Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	733.871,52	743.321,53	621.975,18	121.346,34	134.769,47	755.456,16	766.248,48	777.040,80	787.833,12	798.625,44	809.417,77	820.210,09	831.002,41	841.794,73
3	962.154,86	966.969,45	955.936,40	850.420,48	105.515,92	240.285,39	966.487,99	966.247,26	966.006,53	965.765,80	965.525,07	965.284,34	965.043,61	964.802,88	964.562,15
4	828.656,21	898.665,26	895.405,53	932.817,35	-37.411,82	202.873,56	891.664,35	888.163,90	884.663,45	881.162,99	877.662,54	874.162,09	870.661,64	867.161,18	863.660,73
5	888.435,40	853.287,98	858.545,80	875.976,62	-17.430,81	185.442,75	856.802,72	858.560,09	860.317,46	862.074,83	863.832,20	865.589,57	867.346,95	869.104,32	870.861,69
6	1.050.897,01	967.240,76	969.666,20	910.264,37	59.401,83	244.844,58	975.606,39	979.789,20	983.972,01	988.154,82	992.337,64	996.520,45	1.000.703,26	1.004.886,07	1.009.068,89
7	816.880,77	944.450,17	933.888,89	955.845,47	-21.956,58	222.888,01	931.693,23	925.314,76	918.936,29	912.557,82	906.179,35	899.800,88	893.422,41	887.043,94	880.665,47
8	1.464.595,11	1.116.978,65	1.140.737,94	1.030.714,41	110.023,53	332.911,54	1.151.740,30	1.169.121,12	1.186.501,94	1.203.882,77	1.221.263,59	1.238.644,41	1.256.025,24	1.273.406,06	1.290.786,88
9	1.363.224,74	1.434.873,17	1.413.909,93	1.275.925,91	137.984,01	470.895,55	1.427.708,33	1.424.125,91	1.420.543,48	1.416.961,06	1.413.378,64	1.409.796,22	1.406.213,80	1.402.631,38	1.399.048,95
10	1.924.173,70	1.625.166,43	1.643.699,22	1.530.019,80	113.679,42	584.574,97	1.655.067,16	1.670.017,52	1.684.967,89	1.699.918,25	1.714.868,61	1.729.818,98	1.744.769,34	1.759.719,70	1.774.670,07
11	2.990.327,36	2.444.931,08	2.457.250,53	2.035.048,76	422.201,77	1.006.776,74	2.499.470,71	2.526.740,52	2.554.010,33	2.581.280,15	2.608.549,96	2.635.819,78	2.663.089,59	2.690.359,40	2.717.629,22
12	3.882.684,66	3.441.727,99	3.436.506,01	2.943.329,53	493.176,47	1.499.953,22	3.485.823,65	3.507.871,49	3.529.919,32	3.551.967,16	3.574.014,99	3.596.062,82	3.618.110,66	3.640.158,49	3.662.206,32
13	4.321.217,99	4.113.619,22	4.101.951,32	3.777.673,60	324.277,72	1.824.230,94	4.134.379,09	4.144.759,03	4.155.138,97	4.165.518,91	4.175.898,85	4.186.278,79	4.196.658,73	4.207.038,66	4.217.418,60
14	2.606.656,88	3.519.983,71	3.463.937,43	3.816.801,47	-352.864,03	1.471.366,90	3.428.651,03	3.382.984,69	3.337.318,35	3.291.652,01	3.245.985,66	3.200.319,32	3.154.652,98	3.108.986,64	3.063.320,30
15	2.930.646,62	2.712.065,87	2.768.651,75	3.116.019,79	-347.368,04	1.123.998,86	2.733.914,95	2.744.844,48	2.755.774,02	2.766.703,56	2.777.633,10	2.788.562,63	2.799.492,17	2.810.421,71	2.821.351,25
16	2.602.678,64	2.786.798,14	2.766.662,63	2.749.427,01	17.235,62	1.141.234,48	2.768.386,19	2.759.180,22	2.749.974,24	2.740.768,27	2.731.562,29	2.722.356,32	2.713.150,34	2.703.944,36	2.694.738,39
17	2.571.902,47	2.578.409,95	2.587.290,55	2.682.604,05	-95.313,49	1.045.920,99	2.577.759,20	2.577.433,83	2.577.108,45	2.576.783,08	2.576.457,71	2.576.132,33	2.575.806,96	2.575.481,58	2.575.156,21
18	2.482.345,45	2.529.138,22	2.527.123,96	2.553.774,09	-26.650,13	1.019.270,86	2.524.458,94	2.522.119,31	2.519.779,67	2.517.440,03	2.515.100,39	2.512.760,75	2.510.421,11	2.508.081,47	2.505.741,83
19	1.599.258,13	2.061.578,15	2.040.801,79	2.295.358,19	-254.556,40	764.714,46	2.015.346,15	1.992.230,15	1.969.114,15	1.945.998,15	1.922.882,15	1.899.766,14	1.876.650,14	1.853.534,14	1.830.418,14
20	2.196.088,12	1.857.634,44	1.897.673,13	1.959.606,30	-61.933,17	702.781,29	1.891.479,81	1.908.402,49	1.925.325,18	1.942.247,86	1.959.170,55	1.976.093,23	1.993.015,91	2.009.938,60	2.026.861,28
21	1.250.980,94	1.766.219,13	1.723.534,53	1.811.926,78	-88.392,25	614.389,04	1.714.695,31	1.688.933,40	1.663.171,49	1.637.409,58	1.611.647,67	1.585.885,76	1.560.123,85	1.534.361,94	1.508.600,03
22	1.102.929,77	1.153.733,64	1.176.955,35	1.459.976,38	-283.021,03	331.368,02	1.148.653,25	1.146.113,06	1.143.572,86	1.141.032,67	1.138.492,48	1.135.952,28	1.133.412,09	1.130.871,90	1.128.331,70
23	1.162.616,69	1.128.528,63	1.132.773,23	1.141.131,14	-8.357,91	323.010,11	1.131.937,44	1.133.641,84	1.135.346,24	1.137.050,65	1.138.755,05	1.140.459,45	1.142.163,86	1.143.868,26	1.145.572,66
24	1.296.839,64	1.227.990,09	1.229.728,17	1.178.259,36	51.468,80	374.478,91	1.234.875,05	1.238.317,53	1.241.760,00	1.245.202,48	1.248.644,96	1.252.087,44	1.255.529,91	1.258.972,39	1.262.414,87

0,10 K = 1.824.230,94 - 13.423,13 = 0,50 Horas
4.134.379,09 - 512.763,48

0,15 K = 1.824.230,94 - 13.423,13 = 0,50 Horas
4.144.759,03 - 514.105,79

0,20 K = 1.824.230,94 - 13.423,13 = 0,50 Horas
4.155.138,97 - 515.448,10

0,25 K = 1.824.230,94 - 13.423,13 = 0,50 Horas
4.165.518,91 - 516.790,42

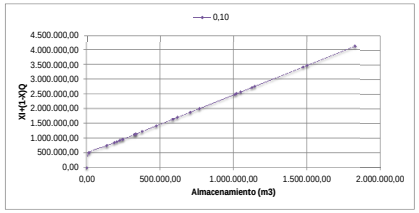
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4.175.898,85 - 518.132,73

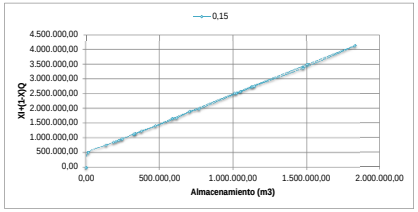
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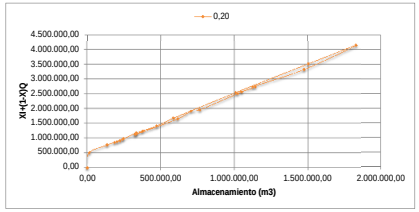
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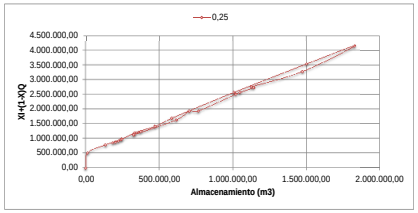
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4.207.038,66 - 522.159,67

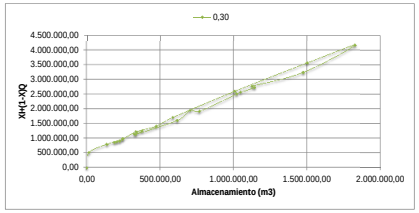
0,50 K = 1.824.230,94 - 13.423,13 = 0,49 Horas
4.217.418,60 - 523.501,98

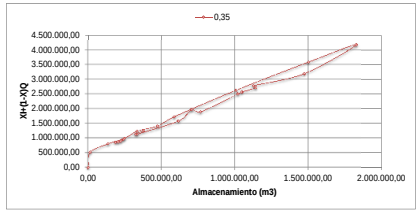

0,10
4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)

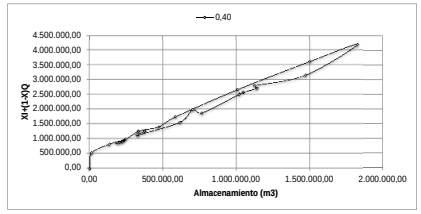

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4.000.000,00
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2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)

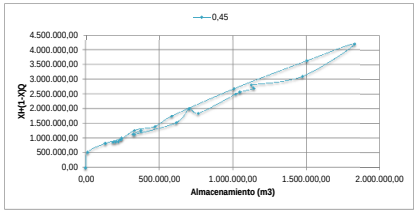

0,20
4.500.000,00
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2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)

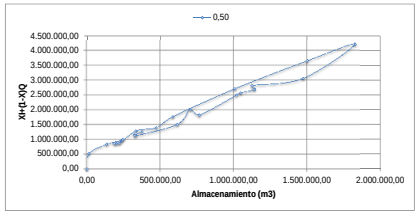

0,25
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3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)


0,30
4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)


0,35
4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)


0,40
4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)


0,45
4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)


0,50
4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
Qx(+1)-Qx
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	647.195,56	743.321,53	578.637,21	164.684,32	178.107,45	677.447,80	692.573,92	707.700,04	722.826,16	737.952,27	753.078,39	768.204,51	783.330,63	798.456,75
3	962.154,86	866.836,38	955.936,40	757.015,97	198.920,43	377.027,88	876.368,23	881.134,15	885.900,08	890.666,00	895.431,92	900.197,85	904.963,77	909.729,69	914.495,62
4	828.656,21	896.778,54	895.405,53	881.807,46	13.598,07	390.625,95	889.966,30	886.560,19	883.154,07	879.747,95	876.341,84	872.935,72	869.529,60	866.123,49	862.717,37
5	888.435,40	865.199,50	858.545,80	880.989,02	-22.443,21	368.182,74	867.523,09	868.684,88	869.846,68	871.008,47	872.170,27	873.332,06	874.493,86	875.655,65	876.817,45
6	1.050.897,01	928.214,17	969.666,20	896.706,84	72.959,37	441.142,11	940.482,46	946.616,60	952.750,74	958.884,88	965.019,02	971.153,17	977.287,31	983.421,45	989.555,59
7	816.880,77	948.982,99	933.888,89	938.598,58	-4.709,69	436.432,42	935.772,77	929.167,66	922.562,55	915.957,43	909.352,32	902.747,21	896.142,10	889.536,99	882.931,88
8	1.464.595,11	1.039.685,50	1.140.737,94	994.334,25	146.403,70	582.836,12	1.082.176,46	1.103.421,95	1.124.667,43	1.145.912,91	1.167.158,39	1.188.403,87	1.209.649,35	1.230.894,83	1.252.140,31
9	1.363.224,74	1.314.229,40	1.413.909,93	1.176.957,45	236.952,47	819.788,59	1.319.128,94	1.321.578,70	1.324.028,47	1.326.478,24	1.328.928,00	1.331.377,77	1.333.827,54	1.336.277,30	1.338.727,07
10	1.924.173,70	1.509.497,20	1.643.699,22	1.411.863,30	231.835,92	1.051.624,50	1.550.964,85	1.571.698,68	1.592.432,50	1.613.166,33	1.633.900,15	1.654.633,98	1.675.367,80	1.696.101,63	1.716.835,45
11	2.990.327,36	2.110.310,03	2.457.250,53	1.809.903,62	647.346,91	1.698.971,42	2.198.311,76	2.242.312,63	2.286.313,50	2.330.314,36	2.374.315,23	2.418.316,10	2.462.316,96	2.506.317,83	2.550.318,69
12	3.882.684,66	2.993.853,08	3.436.506,01	2.552.081,55	884.424,46	2.583.395,87	3.082.736,22	3.127.177,80	3.171.619,38	3.216.060,96	3.260.502,54	3.304.944,12	3.349.385,70	3.393.827,28	3.438.268,86
13	4.321.217,99	3.754.028,01	4.101.951,32	3.373.940,54	728.010,79	3.311.406,66	3.810.747,01	3.839.106,51	3.867.466,01	3.895.825,51	3.924.185,00	3.952.544,50	3.980.904,00	4.009.263,50	4.037.623,00
14	2.606.656,88	3.669.289,11	3.463.937,43	3.711.658,56	-247.721,12	3.063.685,54	3.563.025,88	3.509.894,27	3.456.762,66	3.403.631,05	3.350.499,44	3.297.367,83	3.244.236,22	3.191.104,61	3.137.972,99
15	2.930.646,62	3.002.834,59	2.768.651,75	3.336.061,85	-567.410,09	2.496.275,44	2.995.615,79	2.992.006,39	2.988.396,99	2.984.787,59	2.981.178,20	2.977.568,80	2.973.959,40	2.970.350,00	2.966.740,60
16	2.602.678,64	2.857.566,62	2.766.662,63	2.930.200,60	-163.537,97	2.332.737,47	2.832.077,82	2.819.333,42	2.806.589,02	2.793.844,62	2.781.100,22	2.768.355,82	2.755.611,42	2.742.867,03	2.730.122,63
17	2.571.902,47	2.666.710,58	2.587.290,55	2.762.138,60	-174.848,05	2.157.889,42	2.657.229,77	2.652.489,37	2.647.748,96	2.643.008,55	2.638.268,15	2.633.527,74	2.628.787,34	2.624.046,93	2.619.306,52
18	2.482.345,45	2.573.402,78	2.527.123,96	2.620.056,68	-92.932,72	2.064.956,70	2.564.297,05	2.559.744,18	2.555.191,31	2.550.638,45	2.546.085,58	2.541.532,71	2.536.979,85	2.532.426,98	2.527.874,11
19	1.599.258,13	2.256.051,17	2.040.801,79	2.414.726,97	-373.925,18	1.691.031,51	2.190.371,86	2.157.532,21	2.124.692,56	2.091.852,91	2.059.013,26	2.026.173,60	1.993.333,95	1.960.494,30	1.927.654,65
20	2.196.088,12	1.957.436,14	1.897.673,13	2.106.743,65	-209.070,53	1.481.960,99	1.981.301,34	1.993.233,94	2.005.166,54	2.017.099,13	2.029.031,73	2.040.964,33	2.052.896,93	2.064.829,53	2.076.762,13
21	1.250.980,94	1.857.871,22	1.723.534,53	1.907.653,68	-184.119,15	1.297.841,84	1.797.182,19	1.766.837,68	1.736.493,16	1.706.148,65	1.675.804,14	1.645.459,62	1.615.115,11	1.584.770,59	1.554.426,08
22	1.102.929,77	1.382.077,83	1.176.955,35	1.619.974,52	-443.019,17	854.822,67	1.354.163,02	1.340.205,62	1.326.248,22	1.312.290,81	1.298.333,41	1.284.376,01	1.270.418,60	1.256.461,20	1.242.503,80
23	1.162.616,69	1.199.739,76	1.132.773,23	1.290.908,80	-158.135,57	696.687,11	1.196.027,46	1.194.171,30	1.192.315,15	1.190.459,00	1.188.602,84	1.186.746,69	1.184.890,53	1.183.034,38	1.181.178,23
24	1.296.839,64	1.211.572,70	1.229.728,17	1.205.656,23	24.071,94	720.759,04	1.220.099,39	1.224.362,74	1.228.626,09	1.232.889,44	1.237.152,78	1.241.416,13	1.245.679,48	1.249.942,82	1.254.206,17

0,10 K = 3.311.406,66 - 13.423,13 = 1,00 Horas
3.810.747,01 - 512.763,48

0,15 K = 3.311.406,66 - 13.423,13 = 0,99 Horas
3.839.106,51 - 514.105,79

0,20 K = 3.311.406,66 - 13.423,13 = 0,98 Horas
3.867.466,01 - 515.448,10

0,25 K = 3.311.406,66 - 13.423,13 = 0,98 Horas
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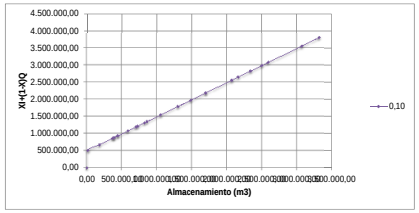
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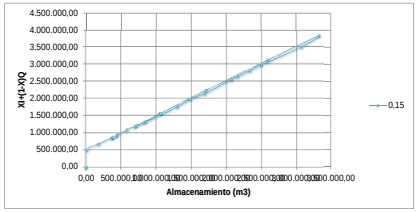
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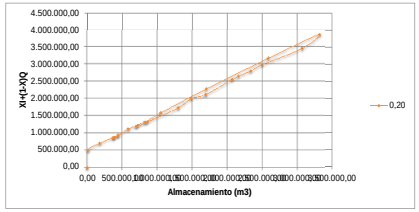
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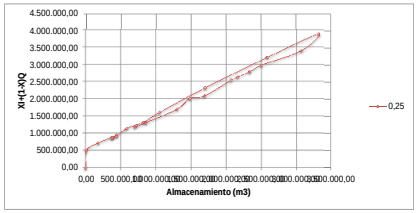
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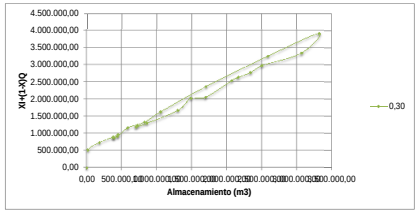
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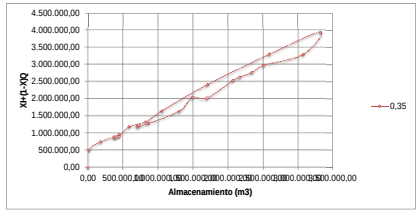

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Almacenamiento (m3)
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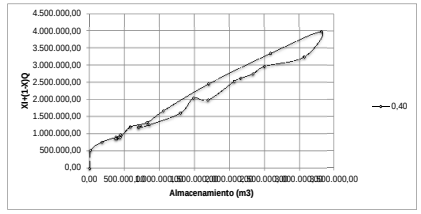

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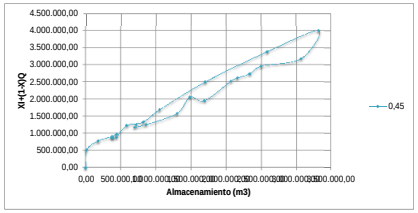

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Almacenamiento (m3)
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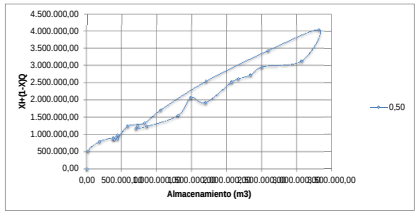

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	602.686,28	743.321,53	556.382,57	186.938,96	200.362,09	637.389,45	654.741,03	672.092,62	689.444,20	706.795,78	724.147,36	741.498,95	758.850,53	776.202,11
3	962.154,86	792.623,89	955.936,40	697.655,09	258.281,31	458.643,40	809.576,99	818.053,54	826.530,09	835.006,63	843.483,18	851.959,73	860.436,28	868.912,83	877.389,38
4	828.656,21	859.005,75	895.405,53	825.814,82	69.590,71	528.234,11	855.970,80	854.453,32	852.935,84	851.418,37	849.900,89	848.383,41	846.865,93	845.348,46	843.830,98
5	888.435,40	853.910,17	858.545,80	856.457,96	2.087,84	530.321,95	857.362,69	859.088,95	860.815,21	862.541,48	864.267,74	865.994,00	867.720,26	869.446,52	871.172,78
6	1.050.897,01	903.308,43	969.666,20	878.609,30	91.056,90	621.378,85	918.067,29	925.446,72	932.826,15	940.205,58	947.585,01	954.964,44	962.343,86	969.723,29	977.102,72
7	816.880,77	938.812,70	933.888,89	921.060,57	12.828,32	634.207,17	926.619,51	920.522,91	914.426,32	908.329,72	902.233,12	896.136,53	890.039,93	883.943,33	877.846,74
8	1.464.595,11	995.444,10	1.140.737,94	967.128,40	173.609,54	807.816,72	1.042.359,20	1.065.816,75	1.089.274,30	1.112.731,85	1.136.189,41	1.159.646,96	1.183.104,51	1.206.562,06	1.230.019,61
9	1.363.224,74	1.229.861,06	1.413.909,93	1.112.652,58	301.257,34	1.109.074,06	1.243.197,43	1.249.865,61	1.256.533,80	1.263.201,98	1.269.870,17	1.276.538,35	1.283.206,53	1.289.874,72	1.296.542,90
10	1.924.173,70	1.408.075,02	1.643.699,22	1.318.968,04	324.731,18	1.433.805,24	1.459.684,88	1.485.489,82	1.511.294,75	1.537.099,69	1.562.904,62	1.588.709,56	1.614.514,49	1.640.319,42	1.666.124,36
11	2.990.327,36	1.888.752,02	2.457.250,53	1.648.413,52	808.837,01	2.242.642,25	1.998.909,56	2.053.988,32	2.109.067,09	2.164.145,86	2.219.224,62	2.274.303,39	2.329.382,16	2.384.460,92	2.439.539,69
12	3.882.684,66	2.653.022,50	3.436.506,01	2.270.887,26	1.165.618,74	3.408.260,99	2.775.988,72	2.837.471,83	2.898.954,93	2.960.438,04	3.021.921,15	3.083.404,26	3.144.887,37	3.206.370,47	3.267.853,58
13	4.321.217,99	3.400.670,51	4.101.951,32	3.026.846,51	1.075.104,81	4.483.365,80	3.492.725,26	3.538.752,64	3.584.780,01	3.630.807,38	3.676.834,76	3.722.862,13	3.768.889,50	3.814.916,88	3.860.944,25
14	2.606.656,88	3.573.887,32	3.463.937,43	3.487.278,92	-23.341,48	4.460.024,32	3.477.164,27	3.428.802,75	3.380.441,23	3.332.079,71	3.283.718,19	3.235.356,66	3.186.995,14	3.138.633,62	3.090.272,10
15	2.930.646,62	3.112.395,41	2.768.651,75	3.343.121,36	-574.469,61	3.885.554,71	3.094.184,53	3.085.099,09	3.076.013,65	3.066.928,21	3.057.842,77	3.048.757,33	3.039.671,90	3.030.586,46	3.021.501,02
16	2.602.678,64	2.952.086,45	2.766.662,63	3.032.220,93	-265.558,30	3.619.996,41	2.917.145,67	2.899.675,28	2.882.204,88	2.864.734,49	2.847.264,10	2.829.793,71	2.812.323,32	2.794.852,93	2.777.382,54
17	2.571.902,47	2.757.394,84	2.587.290,55	2.854.740,64	-267.450,09	3.352.546,32	2.738.845,60	2.729.570,99	2.720.296,37	2.711.021,75	2.701.747,13	2.692.472,51	2.683.197,89	2.673.923,27	2.664.648,65
18	2.482.345,45	2.640.185,47	2.527.123,96	2.698.790,16	-171.666,20	3.180.880,12	2.624.401,47	2.616.509,47	2.608.617,47	2.600.725,47	2.592.833,47	2.584.941,46	2.577.049,46	2.569.157,46	2.561.265,46
19	1.599.258,13	2.387.795,97	2.040.801,79	2.513.990,72	-473.188,93	2.707.691,19	2.308.942,18	2.269.515,29	2.230.088,40	2.190.661,51	2.151.234,62	2.111.807,72	2.072.380,83	2.032.953,94	1.993.527,05
20	2.196.088,12	2.074.473,08	1.897.673,13	2.231.134,52	-333.461,40	2.374.229,79	2.086.634,59	2.092.715,34	2.098.796,09	2.104.876,84	2.110.957,59	2.117.038,35	2.123.119,10	2.129.199,85	2.135.280,60
21	1.250.980,94	1.961.406,88	1.723.534,53	2.017.939,98	-294.405,45	2.079.824,34	1.890.364,29	1.854.842,99	1.819.321,69	1.783.800,40	1.748.279,10	1.712.757,80	1.677.236,50	1.641.715,21	1.606.193,91
22	1.102.929,77	1.549.383,18	1.176.955,35	1.755.395,03	-578.439,67	1.501.384,67	1.504.737,84	1.482.415,17	1.460.092,50	1.437.769,83	1.415.447,15	1.393.124,48	1.370.801,81	1.348.479,14	1.326.156,47
23	1.162.616,69	1.319.349,13	1.132.773,23	1.434.366,15	-301.592,92	1.199.791,74	1.303.675,89	1.295.839,27	1.288.002,64	1.280.166,02	1.272.329,40	1.264.492,78	1.256.656,16	1.248.819,53	1.240.982,91
24	1.296.839,64	1.260.022,43	1.229.728,17	1.289.685,78	-59.957,61	1.139.834,13	1.263.704,15	1.265.545,01	1.267.385,87	1.269.226,73	1.271.067,59	1.272.908,45	1.274.749,31	1.276.590,17	1.278.431,03

