

# Appendix I. Slug test analyses

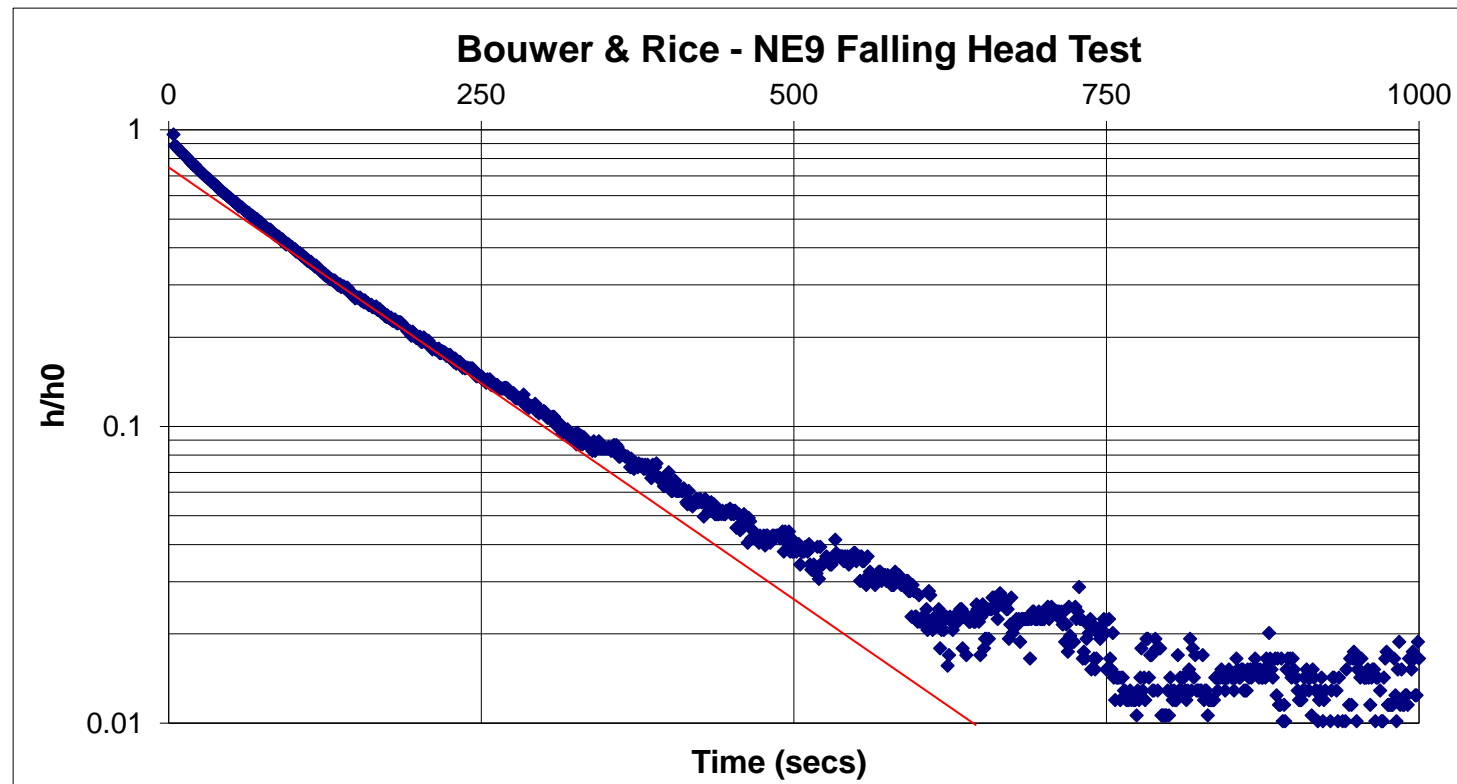
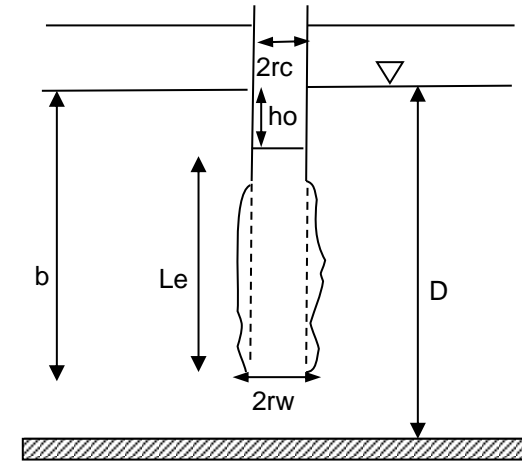
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	84.15
Radius of well $r_w$ (m)	0.07
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	84.15
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.025

$L_e/r_w =$	1202.128571
A (Constant) =	9.360641235
B (Constant) =	3.005581406
C (Constant) =	12.58995227
$\ln(R_e/r_w) =$	5.6

$K =$  **6.03E-08** m/sec      **0.0052** m/d

Static water level (mbtc)	18.851
Slug volume (l)	1.23
Initial displacement, $h_0$ (m)	0.550
Slope ( $\log_{10}/\text{sec}$ )	0.00289



