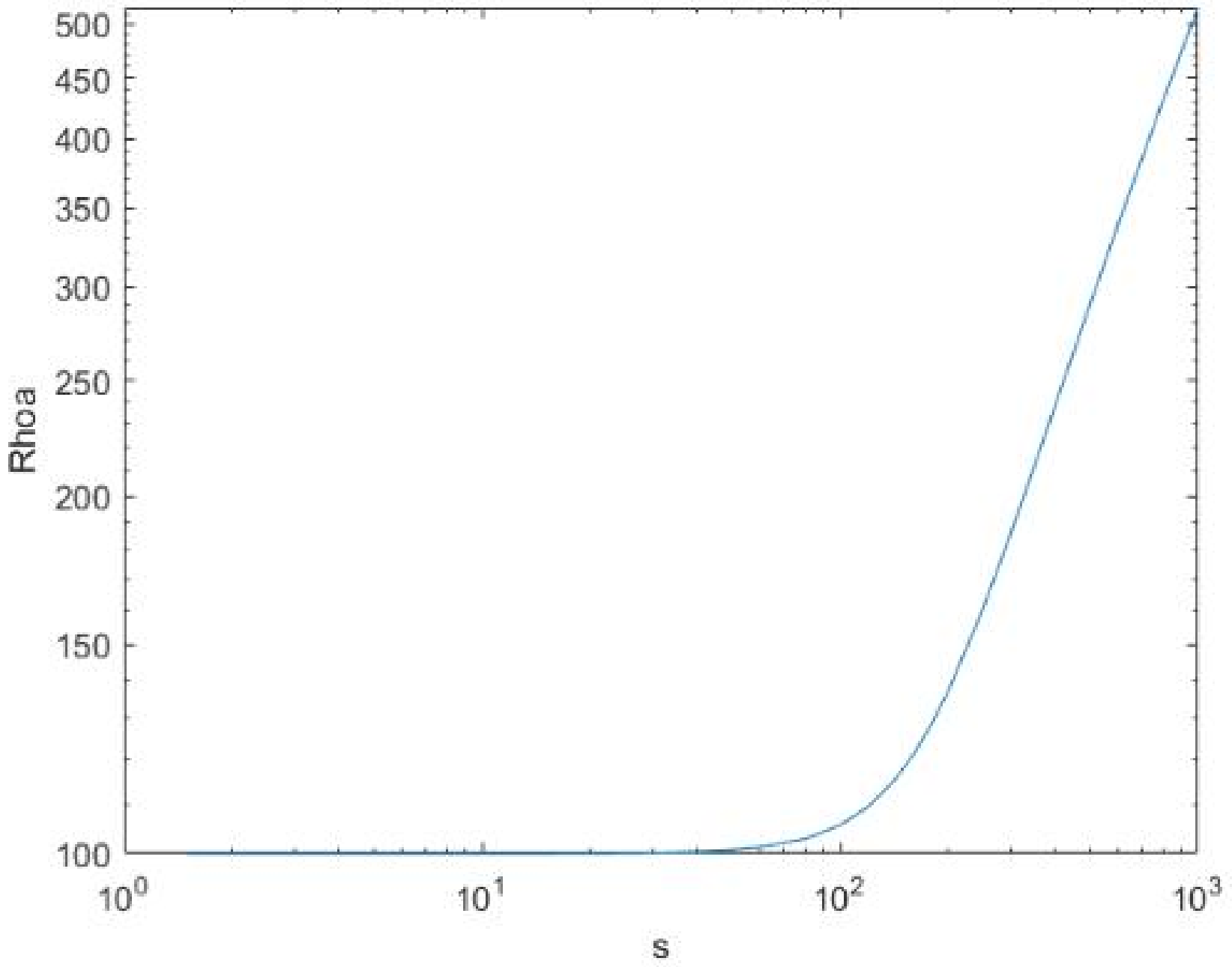
NAME- UTKARSH JAISWAL

Roll No: 18EX20030

```
clear all
close all
clc
fc=[0.00097112 -0.00102152 0.00906965 0.01404316 0.09012 0.30171582 0.99627084 1.3690832 -2.99681171 1.65463068 -0.59399277 0.22329813 -0.10119309 0.05186135 -0.02748647 0.01384932 -0.00599074 0.00190463 -0.0003216];
abs=[-0.980685 -0.771995 -0.563305 -0.354615 -0.145925 0.062765 0.271455 0.480145 0.688835 0.897525 1.106215 1.314905 1.523595 1.732285 1.940975 2.149665 2.358355 2.567045 2.775735];
s=[1.5 2 3 4 6 8 10 15 20 25 30 40 50 60 80 100 120 140 160 180 200 250 300 350 400 500 600 800 1000];
n = input('Enter the number of layer');
ns=length(s);
r=[ ];
h=[ ];
for i=1:n;
 r(i)=input('Enter resistivity from top to bottom');
end
for i=1:n-1;
 h(i)=input('Enter thickness from top to bottom');
end
rt=[];
rhoa=[];
m=length(fc);
for i=1:ns;
for j=1:m;
 lam=10^(abs(j)-log10(s(i)));
 T=r(n);
 for nu=n-1:-1:1;
 T=(T+r(nu)*tanh(lam*h(nu)))/(1+(T*tanh(lam*h(nu)))/r(nu));
 end
 rt(j)=T;
end
 rho=0;
for k=1:m;
 rho=rho+fc(k)*rt(k);
end
 rhoa(i)=rho;
end
loglog(s,rhoa)
xlabel('s')
ylabel('Rhoa')
```

Command Window

```
Enter the number of layer3
Enter resistivity from top to bottom100
Enter resistivity from top to bottom20
Enter resistivity from top to bottom2000
Enter thickness from top to bottom100
Enter thickness from top to bottom10
>>
```


500
450
400
350
300
250
200
150
100
Rhoa
10^0
10^1
10^2
10^3
s

The alternate geophysical methods proposed to get the information about the presence of the intermediate layer are:

1. From the refraction survey we know the number of slopes in t vs x curve will signify the number of layers.

2. We observe the direct arrivals, and since we know the number of lines we get on the t vs x graph is the number of layers