0,10 K = 4.483.365,80 - 13.423,13 = 1,50 Horas
3.492.725,26 - 512.763,48

0,15 K = 4.483.365,80 - 13.423,13 = 1,48 Horas
3.538.752,64 - 514.105,79

0,20 K = 4.483.365,80 - 13.423,13 = 1,46 Horas
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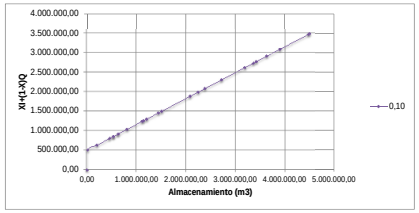
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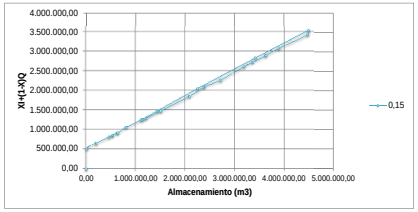
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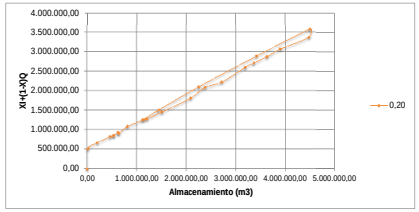
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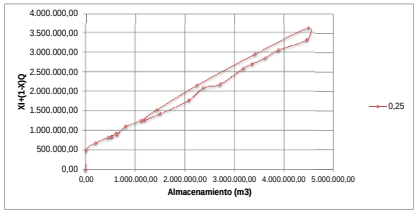
0,45 K = 4.483.365,80 - 13.423,13 = 1,36 Horas
3.814.916,88 - 522.159,67

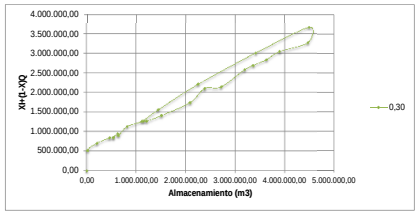
0,50 K = 4.483.365,80 - 13.423,13 = 1,34 Horas
3.860.944,25 - 523.501,98

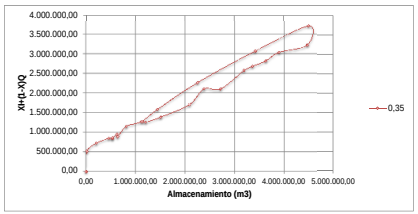

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4.000.000,00
5.000.000,00
Almacenamiento (m3)
Q(X+1)-Q(X)
0,10

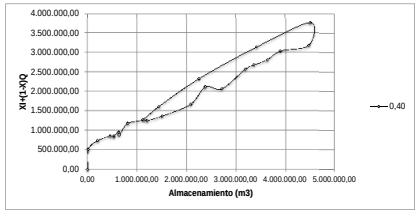

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Almacenamiento (m3)
Q(X+1)-Q(X)
0,15

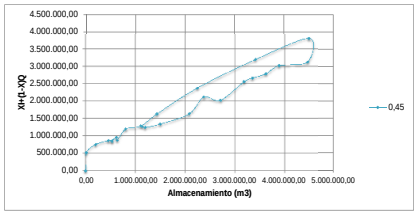

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Almacenamiento (m3)
Q(X+1)-Q(X)
0,20

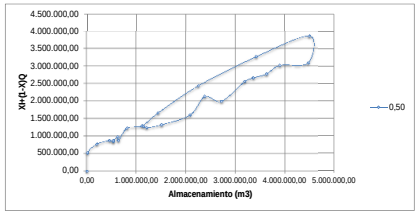

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Almacenamiento (m3)
Q(X+1)-Q(X)
0,25


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Almacenamiento (m3)
Q(X+1)-Q(X)
0,30


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Almacenamiento (m3)
Q(X+1)-Q(X)
0,35


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Almacenamiento (m3)
Q(X+1)-Q(X)
0,40


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Almacenamiento (m3)
Q(X+1)-Q(X)
0,45


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Almacenamiento (m3)
Q(X+1)-Q(X)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	575.593,68	743.321,53	542.836,27	200.485,26	213.908,39	613.006,11	631.712,32	650.418,53	669.124,75	687.830,96	706.537,17	725.243,39	743.949,60	762.655,81
3	962.154,86	739.878,61	955.936,40	657.736,15	298.200,26	512.108,64	762.106,23	773.220,05	784.333,86	795.447,67	806.561,48	817.675,30	828.789,11	839.902,92	851.016,73
4	828.656,21	819.107,59	895.405,53	779.493,10	115.912,43	628.021,08	820.062,45	820.539,88	821.017,31	821.494,74	821.972,17	822.449,61	822.927,04	823.404,47	823.881,90
5	888.435,40	831.056,45	858.545,80	825.082,02	33.463,78	661.484,86	836.794,34	839.663,29	842.532,24	845.401,18	848.270,13	851.139,08	854.008,03	856.876,97	859.745,92
6	1.050.897,01	877.194,46	969.666,20	854.125,45	115.540,75	777.025,61	894.564,72	903.249,84	911.934,97	920.620,10	929.305,23	937.990,35	946.675,48	955.360,61	964.045,74
7	816.880,77	922.193,45	933.888,89	899.693,96	34.194,93	811.220,54	911.662,18	906.396,55	901.130,92	895.865,28	890.599,65	885.334,01	880.068,38	874.802,75	869.537,11
8	1.464.595,11	960.889,81	1.140.737,94	941.541,63	199.196,31	1.010.416,85	1.011.260,34	1.036.445,61	1.061.630,87	1.086.816,14	1.112.001,40	1.137.186,67	1.162.371,93	1.187.557,20	1.212.742,46
9	1.363.224,74	1.166.669,89	1.413.909,93	1.063.779,85	350.130,07	1.360.546,93	1.186.325,38	1.196.153,12	1.205.980,86	1.215.808,60	1.225.636,35	1.235.464,09	1.245.291,83	1.255.119,57	1.264.947,31
10	1.924.173,70	1.325.295,78	1.643.699,22	1.245.982,83	397.716,38	1.758.263,31	1.385.183,57	1.415.127,47	1.445.071,36	1.475.015,26	1.504.959,15	1.534.903,05	1.564.846,95	1.594.790,84	1.624.734,74
11	2.990.327,36	1.724.741,00	2.457.250,53	1.525.018,39	932.232,14	2.690.495,45	1.851.299,64	1.914.578,96	1.977.858,27	2.041.137,59	2.104.416,91	2.167.696,23	2.230.975,54	2.294.254,86	2.357.534,18
12	3.882.684,66	2.391.390,37	3.436.506,01	2.058.065,69	1.378.440,32	4.068.935,77	2.540.519,80	2.615.084,51	2.689.649,23	2.764.213,94	2.838.778,66	2.913.343,37	2.987.908,09	3.062.472,80	3.137.037,51
13	4.321.217,99	3.096.979,19	4.101.951,32	2.744.184,78	1.357.766,54	5.426.702,31	3.219.403,07	3.280.615,01	3.341.826,95	3.403.038,89	3.464.250,83	3.525.462,77	3.586.674,71	3.647.886,65	3.709.098,59
14	2.606.656,88	3.405.618,52	3.463.937,43	3.251.298,86	212.638,58	5.639.340,89	3.325.722,36	3.285.774,28	3.245.826,19	3.205.878,11	3.165.930,03	3.125.981,95	3.086.033,87	3.046.085,78	3.006.137,70
15	2.930.646,62	3.100.503,43	2.768.651,75	3.253.060,98	-484.409,22	5.154.931,67	3.083.517,75	3.075.024,91	3.066.532,07	3.058.039,23	3.049.546,39	3.041.053,55	3.032.560,71	3.024.067,86	3.015.575,02
16	2.602.678,64	2.983.874,21	2.766.662,63	3.042.188,82	-275.526,19	4.879.405,48	2.945.754,65	2.926.694,87	2.907.635,10	2.888.575,32	2.869.515,54	2.850.455,76	2.831.395,98	2.812.336,20	2.793.276,42
17	2.571.902,47	2.814.122,72	2.587.290,55	2.898.998,47	-311.707,91	4.567.697,57	2.789.900,70	2.777.789,68	2.765.678,67	2.753.567,66	2.741.456,65	2.729.345,63	2.717.234,62	2.705.123,61	2.693.012,59
18	2.482.345,45	2.697.128,22	2.527.123,96	2.755.625,47	-228.501,51	4.339.196,05	2.675.649,94	2.664.910,80	2.654.171,66	2.643.432,52	2.632.693,39	2.621.954,25	2.611.215,11	2.600.475,97	2.589.736,83
19	1.599.258,13	2.488.559,10	2.040.801,79	2.592.843,66	-552.041,87	3.787.154,18	2.399.629,00	2.355.163,96	2.310.698,91	2.266.233,86	2.221.768,81	2.177.303,76	2.132.838,71	2.088.373,67	2.043.908,62
20	2.196.088,12	2.179.753,90	1.897.673,13	2.334.156,50	-436.483,37	3.350.670,81	2.181.387,32	2.182.204,03	2.183.020,74	2.183.837,45	2.184.654,16	2.185.470,88	2.186.287,59	2.187.104,30	2.187.921,01
21	1.250.980,94	2.063.580,88	1.723.534,53	2.121.667,39	-398.132,86	2.952.537,95	1.982.320,89	1.941.690,89	1.901.060,90	1.860.430,90	1.819.800,90	1.779.170,90	1.738.540,91	1.697.910,91	1.657.280,91
22	1.102.929,77	1.690.965,54	1.176.955,35	1.877.273,21	-700.317,86	2.252.220,10	1.632.161,96	1.602.760,17	1.573.358,38	1.543.956,60	1.514.554,81	1.485.153,02	1.455.751,23	1.426.349,44	1.396.947,65
23	1.162.616,69	1.443.083,06	1.132.773,23	1.567.024,30	-434.251,07	1.817.969,03	1.415.036,43	1.401.013,11	1.386.989,79	1.372.966,47	1.358.943,15	1.344.919,83	1.330.896,51	1.316.873,20	1.302.849,88
24	1.296.839,64	1.338.648,50	1.229.728,17	1.390.865,78	-161.137,62	1.656.831,41	1.334.467,62	1.332.377,18	1.330.286,73	1.328.196,29	1.326.105,85	1.324.015,40	1.321.924,96	1.319.834,52	1.317.744,07

0,10 K = 5.639.340,89 - 13.423,13 = 2,00 Horas
3.325.722,36 - 512.763,48

0,15 K = 5.639.340,89 - 13.423,13 = 2,03 Horas
3.285.774,28 - 514.105,79

0,20 K = 5.639.340,89 - 13.423,13 = 1,99 Horas
3.341.826,95 - 515.448,10

0,25 K = 5.639.340,89 - 13.423,13 = 1,95 Horas
3.403.038,89 - 516.790,42

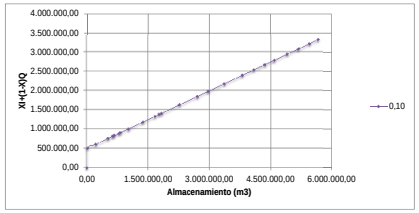
0,30 K = 5.639.340,89 - 13.423,13 = 1,91 Horas
3.464.250,83 - 518.132,73

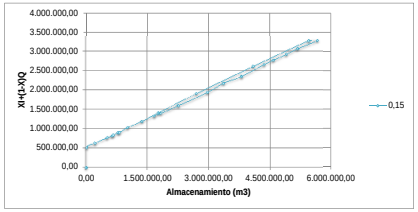
0,35 K = 5.639.340,89 - 13.423,13 = 1,87 Horas
3.525.462,77 - 519.475,04

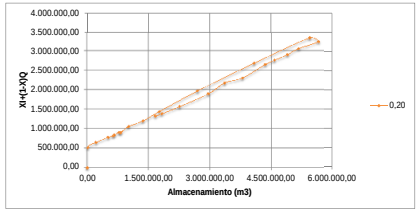
0,40 K = 5.639.340,89 - 13.423,13 = 1,84 Horas
3.586.674,71 - 520.817,35

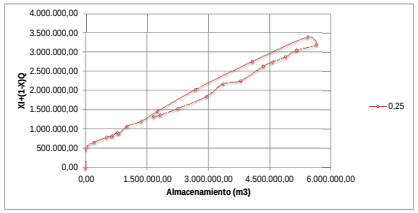
0,45 K = 5.639.340,89 - 13.423,13 = 1,80 Horas
3.647.886,65 - 522.159,67

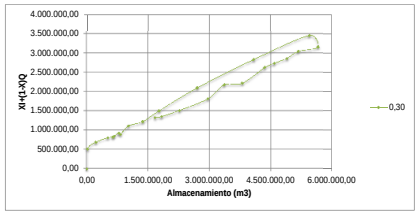
0,50 K = 5.639.340,89 - 13.423,13 = 1,77 Horas
3.709.098,59 - 523.501,98

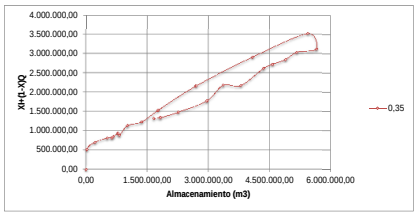

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Almacenamiento (m3)
0,10

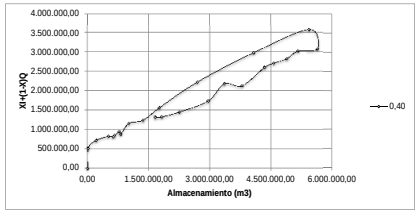

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Almacenamiento (m3)
0,15

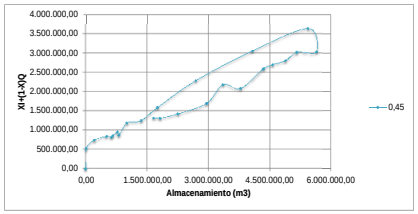

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Almacenamiento (m3)
0,20

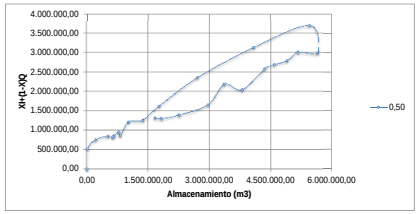

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Almacenamiento (m3)
0,25


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Almacenamiento (m3)
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Almacenamiento (m3)
0,35


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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	557.367,75	743.321,53	533.723,30	209.598,23	223.021,35	596.602,77	616.220,28	635.837,79	655.455,30	675.072,81	694.690,32	714.307,83	733.925,34	753.542,85
3	962.154,86	701.171,17	955.936,40	629.269,46	326.666,94	549.688,29	727.269,54	740.318,73	753.367,91	766.417,10	779.466,28	792.515,46	805.564,65	818.613,83	831.663,02
4	828.656,21	783.938,09	895.405,53	742.554,63	152.850,90	702.539,19	788.409,90	790.645,81	792.881,71	795.117,62	797.353,53	799.589,43	801.825,34	804.061,24	806.297,15
5	888.435,40	805.633,70	858.545,80	794.785,89	63.759,91	766.299,10	813.913,87	818.053,95	822.194,04	826.334,12	830.474,21	834.614,29	838.754,38	842.894,46	847.034,55
6	1.050.897,01	850.512,64	969.666,20	828.073,17	141.593,03	907.892,13	870.551,08	880.570,30	890.589,52	900.608,73	910.627,95	920.647,17	930.666,39	940.685,61	950.704,83
7	816.880,77	902.105,48	933.888,89	876.309,06	57.579,83	965.471,96	893.583,01	889.321,78	885.060,54	880.799,30	876.538,07	872.276,83	868.015,60	863.754,36	859.493,13
8	1.464.595,11	929.997,80	1.140.737,94	916.051,64	224.686,30	1.190.158,27	983.457,53	1.010.187,40	1.036.917,26	1.063.647,13	1.090.376,99	1.117.106,86	1.143.836,73	1.170.566,59	1.197.296,46
9	1.363.224,74	1.115.181,33	1.413.909,93	1.022.589,57	391.320,36	1.581.478,62	1.139.985,68	1.152.387,85	1.164.790,02	1.177.192,19	1.189.594,36	1.201.996,53	1.214.398,70	1.226.800,87	1.239.203,04
10	1.924.173,70	1.256.374,30	1.643.699,22	1.185.777,82	457.921,40	2.039.400,03	1.323.154,24	1.356.544,21	1.389.934,18	1.423.324,15	1.456.714,12	1.490.104,09	1.523.494,06	1.556.884,03	1.590.274,00
11	2.990.327,36	1.596.133,50	2.457.250,53	1.426.253,90	1.030.996,63	3.070.396,66	1.735.552,89	1.805.262,58	1.874.972,27	1.944.681,97	2.014.391,66	2.084.101,35	2.153.811,04	2.223.520,74	2.293.230,43
12	3.882.684,66	2.184.236,48	3.436.506,01	1.890.184,99	1.546.321,02	4.616.717,67	2.354.081,30	2.439.003,70	2.523.926,11	2.608.848,52	2.693.770,93	2.778.693,34	2.863.615,75	2.948.538,16	3.033.460,57
13	4.321.217,99	2.841.720,66	4.101.951,32	2.512.978,57	1.588.972,75	6.205.690,43	2.989.670,40	3.063.645,26	3.137.620,13	3.211.594,99	3.285.569,86	3.359.544,73	3.433.519,59	3.507.494,46	3.581.469,33
14	2.606.656,88	3.223.850,50	3.463.937,43	3.032.785,58	431.151,85	6.636.842,28	3.162.131,14	3.131.271,46	3.100.411,78	3.069.552,09	3.038.692,41	3.007.832,73	2.976.973,05	2.946.113,37	2.915.253,69
15	2.930.646,62	3.028.870,07	2.768.651,75	3.126.360,28	-357.708,53	6.279.133,75	3.019.047,72	3.014.136,55	3.009.225,38	3.004.314,21	2.999.403,03	2.994.491,86	2.989.580,69	2.984.669,52	2.979.758,35
16	2.602.678,64	2.963.337,18	2.766.662,63	2.996.103,62	-229.441,00	6.049.692,75	2.927.271,33	2.909.238,40	2.891.205,47	2.873.172,54	2.855.139,62	2.837.106,69	2.819.073,76	2.801.040,84	2.783.007,91
17	2.571.902,47	2.829.390,79	2.587.290,55	2.896.363,98	-309.073,43	5.740.619,32	2.803.641,95	2.790.767,54	2.777.893,12	2.765.018,71	2.752.144,29	2.739.269,87	2.726.395,46	2.713.521,04	2.700.646,63
18	2.482.345,45	2.727.617,12	2.527.123,96	2.778.503,95	-251.380,00	5.489.239,32	2.703.089,95	2.690.826,37	2.678.562,79	2.666.299,20	2.654.035,62	2.641.772,04	2.629.508,45	2.617.244,87	2.604.981,28
19	1.599.258,13	2.558.146,76	2.040.801,79	2.642.881,94	-602.080,15	4.887.159,17	2.462.257,89	2.414.313,46	2.366.369,03	2.318.424,60	2.270.480,17	2.222.535,74	2.174.591,31	2.126.646,88	2.078.702,44
20	2.196.088,12	2.263.717,26	1.897.673,13	2.410.932,01	-513.258,88	4.373.900,29	2.256.954,34	2.253.572,89	2.250.191,43	2.246.809,97	2.243.428,52	2.240.047,06	2.236.665,60	2.233.284,15	2.229.902,69
21	1.250.980,94	2.153.206,01	1.723.534,53	2.208.461,63	-484.927,10	3.888.973,19	2.062.983,50	2.017.872,25	1.972.761,00	1.927.649,74	1.882.538,49	1.837.427,24	1.792.315,98	1.747.204,73	1.702.093,48
22	1.102.929,77	1.811.664,97	1.176.955,35	1.982.435,49	-805.480,13	3.083.493,06	1.740.791,45	1.705.354,69	1.669.917,93	1.634.481,17	1.599.044,41	1.563.607,65	1.528.170,89	1.492.734,13	1.457.297,37
23	1.162.616,69	1.559.369,16	1.132.773,23	1.685.517,07	-552.743,84	2.530.749,22	1.519.693,91	1.499.856,29	1.480.018,67	1.460.181,04	1.440.343,42	1.420.505,80	1.400.668,17	1.380.830,55	1.360.992,93
24	1.296.839,64	1.427.297,62	1.229.728,17	1.493.333,39	-263.605,22	2.267.144,00	1.414.251,82	1.407.728,93	1.401.206,03	1.394.683,13	1.388.160,23	1.381.637,33	1.375.114,43	1.368.591,53	1.362.068,63

0,10 K = 6.636.842,28 - 13.423,13 = 2,50 Horas
3.162.131,14 - 512.763,48

0,15 K = 6.636.842,28 - 13.423,13 = 2,53 Horas
3.131.271,46 - 514.105,79

0,20 K = 6.636.842,28 - 13.423,13 = 2,53 Horas
3.137.620,13 - 515.448,10

0,25 K = 6.636.842,28 - 13.423,13 = 2,46 Horas
3.211.594,99 - 516.790,42

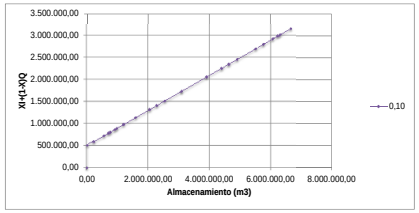
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3.285.569,86 - 518.132,73

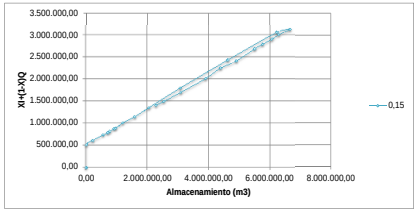
0,35 K = 6.636.842,28 - 13.423,13 = 2,33 Horas
3.359.544,73 - 519.475,04