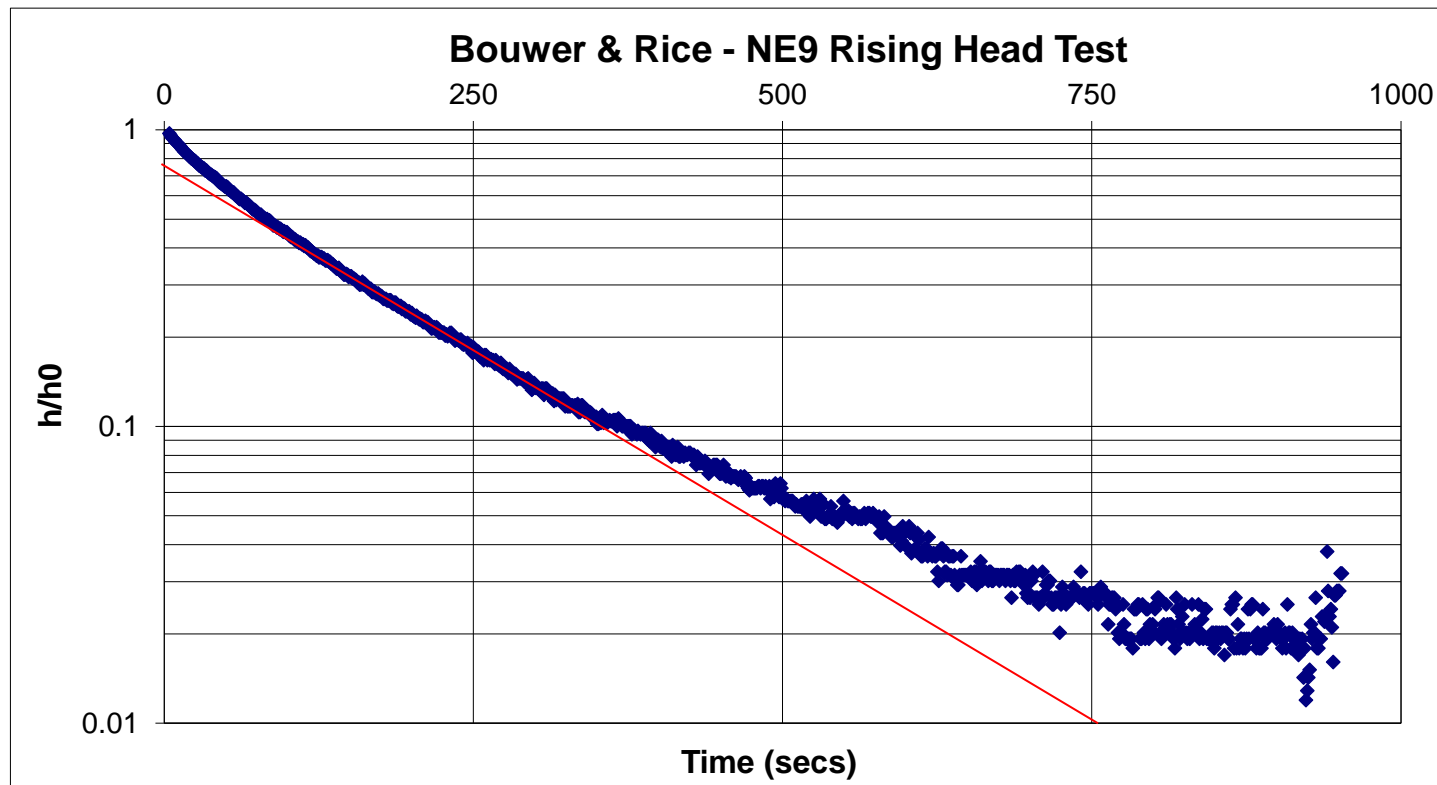
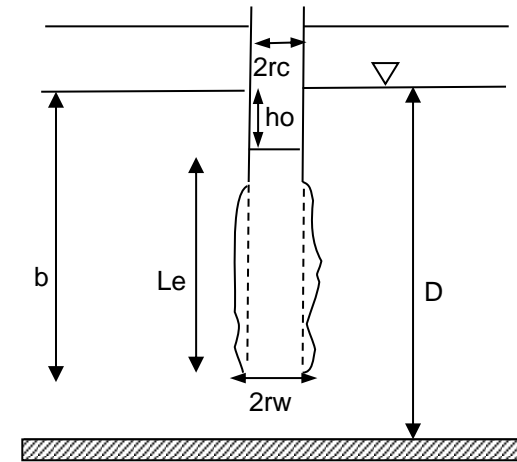
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	84.15
Radius of well $r_w$ (m)	0.07
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	84.15
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.025

$L_e/r_w =$	1202.128571
$A$ (Constant) =	9.360641235
$B$ (Constant) =	3.005581406
$C$ (Constant) =	12.58995227
$\ln(R_e/r_w) =$	5.6

$K =$  **5.48E-08** m/sec      **0.0047** m/d

Static water level (mbtc)	18.851
Slug volume (l)	1.23
Initial displacement, $h_0$ (m)	0.550
Slope ( $\log_{10}/\text{sec}$ )	0.00262



