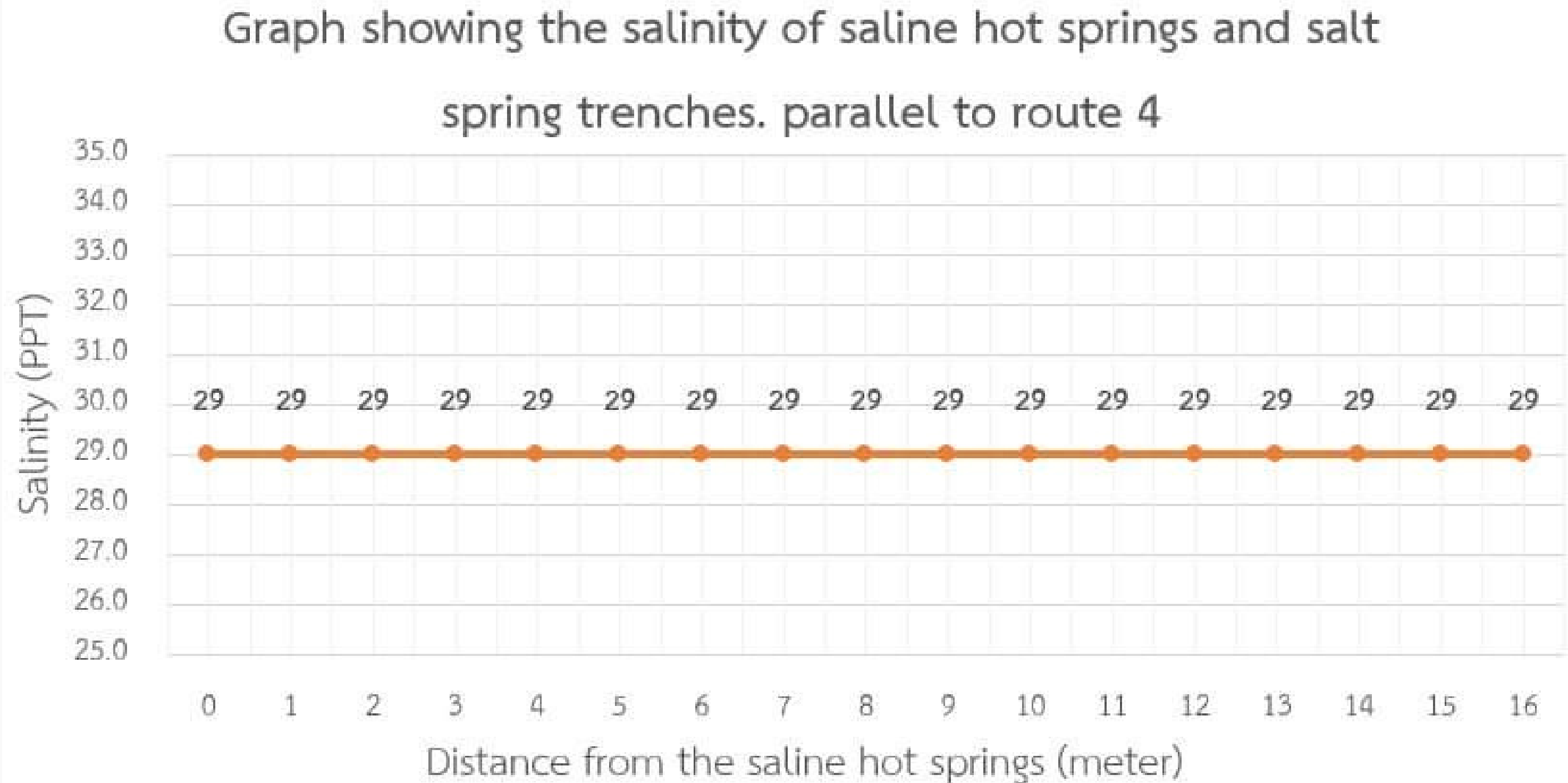
Measure the water salinity by using the Salinity meter