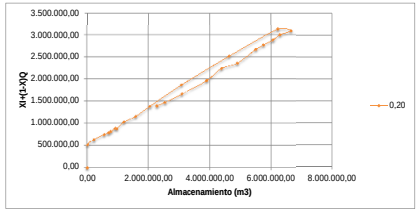
0,40 K = 6.636.842,28 - 13.423,13 = 2,27 Horas
3.433.519,59 - 520.817,35

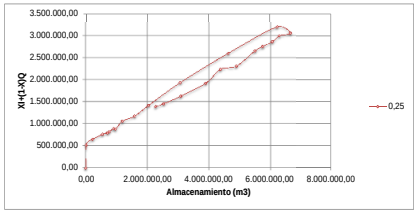
0,45 K = 6.636.842,28 - 13.423,13 = 2,22 Horas
3.507.494,46 - 522.159,67

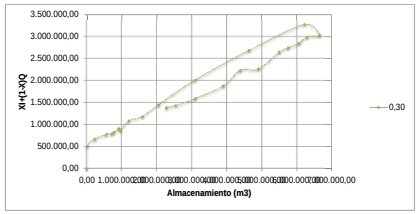
0,50 K = 6.636.842,28 - 13.423,13 = 2,17 Horas
3.581.469,33 - 523.501,98

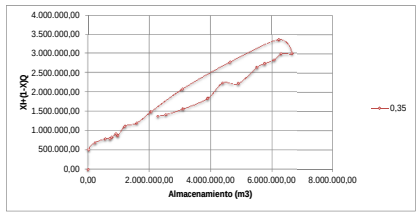

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3.000.000,00
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8.000.000,00
Almacenamiento (m3)
0,10

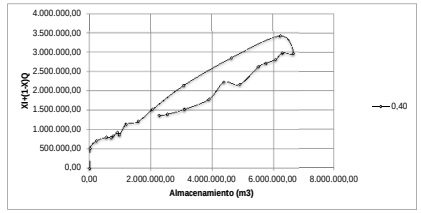

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Almacenamiento (m3)
0,15

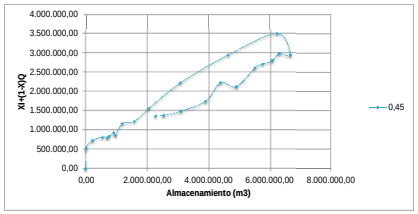

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Almacenamiento (m3)
0,20

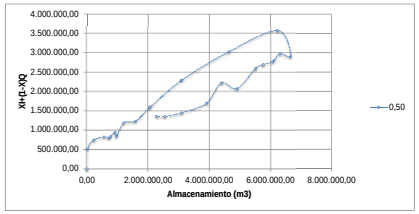

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500.000,00
0,00
0,00
2.000.000,00
4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,25


3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
Almacenamiento (m3)
0,30


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
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0,00
2.000.000,00
4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,35


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
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4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,40


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
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2.000.000,00
4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,45


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.000.000,00
4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	544.267,86	743.321,53	527.173,36	216.148,17	229.571,30	584.812,87	605.085,37	625.357,88	645.630,38	665.902,88	686.175,39	706.447,89	726.720,40	746.992,90
3	962.154,86	671.748,32	955.936,40	608.008,09	347.928,31	577.499,61	700.788,97	715.309,30	729.829,63	744.349,95	758.870,28	773.390,61	787.910,93	802.431,26	816.951,59
4	828.656,21	754.156,70	895.405,53	712.952,51	182.453,03	759.952,64	761.606,65	765.331,62	769.056,60	772.781,57	776.506,55	780.231,52	783.956,50	787.681,48	791.406,45
5	888.435,40	781.173,99	858.545,80	767.665,34	90.880,46	850.833,09	791.900,13	797.263,20	802.626,27	807.989,34	813.352,41	818.715,48	824.078,55	829.441,62	834.804,69
6	1.050.897,01	824.847,03	969.666,20	803.010,51	166.655,69	1.017.488,79	847.452,03	858.754,53	870.057,03	881.359,53	892.662,03	903.964,52	915.267,02	926.569,52	937.872,02
7	816.880,77	880.861,64	933.888,89	852.854,33	81.034,56	1.098.523,34	874.463,55	871.264,51	868.065,46	864.866,42	861.667,38	858.468,33	855.269,29	852.070,25	848.871,20
8	1.464.595,11	901.349,76	1.140.737,94	891.105,70	249.632,24	1.348.155,59	957.674,30	985.836,56	1.013.998,83	1.042.161,10	1.070.323,37	1.098.485,64	1.126.647,90	1.154.810,17	1.182.972,44
9	1.363.224,74	1.071.028,29	1.413.909,93	986.189,02	427.720,90	1.775.876,49	1.100.247,93	1.114.857,75	1.129.467,58	1.144.077,40	1.158.687,22	1.173.297,04	1.187.906,87	1.202.516,69	1.217.126,51
10	1.924.173,70	1.197.398,99	1.643.699,22	1.134.213,64	509.485,58	2.285.362,07	1.270.076,46	1.306.415,19	1.342.753,93	1.379.092,67	1.415.431,40	1.451.770,14	1.488.108,87	1.524.447,61	1.560.786,34
11	2.990.327,36	1.491.150,69	2.457.250,53	1.344.274,84	1.112.975,69	3.398.337,76	1.641.068,36	1.716.027,19	1.790.986,02	1.865.944,86	1.940.903,69	2.015.862,52	2.090.821,36	2.165.780,19	2.240.739,02
12	3.882.684,66	2.015.415,73	3.436.506,01	1.753.283,21	1.683.222,80	5.081.560,56	2.202.142,62	2.295.506,07	2.388.869,51	2.482.232,96	2.575.596,41	2.668.959,85	2.762.323,30	2.855.686,75	2.949.050,19
13	4.321.217,99	2.628.345,60	4.101.951,32	2.320.880,67	1.781.070,66	6.862.631,22	2.795.832,84	2.880.576,46	2.965.320,08	3.050.063,70	3.134.807,32	3.219.550,94	3.304.294,56	3.389.038,18	3.473.781,80
14	2.606.656,88	3.048.833,15	3.463.937,43	2.837.589,38	626.348,06	7.488.979,28	3.004.615,53	2.982.506,71	2.960.397,90	2.938.289,09	2.916.180,27	2.894.071,46	2.871.962,64	2.849.853,83	2.827.745,02
15	2.930.646,62	2.930.902,43	2.768.651,75	2.989.867,79	-221.216,04	7.267.763,24	2.930.876,85	2.930.864,06	2.930.851,27	2.930.838,48	2.930.825,69	2.930.812,90	2.930.800,11	2.930.787,31	2.930.774,52
16	2.602.678,64	2.910.324,49	2.766.662,63	2.920.613,46	-153.950,83	7.113.812,41	2.879.559,90	2.864.177,61	2.848.795,32	2.833.413,03	2.818.030,73	2.802.648,44	2.787.266,15	2.771.883,86	2.756.501,56
17	2.571.902,47	2.812.261,65	2.587.290,55	2.861.293,07	-274.002,52	6.839.809,89	2.788.225,73	2.776.207,77	2.764.189,81	2.752.171,85	2.740.153,89	2.728.135,94	2.716.117,98	2.704.100,02	2.692.082,06
18	2.482.345,45	2.731.552,09	2.527.123,96	2.771.906,87	-244.782,91	6.595.026,98	2.706.631,43	2.694.171,09	2.681.710,76	2.669.250,43	2.656.790,10	2.644.329,77	2.631.869,43	2.619.409,10	2.606.948,77
19	1.599.258,13	2.598.482,06	2.040.801,79	2.665.017,07	-624.215,29	5.970.811,69	2.498.559,67	2.448.598,47	2.398.637,27	2.348.676,08	2.298.714,88	2.248.753,68	2.198.792,49	2.148.831,29	2.098.870,09
20	2.196.088,12	2.323.526,46	1.897.673,13	2.461.004,26	-563.331,13	5.407.480,56	2.310.782,62	2.304.410,71	2.298.038,79	2.291.666,87	2.285.294,96	2.278.923,04	2.272.551,12	2.266.179,21	2.259.807,29
21	1.250.980,94	2.224.632,78	1.723.534,53	2.274.079,62	-550.545,08	4.856.935,48	2.127.267,59	2.078.585,00	2.029.902,41	1.981.219,82	1.932.537,23	1.883.854,63	1.835.172,04	1.786.489,45	1.737.806,86
22	1.102.929,77	1.911.113,38	1.176.955,35	2.067.873,08	-890.917,72	3.966.017,75	1.830.295,02	1.789.885,84	1.749.476,66	1.709.067,48	1.668.658,30	1.628.249,12	1.587.839,94	1.547.430,75	1.507.021,57
23	1.162.616,69	1.662.286,43	1.132.773,23	1.786.699,91	-653.926,68	3.312.091,08	1.612.319,46	1.587.335,97	1.562.352,49	1.537.369,00	1.512.385,51	1.487.402,02	1.462.418,54	1.437.435,05	1.412.451,56
24	1.296.839,64	1.514.528,57	1.229.728,17	1.588.407,50	-358.679,34	2.953.411,74	1.492.759,68	1.481.875,23	1.470.990,79	1.460.106,34	1.449.221,90	1.438.337,45	1.427.453,00	1.416.568,56	1.405.684,11

0,10 K = 7.488.979,28 - 13.423,13 = 3,00 Horas
3.004.615,53 - 512.763,48

0,15 K = 7.488.979,28 - 13.423,13 = 3,03 Horas
2.982.506,71 - 514.105,79

0,20 K = 7.488.979,28 - 13.423,13 = 3,05 Horas
2.965.320,08 - 515.448,10

0,25 K = 7.488.979,28 - 13.423,13 = 2,95 Horas
3.050.063,70 - 516.790,42

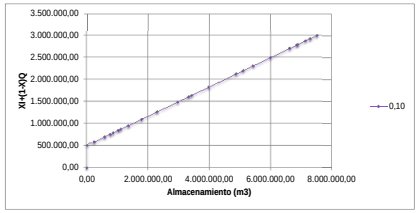
0,30 K = 7.488.979,28 - 13.423,13 = 2,86 Horas
3.134.807,32 - 518.132,73

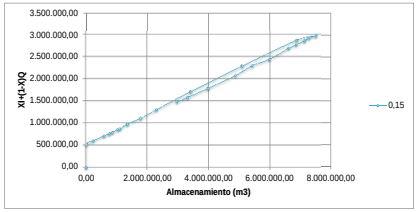
0,35 K = 7.488.979,28 - 13.423,13 = 2,77 Horas
3.219.550,94 - 519.475,04

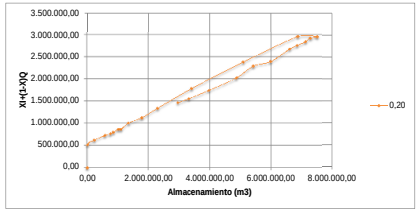
0,40 K = 7.488.979,28 - 13.423,13 = 2,69 Horas
3.304.294,56 - 520.817,35

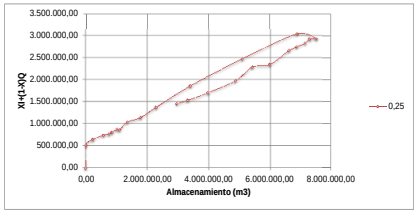
0,45 K = 7.488.979,28 - 13.423,13 = 2,61 Horas
3.389.038,18 - 522.159,67

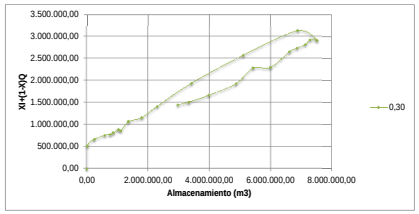
0,50 K = 7.488.979,28 - 13.423,13 = 2,53 Horas
3.473.781,80 - 523.501,98

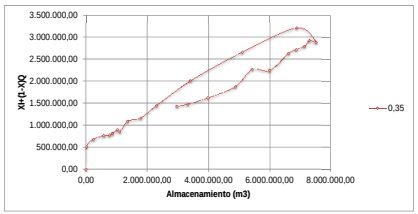

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Almacenamiento (m3)
Qx(t+1)=x
0,10

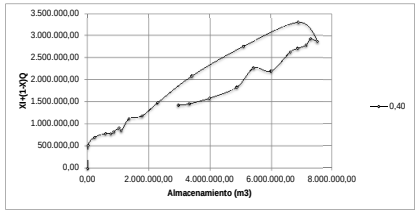

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Almacenamiento (m3)
Qx(t+1)=x
0,15

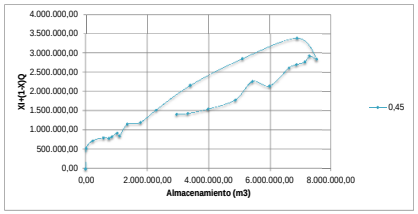

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Almacenamiento (m3)
Qx(t+1)=x
0,20

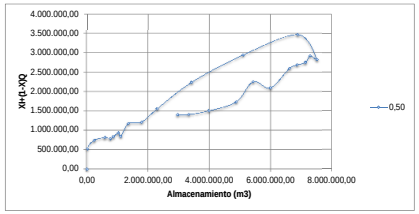

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Almacenamiento (m3)
Qx(t+1)=x
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Almacenamiento (m3)
Qx(t+1)=x
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Almacenamiento (m3)
Qx(t+1)=x
0,35


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Almacenamiento (m3)
Qx(t+1)=x
0,40


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Almacenamiento (m3)
Qx(t+1)=x
0,45


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Almacenamiento (m3)
Qx(t+1)=x
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	728.763,40	743.321,53	619.421,13	123.900,40	137.323,53	750.858,86	761.906,59	772.954,31	784.002,04	795.049,77	806.097,49	817.145,22	828.192,95	839.240,67
3	962.154,86	973.347,43	955.936,40	851.055,42	104.880,98	242.204,51	972.228,18	971.668,55	971.108,92	970.549,29	969.989,66	969.430,03	968.870,40	968.310,77	967.751,15
4	828.656,21	899.910,13	895.405,53	936.628,78	-41.223,25	200.981,26	892.784,74	889.222,04	885.659,35	882.096,65	878.533,96	874.971,26	871.408,56	867.845,87	864.283,17
5	888.435,40	850.344,98	858.545,80	875.127,55	-16.581,75	184.399,50	854.154,02	856.058,54	857.963,06	859.867,58	861.772,10	863.676,62	865.581,14	867.485,67	869.390,19
6	1.050.897,01	966.168,33	969.666,20	908.256,65	61.409,55	245.809,05	974.641,20	978.877,63	983.114,07	987.350,50	991.586,94	995.823,37	1.000.059,80	1.004.296,24	1.008.532,67
7	816.880,77	950.245,93	933.888,89	958.207,13	-24.318,24	221.490,81	936.909,41	930.241,16	923.572,90	916.904,64	910.236,38	903.568,12	896.899,87	890.231,61	883.563,35
8	1.464.595,11	1.103.665,86	1.140.737,94	1.026.955,90	113.782,05	335.272,86	1.139.758,79	1.157.805,25	1.175.851,71	1.193.898,18	1.211.944,64	1.229.991,10	1.248.037,56	1.266.084,03	1.284.130,49
9	1.363.224,74	1.447.284,07	1.413.909,93	1.275.474,97	138.434,96	473.707,82	1.438.878,14	1.434.675,17	1.430.472,20	1.426.269,24	1.422.066,27	1.417.863,30	1.413.660,34	1.409.457,37	1.405.254,40
10	1.924.173,70	1.614.142,42	1.643.699,22	1.530.713,25	112.985,97	586.693,79	1.645.145,55	1.660.647,12	1.676.148,68	1.691.650,24	1.707.151,81	1.722.653,37	1.738.154,93	1.753.656,50	1.769.158,06
11	2.990.327,36	2.439.165,76	2.457.250,53	2.026.654,09	430.596,44	1.017.290,23	2.494.281,92	2.521.840,00	2.549.398,08	2.576.956,16	2.604.514,24	2.632.072,32	2.659.630,40	2.687.188,48	2.714.746,56
12	3.882.684,66	3.445.018,14	3.436.506,01	2.942.091,95	494.414,06	1.511.704,29	3.488.784,79	3.510.668,12	3.532.551,44	3.554.434,77	3.576.318,09	3.598.201,42	3.620.084,75	3.641.968,07	3.663.851,40
13	4.321.217,99	4.119.659,42	4.101.951,32	3.782.338,78	319.612,54	1.831.316,83	4.139.815,28	4.149.893,20	4.159.971,13	4.170.049,06	4.180.126,99	4.190.204,92	4.200.282,85	4.210.360,78	4.220.438,70
14	2.606.656,88	3.549.789,26	3.463.937,43	3.834.724,34	-370.786,90	1.460.529,93	3.455.476,02	3.408.319,40	3.361.162,78	3.314.006,16	3.266.849,54	3.219.692,92	3.172.536,31	3.125.379,69	3.078.223,07
15	2.930.646,62	2.679.046,84	2.768.651,75	3.114.418,05	-345.766,30	1.114.763,64	2.704.206,82	2.716.786,81	2.729.366,80	2.741.946,79	2.754.526,77	2.767.106,76	2.779.686,75	2.792.266,74	2.804.846,73
16	2.602.678,64	2.800.358,61	2.766.662,63	2.739.702,73	26.959,90	1.141.723,54	2.780.590,61	2.770.706,61	2.760.822,62	2.750.938,62	2.741.054,62	2.731.170,62	2.721.286,62	2.711.402,62	2.701.518,62
17	2.571.902,47	2.572.510,13	2.587.290,55	2.686.434,37	-99.143,82	1.042.579,72	2.572.449,36	2.572.418,98	2.572.388,60	2.572.358,21	2.572.327,83	2.572.297,45	2.572.267,06	2.572.236,68	2.572.206,30
18	2.482.345,45	2.530.705,38	2.527.123,96	2.551.607,75	-24.483,80	1.018.095,93	2.525.869,38	2.523.451,39	2.521.033,39	2.518.615,39	2.516.197,40	2.513.779,40	2.511.361,40	2.508.943,41	2.506.525,41
19	1.599.258,13	2.072.681,55	2.040.801,79	2.301.693,46	-260.891,67	757.204,25	2.025.339,21	2.001.668,04	1.977.996,87	1.954.325,70	1.930.654,53	1.906.983,35	1.883.312,18	1.859.641,01	1.835.969,84
20	2.196.088,12	1.835.091,63	1.897.673,13	1.953.886,59	-56.213,47	700.990,79	1.871.191,28	1.889.241,11	1.907.290,93	1.925.340,76	1.943.390,58	1.961.440,41	1.979.490,23	1.997.540,05	2.015.589,88
21	1.250.980,94	1.791.119,67	1.723.534,53	1.813.105,65	-89.571,12	611.419,66	1.737.105,80	1.710.098,86	1.683.091,93	1.656.084,99	1.629.078,05	1.602.071,12	1.575.064,18	1.548.057,24	1.521.050,31
22	1.102.929,77	1.139.162,40	1.176.955,35	1.465.141,04	-288.185,68	323.233,98	1.135.539,13	1.133.727,50	1.131.915,87	1.130.104,24	1.128.292,61	1.126.480,98	1.124.669,35	1.122.857,71	1.121.046,08
23	1.162.616,69	1.127.415,71	1.132.773,23	1.133.289,05	-515,82	322.718,16	1.130.935,81	1.132.695,86	1.134.455,91	1.136.215,95	1.137.976,00	1.139.736,05	1.141.496,10	1.143.256,15	1.145.016,20
24	1.296.839,64	1.227.140,83	1.229.728,17	1.177.278,27	52.449,90	375.168,06	1.234.110,71	1.237.595,65	1.241.080,59	1.244.565,53	1.248.050,47	1.251.535,42	1.255.020,36	1.258.505,30	1.261.990,24

0,10 K = 1.831.316,83 - 13.423,13 = 0,50 Horas
4.139.815,28 - 512.763,48

0,15 K = 1.831.316,83 - 13.423,13 = 0,50 Horas
4.149.893,20 - 514.105,79

0,20 K = 1.831.316,83 - 13.423,13 = 0,50 Horas
4.159.971,13 - 515.448,10

0,25 K = 1.831.316,83 - 13.423,13 = 0,50 Horas
4.170.049,06 - 516.790,42

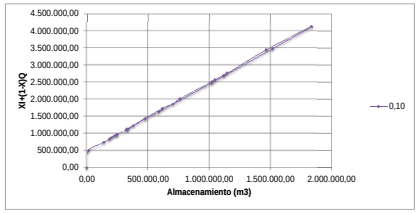
0,30 K = 1.831.316,83 - 13.423,13 = 0,50 Horas
4.180.126,99 - 518.132,73

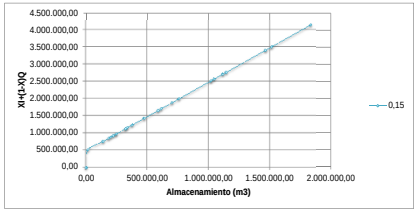
0,35 K = 1.831.316,83 - 13.423,13 = 0,50 Horas
4.190.204,92 - 519.475,04

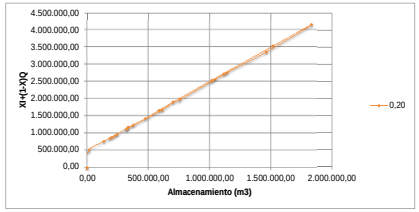
0,40 K = 1.831.316,83 - 13.423,13 = 0,49 Horas
4.200.282,85 - 520.817,35

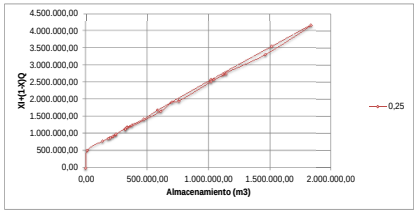
0,45 K = 1.831.316,83 - 13.423,13 = 0,49 Horas
4.210.360,78 - 522.159,67

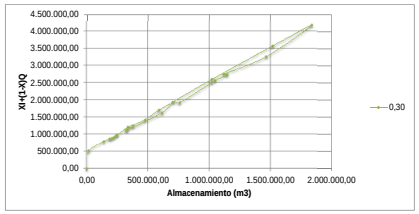
0,50 K = 1.831.316,83 - 13.423,13 = 0,49 Horas
4.220.438,70 - 523.501,98

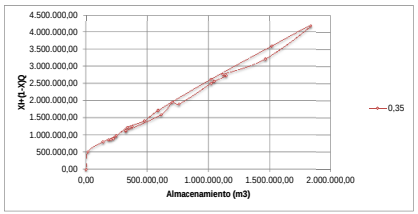

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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
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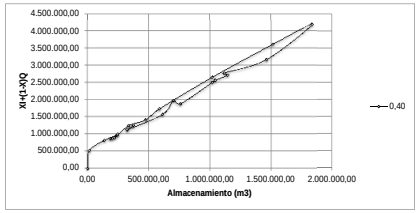

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1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,15

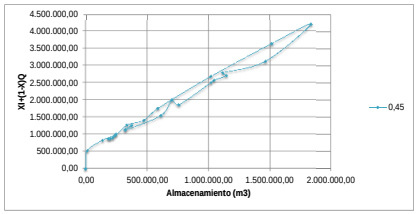

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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,20

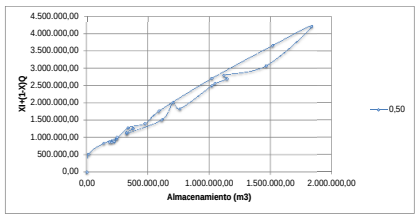

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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,25