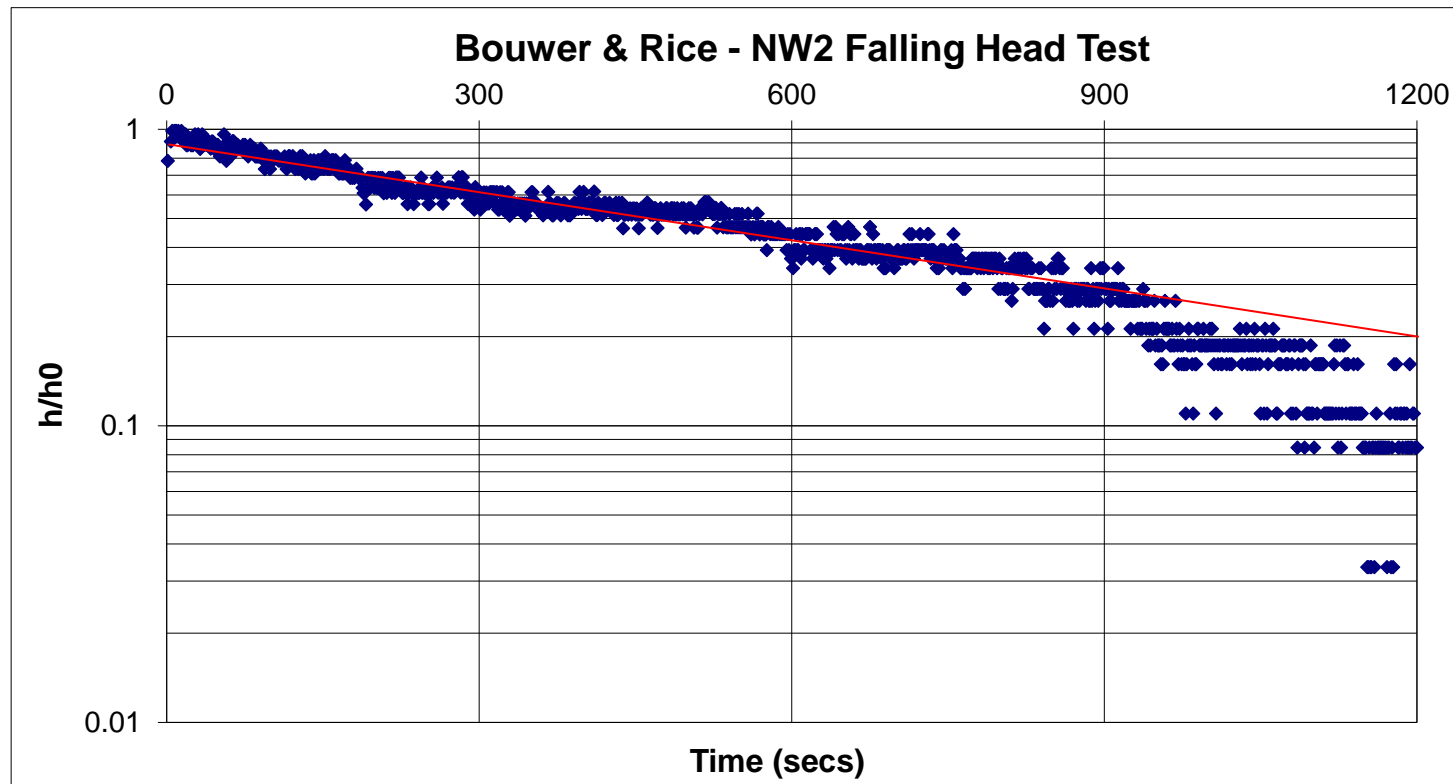
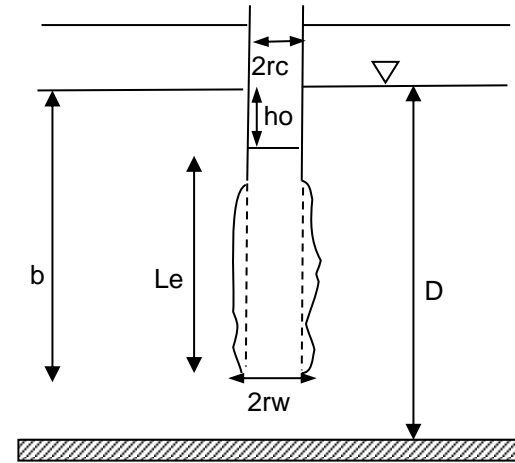
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	65.74
Radius of well $r_w$ (m)	0.075
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	65.74
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.025

$L_e/r_w =$	876.5333333
A (Constant) =	9.020406255
B (Constant) =	2.759137029
C (Constant) =	12.10433902
$\ln(R_e/r_w) =$	5.2

$K =$  **1.35E-08** m/sec      **0.0012** m/d

Static water level (mbtc)	14.26
Slug volume (l)	1.13
Initial Drawdown, $h_0$ (m)	0.075
Slope ( $\log_{10}/\text{sec}$ )	0.00054

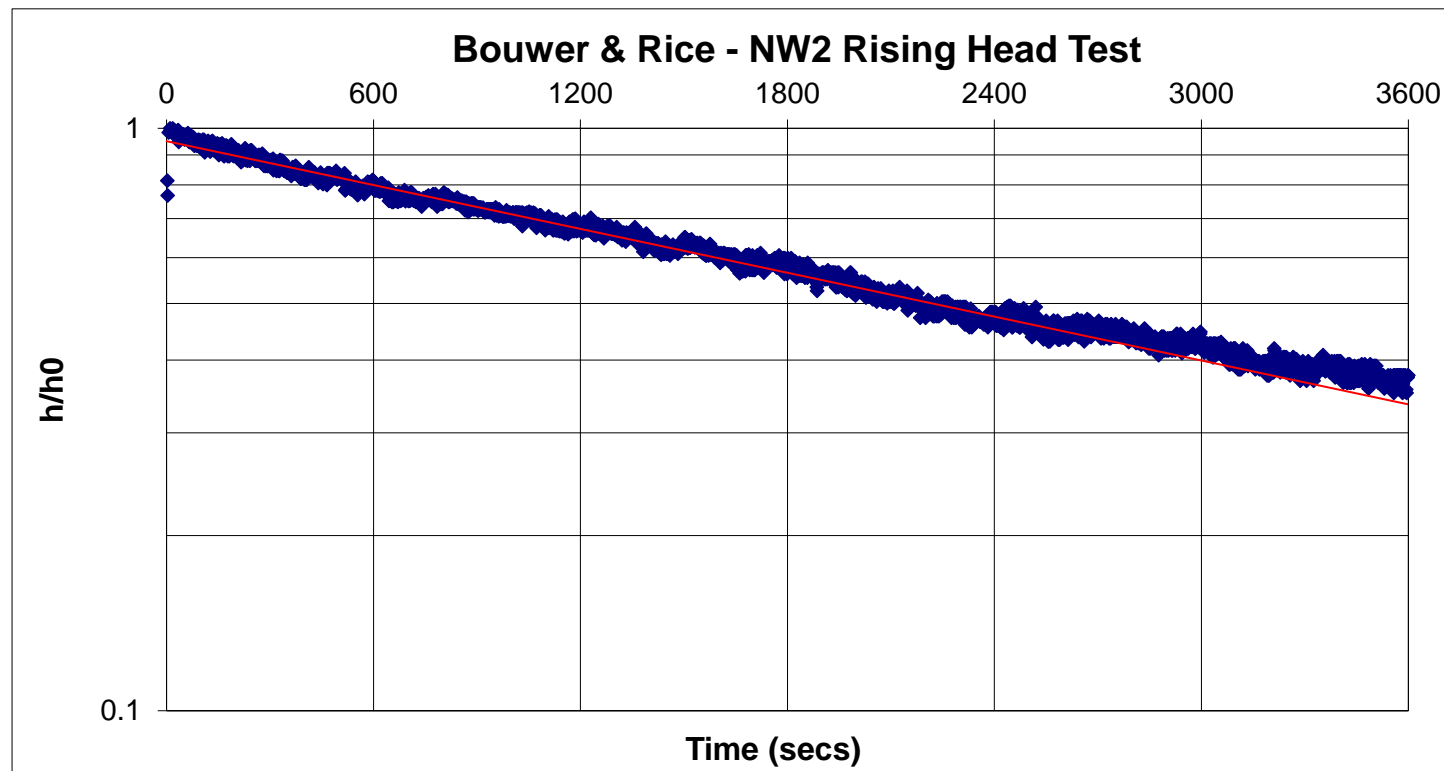
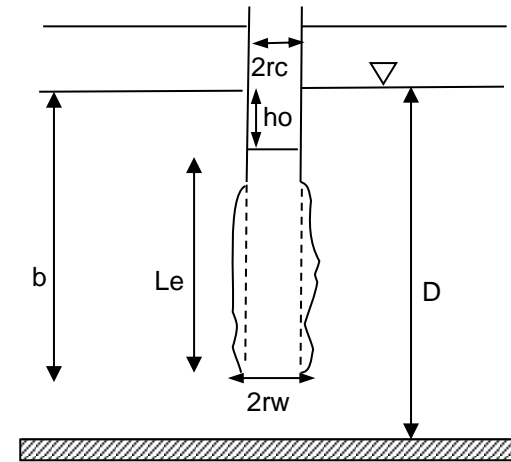


# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	62.24	$L_e/r_w =$	829.8
Radius of well $r_w$ (m)	0.075	A (Constant) =	8.935121545
Saturated thickness D (m)	100.00	B (Constant) =	2.702930196
Water column height b (m)	62.24	C (Constant) =	11.96869423
Radius of casing $r_c$ (m)	0.025	$\ln(R_e/r_w) =$	5.2
Filter pack porosity (-)	0.3		
Effective casing radius	0.025		

K = **3.18E-09** m/sec      **0.00027** m/d

Static water level (mbtc)	17.765
Slug volume (l)	1.23
Initial displacement, $h_0$ (m)	0.160
Slope ( $\log_{10}/\text{sec}$ )	0.00012



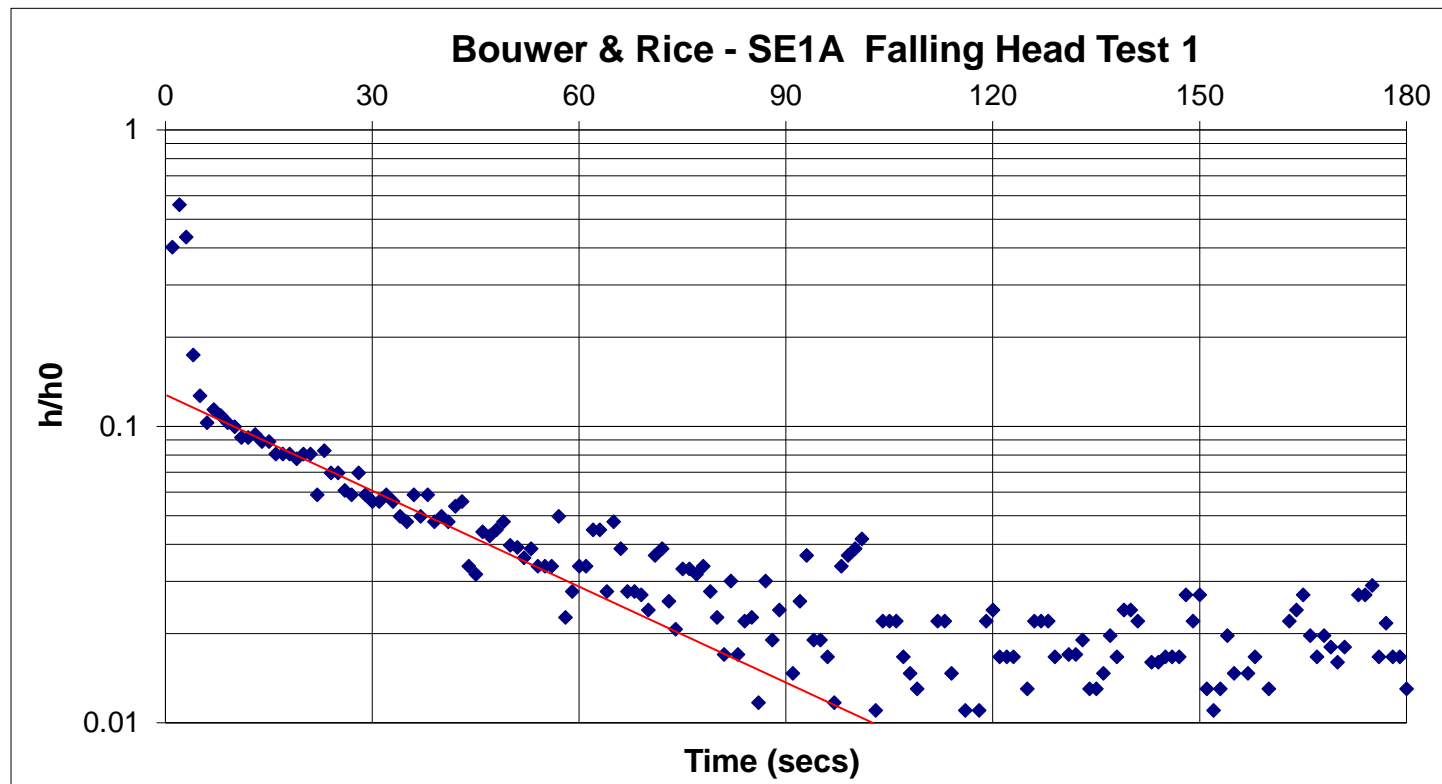
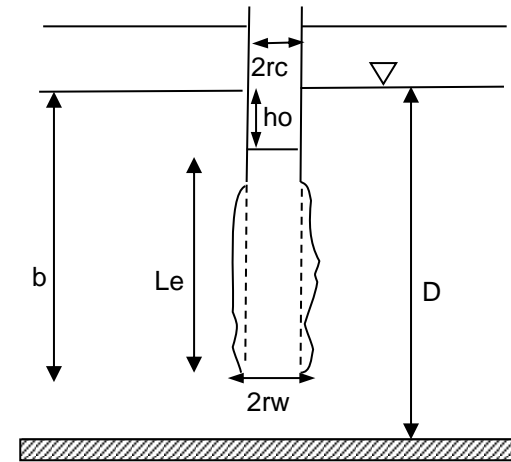
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	74.38
Radius of well $r_w$ (m)	0.05
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	74.38
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.034