3

Record data and send data to GLOBE Data Entry Hydrosphere

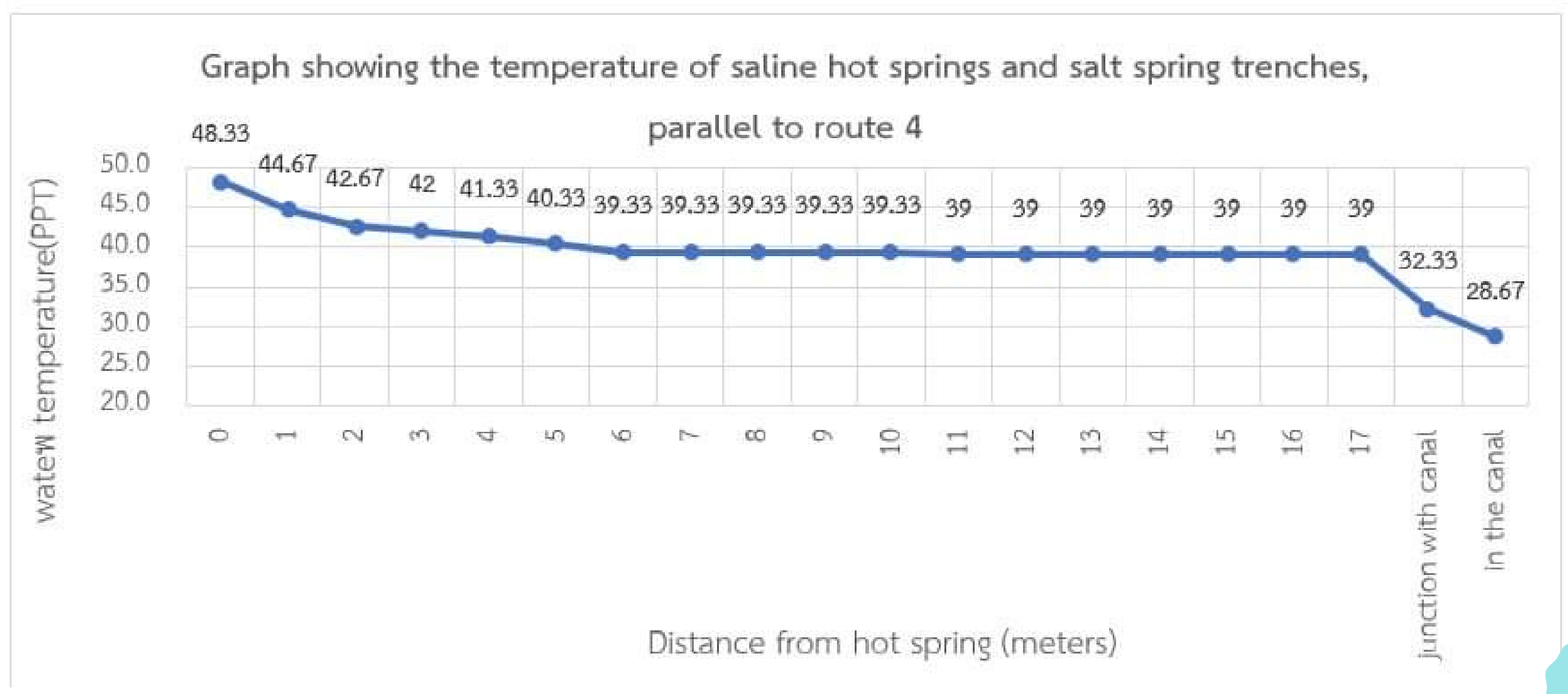
Results

Step2 : Water quality data collection



Results

Step2 : Water quality data collection



Methodology

Step3 : Soil Quality Data Collection

- 1 Measure the soil temperature
- 2 Collect soil samples to study pH, Nitrogen value, Phosphorus value, and Potassium value