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2.000.000,00
Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,30


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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,35


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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,40


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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,45


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Almacenamiento (m3)
Qdx-(t+Δt)-Qdx-t+Δx
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	636.985,33	743.321,53	573.532,09	169.789,43	183.212,56	668.258,59	683.895,22	699.531,85	715.168,48	730.805,12	746.441,75	762.078,38	777.715,01	793.351,64
3	962.154,86	871.863,50	955.936,40	754.424,42	201.511,98	384.724,54	880.892,64	885.407,21	889.921,77	894.436,34	898.950,91	903.465,48	907.980,04	912.494,61	917.009,18
4	828.656,21	904.135,23	895.405,53	887.999,36	7.406,17	392.130,71	896.587,32	892.813,37	889.039,42	885.265,47	881.491,52	877.717,57	873.943,62	870.169,67	866.395,72
5	888.435,40	863.723,15	858.545,80	883.929,19	-25.383,39	366.747,33	866.194,38	867.429,99	868.665,60	869.901,21	871.136,82	872.372,44	873.608,05	874.843,66	876.079,27
6	1.050.897,01	924.148,20	969.666,20	893.935,67	75.730,53	442.477,86	936.823,08	943.160,52	949.497,96	955.835,40	962.172,84	968.510,28	974.847,72	981.185,16	987.522,60
7	816.880,77	957.365,33	933.888,89	940.756,76	-6.867,87	435.609,98	943.316,87	936.292,65	929.268,42	922.244,19	915.219,96	908.195,74	901.171,51	894.147,28	887.123,05
8	1.464.595,11	1.021.228,64	1.140.737,94	989.296,98	151.440,96	587.050,95	1.065.565,28	1.087.733,61	1.109.901,93	1.132.070,26	1.154.238,58	1.176.406,90	1.198.575,23	1.220.743,55	1.242.911,87
9	1.363.224,74	1.323.367,04	1.413.909,93	1.172.297,84	241.612,09	828.663,03	1.327.352,81	1.329.345,69	1.331.338,58	1.333.331,46	1.335.324,35	1.337.317,23	1.339.310,12	1.341.303,00	1.343.295,89
10	1.924.173,70	1.498.322,47	1.643.699,22	1.410.844,76	232.854,46	1.061.517,50	1.540.907,60	1.562.200,16	1.583.492,72	1.604.785,28	1.626.077,84	1.647.370,40	1.668.662,96	1.689.955,53	1.711.248,09
11	2.990.327,36	2.090.178,03	2.457.250,53	1.794.250,25	663.000,28	1.724.517,77	2.180.192,97	2.225.200,43	2.270.207,90	2.315.215,37	2.360.222,83	2.405.230,30	2.450.237,76	2.495.245,23	2.540.252,70
12	3.882.684,66	2.988.307,20	3.436.506,01	2.539.242,62	897.263,39	2.621.781,16	3.077.744,95	3.122.463,82	3.167.182,69	3.211.901,57	3.256.620,44	3.301.339,31	3.346.058,18	3.390.777,06	3.435.495,93
13	4.321.217,99	3.764.502,85	4.101.951,32	3.376.405,03	725.546,30	3.347.327,46	3.820.174,36	3.848.010,12	3.875.845,88	3.903.681,63	3.931.517,39	3.959.353,15	3.987.188,90	4.015.024,66	4.042.860,42
14	2.606.656,88	3.732.368,59	3.463.937,43	3.748.435,72	-284.498,28	3.062.829,17	3.619.797,42	3.563.511,83	3.507.226,25	3.450.940,66	3.394.655,08	3.338.369,49	3.282.083,91	3.225.798,32	3.169.512,74
15	2.930.646,62	2.982.505,41	2.768.651,75	3.357.437,00	-588.785,25	2.474.043,93	2.977.319,53	2.974.726,59	2.972.133,65	2.969.540,71	2.966.947,77	2.964.354,83	2.961.761,89	2.959.168,95	2.956.576,01
16	2.602.678,64	2.859.062,75	2.766.662,63	2.920.784,08	-154.121,45	2.319.922,47	2.833.424,34	2.820.605,14	2.807.785,93	2.794.966,73	2.782.147,52	2.769.328,31	2.756.509,11	2.743.689,90	2.730.870,70
17	2.571.902,47	2.661.169,59	2.587.290,55	2.760.116,17	-172.825,62	2.147.096,86	2.652.242,87	2.647.779,52	2.643.316,16	2.638.852,81	2.634.389,45	2.629.926,09	2.625.462,74	2.620.999,38	2.616.536,03
18	2.482.345,45	2.571.827,31	2.527.123,96	2.616.498,45	-89.374,49	2.057.722,37	2.562.879,12	2.558.405,03	2.553.930,94	2.549.456,84	2.544.982,75	2.540.508,66	2.536.034,56	2.531.560,47	2.527.086,38
19	1.599.258,13	2.276.595,88	2.040.801,79	2.424.211,60	-383.409,81	1.674.312,56	2.208.862,11	2.174.995,22	2.141.128,33	2.107.261,45	2.073.394,56	2.039.527,67	2.005.660,78	1.971.793,90	1.937.927,01
20	2.196.088,12	1.929.597,92	1.897.673,13	2.103.096,90	-205.423,77	1.468.888,79	1.956.246,94	1.969.571,45	1.982.895,96	1.996.220,47	2.009.544,98	2.022.869,49	2.036.194,00	2.049.518,51	2.062.843,02
21	1.250.980,94	1.881.970,28	1.723.534,53	1.905.784,10	-182.249,57	1.286.639,22	1.818.871,35	1.787.321,88	1.755.772,41	1.724.222,95	1.692.673,48	1.661.124,01	1.629.574,55	1.598.025,08	1.566.475,61
22	1.102.929,77	1.376.187,13	1.176.955,35	1.629.078,71	-452.123,35	834.515,87	1.348.861,40	1.335.198,53	1.321.535,66	1.307.872,79	1.294.209,92	1.280.547,06	1.266.884,19	1.253.221,32	1.239.558,45
23	1.162.616,69	1.189.248,66	1.132.773,23	1.282.717,90	-149.944,67	684.571,20	1.186.585,46	1.185.253,86	1.183.922,26	1.182.590,67	1.181.259,07	1.179.927,47	1.178.595,87	1.177.264,27	1.175.932,67
24	1.296.839,64	1.204.319,82	1.229.728,17	1.196.784,24	32.943,93	717.515,13	1.213.571,80	1.218.197,79	1.222.823,78	1.227.449,78	1.232.075,77	1.236.701,76	1.241.327,75	1.245.953,74	1.250.579,73

0,10 K = 3.347.327,46 - 13.423,13 = 1,01 Horas
3.820.174,36 - 512.763,48

0,15 K = 3.347.327,46 - 13.423,13 = 1,00 Horas
3.848.010,12 - 514.105,79

0,20 K = 3.347.327,46 - 13.423,13 = 0,99 Horas
3.875.845,88 - 515.448,10

0,25 K = 3.347.327,46 - 13.423,13 = 0,98 Horas
3.903.681,63 - 516.790,42

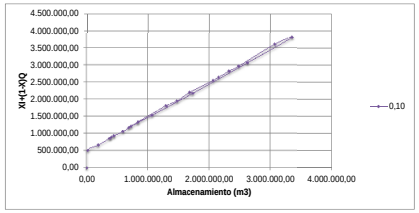
0,30 K = 3.347.327,46 - 13.423,13 = 0,98 Horas
3.931.517,39 - 518.132,73

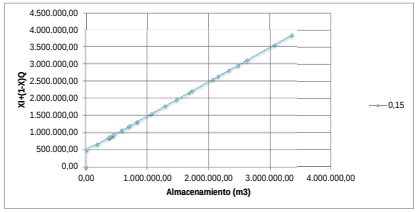
0,35 K = 3.347.327,46 - 13.423,13 = 0,97 Horas
3.959.353,15 - 519.475,04

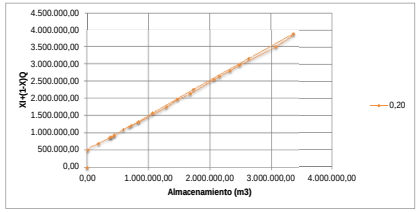
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3.987.188,90 - 520.817,35

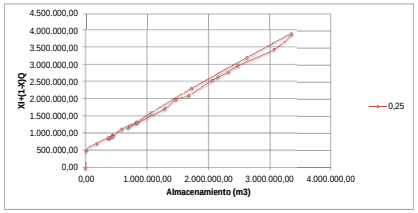
0,45 K = 3.347.327,46 - 13.423,13 = 0,95 Horas
4.015.024,66 - 522.159,67

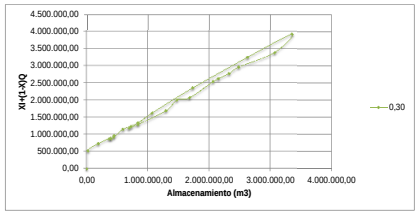
0,50 K = 3.347.327,46 - 13.423,13 = 0,95 Horas
4.042.860,42 - 523.501,98

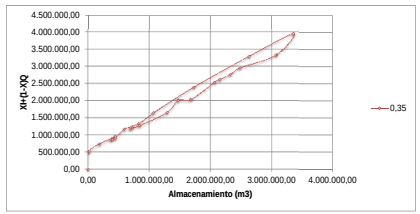

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Almacenamiento (m3)
0,10

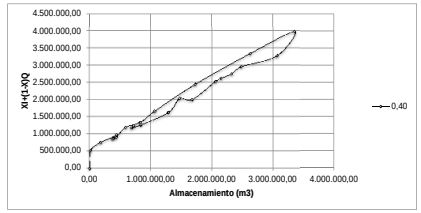

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Almacenamiento (m3)
0,15

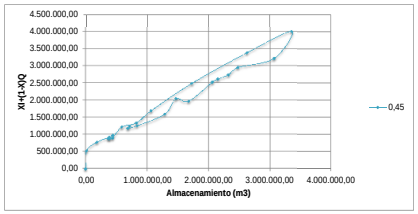

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Almacenamiento (m3)
0,20

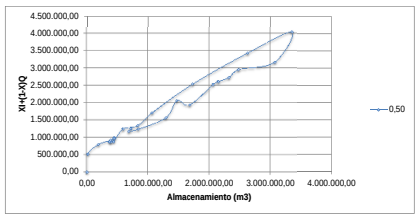

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Almacenamiento (m3)
0,25


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Almacenamiento (m3)
0,30


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Almacenamiento (m3)
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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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4.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	589.157,32	743.321,53	549.618,09	193.703,44	207.126,57	625.213,38	643.241,42	661.269,45	679.297,48	697.325,51	715.353,54	733.381,57	751.409,60	769.437,63
3	962.154,86	794.216,91	955.936,40	691.687,12	264.249,28	471.375,85	811.010,71	819.407,60	827.804,50	836.201,40	844.598,30	852.995,19	861.392,09	869.788,99	878.185,88
4	828.656,21	868.146,95	895.405,53	831.181,93	64.223,60	535.599,45	864.197,88	862.223,34	860.248,80	858.274,26	856.299,73	854.325,19	852.350,65	850.376,12	848.401,58
5	888.435,40	855.160,21	858.545,80	861.653,58	-3.107,78	532.491,67	858.487,73	860.151,49	861.815,25	863.479,01	865.142,76	866.806,52	868.470,28	870.134,04	871.797,80
6	1.050.897,01	899.076,90	969.666,20	877.118,56	92.547,65	625.039,32	914.258,91	921.849,92	929.440,92	937.031,93	944.622,93	952.213,94	959.804,95	967.395,95	974.986,96
7	816.880,77	948.353,32	933.888,89	923.715,11	10.173,78	635.213,10	935.206,07	928.632,44	922.058,81	915.485,18	908.911,56	902.337,93	895.764,30	889.190,67	882.617,05
8	1.464.595,11	974.634,39	1.140.737,94	961.493,85	179.244,09	814.457,19	1.023.630,46	1.048.128,50	1.072.626,53	1.097.124,57	1.121.622,61	1.146.120,64	1.170.618,68	1.195.116,72	1.219.614,75
9	1.363.224,74	1.234.963,33	1.413.909,93	1.104.798,86	309.111,07	1.123.568,26	1.247.789,47	1.254.202,54	1.260.615,61	1.267.028,68	1.273.441,75	1.279.854,82	1.286.267,89	1.292.680,96	1.299.094,03
10	1.924.173,70	1.394.130,86	1.643.699,22	1.314.547,10	329.152,12	1.452.720,38	1.447.135,15	1.473.637,29	1.500.139,43	1.526.641,57	1.553.143,72	1.579.645,86	1.606.148,00	1.632.650,14	1.659.152,28
11	2.990.327,36	1.857.925,28	2.457.250,53	1.626.028,07	831.222,46	2.283.942,83	1.971.165,49	2.027.785,59	2.084.405,70	2.141.025,80	2.197.645,90	2.254.266,01	2.310.886,11	2.367.506,22	2.424.126,32
12	3.882.684,66	2.634.150,82	3.436.506,01	2.246.038,05	1.190.467,96	3.474.410,79	2.759.004,21	2.821.430,90	2.883.857,59	2.946.284,28	3.008.710,97	3.071.137,66	3.133.564,36	3.195.991,05	3.258.417,74
13	4.321.217,99	3.405.491,95	4.101.951,32	3.019.821,39	1.082.129,94	4.556.540,73	3.497.064,55	3.542.850,86	3.588.637,16	3.634.423,46	3.680.209,76	3.725.996,06	3.771.782,36	3.817.568,67	3.863.354,97
14	2.606.656,88	3.655.757,72	3.463.937,43	3.530.624,83	-66.687,40	4.489.853,33	3.550.847,63	3.498.392,59	3.445.937,55	3.393.482,51	3.341.027,46	3.288.572,42	3.236.117,38	3.183.662,34	3.131.207,30
15	2.930.646,62	3.114.910,59	2.768.651,75	3.385.334,15	-616.682,40	3.873.170,93	3.096.484,19	3.087.270,99	3.078.057,79	3.068.844,59	3.059.631,40	3.050.418,20	3.041.205,00	3.031.991,80	3.022.778,60
16	2.602.678,64	2.960.287,96	2.766.662,63	3.037.599,27	-270.936,64	3.602.234,29	2.924.527,03	2.906.646,56	2.888.766,10	2.870.885,63	2.853.005,16	2.835.124,70	2.817.244,23	2.799.363,76	2.781.483,30
17	2.571.902,47	2.754.049,78	2.587.290,55	2.857.168,87	-269.878,32	3.332.355,97	2.735.835,05	2.726.727,68	2.717.620,32	2.708.512,95	2.699.405,59	2.690.298,22	2.681.190,85	2.672.083,49	2.662.976,12
18	2.482.345,45	2.637.556,54	2.527.123,96	2.695.803,16	-168.679,21	3.163.676,76	2.622.035,43	2.614.274,88	2.606.514,32	2.598.753,77	2.590.993,21	2.583.232,66	2.575.472,10	2.567.711,55	2.559.951,00
19	1.599.258,13	2.413.297,33	2.040.801,79	2.525.426,94	-484.625,15	2.679.051,62	2.331.893,41	2.291.191,45	2.250.489,49	2.209.787,53	2.169.085,57	2.128.383,61	2.087.681,65	2.046.979,69	2.006.277,73
20	2.196.088,12	2.047.150,31	1.897.673,13	2.230.223,82	-332.550,69	2.346.500,92	2.062.044,10	2.069.490,99	2.076.937,88	2.084.384,77	2.091.831,66	2.099.278,55	2.106.725,44	2.114.172,33	2.121.619,22
21	1.250.980,94	1.984.633,88	1.723.534,53	2.015.892,10	-292.357,57	2.054.143,36	1.911.268,59	1.874.585,94	1.837.903,29	1.801.220,65	1.764.538,00	1.727.855,35	1.691.172,71	1.654.490,06	1.617.807,41
22	1.102.929,77	1.548.370,78	1.176.955,35	1.766.502,33	-589.546,97	1.464.596,38	1.503.826,68	1.481.554,62	1.459.282,57	1.437.010,52	1.414.738,47	1.392.466,42	1.370.194,37	1.347.922,32	1.325.650,27
23	1.162.616,69	1.306.665,37	1.132.773,23	1.427.518,07	-294.744,84	1.169.851,54	1.292.260,50	1.285.058,06	1.277.855,63	1.270.653,20	1.263.450,76	1.256.248,33	1.249.045,90	1.241.843,46	1.234.641,03
24	1.296.839,64	1.246.306,29	1.229.728,17	1.276.485,83	-46.757,66	1.123.093,88	1.251.359,62	1.253.886,29	1.256.412,96	1.258.939,63	1.261.466,30	1.263.992,96	1.266.519,63	1.269.046,30	1.271.572,97

0,10 K = 4.556.540,73 - 13.423,13 = 1,50 Horas
3.550.847,63 - 512.763,48

0,15 K = 4.556.540,73 - 13.423,13 = 1,50 Horas
3.542.850,86 - 514.105,79

0,20 K = 4.556.540,73 - 13.423,13 = 1,48 Horas
3.588.637,16 - 515.448,10

0,25 K = 4.556.540,73 - 13.423,13 = 1,46 Horas
3.634.423,46 - 516.790,42

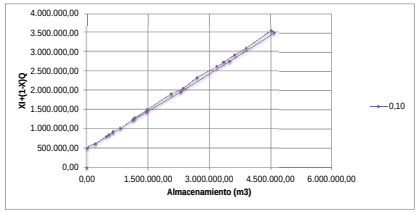
0,30 K = 4.556.540,73 - 13.423,13 = 1,44 Horas
3.680.209,76 - 518.132,73

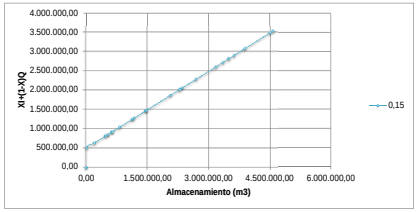
0,35 K = 4.556.540,73 - 13.423,13 = 1,42 Horas
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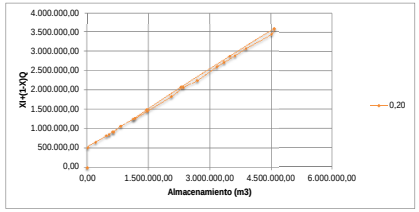
0,40 K = 4.556.540,73 - 13.423,13 = 1,40 Horas
3.771.782,36 - 520.817,35

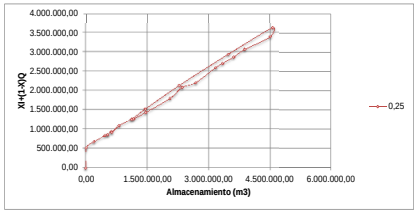
0,45 K = 4.556.540,73 - 13.423,13 = 1,38 Horas
3.817.568,67 - 522.159,67

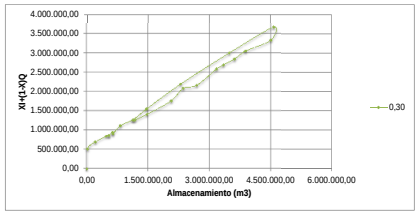
0,50 K = 4.556.540,73 - 13.423,13 = 1,36 Horas
3.863.354,97 - 523.501,98

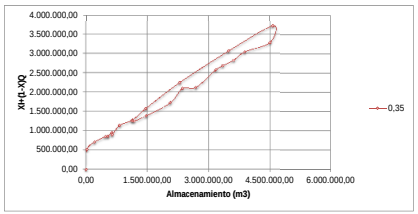

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Almacenamiento (m3)
0,10

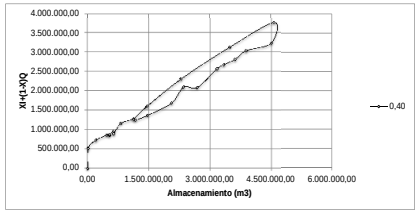

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Almacenamiento (m3)
0,15

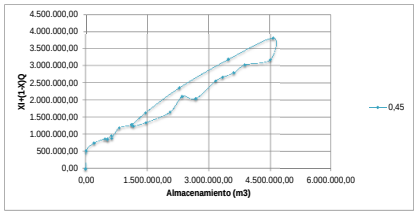

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Almacenamiento (m3)
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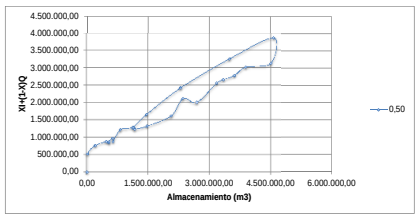

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Almacenamiento (m3)
0,25


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Almacenamiento (m3)
0,30


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Almacenamiento (m3)
0,35


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Almacenamiento (m3)
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Almacenamiento (m3)
0,45