$L_e/r_w =$	1487.5
$A$ (Constant) =	9.551183542
$B$ (Constant) =	3.151840558
$C$ (Constant) =	12.84130595
$\ln(R_e/r_w) =$	5.9

$K =$  **5.14E-07** m/sec      **0.044** m/d

Static water level (mbtc)	20.625
Slug volume (l)	1.23
Initial Drawdown, $h_0$ (m)	0.250
Slope ( $\log_{10}/\text{sec}$ )	0.01092



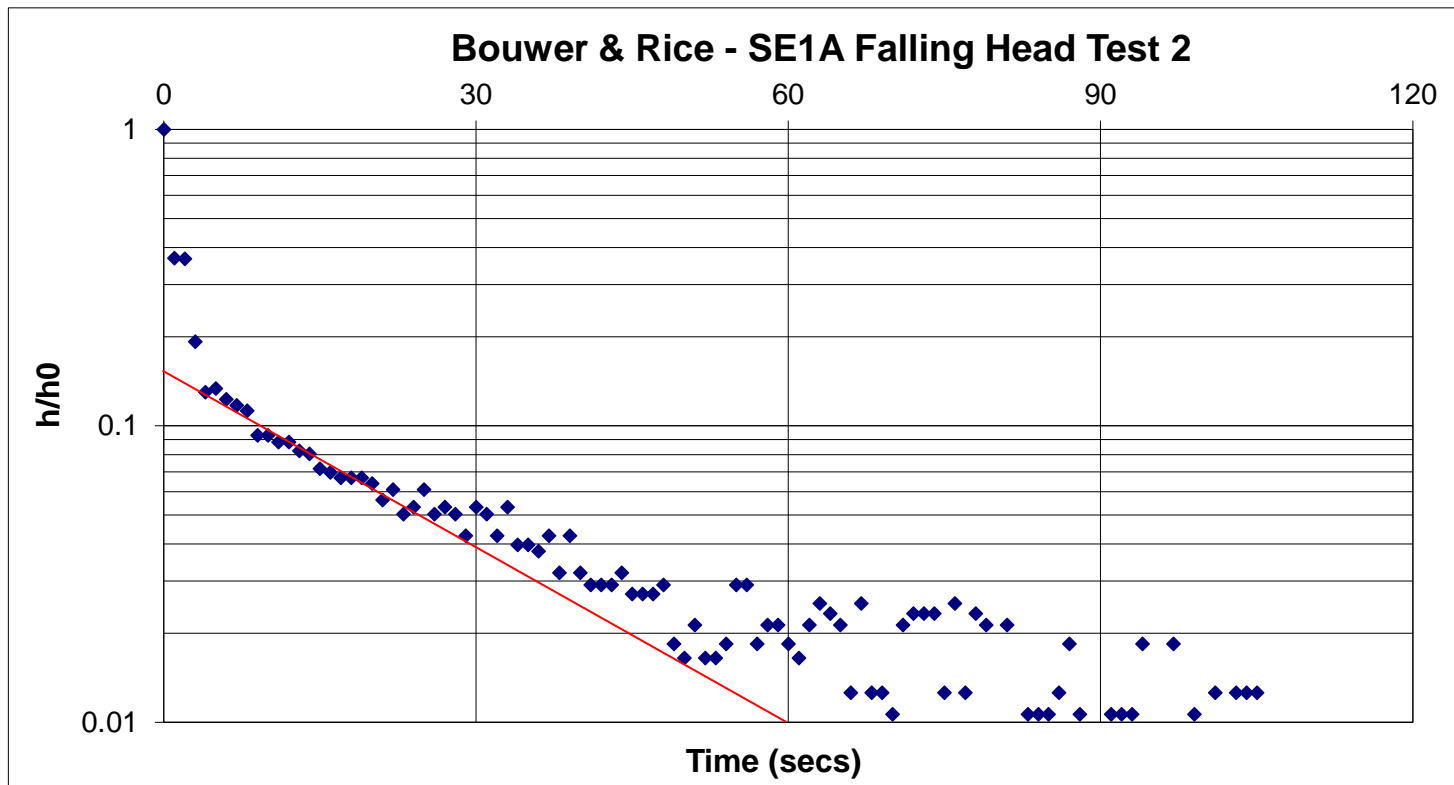
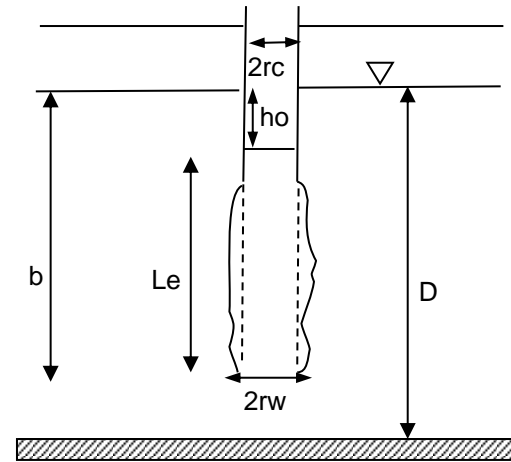
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	74.36
Radius of well $r_w$ (m)	0.05
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	74.36
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.034

