Islamic University of Gaza

High Studies Deanery

Faculty of Engineering

Civil Engineering Department

Water Resources Engineering

Recharging of Harvested Rooftop Rainwater – Gaza Case Study

ترشيح مياه الأمطار المجمعة من أسطح المباني – حالة دراسية غزة

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A Thesis Submitted In Partial Fulfillment of The Requirements for The Degree of Master of Science In Civil-Water Resources Engineering

March, 2014

بسم الله الرحمن الرحيم

﴿يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ﴾

المجادلة الآية 11

صدق الله العظيم

DEDICATION

I would like to dedicate this work to my family specially to the soul of my great father, to my compassionate mother who always supports me, to my dear wife, to my children Amr, Al Hasan, Saher And Layan and finally to my brothers and sisters, for their sacrifice and endless support.

ACKNOWLEDGMENT

First of all, all thanks and praise go to Allah for the unlimited blessings and for giving me the strength to complete this study

I would like to extend my sincere appreciation and special thanks to my supervisor **Dr. Abedelmajid Nassar**, for his guidance, patience and encouragement.

I deeply thank my dear friend **Dr. Ayman Al Zureai** for his infinite support and encouragement. Also, I want to express my love and gratitude to my loving family, my friends and my colleges in the municipality, specially the mayor of Deir Al Balah Municipality **Mr Said Nassar,** for their encouragement and support.

Additionally, I would like to extend my acknowledgement to **Dr. Said Ghabayen**, **Eng. Ayman Nassar and Dr. Mohammed Al Eila** for their support. I forward my special thanks to The Palestinian Water Authority specially **Dr. Sami Hamdan, Eng. Jamal Al Dadah** and **Eng. Ahmed Baraka** for their support and encouragement.

Finally, I would like to thank the **Middle East Desalination Research Center (MEDRC)** for their help in funding the experimental tests and other expenses, especially **PWA Committee: Dr. Fahid Rabah, Dr. Khalid Qahman** and **Eng. Mahmoud Abdellatif**.

Abstract

High water demand from the coastal groundwater aquifer, which is currently the main and only source of fresh water in Gaza Strip, has led us to think about new non-conventional water resources. One of these resources is the rainwater harvesting which has to be taken into consideration in the present time. A pilot project for rainwater harvesting from houses rooftops has been implemented in Deir Al Balah – Gaza in 2012. The main purpose of this pilot project was to collect the rainwater coming from roofs of twenty seven houses and then to allow that water to percolate freely into the soil through an open end soakaway unit proceeded by treatment unit (Grease/Sand Trap) . This research presents the study of the applicability of this project in Deir Al Balah - Gaza, and that is conducted using four main points: social acceptance, harvested rainwater quantity and quality and finally the mathematical modeling.

The social acceptance was achieved by a questionnaire, a public meeting and household interviews. The results of the social survey showed a wide acceptance and satisfaction about the harvesting project itself and in general its idea. The harvested rainwater quantities was calculated depending on the annual rainfall intensity, runoff coefficient and the area of each home's roof. The harvested rainwater quality was tested for different parameters such as TDS, TSS, CL, NO_3, pH, EC and F.C for two monitoring years and then analyzing the results, after that a comparison was made with the WHO and Palestinian Standards for drinking water. The results of water quality tests showed that the parameters were much lower than the WHO and Palestinian Standard values of drinking water. Finally, The mathematical modeling depended mainly on constructing four models; one was an ideal sand column and considering three different soil profiles in different locations at the study area. The three models in that area gave good results for the arrival time of the rainwater to the groundwater aquifer and these results were very close to the ideal sand column which means that the study area was very suitable for the recharge of the harvested rooftop rainwater.

ملخص البحث

السحب المتزايد من الخزان الجوفي الساحلي والذي يعتبر المصدر الرئيسي والوحيد المستخدم حالياً للمياه النقية في قطاع غزة، دفع إلى التفكير حول مصادر مياه جديدة غير تقليدية. مياه الأمطار تعتبر واحدة من هذه المصادر والتي يجب أن تؤخذ بعين الاعتبار في الوقت الحالي. لقد تم تنفيذ مشروع حصاد مياه الأمطار من أسطح المنازل في مدينة دير البلح – غزة عام 2012م، وقد كان الهدف الرئيسي من هذا المشروع هو تجميع مياه الأمطار القادمة من أسطح سبعة وعشرين بيتاً ومن ثم السماح لهذه المياه بالترشح إلى داخل من خلال التربة منهل ترشيح مفتوح من الأسفل مسبوقاً بوحدة معالجة (مصائد الرمال / الشحوم) . ومن خلال هذا البحث فقد تم دراسة مدى ملائمة هذا المشروع الذي تم تنفيذه في دير البلح – غزة، وذلك من خلال عدة نقاط وهي: دراسة مدى تقبل المجتمع للفكرة، حساب كميات وجودة مياه الأمطار المجمعة وأخيرا عمل النمذجة الرياضية.

بالنسبة لدراسة مدى تقبل المجتمع فقد تمت بعمل استبيان أولي ولقاء مجتمعي ومقابلات حصرية مع أصحاب البيوت، وقد أوضحت نتائج المسح بأن هناك رضا وقبول واسع عن مشروع حصاد مياه الأمطار نفسه وعن الفكرة بشكل عام. أما بالنسبة لكميات مياه الأمطار المجمعة فقد تم حسابها بناءاً على معدل الهطول السنوي للأمطار ومعامل الجريان السطحي ومساحة السطح لكل بيت. وبخصوص جودة مياه الأمطار المجمعة فقد تم فحصها مخبرياً لعدة عناصر مثل إجمالي المواد الصلبة المذابة TDS، إجمالي المواد الصلبة المعلقة TSS، تركيز الكلورايد CL، تركيز النترات NO_3، معرفة الرقم الهيدروجينيpH، مقياس التوصيل الكهربائيEC، وأخيراً الفحص البيولوجي بكتيريا القولون (الفيكل كوليفورم F.C)، وقد أثبتت نتائج الفحص المخبري لهذه العينات بأنها أقل بكثير من القيم القصوى المسموح بها لمياه الشرب وفق مواصفات منظمة الصحة العالمية والمواصفات الفلسطينية. وأخيراً فقد اعتمدت النمذجة الرياضية على إنشاء أربعة نماذج رياضية، أحد هذه النماذج هو نموذج لعمود الرمل المثالي والذي تم مقارنته بثلاثة نماذج مختلفة للتربة تمثل ثلاثة مواقع مختلفة في منطقة الدراسة المذكورة. و لقد أعطت هذه الثلاثة نماذج الموجودة في منطقة الدراسة نتائج جيدة بخصوص زمن وصول المياه للخزان الجوفي وقد كانت قريبة جداً من نتائج نموذج عمود الرمل المثالي، الأمر الذي يعني بأن هذه منطقة الدراسة التي تم اختيارها ملائمة جداً لعملية الترشيح للمياه المجمعة من أسطح المنازل.

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List of Abbreviations and Symbols

A	catchment area and / or cross-sectional area [L^2]
Al	Aluminum
C	runoff coefficient [-]and / or soil water capacity [L^{-1}]
Ca_2^+	Calcium
Cd	Cadmium
Cl	Chloride
cm	Centimeter
CMWU	Coastal Municipalities Water Authority
Cr	Chromium
Cu	Copper
EC	Electrical Conductivity
FC	Fecal Coliforms
Fe	Iron
ft	Feet
GW	Groundwater
GIS	Geographical Information System
GPS	Global Positioning System
h	pressure head [L]
H	Soil water pressure head relative to atmospheric pressure [L]
h_s	Air-entry value [L]
I	Rainfall intensity [L]
IGWMC	International Groundwater Modeling Center
K^+	Potassium
K	unsaturated soil hydraulic conductivity [LT^{-1}]
K_k	measured value of the unsaturated soil hydraulic conductivity at θ_k [LT^{-1}]
K_r	relative soil hydraulic conductivity [-]
K_s	saturated hydraulic conductivity LT^{-1}
l	pore-connectivity parameter [-]

m	parameter in the soil water retention function [-]
ML	Milliliter
MDG	Millennium Development Goals
Mg_2^+	Magnesium
mg/l	Milligram Per Liter
mi	Mile
mm	Millimeters
MOA	Ministry of Agriculture
MOH	Ministry of Health
n	exponent in the soil water retention function [-]
Na^+	Sodium
NAFDAC	National Agency for Food and Drug Administration and Control
No3	Nitrate
Pb	Lead
pH	Hydrogen Ion Concentration
PWA	Palestinian Water Authority
q	Darcian fluid flux density LT^{-1}
RRWH	Rooftop Rainwater Harvesting
RWH	Rainwater Harvesting
S_e	effective saturation [-]
Sq. m	Square Meters
SRWH	Surface Rainwater Harvesting
t	time [T]
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TSS	Total Suspended Solids
UN	United Nations
WHO	World Health Organization
Zn	Zinc

α parameter in the soil water retention function $[L^{-1}]$

θ volumetric water content $[L^3L^{-3}]$

θ_r residual soil water content $[L^3L^{-3}]$

θ_s saturated soil water content $[L^3L^{-3}]$

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Chapter 1
Introduction

1.1 Background

Water forms the lifeline of any society. Water is essential for the environment, food security and sustainable development. All the known civilizations have flourished with water source as the base and it is true in the present context too. Availability of drinking water and provision of sanitation facilities are the basic minimum requirements for healthy living. Water supply and sanitation, being the two most important urban services, have wide ranging impact on human health, quality of life, environment and productivity **(UN-HABITAT, 2000).**

Millions of people throughout the world do not have access to clean water for domestic purposes. In many parts of the world conventional piped water is either absent, unreliable or too expensive. One of the biggest challenges of the 21st century is to overcome the growing water shortage. Rainwater harvesting (RWH) has thus regained its importance as a valuable alternative or supplementary water resource, along with more conventional water supply technologies. Much actual or potential water shortages can be relieved if rainwater harvesting is practiced more widely **(Worm & Hattum, 2006).**

The Gaza Strip is facing a challenge of water shortage and the unbalanced municipal water supply-demand situation. The extraction from coastal aquifer is almost twice the available recharge that has resulted in fresh water level decline by 20-30 cm per year **(PWA, 2000).**

The groundwater quality in Gaza Strip varies from place to another and from depth to another. The chloride ion concentration varies from less than 250 mg/l in the sand dune areas as the northern and south-western area of the Gaza Strip to about more than 10,000 mg/l, where the seawater intrusion has occurred. Also, The nitrate ion concentration reaches a very high range in different areas of the Gaza Strip, while the WHO standard recommended nitrate concentration less than 50 **(CMWU, 2011).**

Due to the serious deterioration in the groundwater quality in Gaza Strip, all efforts now are directed towards the non-conventional water resources. One of the most popular and natural resources is rainwater, so the new studies and projects are talking about the rainwater harvesting. A pilot project for rainwater harvesting was implemented at two levels, the first level was at street level and was implemented in Gaza City and the other was at home level and implemented in Deir Al Balah. When talking about at home level project, the system depends on the rainwater which falls on the roof top of homes and that water can be collected by the drainage system of the home or by a separate 3 inches collector pipes falling directly to a grease/sand trap and then to the infiltration unit (soakaway) which infiltrates the water naturally to the soil.

The pilot project was implemented in Deir al-Balah which is a Palestinian city in the central of Gaza Strip, along the coastline of the eastern Mediterranean Sea and the administrative capital of Deir Al Balah Governorate. Deir Al Balah city center is about 1,700 meters (5,600 ft) east of the coast **(Wikipedia , 2013)** as shown in Figure 1-1 & 1-2 .

One area selected in the middle of Deir Al Balah to implement the pilot project was Al Hadaba Area (Figure 1-3). It has many advantages that it is one of the highest locations in Deir Al Balah and its soil is classified as calcareous sand stone or kurkar which encourages the Palestinian Water Authority in cooperation with the Consultants in cooperation with Deir Al Balah Municipality to implement the storm water pilot project in this area.

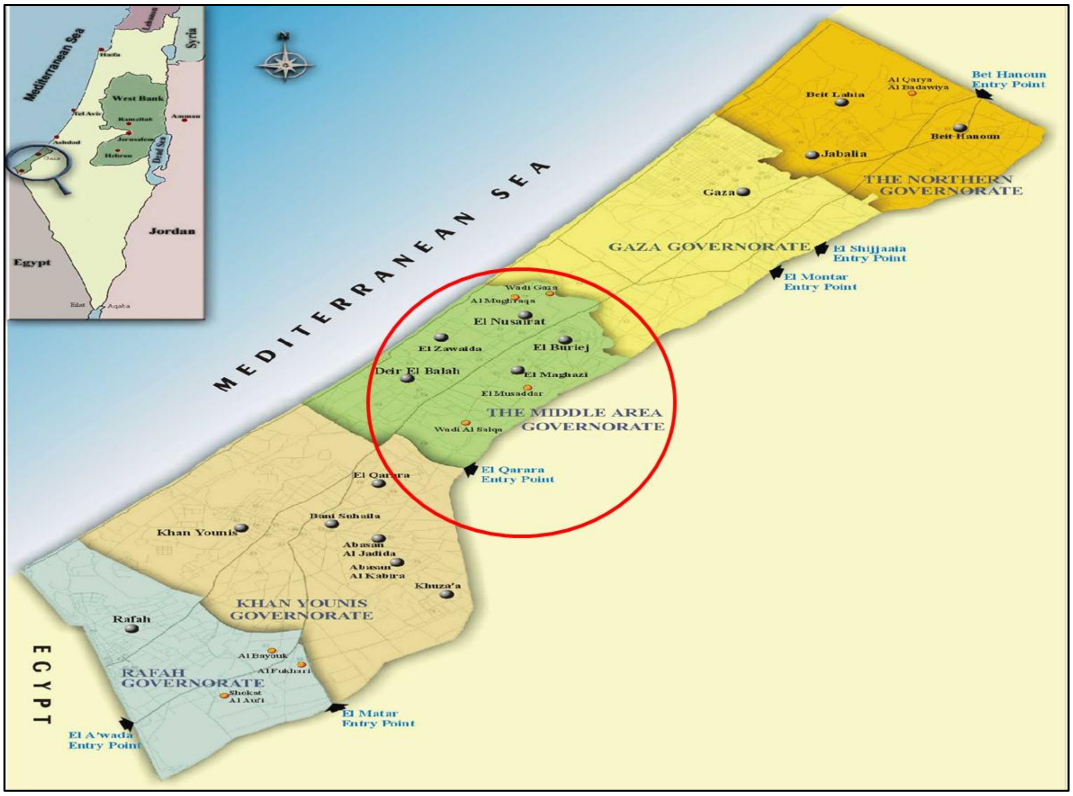


Figure 1- 1 Gaza Strip Municipalities and Governorates (Wikipedia, 2013)

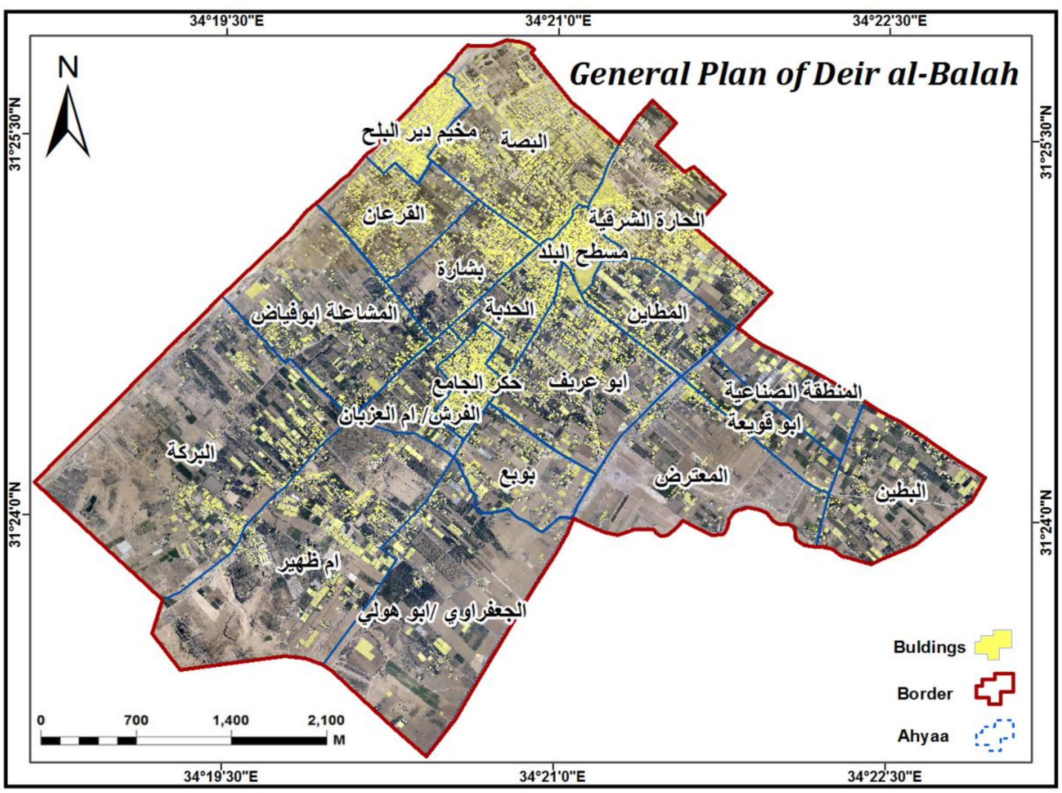


Figure 1- 2 General Plan of Deir Al Balah

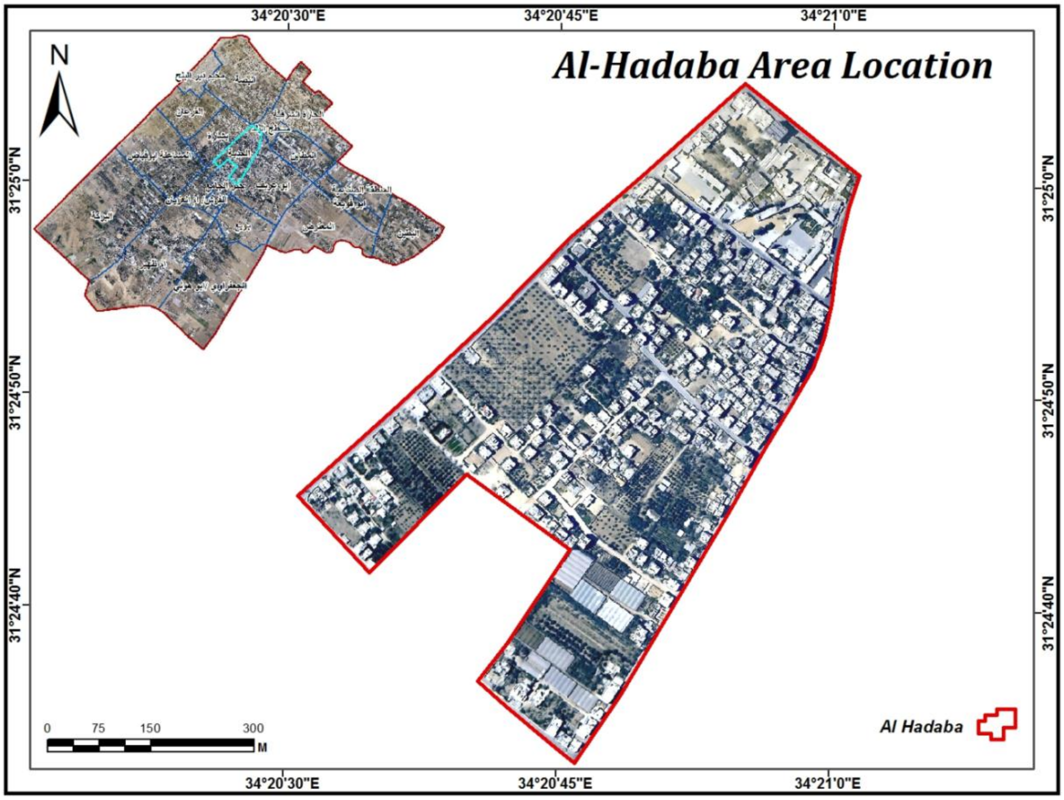


Figure 1- 3 Al Hadaba Area Location in Deir Al Balah

1.2 Problem statement

The urbanized area in Gaza Strip represents around 16% in the year of 1998 and 21% in the year of 2005, and is expected to increase in the next years due to the rapid increase in population to represent 33% and 45% for the years of 2015 and 2025 respectively. In the meantime, the water demand will increase due to the expansion of water supply systems. The total amount of rainwater losses due to urbanization as surface run-off is estimated 14.5 MCM in the year of 1998 and expected to increase to about 20 MCM, 35 MCM, and 52 MCM for the years of 2005, 2015 and 2025 respectively. These will results in an increasing pressure on underground water resources, which has led to an irreversible depletion of the aquifer **(PWA, 2011).**

One of the options for resolving the water problems is to harvest the rainwater and to use these huge amounts of fresh water in making dilution to the existing brackish water in the aquifer and to increase the quantities of fresh water reaching the aquifer.

1.3 Objectives

The main goal of this research is to investigate the rainwater harvesting of houses rooftop and recharging it into the soil. The other objectives are to:

- achieve the acceptance about the rainwater harvesting from the public.
- check the rooftop rainwater for quality and quantity.
- evaluate the suitability of the study area soil to recharge the harvested rainwater.
- clarify the importance of the idea to be taken into considerations for wide ranges (Governmental and Non-Governmental).

1.4 Methodology

The methodology of this thesis consists of the following main topics:

- Literature reviews about rainwater harvesting systems, techniques and previous studies.
- Studying the social acceptance of rooftop harvesting system in the study area of Deir Al Balah.
- Calculating the quantities of the harvested rooftop rainwater.
- Examining the quality of the harvested rooftop rainwater.
- Constructing the theoretical models to check the efficiency of applying such system in Deir Al Balah Area.

1.5 Thesis Structure

The chapters in this thesis are arranged carefully in the order or sequence of steps to make it clear and understandable. Five chapters are presented in this research:

Chapter one is an introductory chapter which provides detailed information about the nature of this study. It discusses the research problem, objectives and the outline methodology.

Chapters two is oriented as a literature review about the main topic of this study: "Recharging of Harvested Rooftop Rainwater – Gaza Case Study" referring to the previous studies performed on the harvesting and recharging subjects. The literature review also talks about the vadose zone in the soil and its different parameters.

Chapter three explains and describes the methodology of research. The methodology is introduced with details to include the local society acceptance of the current pilot project of rainwater harvesting. The methodology also includes the quantity and quality of rainwater that can be harvested and then comparing the quality with the Water Health Organization and Palestinian Standard values. And finally construct a theoretical study by the modeling of the vadose zone profiles.

Chapter four highlights the results and discussion of the social acceptance rainwater quantity and quality, and theoretical study. In addition, relation between these results was taken into consideration through this chapter.

Finally, ***Chapter five*** summarizes the main findings and conclusions of this research as well as the suggested recommendations.

Chapter 2
Literature Review

This chapter presents the review of works that were performed on the rainwater harvesting. The literature review shows the general introduction and background about water scarcity, the harvesting methods and techniques, international and local studies and finally summary of the chapter and the additional work that will be done in the thesis.

2.1 Historical Background

2.1.1 Introduction

Water is the key to life: a crucial resource for humanity and the rest of the living world. Everyone needs it – and not just for drinking. Our rivers, lakes, coastal and marine waters as well as our ground waters are valuable resources to protect **(European Commission, 2010).**

Water is essential to sustain life, and a satisfactory (adequate, safe and accessible) supply must be available to all. Improving access to safe drinking-water can result in tangible benefits to health. Every effort should be made to achieve a drinking-water quality as safe as practicable. Safe drinking-water does not represent any significant risk to health over a lifetime of consumption, including different sensitivities that may occur between life stages **(WHO, 2011).**

2.1.2 Water Scarcity

There are several ways of defining water scarcity. The definition used in framing this program refers to water scarcity as: the point at which the aggregate impact of all users impinges on the supply or quality of water under prevailing institutional arrangements to the extent that the demand by all sectors, including the environment, cannot be satisfied fully **(UN-WATER, 2006).**

Water scarcity occurs as demand of water outstrips renewable supplies, which is already happening in more and more regions in the world, and the gap is set to widen. Where water pollution is worsening, the challenge of delivering sufficient water of the required qualities of the households, industries and farms is further exacerbated **(Klop et al. 2008)**.

Figure 2-1 shows where water is physically scarce, i.e., more than 75% of river flows are withdrawn from agriculture, industry and domestic purposes – the remaining 25% or less is insufficient to maintain delicate ecosystem functions. Relating water availability to demand also means that dry areas are not necessarily water scarce. Other areas 'merely' suffer from economic water scarcity, where water resources are abundant relative to water use, but access is constrained by a lack of human or institutional capacity and/or financial capital.

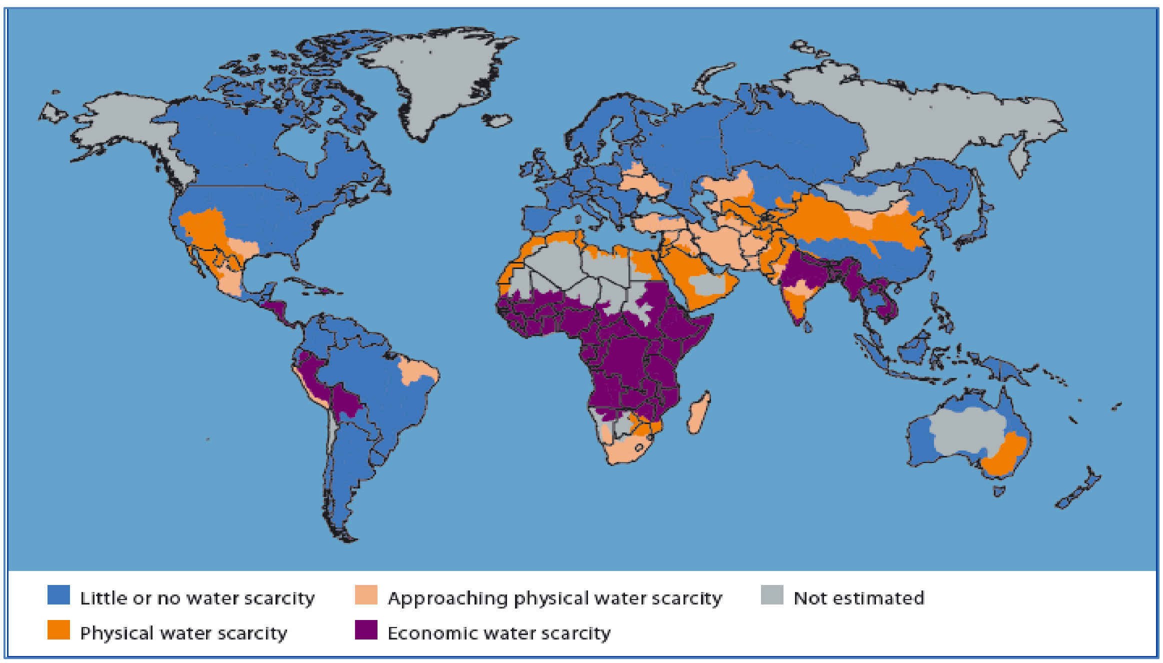


Figure 2- 1 Physical and Economic Water Scarcity (Klop et al. 2008)

While 700 million people are currently dealing with water stress or shortages, defined as less than 1,700 m^3 of water per person per year, by 2035 that number is estimated to rise to three billion – i.e., one in three. Already today there are 20 countries, many in the Middle East, where water availability is down to 500 m^3 per person per year. More dramatically, there are still 1.1 billion people, or 18% of the world's population, who lack access to safe drinking water **(Klop et al. 2008).**

Because of that serious water shortage and scarcity, the efforts were directed towards finding another clean and safe water resources. One of the cleanest sources of water is the rainwater, so the technique of harvesting to that water will be a very important solution to cover the huge deficit in the existing available water resources.

2.2 History of Rainwater Harvesting

The term 'water harvesting' generally refers to the collection of rainstorm-generated runoff from a particular area (a catchment) in order to provide water for human, animal, or crop use. The water thus collected can either be utilized immediately, as for irrigation, or be stored in aboveground ponds or in subsurface reservoirs, such as cisterns or shallow aquifers, for subsequent utilization **(D Hillel, 2005).**

Rainwater harvesting is a simple and low cost water supply technique that involves the capturing and storing of rainwater from roof and ground catchments for domestic, agricultural, industrial and environmental purposes. When surface run-off is collected in reservoirs, it can be used for the management of floods and droughts. Surface run-off can also be used for recharging groundwater, which will positively impact on aquifers, springs and shallow wells. Rainwater harvesting yields numerous social and economic benefits, and contributes to poverty alleviation and sustainable development **(MDG Centre, 2007).**

In scientific terms, water harvesting refers to collection and storage of rainwater and also other activities aimed at harvesting surface and groundwater, prevention of losses through evaporation and seepage and all other hydrological studies and engineering inventions, aimed at conservation and efficient utilization of the limited water endowment of physiographic unit such as a watershed **(Bhattacharya & Rane, 2003).**

The water harvesting is considered as one of the ancient methods of storing and benefiting from water especially in the arid and semi-arid countries where other clean and fresh water resources is limited.

Rainwater harvesting is a traditional practice that dates back hundreds of years. Archeological evidence attests to the capture of rainwater as far as 4,000 years ago and the concept of rainwater harvesting in China may date back 6,000 years. Rainwater has been the main source of water supply for potable and non-potable uses in the old days because the water supply systems were not developing yet. The method of rainwater harvesting at that time was very simple. Usage of the collected water volume from rainwater harvesting was direct and without any treatment. Usually, the rainwater was mostly collected from roofs and some was directly collected. Nowadays, the responsibility rests on the State Water Board to operate and runs water supply for residential areas and commercial. With this, rainwater harvesting system has been ignored **(Che-Ani et al. 2009).**

The history of RWH in Asia can be traced back to 9th or 10thcentury. It has been used by almost all societies in all parts of the world to provide water for drinking, livestock, and irrigation. RWH is also very useful for soil conservation which would otherwise erode due to flash flow of rains **(Ahmed et al. 2011).**

Rainwater harvesting is one of the alternative technologies for delivering drinking water. In fact, through the ages, this has been a traditional way of enhancing domestic water supply. Rainwater harvesting systems are viable options both for storing water for domestic use and for recharging groundwater aquifers **(Unicef, 2004).**

2.3 Rainwater Harvesting Techniques

Before talking about the techniques used in the rainwater harvesting process, let’s talk about the need, advantages and disadvantages of the rainwater harvesting.

2.3.1 Need of Rainwater Harvesting

The need for rooftop rainwater harvesting can be summarized as follows **(Mahfuzul Haque, 2000)**:

- To meet the ever increasing demand for water
- To reduce the runoff which chokes storm drains
- To avoid flooding of roads

- To augment the ground water storage and control decline of water levels
- To reduce ground water pollution
- To improve the quality of ground water
- To reduce the soil erosion
- To supplement domestic water requirement during summer, drought etc.

2.3.2 Advantages of Rainwater Harvesting

Based on **Water Aid, 2011,** the following advantages of RWH were listed:

- Relatively cheap materials can be used for construction of containers and collecting surfaces
- Construction methods are relatively straightforward
- Low maintenance costs and requirements
- Collected rainwater can be consumed without treatment providing a clean collecting surface has been used
- Provides a supply of safe water close to homes, schools or clinics, encourages increased consumption, reduces the time women and children spend collecting water, reduces back strain or injuries from carrying heavy water containers

The benefits of RWH system in different facilities area were also mentioned by **Mahfuzul Haque, 2000,** such as:

- Can afford required water for dry season.
- Could able to store adequate quantity of water having acceptable quality for certain period of time.
- All necessary parts are in place.
- Good, clean and effective catchment, gutter, down pipes, first flush system, platform, tank with lid are available.
- Sanitary condition of RWHS and surrounding is satisfactory.
- Help to reduce the physical stress for water collection from long distance.
- Use of local but available materials for construction.

While, **Maini et al. 2013** illustrated the following advantages of RWH as follows:

- Provides self-sufficiency to your water supply
- Reduces the cost for pumping of ground water
- Provides high quality water, soft and low in minerals
- Improves the quality of ground water through dilution when recharged to ground water
- Reduces soil erosion in urban areas
- The rooftop rain water harvesting is less expensive
- Rainwater harvesting systems are simple which can be adopted by individuals
- Rooftop rain water harvesting systems are easy to construct, operate and maintain
- In hilly terrains, rain water harvesting is preferred
- In saline or coastal areas, rain water provides good quality water and when recharged to ground water, it reduces salinity and also helps in maintaining balance between the fresh-saline water interface
- In Islands, due to limited extent of fresh water aquifers, rain water harvesting is the most preferred source of water for domestic use
- In desert, where rain fall is low, rain water harvesting has been providing relief to people

2.3.3 Disadvantages of Rainwater Harvesting

The disadvantages of rainwater harvesting according to **Water Aid, 2011,** is as follows:

- Supplies can be contaminated by bird/animal droppings on catchment surfaces and guttering structures unless they are cleaned/flushed before use.
- Poorly constructed water jars/containers can suffer from algal growth and invasion by insects, lizards and rodents. They can act as a breeding ground for disease vectors if they are not properly maintained.

2.3.4 Rainwater Harvesting Methods

Generally, there are two types of RWH; Surface Rainwater Harvesting (SRWH), and Rooftop Rainwater Harvesting (RRWH). Both are equally important and used as water conservation strategies **(Ahmed et al. 2011).**

Mainly three methods: **(Maini et al. 2013)**

- Strong Rainwater for direct use.
- Recharging ground water aquifers from rooftop runoff.
- Recharging aquifers with runoff from ground area.

S. Vishwanath, 2000 summarizes the systems of rainwater harvesting in Figure 2-2 below.

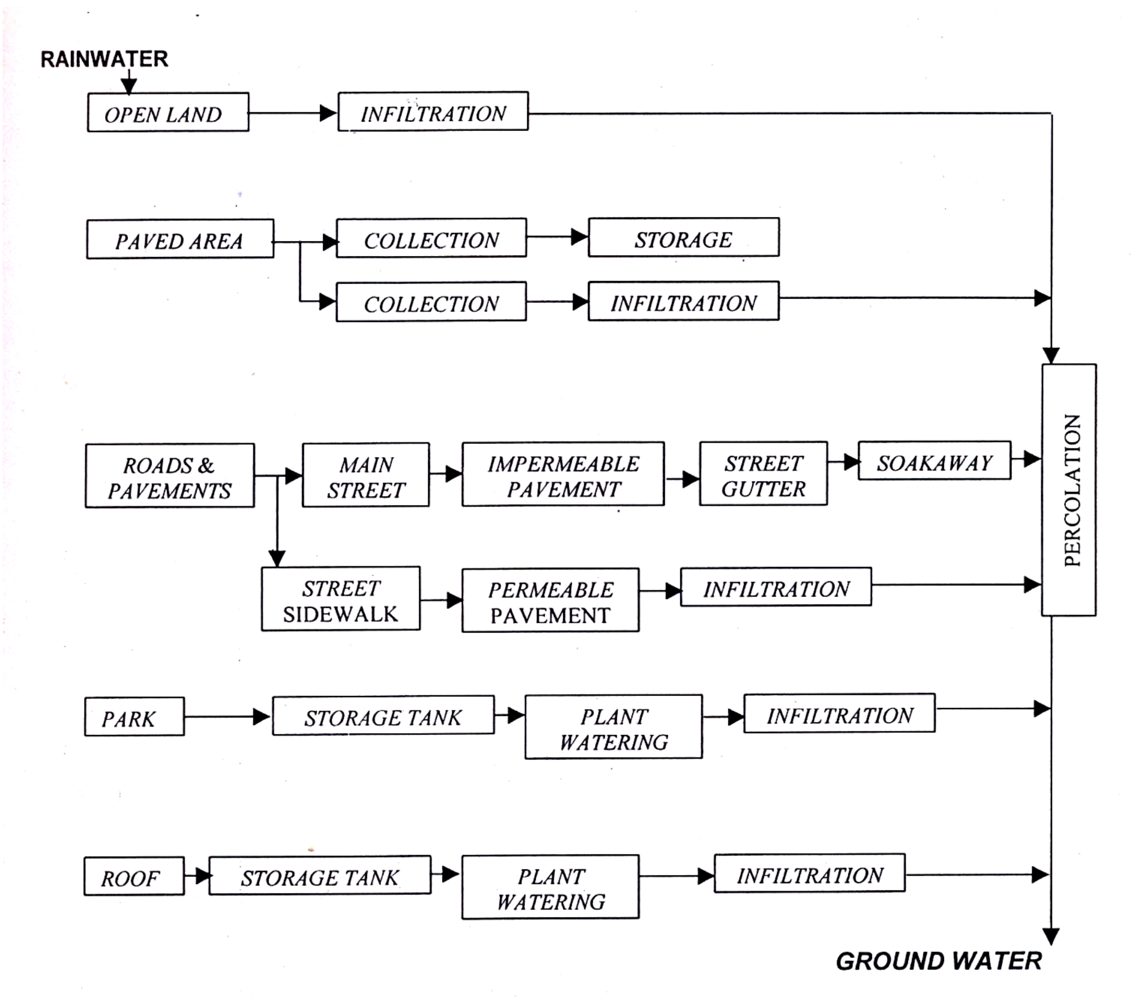


Figure 2- 2 Systems of Rainwater Harvesting (S. Vishwanath , 2000)

The methods of Rainwater Harvesting were suggested by **Patil M., 2013** as follows:

- rain water collected from the roof is diverted to storage tank.
- storage tank has to be designed according to the water requirements, rainfall and catchment availability.
- Each drainpipe should have mesh filter at mouth and first flush device before connecting to storage tank.
- Each tank should have excess water over flow system. Excess water could be diverted to recharge system.
- Water from storage tank can be used for domestic and gardening purpose. It is most cost effective way of rainwater harvesting.
- Ground water aquifers can be recharged by various kinds of structures to ensure percolation of rainwater in the ground instead of draining away from the surface. Commonly used recharging methods are: -
  a. Recharging bore wells
  b. Recharge pits
  c. Soakaways or Recharge Shafts
  d. Recharging dug well
  e. Recharge Trench
  f. Percolation Tank

The components of the rainwater harvesting system irrespective of the size of the system were illustrated by **UN-HABITAT, 2000** shown in Figure 2-3, as follows:

- Catchment area/roof: The surface upon which the rain falls; the roof has to be appropriately sloped preferably towards the direction of storage and recharge.
- Gutters and downspouts: The transport channels from catchment surface to storage; these have to be designed depending on site, rainfall characteristics and roof characteristics.
- Leaf screens and roof washers: The systems that remove contaminants and debris; a first rain separator has to be put in place to divert and manage the first 2.5 mm of rain.

- Cisterns or storage tanks: Sumps, tanks etc. where collected rain-water is safely stored or recharging the ground water through open wells, bore wells or percolation pits etc.;
- Conveying: The delivery system for the treated rainwater, either by gravity or pump;
- Water treatment: Filters to remove solids and organic material and equipment, and additives to settle, filter, and disinfect.

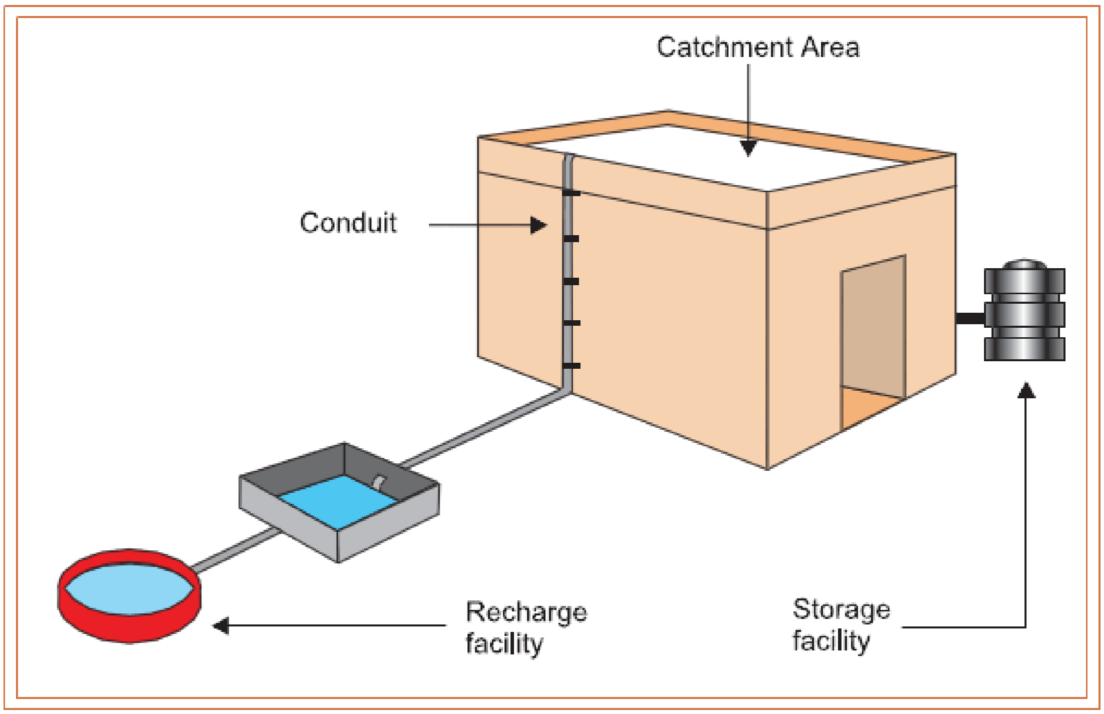


Figure 2- 3 Elements of a Typical Water Harvesting System (UN-HABITAT, 2000)

2.4 Previous Case Studies

2.4.1 International case studies

Many works have been done in the field of rainwater harvesting in different countries. And here some examples in some countries:

- ***India***

Sharma, 2007 made his experiment by constructing a dwelling unit with a roof top area of 150 sq. m. in a total land area of 900 sq. m. in Kishangarh in East Delhi where six adult persons reside was selected for the implementation of the scheme of roof-top rain water conservation on trial basis as shown in Figure 2-4 below.