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4.500.000,00
6.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	559.808,32	743.321,53	534.943,58	208.377,94	221.801,07	598.799,28	618.294,76	637.790,24	657.285,72	676.781,20	696.276,69	715.772,17	735.267,65	754.763,13
3	962.154,86	738.170,59	955.936,40	648.989,46	306.946,95	528.748,01	760.569,02	771.768,23	782.967,45	794.166,66	805.365,87	816.565,09	827.764,30	838.963,51	850.162,73
4	828.656,21	827.845,38	895.405,53	783.007,99	112.397,54	641.145,56	827.926,46	827.967,01	828.007,55	828.048,09	828.088,63	828.129,17	828.169,71	828.210,25	828.250,79
5	888.435,40	833.648,41	858.545,80	830.746,90	27.798,91	668.944,47	839.127,11	841.866,46	844.605,81	847.345,16	850.084,51	852.823,86	855.563,20	858.302,55	861.041,90
6	1.050.897,01	873.320,82	969.666,20	853.484,62	116.181,59	785.126,05	891.078,44	899.957,25	908.836,06	917.714,87	926.593,68	935.472,49	944.351,30	953.230,11	962.108,92
7	816.880,77	932.763,07	933.888,89	903.041,95	30.846,95	815.973,00	921.174,84	915.380,72	909.586,61	903.792,49	897.998,38	892.204,27	886.410,15	880.616,04	874.821,92
8	1.464.595,11	938.972,42	1.140.737,94	935.867,74	204.870,20	1.020.843,20	991.534,69	1.017.815,82	1.044.096,96	1.070.378,09	1.096.659,23	1.122.940,36	1.149.221,50	1.175.502,63	1.201.783,77
9	1.363.224,74	1.168.676,34	1.413.909,93	1.053.824,38	360.085,55	1.380.928,74	1.188.131,18	1.197.858,60	1.207.586,02	1.217.313,44	1.227.040,86	1.236.768,28	1.246.495,70	1.256.223,12	1.265.950,54
10	1.924.173,70	1.308.102,79	1.643.699,22	1.238.389,56	405.309,66	1.786.238,40	1.369.709,88	1.400.513,43	1.431.316,97	1.462.120,52	1.492.924,06	1.523.727,61	1.554.531,15	1.585.334,70	1.616.138,25
11	2.990.327,36	1.685.058,08	2.457.250,53	1.496.580,43	960.670,09	2.746.908,49	1.815.585,01	1.880.848,47	1.946.111,94	2.011.375,40	2.076.638,86	2.141.902,33	2.207.165,79	2.272.429,26	2.337.692,72
12	3.882.684,66	2.359.485,69	3.436.506,01	2.022.271,88	1.414.234,12	4.161.142,62	2.511.805,59	2.587.965,53	2.664.125,48	2.740.285,43	2.816.445,38	2.892.605,33	2.968.765,28	3.044.925,22	3.121.085,17
13	4.321.217,99	3.091.715,52	4.101.951,32	2.725.600,61	1.376.350,72	5.537.493,33	3.214.665,77	3.276.140,89	3.337.616,02	3.399.091,14	3.460.566,26	3.522.041,39	3.583.516,51	3.644.991,63	3.706.466,76
14	2.606.656,88	3.494.711,06	3.463.937,43	3.293.213,31	170.724,13	5.708.217,46	3.405.905,67	3.361.502,96	3.317.100,25	3.272.697,54	3.228.294,83	3.183.892,12	3.139.489,41	3.095.086,69	3.050.683,98
15	2.930.646,62	3.120.503,70	2.768.651,75	3.307.607,39	-538.955,64	5.169.261,82	3.101.517,99	3.092.025,14	3.082.532,28	3.073.039,43	3.063.546,57	3.054.053,72	3.044.560,87	3.035.068,01	3.025.575,16
16	2.602.678,64	3.004.389,76	2.766.662,63	3.062.446,73	-295.784,10	4.873.477,72	2.964.218,64	2.944.133,09	2.924.047,53	2.903.961,98	2.883.876,42	2.863.790,86	2.843.705,31	2.823.619,75	2.803.534,20
17	2.571.902,47	2.818.995,96	2.587.290,55	2.911.692,86	-324.402,30	4.549.075,42	2.794.286,61	2.781.931,94	2.769.577,26	2.757.222,59	2.744.867,91	2.732.513,24	2.720.158,56	2.707.803,89	2.695.449,21
18	2.482.345,45	2.698.539,19	2.527.123,96	2.758.767,57	-231.643,62	4.317.431,80	2.676.919,81	2.666.110,13	2.655.300,44	2.644.490,75	2.633.681,07	2.622.871,38	2.612.061,69	2.601.252,00	2.590.442,32
19	1.599.258,13	2.519.988,64	2.040.801,79	2.609.263,91	-568.462,13	3.748.969,68	2.427.915,59	2.381.879,06	2.335.842,54	2.289.806,01	2.243.769,49	2.197.732,96	2.151.696,44	2.105.659,91	2.059.623,39
20	2.196.088,12	2.155.732,04	1.897.673,13	2.337.860,34	-440.187,22	3.308.782,46	2.159.767,65	2.161.785,46	2.163.803,26	2.165.821,06	2.167.838,87	2.169.856,67	2.171.874,48	2.173.892,28	2.175.910,08
21	1.250.980,94	2.088.156,88	1.723.534,53	2.121.944,46	-398.409,93	2.910.372,53	2.004.439,29	1.962.580,49	1.920.721,69	1.878.862,90	1.837.004,10	1.795.145,30	1.753.286,51	1.711.427,71	1.669.568,91
22	1.102.929,77	1.694.163,17	1.176.955,35	1.891.160,02	-714.204,67	2.196.167,86	1.635.039,83	1.605.478,16	1.575.916,49	1.546.354,82	1.516.793,15	1.487.231,48	1.457.669,81	1.428.108,14	1.398.546,47
23	1.162.616,69	1.430.846,80	1.132.773,23	1.562.504,98	-429.731,75	1.766.436,11	1.404.023,79	1.390.612,28	1.377.200,78	1.363.789,27	1.350.377,76	1.336.966,26	1.323.554,75	1.310.143,25	1.296.731,74
24	1.296.839,64	1.321.126,11	1.229.728,17	1.375.986,45	-146.258,28	1.620.177,83	1.318.697,46	1.317.483,14	1.316.268,82	1.315.054,49	1.313.840,17	1.312.625,85	1.311.411,52	1.310.197,20	1.308.982,88

0,10 K = 5.708.217,46 - 13.423,13 = 1,97 Horas
3.405.905,67 - 512.763,48

0,15 K = 5.708.217,46 - 13.423,13 = 2,00 Horas
3.361.502,96 - 514.105,79

0,20 K = 5.708.217,46 - 13.423,13 = 2,02 Horas
3.337.616,02 - 515.448,10

0,25 K = 5.708.217,46 - 13.423,13 = 1,98 Horas
3.399.091,14 - 516.790,42

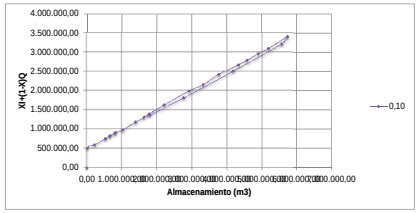
0,30 K = 5.708.217,46 - 13.423,13 = 1,94 Horas
3.460.566,26 - 518.132,73

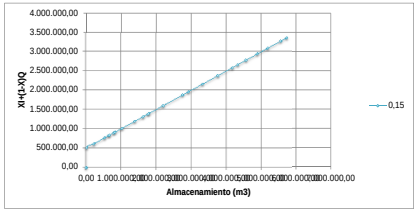
0,35 K = 5.708.217,46 - 13.423,13 = 1,90 Horas
3.522.041,39 - 519.475,04

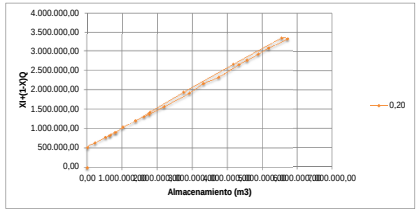
0,40 K = 5.708.217,46 - 13.423,13 = 1,86 Horas
3.583.516,51 - 520.817,35

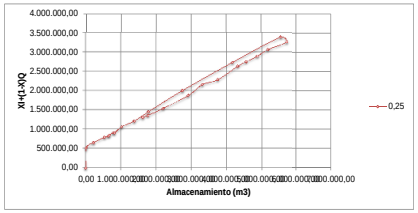
0,45 K = 5.708.217,46 - 13.423,13 = 1,82 Horas
3.644.991,63 - 522.159,67

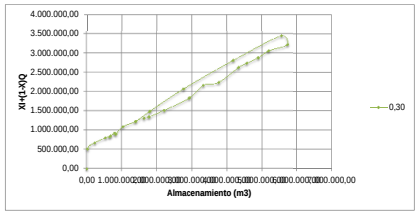
0,50 K = 5.708.217,46 - 13.423,13 = 1,79 Horas
3.706.466,76 - 523.501,98

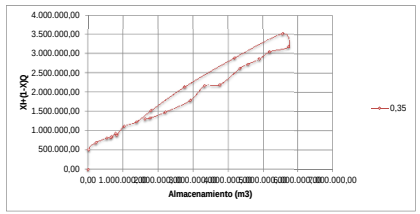

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Almacenamiento (m3)
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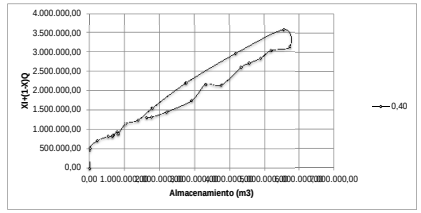

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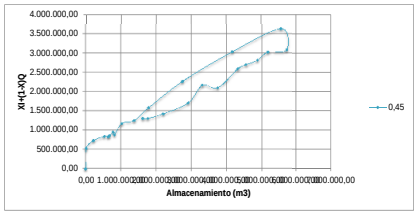

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Almacenamiento (m3)
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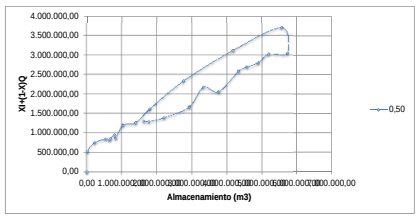

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	539.962,80	743.321,53	525.020,82	218.300,70	231.723,83	580.938,31	601.426,07	621.913,83	642.401,58	662.889,34	683.377,10	703.864,86	724.352,61	744.840,37
3	962.154,86	696.652,23	955.936,40	618.307,51	337.628,89	569.352,71	723.202,49	736.477,62	749.752,76	763.027,89	776.303,02	789.578,15	802.853,28	816.128,41	829.403,54
4	828.656,21	791.439,01	895.405,53	744.045,62	151.359,91	720.712,63	795.160,73	797.021,59	798.882,45	800.743,31	802.604,17	804.465,03	806.325,89	808.186,75	810.047,61
5	888.435,40	808.463,62	858.545,80	799.951,31	58.594,49	779.307,11	816.460,80	820.459,38	824.457,97	828.456,56	832.455,15	836.453,74	840.452,33	844.450,92	848.449,51
6	1.050.897,01	846.665,32	969.666,20	827.564,47	142.101,73	921.408,85	867.088,49	877.300,08	887.511,66	897.723,25	907.934,83	918.146,41	928.358,00	938.569,58	948.781,17
7	816.880,77	913.324,24	933.888,89	879.994,78	53.894,11	975.302,96	903.679,89	898.857,72	894.035,55	889.213,37	884.391,20	879.569,03	874.746,85	869.924,68	865.102,51
8	1.464.595,11	907.427,41	1.140.737,94	910.375,83	230.362,12	1.205.665,07	963.144,18	991.002,57	1.018.860,95	1.046.719,34	1.074.577,72	1.102.436,11	1.130.294,49	1.158.152,88	1.186.011,26
9	1.363.224,74	1.114.854,61	1.413.909,93	1.011.141,01	402.768,91	1.608.433,98	1.139.691,63	1.152.110,13	1.164.528,64	1.176.947,14	1.189.365,65	1.201.784,16	1.214.202,66	1.226.621,17	1.239.039,68
10	1.924.173,70	1.236.183,66	1.643.699,22	1.175.519,14	468.180,08	2.076.614,07	1.304.982,66	1.339.382,17	1.373.781,67	1.408.181,17	1.442.580,67	1.476.980,17	1.511.379,68	1.545.779,18	1.580.178,68
11	2.990.327,36	1.549.044,33	2.457.250,53	1.392.613,99	1.064.636,54	3.141.250,60	1.693.172,63	1.765.236,78	1.837.300,93	1.909.365,08	1.981.429,24	2.053.493,39	2.125.557,54	2.197.621,69	2.269.685,84
12	3.882.684,66	2.140.597,73	3.436.506,01	1.844.821,03	1.591.684,98	4.732.935,58	2.314.806,43	2.401.910,77	2.489.015,12	2.576.119,46	2.663.223,81	2.750.328,16	2.837.432,50	2.924.536,85	3.011.641,20
13	4.321.217,99	2.825.132,43	4.101.951,32	2.482.865,08	1.619.086,24	6.352.021,82	2.974.740,99	3.049.545,27	3.124.349,54	3.199.153,82	3.273.958,10	3.348.762,38	3.423.566,66	3.498.370,93	3.573.175,21
14	2.606.656,88	3.313.424,02	3.463.937,43	3.069.278,23	394.659,21	6.746.681,03	3.242.747,31	3.207.408,95	3.172.070,59	3.136.732,24	3.101.393,88	3.066.055,52	3.030.717,17	2.995.378,81	2.960.040,45
15	2.930.646,62	3.059.607,48	2.768.651,75	3.186.515,75	-417.864,00	6.328.817,03	3.046.711,39	3.040.263,35	3.033.815,31	3.027.367,26	3.020.919,22	3.014.471,18	3.008.023,14	3.001.575,09	2.995.127,05
16	2.602.678,64	2.994.862,01	2.766.662,63	3.027.234,74	-260.572,12	6.068.244,91	2.955.643,67	2.936.034,50	2.916.425,34	2.896.816,17	2.877.207,00	2.857.597,83	2.837.988,66	2.818.379,49	2.798.770,32
17	2.571.902,47	2.843.993,29	2.587.290,55	2.919.427,65	-332.137,10	5.736.107,82	2.816.784,21	2.803.179,67	2.789.575,12	2.775.970,58	2.762.366,04	2.748.761,50	2.735.156,96	2.721.552,42	2.707.947,88
18	2.482.345,45	2.736.075,02	2.527.123,96	2.790.034,16	-262.910,20	5.473.197,62	2.710.702,06	2.698.015,59	2.685.329,11	2.672.642,63	2.659.956,15	2.647.269,67	2.634.583,19	2.621.896,71	2.609.210,23
19	1.599.258,13	2.597.364,36	2.040.801,79	2.666.719,69	-625.917,90	4.847.279,72	2.497.553,74	2.447.648,43	2.397.743,11	2.347.837,80	2.297.932,49	2.248.027,18	2.198.121,87	2.148.216,56	2.098.311,25
20	2.196.088,12	2.245.553,89	1.897.673,13	2.421.459,13	-523.786,00	4.323.493,72	2.240.607,31	2.238.134,03	2.235.660,74	2.233.187,45	2.230.714,16	2.228.240,87	2.225.767,58	2.223.294,30	2.220.821,01
21	1.250.980,94	2.181.704,68	1.723.534,53	2.213.629,29	-490.094,76	3.833.398,96	2.088.632,31	2.042.096,12	1.995.559,94	1.949.023,75	1.902.487,56	1.855.951,37	1.809.415,19	1.762.879,00	1.716.342,81
22	1.102.929,77	1.820.093,20	1.176.955,35	2.000.898,94	-823.943,59	3.009.455,37	1.748.376,86	1.712.518,69	1.676.660,52	1.640.802,34	1.604.944,17	1.569.086,00	1.533.227,83	1.497.369,66	1.461.511,49
23	1.162.616,69	1.549.730,32	1.132.773,23	1.684.911,76	-552.138,53	2.457.316,84	1.511.018,96	1.491.663,28	1.472.307,59	1.452.951,91	1.433.596,23	1.414.240,55	1.394.884,87	1.375.529,19	1.356.173,51
24	1.296.839,64	1.408.650,03	1.229.728,17	1.479.190,17	-249.462,01	2.207.854,83	1.397.468,99	1.391.878,47	1.386.287,95	1.380.697,43	1.375.106,91	1.369.516,40	1.363.925,88	1.358.335,36	1.352.744,84

0,10 K = 6.746.681,03 - 13.423,13 = 2,47 Horas
3.242.747,31 - 512.763,48

0,15 K = 6.746.681,03 - 13.423,13 = 2,50 Horas
3.207.408,95 - 514.105,79

0,20 K = 6.746.681,03 - 13.423,13 = 2,53 Horas
3.172.070,59 - 515.448,10

0,25 K = 6.746.681,03 - 13.423,13 = 2,51 Horas
3.199.153,82 - 516.790,42

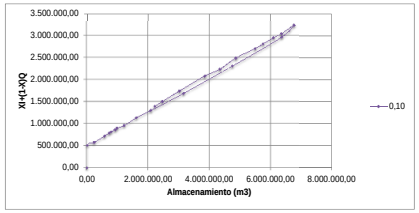
0,30 K = 6.746.681,03 - 13.423,13 = 2,44 Horas
3.273.958,10 - 518.132,73

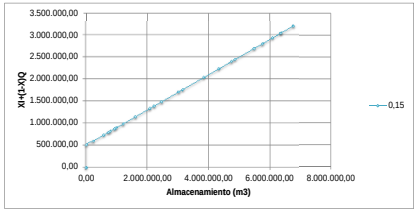
0,35 K = 6.746.681,03 - 13.423,13 = 2,38 Horas
3.348.762,38 - 519.475,04

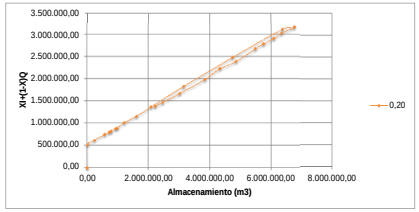
0,40 K = 6.746.681,03 - 13.423,13 = 2,32 Horas
3.423.566,66 - 520.817,35

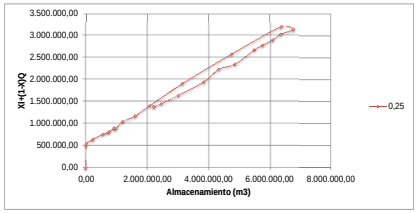
0,45 K = 6.746.681,03 - 13.423,13 = 2,26 Horas
3.498.370,93 - 522.159,67

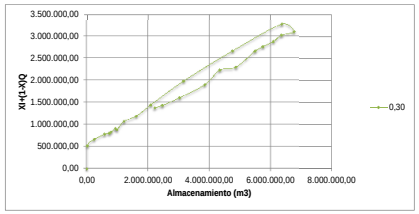
0,50 K = 6.746.681,03 - 13.423,13 = 2,21 Horas
3.573.175,21 - 523.501,98

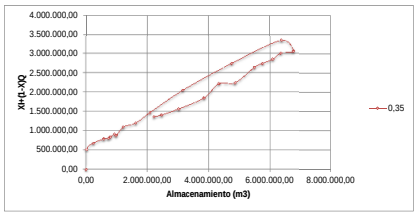

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Almacenamiento (m3)
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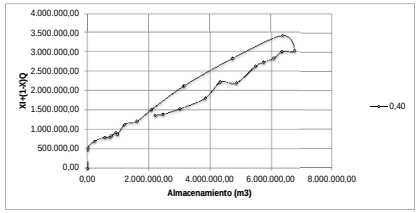

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Almacenamiento (m3)
0,15

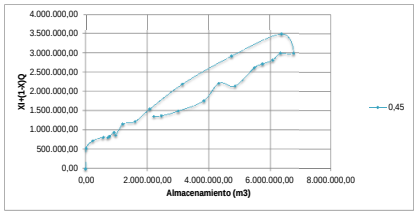

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8.000.000,00
Almacenamiento (m3)
0,20

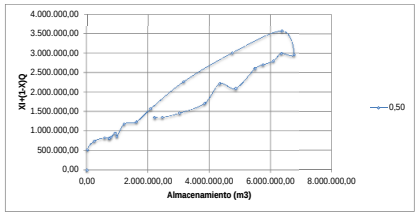

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6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,25


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2.000.000,00
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6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,30


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1.500.000,00
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4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,35


4.000.000,00
3.500.000,00
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2.000.000,00
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1.000.000,00
500.000,00
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4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,40


4.000.000,00
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3.000.000,00
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2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
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0,00
2.000.000,00
4.000.000,00
6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,45


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
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500.000,00
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2.000.000,00
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6.000.000,00
8.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	525.648,00	743.321,53	517.863,42	225.458,10	238.881,23	568.054,99	589.258,49	610.461,99	631.665,48	652.868,98	674.072,48	695.275,98	716.479,47	737.682,97
3	962.154,86	664.891,21	955.936,40	595.269,60	360.666,80	599.548,03	694.617,57	709.480,76	724.343,94	739.207,12	754.070,30	768.933,49	783.796,67	798.659,85	813.523,03
4	828.656,21	760.166,20	895.405,53	712.528,70	182.876,83	782.424,85	767.015,20	770.439,70	773.864,20	777.288,70	780.713,20	784.137,70	787.562,20	790.986,70	794.411,20
5	888.435,40	783.601,93	858.545,80	771.884,06	86.661,74	869.086,60	794.085,27	799.326,95	804.568,62	809.810,29	815.051,97	820.293,64	825.535,31	830.776,99	836.018,66
6	1.050.897,01	820.636,86	969.666,20	802.119,39	167.546,81	1.036.633,41	843.662,88	855.175,88	866.688,89	878.201,90	889.714,90	901.227,91	912.740,92	924.253,93	935.766,93
7	816.880,77	892.295,66	933.888,89	856.466,26	77.422,63	1.114.056,04	884.754,17	880.983,43	877.212,68	873.441,94	869.671,19	865.900,45	862.129,71	858.358,96	854.588,22
8	1.464.595,11	878.187,74	1.140.737,94	885.241,70	255.496,25	1.369.552,28	936.828,47	966.148,84	995.469,21	1.024.789,58	1.054.109,95	1.083.430,32	1.112.750,69	1.142.071,06	1.171.391,42
9	1.363.224,74	1.068.790,64	1.413.909,93	973.489,19	440.420,74	1.809.973,02	1.098.234,05	1.112.955,75	1.127.677,46	1.142.399,16	1.157.120,87	1.171.842,57	1.186.564,28	1.201.285,98	1.216.007,69
10	1.924.173,70	1.174.522,29	1.643.699,22	1.121.656,47	522.042,75	2.332.015,77	1.249.487,43	1.286.970,01	1.324.452,58	1.361.935,15	1.399.417,72	1.436.900,29	1.474.382,86	1.511.865,43	1.549.348,00
11	2.990.327,36	1.437.787,57	2.457.250,53	1.306.154,93	1.151.095,60	3.483.111,37	1.593.041,55	1.670.668,54	1.748.295,53	1.825.922,52	1.903.549,51	1.981.176,50	2.058.803,48	2.136.430,47	2.214.057,46
12	3.882.684,66	1.961.445,82	3.436.506,01	1.699.616,69	1.736.889,31	5.220.000,69	2.153.569,70	2.249.631,64	2.345.693,58	2.441.755,53	2.537.817,47	2.633.879,41	2.729.941,35	2.826.003,29	2.922.065,24
13	4.321.217,99	2.598.549,26	4.101.951,32	2.279.997,54	1.821.953,78	7.041.954,47	2.770.816,13	2.856.949,57	2.943.083,01	3.029.216,44	3.115.349,88	3.201.483,32	3.287.616,75	3.373.750,19	3.459.883,62
14	2.606.656,88	3.135.251,12	3.463.937,43	2.866.900,19	597.037,24	7.638.991,71	3.082.391,70	3.055.961,98	3.029.532,27	3.003.102,56	2.976.672,85	2.950.243,14	2.923.813,43	2.897.383,71	2.870.954,00
15	2.930.646,62	2.967.252,84	2.768.651,75	3.051.251,98	-282.600,23	7.356.391,48	2.963.592,22	2.961.761,91	2.959.931,60	2.958.101,29	2.956.270,98	2.954.440,66	2.952.610,35	2.950.780,04	2.948.949,73
16	2.602.678,64	2.949.874,28	2.766.662,63	2.958.563,56	-191.900,93	7.164.490,55	2.915.154,71	2.897.794,93	2.880.435,15	2.863.075,37	2.845.715,59	2.828.355,80	2.810.996,02	2.793.636,24	2.776.276,46
17	2.571.902,47	2.835.535,11	2.587.290,55	2.892.704,70	-305.414,14	6.859.076,41	2.809.171,85	2.795.990,22	2.782.808,58	2.769.626,95	2.756.445,32	2.743.263,69	2.730.082,06	2.716.900,42	2.703.718,79
18	2.482.345,45	2.747.630,03	2.527.123,96	2.791.582,57	-264.458,62	6.594.617,79	2.721.101,57	2.707.837,34	2.694.573,12	2.681.308,89	2.668.044,66	2.654.780,43	2.641.516,20	2.628.251,97	2.614.987,74
19	1.599.258,13	2.646.174,64	2.040.801,79	2.696.902,34	-656.100,55	5.938.517,25	2.541.482,99	2.489.137,16	2.436.791,34	2.384.445,51	2.332.099,69	2.279.753,86	2.227.408,04	2.175.062,21	2.122.716,39
20	2.196.088,12	2.312.707,42	1.897.673,13	2.479.441,03	-581.767,90	5.356.749,34	2.301.045,49	2.295.214,53	2.289.383,56	2.283.552,60	2.277.721,63	2.271.890,67	2.266.059,70	2.260.228,74	2.254.397,77
21	1.250.980,94	2.258.978,03	1.723.534,53	2.285.842,72	-562.308,19	4.794.441,15	2.158.178,32	2.107.778,46	2.057.378,61	2.006.978,76	1.956.578,90	1.906.179,05	1.855.779,19	1.805.379,34	1.754.979,48
22	1.102.929,77	1.926.060,11	1.176.955,35	2.092.519,07	-915.563,71	3.878.877,44	1.843.747,08	1.802.590,56	1.761.434,04	1.720.277,52	1.679.121,01	1.637.964,49	1.596.807,97	1.555.651,46	1.514.494,94
23	1.162.616,69	1.657.159,78	1.132.773,23	1.791.609,95	-658.836,72	3.220.040,72	1.607.705,47	1.582.978,32	1.558.251,17	1.533.524,01	1.508.796,86	1.484.069,70	1.459.342,55	1.434.615,39	1.409.888,24
24	1.296.839,64	1.497.214,88	1.229.728,17	1.577.187,33	-347.459,17	2.872.581,55	1.477.177,36	1.467.158,60	1.457.139,84	1.447.121,07	1.437.102,31	1.427.083,55	1.417.064,79	1.407.046,03	1.397.027,26