Results

Step3 : Soil Quality Data Collection



A
route 1



B
Route 2-4

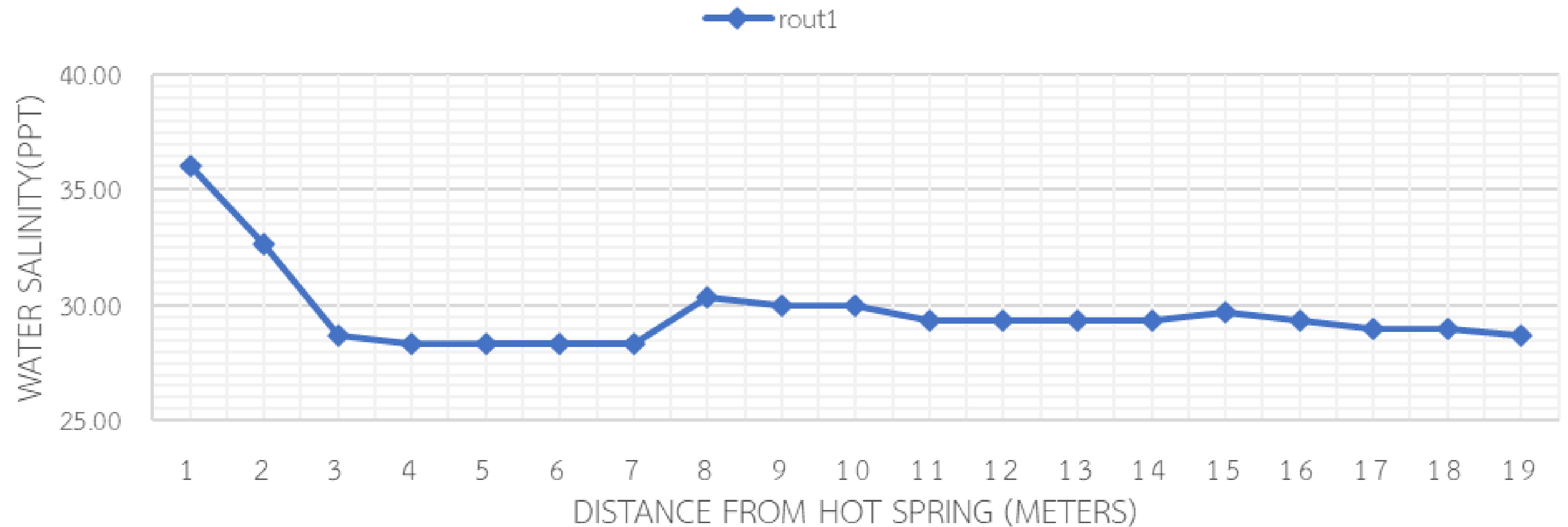


C
Route 5-6

Results

Step3 : Soil Quality Data Collection

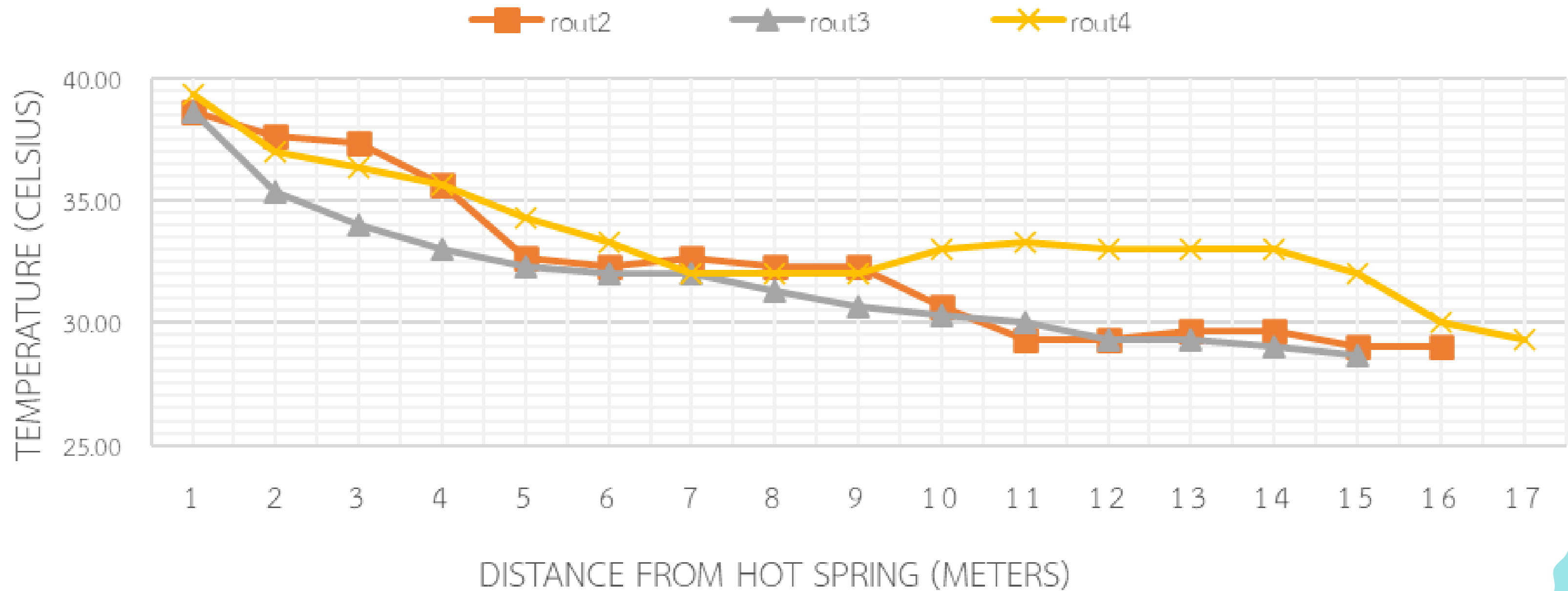
LINE GRAPH COMPARING SOIL TEMPERATURE BY DISTANCE FROM HOT SPRINGS.



Results

Step3 : Soil Quality Data Collection

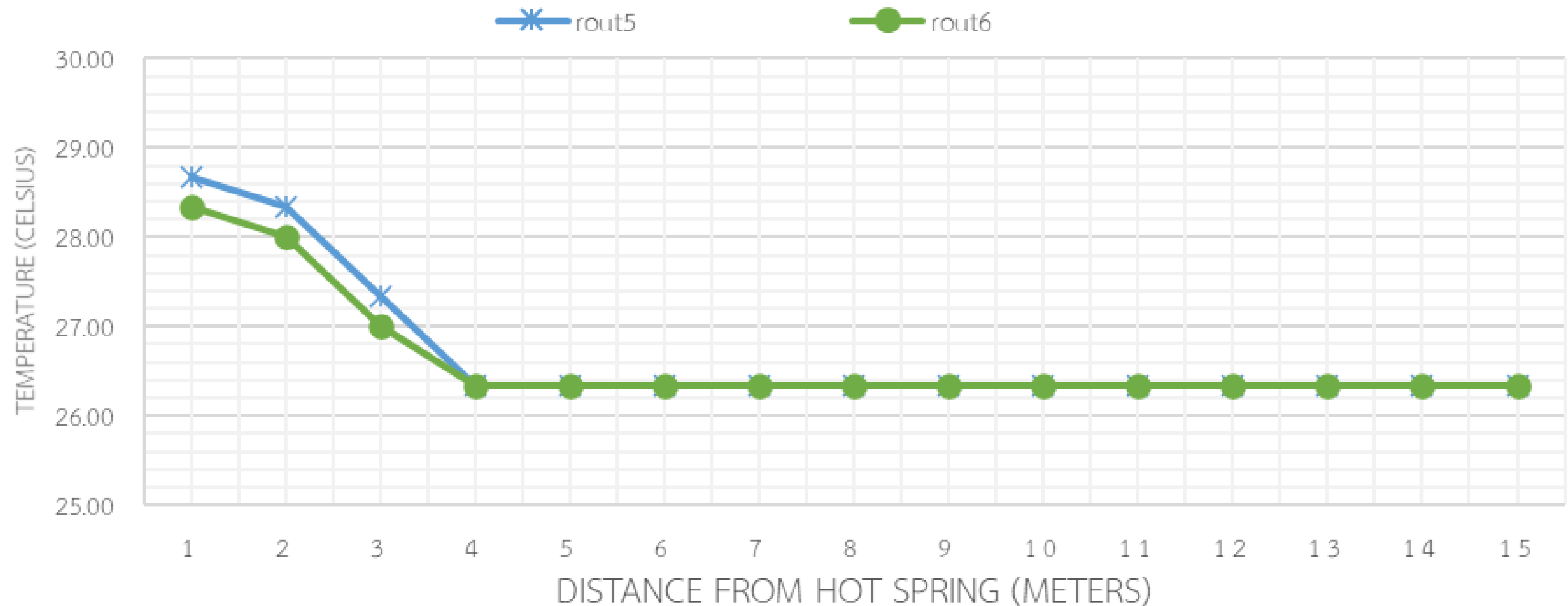
LINE GRAPH COMPARING SOIL TEMPERATURE BY DISTANCE FROM HOT SPRINGS.