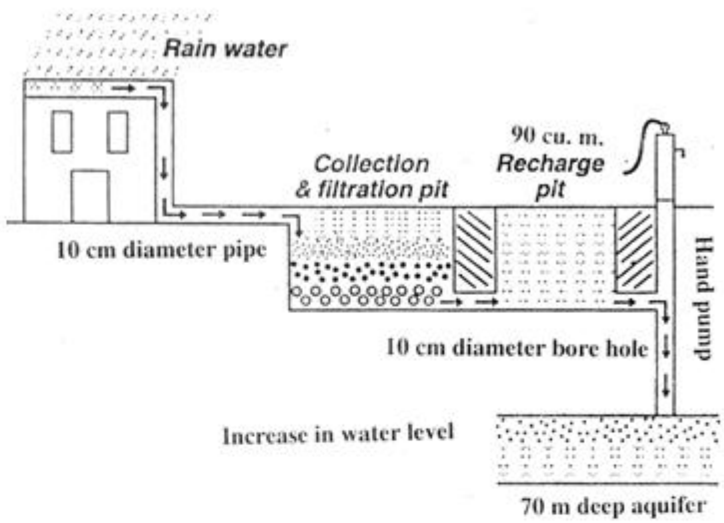


Figure 2- 4 Schematic Representation of Underground Trench Layout (Sharma, 2007)

He found that according to the available hydro-geological conditions and data, the roof-top rain water conservation through injection technique is found to be most suitable in the present site of investigation at Kishangarh in East Delhi where land availability was limited due to very high population density and the aquifer was deep and overlain by the impermeable strata. The water level depletion during summer was very common problem throughout the country specially the mega cities with rapid urbanization like New Delhi, the capital city of India.

Sharma, 2007 concluded that with encouraging results from his experimentation, it was recommended that the scheme be extended for implementation in Group Housing Societies where large rooftop surface area will be available to conserve rainwater so that it could be tapped judiciously when needed.

- ***South Africa***

Tredoux et al. 2002 performed his study on the City of Atlantis near Cape Town in South Africa which is located along the semiarid west coast of South Africa and receives 450 mm of mean annual rainfall between April and September. This city with a population not less than 100,000 inhabitants utilizes an urban rainwater collection system in the form of artificial aquifer recharge through infiltration basins. Few surface water resources were available and rainwater is regarded as a valuable water source for augmenting freshwater supplies in this semiarid region, which prompted the construction of an urban rainwater runoff collection system **(Tredoux et al. 2002).**

The collection system consists of twelve detention and retention basins and interconnecting pipelines with peak flow reduction features. The basins are around 1-4 m deep to prevent excessive growth of algae and water plants. The system was designed with the flexibility to control water flows of differing salinity and to collect the best quality water for infiltration into the aquifer. While low salinity flows are channeled into two large spreading basins for subsequent infiltration into the Witzand aquifer, higher salinity base-flows are diverted to the coastal basins or to the Donkergat River. Discharges during storm events can reach up to 72 ml per day, while summer base-flow averages 2.16 ml per day. Water extracted from the aquifer is used for domestic and industrial water supply **(Tredoux et al. 2002).**

- ***Nigeria***

Chukwuma et al. 2012performed his experiment on the rainwater quality. He collected six samples of rainwater from three different locations (Ezioko, Okeani and Ifite) in Oko, Orumba North L.G.A of Anambra State in Nigeria. The rainwater was collected during rainfall by installing a sterilized rainwater collector in each of the 3 designated sampling stations out in the open. The rainwater samplers were mounted 1.5 meters above the ground to avoid rain splash. These water samples were analyzed for physicochemical and microbiological quality.

Thirty-one water quality parameters were considered and analyzed in the rainwater samples collected. The result of the investigation of quality assessment of direct harvested rainwater for environmental pollution monitoring in Oko community showed that the elemental concentrations and levels of all the water parameters examined were all within the permissible level recommended by NAFDAC except pH which was slight acidic. The direct harvested rainwater within the study area could be classified as good quality due to minimal industrial activities in the area. Further research in that area should be on the impact of roof system, storage system, sanitary measures etc. on harvested rainwater **(Chukwuma et al. 2012).**

- ***Sri Lanka***

Navaratne et al. 2005 worked on the rainwater harvesting from roofs to irrigate home gardens in Matara District – Sri Lanka. The water balance in that district was assessed to determine the optimum tank capacity to store roof runoff water for irrigation in home gardens. The main objective of the research was to collect rainwater from roofs to irrigate home gardens in order to save household's time, cost for irrigation and labor requirement, reduces soil erosion, keep fertility in the garden and minimize road floods.

In Sri Lanka there are two cropping seasons per year. They are from April to September (Yala season) and October to March (Maha season).Rationing method was used to find precise tank capacity. Cumulative crop irrigation need for the season is also plotted in the same graph. The optimum tank capacity was calculated from the excess amount of roof runoff water and the total irrigation water consumption during the mentioned seasons, where the critical season was (Yala season). The highest value; 5.9 m^3 was selected as the optimum tank capacity for home gardens having houses of 40 m^2 roof area for irrigation **(Navaratne et al. 2005).**

Based on the analysis, the land area of around 440 m^2 could be irrigated using the above tank capacity i.e. the farmer could be able to cultivate 11times greater land area in respect to roof area without any irrigation water source other than roof runoff water **(Navaratne et al. 2005).**

- ***Nepal***

WaterAid-Nepal, 2011 conducted a research to identify the potential of rainwater for recharging shallow groundwater aquifer in core Patan – Nepal, in addition to understand the surface infiltration rate and hence recharge rate to suggest potential recharge zones along with the groundwater flow direction within the study area in Patan. Another objective of the study was to Estimate the volumetric augmentation in shallow groundwater due to recharge from rainwater and to study the effect of rainwater in the quality of shallow groundwater aquifer. The research works continued for three years 2008/09 to 2010/11 to calculate the average recharge amounts through 28 sampled wells and 25 pits under natural condition. The measurements were taken before, during and after the winter season. The results proved that the dug wells had higher infiltration rate and have high recharge potential compared to pits due to direct access to the aquifer. The water quality analysis of 7 parameters (three physical, three chemical and one biological) for harvested rainwater in seven different locations assured safe except nitrate and fecal which was observed more in Winter after harvesting than in pre Winter. This may be due to the pollution attributed from cross contamination of organic pollution due to poor sewerage and drainage systems; possibilities of harvested rain getting cross contaminated from the roof catchment and its conveyance system due to not availability of first flushing mechanisms etc.; and unsanitary practice of using buckets in drawing water from the wells.

2.4.2 Palestine case studies

At the local level, there were many studies performed on the rainwater and the harvesting techniques. Here are two local examples:

Hamdan et al. 2011 performed a study about the quality risk of storm water harvesting in Gaza. The experiment was carried out for a single house rooftop in the Middle Area, where 17 samples were collected, and for two large scale storm water pools in Gaza City (Asqola and Sheikh Radwan), where 10 samples were collected to express the road runoff. Also, four water samples from pure rainfall and one from the tap water were taken. The analysis then was performed to determine the concentrations of Total Organic Carbon (TOC), Cadmium (Cd), iron (Fe), Lead (Pb), Copper (Cu), Chromium (Cr), Zinc (Zn) and Aluminum (Al) in the storm water.

This study approved that the quality of the harvested rooftop rainwater was suitable for artificial recharge and met the drinking water standards. The quality of roads storm water runoff has also been shown to be acceptable for the artificial recharge of the groundwater. The harvested rainwater, both rooftop and roads runoff, had low concentration of chloride and nitrate, so it would be suitable to replenish and dilute the existing brackish ground water. The measured pH in the harvested storm water was almost 7.0, so the risk of solution of heavy metals would be reduced and hence the risk of heavy metals was very low **(Hamdan et al. 2011)**.

Al-Salaymeh and Al-Khatib, 2008 concerned in determining the quality of drinking water from the rainwater harvesting and the factors affecting it from the cisterns in Hebron city – West Bank. The methodology of the study first depended on studying the area by dividing the City into 25 segments each one with an area of one square kilometer using GIS database of Hebron Municipality and the sampling sites map was created using Arc-View GIS. Then, during the period from December 11, 2007 until April 22, 2008, the 100 water samples were collected from that cistern covering a wide range of environmental conditions surrounding the cisterns. At each sampling site, water temperature, electrical conductivity, total dissolved substances, pH, salinity and turbidity were measured in the field. Also, for each cistern sampled, data was obtained from the cistern owner, using a prepared semi structured questionnaire, personal data, cistern age, cistern capacity, source of water in the cistern, vicinity and elevation with respect to nearby septic tanks, if any, environment surrounding the cisterns, water disinfection frequency and method, water collection methods, and cleaning frequency, among other factors.

The tests results showed that the chemical quality of harvested rainwater was quite satisfactory with only calcium and magnesium parameters being detected above the corresponding maximum allowable concentration for drinking purposes. On the other hand, microbial indices (total Coliforms and fecal Coliforms) were detected in the majority of samples, where it was expected that the surrounding environment and the cistern owners' low awareness of preventing rainwater contamination are the main two factors that contributed to harvested rainwater contamination **(Al-Salaymeh and Al-Khatib, 2008)**.

2.5 Vadose Zone Modeling

The zone between ground surface and groundwater table is defined as the unsaturated zone or the vadose zone which contains in addition to solid soil particles, air and water. The unsaturated zone acts as a filter for the aquifers by removing unwanted substances that might come from the ground surface such as hazardous wastes, fertilizers and pesticides. This is, could be attributed to the high contents of organic matters and clay, which motivates biological degradation, transformation of contaminants and sorption. Therefore, the vadose can be considered as a buffer zone protecting the groundwater. Thus, the hydro-geological properties of this zone are of great concern for the groundwater pollution **(Egboka et al. 1999).**

2.5.1 Background Theory

Naturally surface water reaches groundwater in form of precipitation that fall down to the ground surface but also could be more artificial forms, for instance, irrigation, surface runoff, stream flow, lakes. Rainfall or irrigation may infiltrates to groundwater if their intensity is larger than the infiltration capacity of the soil (the maximum rate at which water absorbed by soil). Some precipitation or irrigation water may be intercepted by vegetation and then return to the atmosphere as evaporation from leave surfaces. Some infiltrated water may be taken up by plant roots and then given back to atmosphere as transpiration via leaves. The water that has not been lost through evapotranspiration has a chance to percolate downwards to a deeper vadose zone and eventually reach the groundwater table or saturated zone. If the groundwater table is shallow then groundwater may move upward to the root zone by vapor diffusion and by capillary rise. A schematic representation of the unsaturated zone is shown in Figure 2-5 **(Saifadeen and Gladnyeva, 2012).**

Infiltration is considered to be an extremely complex process. It is a function of not only soil hydro physical properties (soil water retention and hydraulic conductivity) and rainfall characteristics (intensity and duration) but also controlled by initial water content, surface sealing and crusting, vegetation cover and ionic composition of infiltrated water. Solute infiltration occurs in vadose zone or unsaturated zone or zone of aeration. In this zone pores usually are partially saturated with water, and those ones which are not filled with water filled with air instead. However in vadose zone may exist some saturated zones, for instance, perched water above impermeable soil layer **(Simunek and Genuchten, 2008).**

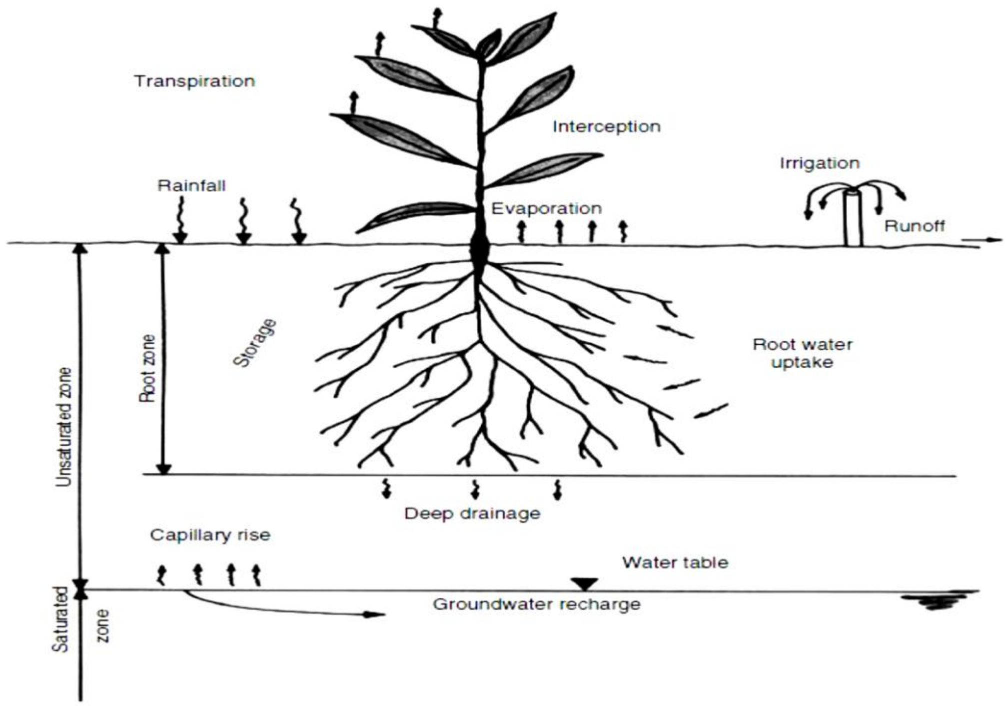


Figure 2- 5 Schematic of Water Fluxes and Various Hydrologic Components in The Vadose Zone (Saifadeen and Gladnyeva, 2012)

2.5.2 Introduction to HYDRUS-1D

HYDRUS-1D is a computer software package which may be used for simulating water, heat, and solutes movement in one-dimensional variably saturated porous media. It can be also used to simulate carbon dioxide and major ion solute movement. Basically, the Richard's equation is used for variably-saturated water flow and advection-dispersion type. To account for variability in the soil properties, many modifications are made to the flow equation, such as, a sink term to account for water uptake by plant roots, and dual-porosity type flow or dual-permeability type flow to account for non-equilibrium flow. The program can deal with different water flow and solutes transport boundary conditions **(Jacques et al. 2010).**

2.5.3 Water Flow in Unsaturated Zone

According to **Saifadeen and Gladnyeva, 2012**, water flow in vadose zone is usually described by a combination of continuity equation (2.1) and Darcy–Buckingham equation (2.2). The continuity equation (2.1) states that change in water content in a given volume of soil, because of spatial changes in water fluxes and possible sources and sinks within that volume of soil:

$$\frac{\partial \theta}{\partial t} = -\frac{\partial q_i}{\partial z_i} - S \qquad (2.1)$$

Where θ is the volumetric water content, [L^3L^{-3}], t is time [T], q is the volumetric flux density [LT^{-1}], z_i is the spatial coordinate [L], and S is a general sink or source term [$L^3L^{-3}T^{-1}$], for example, root water uptake.

Darcy (1856) made an experiment on the seepage of water through a pipe filled with sand. He proved that the flow rate Q through pipe filled with a sand was directly proportional to its cross-sectional area A and to the difference of hydraulic head h across the layer, and inversely proportional to the length of the pipe:

$$Q = -KA\frac{h_2 - h_1}{\Delta L} \qquad (2.2)$$

Where coefficient of proportionality K is a hydraulic conductivity, [LT^{-1}].

Firstly Darcy's law was implemented to the partly saturated flow by Buckingham (1907) and he found that in this case the hydraulic conductivity is a function of water content $K=K(\theta)$. This means that a small decrease in θ leads to a significant decrease in K. That is why for many soils the difference between hydraulic conductivities below and above water table might be great.

Normally it is assumed that unsaturated flow has virtually vertical direction in contrast to saturated flow below the water table, which usually is horizontal or in parallel to impervious layers. This because at interface, where soils with different hydraulic conductivities are meet "streamlines exhibit a pronounced refraction". Darcy's law was developed for an unsaturated medium:

$$q = -K(\theta)\frac{\partial h}{\partial z} \qquad (2.3)$$

Where h is hydraulic head and defined as:

$$h = H(\theta) - z \qquad (2.4)$$

Combination of equations (2.3) and (2.1) and is called Richards' equation and it describes vertical downward movement of water in unsaturated zone

$$\frac{\partial \theta}{\partial t} = -\frac{\partial}{\partial z}\left[K(\theta)\left(\frac{\partial H}{\partial z} - 1\right)\right] - S \qquad (2.5)$$

Where H is soil water pressure head relative to atmospheric pressure ($H \leq 0$).

Richards' equation is partially differential and highly non-linear as θ-H-K has a non-linear relationship in nature, which also indicates its strongly physically based origin. Moreover boundary conditions at a soil surface are changing irregularly. That is why it might be solved analytically only for limited boundary conditions. If relationships between θ-H-K are known, numerical solutions may solve the equation for various top boundary conditions.

In this study the flow is numerically simulated by HYDRUS-1D. The software uses modified Richards' equation (2.6) and describes infiltration in vadose zone and modeling it as one dimensional vertical flow.

$$\frac{\partial \theta}{\partial t} = -\frac{\partial}{\partial z}\left[K(\theta)\left(\frac{\partial H}{\partial z} - cos\alpha\right)\right] - S \qquad (2.6)$$

Where H is the water pressure head [L], α is the angle between the flow direction and the vertical axis (i.e., $\alpha = 0^o$ for vertical flow, 90^o for horizontal flow, and $0^o < \alpha < 90^o$ for inclined flow), and K is the unsaturated hydraulic conductivity [LT^{-1}] given by:

$$K(h,z) = K_s(r)K_r(h,z) \qquad (2.7)$$

Where K_r is the relative hydraulic conductivity [-] and K_s the saturated hydraulic conductivity [LT^{-1}].

2.5.4 The Unsaturated Soil Hydraulic Properties

HYDRUS-1D permits the use of five different analytical models for the hydraulic properties. The common used model for using the statistical pore-size distribution model to obtain a predictive equation for the unsaturated hydraulic conductivity function in terms of soil water retention parameters was *van Genuchten*[1980].

The expressions of *van Genuchten*[1980] are given by the following equations:

$$\theta(h) = \begin{cases} \theta_r + \frac{\theta_s - \theta_r}{[1+|\alpha h|^n]^m} & h < 0 \\ \theta_s & h \geq 0 \end{cases} \qquad (2.8)$$

And,

$$K(h) = K_s S_e^l \left[1 - \left(1 - S_e^{1/m}\right)^m\right]^2 \qquad (2.9)$$

Where,

$$m = 1 - {}^{1}/_{n}, \quad n > 1 \qquad (2.10)$$

h_s- air-entry value [L]

θ_s- saturated water content [-]

θ_r- residual water content [-]

α, m, n- empirical parameters [1/L], [-], [-]

S_e- effective water content [-]

K_s - saturated hydraulic conductivity [L/T]

K_r - relative hydraulic conductivity [-]

K_k (h_k) - unsaturated hydraulic conductivity at pressure head h_k[L/T]

l - pore-connectivity parameter [-] (it was estimated to be 0.50 as an average for many soils.)

Chapter 3
Research Methodology

3.1 Introduction

This chapter presents the research methodology that was followed in this thesis. The study involved two major works, that are the experimental work to determine the quantity and quality of the harvested rainwater in addition to the social acceptance to the project, and numerical modeling using HYDRUS-1D software program. The research started by reviewing all previous literature related to this research. Then, these studies have been summarized in a brief way with their results. The methodology followed in this research is summarized in Figure 3-1.

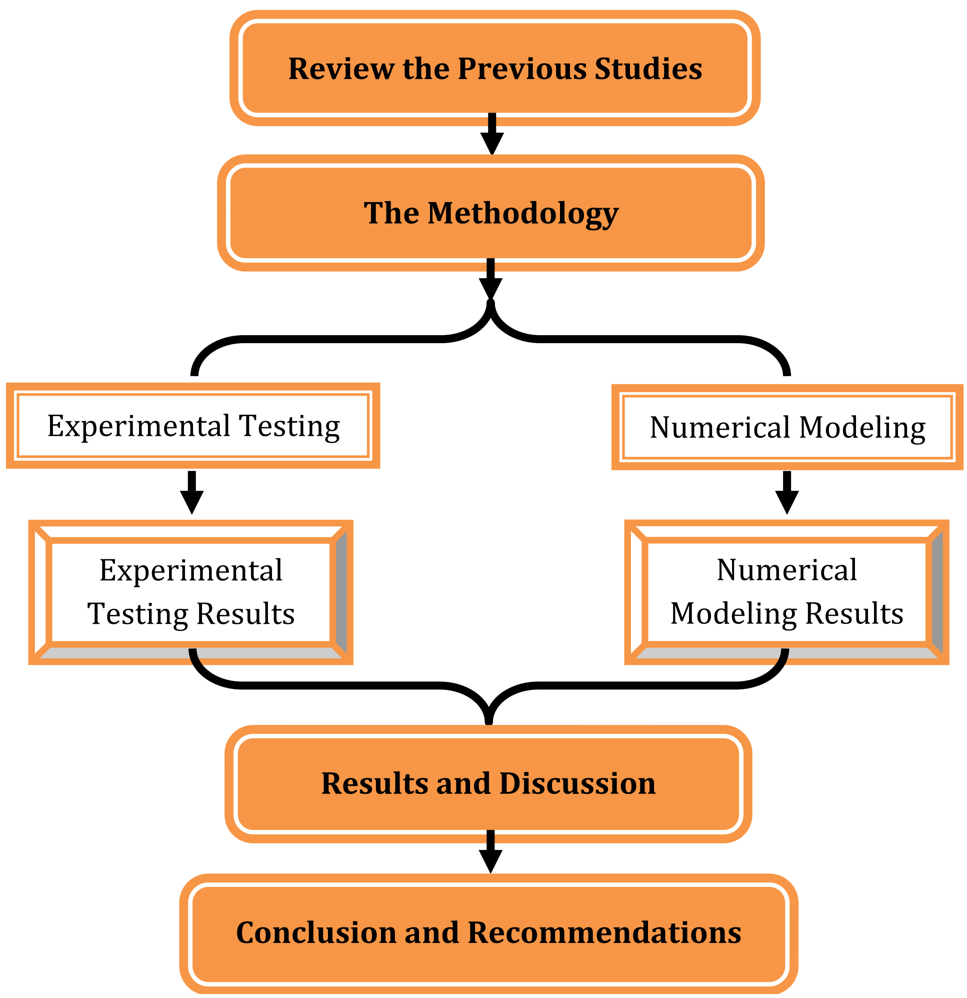


Figure 3- 1 Methodology of the Research

3.2 Pilot Project Description

The harvesting pilot project was implemented at two sites in Gaza Strip, one of them was at Gaza City and the other was at Deir Al Balah. In Deir Al Balah City, the project was implemented at homes level depended mainly on the rainwater that fall on the rooftop of homes through a collection system. One area was selected in Deir Al Balah - *Al Hadaba Area* – which is located at the middle of Deir Al Balah. This area was chosen according to its soil feature which was calcareous sandstone (kurkar), and this soil type has good parameters that lead to high infiltration rates. In addition to that, two bore holes were chosen at two locations of the study area at the upstream and downstream to give information about the soil strata for that study area. Twenty seven homes in that area were selected to perform the pilot project.

This collection system consisted of 3 inches collector pipes to catch the rainwater from the lowest points of the roof of the building if it has no separate drainage system, but if the building has a separate drainage system then the rainwater will be taken from the outlet pipes. Then these pipes were connected to a grease trap or sand trap manhole in order to purify the rainwater from impurities. After that the clean rainwater passed to one or/and two soak away manholes to be directly percolates into the groundwater through the sand-aggregate filter bidding layers. The number of soakaway manholes depended on the area of the building and soil type of the infiltration area. One soak away manhole was used for buildings with a roof area less than or equal to 200m^2. Two soakaway manholes were constructed for building roof area more than 200m^2, As shown in Figures 3-2, 3-3 and 3-4.

(The implementation of the project photos in the Annexes)

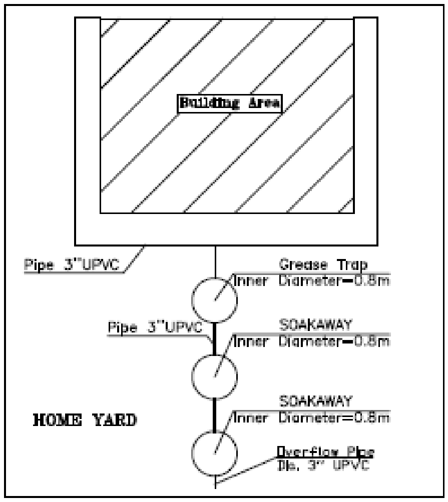


Figure 3- 2 General Layout of Soakaway Units

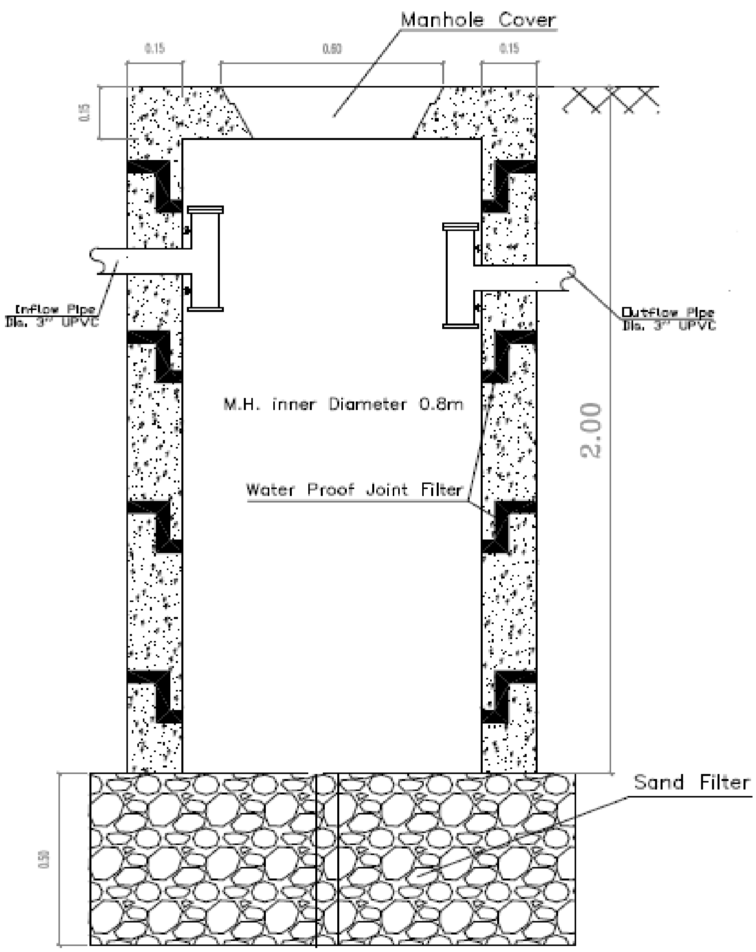
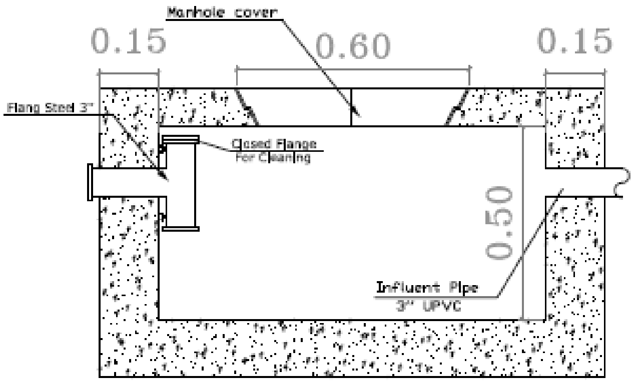
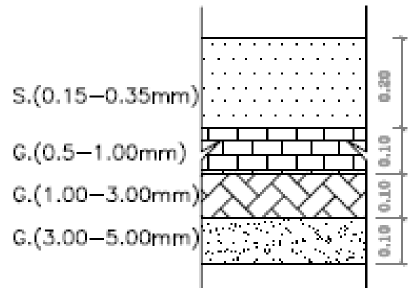


Figure 3- 3 Infiltration Unit Cross Section



a: Grease Trap Unit



b: Filter Layers

Figure 3- 4 Grease Trap Unit and Filter Layers

3.3 Social Acceptance

The assessment of the social acceptance was taken into account before and after the implementation of the pilot project at *Al Hadaba Area* – Deir Al Balah. A social surveying with a preliminary questionnaire had been made on the overall thirty three collected homes samples prior the pilot project construction phase.

In addition to that, a public meeting has been performed for the homes owners to give them a brief idea about the project and the benefits of constructing such as that type of projects.

After the completion of the project, a private meeting for the specified homes owners had been done to get feedback from them about their satisfaction on the project and if that idea was successful or not and their comments and recommendations to be taken into consideration in the future. That was done in parallel with the regular monitoring specially during the storm periods in order to check the system performance and the flooding occurrence. And finally, an interview was performed with household owners to take their opinions and suggestions on the project's implementation and for the harvesting idea in general.

3.4 Harvested Rainwater Quantities

The quantities of harvested rainwater can be calculated by finding the rainfall intensity that fall on Deir Al Balah Area and then multiplying it by both the area of the homes roof and the runoff coefficient based on the formula:

The runoff = C.I.A

where, C - is the runoff coefficient,

I - is the rainfall intensity (mm/day), and

A - is the catchment area (m^2)

The runoff coefficient can be estimated according to roof catchment type. The values of that coefficient were suggested by **UN-HABITAT, 2000** as shown in Table 3-1 for different types of catchment. The rainfall intensity was calculated by two different ways either by the annual rainfall intensity for Deir Al Balah, and by illustrating the daily records of precipitation intensity in rainy days during the last year rainy days records based on the nearest rainfall stations (Deir Al Balah Station) during the monitoring period from 10th of November 2012 to 5th of February 2013.

Table 3- 1 Runoff Coefficients for Various Catchment Surfaces (UN-HABITAT, 2000)

Type of Catchment	Coefficient
Roof Catchments	
❖ Tiles	0.8 - 0.9
❖ Corrugated metal sheets	0.7 - 0.9
Ground Surface Coverings	
❖ Concrete	0.6 - 0.8
❖ Brick pavement	0.5 - 0.6
Untreated Ground Catchments	
❖ Soil on slopes less than 10 per cent	0.0 - 0.3
❖ Rocky natural catchments	0.2 - 0.5
❖ Green area	0.05 - 0.10

The total amounts of rainwater that can be harvested from the roofs of the houses were calculated either on the basis of the annual rainfall intensity of Deir Al Balah area and then multiplying it with the roofs runoff coefficient (Table 3-1) and with the area of each individual home roof.

3.5 Harvested Rainwater Quality

The experimental tests were performed to examine the quality of harvested rooftop rainwater and the homes were chosen randomly. The steps of the experimental testing were as follows:

3.5.1 Rainwater Sampling

The rainwater samples were taken randomly for five homes to make the necessary analysis for each home separately. The samples were collected from the 3 inches outlet pipe falling from the roof into the grease trap unit during the second storm not the first one because the first storm is usually not representative due to the contact with the polluted air. These samples were carried out carefully and professionally and then collected by using bottles of one liter capacity and labeled with the home number (owner), date and time of collection. For biological test which mainly Fecal Coliform, it was necessary to use special disinfected bottles for rainwater samples collection to ensure the test accuracy.

3.5.2 Samples storage and preservation

After collecting the rainwater samples, then these samples had to be preserved in a well-protected and cold box to ensure the safety of delivering the samples to the laboratory within twenty four hours especially for the biological test to ensure that the samples still fresh. *(More photos in the Annexes)*

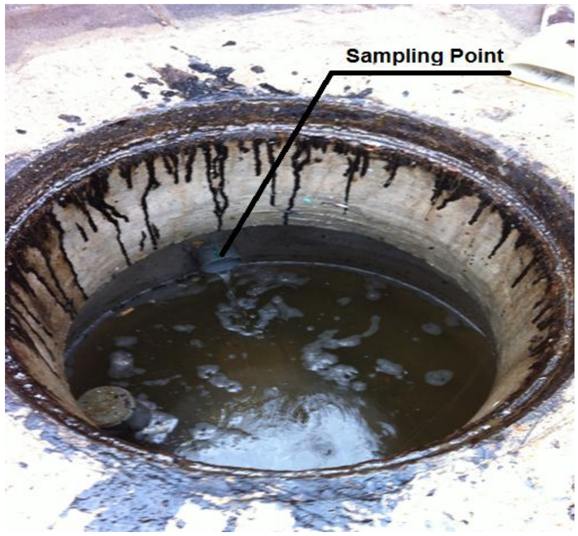


Figure 3- 5 Sampling Point of Rooftop Runoff

3.5.3 Laboratory Analysis

The laboratory analysis for the samples were done to determine the specified parameters such as TDS, CL, NO_3, pH, EC and biological test which is mainly the Fecal Coliform test. These tests are performed for the independent five samples, and then can be compared with the samples collected for the same homes last year by the PWA to differentiate between the two results.

Figure 3- 6 Rainwater Sampling

3.6 Numerical Modeling and Model Development

In this study, HYDRUS-1D version 4.16 is used as a tool to simulate water flow in the vadose zone to develop the understanding of downward flow under variable boundary conditions. The software is originally developed and released by the United States Salinity Laboratory in cooperation with the International Groundwater Modeling Center (IGWMC), the University of California Riverside, and PC-Progress, Inc.

The unsaturated soil hydraulic properties can be determined using the HYDRUS-1D model.

This software program is divided into two main parts: pre-processing and post-processing stages. The following sections give a brief summary about the HYDRUS-1D features used for modeling.

3.6.1 Input Data

- ***Meteorological data***

The daily records of precipitation intensity in rainy days during the last year rainy days records from 10th of November 2012 to 5th of February 2013 was used as input data for time variable boundary conditions in HYDRUS-1D Model.

- ***Soil hydraulic properties***

Investigation of water flow was done for the soils with different physical properties. Three soil profiles were chosen at *Al Hadaba Area* – Deir Al Balah as shown in Figure 3-7. For the first soil profile (1), which is located near the monitoring well at the downstream area of the pilot project, has the coordinates of X = 87956.2902, Y = 91832.6604, Z = 32.96 and the depth = 16.50m. Soil profile (2) is a sand column for the same previous depth (16.50m). Soil profile (3) is located at the coordinates of X = 87883.8296, Y = 91637.2058, Z = 34.11. Soil profile (4) is located at the upper stream of the pilot project area with the coordinates of X = 88099.3196, Y = 91663.8933, Z = 45.32. These three pore holes have been chosen to be good representatives of *Al Hadaba* – Deir Al Balah soils. These multi layered soil profiles are now to be used as input data for HYDRUS-1D for the three sites in addition to the sand column soil profile (2).

The soil types are classified into ten types according to *van Genuchten* [1980] and each one of these types has its typical values of soil hydraulic parameters for the van Genuchten function as shown in Table 3-2.

For each soil material there is five independent parameters:

- (θ_r) residual water contents,
- (θ_s) saturated water contents,
- (α) the inverse of the air-entry value (or bubbling pressure),
- (n) the pore-size distribution index, and
- (K_s) the saturated hydraulic conductivity.
- The pore-connectivity parameter l in the hydraulic conductivity function was estimated to be about 0.5 as an average for many soils,

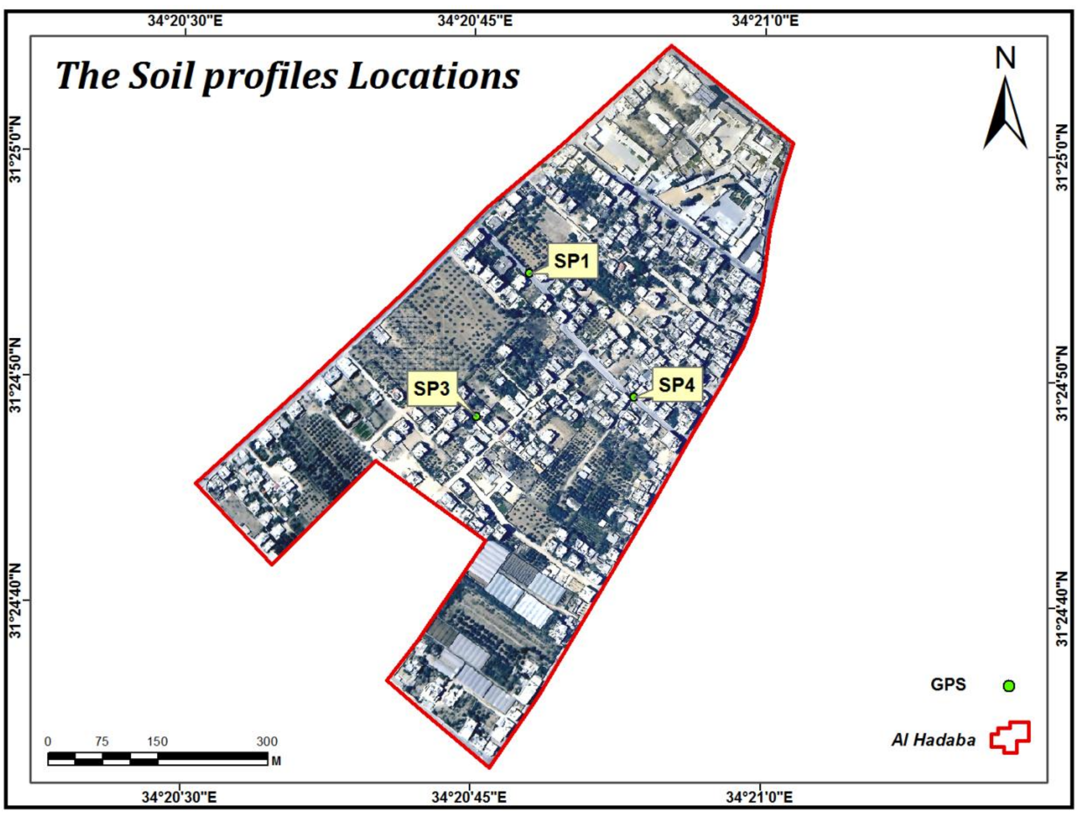


Figure 3- 7 Soil Profiles Locations at Al Hadaba Area – Deir Al Balah

Table 3- 2 The Typical Values of Soil Hydraulic Parameters for the Van Genuchten Function.

Soil type	θ_r	θ_s	α	n	Ks
silt clay	0.070	0.36	0.005	1.09	0.0003
sandy clay	0.100	0.38	0.027	1.23	0.0020
clay	0.068	0.38	0.008	1.09	0.0033
silt	0.034	0.46	0.016	1.37	0.0042
clay loam	0.095	0.41	0.019	1.31	0.0043
silt loam	0.067	0.45	0.020	1.41	0.0075
loam	0.078	0.43	0.036	1.56	0.0173
sandy loam	0.065	0.41	0.075	1.89	0.0737
loam sand	0.057	0.41	0.124	2.28	0.2432
sand	0.045	0.43	0.145	2.68	0.4950

Figure 3-8 shows the main HYDRUS-1D model interfaces. It consists of two main columns, the left column is the pre-processing stages and the right column consists of the post-processing stages.

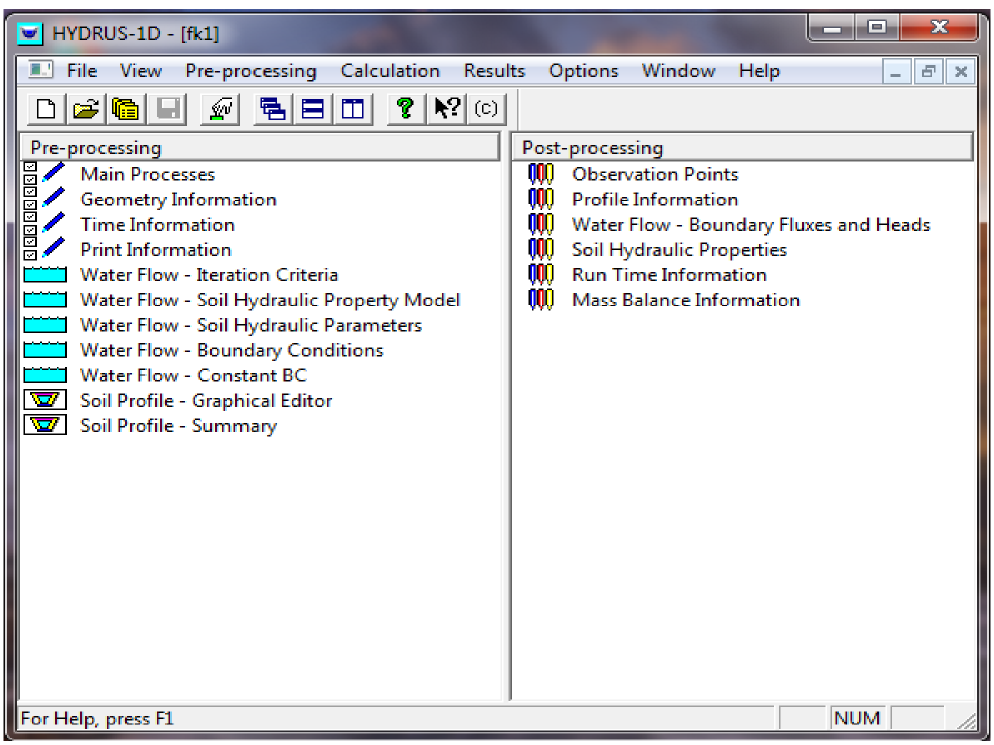


Figure 3- 8 HYDRUS-1D Main Model Interface

The pre-processing mainly consists of the following stages:

- Main Process (water flow in steady state condition for this study),

- Geometry Information (length unit, number of soil materials and depth of soil profile),
- Time Information (time units, final time, initial time step and maximum time step),
- Print Information (number of print times),
- Iteration Criteria (maximum number of iterations),
- Soil Hydraulic Model (Van Genuchten – Mualem model),
- Water Flow Parameters,
- Water Flow - Boundary Conditions (upper boundary conditions is constant flux and lower boundary conditions is free drainage),
- Water Flow – Constant Boundary Fluxes (Upper Boundary Flux is assumed for different values of q), and then the model can be run.

The main process dialog window - shown in Figure 3-9 - contains the processes that can be simulated in HYDRUS such as water flow, solute and heat transport, root water uptake, and root growth. Only water flow was selected and simulated in this research.

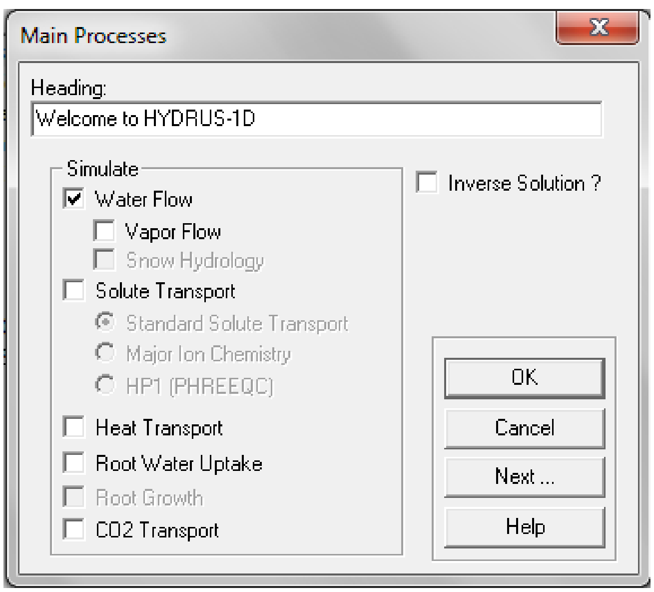


Figure 3- 9 The Main Process Dialog Window

3.6.2 Geometry Information

In HYDRUS-1D geometry of model can be defined. First, the number of soil types, the total depth of soil profile, and length units can be set under the geometry information dialog box. Then, finite element model can be constructed by subdividing each region into linear elements by means of soil profile graphical editor or soil profile summary dialog windows in Figure 3-10.