0,10 K = 7.638.991,71 - 13.423,13 = 2,97 Horas
3.082.391,70 - 512.763,48

0,15 K = 7.638.991,71 - 13.423,13 = 3,00 Horas
3.055.961,98 - 514.105,79

0,20 K = 7.638.991,71 - 13.423,13 = 3,03 Horas
3.029.532,27 - 515.448,10

0,25 K = 7.638.991,71 - 13.423,13 = 3,04 Horas
3.029.216,44 - 516.790,42

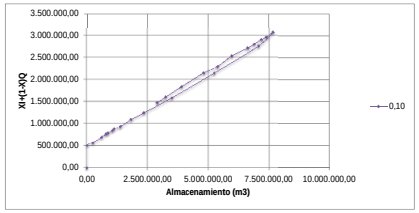
0,30 K = 7.638.991,71 - 13.423,13 = 2,94 Horas
3.115.349,88 - 518.132,73

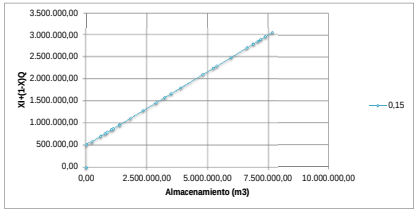
0,35 K = 7.638.991,71 - 13.423,13 = 2,84 Horas
3.201.483,32 - 519.475,04

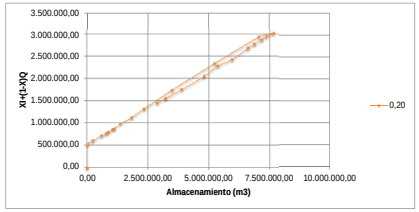
0,40 K = 7.638.991,71 - 13.423,13 = 2,76 Horas
3.287.616,75 - 520.817,35

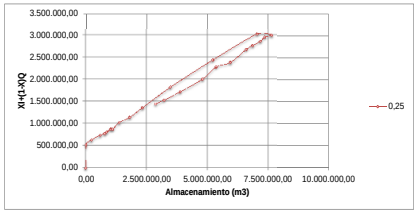
0,45 K = 7.638.991,71 - 13.423,13 = 2,67 Horas
3.373.750,19 - 522.159,67

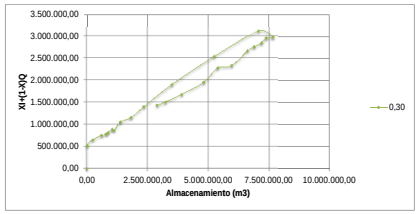
0,50 K = 7.638.991,71 - 13.423,13 = 2,60 Horas
3.459.883,62 - 523.501,98

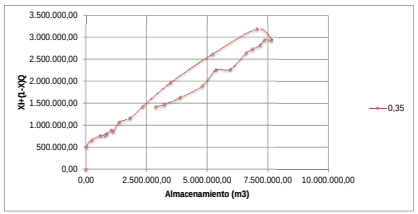

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10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,10

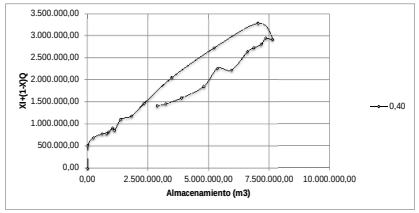

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Almacenamiento (m3)
Qx(t+1)-Qx
0,15

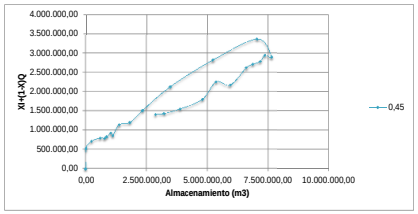

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10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,20

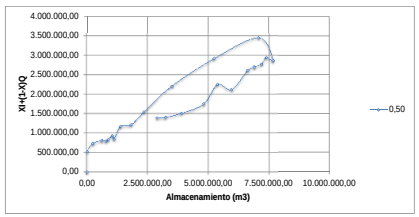

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Almacenamiento (m3)
Qx(t+1)-Qx
0,25


3.500.000,00
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5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,30


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10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,35


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5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,40


4.000.000,00
3.500.000,00
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2.000.000,00
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7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,45


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1.500.000,00
1.000.000,00
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2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	723.371,51	743.321,53	616.725,18	126.596,35	140.019,47	746.006,15	757.323,47	768.640,79	779.958,12	791.275,44	802.592,76	813.910,08	825.227,40	836.544,73
3	962.154,86	980.395,06	955.936,40	851.883,29	104.053,11	244.072,59	978.571,04	977.659,03	976.747,02	975.835,01	974.923,00	974.010,99	973.098,98	972.186,97	971.274,96
4	828.656,21	900.795,43	895.405,53	940.595,25	-45.189,72	198.882,87	893.581,51	889.974,55	886.367,59	882.760,63	879.153,67	875.546,71	871.939,74	868.332,78	864.725,82
5	888.435,40	847.209,27	858.545,80	874.002,35	-15.456,55	183.426,32	851.331,88	853.393,19	855.454,49	857.515,80	859.577,11	861.638,41	863.699,72	865.761,02	867.822,33
6	1.050.897,01	965.221,24	969.666,20	906.215,25	63.450,95	246.877,27	973.788,82	978.072,60	982.356,39	986.640,18	990.923,97	995.207,76	999.491,55	1.003.775,34	1.008.059,12
7	816.880,77	956.409,32	933.888,89	960.815,28	-26.926,39	219.950,88	942.456,47	935.480,04	928.503,61	921.527,19	914.550,76	907.574,33	900.597,90	893.621,48	886.645,05
8	1.464.595,11	1.089.250,64	1.140.737,94	1.022.829,98	117.907,96	337.858,84	1.126.785,09	1.145.552,31	1.164.319,54	1.183.086,76	1.201.853,98	1.220.621,21	1.239.388,43	1.258.155,65	1.276.922,88
9	1.363.224,74	1.461.246,55	1.413.909,93	1.275.248,60	138.661,33	476.520,17	1.451.444,37	1.446.543,28	1.441.642,19	1.436.741,10	1.431.840,01	1.426.938,92	1.422.037,83	1.417.136,74	1.412.235,65
10	1.924.173,70	1.601.644,07	1.643.699,22	1.531.445,31	112.253,90	588.774,08	1.633.897,04	1.650.023,52	1.666.150,00	1.682.276,48	1.698.402,96	1.714.529,44	1.730.655,93	1.746.782,41	1.762.908,89
11	2.990.327,36	2.433.856,40	2.457.250,53	2.017.750,24	439.500,29	1.028.274,37	2.489.503,49	2.517.327,04	2.545.150,59	2.572.974,14	2.600.797,68	2.628.621,23	2.656.444,78	2.684.268,33	2.712.091,88
12	3.882.684,66	3.448.760,71	3.436.506,01	2.941.308,55	495.197,46	1.523.471,83	3.492.153,10	3.513.849,30	3.535.545,50	3.557.241,70	3.578.937,89	3.600.634,09	3.622.330,29	3.644.026,49	3.665.722,68
13	4.321.217,99	4.125.802,13	4.101.951,32	3.787.281,42	314.669,90	1.838.141,73	4.145.343,72	4.155.114,51	4.164.885,30	4.174.656,10	4.184.426,89	4.194.197,68	4.203.968,47	4.213.739,27	4.223.510,06
14	2.606.656,88	3.580.903,70	3.463.937,43	3.853.352,92	-389.415,48	1.448.726,25	3.483.479,02	3.434.766,68	3.386.054,34	3.337.342,00	3.288.629,66	3.239.917,31	3.191.204,97	3.142.492,63	3.093.780,29
15	2.930.646,62	2.642.402,67	2.768.651,75	3.111.653,19	-343.001,44	1.105.724,81	2.671.227,07	2.685.639,27	2.700.051,46	2.714.463,66	2.728.875,86	2.743.288,06	2.757.700,25	2.772.112,45	2.786.524,65
16	2.602.678,64	2.816.910,18	2.766.662,63	2.729.656,43	37.006,20	1.142.731,01	2.795.487,02	2.784.775,45	2.774.063,87	2.763.352,29	2.752.640,72	2.741.929,14	2.731.217,56	2.720.505,98	2.709.794,41
17	2.571.902,47	2.565.196,83	2.587.290,55	2.691.053,51	-103.762,95	1.038.968,06	2.565.867,40	2.566.202,68	2.566.537,96	2.566.873,24	2.567.208,52	2.567.543,81	2.567.879,09	2.568.214,37	2.568.549,65
18	2.482.345,45	2.532.844,42	2.527.123,96	2.549.020,63	-21.896,67	1.017.071,39	2.527.794,52	2.525.269,57	2.522.744,62	2.520.219,67	2.517.694,73	2.515.169,78	2.512.644,83	2.510.119,88	2.507.594,93
19	1.599.258,13	2.084.251,20	2.040.801,79	2.308.547,81	-267.746,02	749.325,37	2.035.751,89	2.011.502,24	1.987.252,59	1.963.002,93	1.938.753,28	1.914.503,63	1.890.253,97	1.866.004,32	1.841.754,67
20	2.196.088,12	1.810.627,79	1.897.673,13	1.947.439,49	-49.766,37	699.559,00	1.849.173,82	1.868.446,84	1.887.719,85	1.906.992,87	1.926.265,89	1.945.538,90	1.964.811,92	1.984.084,94	2.003.357,95
21	1.250.980,94	1.818.869,41	1.723.534,53	1.814.748,60	-91.214,07	608.344,94	1.762.080,57	1.733.686,14	1.705.291,72	1.676.897,29	1.648.502,87	1.620.108,45	1.591.714,02	1.563.319,60	1.534.925,18
22	1.102.929,77	1.122.081,70	1.176.955,35	1.470.475,56	-293.520,20	314.824,73	1.120.166,51	1.119.208,91	1.118.251,31	1.117.293,72	1.116.336,12	1.115.378,52	1.114.420,93	1.113.463,33	1.112.505,73
23	1.162.616,69	1.127.329,30	1.132.773,23	1.124.705,50	8.067,73	322.892,46	1.130.858,04	1.132.622,41	1.134.386,78	1.136.151,15	1.137.915,52	1.139.679,89	1.141.444,25	1.143.208,62	1.144.972,99
24	1.296.839,64	1.226.192,16	1.229.728,17	1.176.760,73	52.967,44	375.859,90	1.233.256,91	1.236.789,28	1.240.321,66	1.243.854,03	1.247.386,40	1.250.918,78	1.254.451,15	1.257.983,53	1.261.515,90

0,10 K = 1.838.141,73 - 13.423,13 = 0,50 Horas
4.145.343,72 - 512.763,48

0,15 K = 1.838.141,73 - 13.423,13 = 0,50 Horas
4.155.114,51 - 514.105,79

0,20 K = 1.838.141,73 - 13.423,13 = 0,50 Horas
4.164.885,30 - 515.448,10

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4.174.656,10 - 516.790,42

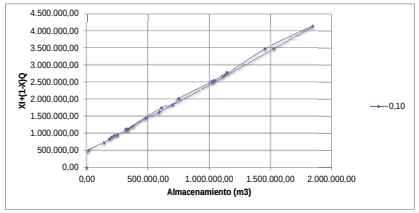
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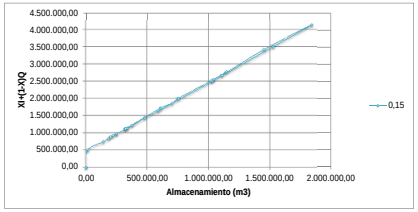
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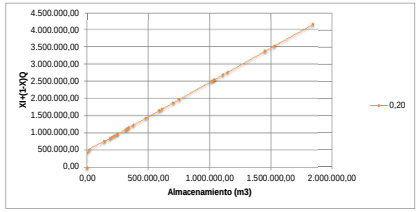
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4.203.968,47 - 520.817,35

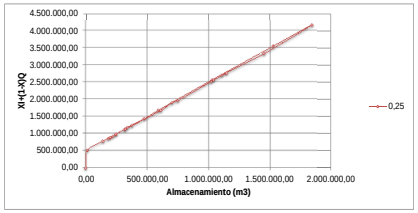
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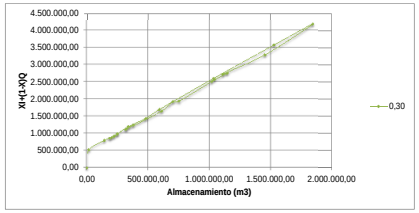
0,50 K = 1.838.141,73 - 13.423,13 = 0,49 Horas
4.223.510,06 - 523.501,98

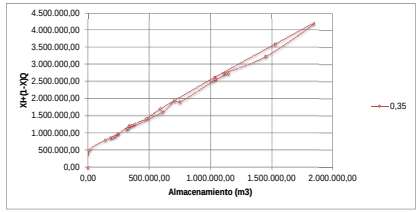

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Almacenamiento (m3)
Qdx-(t+1)+x
0,10

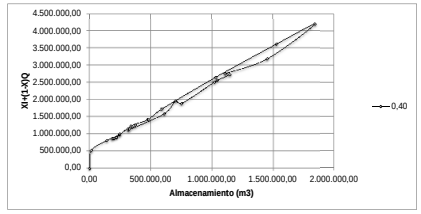

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Almacenamiento (m3)
Qdx-(t+1)+x
0,15

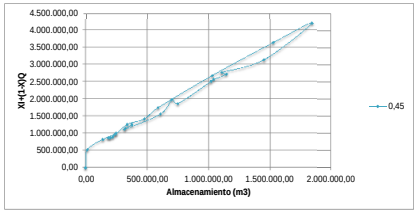

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Almacenamiento (m3)
Qdx-(t+1)+x
0,20

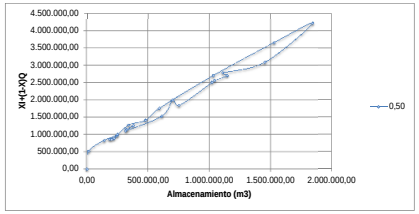

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Almacenamiento (m3)
Qdx-(t+1)+x
0,25


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2.000.000,00
Almacenamiento (m3)
Qdx-(t+1)+x
0,30


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Almacenamiento (m3)
Qdx-(t+1)+x
0,35


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Almacenamiento (m3)
Qdx-(t+1)+x
0,40


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2.000.000,00
Almacenamiento (m3)
Qdx-(t+1)+x
0,45


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1.500.000,00
2.000.000,00
Almacenamiento (m3)
Qdx-(t+1)+x
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	625.989,70	743.321,53	568.034,28	175.287,25	188.710,38	658.362,53	674.548,94	690.735,35	706.921,76	723.108,18	739.294,59	755.481,00	771.667,41	787.853,82
3	962.154,86	877.881,48	955.936,40	751.935,59	204.000,81	392.711,18	886.308,82	890.522,49	894.736,16	898.949,83	903.163,50	907.377,16	911.590,83	915.804,50	920.018,17
4	828.656,21	911.899,77	895.405,53	894.890,63	514,90	393.226,09	903.575,42	899.413,24	895.251,06	891.088,88	886.926,70	882.764,53	878.602,35	874.440,17	870.277,99
5	888.435,40	861.661,46	858.545,80	886.780,62	-28.234,81	364.991,27	864.338,85	865.677,55	867.016,25	868.354,94	869.693,64	871.032,34	872.371,03	873.709,73	875.048,43
6	1.050.897,01	919.747,94	969.666,20	890.704,70	78.961,50	443.952,78	932.862,84	939.420,30	945.977,75	952.535,20	959.092,66	965.650,11	972.207,57	978.765,02	985.322,47
7	816.880,77	966.628,09	933.888,89	943.188,01	-9.299,12	434.653,65	951.653,36	944.165,99	936.678,63	929.191,26	921.703,90	914.216,53	906.729,16	899.241,80	891.754,43
8	1.464.595,11	1.000.910,39	1.140.737,94	983.769,24	156.968,70	591.622,36	1.047.278,86	1.070.463,10	1.093.647,33	1.116.831,57	1.140.015,81	1.163.200,04	1.186.384,28	1.209.568,51	1.232.752,75
9	1.363.224,74	1.334.197,78	1.413.909,93	1.167.554,08	246.355,84	837.978,20	1.337.100,48	1.338.551,83	1.340.003,17	1.341.454,52	1.342.905,87	1.344.357,22	1.345.808,56	1.347.259,91	1.348.711,26
10	1.924.173,70	1.485.975,97	1.643.699,22	1.410.086,88	233.612,34	1.071.590,54	1.529.795,74	1.551.705,63	1.573.615,52	1.595.525,40	1.617.435,29	1.639.345,18	1.661.255,06	1.683.164,95	1.705.074,84
11	2.990.327,36	2.069.086,61	2.457.250,53	1.777.531,29	679.719,24	1.751.309,78	2.161.210,68	2.207.272,72	2.253.334,76	2.299.396,79	2.345.458,83	2.391.520,87	2.437.582,91	2.483.644,94	2.529.706,98
12	3.882.684,66	2.983.661,95	3.436.506,01	2.526.374,28	910.131,73	2.661.441,51	3.073.564,22	3.118.515,35	3.163.466,49	3.208.417,62	3.253.368,76	3.298.319,89	3.343.271,03	3.388.222,17	3.433.173,30
13	4.321.217,99	3.776.417,98	4.101.951,32	3.380.039,91	721.911,41	3.383.352,92	3.830.897,89	3.858.137,89	3.885.377,90	3.912.617,90	3.939.857,91	3.967.097,92	3.994.337,92	4.021.577,93	4.048.817,93
14	2.606.656,88	3.799.826,94	3.463.937,43	3.788.122,41	-324.184,97	3.059.167,95	3.680.509,93	3.620.851,43	3.561.192,93	3.501.534,42	3.441.875,92	3.382.217,42	3.322.558,92	3.262.900,41	3.203.241,91
15	2.930.646,62	2.956.770,68	2.768.651,75	3.378.298,81	-609.647,06	2.449.520,89	2.954.158,27	2.952.852,07	2.951.545,87	2.950.239,67	2.948.933,46	2.947.627,26	2.946.321,06	2.945.014,85	2.943.708,65
16	2.602.678,64	2.860.990,33	2.766.662,63	2.908.880,51	-142.217,88	2.307.303,02	2.835.159,16	2.822.243,58	2.809.327,99	2.796.412,41	2.783.496,82	2.770.581,24	2.757.665,65	2.744.750,07	2.731.834,48
17	2.571.902,47	2.655.186,83	2.587.290,55	2.758.088,58	-170.798,03	2.136.504,99	2.646.858,40	2.642.694,18	2.638.529,96	2.634.365,74	2.630.201,52	2.626.037,31	2.621.873,09	2.617.708,87	2.613.544,65
18	2.482.345,45	2.570.454,93	2.527.123,96	2.612.820,88	-85.696,93	2.050.808,06	2.561.643,98	2.557.238,51	2.552.833,03	2.548.427,56	2.544.022,09	2.539.616,61	2.535.211,14	2.530.805,66	2.526.400,19
19	1.599.258,13	2.298.889,02	2.040.801,79	2.434.671,98	-393.870,19	1.656.937,87	2.228.925,93	2.193.944,39	2.158.962,85	2.123.981,30	2.088.999,76	2.054.018,21	2.019.036,67	1.984.055,12	1.949.073,58
20	2.196.088,12	1.898.441,41	1.897.673,13	2.098.665,22	-200.992,09	1.455.945,78	1.928.206,08	1.943.088,42	1.957.970,75	1.972.853,09	1.987.735,43	2.002.617,76	2.017.500,10	2.032.382,43	2.047.264,77
21	1.250.980,94	1.909.298,76	1.723.534,53	1.903.870,09	-180.335,56	1.275.610,22	1.843.466,98	1.810.551,09	1.777.635,20	1.744.719,31	1.711.803,42	1.678.887,53	1.645.971,63	1.613.055,74	1.580.139,85
22	1.102.929,77	1.368.734,78	1.176.955,35	1.639.016,77	-462.061,42	813.548,81	1.342.154,28	1.328.864,03	1.315.573,78	1.302.283,53	1.288.993,28	1.275.703,03	1.262.412,78	1.249.122,53	1.235.832,28
23	1.162.616,69	1.178.043,29	1.132.773,23	1.273.389,04	-140.615,81	672.933,00	1.176.500,63	1.175.729,30	1.174.957,97	1.174.186,64	1.173.415,31	1.172.643,98	1.171.872,65	1.171.101,32	1.170.329,99
24	1.296.839,64	1.197.151,20	1.229.728,17	1.187.597,25	42.130,92	715.063,92	1.207.120,05	1.212.104,47	1.217.088,89	1.222.073,31	1.227.057,74	1.232.042,16	1.237.026,58	1.242.011,00	1.246.995,42

0,10 K = 3.383.352,92 - 13.423,13 = 1,02 Horas
3.830.897,89 - 512.763,48

0,15 K = 3.383.352,92 - 13.423,13 = 1,01 Horas
3.858.137,89 - 514.105,79

0,20 K = 3.383.352,92 - 13.423,13 = 1,00 Horas
3.885.377,90 - 515.448,10

0,25 K = 3.383.352,92 - 13.423,13 = 0,99 Horas
3.912.617,90 - 516.790,42

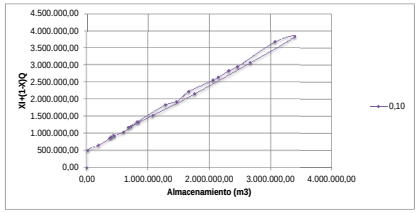
0,30 K = 3.383.352,92 - 13.423,13 = 0,98 Horas
3.939.857,91 - 518.132,73

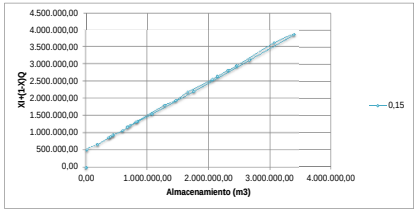
0,35 K = 3.383.352,92 - 13.423,13 = 0,98 Horas
3.967.097,92 - 519.475,04

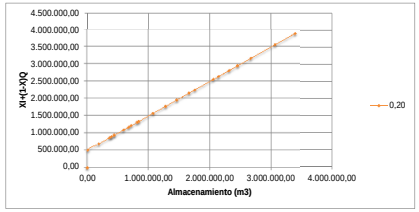
0,40 K = 3.383.352,92 - 13.423,13 = 0,97 Horas
3.994.337,92 - 520.817,35

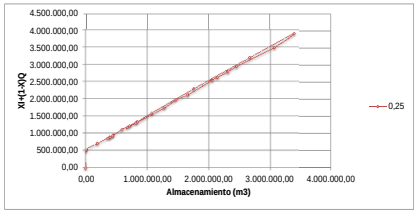
0,45 K = 3.383.352,92 - 13.423,13 = 0,96 Horas
4.021.577,93 - 522.159,67

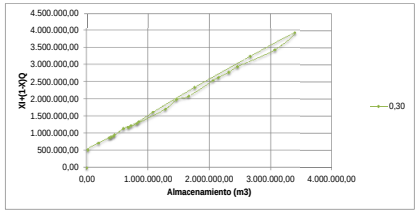
0,50 K = 3.383.352,92 - 13.423,13 = 0,96 Horas
4.048.817,93 - 523.501,98