$L_e/r_w =$	1487.2
$A$ (Constant) =	9.551183542
$B$ (Constant) =	3.151840558
$C$ (Constant) =	12.84130595
$\ln(R_e/r_w) =$	5.9

$K =$  **9.22E-07** m/sec      **0.080** m/d

Static water level (mbtc)	20.64
Slug volume (l)	1.23
Initial displacement, $h_0$ (m)	0.258
Slope ( $\log_{10}/\text{sec}$ )	0.01960



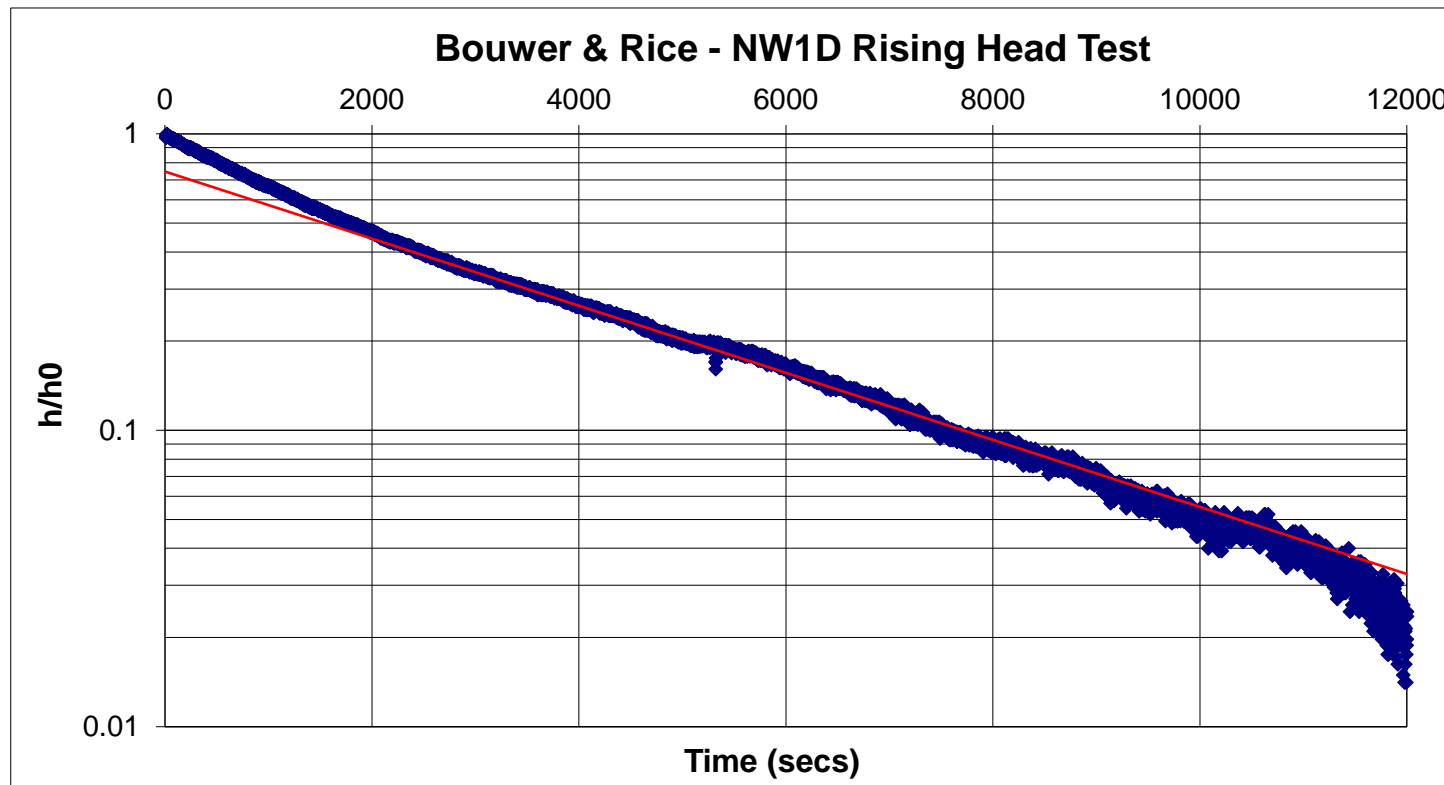
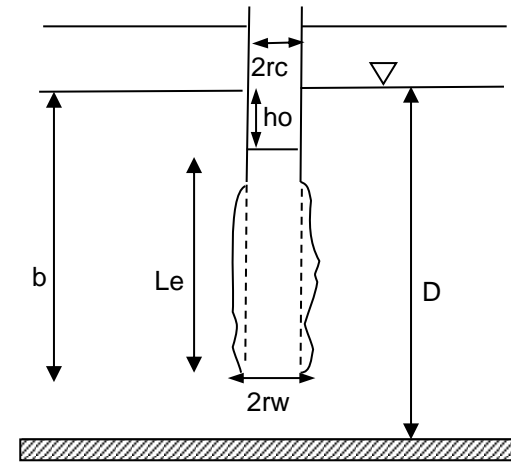
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	30.00
Radius of well $r_w$ (m)	0.05
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	109.54
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.025