In this study, three different kinds of soil profiles were used; soil profile (1), soil profile (2), soil profile (3) and soil profile (4). The total depth of soil profile (1) and (2) is 16.5m (1650 cm), where soil profile (3) has a depth of 18m and finally soil profile (4) has a depth of 25m. Soil profile (2) is a standard sand column soil profile, and soil profile (1), (3) and (4) representing the different depths of the unsaturated zone in Al Hadaba Area – Deir Al Balah. The finite element model was constructed by dividing the entire profile into 100 nodes of the different thicknesses. The following steps are made for the model of soil profile (1) with a total depth of 1650cm.

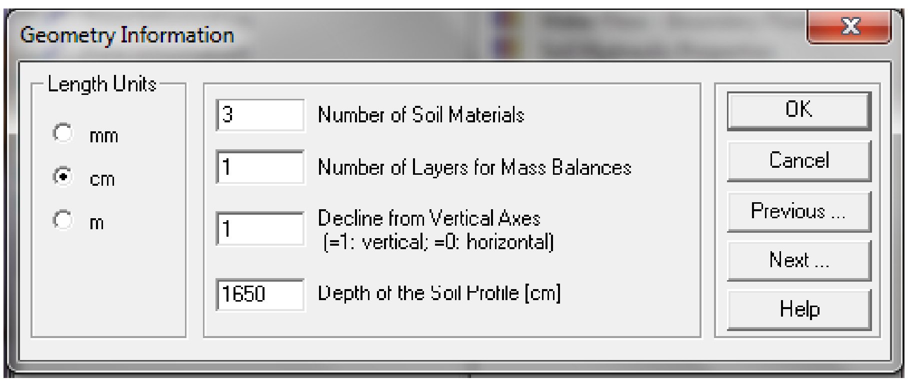


Figure 3- 10 Geometry Information Dialog Window

3.6.3 Time Information

Under this section, time units, time discretization, and time-variable boundary conditions can be defined, see Figure 3-11. The unit of time was selected in days and the period of 100 days was used for simulation purposes.

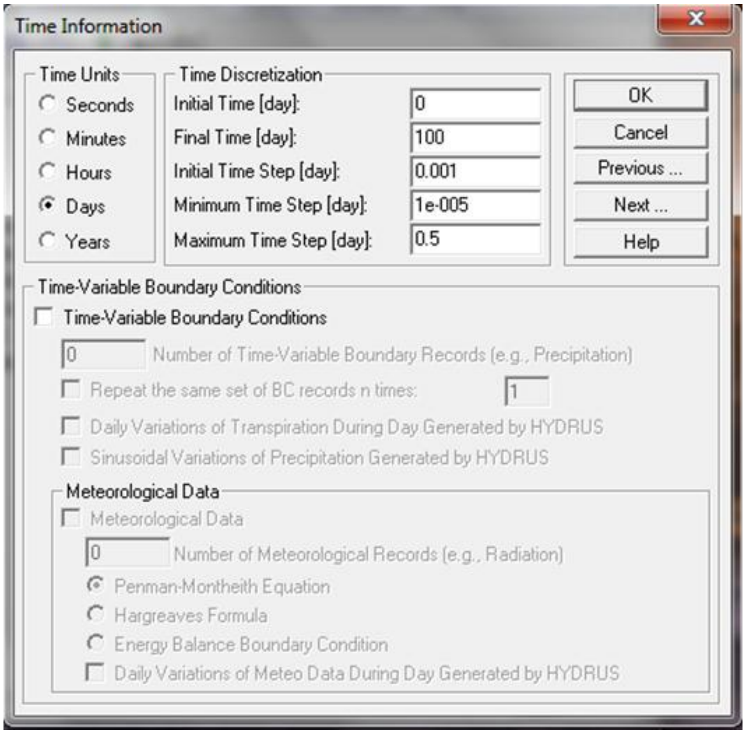


Figure 3- 11 Time Information Dialog Window

3.6.4 Print Information

This section shows the print information that are resulted in the output files. This is mainly concerns about the number of print times showing the results at each time interval by using the button (Select Print Times) and then we can choose the print times we need to show the data results. In this model the time intervals are selected to be two days for 40 days duration as shown in Figure 3-12.

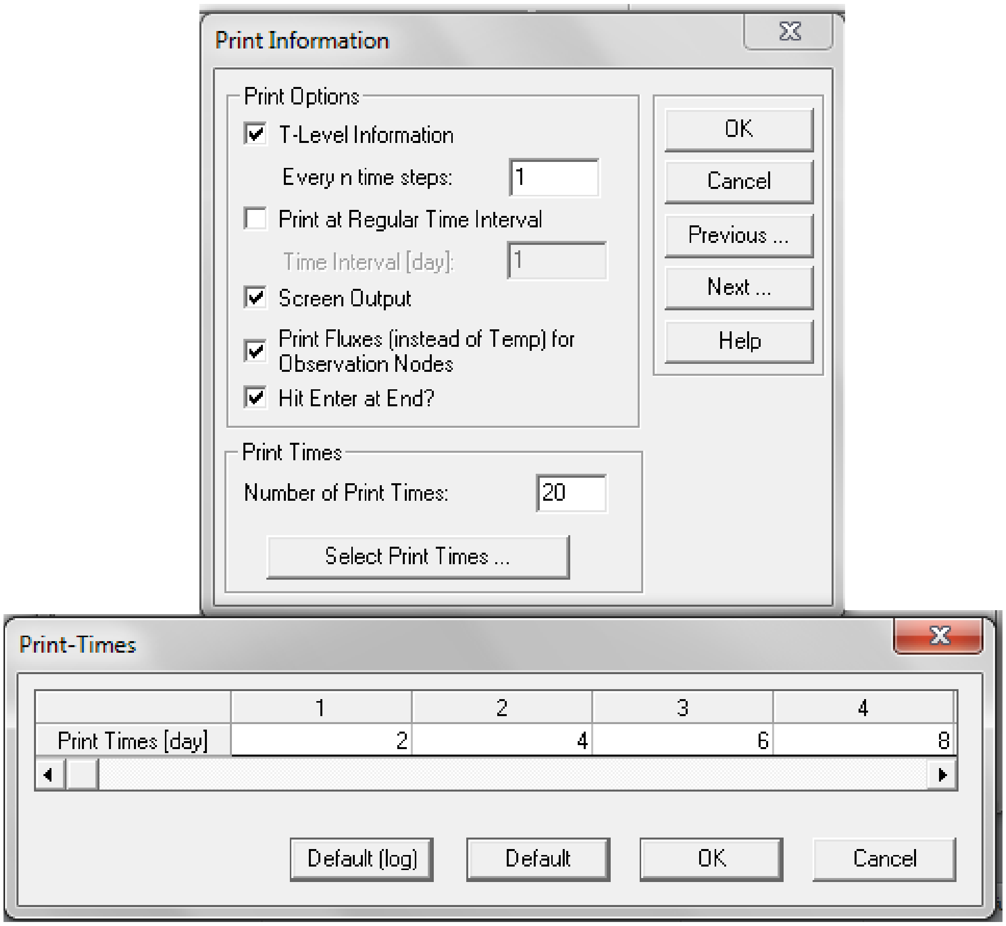


Figure 3- 12 Print Information and Print – Times Dialog Windows

3.6.5 Water Flow

- ***Soil hydraulic property model***

Within this command window, hydraulic model can be defined. There are various hydraulic models that can be used as shown in Figure 3-13. In this research, Van Genuchten – Mualem single porosity model was selected.

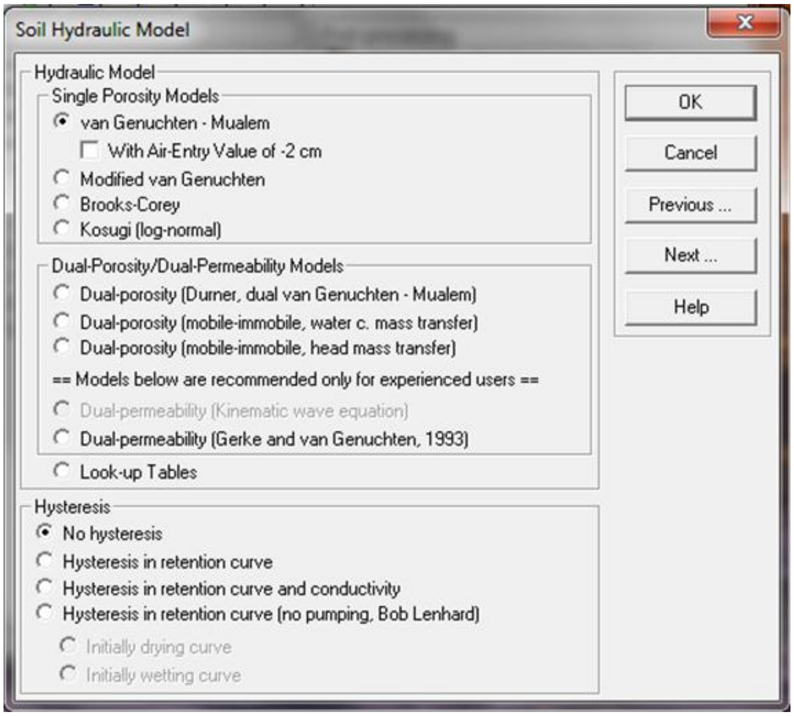
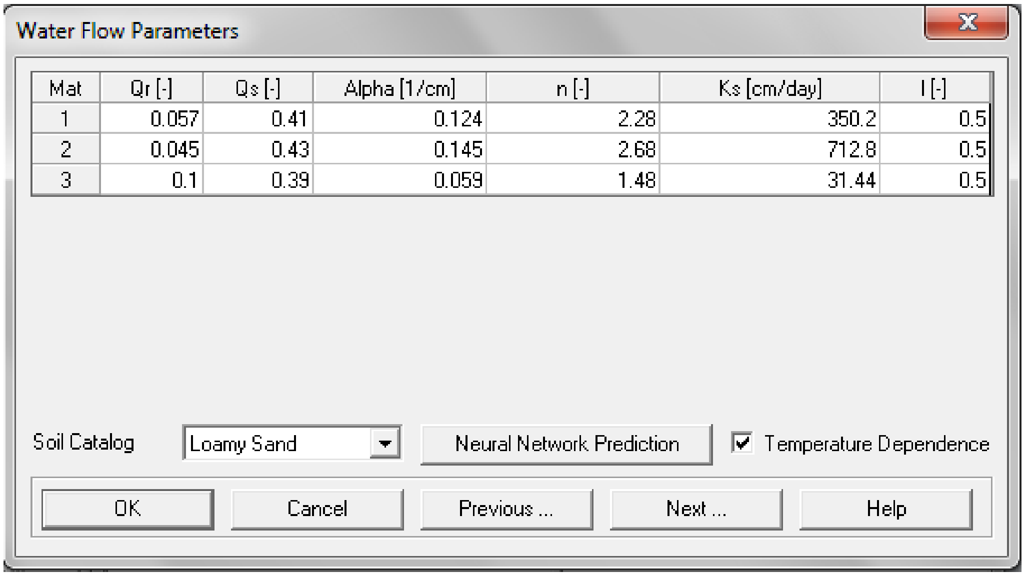


Figure 3- 13 Soil Hydraulic Property Model Window

- ***Soil hydraulic parameters***

All the parameters needed for various soil hydraulic models are specified in this section, the water flow parameters dialog window for soil profile (1) is shown in Figure 3-14.

For each soil material there is five independent parameters as shown above in section 3.6.1. The parameters needed are residual and saturated water contents (θ_r & θ_s), saturated hydraulic conductivity (K_s), pore connectivity parameter (l) - was estimated to be about 0.5 as an average for many soils, and empirical coefficients Alpha (α) and (n). To predict the values of these parameters, HYDRUS-1D gives these parameters values once the soil catalog has been chosen according to the pore hole profile.



Mat	Qr [-]	Qs [-]	Alpha [1/cm]	n [-]	Ks [cm/day]	l [-]
1	0.057	0.41	0.124	2.28	350.2	0.5
2	0.045	0.43	0.145	2.68	712.8	0.5
3	0.1	0.39	0.059	1.48	31.44	0.5

Figure 3- 14 Water Flow Parameters Dialog Window

- ***Flow boundary conditions***

Water flow boundary conditions are selected under this section. The water flow boundary conditions are divided into three main types such as upper boundary condition, lower boundary condition and initial condition. The upper boundary condition can be chosen as one of constant pressure head, constant flux, atmospheric BC with surface layer, atmospheric BC with surface runoff, variable pressure head or variable pressure head/flux. The lower boundary condition also is one of constant pressure head, constant flux, variable pressure head, variable flux, free drainage, deep drainage, seepage face (*h*) or horizontal drains. And finally the initial condition is one of these, in pressure head or in water contents. In this study the initial conditions that will be used is as follows (see Figure 3-15):

- Upper boundary condition : constant flux,
- Lower boundary condition : free drainage, and
- Initial condition: in pressure head.

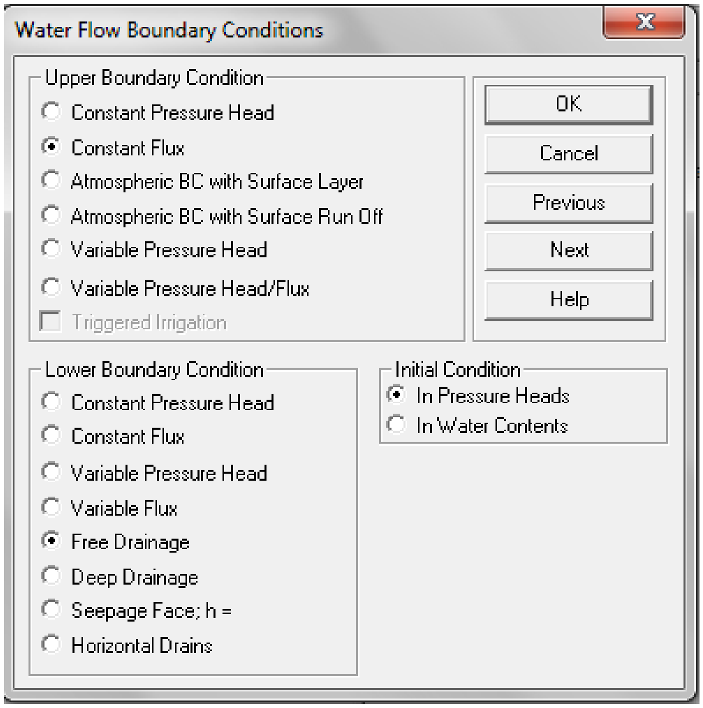


Figure 3- 15 Water Flow Boundary Conditions Dialog Window

- ***Upper Constant Flux Calculations***

The upper constant flux can be calculated by different methods. One of the methods depends on the soil type, where each soil type has its separated basic infiltration rate. Table 3-3 illustrated by the FAO organization shows the basic infiltration rate (mm/hour) for the different soil types.

Table 3- 3 Basic Infiltration Rates For Various Soil Types (FAO, 2000)

Soil type	Basic infiltration rate (mm/hour)
sand	less than 30
sandy loam	20 - 30
loam	10 - 20
clay loam	5 - 10
clay	1 - 5

Another method of the upper flux is by calculating the daily runoff from the home rooftop. The daily runoff amounts can be calculated as mentioned in ***Section 3.4*** .

In the first model of each soil profile, the upper constant flux is assumed to be 10 cm/day and then this flux is changed to make a comparison among all models.

3.6.6 Calculations

After the generation of a HYDRUS-1D model, the actual calculations can be executed. Therefore, it is necessary to define different types of calculations by changing the profile for soil profile (2), soil profile (3) and soil profile (4), and then by following the same steps the calculations are done to differentiate between the output results. For each soil profile the upper flux is changed in the input and has the values of q = 5, 10, 15, 20, 25, 30 ,35 and 40 cm/day, then the model is run for each q value and the arrival time is given in the results. The relation between the upper flow q and the arrival time t can be formulated in a polynomial equation and can be valid for each upper flow.

3.6.7 Outputs

Once the calculation has been completed, the results can be evaluated in the Output program which is considered here as the post-processing stage. This stage gives the results of the run of the model as follows:

- Observation Points,
- Profile Information,
- Water flow – Boundary Fluxes and Heads,
- Profile Information,
- Soil Hydraulic Properties, and
- Mass Balance Information.

After HYDRUS-1D models have been prepared, simulations were performed to get the outputs. Generally, the HYDRUS code provides three different groups of output files, which are; T-level information, P-level information, and A-level information. Here, in this research, we made use of four different output files from these four groups, namely;

- NOD_INF.OUT file, which is from the P-level information group and used to find concentration profiles in the soil horizon at the end of the simulation period.

- T_LEVEL.OUT file, this file is also from the T-level information group and used to find the amount of net precipitation infiltrated to the soil.
- BALANCE.OUT file, which is from P-level information group containing information about the amount of water in the profile, inflow and outflow rates and mean pressure head.
- PROFILE.OUT file, which is from the input data and used to show the different parameters change along the depth. *(See Annexes)*

3.7 Results analysis and discussion

According to experimental field test, the results obtained from the social survey, rainwater quantities and rainwater quality analysis are discussed and compared with the previous results and also with the standard values. Also, the output results from HYDRUS-1D model to be discussed to show the different relations among different factors affecting the infiltration in the vadose zone.

Chapter 4
Results and Discussion

The rainwater harvesting is an old technique for storing and benefiting from the rainwater instead of wasting it through the surface runoff or directly to the sewer network. The benefits of the rainwater are either for the domestic use, the irrigation or to be infiltrated directly into the soil. In this research, the emphasis was on recharging the harvested rainwater from the homes rooftops through the infiltration pits belong to the pilot project which was implemented by the Palestinian Water Authority in Deir Al Balah – Gaza. Accordingly, the study included the social acceptance about the project as a whole, the quantities of harvested rainwater from homes rooftop, tests of the rainwater quality parameters (such as TDS, Cl, No_3, pH, EC and F.C) and finally three models were constructed for different pore holes in the study area and comparing them with the proposed sand column model.

4.1 Social Acceptance Results

4.1.1 First Questionnaire

The first questionnaire was performed before the implementation of the pilot project, where the social surveying had been made on the overall thirty three collected homes samples. The questionnaire collected a brief details about the home's owner details, roof area, the existing drainage system and finally the acceptance of the home's owner to construct a separate drainage system and a soakaway unit. The results of this questioner can be summarized as:

- 45% of the homes have an area less than 200 m^2, where 55% have an area between 200 and 300 m^2 (Figure 4-1).
- 80% of the home owners have a separate drainage system for their roofs, while the other 20% don't which means that these homes have to have an external drainage pipes to collect rainwater(Figure 4-2).

- When asking about the rooftop rainwater runoff, 22% show that these water goes directly to the sewerage system, 65% goes to the streets and mixed with the street runoff and only 13% of this water goes to the home yards(Figure 4-3).
- All the asked households preferred to make a separate system between the storm water and the wastewater.
- And finally, the approval to construct a soakaway units and to make an infiltration to the rainwater was 100% for all the households, and this encourages to implement the pilot project because the home owners were very satisfied with the rainwater harvesting and infiltration idea.

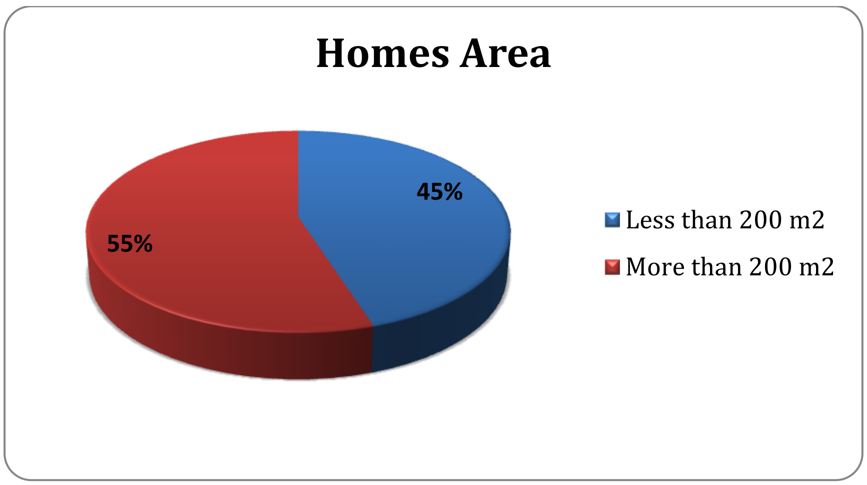


Figure 4- 1 Homes Area

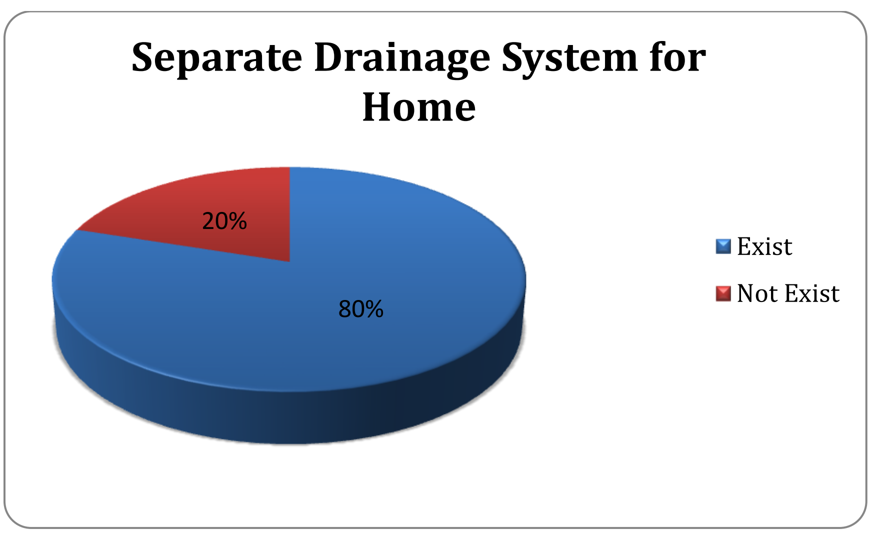


Figure 4- 2 Separate Drainage System for Home

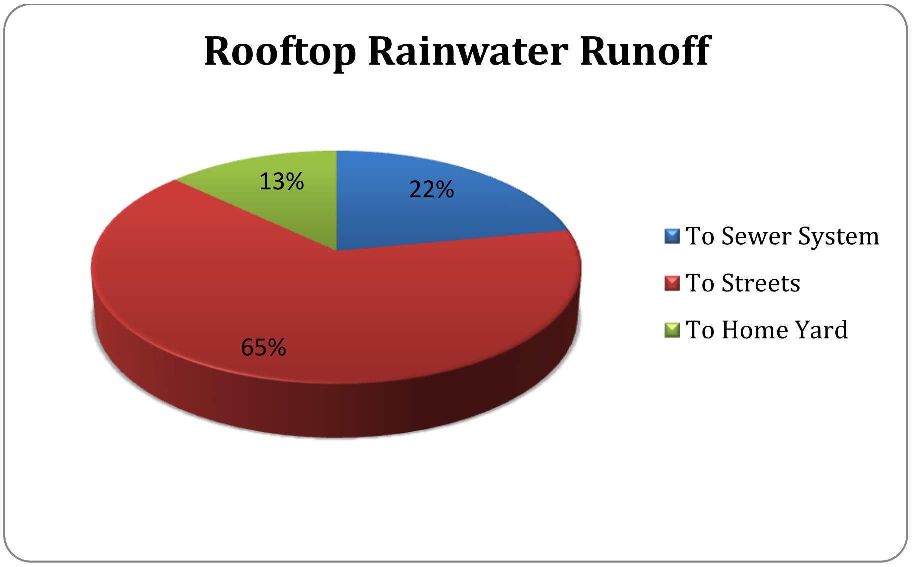


Figure 4- 3 Rooftop Rainwater Runoff

4.1.2 Public Meeting

To give a full details and explanations to the local society, a public meeting through a workshop had been made. In this workshop a brief details were presented about the project's construction and project's components in addition to the benefits that can be gained after spreading that idea on a large scale. The audience were very interested in the project and had many questions about the effect of the project on their homes foundations and about the future benefits of that project. All these questions had been answered clearly so that the homes owners gave the green light to implement such projects and recommended to expand the idea and to alleviate all rainwater not only from rooftop but also from the roads runoff to get higher benefits of that clean water instead of wasting it. *(The meeting photos in the Annexes)*

4.1.3 Household Interviews

After the handing over of the project, which included twenty seven homes, interviews were performed with the homes owners to get feedback information from them. The interview questions were about the satisfaction about the project's idea, the contractor's performance, the quality of the used materials and any other notifications that can help in the future to make check on the design or on the implementation methods. The result of the interviews can be summarized as:

- 78% illustrated that the contractor's performance was good, 7% intermediate and 15% said that the performance was weak (Figure 4-4).

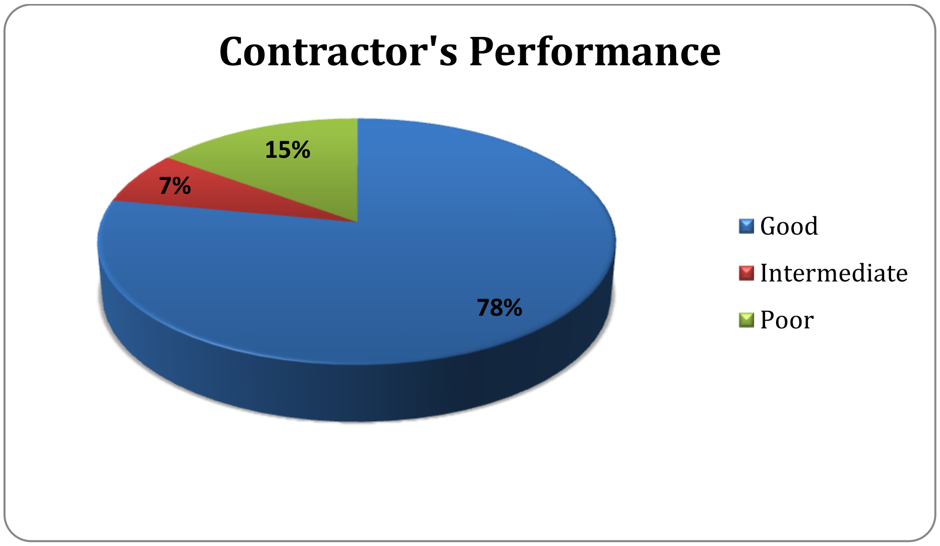


Figure 4- 4 Contractor's Performance

- When asked about the material's quality used in the project, 81% of them showed that the material was good enough, 15% intermediate and just 4% said it was not good enough (Figure 4-5).

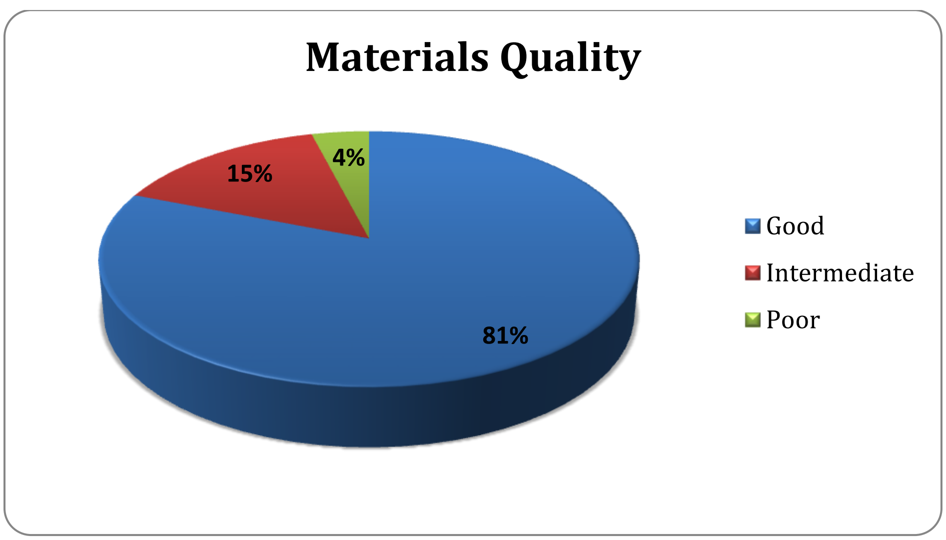


Figure 4- 5 Materials Quality

- The general satisfaction about the project was very good where 89% declared that the project was good, 7% intermediate and only 4% were unsatisfied with the project (Figure 4-6).

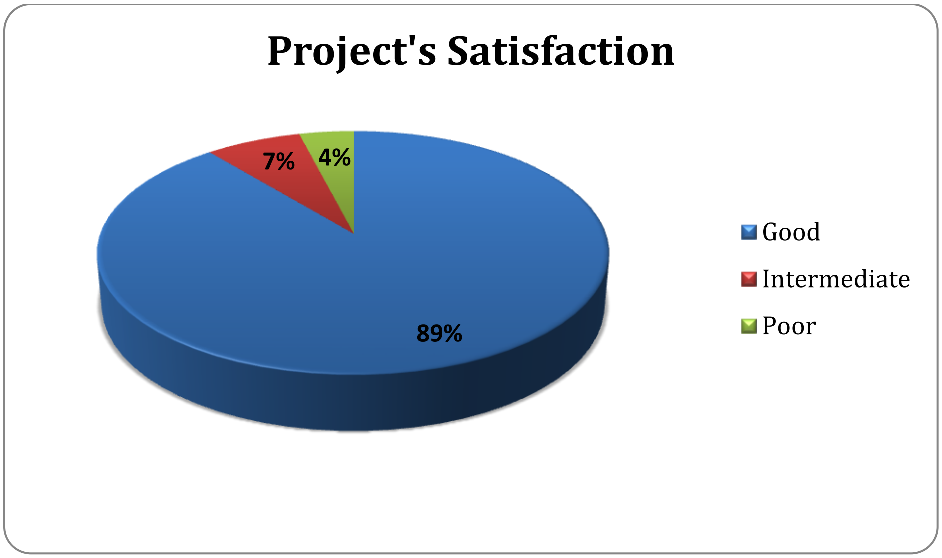


Figure 4- 6 Project's Satisfaction

- 89% of all home owners showed that they clean and prepare their homes roof before the winter season (Figure 4-7).

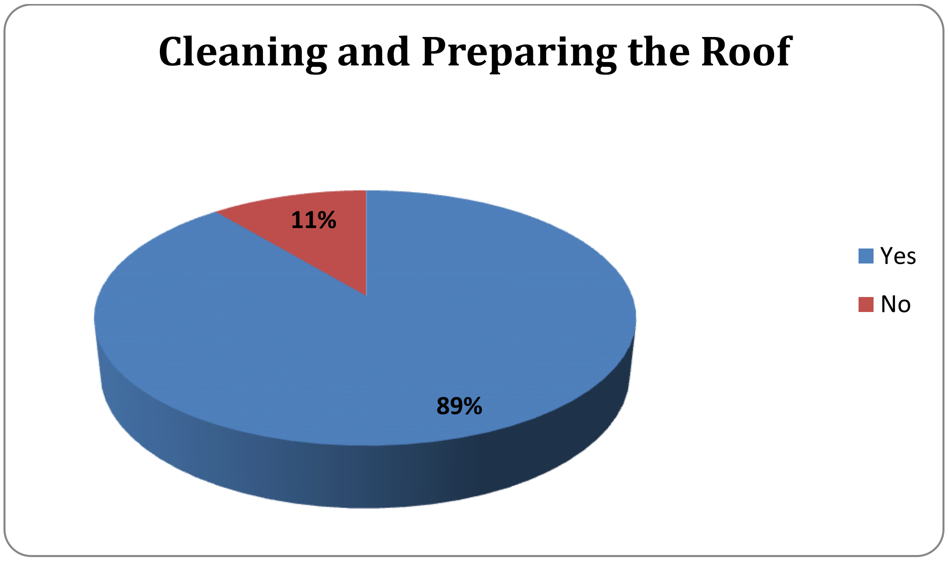


Figure 4- 7 Cleaning and Preparing the Roof

- About the soakaway units' capacity for the rainwater during the storm periods, all the households agreed with that, so no flooding occurred during the first year monitoring of the project.

- 25% of the home owners said that there was a leakage in the drainage pipes due to the weak fixing of that pipes.

From the above all social investigations, the following results can be summarized such as:

- ✓ The rainwater harvesting had a wide satisfaction and acceptance from the overall public society.
- ✓ The homes owners in the study area had no problem with implementing such as these projects but they don't have enough money to do that by their selves, so they need to be encouraged and donated.
- ✓ The home owners were ready to clean and prepare their roofs before the winter season to receive the clean rainwater.
- ✓ Some notices and complains were mentioned about the performance of the contractor of the project that made some un-satisfaction on the project, so some results were negative not like the first questionnaire before the projects implementation where 100% accepted the idea.

4.2 Rainwater Quantities

The harvested rainwater quantities were calculated based on the daily records of precipitation intensity in rainy days for the period from 10th of November 2012 to 5th of February 2013 as shown in Figure 4-8. These records were based on the average values in the nearest rainfall stations (Deir Al Balah station).

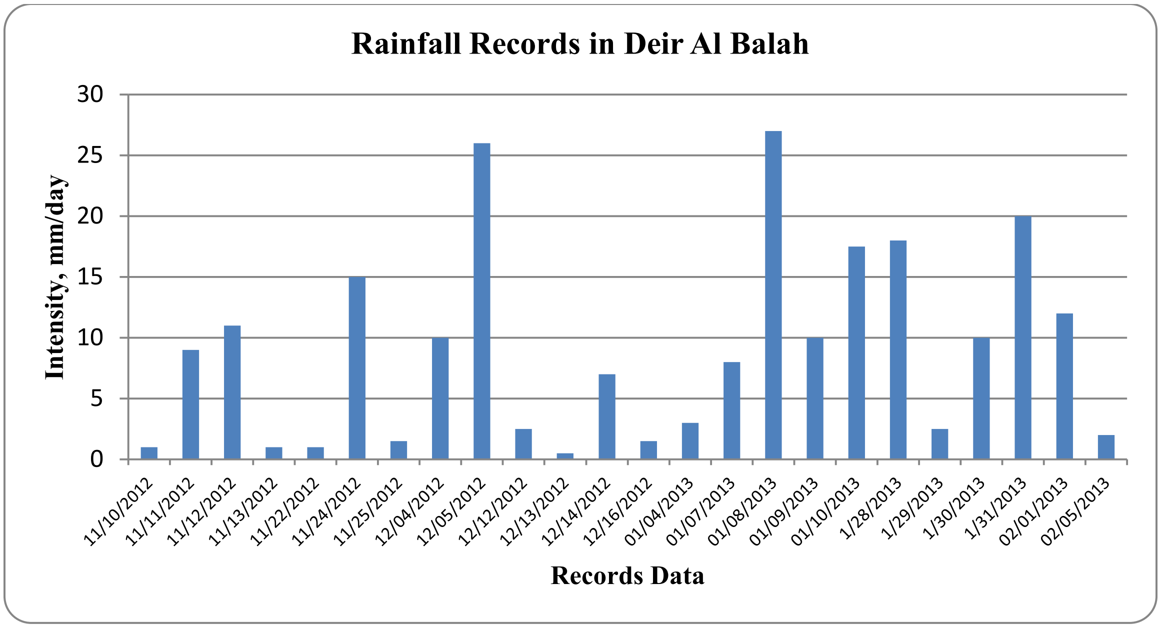


Figure 4- 8 Rainfall Records in Deir Al Balah Station from 10/2012 to 02/2013

It was noticed that there was a fluctuation in the rainfall intensity which ranged between 0.5 to 27 mm/day and the overall amount until this time was 217 mm. dividing the total amount on the rainy 24 days, it gives an average of 9mm/day. The values of rainfall runoff in the rainy days in the catchment area at the study area (Deir Al Balah) based on the formula discussed in section 3.4. Now, the runoff can be calculated in Table 4-1 for different rainfall intensities from 10th of November till the 5th of February as follows:

Table 4- 1 Runoff Calculations for Different Rainfall Intensity

NO.	DATE	INTENSITY mm/day	Rainfall Coefficient (C)	Building Area (A), m2	Runoff, m3/day
1	11/10/2012	1	0.7	200	0.140
2	11/11/2012	9	0.7	200	1.260
3	11/12/2012	11	0.7	200	1.540
4	11/13/2012	1	0.7	200	0.140
5	11/22/2012	1	0.7	200	0.140
6	11/24/2012	15	0.7	200	2.100
7	11/25/2012	1.5	0.7	200	0.210
8	12/04/2012	10	0.7	200	1.400
9	12/05/2012	26	0.7	200	3.640
10	12/12/2012	2.5	0.7	200	0.350

NO.	DATE	INTENSITY mm/day	Rainfall Coefficient (C)	Building Area (A), m2	Runoff, m3/day
11	12/13/2012	0.5	0.7	200	0.070
12	12/14/2012	7	0.7	200	0.980
13	12/16/2012	1.5	0.7	200	0.210
14	01/04/2013	3	0.7	200	0.420
15	01/07/2013	8	0.7	200	1.120
16	01/08/2013	27	0.7	200	3.780
17	01/09/2013	10	0.7	200	1.400
18	01/10/2013	17.5	0.7	200	2.450
19	1/28/2013	18	0.7	200	2.520
20	1/29/2013	2.5	0.7	200	0.350
21	1/30/2013	10	0.7	200	1.400
22	1/31/2013	20	0.7	200	2.800
23	02/01/2013	12	0.7	200	1.680
24	02/05/2013	2	0.7	200	0.280

The maximum value of the daily runoff was 3.78 m^3/day. The total volume of the soakaway with one meter diameter (area = 0.785m^2) and a depth of two meters was 1.57 m^3, and the volume of the grease trap with 80 cm diameter (area = 0.5m^2) and 50 cm depth was 0.25 m^3, so the total volume that can be achieved was:

Total volume = 1.57+0.25 = 1.82 m^3

That led to calculate the time that would stay in the system by dividing the runoff by the total volume as:

Spending Time = 3.78/1.82 = 2.08 days.

This may be valid if there were closed bottom manholes in the soakaway system, but in fact there was no flooding through the heavy storm periods and that is due to the continuous infiltration of the soil, i.e., the system is able to absorb all the rainwater quantities that fall on the roofs.

The rainwater quantity for each home can be calculated separately by the previous runoff equation, and that can be achieved by multiplying the average annual rainfall intensity by the roof area and runoff coefficient.

Figure 4-9 below shows the variation of annual rainfall over the twelve stations in Gaza Strip from 1973 to 2010 **(Qahman et al. 2010**).

So, according to that study station G9 was in Deir Al Balah and gave the average annual rainfall of 304 mm/year. The runoff coefficient for the concrete floor is 0.7and the assumed roof area = 200 m^2, so:

Annual rainwater quantity = *C.I.A* = 0.7*0.304*200 = 42.56 m^3/year.

So, the total quantities can be calculated with the same method to find out the actual quantities that can be harvested and actually infiltrated into the soil.

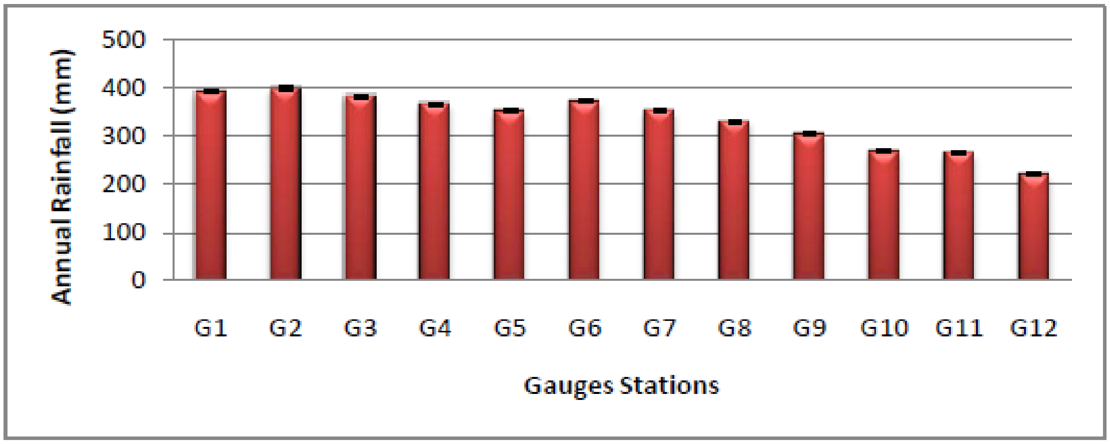


Figure 4- 9 Spatial Variation of Annual Rainfall Over the Twelve Climatic Stations in Gaza Strip from 1973-2010. (Qahman et al. 2010)

4.3 Rainwater Quality

In December, 2012 six home samples were chosen from the twenty seven homes of the pilot project to take the rainwater samples in addition to a composite sample to make the necessary quality tests. Table 4-2 shows the results of the tests of Total Dissolved Solids, Chloride, Nitrate, pH, Total Suspended Solids and Fecal Coliform. The results show that the sample taken from the roof of Deir Al Balah Municipality has high values more than other samples and they are higher than the WHO Standards of drinking water especially in TDS, Cl and F.C. The values of F.C for three other samples are very high, but the TSS is very small for all six samples and the composite sample, so the TSS test is replaced by the Electric Conductivity (EC).

In December, 2013 five samples of the previous homes are used to check the rainwater quality values of TDS, Cl, NO_3, EC and F.C, and the results are shown in Table 4-3. The results show that the sample of Maher Abed's home has the highest values than other samples, and has the values of TDS and Cl higher than the WHO Standards for drinking water. It is noticed that the F.C values are zero for all the samples and that is a good indication. Another good result for the electric conductivity is obtained for all samples that all the samples is less than the WHO standard value (2500 μS/cm). After that the comparison to be made among the 2012, 2013 and WHO Standards, and that is shown in the coming figures.