Results

Step3 : Soil Quality Data Collection

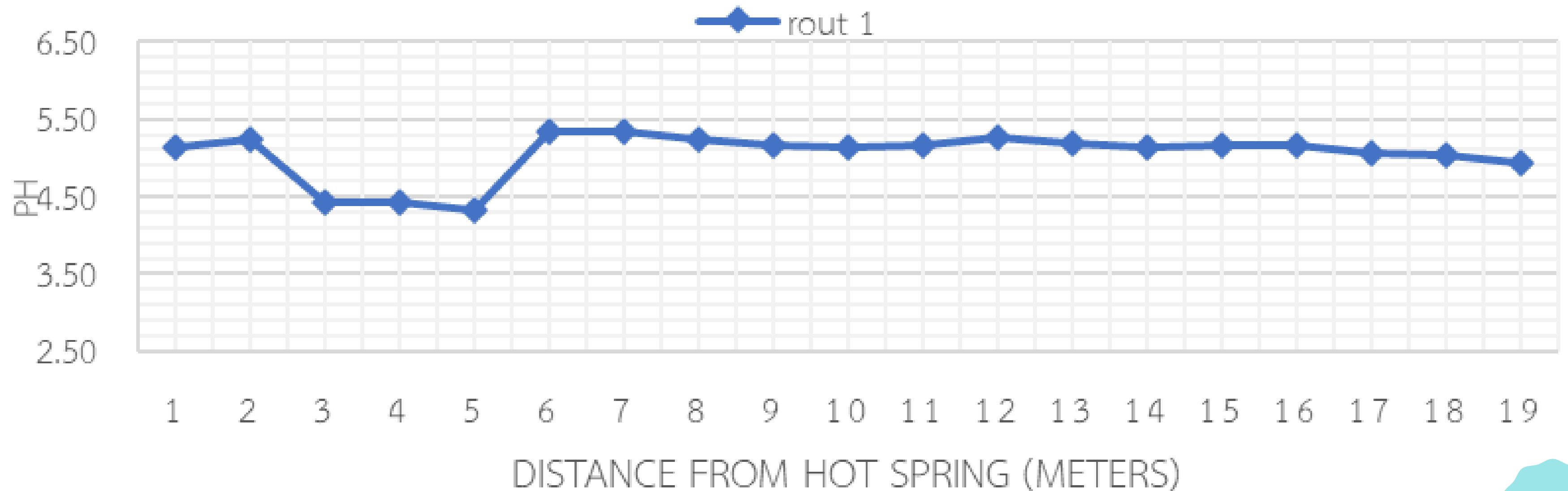
LINE GRAPH COMPARING SOIL TEMPERATURE BY DISTANCE FROM HOT SPRINGS.