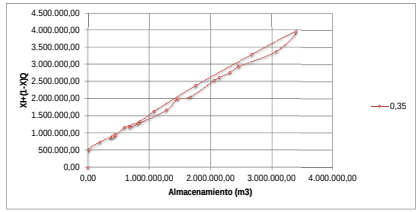

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Almacenamiento (m3)
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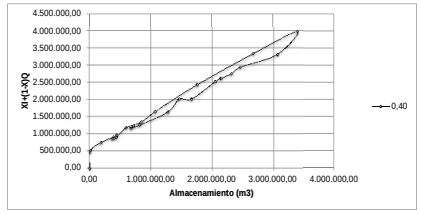

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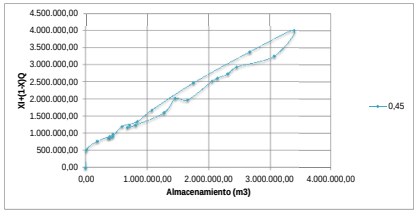

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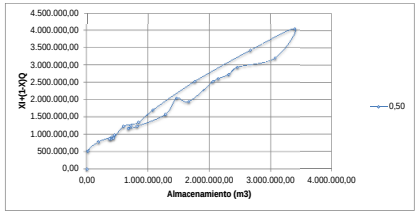

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	574.434,63	743.321,53	542.256,74	201.064,78	214.487,91	611.962,96	630.727,13	649.491,29	668.255,46	687.019,62	705.783,79	724.547,96	743.312,12	762.076,29
3	962.154,86	796.652,69	955.936,40	685.543,66	270.392,74	484.880,65	813.202,90	821.478,01	829.753,12	838.028,23	846.303,34	854.578,45	862.853,55	871.128,66	879.403,77
4	828.656,21	878.301,18	895.405,53	837.476,93	57.928,60	542.809,25	873.336,68	870.854,44	868.372,19	865.889,94	863.407,69	860.925,44	858.443,19	855.960,94	853.478,69
5	888.435,40	856.131,10	858.545,80	867.216,14	-8.670,34	534.138,91	859.361,53	860.976,75	862.591,96	864.207,18	865.822,39	867.437,60	869.052,82	870.668,03	872.283,25
6	1.050.897,01	894.246,76	969.666,20	875.188,93	94.477,27	628.616,19	909.911,78	917.744,30	925.576,81	933.409,32	941.241,83	949.074,35	956.906,86	964.739,37	972.571,88
7	816.880,77	958.862,64	933.888,89	926.554,70	7.334,19	635.950,38	944.664,46	937.565,36	930.466,27	923.367,18	916.268,08	909.168,99	902.069,90	894.970,80	887.871,71
8	1.464.595,11	951.545,58	1.140.737,94	955.204,11	185.533,83	821.484,21	1.002.850,54	1.028.503,01	1.054.155,49	1.079.807,97	1.105.460,44	1.131.112,92	1.156.765,40	1.182.417,87	1.208.070,35
9	1.363.224,74	1.241.413,50	1.413.909,93	1.096.479,54	317.430,38	1.138.914,59	1.253.594,62	1.259.685,18	1.265.775,75	1.271.866,31	1.277.956,87	1.284.047,43	1.290.137,99	1.296.228,56	1.302.319,12
10	1.924.173,70	1.379.061,16	1.643.699,22	1.310.237,33	333.461,89	1.472.376,48	1.433.572,42	1.460.828,04	1.488.083,67	1.515.339,30	1.542.594,93	1.569.850,55	1.597.106,18	1.624.361,81	1.651.617,43
11	2.990.327,36	1.825.145,44	2.457.250,53	1.602.103,30	855.147,23	2.327.523,71	1.941.663,63	1.999.922,73	2.058.181,82	2.116.440,92	2.174.700,01	2.232.959,11	2.291.218,21	2.349.477,30	2.407.736,40
12	3.882.684,66	2.615.529,78	3.436.506,01	2.220.337,61	1.216.168,40	3.543.692,11	2.742.245,27	2.805.603,01	2.868.960,75	2.932.318,50	2.995.676,24	3.059.033,99	3.122.391,73	3.185.749,47	3.249.107,22
13	4.321.217,99	3.412.507,16	4.101.951,32	3.014.018,47	1.087.932,85	4.631.624,96	3.503.378,24	3.548.813,78	3.594.249,32	3.639.684,87	3.685.120,41	3.730.555,95	3.775.991,49	3.821.427,03	3.866.862,57
14	2.606.656,88	3.745.329,87	3.463.937,43	3.578.918,51	-114.981,08	4.516.643,88	3.631.462,57	3.574.528,92	3.517.595,27	3.460.661,62	3.403.727,97	3.346.794,32	3.289.860,67	3.232.927,02	3.175.993,38
15	2.930.646,62	3.113.638,67	2.768.651,75	3.429.484,27	-660.832,52	3.855.811,36	3.095.339,46	3.086.189,86	3.077.040,26	3.067.890,66	3.058.741,05	3.049.591,45	3.040.441,85	3.031.292,25	3.022.142,65
16	2.602.678,64	2.967.411,82	2.766.662,63	3.040.525,24	-273.862,62	3.581.948,75	2.930.938,50	2.912.701,84	2.894.465,18	2.876.228,52	2.857.991,86	2.839.755,21	2.821.518,55	2.803.281,89	2.785.045,23
17	2.571.902,47	2.749.242,16	2.587.290,55	2.858.326,99	-271.036,44	3.310.912,31	2.731.508,19	2.722.641,21	2.713.774,22	2.704.907,24	2.696.040,25	2.687.173,27	2.678.306,28	2.669.439,30	2.660.572,32
18	2.482.345,45	2.634.388,57	2.527.123,96	2.691.815,37	-164.691,41	3.146.220,90	2.619.184,26	2.611.582,11	2.603.979,95	2.596.377,79	2.588.775,64	2.581.173,48	2.573.571,32	2.565.969,17	2.558.367,01
19	1.599.258,13	2.441.058,82	2.040.801,79	2.537.723,69	-496.921,91	2.649.298,99	2.356.878,75	2.314.788,71	2.272.698,68	2.230.608,64	2.188.518,61	2.146.428,58	2.104.338,54	2.062.248,51	2.020.158,47
20	2.196.088,12	2.016.097,24	1.897.673,13	2.228.578,03	-330.904,90	2.318.394,09	2.034.096,32	2.043.095,87	2.052.095,41	2.061.094,96	2.070.094,50	2.079.094,05	2.088.093,59	2.097.093,13	2.106.092,68
21	1.250.980,94	2.010.785,15	1.723.534,53	2.013.441,19	-289.906,66	2.028.487,43	1.934.804,73	1.896.814,52	1.858.824,31	1.820.834,10	1.782.843,89	1.744.853,68	1.706.863,47	1.668.873,25	1.630.883,04
22	1.102.929,77	1.546.423,71	1.176.955,35	1.778.604,43	-601.649,08	1.426.838,36	1.502.074,32	1.479.899,62	1.457.724,92	1.435.550,23	1.413.375,53	1.391.200,83	1.369.026,13	1.346.851,44	1.324.676,74
23	1.162.616,69	1.292.566,91	1.132.773,23	1.419.495,31	-286.722,08	1.140.116,28	1.279.571,89	1.273.074,38	1.266.576,87	1.260.079,36	1.253.581,85	1.247.084,34	1.240.586,82	1.234.089,31	1.227.591,80
24	1.296.839,64	1.231.916,54	1.229.728,17	1.262.241,73	-32.513,56	1.107.602,72	1.238.408,85	1.241.655,01	1.244.901,16	1.248.147,32	1.251.393,47	1.254.639,63	1.257.885,78	1.261.131,94	1.264.378,09

0,10 K = 4.631.624,96 - 13.423,13 = 1,48 Horas
3.631.462,57 - 512.763,48

0,15 K = 4.631.624,96 - 13.423,13 = 1,51 Horas
3.574.528,92 - 514.105,79

0,20 K = 4.631.624,96 - 13.423,13 = 1,50 Horas
3.594.249,32 - 515.448,10

0,25 K = 4.631.624,96 - 13.423,13 = 1,48 Horas
3.639.684,87 - 516.790,42

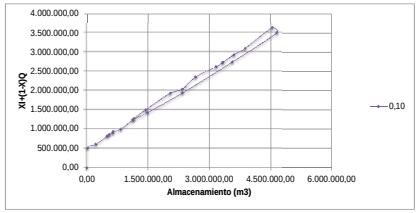
0,30 K = 4.631.624,96 - 13.423,13 = 1,46 Horas
3.685.120,41 - 518.132,73

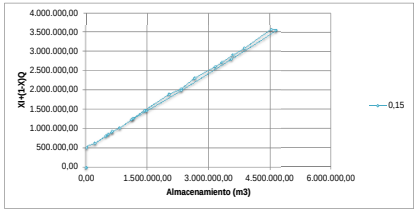
0,35 K = 4.631.624,96 - 13.423,13 = 1,44 Horas
3.730.555,95 - 519.475,04

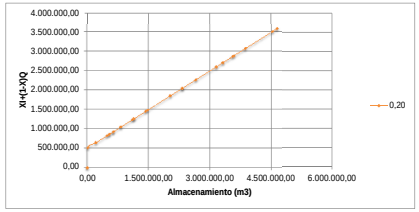
0,40 K = 4.631.624,96 - 13.423,13 = 1,42 Horas
3.775.991,49 - 520.817,35

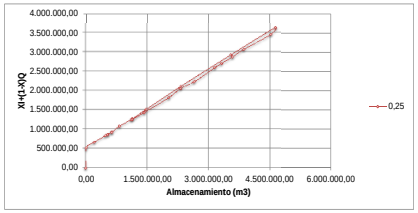
0,45 K = 4.631.624,96 - 13.423,13 = 1,40 Horas
3.821.427,03 - 522.159,67

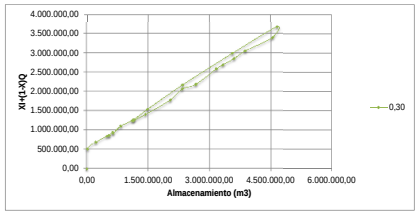
0,50 K = 4.631.624,96 - 13.423,13 = 1,38 Horas
3.866.862,57 - 523.501,98

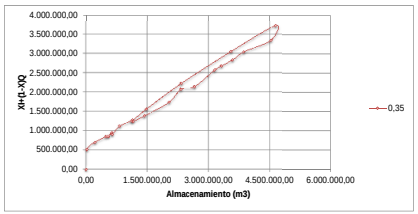

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Almacenamiento (m3)
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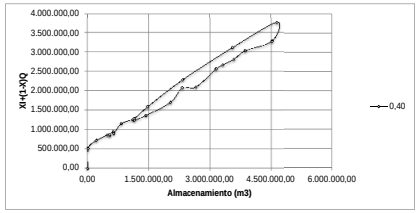

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Almacenamiento (m3)
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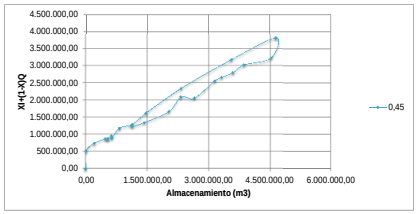

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Almacenamiento (m3)
0,20

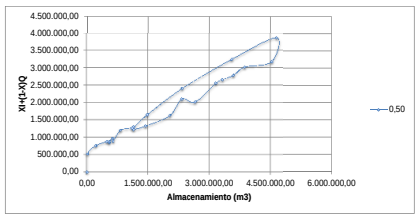

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	542.519,58	743.321,53	526.299,22	217.022,31	230.445,44	583.239,42	603.599,34	623.959,26	644.319,17	664.679,09	685.039,01	705.398,93	725.758,85	746.118,76
3	962.154,86	737.015,80	955.936,40	639.767,69	316.168,71	546.614,14	759.529,70	770.786,66	782.043,61	793.300,56	804.557,52	815.814,47	827.071,42	838.328,38	849.585,33
4	828.656,21	837.867,80	895.405,53	787.441,80	107.963,74	654.577,88	836.946,64	836.486,06	836.025,48	835.564,90	835.104,32	834.643,74	834.183,16	833.722,58	833.262,00
5	888.435,40	836.327,95	858.545,80	837.097,87	21.447,93	676.025,81	841.538,70	844.144,07	846.749,44	849.354,81	851.960,19	854.565,56	857.170,93	859.776,30	862.381,67
6	1.050.897,01	868.877,29	969.666,20	852.602,62	117.063,58	793.089,39	887.079,26	896.180,25	905.281,23	914.382,22	923.483,20	932.584,19	941.685,18	950.786,16	959.887,15
7	816.880,77	944.409,72	933.888,89	906.643,50	27.245,39	820.334,78	931.656,82	925.280,37	918.903,93	912.527,48	906.151,03	899.774,59	893.398,14	887.021,69	880.645,24
8	1.464.595,11	914.525,19	1.140.737,94	929.467,45	211.270,49	1.031.605,27	969.532,18	997.035,68	1.024.539,17	1.052.042,67	1.079.546,17	1.107.049,66	1.134.553,16	1.162.056,65	1.189.560,15
9	1.363.224,74	1.171.636,09	1.413.909,93	1.043.080,64	370.829,29	1.402.434,56	1.190.794,95	1.200.374,38	1.209.953,82	1.219.533,25	1.229.112,68	1.238.692,11	1.248.271,55	1.257.850,98	1.267.430,41
10	1.924.173,70	1.289.580,63	1.643.699,22	1.230.608,36	413.090,86	1.815.525,42	1.353.039,94	1.384.769,59	1.416.499,25	1.448.228,90	1.479.958,55	1.511.688,21	1.543.417,86	1.575.147,51	1.606.877,17
11	2.990.327,36	1.642.537,03	2.457.250,53	1.466.058,83	991.191,70	2.806.717,11	1.777.316,06	1.844.705,58	1.912.095,10	1.979.484,61	2.046.874,13	2.114.263,64	2.181.653,16	2.249.042,68	2.316.432,19
12	3.882.684,66	2.326.835,15	3.436.506,01	1.984.686,09	1.451.819,92	4.258.537,03	2.482.420,10	2.560.212,58	2.638.005,05	2.715.797,53	2.793.590,00	2.871.382,48	2.949.174,95	3.026.967,43	3.104.759,91
13	4.321.217,99	3.088.598,41	4.101.951,32	2.707.716,78	1.394.234,54	5.652.771,57	3.211.860,37	3.273.491,35	3.335.122,32	3.396.753,30	3.458.384,28	3.520.015,26	3.581.646,24	3.643.277,22	3.704.908,20
14	2.606.656,88	3.593.914,35	3.463.937,43	3.341.256,38	122.681,06	5.775.452,63	3.495.188,60	3.445.825,73	3.396.462,85	3.347.099,98	3.297.737,11	3.248.374,23	3.199.011,36	3.149.648,49	3.100.285,61
15	2.930.646,62	3.139.219,83	2.768.651,75	3.366.567,09	-597.915,34	5.177.537,29	3.118.362,51	3.107.933,85	3.097.505,19	3.087.076,53	3.076.647,87	3.066.219,20	3.055.790,54	3.045.361,88	3.034.933,22
16	2.602.678,64	3.024.281,73	2.766.662,63	3.081.750,78	-315.088,15	4.862.449,14	2.982.121,42	2.961.041,27	2.939.961,11	2.918.880,96	2.897.800,80	2.876.720,65	2.855.640,49	2.834.560,34	2.813.480,18
17	2.571.902,47	2.822.052,82	2.587.290,55	2.923.167,28	-335.876,72	4.526.572,42	2.797.037,79	2.784.530,27	2.772.022,75	2.759.515,23	2.747.007,71	2.734.500,20	2.721.992,68	2.709.485,16	2.696.977,64
18	2.482.345,45	2.698.668,98	2.527.123,96	2.760.360,90	-233.236,95	4.293.335,48	2.677.036,63	2.666.220,45	2.655.404,28	2.644.588,10	2.633.771,92	2.622.955,75	2.612.139,57	2.601.323,39	2.590.507,22
19	1.599.258,13	2.553.606,00	2.040.801,79	2.626.137,49	-585.335,70	3.707.999,77	2.458.171,21	2.410.453,82	2.362.736,43	2.315.019,03	2.267.301,64	2.219.584,25	2.171.866,85	2.124.149,46	2.076.432,07
20	2.196.088,12	2.127.575,11	1.897.673,13	2.340.590,55	-442.917,43	3.265.082,35	2.134.426,41	2.137.852,06	2.141.277,71	2.144.703,36	2.148.129,01	2.151.554,66	2.154.980,31	2.158.405,97	2.161.831,62
21	1.250.980,94	2.115.195,25	1.723.534,53	2.121.385,18	-397.850,65	2.867.231,70	2.028.773,82	1.985.563,10	1.942.352,39	1.899.141,67	1.855.930,96	1.812.720,24	1.769.509,53	1.726.298,81	1.683.088,10
22	1.102.929,77	1.696.614,57	1.176.955,35	1.905.904,91	-728.949,56	2.138.282,14	1.637.246,09	1.607.561,85	1.577.877,61	1.548.193,37	1.518.509,13	1.488.824,89	1.459.140,65	1.429.456,41	1.399.772,17
23	1.162.616,69	1.416.749,76	1.132.773,23	1.556.682,16	-423.908,93	1.714.373,21	1.391.336,45	1.378.629,80	1.365.923,14	1.353.216,49	1.340.509,84	1.327.803,18	1.315.096,53	1.302.389,88	1.289.683,22
24	1.296.839,64	1.302.125,58	1.229.728,17	1.359.437,67	-129.709,50	1.584.663,71	1.301.596,99	1.301.332,69	1.301.068,39	1.300.804,10	1.300.539,80	1.300.275,50	1.300.011,21	1.299.746,91	1.299.482,61

0,10 K = 5.775.452,63 - 13.423,13 = 1,93 Horas
3.495.188,60 - 512.763,48

0,15 K = 5.775.452,63 - 13.423,13 = 1,97 Horas
3.445.825,73 - 514.105,79

0,20 K = 5.775.452,63 - 13.423,13 = 2,00 Horas
3.396.462,85 - 515.448,10

0,25 K = 5.775.452,63 - 13.423,13 = 2,00 Horas
3.396.753,30 - 516.790,42

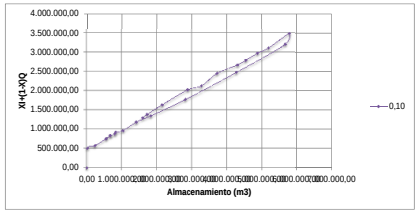
0,30 K = 5.775.452,63 - 13.423,13 = 1,96 Horas
3.458.384,28 - 518.132,73

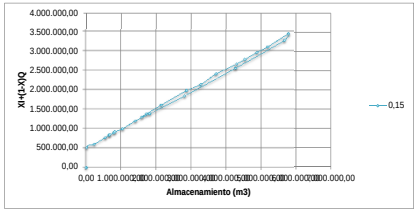
0,35 K = 5.775.452,63 - 13.423,13 = 1,92 Horas
3.520.015,26 - 519.475,04

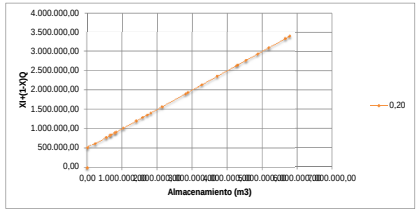
0,40 K = 5.775.452,63 - 13.423,13 = 1,88 Horas
3.581.646,24 - 520.817,35

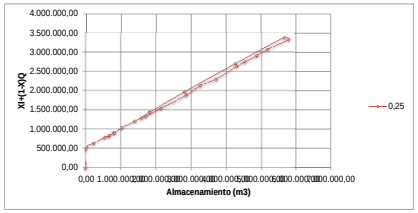
0,45 K = 5.775.452,63 - 13.423,13 = 1,85 Horas
3.643.277,22 - 522.159,67

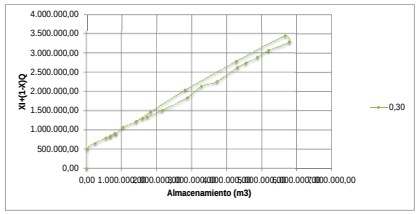
0,50 K = 5.775.452,63 - 13.423,13 = 1,81 Horas
3.704.908,20 - 523.501,98

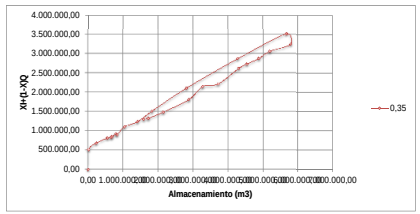

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Almacenamiento (m3)
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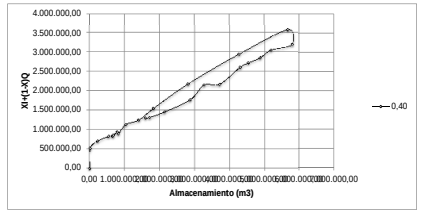

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Almacenamiento (m3)
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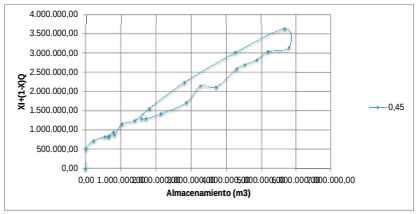