Table 4- 2 Rainwater Samples Results – December 2012

Date of Sample	Name	TDS mg/l	Cl mg/l	NO3 mg/l	pH	TSS mg/l	F.C/100ml
9/12/2012	*Deir Al Balah Municipality*	2100	964	13.2	7.3	17	$4.3*10^3$
	Moaz Hassan	328	125	11	7.3	10	20
	Abed Al Khaliq Al Buhasi	276	90	6.6	7.03	4	$1.4*10^3$
	Abu Amra	124	42	4.4	7.25	2	$1.2*10^3$
	Maher Abed	214	90	5.7	7.28	31	4
	Al Buhasi	162	68	2.6	7.03	1	$3.3*10^3$
15/12/2012	*Composite sample*	190	77	6.6	6.85	17	-

Table 4- 3 Rainwater Samples Results – December 2013

Date of Sample	Name	TDS mg/l	Cl mg/l	NO3 mg/l	pH	EC μS/cm	F.C/100 ml
11/12/2013	*Deir Al Balah Municipality*	430	182	3	6.949	820	0
	Moaz Hassan	143	57	4	6.483	285	0
	Abed Al Khaliq Al Buhaisi	98	24	2	6.302	195	0
	Abu Amra	80	22	1	6.834	160	0
	Maher Abed	935	443	12	7.47	1700	0

4.3.1 Total Dissolved Solids (TDS)

Figure 4-10shows the differences in the values of the samples collected in 2012 (blue columns) and 2013 (red columns), and then compared with the WHO standard values for drinking water (green columns). It is clear that the results of the year 2013 is better than 2012 except for the fifth sample (Maher Abed).

4.3.2 Chloride (Cl)

The chloride concentration of the year 2012 samples is higher than that resulted in the year 2013 except for the fifth sample as shown in Figure 4-11. Almost all samples is lower than the WHO standards except two samples, the first sample of 2012 (Deir Al Balah Municipality) and the fifth sample of 2013 (Maher Abed).

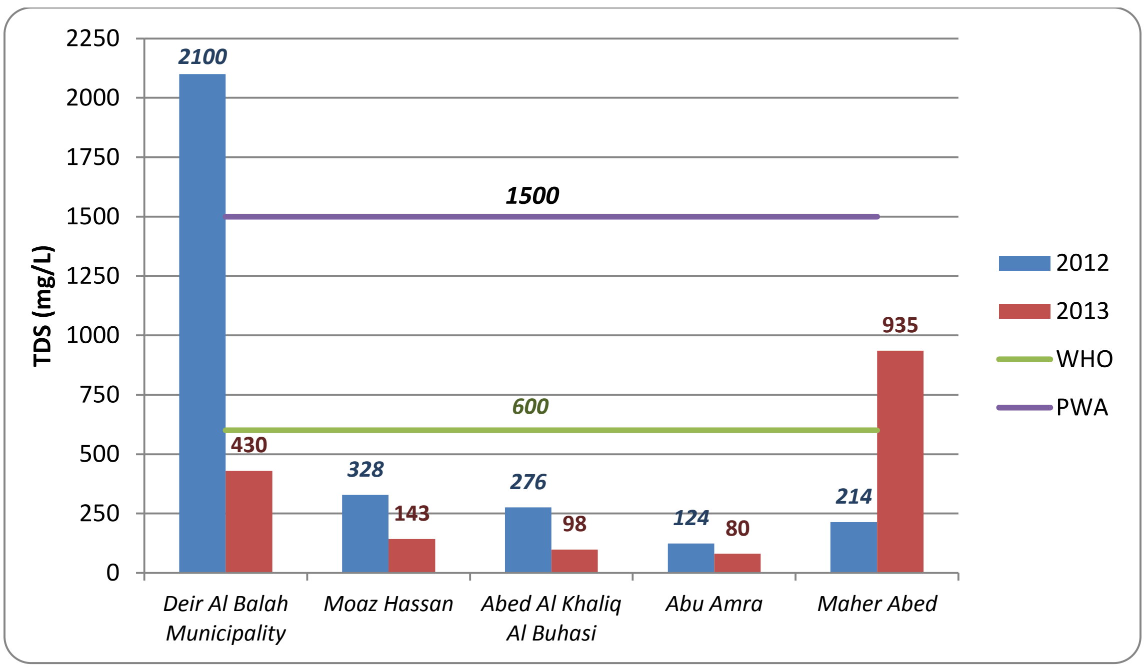


Figure 4- 10 Total Dissolved Solids Concentrations

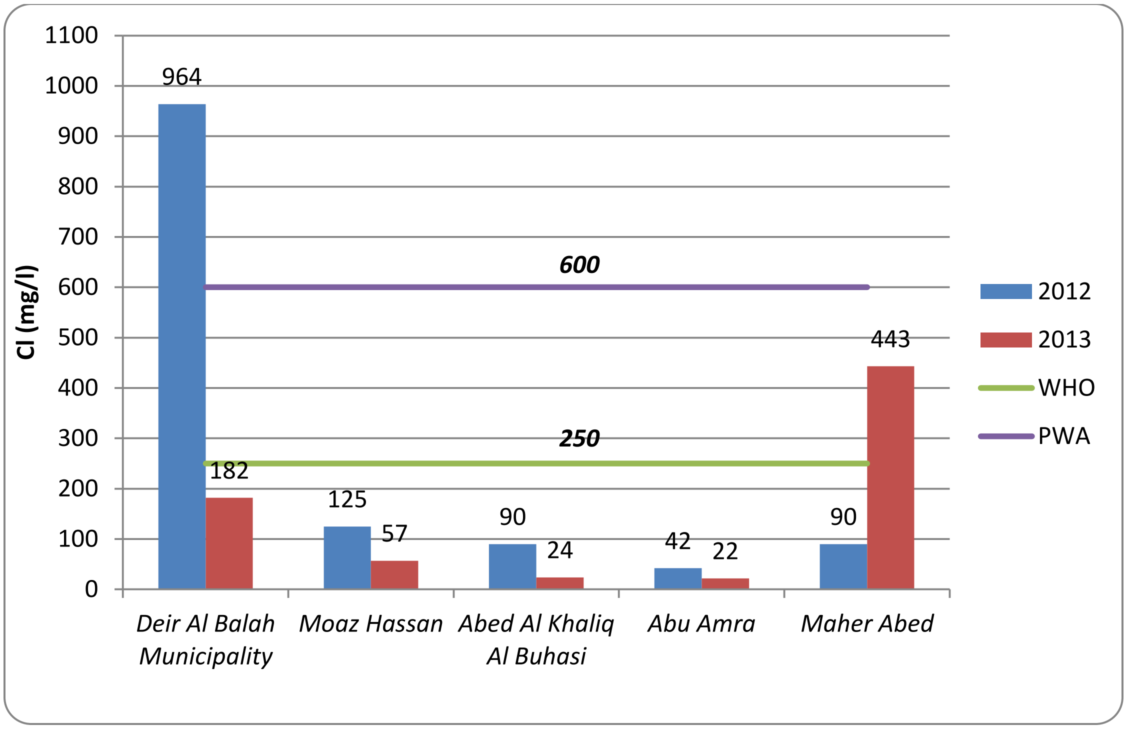


Figure 4- 11 Chloride Concentrations

4.3.3 Nitrate (NO_3)

The Nitrate concentrations in the rainwater samples of the two years 2012 and 2013 are much lower than the standard WHO values (50 mg/l). Figure 4-12 also shows that the results of the year 2013 samples are lower than that of the year 2012 except for the fifth sample.

4.3.4 Hydrogen Ion Concentration (pH)

The pH parameter is an indication of the acidity and alkalinity of the rainwater samples, which is in the range of 6 – 8 according to the WHO standards.

Figure 4-13 shows that all the values are in the WHO range, but the values of 2012 is more than 7 that are more alkalinity, and the values of 2013 are more acidic since they are less than 7.

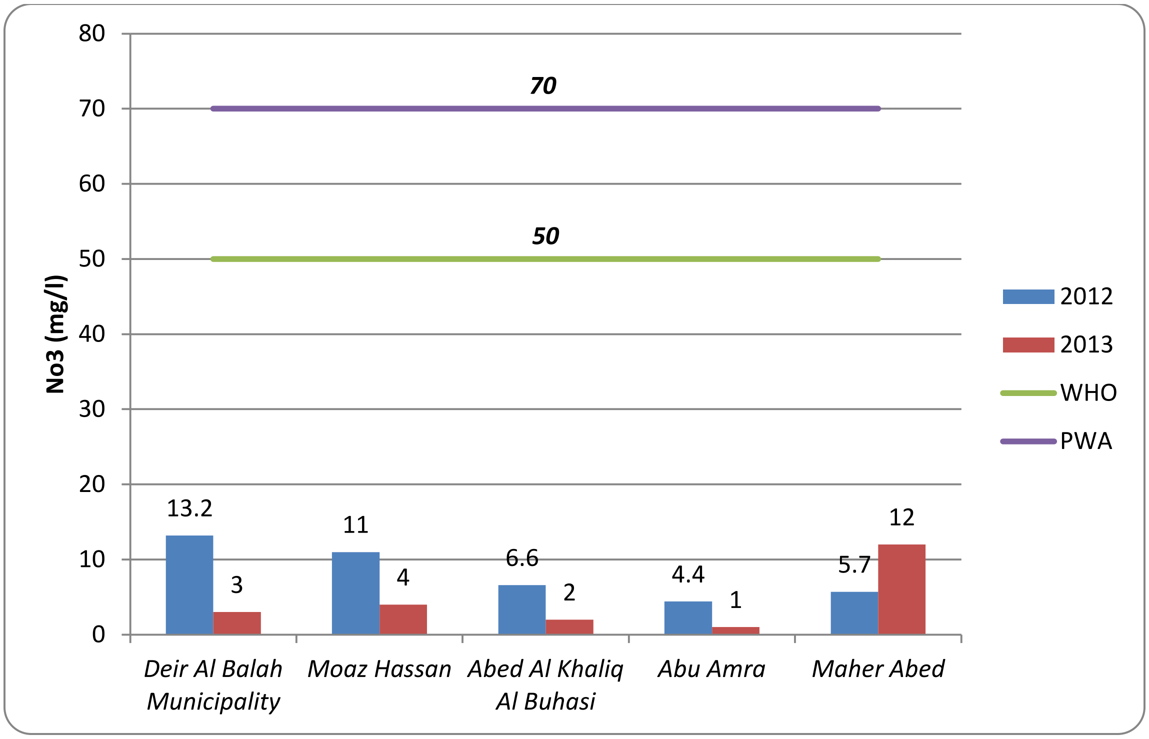


Figure 4- 12 Nitrate Concentrations

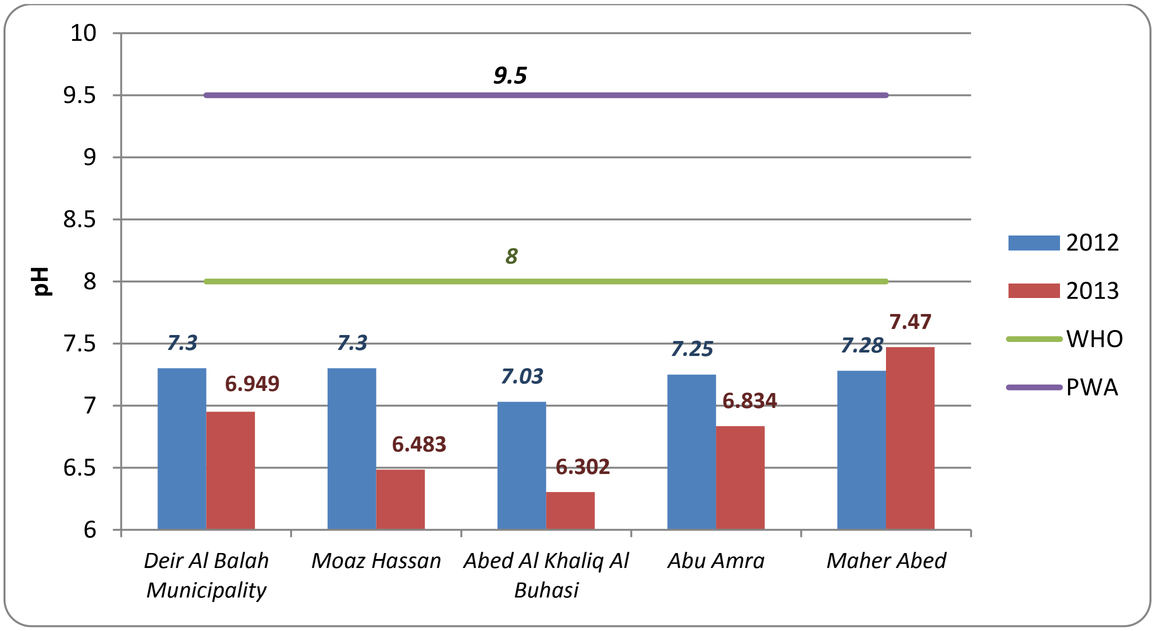


Figure 4- 13 pH Values

4.3.5 Fecal Coliform (F.C)

The Fecal Coliform is an indicator microorganism for other pathogens that may exist in the water. Figure 4-14 shows that the year 2012 samples have a high presence of

F.C, but for the year 2013 samples no F.C units are found in any sample and this is according to the WHO standards.

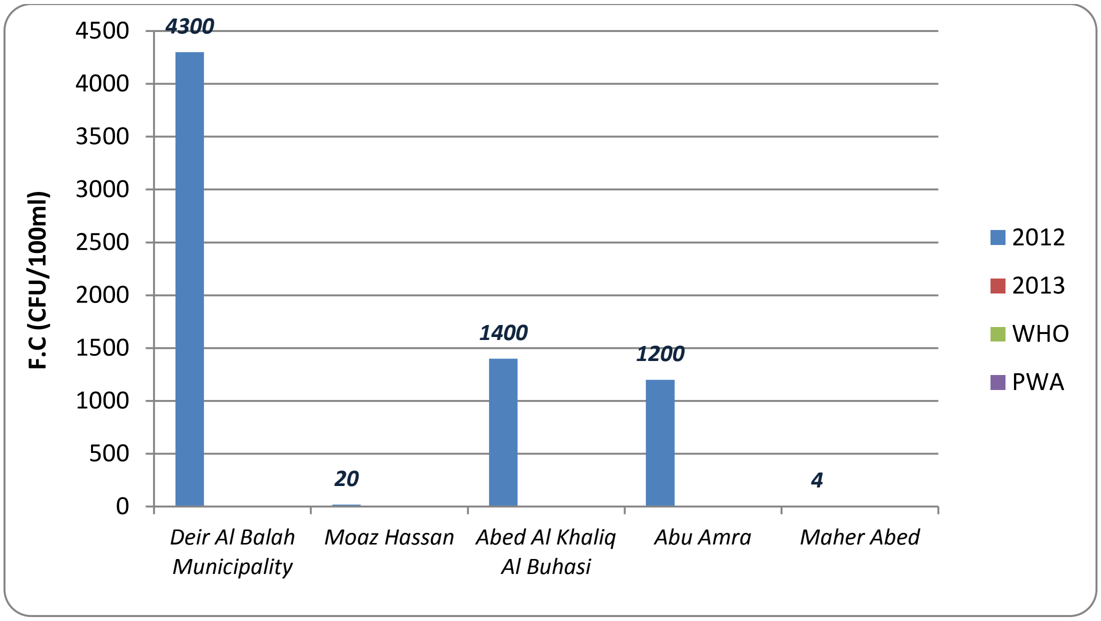


Figure 4- 14 Fecal Coliform

4.3.6 General Discussion of the Rainwater Quality

The experimental work was performed for the rainwater samples quality from the homes rooftop in December 2012 and December 2013, then the comparison is made between them and comparing their results with the standard values of WHO for drinking water. Some conclusions can be summarized as follows:

- The total suspended solids is very small for home rooftops not like the streets runoff, this is because the roofs are more cleanly and well protected from direct pollution. Because of that, there was no need to repeat the same test and is replaced by the electric conductivity measurement test.
- The Electric conductivity test is made for 2013 rainwater samples instead of TSS test. Therefore, the results for all samples were very low except for the fifth sample which was 1700 μS/cm, but still less than the WHO standard value for drinking water (2500 μS/cm).
- Nitrate concentration is very small for the two years 2012 and 2013, which means that the nitrate has no significance in the rainwater from homes rooftop.

- The Total Dissolved Solids and chloride test results show that for the year 2012, the first sample (Deir Al Balah Municipality) had the high rates above others, where for the year 2013 the fifth sample (Maher Abed) had the high values, and these values were higher than that required by the WHO Standards. The high values from the Municipality rooftop in 2012 may result from the large area of the roof, which may results in high accumulation of pollutants in addition to this the roof at that time was not exactly ready and well cleaned. For Maher Abed sample, the sample was taken from the outlet pipe entering the grease trap unit which is located in the street. During the sampling, the roads surface runoff was very heavy due to the high rate of rainfall in the sampling day and also due to the steep slope of that street so, some of the runoff water was mixed with the rooftop sample and so makes the different in the results.
- The pH test for the two years was in the accepted range of WHO (6 – 8), but it is noticed that for the year 2013 the results were less than the neutral value (7).
- Finally, the Fecal Coliform indicator was not found in the year 2013 and this may due to the high rate of rain and to the cold weather in the sampling period. But for 2012, the F.C was very high in the majority of samples and this may resulted from the birds' excreta and other pollutants, in addition to one of the main reasons that the pilot project at that time was new and the home owners didn't have enough awareness about cleaning and preparing their roofs to receive the rainwater.
- By comparing the results obtained by the results of **Hamdan et al. 2011** it was found that the results were very close specially for the concentrations of chloride, nitrate and the value of pH in the harvested rainwater which was about 7.0, so the risk of solution of heavy metals. **Hamdan et al. 2011** also made tests for pure rainwater samples, and the results showed that the pure rainwater had very high quality in its parameters.
- According to **(Al-Ramlawi, 2010)**, using artificial recharge of rainwater to ground water in the study area, may reduce concentration of (No_3^-, Cl^-, Mg_2^+, Ca_2^+, Na^+, K^+, detergent, TDS, Hardness) in the ground water. And he also found that two meters of Sand filter is good to improve TSS and turbidity, but not enough to

destroy biological parameter, (test Fecal Coliform as indicator).

4.4 Numerical Modeling Results

The main purpose of the numerical modeling was to find out the different parameters change with the time and depth during the percolation from water harvesting at the vadose zone, so that a different models have been defined by HYDRUS-1D program.

The results are divided into two main categories, one depends on the depth and the other depends on the arrival time. From the output file BALANCE.OUT, the top flux, bottom flux and water volume can be achieved for each soil profile. Also, from the output file NOD_INF.OUT, the unsaturated hydraulic conductivity (K), pressure head (h), soil hydraulic capacity (C) and moisture content (θ) can be obtained for each soil profile to show the changes with the depth of soil profile at each time interval. In addition to the change in the magnitude of the upper boundary flux which gives the required arrival time to the bottom flux and a mathematical equation is then derived for each soil profile. Finally the comparison is made among the four soil profiles which gives an indication about the efficiency of the study area soil and for the pilot project performed in that area. *(Soil profile 1 output files in the Annexes)*

4.4.1 Soil Profile (1) Results

An individual model had been performed for each soil profile chosen. Each profile is presented in the model as one hundred nodes representing the whole depth of the profile, so each layer thickness has the percent of the overall nodes and be indicated in the profile information window in the model.

For soil profile (1) which is located at the downstream of the study area. In this soil profile, three soil types were indicated according to the data gained from the bore hole test as represented in Figure 4-15. Type number one was the loamy sand type and marked by the red color which was found at the top layer to a depth of two meters below the surface and also found at the bottom layer at a depth of 15 meters. Type number two was almost Kurkar with little fines which can be modeled as a sandy layer and marked by the blue color and this type has the major percent of the other two types. Type number three was a clayey silty sand type marked by the green color and found in a small portion of the profile (1 meter thick) at a depth of 6 meters.

First, the upper boundary flux is assumed to be 10 cm/day and then all results are gained after the construction of the model for the soil profile (1).

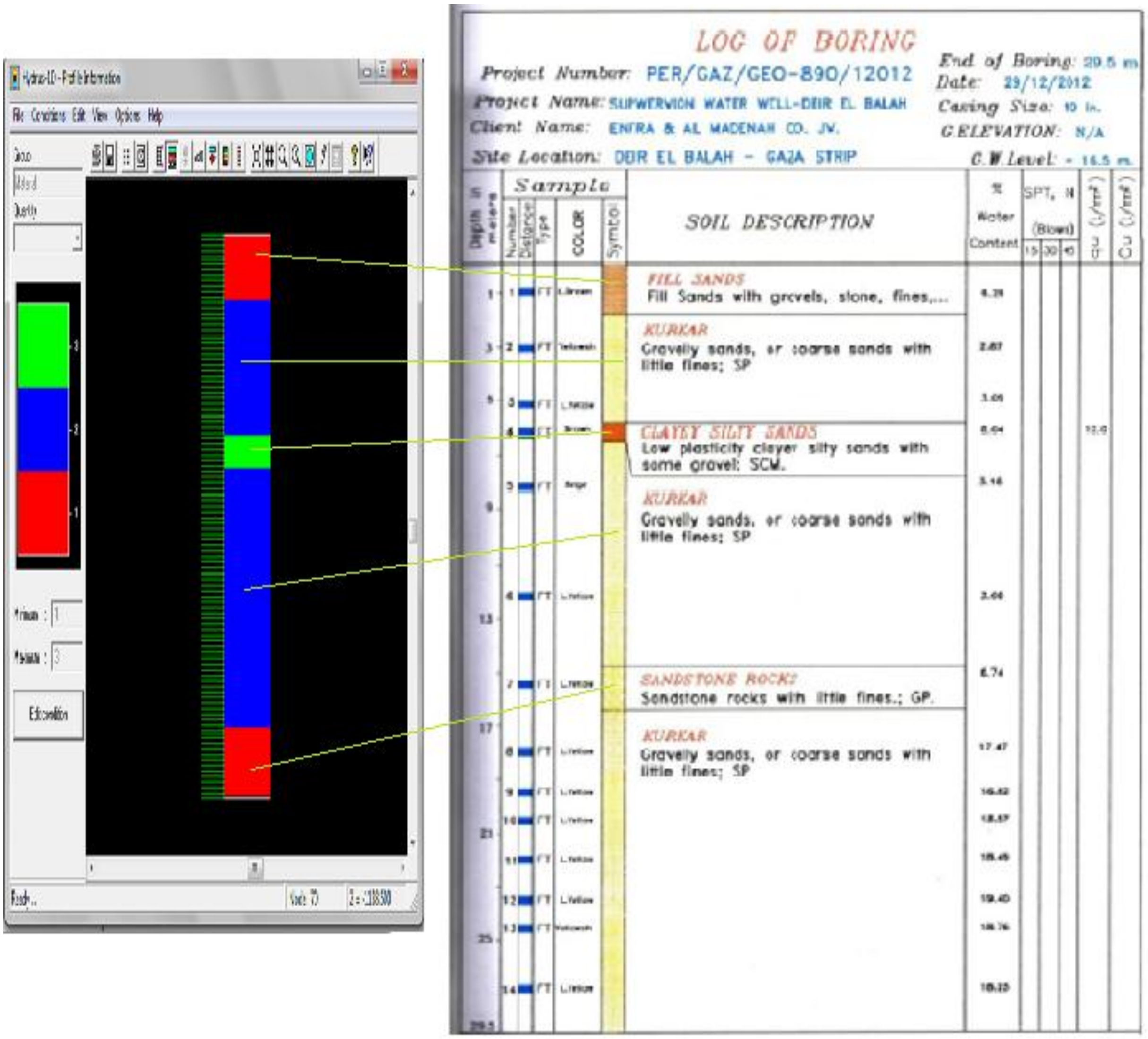


Figure 4- 15 Schematic Representation of Soil Profile (1)

- ***Top Flux***

The top flux, according to the result of the model, starts from zero at the initial time (t=0) and reaches the flux of 10 cm/day in a very short time – within two days – and then continues with the value of the upper boundary flux as shown in Figure 4-16.

In reality, the top flux has to be constant all over the time. The negative sign is an indication of downward movement of the flow.

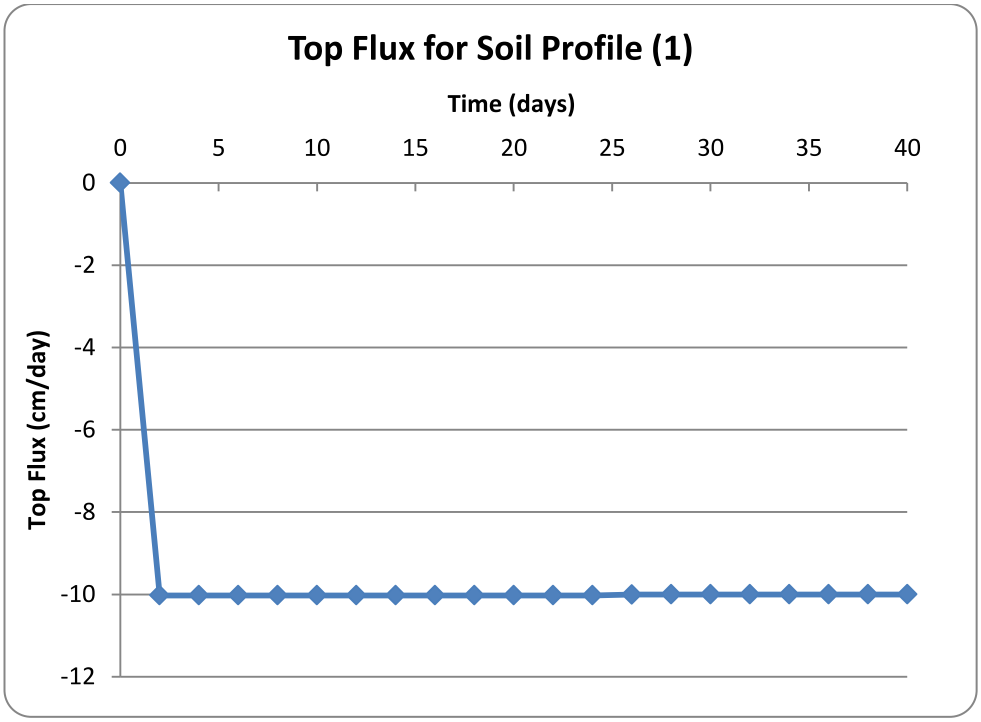


Figure 4- 16 Top Flux for Soil Profile (1)

- ***Bottom Flux***

The bottom flux mainly indicates the behavior of the water flow at the end of the soil profile depth, i.e., the time required for the upper or top flux to reach the bottom of the soil profile which is mainly the water table of the aquifer as shown in Figure 4-17. This result will be one of the most important results of the model output. For the soil profile (1) the arrival time is **25.62 days** where the assumed upper flux is 10 cm/day, and when changing the upper flux the time will change significantly i.e., increasing the upper flux will minimize the arrival time and vice versa.

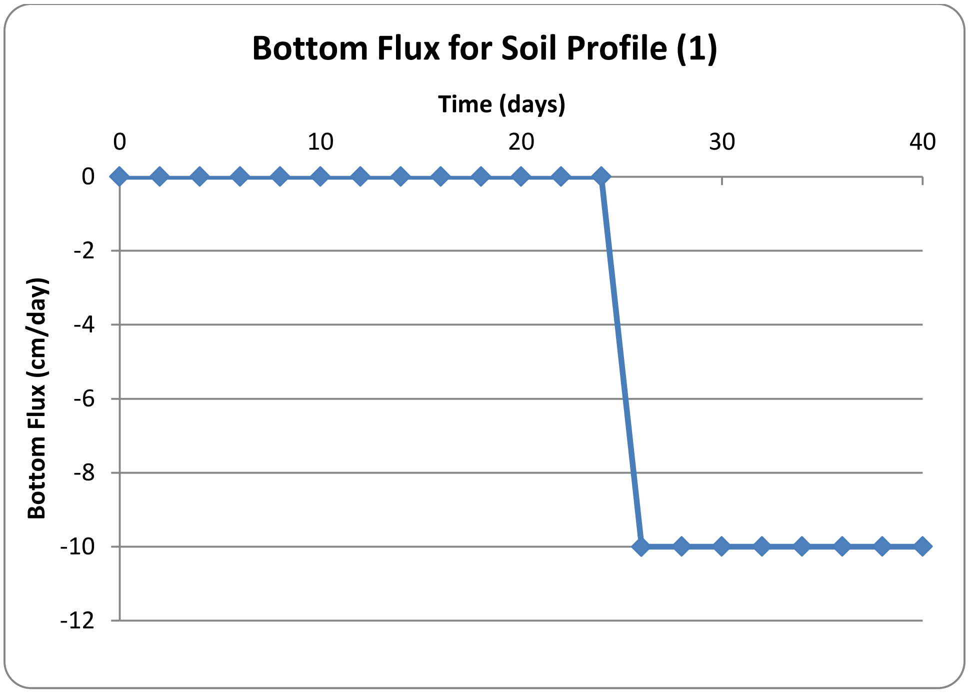


Figure 4- 17 Bottom Flux for Soil Profile (1)

- ***Water Volume***

Water volume is the volume of water in the entire flow domain or in a specified sub-region. The initial water volume for soil profile (1) at t = 0 is 107 cm and increases linearly to reach the maximum value of 357 cm after the arrival time 25.62 days presented in the above section, and then the water volume still steady with the same value of 357 cm for the coming times as shown in Figure 4-18. The water volume units here is described in metric units (cm) which means that the volume (cm^3) per unit area (cm^2).

- ***Unsaturated Hydraulic Conductivity (K)***

The unsaturated hydraulic conductivity for soil profile (1) changes relatively during the time steps as shown in Figure 4-19. The figure shows that at time zero (i.e., no infiltration) the K values is very small between (2.03×10^{-5} and 1.06×10^{-2} cm/day), but at different time intervals the K value starts from 10 cm/day and still oscillating at that value (reaches 13.13 cm/day) along the water percolation in the soil layers and then decreases to a minimum value of 2.03×10^{-5} cm/days (approximately zero). At time intervals up to or equal 26 days the K value reaches 21.84 cm/day at a depth less than 600 cm (before the clayey silty sand layer). It is noticed that the oscillating occurred according to the soil type i.e., the K value is a function of the soil type.

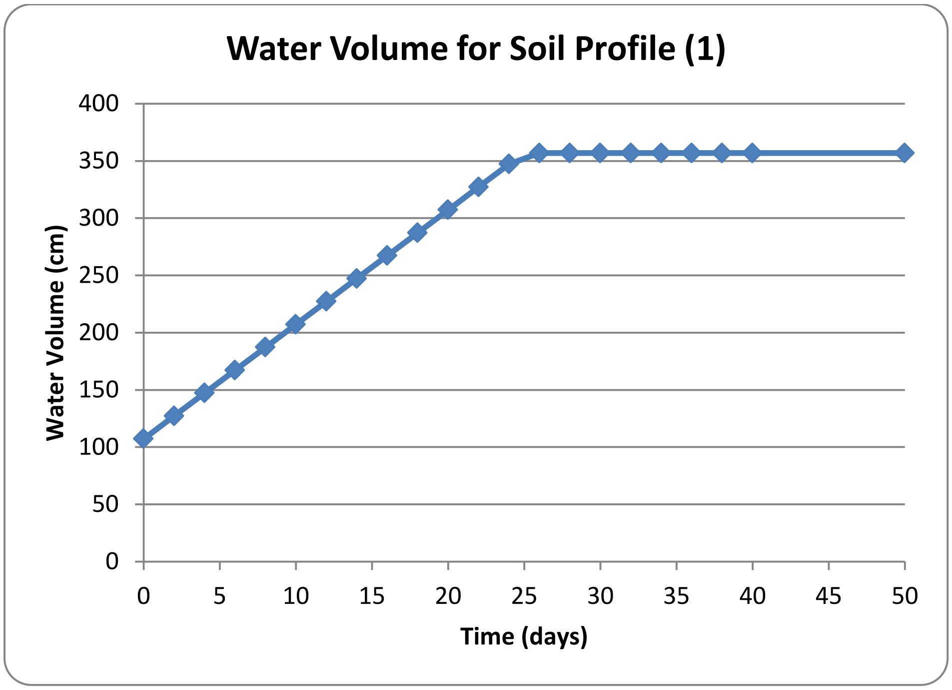


Figure 4- 18 Water Volume for Soil Profile (1)

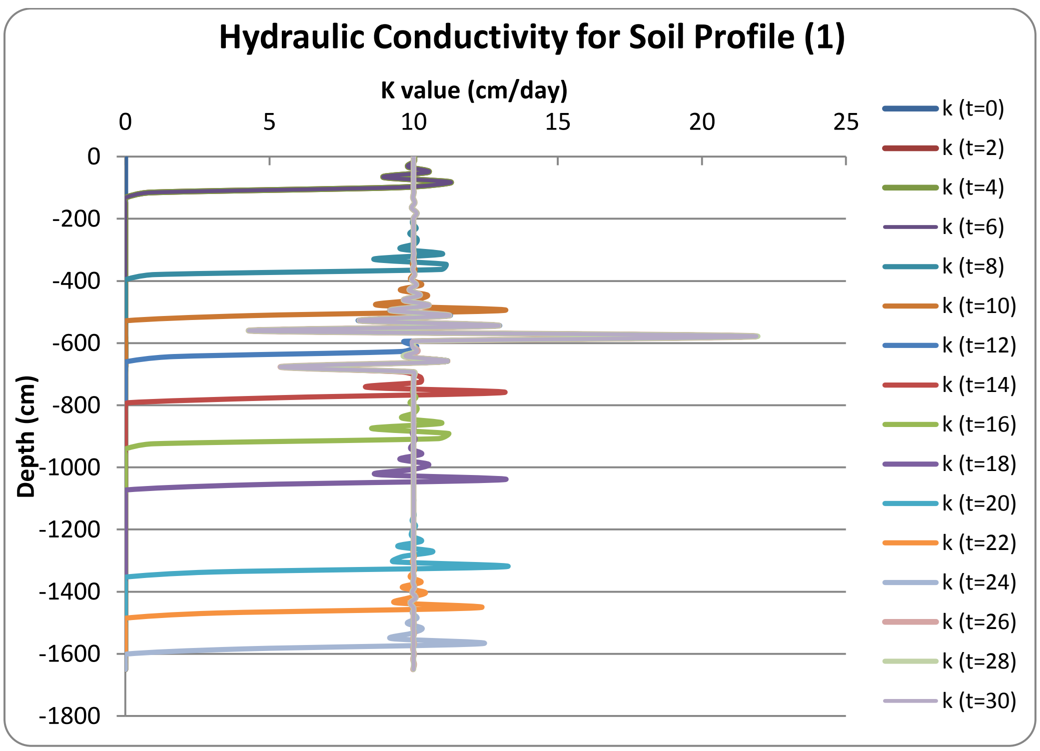


Figure 4- 19 Unsaturated Hydraulic Conductivity for Soil Profile (1)

- ***Pressure Head (h)***

The pressure head changed with time along the soil profile. At time zero the pressure head is constant and equals 100 cm, where the negative sign is an indication for the direction (downwards). After that the pressure changes from 11.3 cm and rabidly reaches 100 cm and that depends on the time interval, where each time interval reaches a certain depth of the soil profile.

One jump in the pressure head occurred before the clayey silty sand layer where the minimum pressure head reaches 3.1 cm at time interval 30 days, and the maximum pressure head reaches 118.7 cm at time interval 8 days as shown in Figure 4-20.

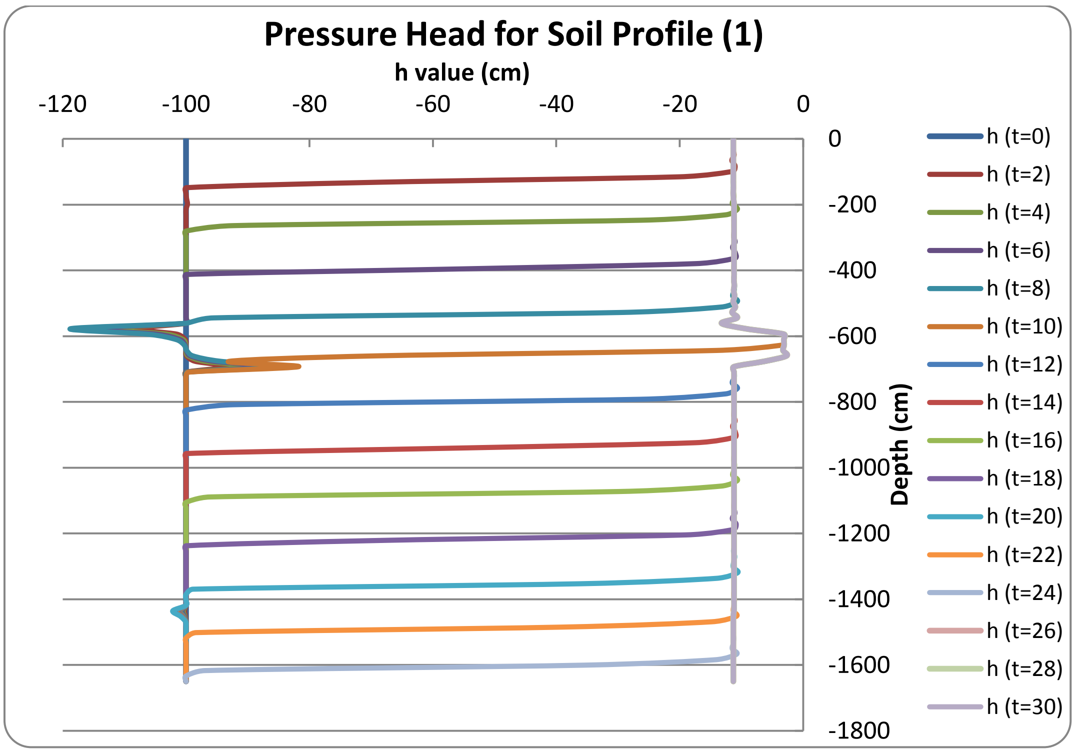


Figure 4- 20 Pressure Head for Soil Profile (1)

- ***Soil Hydraulic Capacity (C)***

The initial soil hydraulic capacity is very small in the range between $7.5\text{x}10^{-5}$ cm^{-1} and $5.48\text{x}10^{-4}$ cm^{-1}. At different time intervals the soil capacity starts from 0.0143 cm^{-1} and continues with water movement through the time along the depth and then goes back to the value of $7.5\text{x}10^{-5}$ cm^{-1}. It is noticed that after the water passes through the clayey silty sand layer (after t = 10 days), the soil capacity will be decreased from 0.01745 cm^{-1} to 0.003284 cm^{-1} and then return to the first value

(0.01745 cm^{-1}) and decreases again to the value of $7.5x10^{-5}$ cm^{-1} as shown in Figure 4-21.

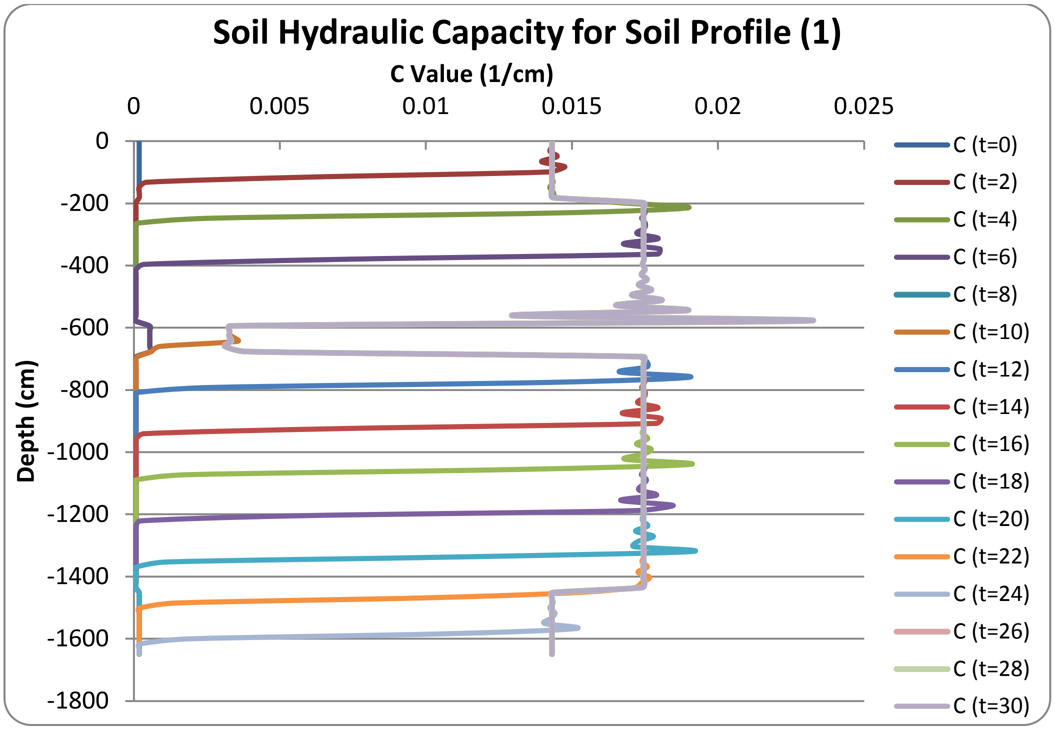


Figure 4- 21 Soil Hydraulic Capacity for Soil Profile (1)

- ***The Moisture Content (θ)***

The moisture content changes according to the soil type and the time required to reach the soil profile layers as shown in Figure 4-22. For the first and the fifth layer, where a loamy sand exists, the moisture content is encountered between the values of 0.0712 and 0.2425. For the second and the fourth layers, where the kurkar exists and modeled as sand, the moisture contents are between 0.0494 and 0.193. And finally, the third clayey silty layer which has the highest moisture content and the values are between 0.2182 and 0.3841. It is noticed that the difference is clear before and after the infiltration through each layer separately.