Results

Step3 : Soil Quality Data Collection

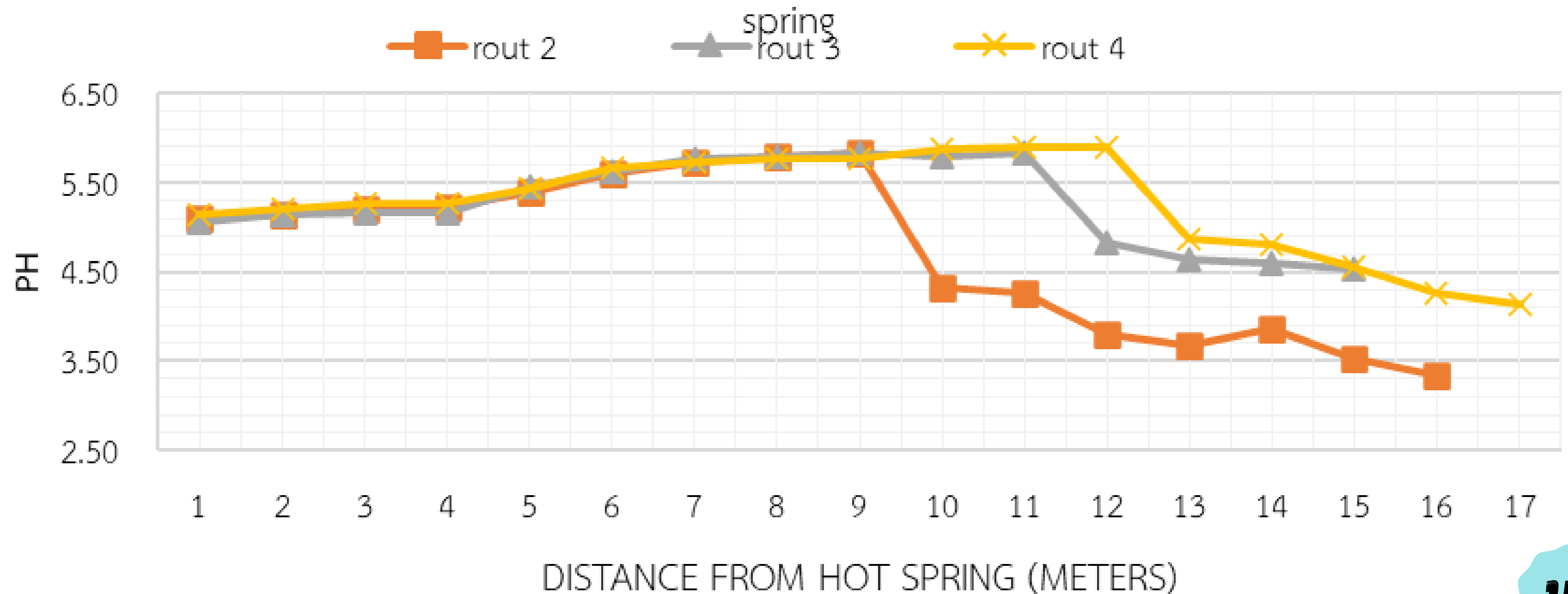
LINE GRAPH COMPARING PH VALUE SOIL ACCORDING TO THE DISTANCE FROM THE HOT SPRING