$L_e/r_w =$	600
$A$ (Constant) =	8.430394675
$B$ (Constant) =	2.370290275
$C$ (Constant) =	11.16592937
$\ln(R_e/r_w) =$	6.2

$K =$  **7.15E-09** m/sec      **0.00062** m/d

Static water level (mbtc)	1.973
Slug volume (l)	1.23
Initial displacement, $h_0$ (m)	0.580
Slope ( $\log_{10}/\text{sec}$ )	0.00011





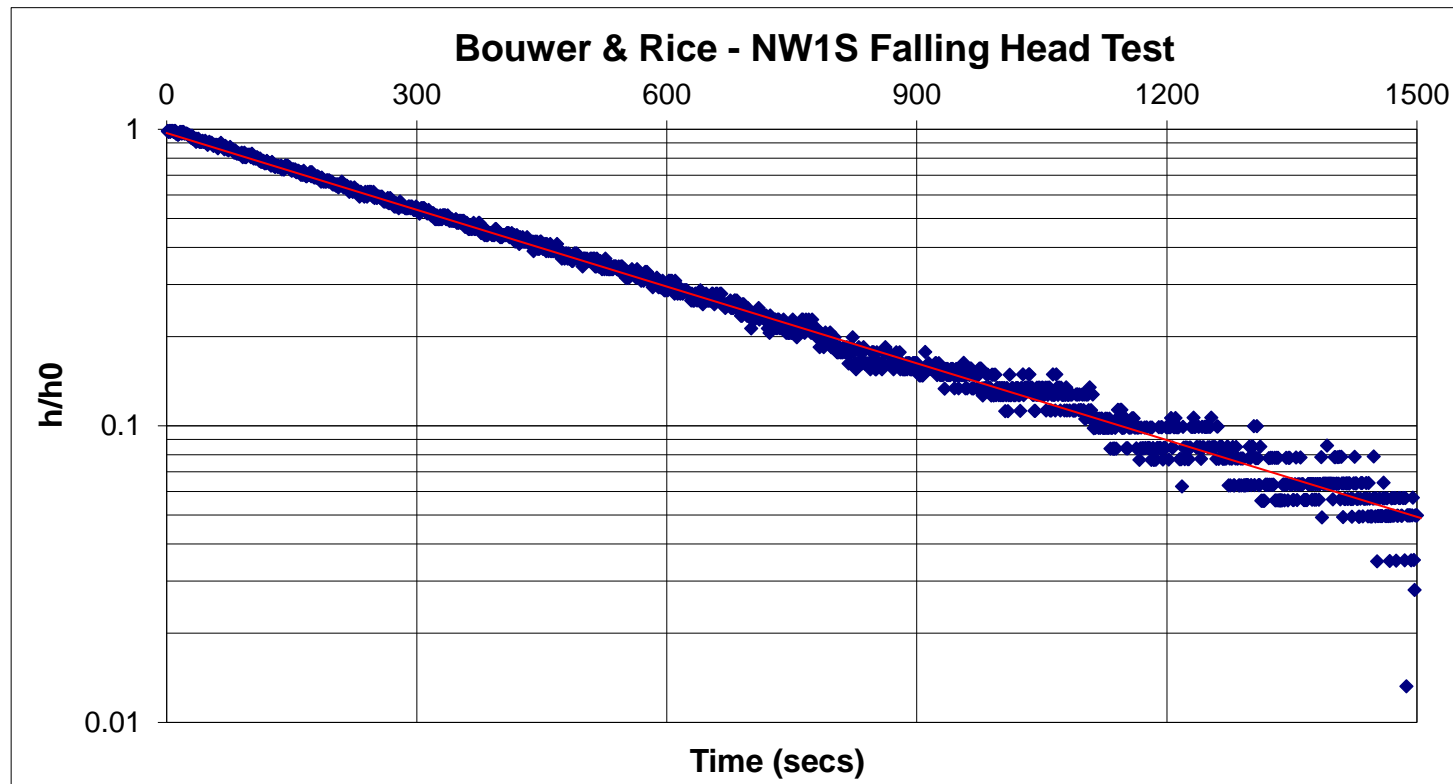
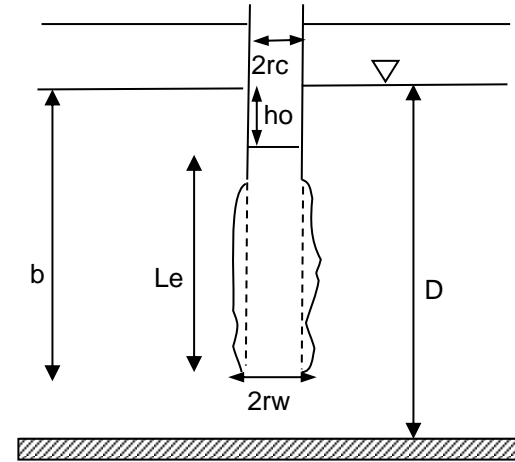
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	25.00
Radius of well $r_w$ (m)	0.06
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	28.00
Radius of casing $r_c$ (m)	0.0375
Filter pack porosity (-)	0.3
Effective casing radius	0.038

$L_e/r_w =$	416.6666667
$A$ (Constant) =	7.807946618
$B$ (Constant) =	1.96951615
$C$ (Constant) =	10.09261662
$\ln(R_e/r_w) =$	4.4

$K =$  **1.07E-07** m/sec      **0.0093** m/d

Static water level (mbtc)	2.01
Slug volume (l)	2.33
Initial Drawdown, $h_0$ (m)	0.262
Slope ( $\log_{10}/\text{sec}$ )	0.00086