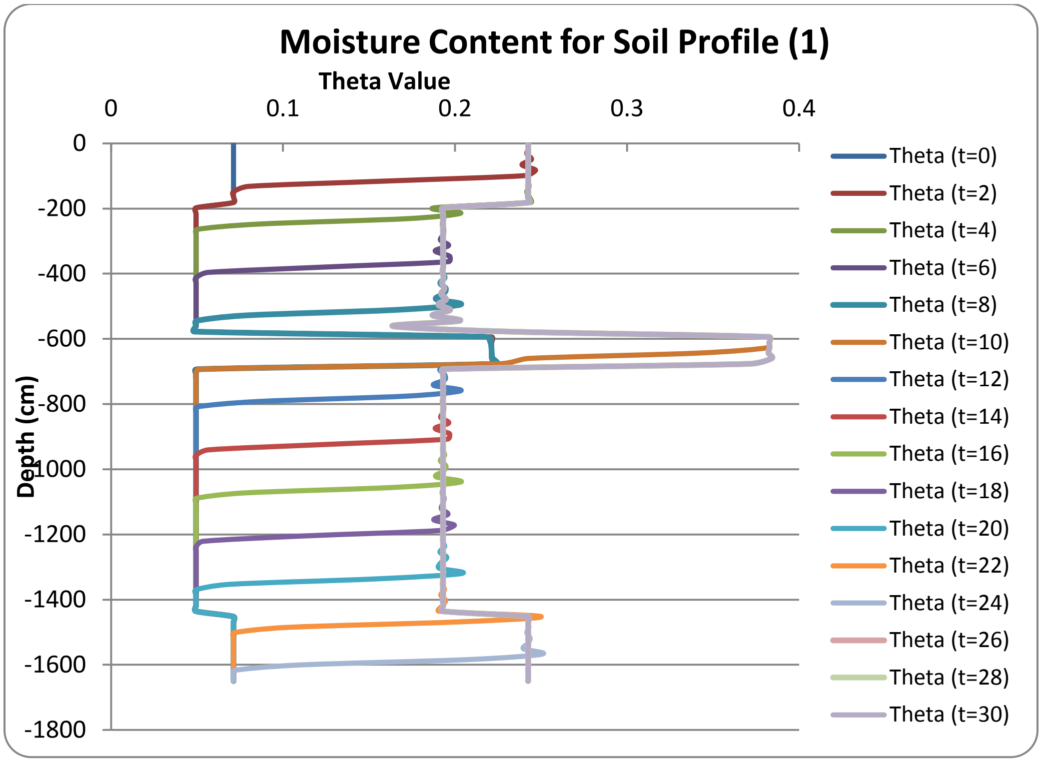


Figure 4- 22 Moisture Content for Soil Profile (1)

- ***The relation between the upper flux and the arrival time***

The upper boundary flux is first assumed to be 10 cm/day and the above results are gained, and by changing this value the same steps can be followed after running the model and new output files exist.

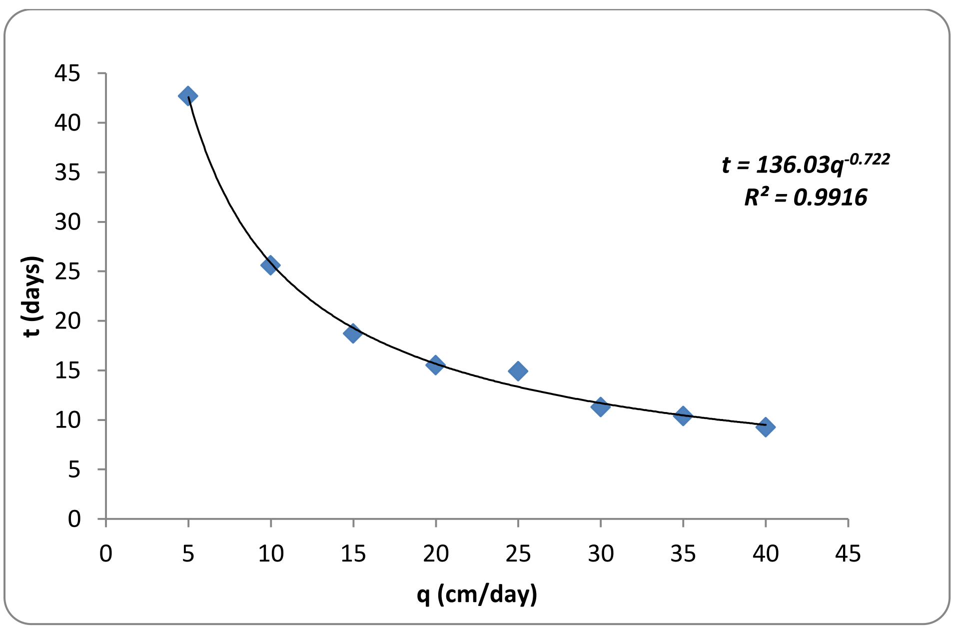


Figure 4- 23 The Relation Between Upper Flow and Arrival Time for Soil Profile (1)

To determine the relation between the upper flow and the arrival time is shown in Figure 4-23, and that values can be achieved by running the model for different (q) values such as 5, 10, 15, 20, 25, 30, 35 and 40 cm/day. The relation between them can be expressed with a power relation with correlation factor of 99.16%. Indeed, a power relation is a very good to express the relation between the upper boundary flux in (cm/day) and the arrival time in (days).

4.4.2 Soil Profile (2) Results

First, the upper boundary flux is assumed to be 10 cm/day and this soil profile is a sand column, which is a standard profile to make the comparison among other profiles. The schematic representation of soil profile (2) used in this study is shown in Figure 4-24, where one soil type is used which is the sand and is represented in a red color. After running the model, all results are gained for the soil profile (2).

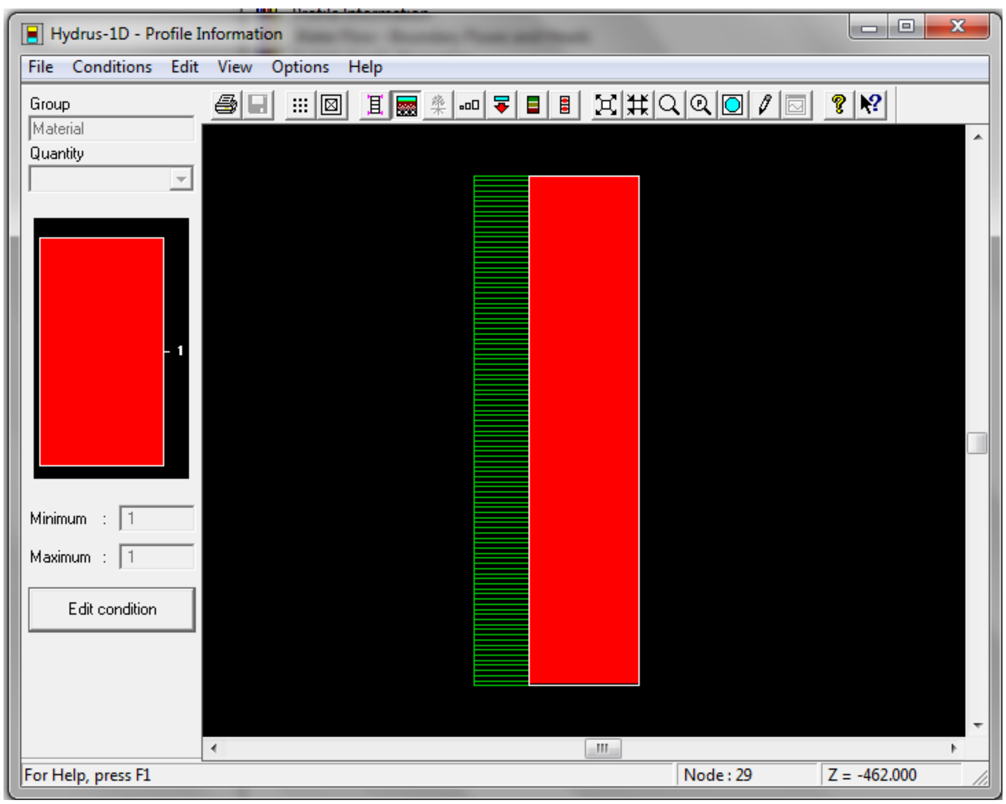


Figure 4- 24 Schematic Representation of Soil Profile (2)

- ***Top Flux***

The top flux is almost the same as in profile (1) and has to be constant at 10 cm/day, but it starts from zero at the initial time (*t*=0) and reaches the flux of 10 cm/day in a very short time – within two days – and then continues with the value of the upper boundary flux as shown in Figure 4-25. The negative sign is an indication of downward movement of the flow.

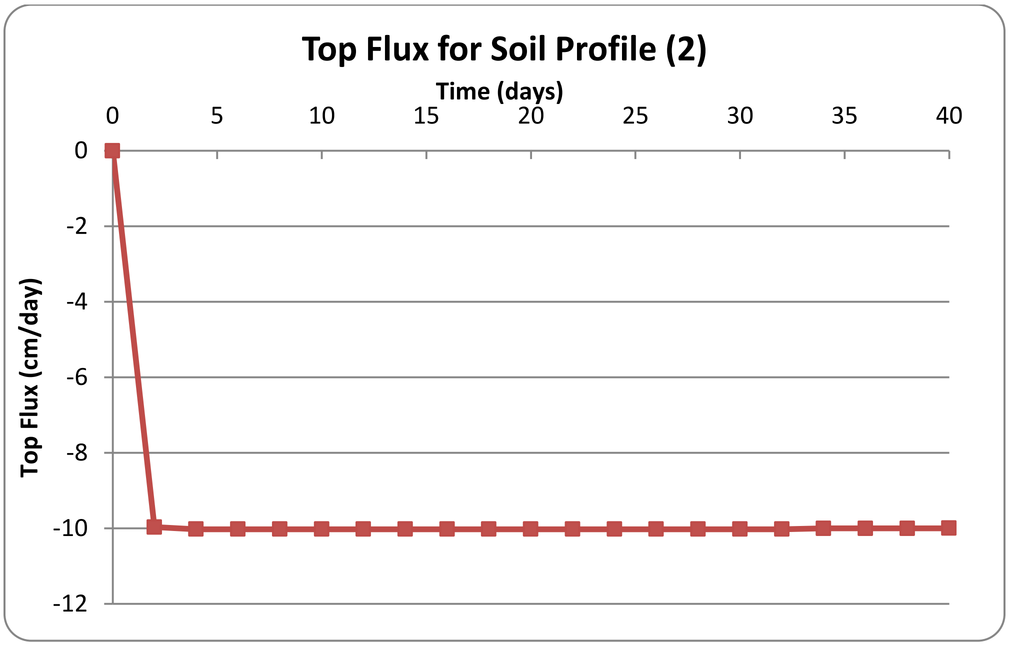


Figure 4- 25 Top Flux for Soil Profile (2)

- ***Bottom Flux***

For the soil profile (2), the arrival time as shown in Figure 4-26 is **24.3 days** to reach the constant flux of 10 cm/day. This means that after 24.3 days the upper flux will reach the ground water aquifer which is at a depth of 16.5 meters.

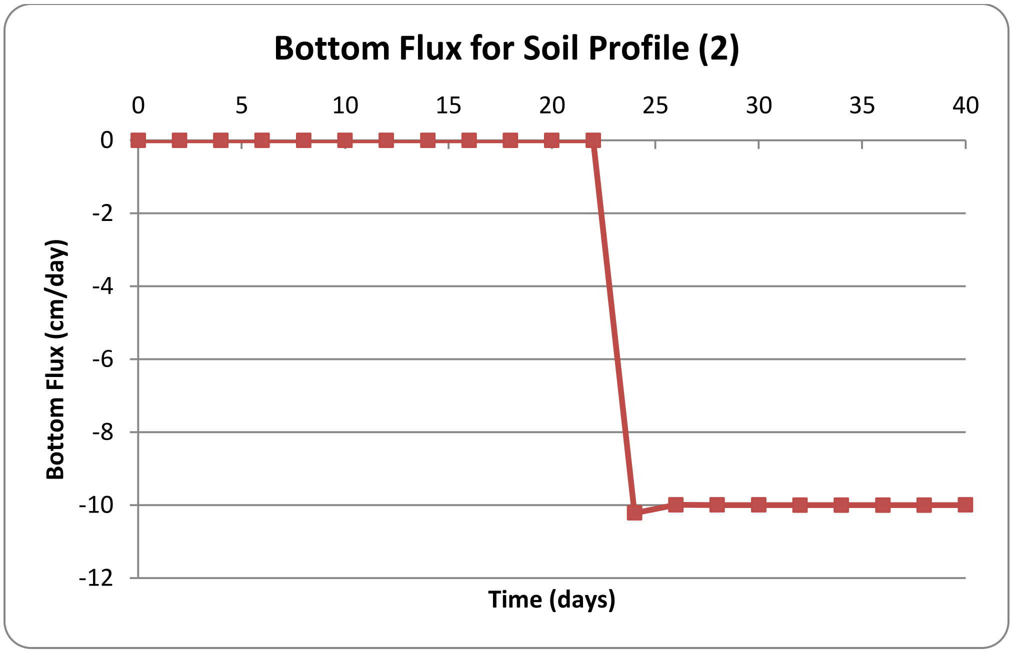


Figure 4- 26 Bottom Flux for Soil Profile (2)

- ***Water Volume***

The initial water volume for soil profile (2) at t = 0 is 81.5 cm and increases linearly to reach the maximum value of 318 cm after the arrival time 24.3 days presented above, and then the water volume still steady with the same value of 318 cm for the coming times as shown in Figure 4-27.

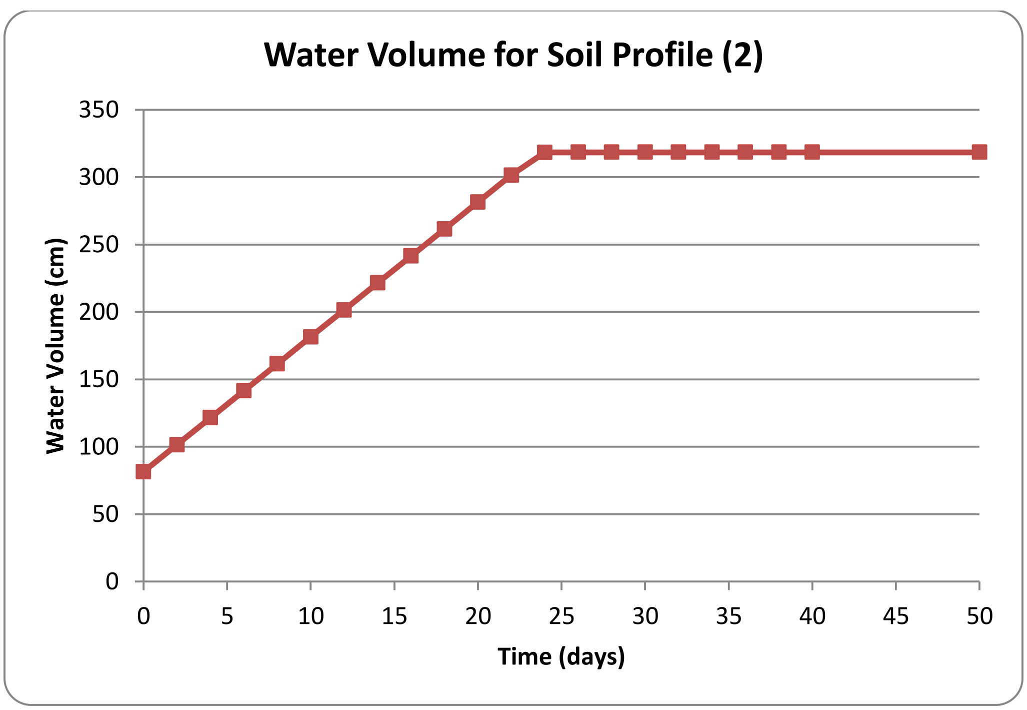


Figure 4- 27 Water Volume for Soil Profile (2)

- ***Unsaturated Hydraulic Conductivity (K)***

The unsaturated hydraulic conductivity for soil profile (2) changes relatively during the time steps as shown in Figure 4-28. The figure shows that at time zero (i.e., no infiltration) the K values is 2.03x10^{-5} cm/day, but at different time intervals the K value starts from 10 cm/day and still oscillating at that value (reaches 12.99 cm/day) along the water percolation in the soil layers and then decreases to a minimum value of 2.03x10^{-5} cm/days.

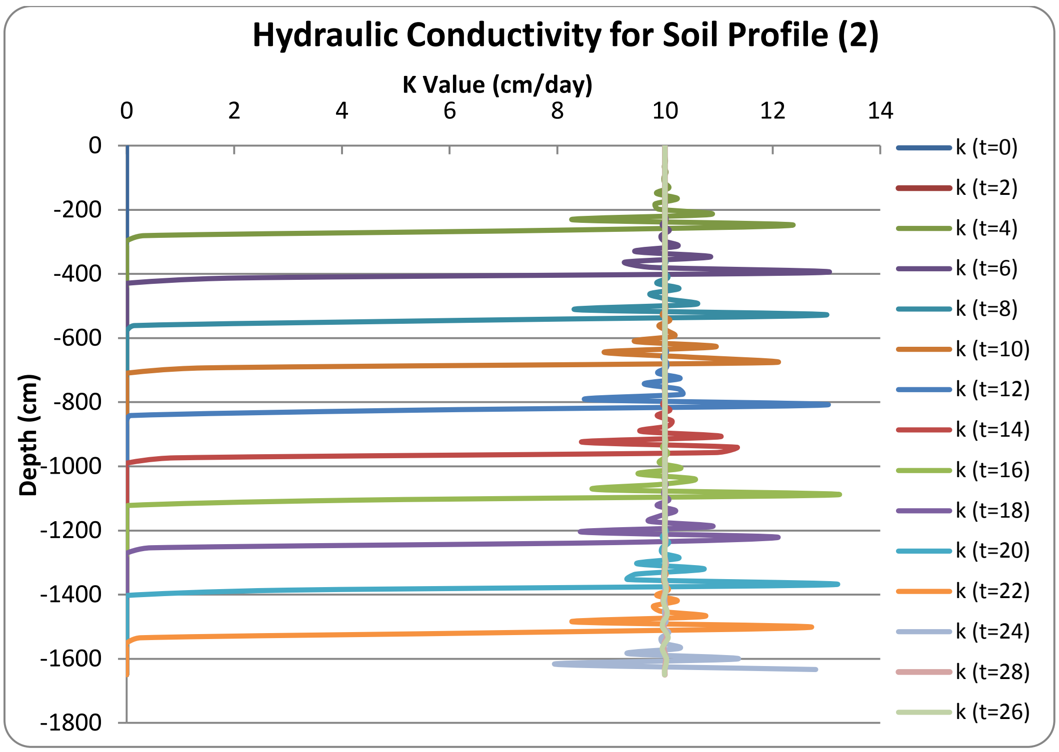


Figure 4- 28 Unsaturated Hydraulic Conductivity for Soil Profile (2)

- ***Pressure Head (h)***

The pressure head changed with time along the soil profile. At time zero the pressure head is constant and equals 100 cm. After that the pressure changes from 11.205 cm and rabidly reaches 100 cm and that depends on the time interval, where each time interval reaches a certain depth of the soil profile as shown in Figure 4-29.

- ***Soil Hydraulic Capacity (C)***

The initial soil hydraulic capacity at t = 0 is 7.5x10^{-5} cm^{-1}. At different time intervals the soil capacity starts from 0.0175 cm^{-1} and continues with water movement through the time along the depth and can reach a maximum value of 0.019, then goes back to the value of $7.5x10^{-5}$ cm^{-1} as shown in Figure 4-30.

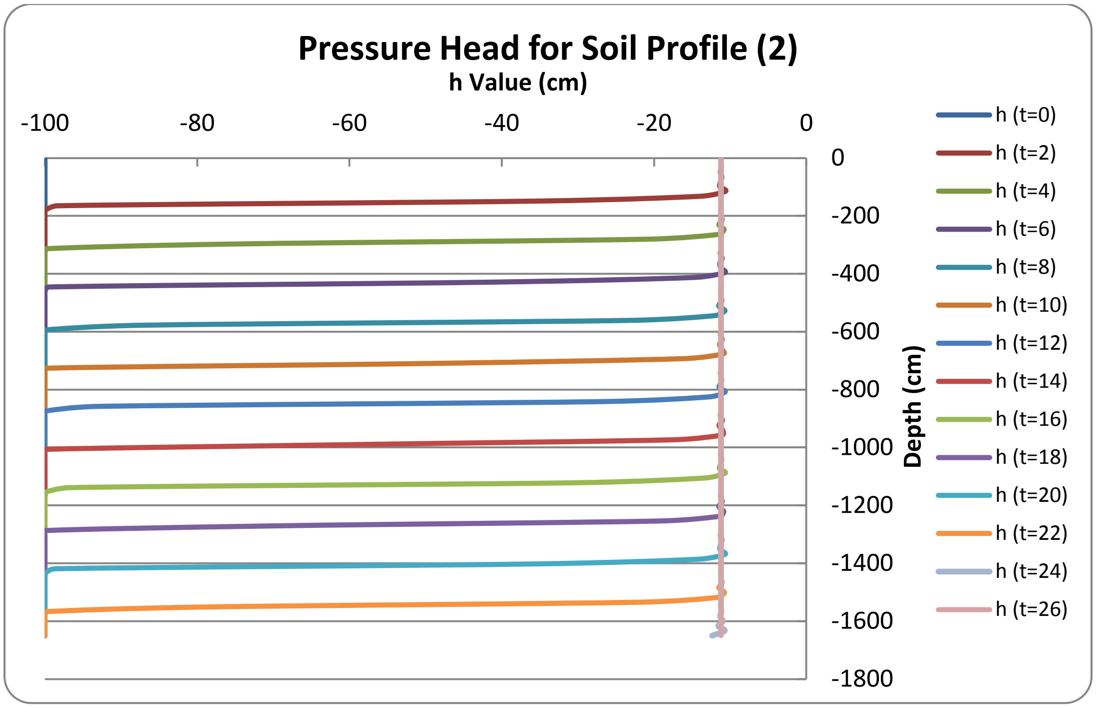


Figure 4- 29 Pressure Head for Soil Profile (2)

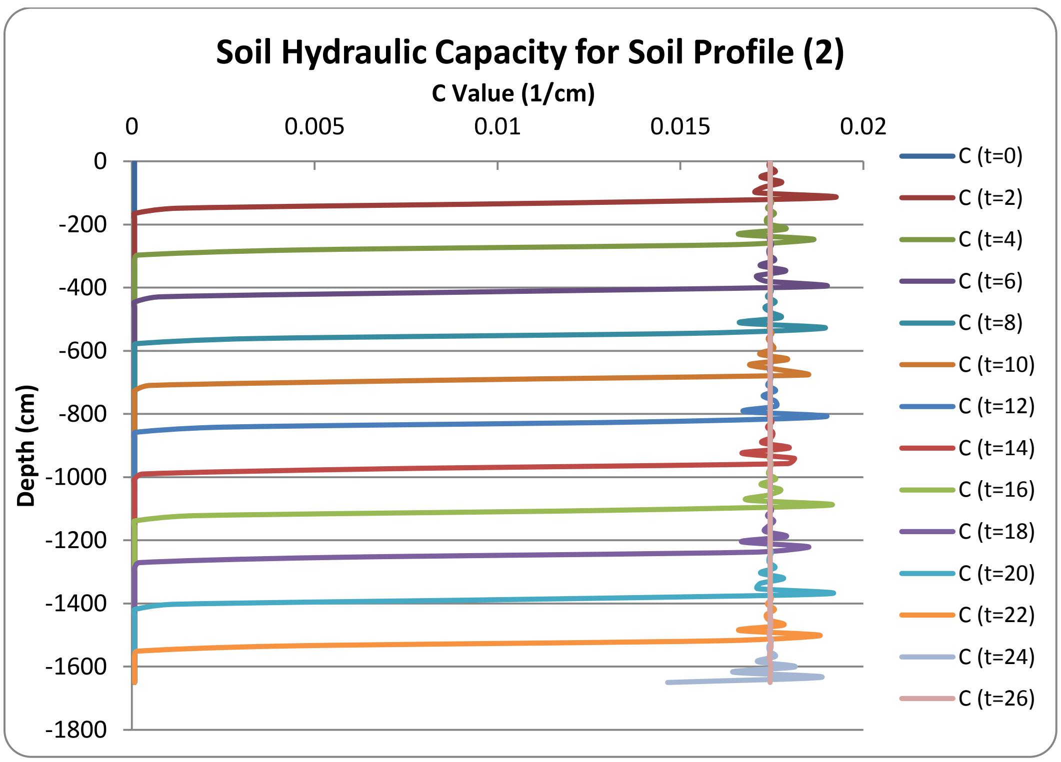


Figure 4- 30 Soil Hydraulic Capacity for Soil Profile (2)

- ***The Moisture Content (θ)***

At time t=0, the moisture content value is constant and equals 0.0494. At each time interval the moisture content starts from 0.193 and goes down to reach the value of 0.0494, and these values is repeated at a continuous rate (due to one soil material) for other depths as shown in Figure 4-31. The maximum value of θ can be reached is 0.2035.

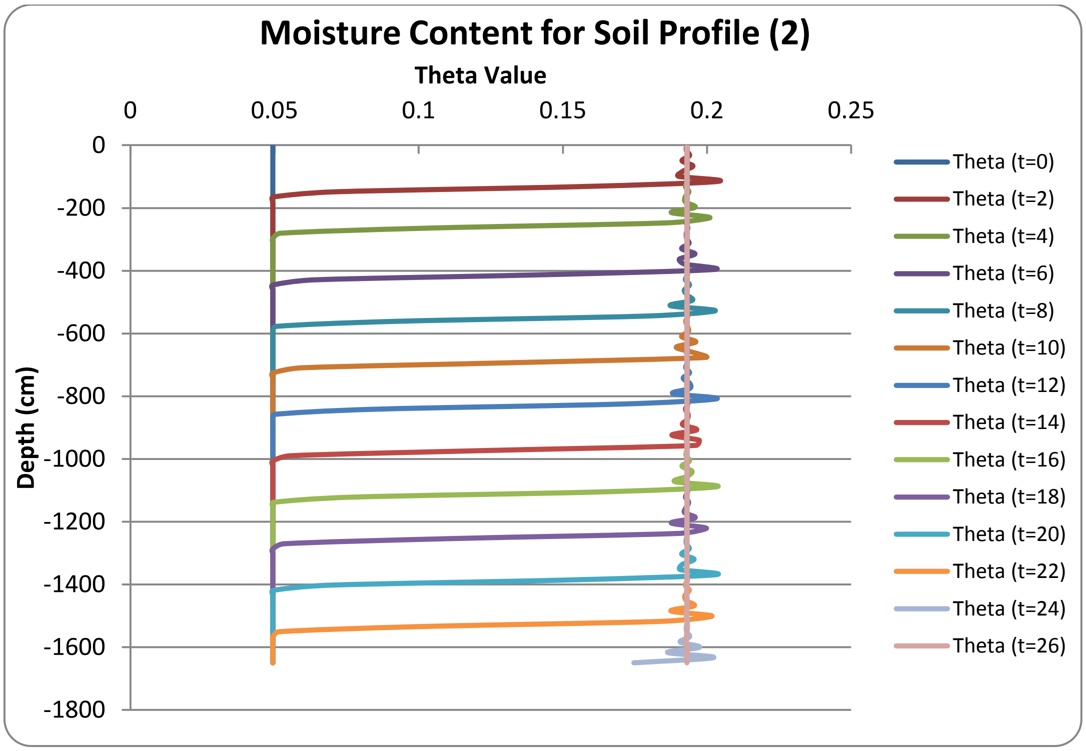


Figure 4- 31 Moisture Content for Soil Profile (2)

- ***The relation between the upper flux and the arrival time***

The same method used in soil profile (1) is used to determine the relation between the upper flow and the arrival time, and the results are shown in Figure 4-32. The relation between them can be expressed with a power relation with correlation factor of 99.91%. Indeed, a power relation is very good to express the relation between the upper boundary flux in (cm/day) and the arrival time in (days).

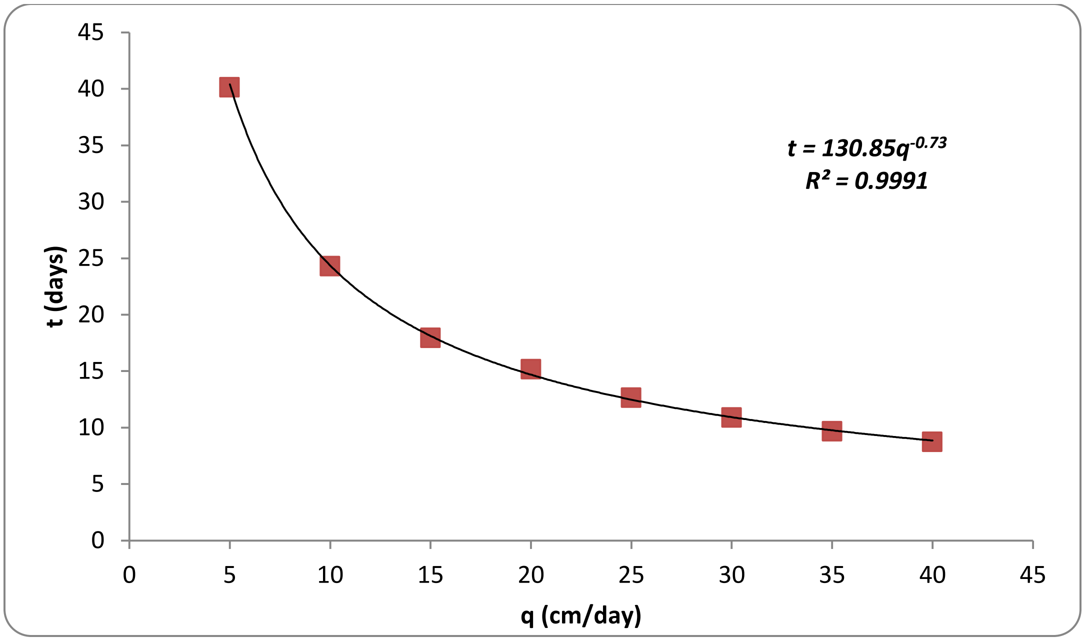


Figure 4- 32 The Relation Between Upper Flow and Arrival Time for Soil Profile (2)

4.4.3 Soil Profile (3) Results

First, the upper boundary flux is assumed to be 10 cm/day and this soil profile consists mainly of three soil layers. The schematic representation of soil profile (3) used in this study is shown in Figure 4-33, where the first top soil layer is a sandy loam type and represented with a red color. The second middle layer, which is the major layer, is the kurkar layer and can be modeled as a sandy layer and has a blue color in the schematic figure. Finally, the third layer which was the sandy clay loam represented in a green color. After running the model, all results are gained for the soil profile (3).

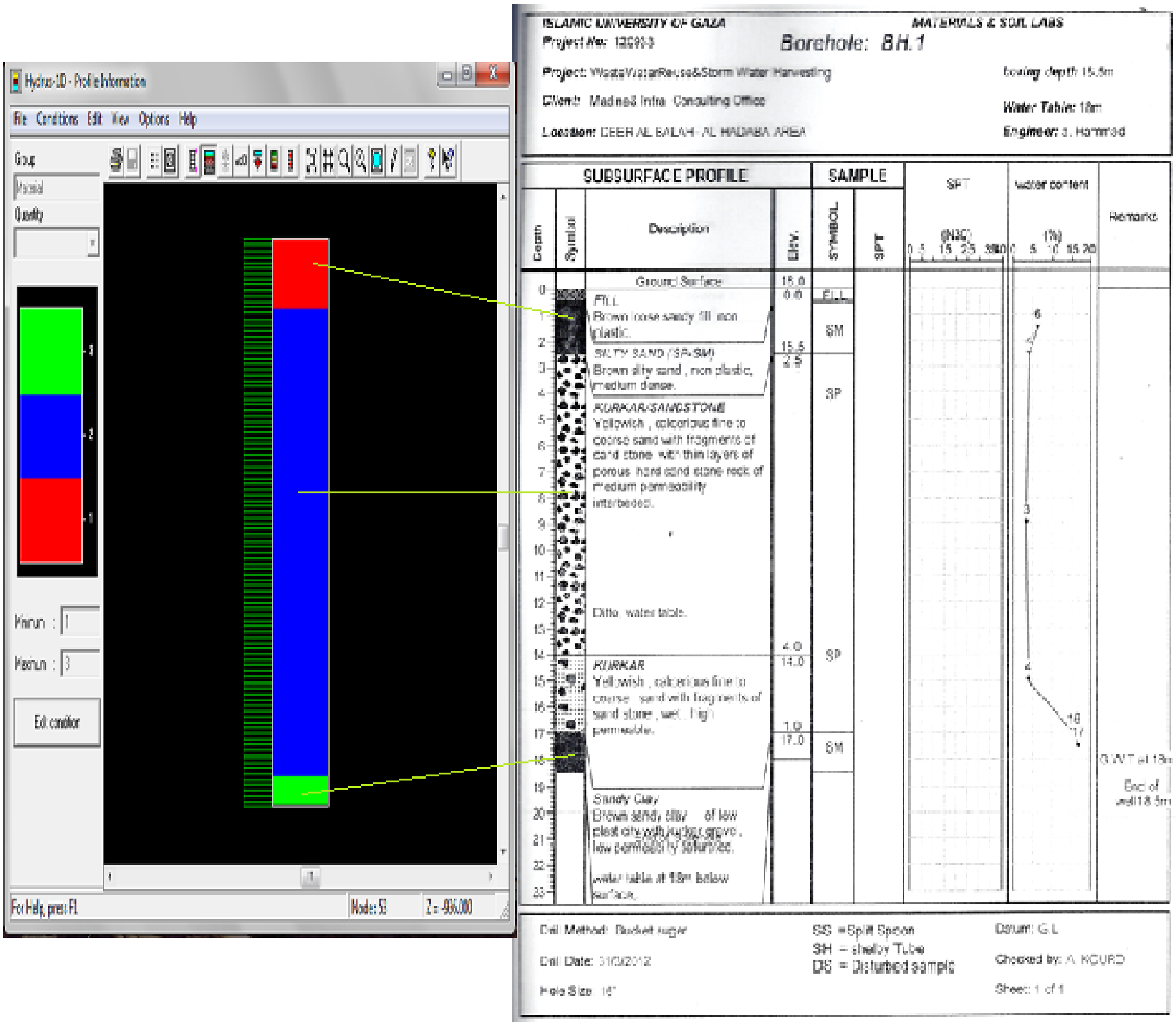


Figure 4- 33 Schematic Representation of Soil Profile (3)

- ***Top Flux***

The top flux is almost the same as in profile (1&2). It starts from zero at the initial time (t=0) and reaches the flux of 10 cm/day in a very short time – within two days – and then continues with the value of the upper boundary flux as shown in Figure 4-34. The negative sign is an indication of downward movement of the flow.

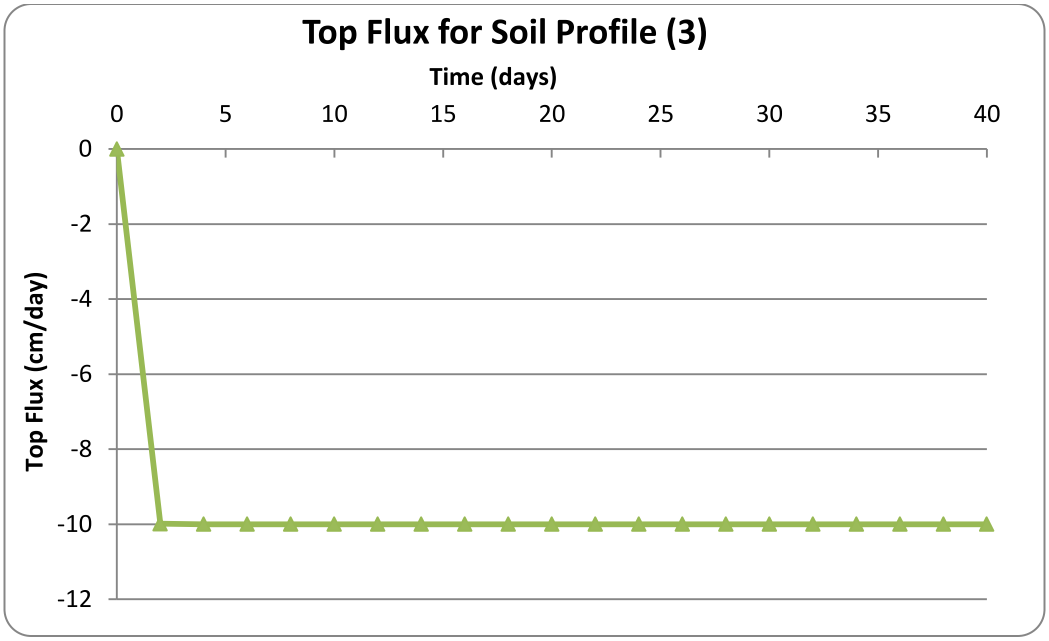


Figure 4- 34 Top Flux for Soil Profile (3)

- ***Bottom Flux***

For the soil profile (3), the arrival time of the bottom flux as shown in Figure 4-35 is **27.15 days** to reach the groundwater aquifer with a depth of 18.5 meters, where the constant flux equals 10 cm/day.

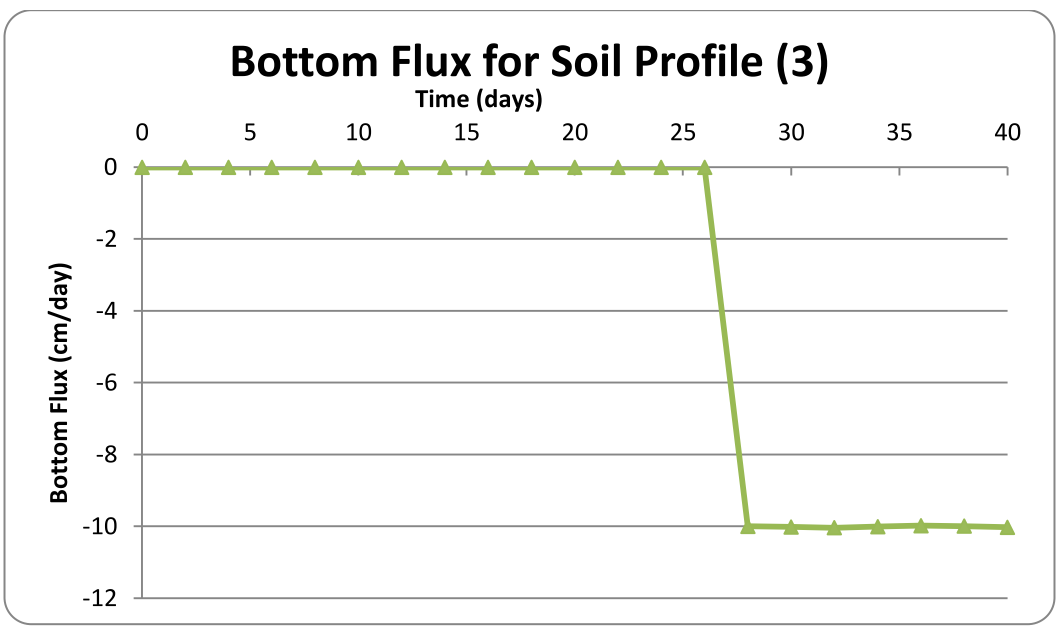


Figure 4- 35 Bottom Flux for Soil Profile (3)

- ***Water Volume***

The initial water volume for soil profile (3) at t = 0 is 111 cm and increases linearly to reach the maximum value of 378 cm after the arrival time 27.15 days presented above, and then the water volume still steady with the same value of 378 cm for the coming times as shown in Figure 4-36.

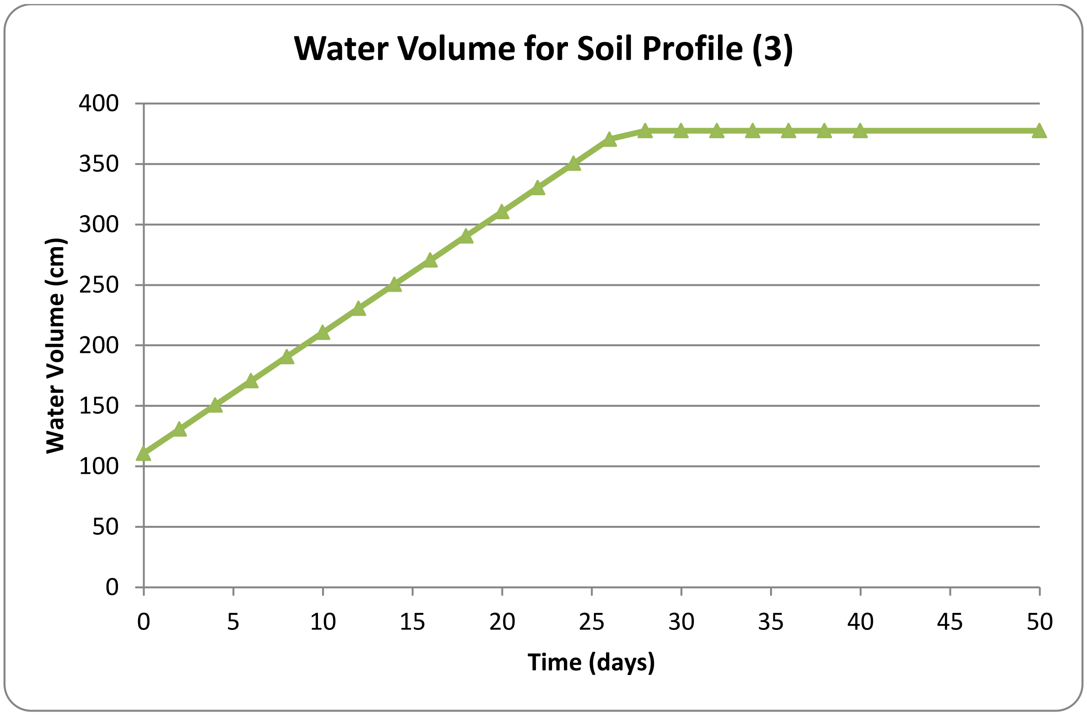


Figure 4- 36 Water Volume for Soil Profile (3)

- ***Unsaturated Hydraulic Conductivity (K)***

The unsaturated hydraulic conductivity for soil profile (3) changes relatively during the time steps as shown in Figure 4-37. The figure shows that at time zero (i.e., no flow) the K values is 2.51×10^{-4} cm/day, but at different time intervals the K value starts from 10 cm/day and still oscillating at that value and reaches a maximum value of 20.6 cm/day just before the bottom sandy clay loam layer and then decreases to a minimum value of 2.03×10^{-5} cm/day.