Results

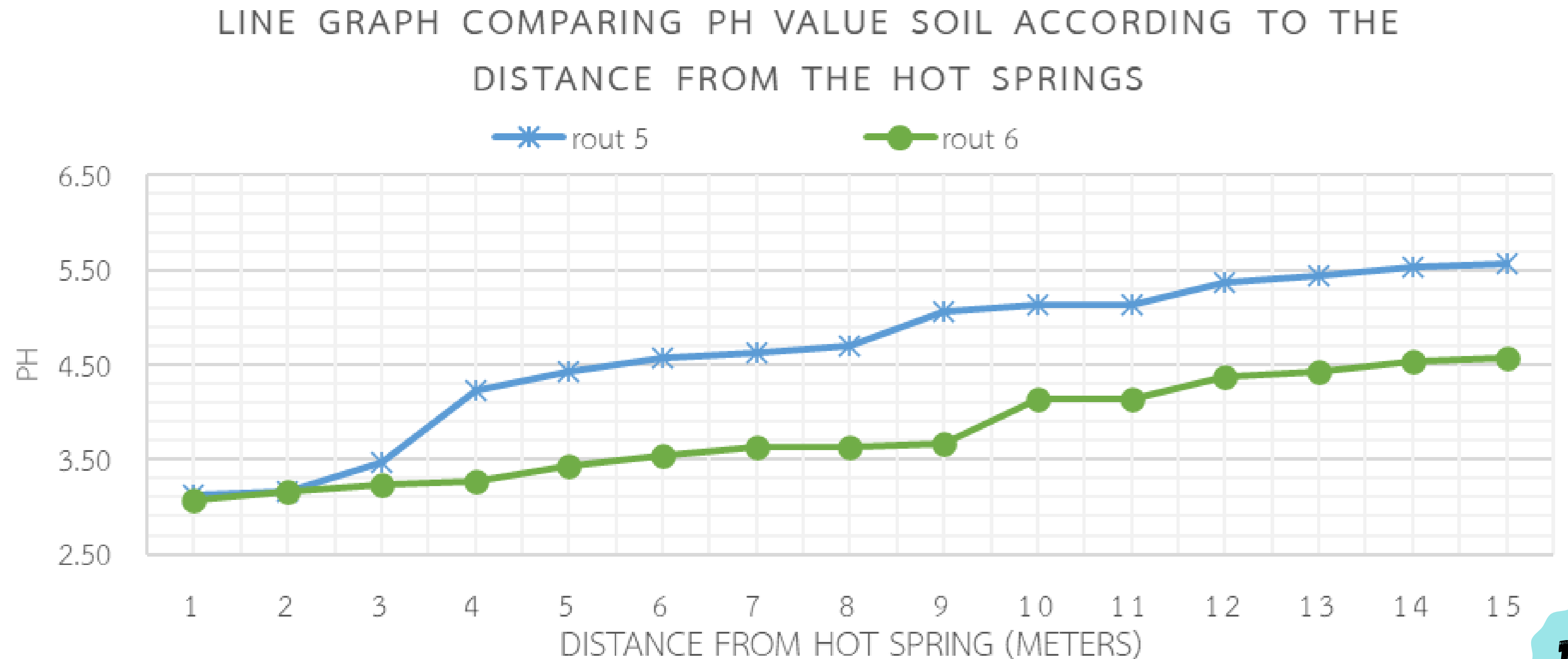
Step3 : Soil Quality Data Collection

Line graph comparing PH value soil according to the distance from the hot



Results

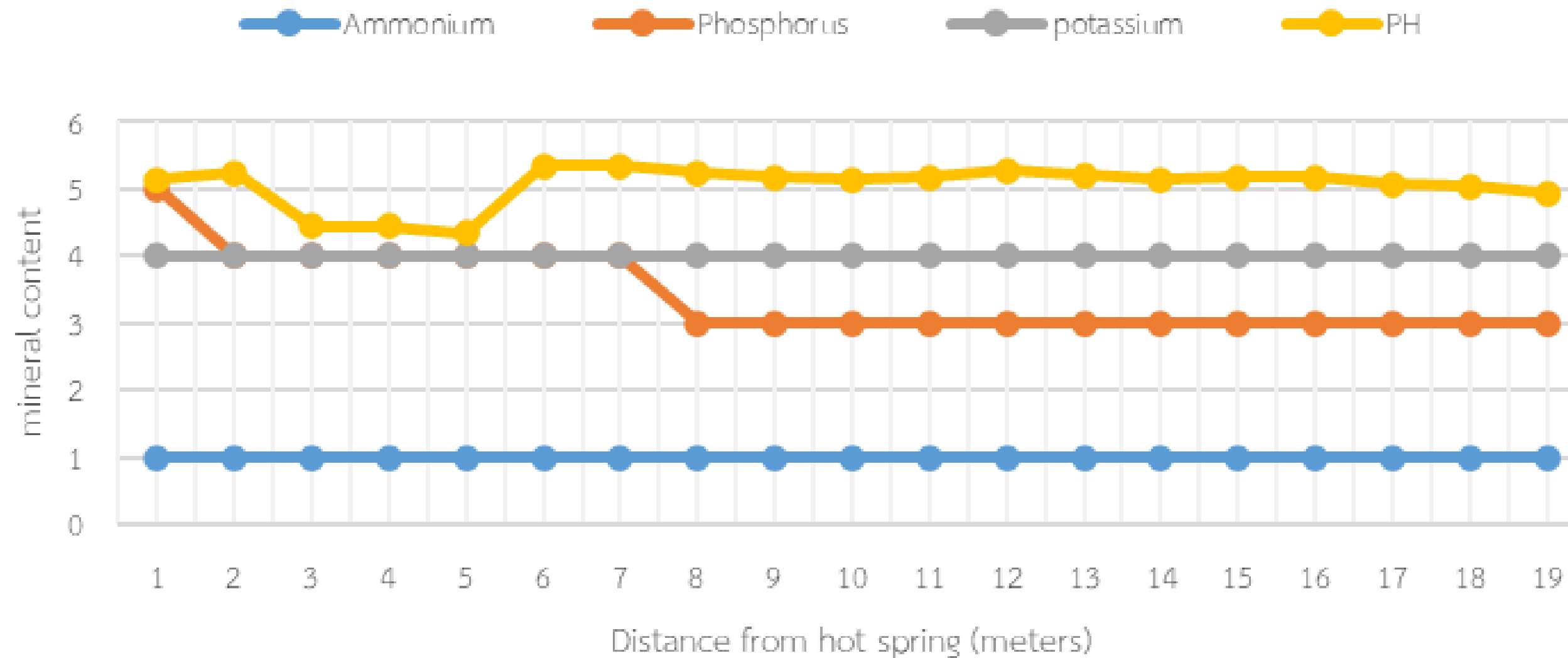
Step3 : Soil Quality Data Collection



Results

Step3 : Soil Quality Data Collection

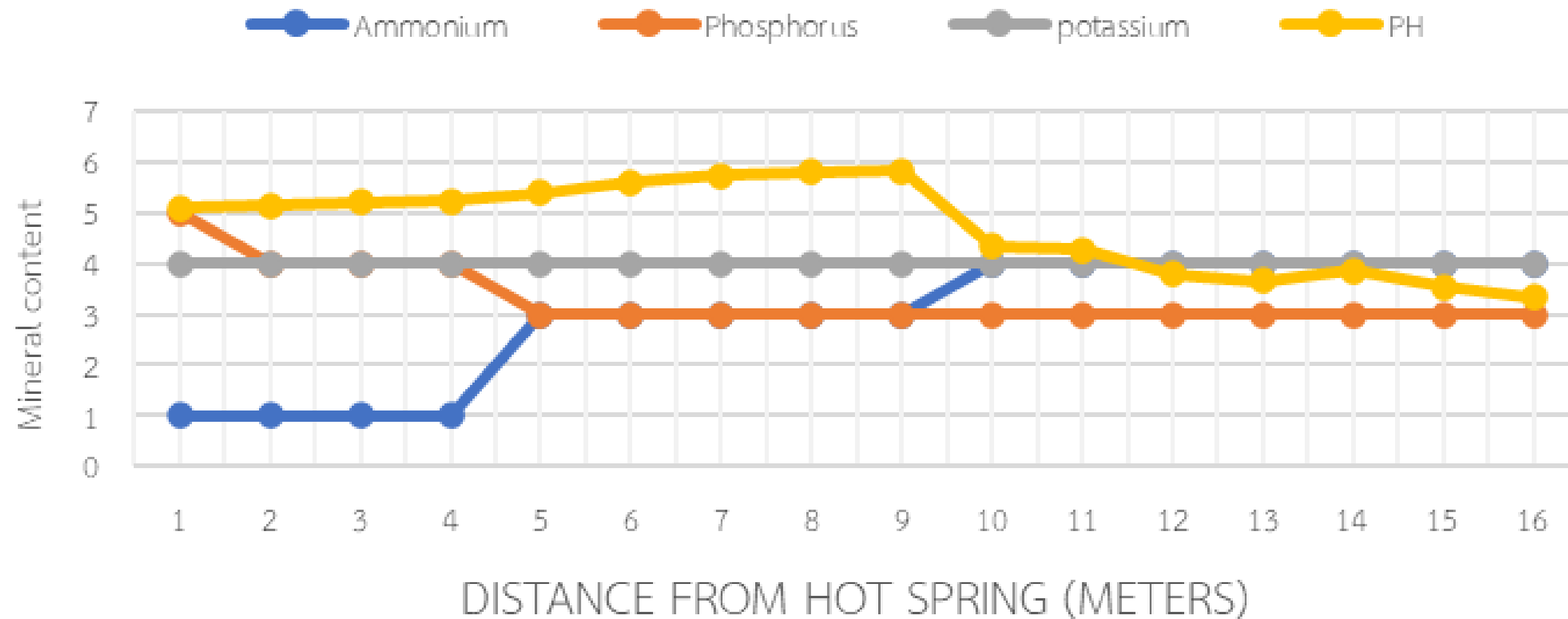