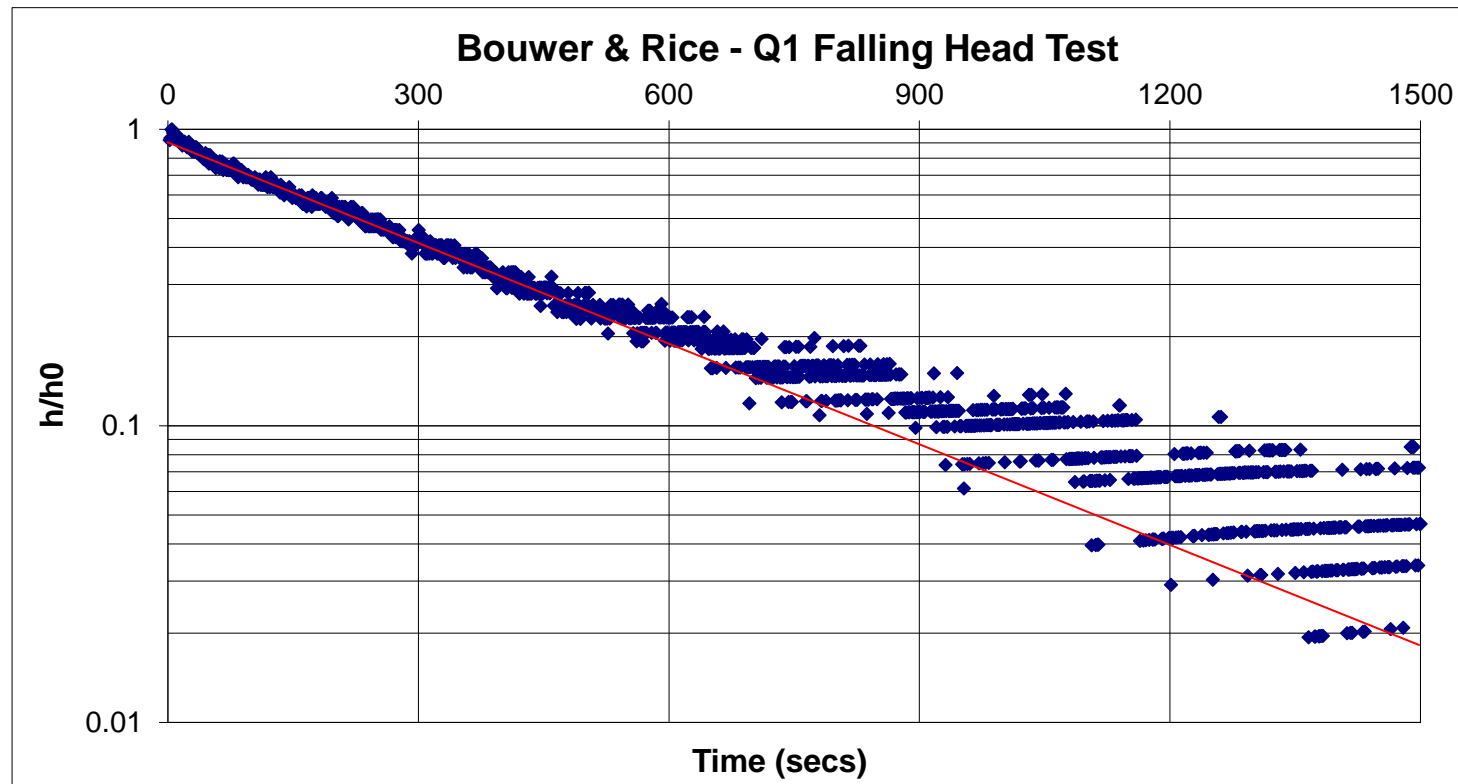
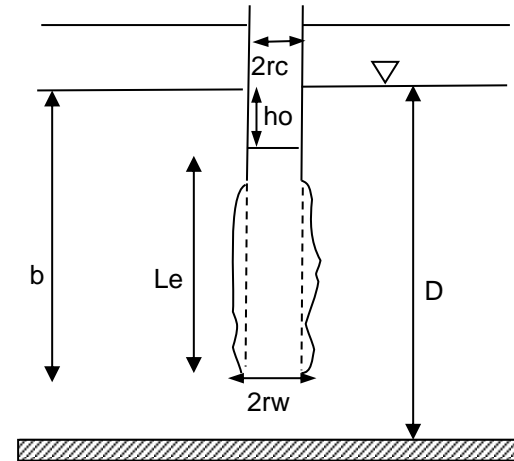
# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	80.10
Radius of well $r_w$ (m)	0.075
Saturated thickness $D$ (m)	100.00
Water column height $b$ (m)	80.10
Radius of casing $r_c$ (m)	0.025
Filter pack porosity (-)	0.3
Effective casing radius	0.025

$L_e/r_w =$	1068
A (Constant) =	9.254810323
B (Constant) =	2.924346222
C (Constant) =	12.45034553
$\ln(Re/r_w) =$	5.5

$K =$  **2.42E-08** m/sec      **0.0021** m/d

Static water level (mbtc)	21.9
Slug volume (l)	1.13
Initial Drawdown, $h_0$ (m)	0.150
Slope ( $\log_{10}/\text{sec}$ )	0.00113



# Bouwer and Rice - Unconfined Aquifer Steady-State Flow

Length of screen $L_e$ (m)	56.15	$L_e/r_w =$	748.6666667
Radius of well $r_w$ (m)	0.075	A (Constant) =	8.774964342
Saturated thickness D (m)	100.00	B (Constant) =	2.597378693
Water column height b (m)	56.15	C (Constant) =	11.71396522
Radius of casing $r_c$ (m)	0.0375	$\ln(R_e/r_w) =$	5.0
Filter pack porosity (-)	0.3		
Effective casing radius	0.038		

$K =$  **9.83E-07** m/sec      **0.085** m/d

Static water level (mbtc)	7.85
Slug volume (l)	2.33
Initial Drawdown, $h_0$ (m)	0.527
Slope ( $\log_{10}/\text{sec}$ )	0.016