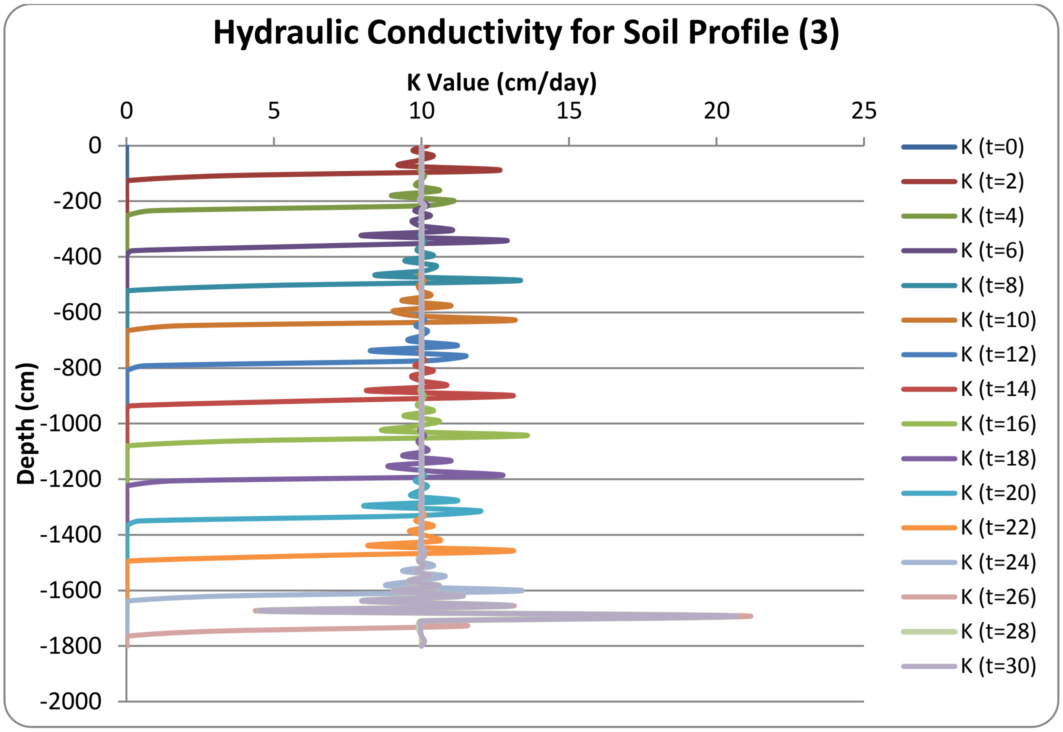


Figure 4- 37 Unsaturated Hydraulic Conductivity for Soil Profile (3)

- ***Pressure Head (h)***

The pressure head changed with time along the soil profile. At time zero the pressure head is constant and equals 100 cm. After that the pressure changes from 11.3 cm and rabidly reaches 100 cm and that depends on the time interval except when the flow immediately reaches the bottom layer where the pressure jumps to a maximum value of 131.3 cm as shown in Figure 4-38.

- ***Soil Hydraulic Capacity (C)***

The initial soil hydraulic capacity at t = 0 is $1.84\text{x}10^{-4}$ cm^{-1}. At different time intervals the soil capacity starts from 0.0143 cm^{-1} and continues with water movement through the time along the depth and can reach a maximum value of 0.0228 before the bottom layer and then goes back to the value of $7.5\text{x}10^{-5}$ cm^{-1}as shown in Figure 4-39.

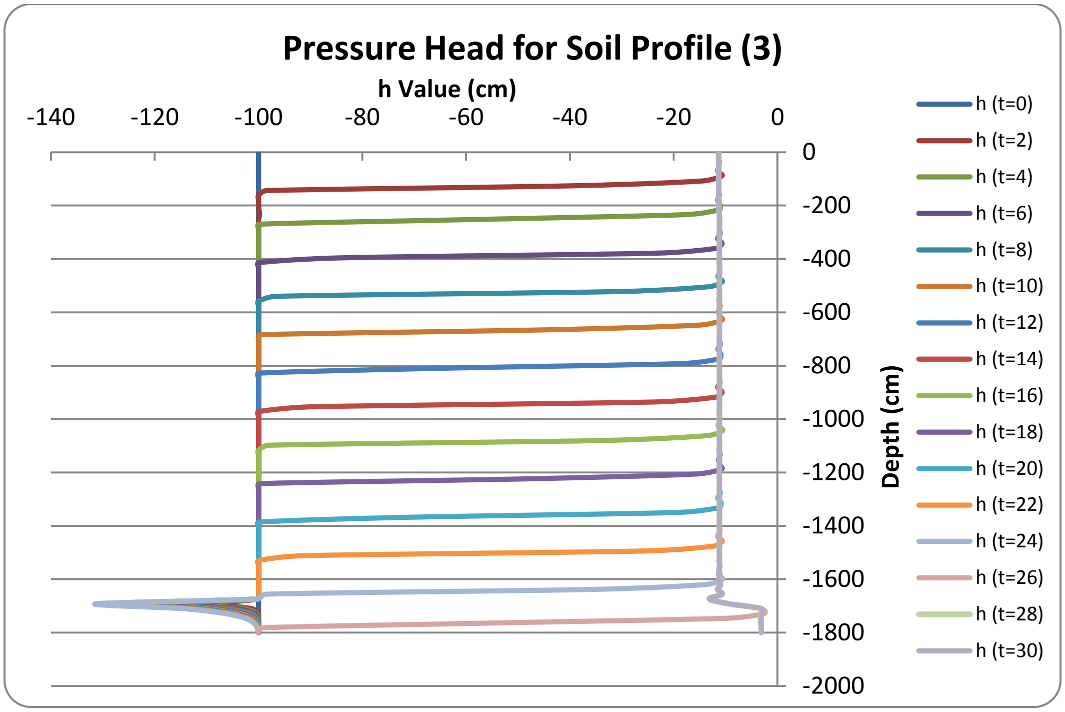


Figure 4- 38 Pressure Head for Soil Profile (3)

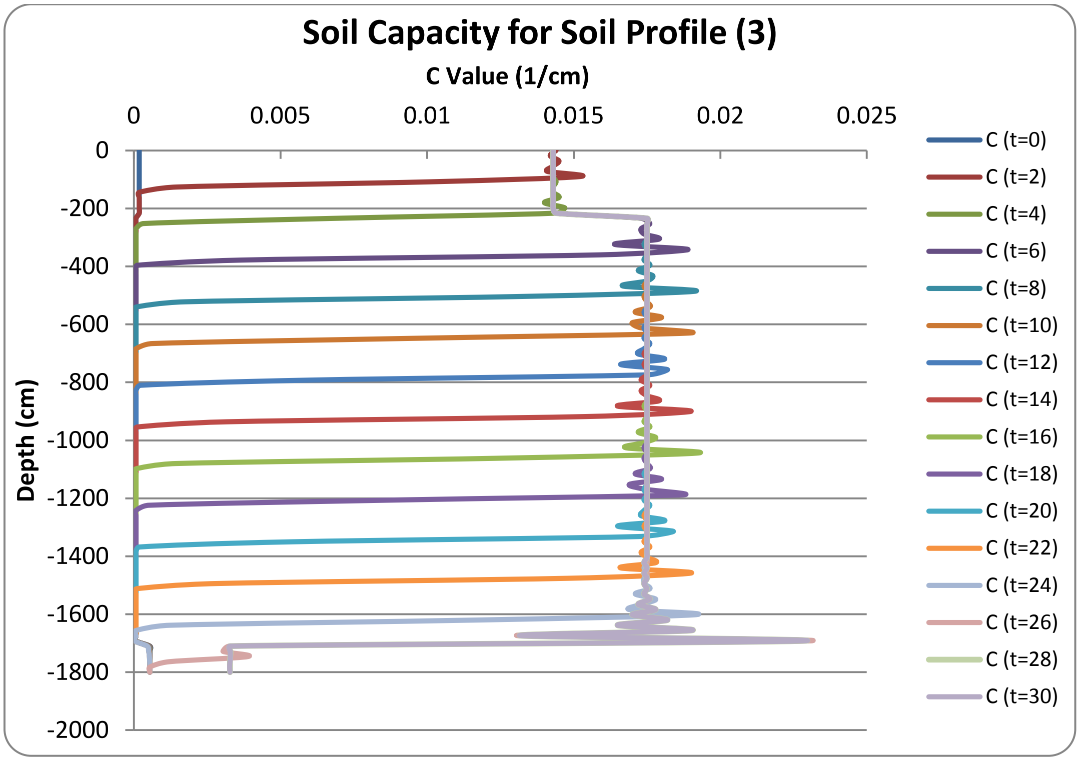


Figure 4- 39 Soil Hydraulic Capacity for Soil Profile (3)

- ***The Moisture Content (θ)***

The moisture content depends on the soil type and the time which water takes to reach different soil layers. So, for the top loamy sand layer the θ value encountered between 0.0712 and 0.2425. For the second sandy layer the value is between 0.0494 and 0.193. And finally for the bottom layer sandy clay loam layer the value is between 0.2139 and 0.3827as shown in Figure 4-40.

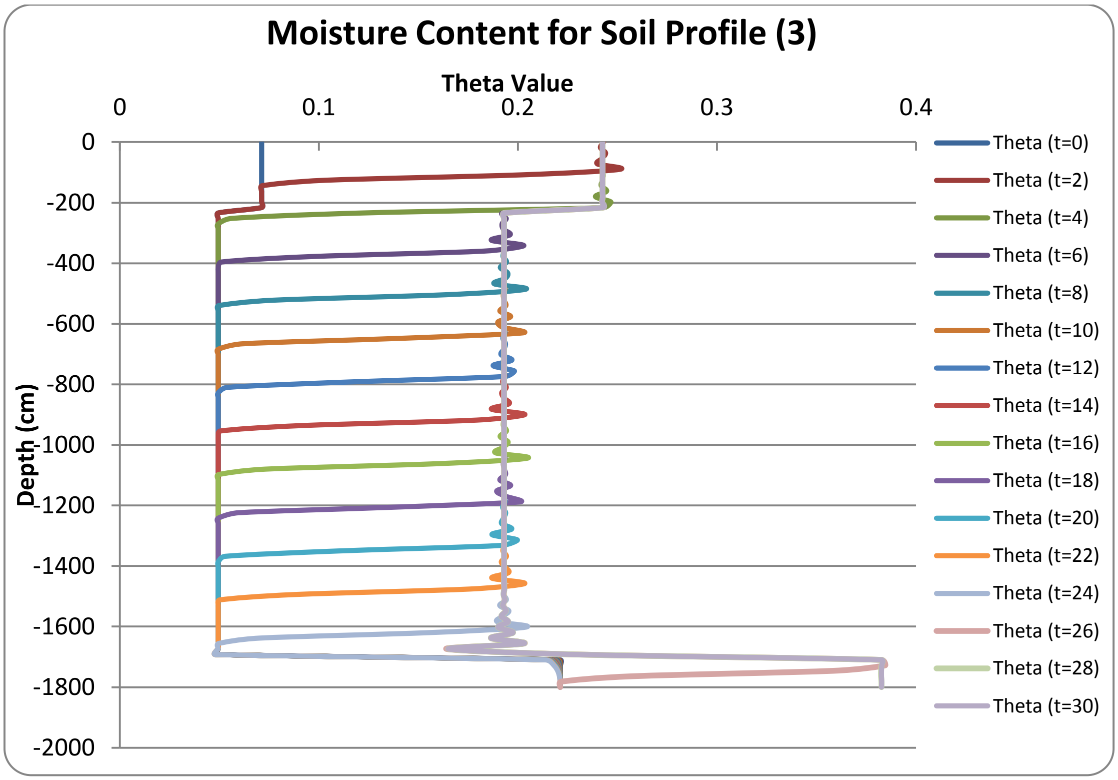


Figure 4- 40Moisture Content for Soil Profile (3)

- ***The relation between the upper flux and the arrival time***

The same method used in soil profile (1&2) is used here to determine the relation between the upper flow and the arrival time, and the results are shown in Figure 4-41. The relation between them can be expressed with a power relation with correlation factor of 99.90%. Indeed, a power relation is very good to express the relation between the upper boundary flux in (cm/day) and the arrival time in (days).

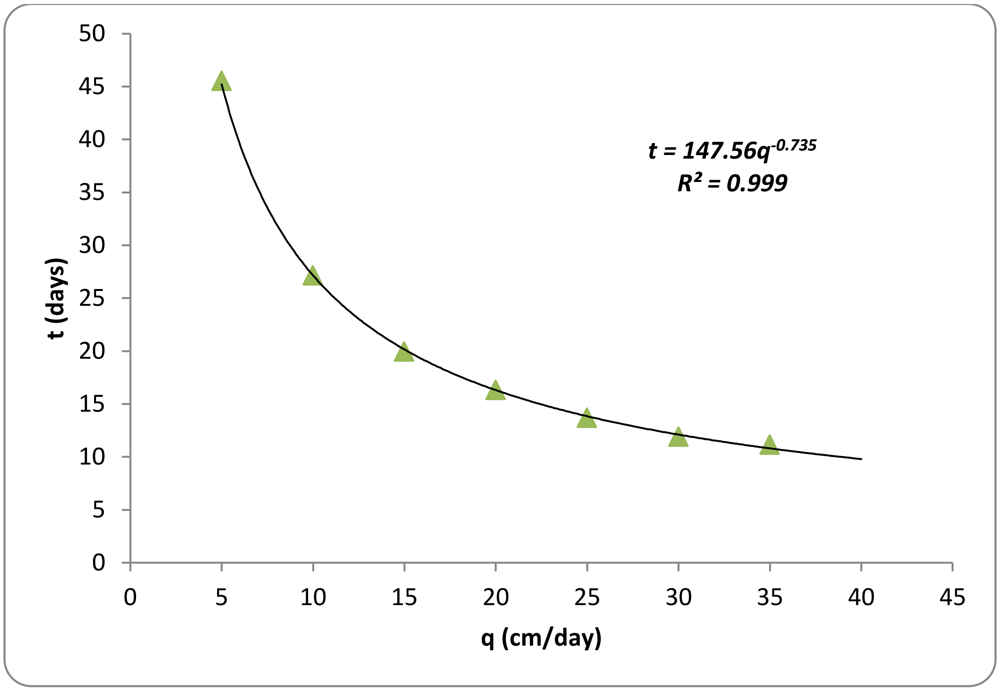


Figure 4- 41 The Relation Between Upper Flow and Arrival Time for Soil Profile (3)

4.4.4 Soil Profile (4) Results

Like other soil profiles, the upper boundary flux is assumed to be 10 cm/day and this soil profile consists mainly of two soil types. The schematic representation of soil profile (4) used in this study is shown in Figure 4-42 where the first, third and fifth layers are sandy type and represented with a red color. The second and the fourth layers are loamy sand layer and have a blue color in the schematic figure. After running the model, all results are gained for the soil profile (4).

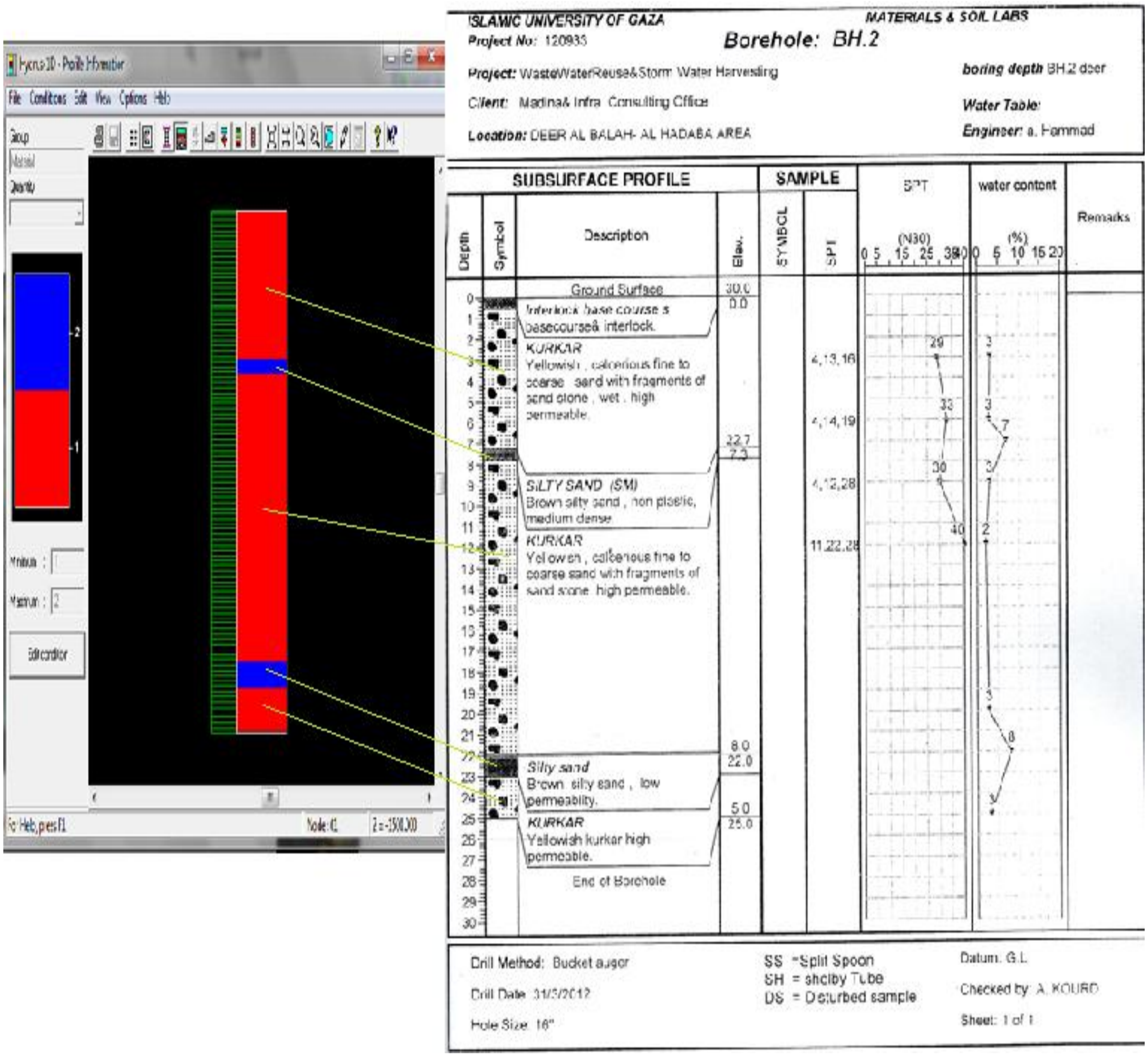


Figure 4- 42 Schematic Representation of Soil Profile (4)

- ***Top Flux***

The top flux is almost the same as in profile 1,2&3. It starts from zero at the initial time (t=0) and reaches the flux of 10 cm/day in a very short time – within two days – and then continues with the value of the upper boundary flux as shown in Figure 4-43. The negative sign is an indication of downward movement of the flow.

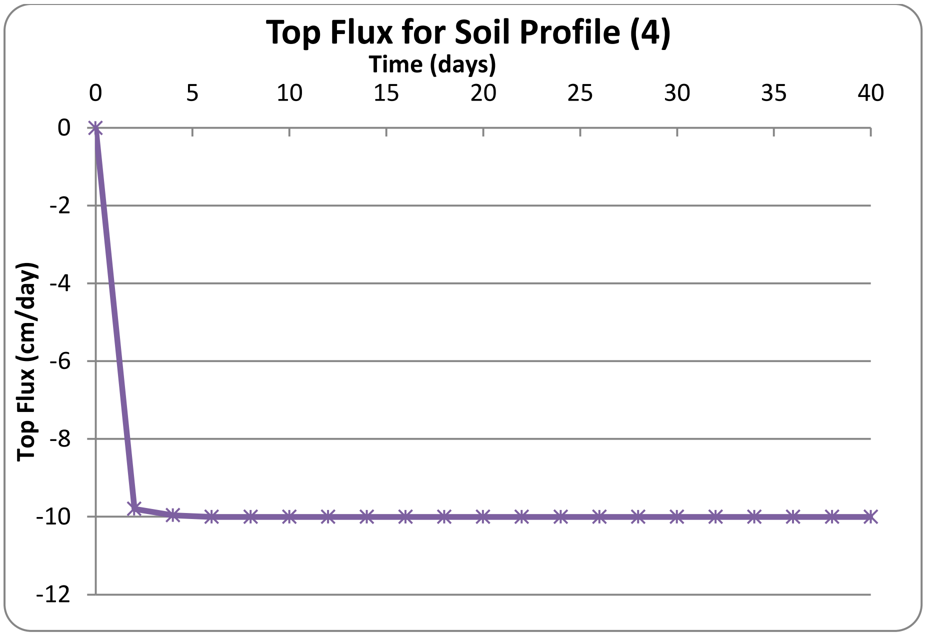


Figure 4- 43 Top Flux for Soil Profile (4)

- ***Bottom Flux***

For the soil profile (4), the arrival time of the bottom flux as shown in Figure 4-44 is **37.53 days** to reach the groundwater aquifer in that area which is 25 meters in depth, and a constant upper flux equals 10 cm/day.

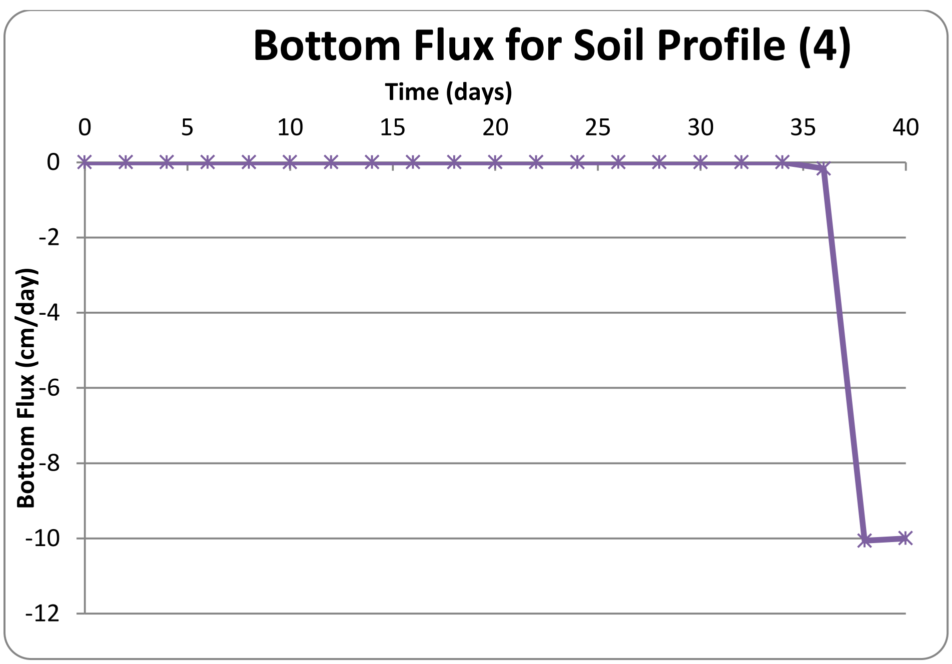


Figure 4- 44 Bottom Flux for Soil Profile (4)

- ***Water Volume***

The initial water volume for soil profile (4) at t = 0 is 128 cm and increases linearly to reach the maximum value of 492 cm after the arrival time 37.53 days presented above, and then the water volume still steady with the same value of 492 cm for the coming times as shown in Figure 4-45.

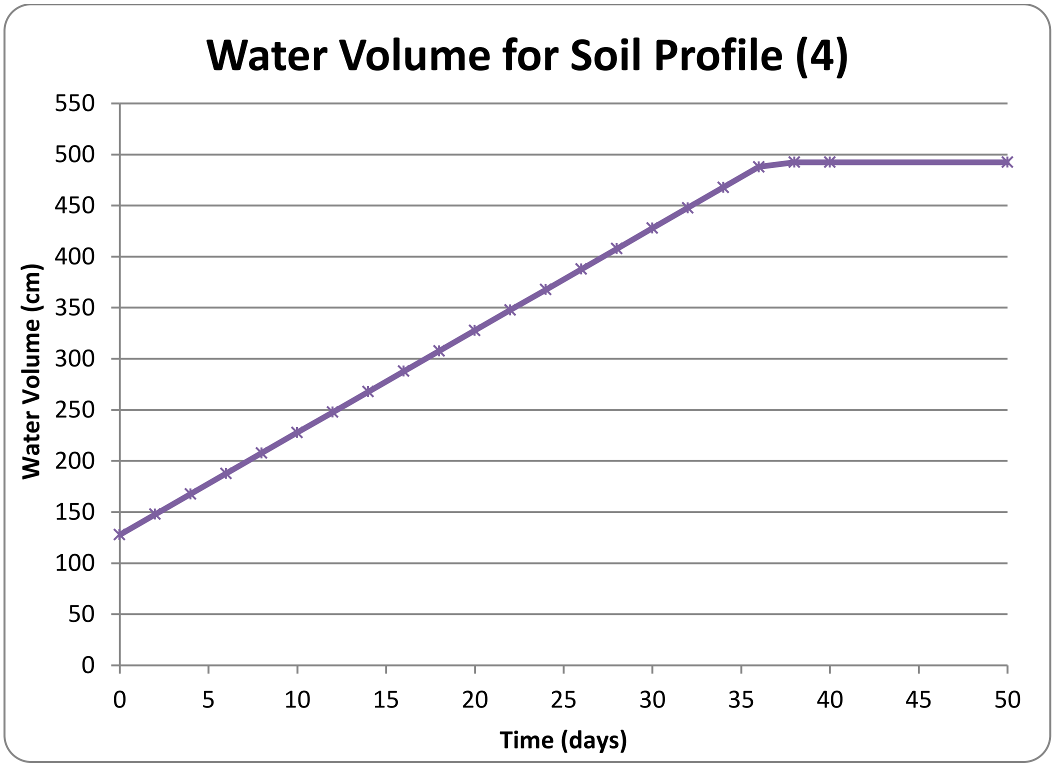


Figure 4- 45 Water Volume for Soil Profile (4)

- ***Unsaturated Hydraulic Conductivity (K)***

The unsaturated hydraulic conductivity for soil profile (4) changes relatively during the time steps as shown in Figure 4-46. The figure shows that at time zero (i.e., no flow) the K values is $2.03\text{x}10^{-5}$cm/day, but at different time intervals the K value starts from 10 cm/day and still oscillating at that value and reaches a maximum value of 14.36 cm/day and then decreases to a minimum value of $2.03\text{x}10^{-5}$ cm/day.

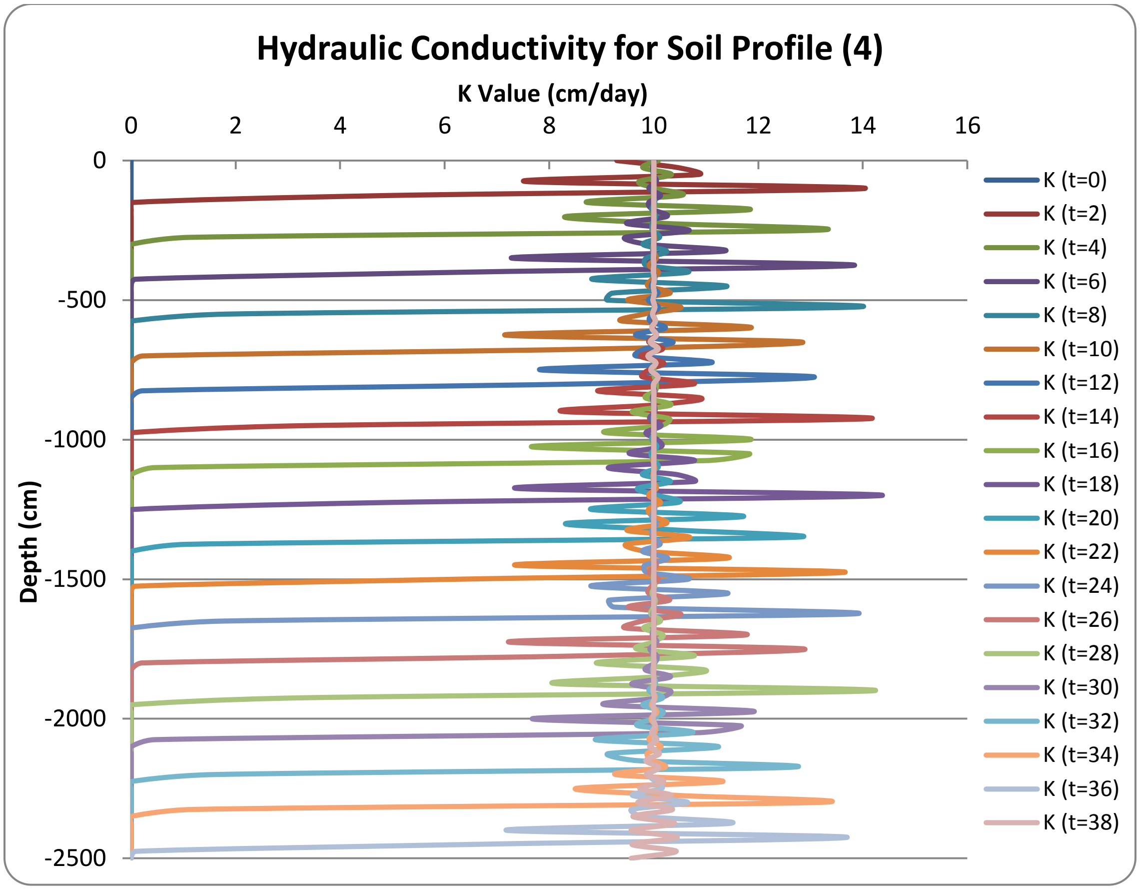


Figure 4- 46 Unsaturated Hydraulic Conductivity for Soil Profile (4)

- ***Pressure Head (h)***

The pressure head changed with time along the soil profile. At time zero the pressure head is constant and equals 100 cm. After that the pressure changes from 11.2 cm and rabidly reaches 100 cm and that depends on the time interval and is repeated for all time intervals as shown in Figure 4-47.

- ***Soil Hydraulic Capacity (C)***

The initial soil hydraulic capacity at t = 0 is $7.50x10^{-5}$ cm^{-1}. At different time intervals the soil capacity starts from 0.0175 cm^{-1} and continues with water movement through the time along the depth and can reach a maximum value of 0.01964 and then goes back to the value of $7.50x10^{-5}$ cm^{-1} as shown in Figure 4-48.

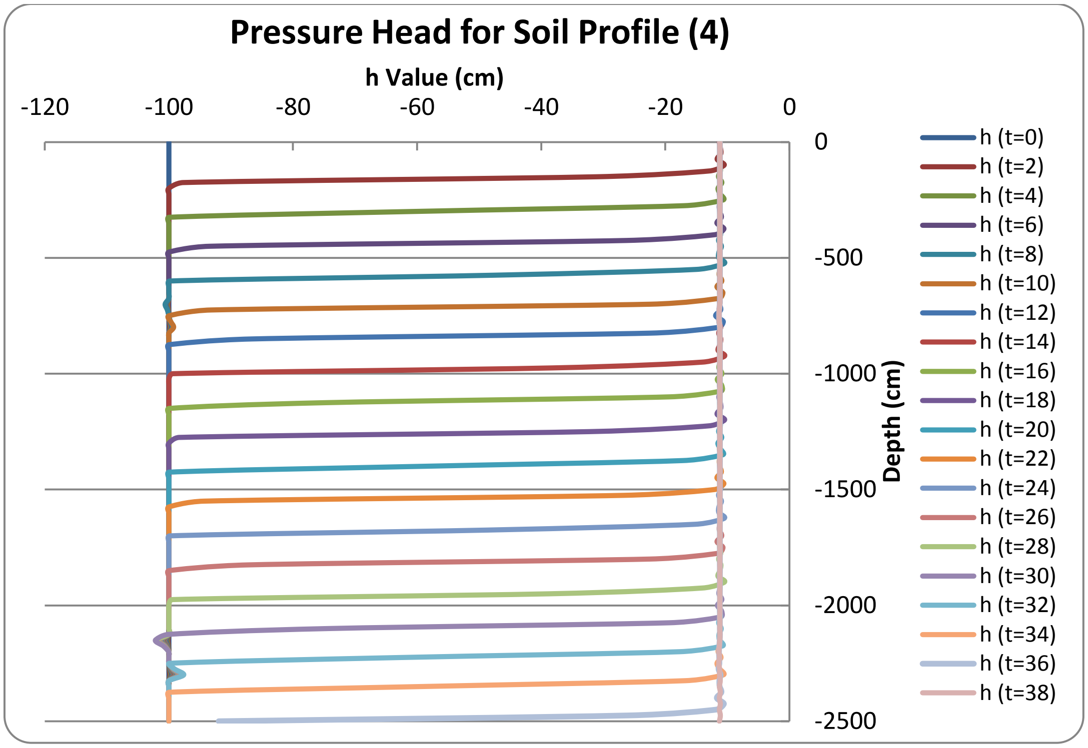


Figure 4- 47 Pressure Head for Soil Profile (4)

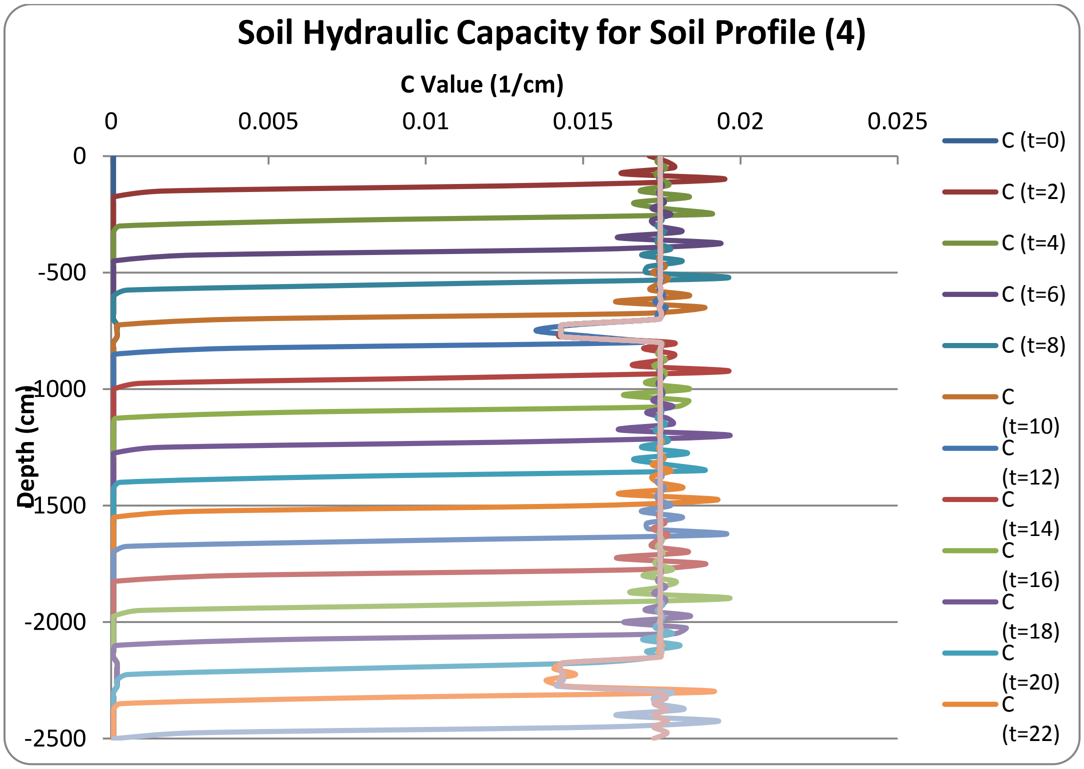


Figure 4- 48 Soil Hydraulic Capacity for Soil Profile (4)

- ***The Moisture Content (θ)***

The moisture content depends on the soil type and the time which water takes to reach different soil layers. So, for the loamy sand layers the θ value encountered between 0.0725 and 0.2529. And for the sandy layers the value is between 0.0494 and 0.193. And finally for the bottom layer sandy clay loam layer the value is between 0.0494 and 0.2074 as shown in Figure 4-49.

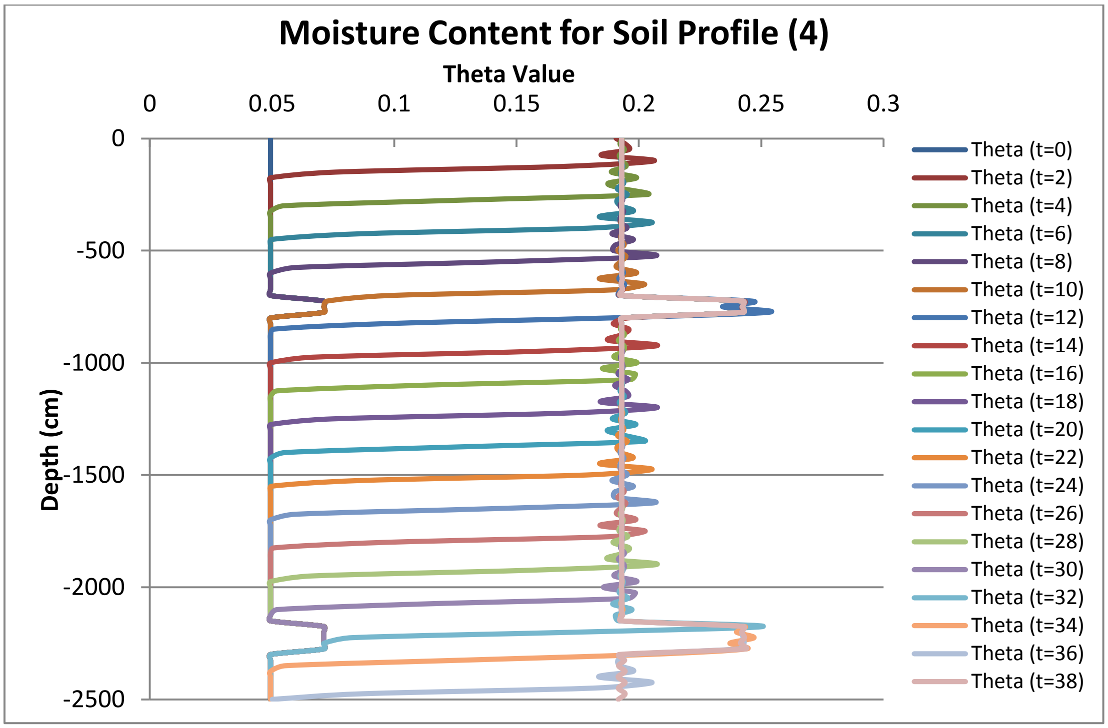


Figure 4- 49 Moisture Content for Soil Profile (4)

- ***The relation between the upper flux and the arrival time***

The same method used in soil profile 1, 2 &3 is used here to determine the relation between the upper flow and the arrival time, and the results are shown in Figure 4-50 The relation between them can be expressed with a power relation with correlation factor of 99.82%. Indeed, a power relation is very good to express the relation between the upper boundary flux in (cm/day) and the arrival time in (days).

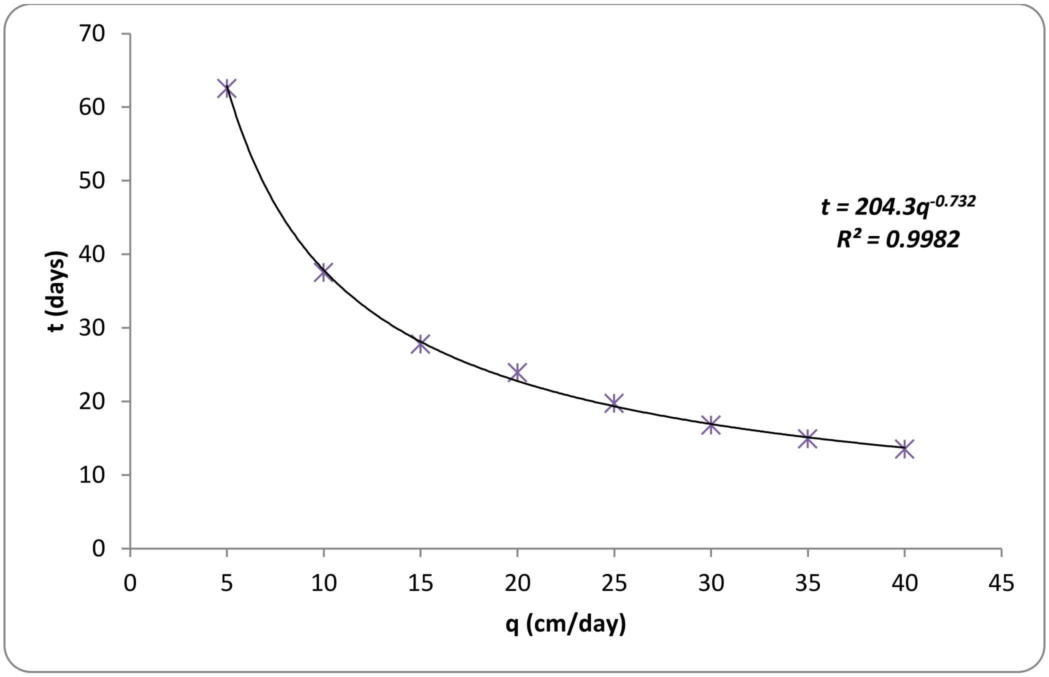


Figure 4- 50 The Relation Between Upper Flow and Arrival Time for Soil Profile (4)

4.4.5 Comparison among the four soil profiles models

After constructing the four models and presenting the results of each individual model, now some main points have to be compared among the four models to show the differences clearly on the Excel charts and to make the necessary conclusion on the results. The main focus points of the comparison are: top flux, bottom flux, pressure head, water volume and finally the relation between the flow and the arrival time for the four soil profiles. All comparisons are made for the first assumption of the upper boundary flux of -10 cm/day.

- ***Top Flux***

The top flux of the four soil profiles shown in Figure 4-51 below shows that there are no significant differences for all the profiles and they are almost the same. The time needed to reach the upper boundary flux is almost two days for all soil profiles, but actually the top flux must be constant and equals the assumed upper constant flux of 10 cm/day.

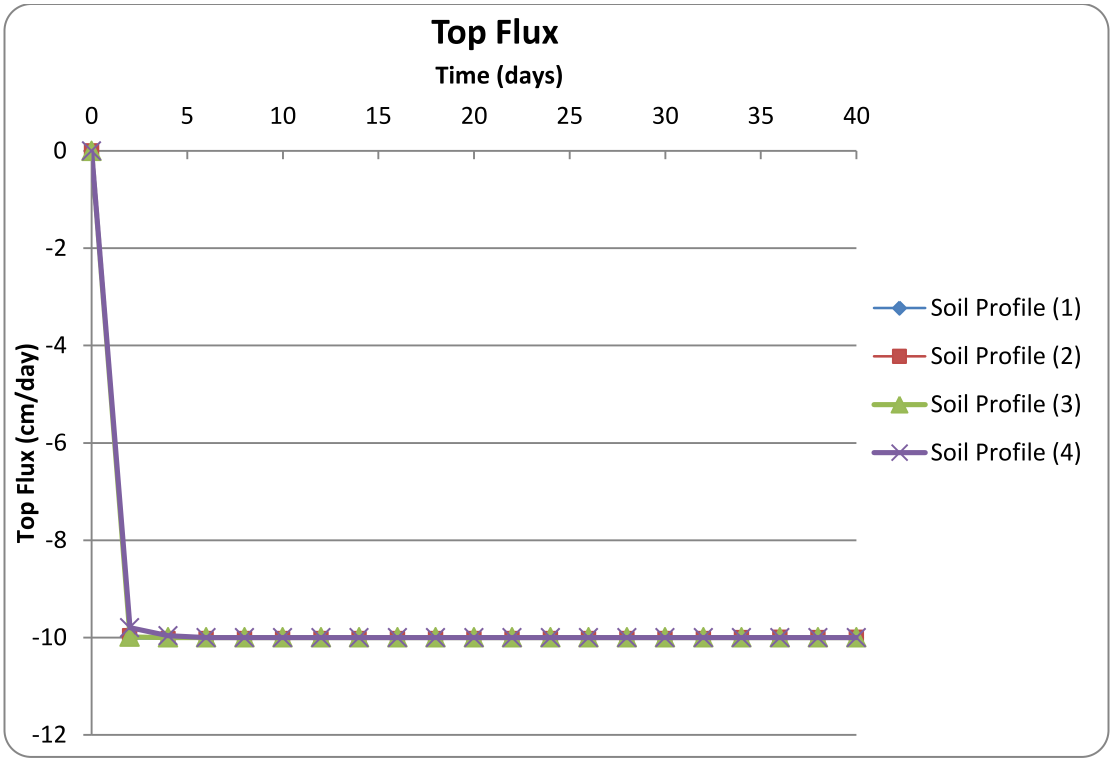


Figure 4- 51 Top Flux for The Four Soil Profiles

- ***Bottom Flux***

The bottom flux is an indication of the arrival time of rainwater to the water table or to groundwater aquifer, so it is necessary to know that time. In Figure 4-52 below the bottom flux of the four soil profiles shows that soil profile (2) has the first arrival time (t = 24.30 days) which is very logical since soil profile (2) is a sand column. Soil profile (1) is very close to soil profile (2) and has t = 25.62 days, this means that there is just 1.32 days (31.68 hours) delay after the pure sand profile, which is a very good result. For soil profile (3) and (4), the arrival times are 27.15 and 37.53 days respectively. Notice that, Soil profiles (1) and (2) has an equal depth of 16.50 meters, soil profile (3) has a depth of 18 meters and finally soil profile (4) has a depth of 25 meters.