The route graph shows the mineral content of the soil by distance from the hot springs. Route 1 (the edge of the mangrove forest)



Results

Step3 : Soil Quality Data Collection

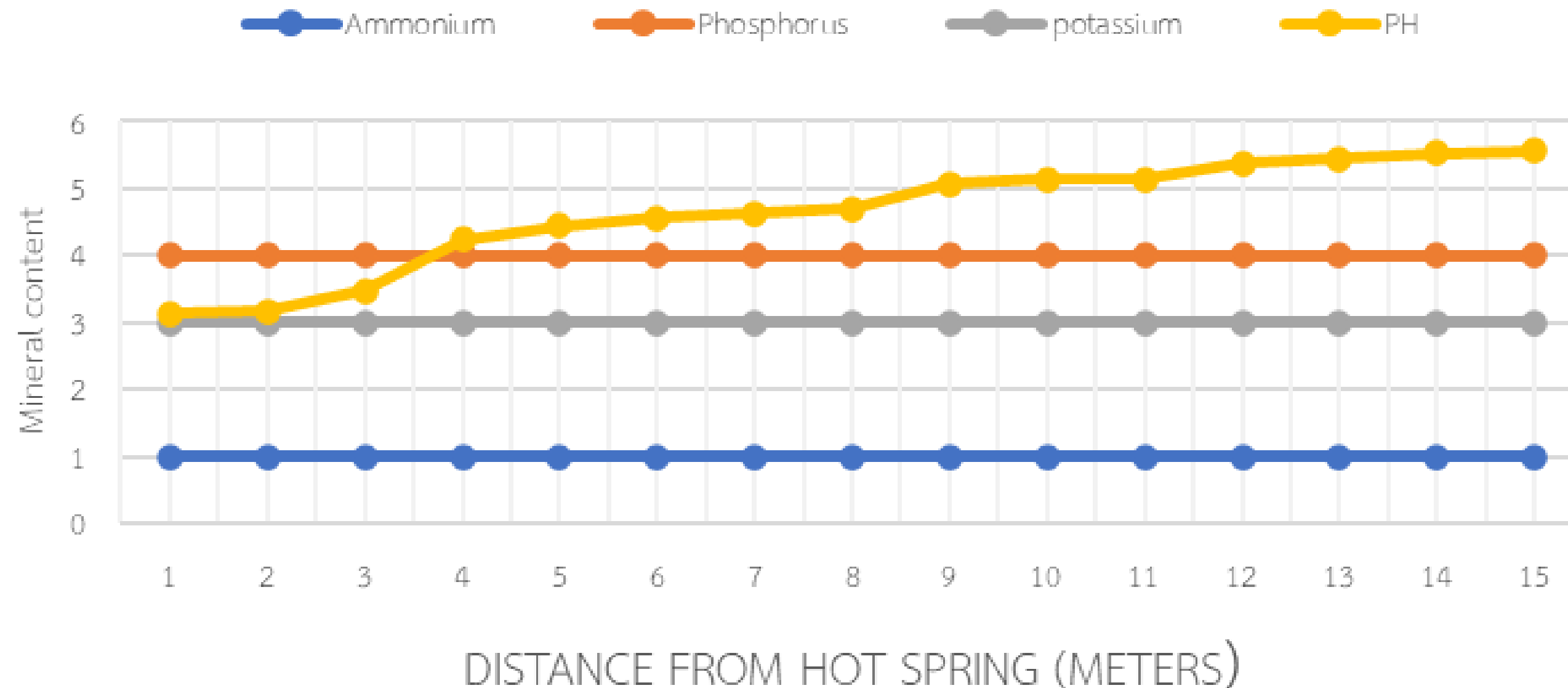
The route graph shows the mineral content of the soil by distance from the hot springs. Route 2-4 (San Sairoute)



Results

Step3 : Soil Quality Data Collection

The route graph shows the mineral content of the soil by distance from the hot springs. Route 5-6 (Mangrove route)



Methodology

Step4 : Data collection of fiddler crabs



Use a quadrant , placed at every distance. observation and collect the information

Results

Step4 : Data collection of fiddler crabs

Types of fiddler crabs

Austruca annulipes



Uca tetragonon



Uca Urvillei



Uca Rosea

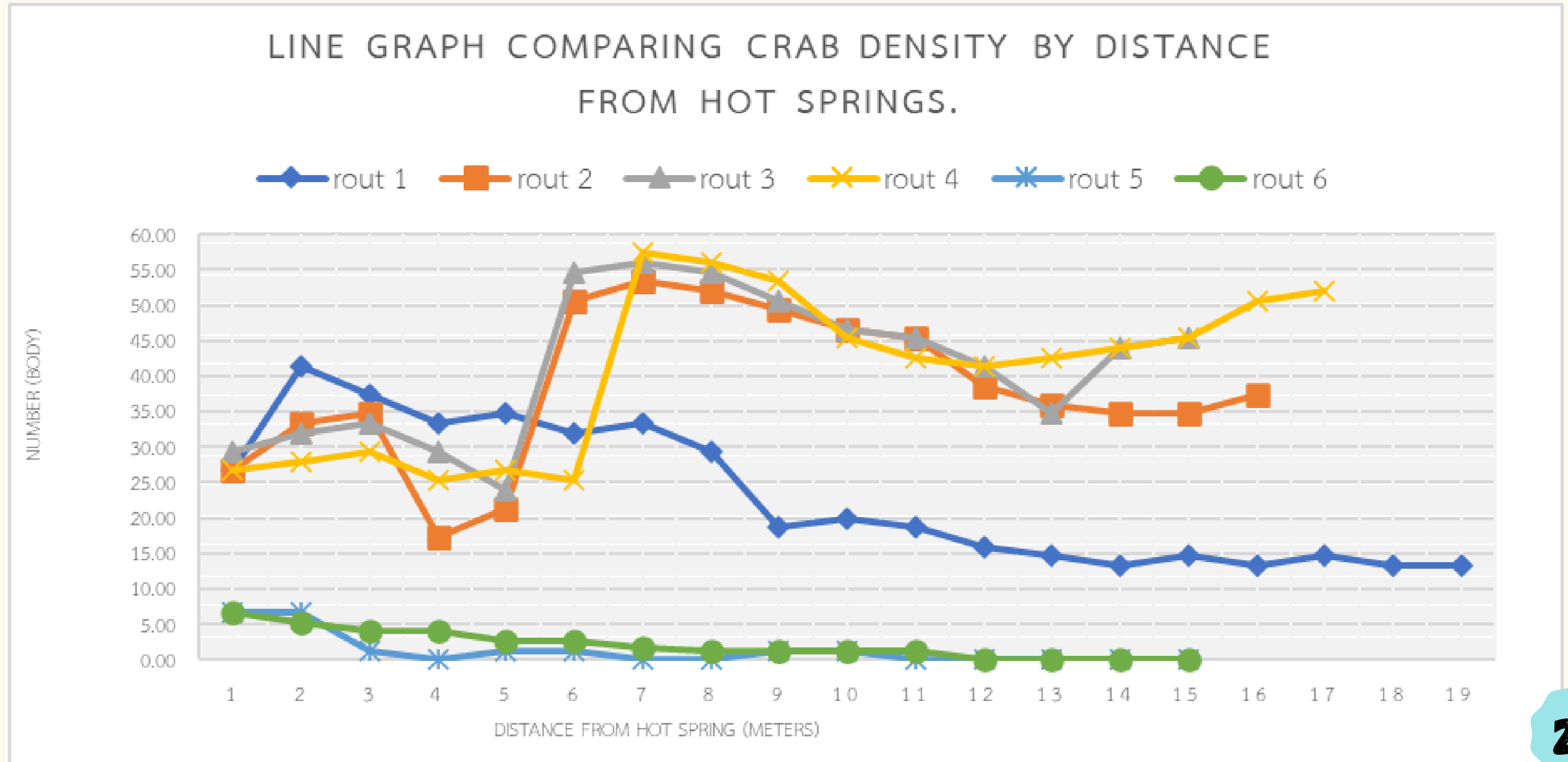


Uca Bengalai



Results

Step4 : Data collection of fiddler crabs



Conclusions



According to soil quality studies, the routes can be divided into 3 characteristics

Route 1 is a mangrove area, there is a low negative correlation between distance from saline hot springs and soil temperature.

Route 2, 3, and 4, which are sandy sedimentary routes. There was a significantly high level of negative correlation at the .01

Route 5-6 at the Mangrove Forest route there was a moderate negative significant correlation at .01



found 5 different species of fiddler crab such as *Austruca annulipes*, *Uca tetragon*, *Uca Urvillei*, *Uca Rosea*, *Uca Bengali* by the distance from the fountain influences the density of the crab is significantly at .01