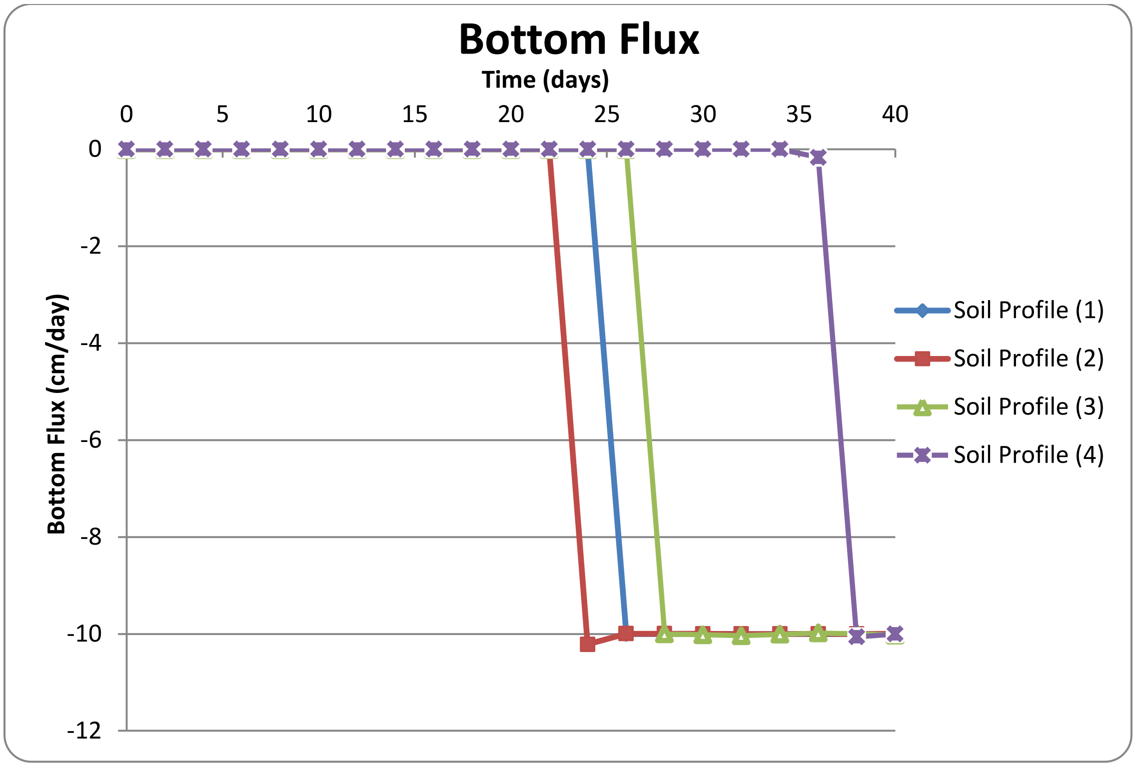


Figure 4- 52 Bottom Flux for The Four Soil Profiles

- ***Mean Head Pressure***

The mean head pressure for all profiles is shown in Figure 4-53where all soil profiles start from the initial pressure h=100cm and this pressure decreases linearly to reach its steady case after the time travel for each soil profile independently. The final steady state pressure is 10.8 cm for soil profile (1) and (3) and is reached after 25.62 and 27.15 days respectively. Also for profile (2) and (4) the final pressure is 11.2 cm after 24.30 and 37.53 days respectively.

- ***Water Volume***

The water volume of the four soil profiles is shown in Figure 4-54, where each soil profile has its maximum own water volume at the arrival time for each separate profile. The figure shows that soil profile (4) has the highest value of 492 cm due to the longest arrival time it has and according to the soil type which affects the moisture content (θ). And then, soil profiles (3), (1) and (2) have the values of 378cm, 357cm and 317cm respectively.

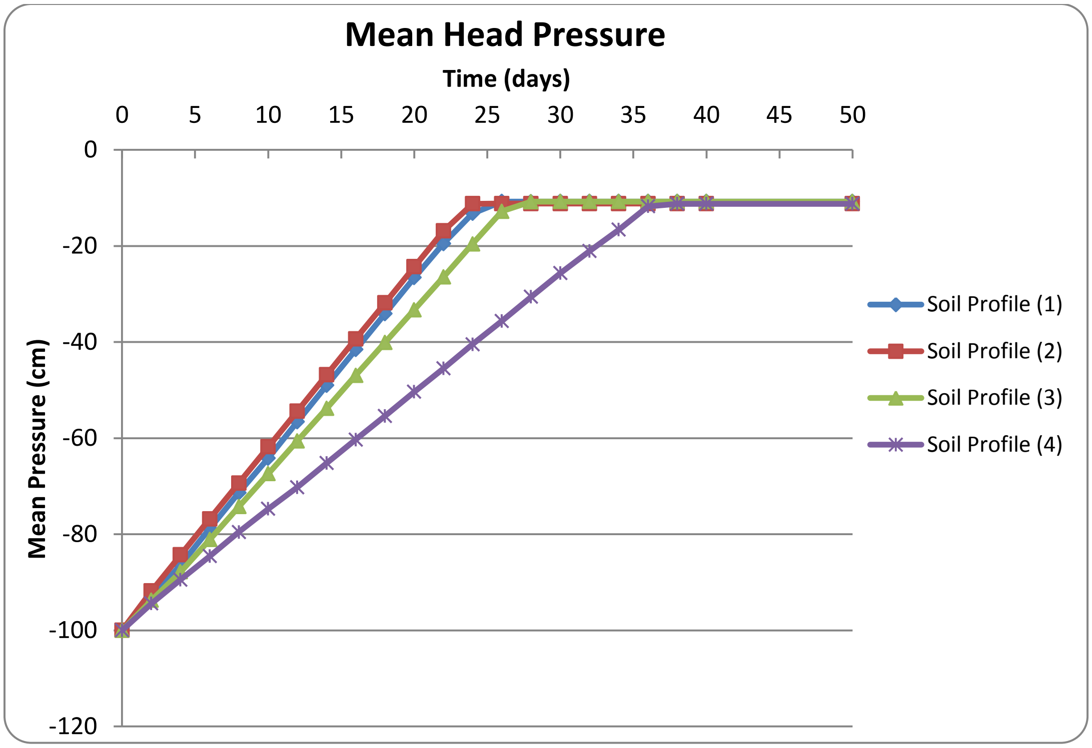


Figure 4- 53 Mean Head Pressure for The Four Soil Profiles

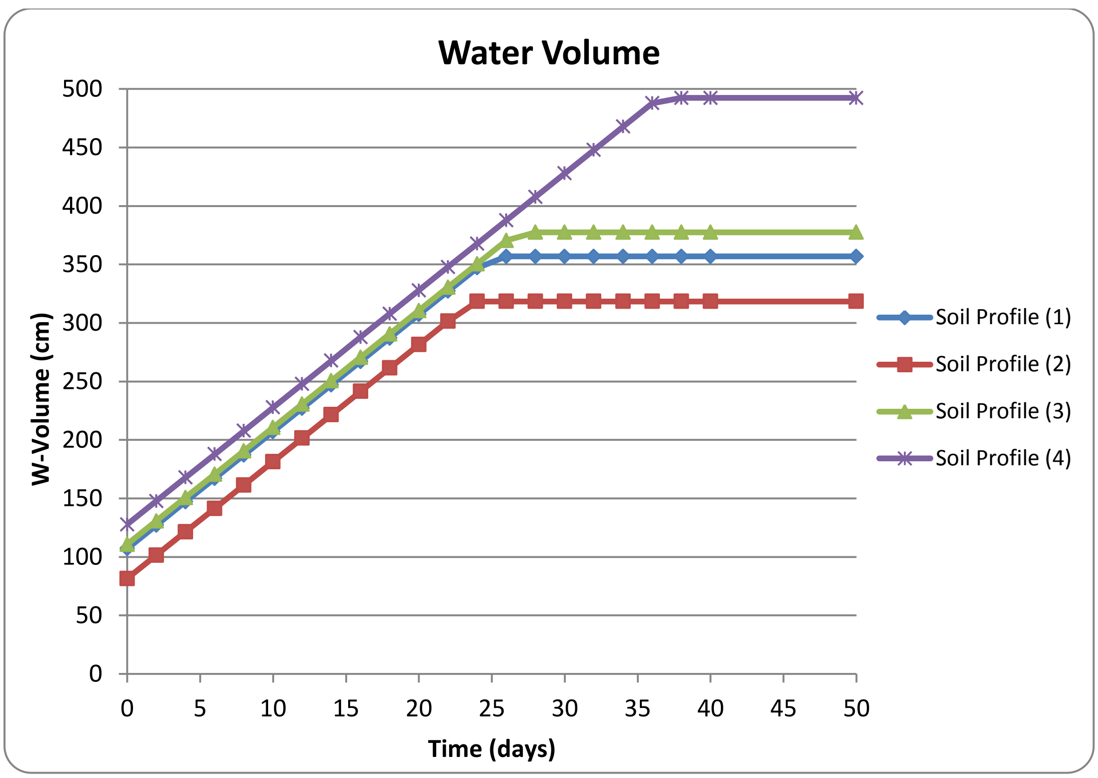


Figure 4- 54 Water Volume for The Four Soil Profiles

- ***The relation between the upper flux and the arrival time***

The four different soil profiles have its own polynomial regression for the relationship between the values of the upper boundary flux and the arrival time of the bottom flux. Figure 4-55 shows the combination among all the four soil profiles.

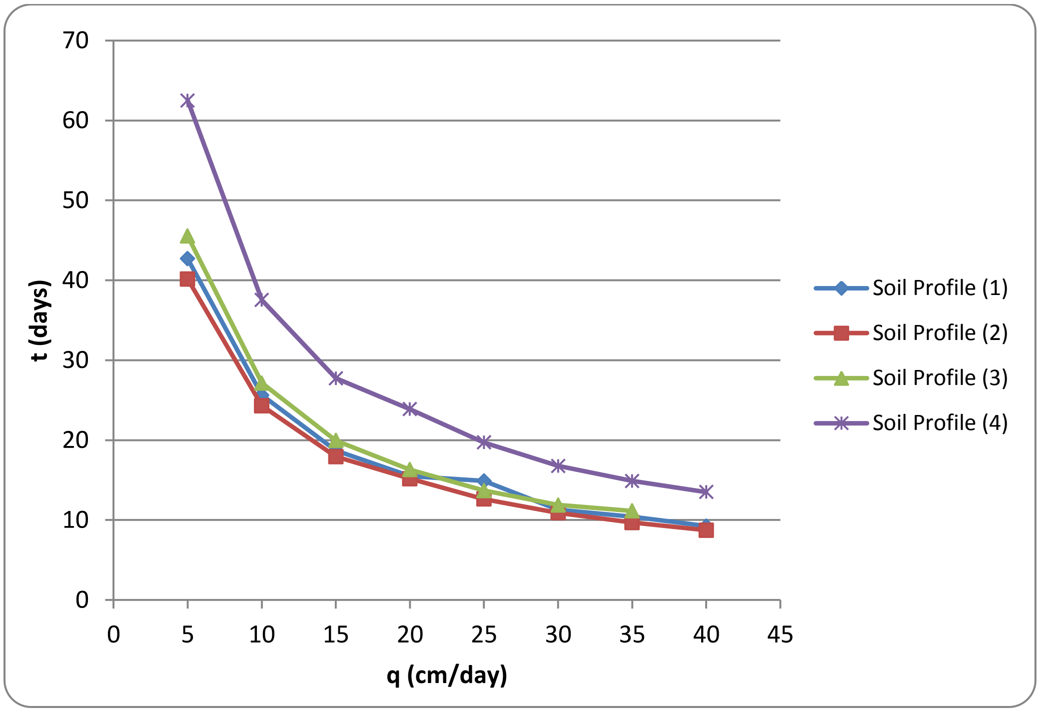


Figure 4- 55 The Relation Between Upper Flux and Arrival Time for The Four Soil Profiles

4.4.6 General Discussion of the Modeling Results

- Theoretical study was carried out for different models performed for four soil profiles at three different locations at the pilot project area and then compared with the standard sand column. For soil profile (2), which is the sand column, has the arrival time of 24.30 days, where the arrival times for soil profile (1), (3) and (4) are 25.62, 27.15 and 37.53 days respectively. The maximum difference of the arrival time was for soil profile (4) with 13.23 days delay. This delay may occur due to many reasons such as:
  - The depth of soil profile (4), which is 25m, is higher than soil profile (2), which is 16.5m, and that can be applied for soil profile (3) with a depth of 18m.
  - The presence of the two thin layers of loamy sand soil in soil profile (4) and a sandy clayey loam in soil profile (3), which has a lower hydraulic

conductivity than the sand, this also leads to the delay of the arrival time of rainwater quantities.

- The assumption that the Kurkar is modeled as clean sand is not accurate 100% because Kurkar has sometimes solid particles with a grain size higher than the sand and sometimes found in big accumulations. For these reasons, there may be a little change in the results according to the modified soil parameters of Kurkar and a calibration has to be considered.

- ➢ The mean head pressure for all soil profiles decreases linearly from the initial pressure head (100cm) to reach the constant pressure, which depends on the initial upper flux, at the arrival time of each soil profile separately i.e., depends on the water column decrease with time.
- ➢ The water volume for each soil profile increases linearly through the passage of rainwater drops into the soil until reaching the arrival time where the maximum water volume is reached. The water volume also depends on the soil profile length and the soil layers that the soil profile consists of.
- ➢ Assuming that a clay layer with a thickness of 0.50m exists in the sandy soil profile (2) at a depth of 2.00m under the surface and then running the model with the first upper flow assumption of 10 cm/day. As a result, the running time of the model took 2018 seconds (34 minutes) and the arrival time was more than 100 days. This means that the clay layer is an impermeable layer and is not suitable for the recharging purposes so that it gives very long arrival time compared with the four soil profiles. So, the clay layer has to be replaced with sand and gravel pore hole to solve this problem.
- ➢ The relation between the upper flux and the arrival time was power relation not linear for all soil profiles because the flux is a function of moisture content (θ) and θ is a function of time. So, the regression was very strong with correlation factors above 99%.

Chapter 5
Conclusions and Recommendations

5.1 Conclusions

This study is performed to evaluate the rainwater harvesting project that implemented at Al Hadaba Area in Deir Al Balah. Social acceptance, rainwater quantity and quality and the theoretical modeling have been carried out. From all the work performed in this research, the conclusions can be drawn as following:

- The rainwater harvesting has a wide acceptance and satisfaction from the local community because they have enough a knowledge about the existing water scarcity in Gaza Strip. Also, more implementation of such that projects and the extension of them in other areas has its acceptance in the study area and neighbor areas, so one of the main targets and objectives has been achieved.
- The quantities of the harvested rainwater depends on the area of the homes rooftop area, so in this study for an area of 200 m^2 the annual quantity is about 42.5m^3/year and when talking about the 27 homes the total annual quantities will be 1147.5 m^3/year. This is not a big number for the short term but for the long term it will be significant. In addition to that when extending this project to the overall area of Al Hadaba or for Deir Al Balah as a whole, then the quantities that can be harvested will be very big and must have wide concerns.
- The quality of the harvested rainwater according to the two monitoring years and according to the previous studies is very good and satisfies with the local and international standards for the drinking water.
- The numerical modeling for three locations in the study area show that this area is very suitable to the recharge of the rainwater, because when compared with the results of the sand column very close results have been achieved. In case of a clay layer exists in the soil, this layer has to be penetrated and replaced with a permeable material such as sand and gravel

to sustain the infiltration process. The HYDRUS-1D model can be used widely to determine suitability of any soil profile for the infiltration.

- Finally when talking about the harvesting system performance specially during the heavy storm periods, the one soakaway pit for every 200 m^2 rooftop area is very sufficient and no problems noticed such as flooding, leakage in the pipes and other problems.

5.2 Recommendations

After the completion of the thesis and discussing the results of the findings, many recommendations now have to be taken into consideration such as:

- The rainwater harvesting from homes rooftop is one of the cleanest, safe and economic methods of the non-conventional water resources, so this lead to think deeply in this project and to adopt this idea at wide levels in the future master plans in a large scale.
- This idea must reach all the governmental and non-governmental organizations to take into their responsibilities fund raising for it and to make marketing to such projects and spreading this project idea for different parts of Gaza Strip.
- Al Hadaba Area in Deir Al Balah is one of the most suitable places for implementing such as this project and it is feasible to perform the harvesting of rainwater and recharging it into the ground without any problems during the storm periods. This all is due to the natural formation of the soil profile of that area, and this project also can be implemented safely in such areas in Deir Al Balah like Al Birka, Shurab Area and the western part of Deir Al Balah including Deir Al Balah Camp.
- At other places where impermeable clay layers are found, a pore hole has to penetrate these impermeable layers and replace them by sand and gravel layers filter to allow the passage of the harvested rainwater.
- To assure the quality will be good and clean, a periodic monitoring and cleaning has to be done annually before the winter season for the grease trap, the soakaway and the roofs of the homes that encountered in the pilot project.
- It is recommended to install the first flush unit on the delivery pipe before the grease/sand trap unit to remove all the first storm which will be highly contaminated from the air and the homes roof. This will assure that low suspended solids and contaminants will be recharged with the harvested rainwater.

- The experimental results and previous studies showed that the total suspended solids were very low from the homes rooftop, also during the last monitoring year the grease/sand trap was not occupied with sediments. So it is recommended to remove the grease trap unit from the system and this will minimize the cost of the infiltration unit.
- To minimize the costs also, it is recommended to connect more than one neighbor homes to a combined soakaway unit.
- The Ministry of Local Governorates and other responsible Ministries have to put regulations and add items to involve the construction of a soakawy unit for each new construction into the building regulations through the Central Committee.
- The Municipalities have to encourage the citizens to construct a rainwater harvesting unit during the building construction and may be involved in the building permission or license. This also can be done by offering incentives by minimizing a part of the building or water consumption fees.

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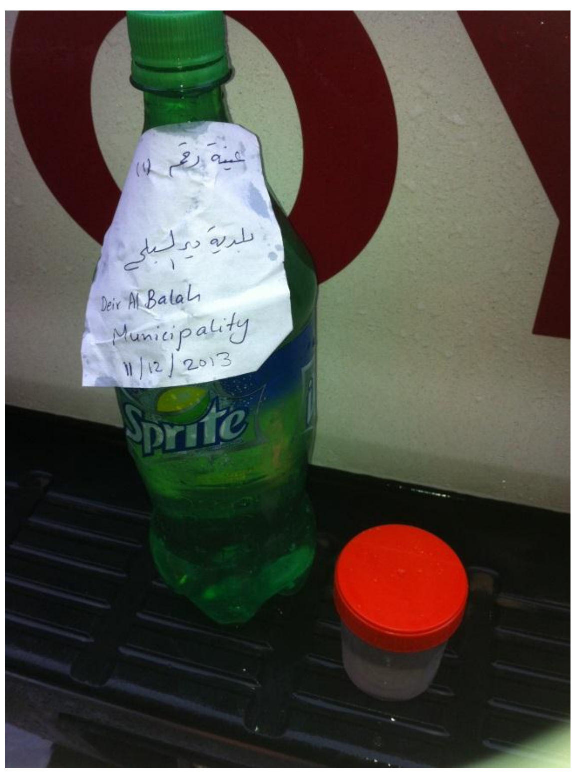
Annexes

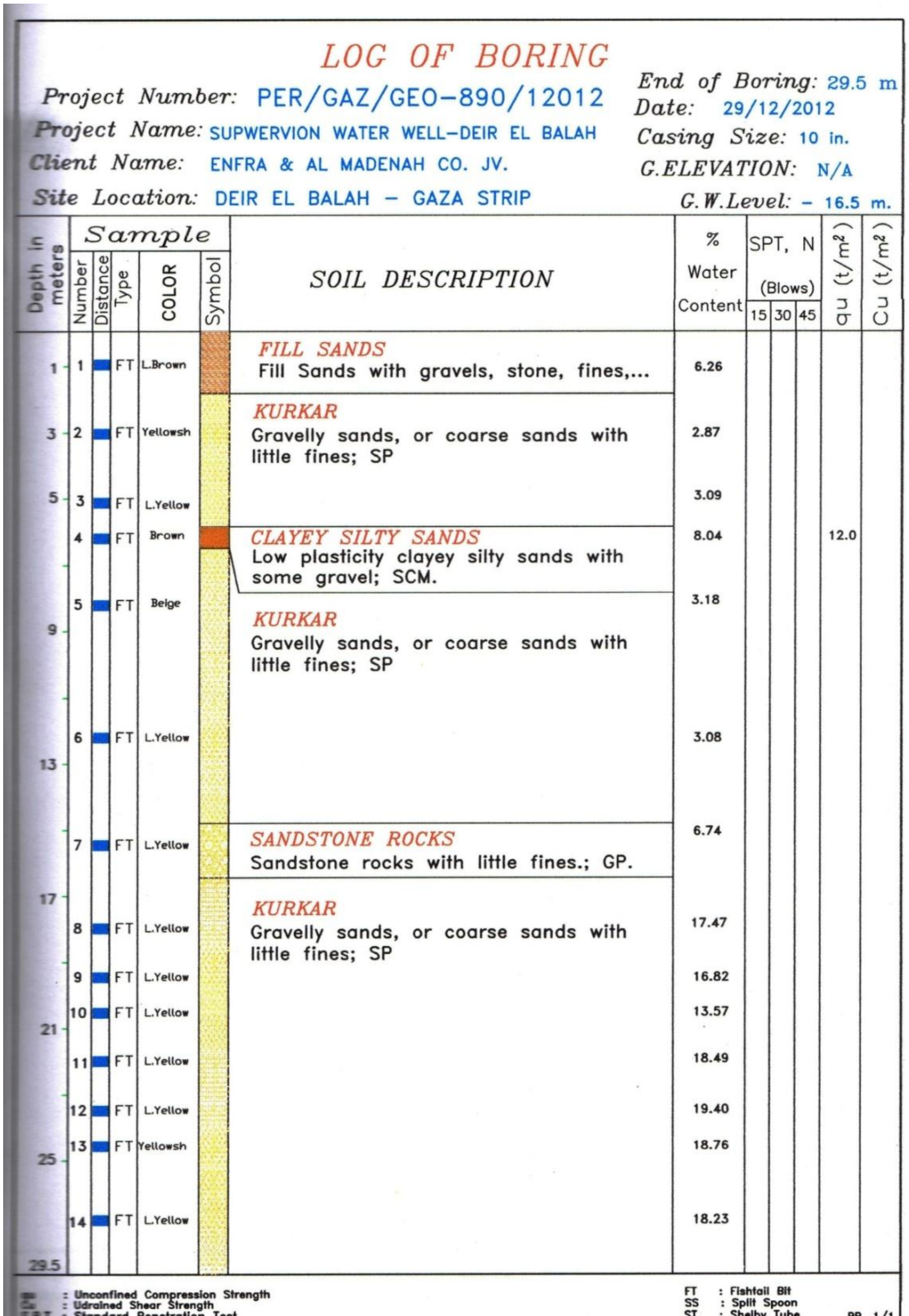
A1. Public Meeting Photos

A2. Project Construction Photos

A3. Experimental Testing Photos


عينة رقم (1)
بلدية دير البلح
Deir Al Balah
Municipality
11/12/2013
Sprite

A4. Soil Profile 1,3 and 4 respectively:



LOG OF BORING

Project Number: PER/GAZ/GEO-890/12012
Project Name: SUPWERVION WATER WELL-DEIR EL BALAH
Client Name: ENFRA & AL MADENAH CO. JV.
Site Location: DEIR EL BALAH - GAZA STRIP

End of Boring: 29.5 m
Date: 29/12/2012
Casing Size: 10 in.
G.ELEVATION: N/A
G.W.Level: - 16.5 m.

Depth in meters	Sample Number	Sample Distance	Sample Type	COLOR	Symbol	SOIL DESCRIPTION	% Water Content	SPT, N (Blows) 15 30 45	qu (t/m²)	Cu (t/m²)
1	1		FT	L.Brown		FILL SANDS Fill Sands with gravels, stone, fines,...	6.26			
3	2		FT	Yellowsh		KURKAR Gravelly sands, or coarse sands with little fines; SP	2.87			
5	3		FT	L.Yellow			3.09			
	4		FT	Brown		CLAYEY SILTY SANDS Low plasticity clayey silty sands with some gravel; SCM.	8.04		12.0	
9	5		FT	Beige		KURKAR Gravelly sands, or coarse sands with little fines; SP	3.18			
13	6		FT	L.Yellow			3.08			
	7		FT	L.Yellow		SANDSTONE ROCKS Sandstone rocks with little fines.; GP.	6.74			
17	8		FT	L.Yellow		KURKAR Gravelly sands, or coarse sands with little fines; SP	17.47			
	9		FT	L.Yellow			16.82			
21	10		FT	L.Yellow			13.57			
	11		FT	L.Yellow			18.49			
	12		FT	L.Yellow			19.40			
25	13		FT	Yellowsh			18.76			
	14		FT	L.Yellow			18.23			
29.5										

qu : Unconfined Compression Strength
Cu : Udrained Shear Strength
S.P.T. : Standard Penetration Test

FT : Fishtail Bit
SS : Split Spoon
ST : Shelby Tube

PP. 1/1

Soil Profile (1)

ISLAMIC UNIVERSITY OF GAZA — ***MATERIALS & SOIL LABS***

Project No: 120933

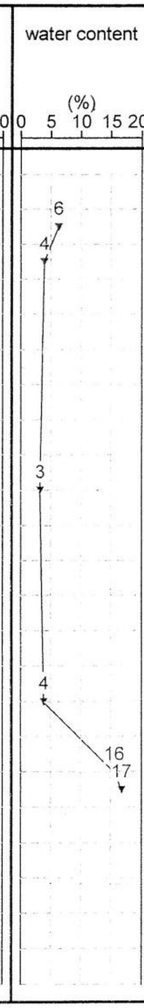
Borehole: BH.1

Project: WasteWaterReuse&Storm Water Harvesting — ***boring depth*** 18.5m

Client: Madina& Infra Consulting Office — ***Water Table:*** 18m

Location: DEER AL BALAH- AL HADABA AREA — ***Engineer:*** a. Hammad

Depth	Description	Elev.	SAMPLE SYMBOL	SPT (N30)	water content (%)	Remarks
0	Ground Surface	18.0				
0–2.5	*FILL* Brown loose sandy fill non plastic.	0.0	FILL		6	
			SM		4	
2.5–14	*SILTY SAND (SP-SM)* Brown silty sand , non plastic, medium dense.	15.5 / 2.5	SP			
	KURKAR/SANDSTONE Yellowish , calcerious fine to coarse sand with fragments of sand stone with thin layers of porous hard sand stone rock of medium permeability interbeded.				3	
	Ditto, water table.					
14–17	*KURKAR* Yellowish , calcerious fine to coarse sand with fragments of sand stone , wet . high permeable.	4.0 / 14.0	SP		4	
					16	
17–	*Sandy Clay* Brown sandy clay of low plasticity with kurkar gravel, low permeabiity saturated. End of Borehole	1.0 / 17.0	SM		17	G.W.T at 18m
	water table at 18m below surface,.					End of well18.5m



Drill Method: Bucket auger

Drill Date: 31/3/2012

Hole Size: 16"

SS =Split Spoon
SH = shelby Tube
DS = Disturbed sample

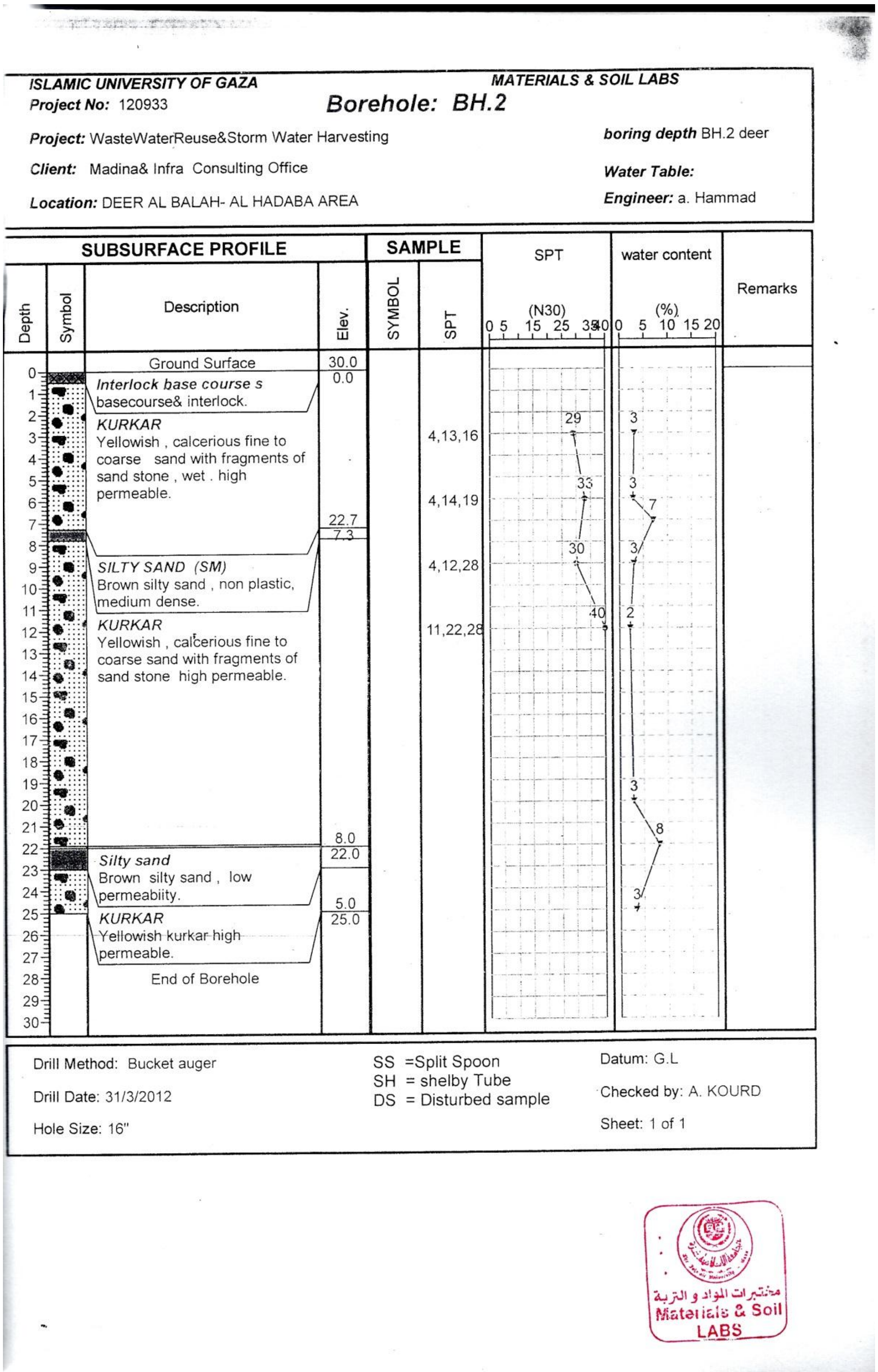
Datum: G.L

Checked by: A. KOURD

Sheet: 1 of 1

مختبرات المواد و التربة
Materials & Soil LABS

Soil Profile (3)


ISLAMIC UNIVERSITY OF GAZA **MATERIALS & SOIL LABS**

Project No: 120933 **Borehole: BH.2**

Project: WasteWaterReuse&Storm Water Harvesting **boring depth** BH.2 deer

Client: Madina& Infra Consulting Office **Water Table:**

Location: DEER AL BALAH- AL HADABA AREA **Engineer:** a. Hammad

Depth	Description	Elev.	SPT	SPT (N30)	water content (%)
0	Ground Surface	30.0			
0–1	*Interlock base course s* basecourse& interlock.	0.0			
2–7	*KURKAR* Yellowish , calcerious fine to coarse sand with fragments of sand stone , wet . high permeable.		4,13,16 4,14,19	29 33	3 3, 7
7.3		22.7 7.3			
8–11	*SILTY SAND (SM)* Brown silty sand , non plastic, medium dense.		4,12,28	30	3
11–22	*KURKAR* Yellowish , calcerious fine to coarse sand with fragments of sand stone high permeable.		11,22,28	40	2 3 8
22		8.0 22.0			
22–25	*Silty sand* Brown silty sand , low permeabiity.	5.0 25.0			3
25–27	*KURKAR* Yellowish kurkar high permeable.				
28	End of Borehole				

Drill Method: Bucket auger | SS =Split Spoon | Datum: G.L

Drill Date: 31/3/2012 | SH = shelby Tube | Checked by: A. KOURD

Hole Size: 16" | DS = Disturbed sample | Sheet: 1 of 1

Soil Profile (4)

A5. Results of the output file (Balance.out) for Soil Profile (1) at q=10 cm/day.

```
******* Program HYDRUS
 *******
 Welcome to HYDRUS-1D
 Date:  11. 2.    Time:   0:31:37
 Units: L = cm   , T = days , M = mmol

----------------------------------------------------------
 Time       [T]       0.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.10714E+03
0.10714E+03
 In-flow  [L/T]     0.00000E+00  0.00000E+00
 h Mean   [L]      -0.10000E+03 -0.10000E+03
 Top Flux [L/T]    -0.25123E-03
 Bot Flux [L/T]    -0.25123E-03
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]       2.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.12714E+03
0.12714E+03
 In-flow  [L/T]     0.99997E+01  0.99997E+01
 h Mean   [L]      -0.93138E+02 -0.93138E+02
 Top Flux [L/T]    -0.10023E+02
 Bot Flux [L/T]    -0.25123E-03
 WatBalT  [L]      -0.95367E-05
 WatBalR  [%]           0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]       4.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.14714E+03
0.14714E+03
 In-flow  [L/T]     0.99998E+01  0.99998E+01
 h Mean   [L]      -0.86368E+02 -0.86368E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25123E-03
 WatBalT  [L]       0.41962E-04
 WatBalR  [%]           0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]       6.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.16714E+03
0.16714E+03
 In-flow  [L/T]     0.99997E+01  0.99997E+01
 h Mean   [L]      -0.78815E+02 -0.78815E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25123E-03
```

WatBalT [L] 0.45776E-04
WatBalR [%] 0.000

Time [T] 8.0000

Sub-region num. 1

Length [L] 0.16500E+04 0.16500E+04
W-volume [L] 0.18713E+03
0.18713E+03
In-flow [L/T] 0.99997E+01 0.99997E+01
h Mean [L] -0.71360E+02 -0.71360E+02
Top Flux [L/T] -0.10000E+02
Bot Flux [L/T] -0.25123E-03
WatBalT [L] 0.45776E-04
WatBalR [%] 0.000

Time [T] 10.0000

Sub-region num. 1

Length [L] 0.16500E+04 0.16500E+04
W-volume [L] 0.20713E+03
0.20713E+03
In-flow [L/T] 0.99997E+01 0.99997E+01
h Mean [L] -0.64177E+02 -0.64177E+02
Top Flux [L/T] -0.10000E+02
Bot Flux [L/T] -0.25123E-03
WatBalT [L] 0.45776E-04
WatBalR [%] 0.000

Time [T] 12.0000

Sub-region num. 1

Length [L] 0.16500E+04 0.16500E+04
W-volume [L] 0.22713E+03
0.22713E+03
In-flow [L/T] 0.99998E+01 0.99998E+01
h Mean [L] -0.56592E+02 -0.56592E+02
Top Flux [L/T] -0.10000E+02
Bot Flux [L/T] -0.25123E-03
WatBalT [L] 0.45776E-04
WatBalR [%] 0.000

Time [T] 14.0000

Sub-region num. 1

Length [L] 0.16500E+04 0.16500E+04
W-volume [L] 0.24713E+03
0.24713E+03
In-flow [L/T] 0.99998E+01 0.99998E+01
h Mean [L] -0.49029E+02 -0.49029E+02
Top Flux [L/T] -0.10000E+02
Bot Flux [L/T] -0.25123E-03
WatBalT [L] 0.91553E-04
WatBalR [%] 0.000

```
----------------------------------------------------------
 Time       [T]      16.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.26713E+03
0.26713E+03
 In-flow  [L/T]     0.99998E+01  0.99998E+01
 h Mean   [L]      -0.41583E+02 -0.41583E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25123E-03
 WatBalT  [L]       0.00000E+00
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      18.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.28713E+03
0.28713E+03
 In-flow  [L/T]     0.99997E+01  0.99997E+01
 h Mean   [L]      -0.34075E+02 -0.34075E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25123E-03
 WatBalT  [L]       0.76294E-04
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      20.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.30713E+03
0.30713E+03
 In-flow  [L/T]     0.99997E+01  0.99997E+01
 h Mean   [L]      -0.26592E+02 -0.26592E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25123E-03
 WatBalT  [L]       0.15259E-04
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      22.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.32713E+03
0.32713E+03
 In-flow  [L/T]     0.99998E+01  0.99998E+01
 h Mean   [L]      -0.19495E+02 -0.19495E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25123E-03
 WatBalT  [L]       0.76294E-04
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      24.0000
```

```
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.34713E+03
0.34713E+03
 In-flow  [L/T]     0.99997E+01  0.99997E+01
 h Mean   [L]      -0.13228E+02 -0.13228E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.25126E-03
 WatBalT  [L]      -0.15259E-04
 WatBalR  [%]           0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      26.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]     0.63028E-03  0.63028E-03
 h Mean   [L]      -0.10774E+02 -0.10774E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.10004E+02
 WatBalT  [L]       0.76294E-04
 WatBalR  [%]           0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      28.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]     0.12734E-04  0.12734E-04
 h Mean   [L]      -0.10775E+02 -0.10775E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.10000E+02
 WatBalT  [L]      -0.76294E-04
 WatBalR  [%]           0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      30.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]     0.29266E-03  0.29266E-03
 h Mean   [L]      -0.10774E+02 -0.10774E+02
 Top Flux [L/T]    -0.10000E+02
 Bot Flux [L/T]    -0.99997E+01
 WatBalT  [L]      -0.15259E-03
 WatBalR  [%]           0.000
----------------------------------------------------------

----------------------------------------------------------
 Time       [T]      32.0000
----------------------------------------------------------
 Sub-region num.                 1
----------------------------------------------------------
```

```
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]     -0.10873E-03 -0.10873E-03
 h Mean   [L]       -0.10774E+02 -0.10774E+02
 Top Flux [L/T]     -0.10000E+02
 Bot Flux [L/T]     -0.10000E+02
 WatBalT  [L]       -0.15259E-03
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time      [T]      34.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]     -0.27737E-03 -0.27737E-03
 h Mean   [L]       -0.10774E+02 -0.10774E+02
 Top Flux [L/T]     -0.10000E+02
 Bot Flux [L/T]     -0.10000E+02
 WatBalT  [L]       -0.22888E-03
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time      [T]      36.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]      0.44066E-04  0.44066E-04
 h Mean   [L]       -0.10774E+02 -0.10774E+02
 Top Flux [L/T]     -0.10000E+02
 Bot Flux [L/T]     -0.10000E+02
 WatBalT  [L]       -0.33569E-03
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time      [T]      38.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
 In-flow  [L/T]      0.24657E-04  0.24657E-04
 h Mean   [L]       -0.10774E+02 -0.10774E+02
 Top Flux [L/T]     -0.10000E+02
 Bot Flux [L/T]     -0.99999E+01
 WatBalT  [L]       -0.30518E-04
 WatBalR  [%]            0.000
----------------------------------------------------------

----------------------------------------------------------
 Time      [T]     100.0000
----------------------------------------------------------
 Sub-region num.                  1
----------------------------------------------------------
 Length   [L]       0.16500E+04  0.16500E+04
 W-volume [L]       0.35687E+03
0.35687E+03
```

In-flow [L/T]   0.35415E-03 0.35415E-03
h Mean   [L]   -0.10774E+02 -0.10774E+02
Top Flux [L/T]   -0.10000E+02
Bot Flux [L/T]   -0.99996E+01
WatBalT [L]   -0.25940E-03
WatBalR [%]   0.000

Calculation time [sec]   1.25999999046326

A6. Results of the output file (Nod_Inf.out) for Soil Profile (1) at q=10 cm/day.

	**									
*****	Program	HYDRUS								
*****	**									
	me to									
	HYDR	US-1D								
Date:	11. 2.	Time: 0	:31:37							
Units	: L = cm	, T = days	, M = mmo	l						
Time:	0	0								
Node	Depth	Head	Moisture	K	C	Flux	Sink	Kapp	a v/KsTop	Temp
	[L]	[L]	[-]	[L/T]	[1/L]	[L/T]	[1/T]	[-]	[-]	[C]
1	0	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
2	-16.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
3	-33	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
4	-49.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
5	-66	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
6	-82.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
7	-99	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
8	-115.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
9	-132	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
10	-148.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
11	-165	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
12	-181.5	-100	0.0712	2.51E-04	1.84E-04	-1.94E-04	0.00E+00	-1	-5.52E-07	20
13	-198	-100	0.0494	2.03E-05	7.50E-05	-7.80E-05	0.00E+00	-1	-2.23E-07	20
14	-214.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
15	-231	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
16	-247.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
17	-264	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
18	-280.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
19	-297	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
20	-313.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
21	-330	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
22	-346.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
23	-363	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
24	-379.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
25	-396	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
26	-412.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
27	-429	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
28	-445.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
29	-462	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
30	-478.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
31	-495	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
32	-511.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
33	-528	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
34	-544.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
35	-561	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
36	-577.5	-100	0.0494	2.03E-05	7.50E-05	-2.67E-03	0.00E+00	-1	-7.64E-06	20
37	-594	-100	0.2212	1.06E-02	5.48E-04	-7.98E-03	0.00E+00	-1	-2.28E-05	20
38	-610.5	-100	0.2212	1.06E-02	5.48E-04	-1.06E-02	0.00E+00	-1	-3.04E-05	20
39	-627	-100	0.2212	1.06E-02	5.48E-04	-1.06E-02	0.00E+00	-1	-3.04E-05	20

40	-643.5	-100	0.2212	1.06E-02	5.48E-04	-1.06E-02	0.00E+00	-1	-3.04E-05	20
41	-660	-100	0.2212	1.06E-02	5.48E-04	-1.06E-02	0.00E+00	-1	-3.04E-05	20
42	-676.5	-100	0.2212	1.06E-02	5.48E-04	-7.98E-03	0.00E+00	-1	-2.28E-05	20
43	-693	-100	0.0494	2.03E-05	7.50E-05	-2.67E-03	0.00E+00	-1	-7.64E-06	20
44	-709.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
45	-726	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
46	-742.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
47	-759	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
48	-775.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
49	-792	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
50	-808.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
51	-825	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-88	1435.5	-100	0.0494	2.03E-05	7.50E-05	-7.80E-05	0.00E+00	-1	-2.23E-07	20
-89	1452	-100	0.0712	2.51E-04	1.84E-04	-1.94E-04	0.00E+00	-1	-5.52E-07	20
-90	1468.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 2 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.314	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.319	0.2425	1.00E+01	1.43E-02	-9.98E+00	0.00E+00	-1	-2.85E-02	20
3	-33	-11.363	0.2418	9.81E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.198	0.2444	1.05E+01	1.45E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.555	0.2389	8.95E+00	1.40E-02	-9.88E+00	0.00E+00	-1	-2.82E-02	20
6	-82.5	-11.041	0.2468	1.13E+01	1.48E-02	-1.02E+01	0.00E+00	-1	-2.92E-02	20
7	-99	-11.449	0.2405	9.49E+00	1.42E-02	-9.27E+00	0.00E+00	-1	-2.65E-02	20
8	-115.5	-20.056	0.1611	8.72E-01	5.97E-03	-4.81E+00	0.00E+00	-1	-1.37E-02	20
9	-132	-68.781	0.0801	1.92E-03	4.37E-04	-8.65E-01	0.00E+00	-1	-2.47E-03	20
10	-148.5	-99.932	0.0712	2.52E-04	1.85E-04	-1.70E-03	0.00E+00	-1	-4.84E-06	20
11	-165	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.18E-07	20
12	-181.5	-99.909	0.0712	2.52E-04	1.85E-04	-1.93E-04	0.00E+00	-1	-5.50E-07	20
13	-198	-99.768	0.0494	2.04E-05	7.53E-05	-7.78E-05	0.00E+00	-1	-2.22E-07	20
14	-214.5	-100	0.0494	2.03E-05	7.50E-05	-2.04E-05	0.00E+00	-1	-5.84E-08	20
15	-231	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
16	-247.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
17	-264	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
18	-280.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
19	-297	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
20	-313.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
21	-330	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
22	-346.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
23	-363	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
24	-379.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
25	-396	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
26	-412.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
27	-429	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
28	-445.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
29	-462	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
30	-478.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
31	-495	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
32	-511.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
33	-528	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
34	-544.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
35	-561	-100.006	0.0494	2.03E-05	7.50E-05	-2.31E-05	0.00E+00	-1	-6.58E-08	20
36	-577.5	-108.103	0.0489	1.44E-05	6.27E-05	-1.56E-03	0.00E+00	-1	-4.44E-06	20
37	-594	-101.493	0.2205	1.03E-02	5.39E-04	-6.33E-03	0.00E+00	-1	-1.81E-05	20
38	-610.5	-100.124	0.2212	1.06E-02	5.47E-04	-1.01E-02	0.00E+00	-1	-2.87E-05	20
39	-627	-100.007	0.2212	1.06E-02	5.48E-04	-1.06E-02	0.00E+00	-1	-3.02E-05	20
40	-643.5	-99.997	0.2212	1.06E-02	5.48E-04	-1.06E-02	0.00E+00	-1	-3.03E-05	20
41	-660	-99.913	0.2213	1.07E-02	5.48E-04	-1.03E-02	0.00E+00	-1	-2.93E-05	20
42	-676.5	-98.528	0.222	1.10E-02	5.57E-04	-6.84E-03	0.00E+00	-1	-1.95E-05	20
43	-693	-93.279	0.0499	3.18E-05	8.96E-05	-1.90E-03	0.00E+00	-1	-5.42E-06	20
44	-709.5	-99.984	0.0494	2.03E-05	7.50E-05	-2.85E-05	0.00E+00	-1	-8.13E-08	20
45	-726	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.79E-08	20
46	-742.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
47	-759	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
48	-775.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
49	-792	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
50	-808.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
51	-825	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20

-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100	0.0494	2.03E-05	7.50E-05	-2.04E-05	0.00E+00	-1	-5.81E-08	20
-88	1435.5	-100.231	0.0494	2.01E-05	7.46E-05	-7.73E-05	0.00E+00	-1	-2.21E-07	20
-89	1452	-100.091	0.0712	2.51E-04	1.84E-04	-1.92E-04	0.00E+00	-1	-5.48E-07	20
-90	1468.5	-100	0.0712	2.51E-04	1.84E-04	-2.50E-04	0.00E+00	-1	-7.15E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 4 0

Node	Depth	Head	Moisture	K	C	Flux	Sink	Kapp	a v/KsTop	Temp
	[L]	[L]	[-]	[L/T]	[1/L]	[L/T]	[1/T]	[-]	[-]	[C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.324	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
8	-115.5	-11.331	0.2423	9.96E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.29	0.243	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.373	0.2417	9.77E+00	1.42E-02	-9.95E+00	0.00E+00	-1	-2.84E-02	20
11	-165	-11.281	0.2431	1.02E+01	1.44E-02	-1.01E+01	0.00E+00	-1	-2.88E-02	20
12	-181.5	-11.233	0.2439	1.05E+01	1.45E-02	-9.93E+00	0.00E+00	-1	-2.83E-02	20
13	-198	-11.48	0.1877	8.43E+00	1.67E-02	-9.89E+00	0.00E+00	-1	-2.82E-02	20
14	-214.5	-10.671	0.2032	1.30E+01	1.90E-02	-1.03E+01	0.00E+00	-1	-2.93E-02	20
15	-231	-12.528	0.1727	5.53E+00	1.44E-02	-7.72E+00	0.00E+00	-1	-2.21E-02	20
16	-247.5	-26.178	0.0865	8.80E-02	2.68E-03	-2.68E+00	0.00E+00	-1	-7.65E-03	20
17	-264	-92.378	0.05	3.99E-05	9.72E-05	-1.10E-01	0.00E+00	-1	-3.15E-04	20
18	-280.5	-99.999	0.0494	2.03E-05	7.50E-05	-3.21E-05	0.00E+00	-1	-9.17E-08	20
19	-297	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20

20	-313.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
21	-330	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
22	-346.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
23	-363	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
24	-379.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
25	-396	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
26	-412.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
27	-429	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
28	-445.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
29	-462	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
30	-478.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
31	-495	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
32	-511.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
33	-528	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
34	-544.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.79E-08	20
35	-561	-100.02	0.0494	2.02E-05	7.50E-05	-2.41E-05	0.00E+00	-1	-6.87E-08	20
36	-577.5	-113.002	0.0486	1.09E-05	5.52E-05	-1.01E-03	0.00E+00	-1	-2.87E-06	20
37	-594	-103.118	0.2197	9.89E-03	5.28E-04	-5.28E-03	0.00E+00	-1	-1.51E-05	20
38	-610.5	-100.465	0.221	1.05E-02	5.45E-04	-9.44E-03	0.00E+00	-1	-2.69E-05	20
39	-627	-100.051	0.2212	1.06E-02	5.48E-04	-1.05E-02	0.00E+00	-1	-2.98E-05	20
40	-643.5	-99.979	0.2213	1.06E-02	5.48E-04	-1.05E-02	0.00E+00	-1	-3.01E-05	20
41	-660	-99.674	0.2214	1.07E-02	5.50E-04	-9.87E-03	0.00E+00	-1	-2.82E-05	20
42	-676.5	-97.014	0.2227	1.14E-02	5.67E-04	-6.20E-03	0.00E+00	-1	-1.77E-05	20
43	-693	-89.623	0.0503	4.58E-05	1.03E-04	-1.60E-03	0.00E+00	-1	-4.57E-06	20
44	-709.5	-99.933	0.0494	2.03E-05	7.51E-05	-3.70E-05	0.00E+00	-1	-1.06E-07	20
45	-726	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.80E-08	20
46	-742.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
47	-759	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
48	-775.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
49	-792	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
50	-808.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
51	-825	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20

-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100	0.0494	2.03E-05	7.50E-05	-2.05E-05	0.00E+00	-1	-5.84E-08	20
-88	1435.5	-100.457	0.0494	1.99E-05	7.43E-05	-7.66E-05	0.00E+00	-1	-2.19E-07	20
-89	1452	-100.183	0.0712	2.50E-04	1.84E-04	-1.90E-04	0.00E+00	-1	-5.43E-07	20
-90	1468.5	-100.003	0.0712	2.51E-04	1.84E-04	-2.50E-04	0.00E+00	-1	-7.12E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 6 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.312	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.337	0.2422	9.93E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.293	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
14	-214.5	-11.211	0.1929	9.96E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.19	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.227	0.1926	9.87E+00	1.74E-02	-9.98E+00	0.00E+00	-1	-2.85E-02	20
17	-264	-11.184	0.1934	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.197	0.1931	1.01E+01	1.75E-02	-9.97E+00	0.00E+00	-1	-2.85E-02	20
19	-297	-11.281	0.1915	9.55E+00	1.72E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
20	-313.5	-11.037	0.1962	1.10E+01	1.80E-02	-1.01E+01	0.00E+00	-1	-2.88E-02	20
21	-330	-11.44	0.1884	8.62E+00	1.68E-02	-9.83E+00	0.00E+00	-1	-2.81E-02	20
22	-346.5	-11.003	0.1969	1.11E+01	1.80E-02	-1.03E+01	0.00E+00	-1	-2.95E-02	20
23	-363	-11.038	0.1962	1.10E+01	1.79E-02	-9.68E+00	0.00E+00	-1	-2.76E-02	20
24	-379.5	-17.374	0.1246	1.03E+00	7.31E-03	-5.02E+00	0.00E+00	-1	-1.43E-02	20
25	-396	-56.673	0.0564	8.42E-04	3.60E-04	-8.70E-01	0.00E+00	-1	-2.48E-03	20
26	-412.5	-99.944	0.0494	2.03E-05	7.51E-05	-7.91E-04	0.00E+00	-1	-2.26E-06	20
27	-429	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.80E-08	20
28	-445.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
29	-462	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
30	-478.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
31	-495	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
32	-511.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
33	-528	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
34	-544.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.79E-08	20
35	-561	-100.036	0.0494	2.02E-05	7.49E-05	-2.44E-05	0.00E+00	-1	-6.97E-08	20
36	-577.5	-116.298	0.0484	8.55E-06	5.02E-05	-7.23E-04	0.00E+00	-1	-2.06E-06	20
37	-594	-104.708	0.2189	9.51E-03	5.18E-04	-4.56E-03	0.00E+00	-1	-1.30E-05	20
38	-610.5	-100.967	0.2208	1.04E-02	5.42E-04	-8.84E-03	0.00E+00	-1	-2.52E-05	20
39	-627	-100.149	0.2212	1.06E-02	5.47E-04	-1.02E-02	0.00E+00	-1	-2.92E-05	20
40	-643.5	-99.944	0.2213	1.07E-02	5.48E-04	-1.04E-02	0.00E+00	-1	-2.97E-05	20
41	-660	-99.316	0.2216	1.08E-02	5.52E-04	-9.49E-03	0.00E+00	-1	-2.71E-05	20
42	-676.5	-95.522	0.2234	1.17E-02	5.76E-04	-5.68E-03	0.00E+00	-1	-1.62E-05	20

43	-693	-86.557	0.0507	5.76E-05	1.14E-04	-1.38E-03	0.00E+00	-1	-3.94E-06	20
44	-709.5	-99.849	0.0494	2.04E-05	7.52E-05	-4.54E-05	0.00E+00	-1	-1.30E-07	20
45	-726	-100	0.0494	2.03E-05	7.50E-05	-2.04E-05	0.00E+00	-1	-5.82E-08	20
46	-742.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
47	-759	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
48	-775.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
49	-792	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
50	-808.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
51	-825	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100	0.0494	2.03E-05	7.50E-05	-2.05E-05	0.00E+00	-1	-5.87E-08	20
-88	1435.5	-100.681	0.0493	1.98E-05	7.40E-05	-7.60E-05	0.00E+00	-1	-2.17E-07	20
-89	1452	-100.274	0.0712	2.49E-04	1.83E-04	-1.89E-04	0.00E+00	-1	-5.38E-07	20
-90	1468.5	-100.006	0.0712	2.51E-04	1.84E-04	-2.49E-04	0.00E+00	-1	-7.10E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 8 0

Node	Depth	Head	Moisture	K	C	Flux	Sink	Kapp	a v/KsTop	Temp
	[L]	[L]	[-]	[L/T]	[1/L]	[L/T]	[1/T]	[-]	[-]	[C]

1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.201	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.212	0.1929	9.96E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
23	-363	-11.196	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.207	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
25	-396	-11.222	0.1927	9.90E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.157	0.1939	1.03E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.286	0.1914	9.54E+00	1.72E-02	-9.95E+00	0.00E+00	-1	-2.84E-02	20
28	-445.5	-11.121	0.1946	1.05E+01	1.77E-02	-1.01E+01	0.00E+00	-1	-2.88E-02	20
29	-462	-11.191	0.1932	9.99E+00	1.75E-02	-9.90E+00	0.00E+00	-1	-2.83E-02	20
30	-478.5	-11.415	0.189	8.79E+00	1.69E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
31	-495	-10.69	0.2029	1.31E+01	1.90E-02	-1.03E+01	0.00E+00	-1	-2.94E-02	20
32	-511.5	-13.249	0.1635	4.41E+00	1.30E-02	-7.26E+00	0.00E+00	-1	-2.07E-02	20
33	-528	-29.465	0.0783	3.54E-02	1.87E-03	-2.25E+00	0.00E+00	-1	-6.41E-03	20
34	-544.5	-95.529	0.0497	2.32E-05	8.13E-05	-4.43E-02	0.00E+00	-1	-1.26E-04	20
35	-561	-100.053	0.0494	2.02E-05	7.49E-05	-2.82E-05	0.00E+00	-1	-8.06E-08	20
36	-577.5	-118.739	0.0483	6.79E-06	4.65E-05	-5.65E-04	0.00E+00	-1	-1.61E-06	20
37	-594	-106.208	0.2182	9.15E-03	5.09E-04	-4.04E-03	0.00E+00	-1	-1.15E-05	20
38	-610.5	-101.577	0.2205	1.03E-02	5.38E-04	-8.30E-03	0.00E+00	-1	-2.37E-05	20
39	-627	-100.304	0.2211	1.06E-02	5.46E-04	-9.98E-03	0.00E+00	-1	-2.85E-05	20
40	-643.5	-99.894	0.2213	1.07E-02	5.49E-04	-1.02E-02	0.00E+00	-1	-2.92E-05	20
41	-660	-98.904	0.2218	1.09E-02	5.55E-04	-9.29E-03	0.00E+00	-1	-2.65E-05	20
42	-676.5	-94.405	0.2242	1.24E-02	5.87E-04	-5.37E-03	0.00E+00	-1	-1.53E-05	20
43	-693	-83.971	0.0509	6.75E-05	1.23E-04	-1.19E-03	0.00E+00	-1	-3.38E-06	20
44	-709.5	-99.732	0.0494	2.04E-05	7.54E-05	-5.33E-05	0.00E+00	-1	-1.52E-07	20
45	-726	-100	0.0494	2.03E-05	7.50E-05	-2.05E-05	0.00E+00	-1	-5.84E-08	20
46	-742.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
47	-759	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
48	-775.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
49	-792	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
50	-808.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
51	-825	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20

-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100.001	0.0494	2.03E-05	7.50E-05	-2.06E-05	0.00E+00	-1	-5.89E-08	20
-88	1435.5	-100.901	0.0493	1.96E-05	7.36E-05	-7.53E-05	0.00E+00	-1	-2.15E-07	20
-89	1452	-100.365	0.0711	2.48E-04	1.83E-04	-1.87E-04	0.00E+00	-1	-5.34E-07	20
-90	1468.5	-100.011	0.0712	2.51E-04	1.84E-04	-2.48E-04	0.00E+00	-1	-7.07E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 10 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

23	-363	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.2	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.191	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.228	0.1925	9.86E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.167	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.263	0.1919	9.66E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.113	0.1948	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.346	0.1903	9.18E+00	1.70E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.986	0.1972	1.13E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.532	0.1867	8.09E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
34	-544.5	-10.7	0.2027	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.216	0.164	4.45E+00	1.30E-02	-9.93E+00	0.00E+00	-1	-2.84E-02	20
36	-577.5	-9.3	0.2297	2.14E+01	2.30E-02	-9.85E+00	0.00E+00	-1	-2.81E-02	20
37	-594	-3.262	0.3822	9.70E+00	3.33E-03	-9.83E+00	0.00E+00	-1	-2.81E-02	20
38	-610.5	-3.103	0.3828	1.01E+01	3.26E-03	-9.91E+00	0.00E+00	-1	-2.83E-02	20
39	-627	-3.373	0.3818	9.59E+00	3.35E-03	-9.65E+00	0.00E+00	-1	-2.76E-02	20
40	-643.5	-14.079	0.3415	1.67E+00	3.55E-03	-6.49E+00	0.00E+00	-1	-1.85E-02	20
41	-660	-69.126	0.2426	3.30E-02	8.90E-04	-1.88E+00	0.00E+00	-1	-5.36E-03	20
42	-676.5	-92.969	0.2251	1.32E-02	6.02E-04	-2.93E-02	0.00E+00	-1	-8.37E-05	20
43	-693	-81.773	0.0512	7.59E-05	1.31E-04	-1.12E-03	0.00E+00	-1	-3.19E-06	20
44	-709.5	-99.587	0.0494	2.06E-05	7.56E-05	-6.06E-05	0.00E+00	-1	-1.73E-07	20
45	-726	-100	0.0494	2.03E-05	7.50E-05	-2.06E-05	0.00E+00	-1	-5.88E-08	20
46	-742.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
47	-759	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
48	-775.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
49	-792	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
50	-808.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
51	-825	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100.002	0.0494	2.03E-05	7.50E-05	-2.07E-05	0.00E+00	-1	-5.92E-08	20
-88	1435.5	-101.118	0.0493	1.95E-05	7.33E-05	-7.47E-05	0.00E+00	-1	-2.13E-07	20

-89	1452	-100.456	0.0711	2.48E-04	1.83E-04	-1.85E-04	0.00E+00	-1	-5.29E-07	20
-90	1468.5	-100.016	0.0712	2.51E-04	1.84E-04	-2.47E-04	0.00E+00	-1	-7.05E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 12 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.228	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.132	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.093	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.276	0.3822	9.70E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.701	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.053	0.372	5.60E+00	3.85E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.277	0.1916	9.60E+00	1.73E-02	-9.93E+00	0.00E+00	-1	-2.83E-02	20
44	-709.5	-11.157	0.1939	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.87E-02	20
45	-726	-11.159	0.1939	1.02E+01	1.76E-02	-9.87E+00	0.00E+00	-1	-2.82E-02	20

46	-742.5	-11.493	0.1875	8.40E+00	1.67E-02	-9.87E+00	0.00E+00	-1	-2.82E-02	20
47	-759	-10.666	0.2033	1.31E+01	1.90E-02	-1.03E+01	0.00E+00	-1	-2.94E-02	20
48	-775.5	-12.56	0.1722	5.45E+00	1.43E-02	-7.72E+00	0.00E+00	-1	-2.21E-02	20
49	-792	-26.352	0.0859	8.34E-02	2.61E-03	-2.65E+00	0.00E+00	-1	-7.55E-03	20
50	-808.5	-92.315	0.05	3.52E-05	9.28E-05	-1.04E-01	0.00E+00	-1	-2.98E-04	20
51	-825	-99.999	0.0494	2.03E-05	7.50E-05	-3.05E-05	0.00E+00	-1	-8.69E-08	20
52	-841.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
53	-858	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
54	-874.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
55	-891	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
56	-907.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
57	-924	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
58	-940.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
59	-957	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100.005	0.0494	2.03E-05	7.50E-05	-2.08E-05	0.00E+00	-1	-5.94E-08	20
-88	1435.5	-101.332	0.0493	1.93E-05	7.30E-05	-7.40E-05	0.00E+00	-1	-2.11E-07	20
-89	1452	-100.546	0.0711	2.47E-04	1.83E-04	-1.84E-04	0.00E+00	-1	-5.25E-07	20
-90	1468.5	-100.023	0.0712	2.51E-04	1.84E-04	-2.46E-04	0.00E+00	-1	-7.02E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 14 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
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16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
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23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
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29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.227	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.132	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.094	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.28	0.3822	9.69E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.699	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.279	0.3712	5.40E+00	3.87E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
47	-759	-11.21	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.191	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.226	0.1926	9.88E+00	1.74E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
50	-808.5	-11.183	0.1934	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.202	0.1931	1.00E+01	1.75E-02	-9.97E+00	0.00E+00	-1	-2.85E-02	20
52	-841.5	-11.274	0.1917	9.61E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
53	-858	-11.033	0.1963	1.10E+01	1.79E-02	-1.01E+01	0.00E+00	-1	-2.87E-02	20
54	-874.5	-11.445	0.1884	8.54E+00	1.67E-02	-9.81E+00	0.00E+00	-1	-2.80E-02	20
55	-891	-11.012	0.1968	1.12E+01	1.81E-02	-1.04E+01	0.00E+00	-1	-2.96E-02	20
56	-907.5	-11.074	0.1955	1.09E+01	1.79E-02	-9.63E+00	0.00E+00	-1	-2.75E-02	20
57	-924	-17.391	0.124	9.82E-01	7.18E-03	-4.92E+00	0.00E+00	-1	-1.40E-02	20
58	-940.5	-56.203	0.0566	7.79E-04	3.49E-04	-8.24E-01	0.00E+00	-1	-2.35E-03	20
59	-957	-99.932	0.0494	2.03E-05	7.51E-05	-7.39E-04	0.00E+00	-1	-2.11E-06	20
60	-973.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.80E-08	20
61	-990	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-62	1006.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-63	1023	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-64	1039.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-65	1056	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-66	1072.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-67	1089	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20

-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100.008	0.0494	2.03E-05	7.50E-05	-2.09E-05	0.00E+00	-1	-5.97E-08	20
-88	1435.5	-101.543	0.0493	1.91E-05	7.26E-05	-7.34E-05	0.00E+00	-1	-2.10E-07	20
-89	1452	-100.637	0.0711	2.46E-04	1.82E-04	-1.82E-04	0.00E+00	-1	-5.21E-07	20
-90	1468.5	-100.031	0.0712	2.51E-04	1.84E-04	-2.45E-04	0.00E+00	-1	-7.00E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 16 0

Node	Depth	Head	Moisture	K	C	Flux	Sink	Kapp	a v/KsTop	Temp
	[L]	[L]	[-]	[L/T]	[1/L]	[L/T]	[1/T]	[-]	[-]	[C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.227	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.132	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.095	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.28	0.3822	9.69E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.699	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.276	0.3712	5.40E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.2	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.212	0.1929	9.96E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
56	-907.5	-11.197	0.1931	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.207	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
58	-940.5	-11.221	0.1927	9.91E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.157	0.1939	1.03E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.289	0.1914	9.52E+00	1.72E-02	-9.95E+00	0.00E+00	-1	-2.84E-02	20
61	-990	-11.115	0.1947	1.05E+01	1.77E-02	-1.01E+01	0.00E+00	-1	-2.89E-02	20
-62	1006.5	-11.196	0.1931	9.97E+00	1.74E-02	-9.89E+00	0.00E+00	-1	-2.82E-02	20
-63	1023	-11.421	0.1889	8.75E+00	1.68E-02	-9.97E+00	0.00E+00	-1	-2.85E-02	20
-64	1039.5	-10.686	0.203	1.31E+01	1.90E-02	-1.03E+01	0.00E+00	-1	-2.94E-02	20
-65	1056	-13.283	0.1631	4.35E+00	1.29E-02	-7.25E+00	0.00E+00	-1	-2.07E-02	20
-66	1072.5	-29.714	0.0777	3.09E-02	1.80E-03	-2.23E+00	0.00E+00	-1	-6.36E-03	20
-67	1089	-96.09	0.0496	2.30E-05	8.07E-05	-3.88E-02	0.00E+00	-1	-1.11E-04	20
-68	1105.5	-100	0.0494	2.03E-05	7.50E-05	-2.35E-05	0.00E+00	-1	-6.71E-08	20
-69	1122	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-70	1138.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-71	1155	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-72	1171.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-73	1188	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-74	1204.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-75	1221	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-76	1237.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100.012	0.0494	2.02E-05	7.50E-05	-2.10E-05	0.00E+00	-1	-5.99E-08	20
-88	1435.5	-101.75	0.0493	1.90E-05	7.23E-05	-7.28E-05	0.00E+00	-1	-2.08E-07	20
-89	1452	-100.727	0.0711	2.45E-04	1.82E-04	-1.81E-04	0.00E+00	-1	-5.17E-07	20
-90	1468.5	-100.041	0.0712	2.51E-04	1.84E-04	-2.44E-04	0.00E+00	-1	-6.97E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.16E-07	20

-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 18 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.227	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.132	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.095	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.28	0.3822	9.69E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.699	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.276	0.3712	5.40E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
-64	1039.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.23	0.1925	9.86E+00	1.74E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
-67	1089	-11.172	0.1936	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.87E-02	20
-68	1105.5	-11.216	0.1928	9.91E+00	1.74E-02	-9.95E+00	0.00E+00	-1	-2.84E-02	20
-69	1122	-11.249	0.1921	9.69E+00	1.73E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
-70	1138.5	-11.059	0.1958	1.09E+01	1.79E-02	-1.00E+01	0.00E+00	-1	-2.87E-02	20
-71	1155	-11.491	0.1876	8.44E+00	1.67E-02	-9.88E+00	0.00E+00	-1	-2.82E-02	20
-72	1171.5	-10.859	0.1996	1.20E+01	1.85E-02	-1.04E+01	0.00E+00	-1	-2.97E-02	20
-73	1188	-11.307	0.191	9.35E+00	1.71E-02	-9.09E+00	0.00E+00	-1	-2.60E-02	20
-74	1204.5	-19.027	0.1127	4.79E-01	5.63E-03	-4.08E+00	0.00E+00	-1	-1.16E-02	20
-75	1221	-67.888	0.0535	2.59E-04	2.18E-04	-4.75E-01	0.00E+00	-1	-1.36E-03	20
-76	1237.5	-99.98	0.0494	2.03E-05	7.50E-05	-2.16E-04	0.00E+00	-1	-6.17E-07	20
-77	1254	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.79E-08	20
-78	1270.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-79	1287	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-80	1303.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-81	1320	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-82	1336.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-83	1353	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-84	1369.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.78E-08	20
-87	1419	-100.015	0.0494	2.02E-05	7.50E-05	-2.11E-05	0.00E+00	-1	-6.01E-08	20
-88	1435.5	-101.954	0.0493	1.89E-05	7.20E-05	-7.23E-05	0.00E+00	-1	-2.06E-07	20
-89	1452	-100.818	0.0711	2.45E-04	1.82E-04	-1.79E-04	0.00E+00	-1	-5.12E-07	20
-90	1468.5	-100.052	0.0712	2.51E-04	1.84E-04	-2.43E-04	0.00E+00	-1	-6.95E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.16E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 20 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.227	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.132	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.095	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.28	0.3822	9.69E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.699	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.276	0.3712	5.40E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.201	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

-72	1171.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
-73	1188	-11.193	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.212	0.1928	9.96E+00	1.74E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
-75	1221	-11.215	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.158	0.1939	1.03E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.299	0.1912	9.45E+00	1.72E-02	-9.94E+00	0.00E+00	-1	-2.84E-02	20
-78	1270.5	-11.089	0.1952	1.07E+01	1.78E-02	-1.01E+01	0.00E+00	-1	-2.88E-02	20
-79	1287	-11.274	0.1917	9.61E+00	1.73E-02	-9.87E+00	0.00E+00	-1	-2.82E-02	20
-80	1303.5	-11.323	0.1907	9.31E+00	1.71E-02	-1.01E+01	0.00E+00	-1	-2.89E-02	20
-81	1320	-10.659	0.2035	1.31E+01	1.90E-02	-1.03E+01	0.00E+00	-1	-2.93E-02	20
-82	1336.5	-14.058	0.1534	3.10E+00	1.13E-02	-6.71E+00	0.00E+00	-1	-1.91E-02	20
-83	1353	-36.081	0.0692	1.23E-02	1.15E-03	-1.83E+00	0.00E+00	-1	-5.23E-03	20
-84	1369.5	-98.872	0.0494	2.11E-05	7.67E-05	-1.48E-02	0.00E+00	-1	-4.22E-05	20
-85	1386	-100	0.0494	2.03E-05	7.50E-05	-2.12E-05	0.00E+00	-1	-6.04E-08	20
-86	1402.5	-100	0.0494	2.03E-05	7.50E-05	-2.03E-05	0.00E+00	-1	-5.79E-08	20
-87	1419	-100.018	0.0494	2.02E-05	7.50E-05	-2.11E-05	0.00E+00	-1	-6.03E-08	20
-88	1435.5	-102.156	0.0493	1.87E-05	7.17E-05	-7.17E-05	0.00E+00	-1	-2.05E-07	20
-89	1452	-100.907	0.0711	2.44E-04	1.81E-04	-1.78E-04	0.00E+00	-1	-5.08E-07	20
-90	1468.5	-100.063	0.0712	2.51E-04	1.84E-04	-2.42E-04	0.00E+00	-1	-6.92E-07	20
-91	1485	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.16E-07	20
-92	1501.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-93	1518	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 22 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.227	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.132	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.095	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.28	0.3822	9.69E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.699	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.276	0.3712	5.40E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.212	0.1929	9.96E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
-81	1320	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.203	0.193	1.00E+01	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
-83	1353	-11.224	0.1926	9.89E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.16	0.1938	1.03E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.273	0.1917	9.61E+00	1.73E-02	-9.96E+00	0.00E+00	-1	-2.84E-02	20
-86	1402.5	-11.127	0.1945	1.04E+01	1.77E-02	-1.01E+01	0.00E+00	-1	-2.87E-02	20
-87	1419	-11.226	0.1926	9.88E+00	1.74E-02	-9.95E+00	0.00E+00	-1	-2.84E-02	20
-88	1435.5	-11.334	0.1906	9.37E+00	1.71E-02	-1.01E+01	0.00E+00	-1	-2.88E-02	20
-89	1452	-10.831	0.25	1.22E+01	1.51E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
-90	1468.5	-14.739	0.2009	3.20E+00	9.96E-03	-6.78E+00	0.00E+00	-1	-1.94E-02	20
-91	1485	-39.59	0.103	2.97E-02	1.46E-03	-2.06E+00	0.00E+00	-1	-5.88E-03	20
-92	1501.5	-98.362	0.0715	2.65E-04	1.90E-04	-3.43E-02	0.00E+00	-1	-9.78E-05	20
-93	1518	-99.999	0.0712	2.51E-04	1.84E-04	-2.68E-04	0.00E+00	-1	-7.64E-07	20
-94	1534.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

-95	1551	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-96	1567.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-97	1584	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-98	1600.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-99	1617	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-100	1633.5	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 24 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1868	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.225	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.131	0.3827	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.145	0.3826	9.97E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.85E-02	20
39	-627	-3.098	0.3828	1.01E+01	3.27E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
40	-643.5	-3.286	0.3821	9.68E+00	3.33E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
41	-660	-2.703	0.384	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.85E-02	20
42	-676.5	-6.276	0.3712	5.40E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.2	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.212	0.1929	9.96E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.194	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.223	0.1926	9.89E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
-90	1468.5	-11.331	0.2423	9.96E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.295	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.371	0.2417	9.78E+00	1.42E-02	-9.98E+00	0.00E+00	-1	-2.85E-02	20
-93	1518	-11.249	0.2436	1.03E+01	1.44E-02	-1.01E+01	0.00E+00	-1	-2.87E-02	20
-94	1534.5	-11.332	0.2423	9.90E+00	1.43E-02	-9.91E+00	0.00E+00	-1	-2.83E-02	20
-95	1551	-11.496	0.2398	9.25E+00	1.41E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-10.813	0.2503	1.23E+01	1.51E-02	-1.01E+01	0.00E+00	-1	-2.89E-02	20
-97	1584	-14.192	0.2073	4.14E+00	1.07E-02	-7.37E+00	0.00E+00	-1	-2.10E-02	20
-98	1600.5	-35.541	0.1096	5.44E-02	1.86E-03	-2.47E+00	0.00E+00	-1	-7.05E-03	20
-99	1617	-96.93	0.0717	2.76E-04	1.94E-04	-6.47E-02	0.00E+00	-1	-1.85E-04	20
-100	1633.5	-99.999	0.0712	2.51E-04	1.84E-04	-2.82E-04	0.00E+00	-1	-8.05E-07	20
-101	1650	-100	0.0712	2.51E-04	1.84E-04	-2.51E-04	0.00E+00	-1	-7.17E-07	20

end

Time: 26 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.705	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.227	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
37	-594	-3.138	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.151	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.084	0.3828	1.01E+01	3.26E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.261	0.3822	9.69E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.85E-02	20
41	-660	-2.697	0.384	1.10E+01	3.13E-03	-9.97E+00	0.00E+00	-1	-2.85E-02	20
42	-676.5	-6.291	0.3711	5.39E+00	3.87E-03	-9.98E+00	0.00E+00	-1	-2.85E-02	20
43	-693	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.224	0.1926	9.89E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.322	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.319	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.324	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.317	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.325	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.316	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.317	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.325	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.317	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.325	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 28 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.231	0.1638	4.43E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.274	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.125	0.3827	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.135	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.093	0.3828	1.01E+01	3.27E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.293	0.3821	9.66E+00	3.33E-03	-9.98E+00	0.00E+00	-1	-2.85E-02	20
41	-660	-2.714	0.384	1.10E+01	3.12E-03	-9.98E+00	0.00E+00	-1	-2.85E-02	20
42	-676.5	-6.283	0.3711	5.40E+00	3.87E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
43	-693	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 30 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.225	0.1639	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
36	-577.5	-9.275	0.2304	2.18E+01	2.31E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
37	-594	-3.133	0.3826	9.98E+00	3.28E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
38	-610.5	-3.157	0.3826	9.96E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
39	-627	-3.104	0.3827	1.01E+01	3.26E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
40	-643.5	-3.271	0.3822	9.75E+00	3.32E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.686	0.3841	1.10E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.277	0.3712	5.38E+00	3.87E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
43	-693	-11.205	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
44	-709.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 32 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1918	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1868	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.225	0.1639	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.277	0.2303	2.18E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.137	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.143	0.3826	9.98E+00	3.29E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
39	-627	-3.089	0.3828	1.01E+01	3.27E-03	-9.97E+00	0.00E+00	-1	-2.85E-02	20
40	-643.5	-3.282	0.3822	9.65E+00	3.34E-03	-9.98E+00	0.00E+00	-1	-2.85E-02	20
41	-660	-2.701	0.384	1.11E+01	3.12E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.263	0.3712	5.43E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.206	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
45	-726	-11.206	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 34 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1868	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

35	-561	-13.226	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.131	0.3826	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.85E-02	20
38	-610.5	-3.155	0.3826	9.95E+00	3.29E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
39	-627	-3.108	0.3827	1.01E+01	3.27E-03	-9.98E+00	0.00E+00	-1	-2.85E-02	20
40	-643.5	-3.281	0.3822	9.70E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.685	0.3841	1.11E+01	3.11E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
42	-676.5	-6.258	0.3712	5.41E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
43	-693	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.206	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
45	-726	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 36 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.19E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.524	0.1869	8.14E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.234	0.1637	4.43E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
36	-577.5	-9.275	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.128	0.3827	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.125	0.3827	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.87E-02	20
39	-627	-3.062	0.3829	1.02E+01	3.26E-03	-1.01E+01	0.00E+00	-1	-2.87E-02	20
40	-643.5	-3.262	0.3822	9.72E+00	3.33E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
41	-660	-2.712	0.384	1.10E+01	3.12E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
42	-676.5	-6.31	0.371	5.37E+00	3.87E-03	-9.97E+00	0.00E+00	-1	-2.85E-02	20
43	-693	-11.207	0.1929	9.99E+00	1.75E-02	-9.98E+00	0.00E+00	-1	-2.85E-02	20
44	-709.5	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
45	-726	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 38 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.20E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.525	0.1869	8.14E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.705	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.221	0.1639	4.44E+00	1.30E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
36	-577.5	-9.276	0.2304	2.18E+01	2.31E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
37	-594	-3.156	0.3826	9.98E+00	3.29E-03	-1.00E+01	0.00E+00	-1	-2.86E-02	20
38	-610.5	-3.202	0.3824	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.87E-02	20
39	-627	-3.111	0.3827	1.02E+01	3.25E-03	-1.01E+01	0.00E+00	-1	-2.87E-02	20
40	-643.5	-3.214	0.3823	9.78E+00	3.32E-03	-1.00E+01	0.00E+00	-1	-2.87E-02	20
41	-660	-2.627	0.3842	1.10E+01	3.13E-03	-1.00E+01	0.00E+00	-1	-2.85E-02	20
42	-676.5	-6.266	0.3712	5.35E+00	3.87E-03	-9.97E+00	0.00E+00	-1	-2.85E-02	20
43	-693	-11.215	0.1928	9.97E+00	1.74E-02	-9.97E+00	0.00E+00	-1	-2.85E-02	20
44	-709.5	-11.21	0.1929	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
45	-726	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
46	-742.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end

Time: 100 0

Node	Depth [L]	Head [L]	Moisture [-]	K [L/T]	C [1/L]	Flux [L/T]	Sink [1/T]	Kapp [-]	a v/KsTop [-]	Temp [C]
1	0	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
2	-16.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
3	-33	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
4	-49.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
5	-66	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
6	-82.5	-11.32	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
7	-99	-11.322	0.2424	9.99E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
8	-115.5	-11.318	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
9	-132	-11.326	0.2424	9.98E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
10	-148.5	-11.313	0.2426	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
11	-165	-11.335	0.2422	9.94E+00	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
12	-181.5	-11.296	0.2429	1.01E+01	1.44E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
13	-198	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
14	-214.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
15	-231	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
16	-247.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
17	-264	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
18	-280.5	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
19	-297	-11.206	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
20	-313.5	-11.203	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
21	-330	-11.207	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
22	-346.5	-11.202	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
23	-363	-11.209	0.1929	9.97E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
24	-379.5	-11.197	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
25	-396	-11.216	0.1928	9.94E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
26	-412.5	-11.188	0.1933	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
27	-429	-11.23	0.1925	9.85E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
28	-445.5	-11.166	0.1937	1.02E+01	1.76E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
29	-462	-11.264	0.1919	9.65E+00	1.73E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
30	-478.5	-11.114	0.1947	1.05E+01	1.77E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
31	-495	-11.343	0.1903	9.20E+00	1.71E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
32	-511.5	-10.992	0.1971	1.12E+01	1.81E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
33	-528	-11.524	0.1869	8.13E+00	1.65E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
34	-544.5	-10.706	0.2026	1.29E+01	1.89E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
35	-561	-13.23	0.1638	4.44E+00	1.30E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
36	-577.5	-9.273	0.2304	2.19E+01	2.31E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
37	-594	-3.112	0.3827	1.00E+01	3.28E-03	-1.00E+01	0.00E+00	-1	-2.85E-02	20

38	-610.5	-3.123	0.3827	9.93E+00	3.29E-03	-9.97E+00	0.00E+00	-1	-2.85E-02	20
39	-627	-3.108	0.3827	9.99E+00	3.28E-03	-9.96E+00	0.00E+00	-1	-2.84E-02	20
40	-643.5	-3.322	0.382	9.68E+00	3.33E-03	-9.99E+00	0.00E+00	-1	-2.85E-02	20
41	-660	-2.716	0.384	1.11E+01	3.10E-03	-1.00E+01	0.00E+00	-1	-2.87E-02	20
42	-676.5	-6.253	0.3712	5.43E+00	3.86E-03	-1.00E+01	0.00E+00	-1	-2.87E-02	20
43	-693	-11.201	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
44	-709.5	-11.205	0.193	9.98E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
45	-726	-11.206	0.193	9.99E+00	1.75E-02	-9.99E+00	0.00E+00	-1	-2.85E-02	20
46	-742.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.85E-02	20
47	-759	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
48	-775.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
49	-792	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
50	-808.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
51	-825	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
52	-841.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
53	-858	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
54	-874.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
55	-891	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
56	-907.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
57	-924	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
58	-940.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
59	-957	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
60	-973.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
61	-990	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-62	1006.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-63	1023	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-64	1039.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-65	1056	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-66	1072.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-67	1089	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-68	1105.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-69	1122	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-70	1138.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-71	1155	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-72	1171.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-73	1188	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-74	1204.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-75	1221	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-76	1237.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-77	1254	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-78	1270.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-79	1287	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-80	1303.5	-11.205	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-81	1320	-11.204	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-82	1336.5	-11.206	0.193	9.99E+00	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-83	1353	-11.202	0.193	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-84	1369.5	-11.208	0.1929	9.98E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-85	1386	-11.199	0.1931	1.00E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-86	1402.5	-11.213	0.1928	9.95E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-87	1419	-11.192	0.1932	1.01E+01	1.75E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-88	1435.5	-11.225	0.1926	9.88E+00	1.74E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-89	1452	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-90	1468.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-91	1485	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-92	1501.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-93	1518	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-94	1534.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-95	1551	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-96	1567.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-97	1584	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-98	1600.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-99	1617	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-100	1633.5	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20
-101	1650	-11.321	0.2425	1.00E+01	1.43E-02	-1.00E+01	0.00E+00	-1	-2.86E-02	20

end