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Almacenamiento (m3)
0,20

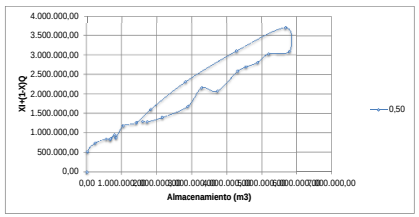

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	520.817,35	743.321,53	515.448,10	227.873,42	241.296,55	563.707,41	585.152,44	606.597,47	628.042,50	649.487,53	670.932,56	692.377,59	713.822,62	735.267,65
3	962.154,86	692.377,59	955.936,40	606.597,47	349.338,93	590.635,48	719.355,32	732.844,18	746.333,04	759.821,91	773.310,77	786.799,63	800.288,50	813.777,36	827.266,22
4	828.656,21	800.288,50	895.405,53	746.333,04	149.072,49	739.707,97	803.125,27	804.543,65	805.962,04	807.380,42	808.798,81	810.217,20	811.635,58	813.053,97	814.472,35
5	888.435,40	811.635,58	858.545,80	805.962,04	52.583,76	792.291,73	819.315,56	823.155,55	826.995,54	830.835,53	834.675,53	838.515,52	842.355,51	846.195,50	850.035,49
6	1.050.897,01	842.355,51	969.666,20	826.995,54	142.670,66	934.962,39	863.209,66	873.636,73	884.063,81	894.490,88	904.917,96	915.345,03	925.772,11	936.199,18	946.626,26
7	816.880,77	925.772,11	933.888,89	884.063,81	49.825,08	984.787,47	914.882,97	909.438,41	903.993,84	898.549,27	893.104,71	887.660,14	882.215,57	876.771,01	871.326,44
8	1.464.595,11	882.215,57	1.140.737,94	903.993,84	236.744,10	1.221.531,58	940.453,53	969.572,51	998.691,48	1.027.810,46	1.056.929,44	1.086.048,41	1.115.167,39	1.144.286,37	1.173.405,34
9	1.363.224,74	1.115.167,39	1.413.909,93	998.691,48	415.218,44	1.636.750,02	1.139.973,12	1.152.375,99	1.164.778,86	1.177.181,73	1.189.584,59	1.201.987,46	1.214.390,33	1.226.793,20	1.239.196,06
10	1.924.173,70	1.214.390,33	1.643.699,22	1.164.778,86	478.920,36	2.115.670,38	1.285.368,67	1.320.857,83	1.356.347,00	1.391.836,17	1.427.325,34	1.462.814,51	1.498.303,68	1.533.792,85	1.569.282,02
11	2.990.327,36	1.498.303,68	2.457.250,53	1.356.347,00	1.100.903,53	3.216.573,91	1.647.506,05	1.722.107,23	1.796.708,41	1.871.309,60	1.945.910,78	2.020.511,97	2.095.113,15	2.169.714,33	2.244.315,52
12	3.882.684,66	2.095.113,15	3.436.506,01	1.796.708,41	1.639.797,59	4.856.371,50	2.273.870,30	2.363.248,88	2.452.627,45	2.542.006,03	2.631.384,60	2.720.763,18	2.810.141,75	2.899.520,33	2.988.898,90
13	4.321.217,99	2.810.141,75	4.101.951,32	2.452.627,45	1.649.323,87	6.505.695,37	2.961.249,38	3.036.803,19	3.112.357,00	3.187.910,81	3.263.464,62	3.339.018,44	3.414.572,25	3.490.126,06	3.565.679,87
14	2.606.656,88	3.414.572,25	3.463.937,43	3.112.357,00	351.580,43	6.857.275,81	3.333.780,71	3.293.384,94	3.252.989,17	3.212.593,41	3.172.197,64	3.131.801,87	3.091.406,10	3.051.010,33	3.010.614,56
15	2.930.646,62	3.091.406,10	2.768.651,75	3.252.989,17	-484.337,42	6.372.938,38	3.075.330,15	3.067.292,18	3.059.254,20	3.051.216,23	3.043.178,26	3.035.140,28	3.027.102,31	3.019.064,34	3.011.026,36
16	2.602.678,64	3.027.102,31	2.766.662,63	3.059.254,20	-292.591,58	6.080.346,81	2.984.659,94	2.963.438,76	2.942.217,57	2.920.996,39	2.899.775,21	2.878.554,02	2.857.332,84	2.836.111,66	2.814.890,47
17	2.571.902,47	2.857.332,84	2.587.290,55	2.942.217,57	-354.927,02	5.725.419,79	2.828.789,80	2.814.518,28	2.800.246,77	2.785.975,25	2.771.703,73	2.757.432,21	2.743.160,69	2.728.889,17	2.714.617,65
18	2.482.345,45	2.743.160,69	2.527.123,96	2.800.246,77	-273.122,81	5.452.296,98	2.717.079,17	2.704.038,40	2.690.997,64	2.677.956,88	2.664.916,12	2.651.875,36	2.638.834,59	2.625.793,83	2.612.753,07
19	1.599.258,13	2.638.834,59	2.040.801,79	2.690.997,64	-650.195,85	4.802.101,12	2.534.876,95	2.482.898,12	2.430.919,30	2.378.940,48	2.326.961,65	2.274.982,83	2.223.004,01	2.171.025,19	2.119.046,36
20	2.196.088,12	2.223.004,01	1.897.673,13	2.430.919,30	-533.246,17	4.268.854,95	2.220.312,42	2.218.966,63	2.217.620,83	2.216.275,04	2.214.929,24	2.213.583,45	2.212.237,65	2.210.891,86	2.209.546,07
21	1.250.980,94	2.212.237,65	1.723.534,53	2.217.620,83	-494.086,30	3.774.768,65	2.116.111,98	2.068.049,15	2.019.986,31	1.971.923,48	1.923.860,64	1.875.797,80	1.827.734,97	1.779.672,13	1.731.609,30
22	1.102.929,77	1.827.734,97	1.176.955,35	2.019.986,31	-843.030,96	2.931.737,69	1.755.254,45	1.719.014,19	1.682.773,93	1.646.533,67	1.610.293,41	1.574.053,15	1.537.812,89	1.501.572,63	1.465.332,37
23	1.162.616,69	1.537.812,89	1.132.773,23	1.682.773,93	-550.000,70	2.381.736,99	1.500.293,27	1.481.533,46	1.462.773,65	1.444.013,84	1.425.254,03	1.406.494,22	1.387.734,41	1.368.974,60	1.350.214,79
24	1.296.839,64	1.387.734,41	1.229.728,17	1.462.773,65	-233.045,48	2.148.691,51	1.378.644,93	1.374.100,20	1.369.555,46	1.365.010,72	1.360.465,98	1.355.921,24	1.351.376,50	1.346.831,77	1.342.287,03

0,10 K = 6.857.275,81 - 13.423,13 = 2,43 Horas
3.333.780,71 - 512.763,48

0,15 K = 6.857.275,81 - 13.423,13 = 2,46 Horas
3.293.384,94 - 514.105,79

0,20 K = 6.857.275,81 - 13.423,13 = 2,50 Horas
3.252.989,17 - 515.448,10

0,25 K = 6.857.275,81 - 13.423,13 = 2,54 Horas
3.212.593,41 - 516.790,42

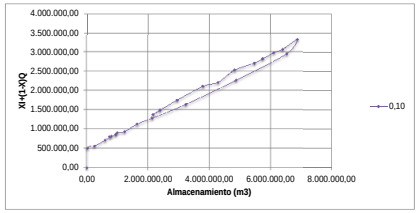
0,30 K = 6.857.275,81 - 13.423,13 = 2,49 Horas
3.263.464,62 - 518.132,73

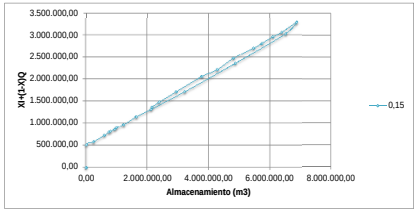
0,35 K = 6.857.275,81 - 13.423,13 = 2,43 Horas
3.339.018,44 - 519.475,04

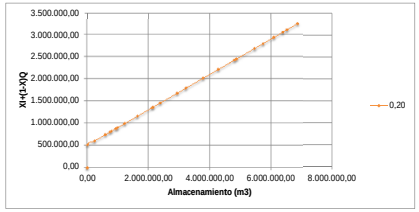
0,40 K = 6.857.275,81 - 13.423,13 = 2,37 Horas
3.414.572,25 - 520.817,35

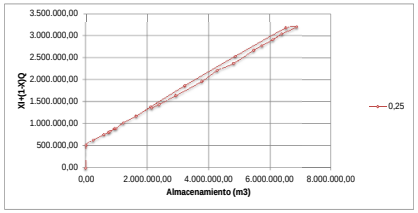
0,45 K = 6.857.275,81 - 13.423,13 = 2,31 Horas
3.490.126,06 - 522.159,67

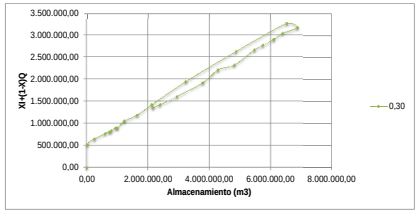
0,50 K = 6.857.275,81 - 13.423,13 = 2,25 Horas
3.565.679,87 - 523.501,98

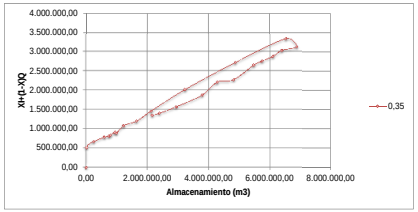

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Almacenamiento (m3)
0,10

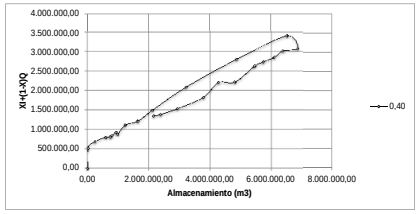

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Almacenamiento (m3)
0,15

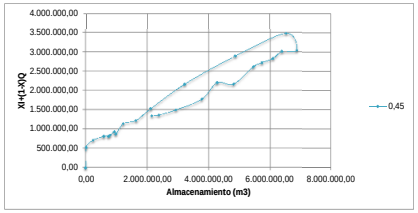

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Almacenamiento (m3)
0,20

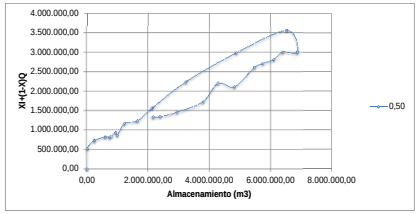

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Almacenamiento (m3)
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Almacenamiento (m3)
0,30


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Almacenamiento (m3)
0,35


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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	505.101,95	743.321,53	507.590,40	235.731,13	249.154,25	549.563,55	571.794,34	594.025,14	616.255,94	638.486,74	660.717,54	682.948,34	705.179,14	727.409,94
3	962.154,86	657.988,95	955.936,40	581.545,45	374.390,95	623.545,21	688.405,54	703.613,83	718.822,13	734.030,43	749.238,72	764.447,02	779.655,31	794.863,61	810.071,90
4	828.656,21	767.477,15	895.405,53	712.733,05	182.672,49	806.217,69	773.595,05	776.654,01	779.712,96	782.771,91	785.830,86	788.889,82	791.948,77	795.007,72	798.066,68
5	888.435,40	786.512,02	858.545,80	776.994,58	81.551,22	887.768,91	796.704,36	801.800,53	806.896,70	811.992,87	817.089,03	822.185,20	827.281,37	832.377,54	837.473,71
6	1.050.897,01	816.055,89	969.666,20	801.283,96	168.382,25	1.056.151,16	839.540,00	851.282,06	863.024,11	874.766,17	886.508,23	898.250,28	909.992,34	921.734,39	933.476,45
7	816.880,77	905.105,11	933.888,89	860.580,50	73.308,39	1.129.459,55	896.282,68	891.871,46	887.460,24	883.049,03	878.637,81	874.226,59	869.815,38	865.404,16	860.992,94
8	1.464.595,11	852.347,95	1.140.737,94	878.726,53	262.011,41	1.391.470,96	913.572,67	944.185,02	974.797,38	1.005.409,74	1.036.022,10	1.066.634,46	1.097.246,81	1.127.859,17	1.158.471,53
9	1.363.224,74	1.066.963,19	1.413.909,93	959.655,57	454.254,36	1.845.725,32	1.096.589,35	1.111.402,42	1.126.215,50	1.141.028,58	1.155.841,65	1.170.654,73	1.185.467,81	1.200.280,89	1.215.093,96
10	1.924.173,70	1.149.779,28	1.643.699,22	1.108.371,23	535.327,99	2.381.053,31	1.227.218,72	1.265.938,44	1.304.658,16	1.343.377,88	1.382.097,60	1.420.817,33	1.459.537,05	1.498.256,77	1.536.976,49
11	2.990.327,36	1.380.047,92	2.457.250,53	1.264.913,60	1.192.336,93	3.573.390,24	1.541.075,86	1.621.589,83	1.702.103,81	1.782.617,78	1.863.131,75	1.943.645,72	2.024.159,69	2.104.673,67	2.185.187,64
12	3.882.684,66	1.904.545,75	3.436.506,01	1.642.296,83	1.794.209,17	5.367.599,41	2.102.359,64	2.201.266,59	2.300.173,53	2.399.080,48	2.497.987,42	2.596.894,37	2.695.801,31	2.794.708,26	2.893.615,20
13	4.321.217,99	2.571.540,77	4.101.951,32	2.238.043,26	1.863.908,06	7.231.507,47	2.746.508,50	2.833.992,36	2.921.476,22	3.008.960,08	3.096.443,94	3.183.927,80	3.271.411,66	3.358.895,52	3.446.379,38
14	2.606.656,88	3.234.000,54	3.463.937,43	2.902.770,66	561.166,78	7.792.674,25	3.171.266,18	3.139.898,99	3.108.531,81	3.077.164,63	3.045.797,44	3.014.430,26	2.983.063,08	2.951.695,89	2.920.328,71
15	2.930.646,62	3.006.503,08	2.768.651,75	3.120.251,81	-351.600,06	7.441.074,19	2.998.917,44	2.995.124,61	2.991.331,79	2.987.538,97	2.983.746,14	2.979.953,32	2.976.160,50	2.972.367,67	2.968.574,85
16	2.602.678,64	2.991.654,92	2.766.662,63	2.999.079,00	-232.416,37	7.208.657,82	2.952.757,29	2.933.308,48	2.913.859,67	2.894.410,85	2.874.962,04	2.855.513,22	2.836.064,41	2.816.615,59	2.797.166,78
17	2.571.902,47	2.858.586,42	2.587.290,55	2.925.120,67	-337.830,12	6.870.827,70	2.829.918,02	2.815.583,82	2.801.249,63	2.786.915,43	2.772.581,23	2.758.247,03	2.743.912,84	2.729.578,64	2.715.244,44
18	2.482.345,45	2.762.818,06	2.527.123,96	2.810.702,24	-283.578,28	6.587.249,42	2.734.770,79	2.720.747,16	2.706.723,53	2.692.699,90	2.678.676,27	2.664.652,64	2.650.629,01	2.636.605,38	2.622.581,75
19	1.599.258,13	2.696.554,65	2.040.801,79	2.729.686,35	-688.884,56	5.898.364,86	2.586.825,00	2.531.960,17	2.477.095,35	2.422.230,52	2.367.365,69	2.312.500,87	2.257.636,04	2.202.771,22	2.147.906,39
20	2.196.088,12	2.297.596,20	1.897.673,13	2.497.075,42	-599.402,29	5.298.962,56	2.287.445,39	2.282.369,98	2.277.294,58	2.272.219,18	2.267.143,77	2.262.068,37	2.256.992,97	2.251.917,56	2.246.842,16
21	1.250.980,94	2.295.183,31	1.723.534,53	2.296.389,75	-572.855,22	4.726.107,34	2.190.763,08	2.138.552,96	2.086.342,84	2.034.132,72	1.981.922,60	1.929.712,48	1.877.502,37	1.825.292,25	1.773.082,13
22	1.102.929,77	1.940.218,74	1.176.955,35	2.117.701,03	-940.745,67	3.785.361,67	1.856.489,85	1.814.625,40	1.772.760,95	1.730.896,50	1.689.032,05	1.647.167,60	1.605.303,15	1.563.438,70	1.521.574,26
23	1.162.616,69	1.649.440,24	1.132.773,23	1.794.829,49	-662.056,26	3.123.305,40	1.600.757,88	1.576.416,71	1.552.075,53	1.527.734,35	1.503.393,17	1.479.052,00	1.454.710,82	1.430.369,64	1.406.028,46
24	1.296.839,64	1.476.941,67	1.229.728,17	1.563.190,95	-333.462,79	2.789.842,62	1.458.931,47	1.449.926,37	1.440.921,27	1.431.916,16	1.422.911,06	1.413.905,96	1.404.900,86	1.395.895,76	1.386.890,66

0,10 K = 7.792.674,25 - 13.423,13 = 2,93 Horas
3.171.266,18 - 512.763,48

0,15 K = 7.792.674,25 - 13.423,13 = 2,96 Horas
3.139.898,99 - 514.105,79

0,20 K = 7.792.674,25 - 13.423,13 = 3,00 Horas
3.108.531,81 - 515.448,10

0,25 K = 7.792.674,25 - 13.423,13 = 3,04 Horas
3.077.164,63 - 516.790,42

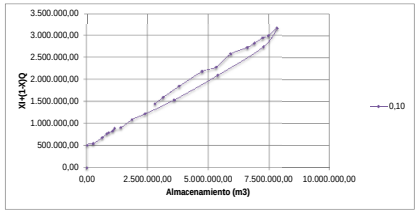
0,30 K = 7.792.674,25 - 13.423,13 = 3,02 Horas
3.096.443,94 - 518.132,73

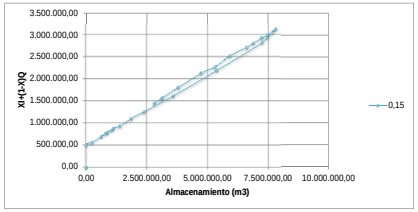
0,35 K = 7.792.674,25 - 13.423,13 = 2,92 Horas
3.183.927,80 - 519.475,04

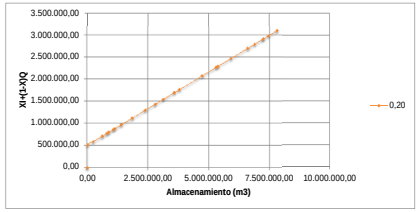
0,40 K = 7.792.674,25 - 13.423,13 = 2,83 Horas
3.271.411,66 - 520.817,35

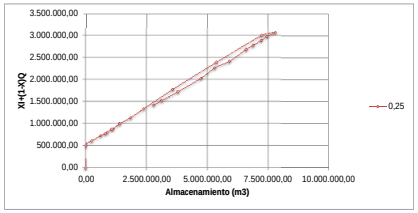
0,45 K = 7.792.674,25 - 13.423,13 = 2,74 Horas
3.358.895,52 - 522.159,67

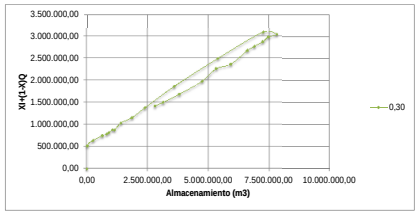
0,50 K = 7.792.674,25 - 13.423,13 = 2,66 Horas
3.446.379,38 - 523.501,98

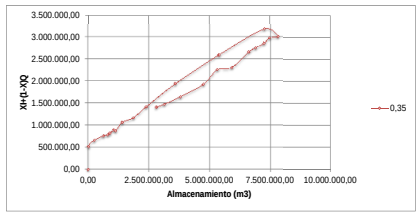

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Almacenamiento (m3)
Qx(t+1)-Qx
0,10

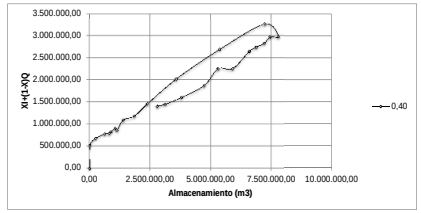

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Almacenamiento (m3)
Qx(t+1)-Qx
0,15

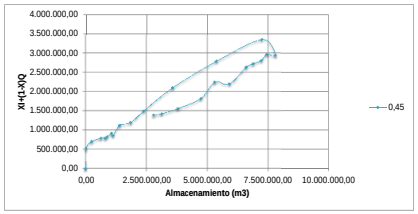

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Almacenamiento (m3)
Qx(t+1)-Qx
0,20

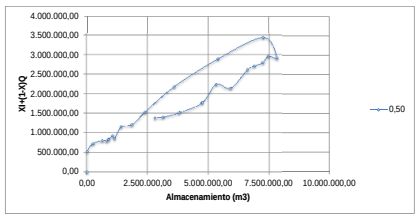

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Almacenamiento (m3)
Qx(t+1)-Qx
0,25


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Almacenamiento (m3)
Qx(t+1)-Qx
0,30


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Almacenamiento (m3)
Qx(t+1)-Qx
0,35


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Almacenamiento (m3)
Qx(t+1)-Qx
0,40


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Almacenamiento (m3)
Qx(t+1)-Qx
0,45


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Almacenamiento (m3)
Qx(t+1)-Qx
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	717.671,50	743.321,53	613.875,18	129.446,35	142.869,48	740.876,15	752.478,47	764.080,79	775.683,11	787.285,43	798.887,76	810.490,08	822.092,40	833.694,72
3	962.154,86	988.197,54	955.936,40	852.934,52	103.001,88	245.871,36	985.593,27	984.291,14	982.989,00	981.686,87	980.384,74	979.082,60	977.780,47	976.478,33	975.176,20
4	828.656,21	901.220,77	895.405,53	944.709,15	-49.303,62	196.567,73	893.964,31	890.336,08	886.707,85	883.079,63	879.451,40	875.823,17	872.194,94	868.566,72	864.938,49
5	888.435,40	843.909,49	858.545,80	872.565,13	-14.019,33	182.548,40	848.362,08	850.588,38	852.814,67	855.040,97	857.267,26	859.493,56	861.719,86	863.946,15	866.172,45
6	1.050.897,01	964.422,64	969.666,20	904.166,07	65.500,13	248.048,54	973.070,08	977.393,80	981.717,52	986.041,24	990.364,95	994.688,67	999.012,39	1.003.336,11	1.007.659,83
7	816.880,77	962.957,82	933.888,89	963.690,23	-29.801,34	218.247,20	948.350,11	941.046,26	933.742,41	926.438,56	919.134,70	911.830,85	904.527,00	897.223,15	889.919,30
8	1.464.595,11	1.073.604,48	1.140.737,94	1.018.281,15	122.456,79	340.703,99	1.112.703,55	1.132.253,08	1.151.802,61	1.171.352,14	1.190.901,67	1.210.451,20	1.230.000,74	1.249.550,27	1.269.099,80
9	1.363.224,74	1.477.006,47	1.413.909,93	1.275.305,48	138.604,45	479.308,44	1.465.628,30	1.459.939,21	1.454.250,12	1.448.561,04	1.442.871,95	1.437.182,86	1.431.493,78	1.425.804,69	1.420.115,60
10	1.924.173,70	1.587.376,90	1.643.699,22	1.532.191,69	111.507,53	590.815,97	1.621.056,58	1.637.896,42	1.654.736,26	1.671.576,10	1.688.415,94	1.705.255,78	1.722.095,62	1.738.935,46	1.755.775,30
11	2.990.327,36	2.429.210,53	2.457.250,53	2.008.293,71	448.956,82	1.039.772,79	2.485.322,21	2.513.378,05	2.541.433,89	2.569.489,73	2.597.545,57	2.625.601,42	2.653.657,26	2.681.713,10	2.709.768,94
12	3.882.684,66	3.452.925,75	3.436.506,01	2.941.068,14	495.437,87	1.535.210,66	3.495.901,64	3.517.389,58	3.538.877,53	3.560.365,47	3.581.853,42	3.603.341,37	3.624.829,31	3.646.317,26	3.667.805,20
13	4.321.217,99	4.132.021,64	4.101.951,32	3.792.473,70	309.477,63	1.844.688,28	4.150.941,28	4.160.401,10	4.169.860,91	4.179.320,73	4.188.780,55	4.198.240,36	4.207.700,18	4.217.160,00	4.226.619,82
14	2.606.656,88	3.613.434,13	3.463.937,43	3.872.727,89	-408.790,45	1.435.897,83	3.512.756,41	3.462.417,55	3.412.078,68	3.361.739,82	3.311.400,96	3.261.062,10	3.210.723,23	3.160.384,37	3.110.045,51
15	2.930.646,62	2.601.684,31	2.768.651,75	3.107.559,22	-338.907,47	1.096.990,36	2.634.580,54	2.651.028,65	2.667.476,77	2.683.924,88	2.700.373,00	2.716.821,12	2.733.269,23	2.749.717,35	2.766.165,46
16	2.602.678,64	2.837.083,53	2.766.662,63	2.719.383,92	47.278,71	1.144.269,07	2.813.643,04	2.801.922,80	2.790.202,55	2.778.482,31	2.766.762,06	2.755.041,82	2.743.321,57	2.731.601,33	2.719.881,08
17	2.571.902,47	2.556.002,44	2.587.290,55	2.696.542,98	-109.252,43	1.035.016,64	2.557.592,44	2.558.387,44	2.559.182,44	2.559.977,44	2.560.772,45	2.561.567,45	2.562.362,45	2.563.157,45	2.563.952,45
18	2.482.345,45	2.535.792,32	2.527.123,96	2.545.897,38	-18.773,42	1.016.243,22	2.530.447,63	2.527.775,29	2.525.102,95	2.522.430,60	2.519.758,26	2.517.085,91	2.514.413,57	2.511.741,23	2.509.068,88
19	1.599.258,13	2.096.244,19	2.040.801,79	2.316.018,25	-275.216,46	741.026,76	2.046.545,58	2.021.696,28	1.996.846,98	1.971.997,67	1.947.148,37	1.922.299,07	1.897.449,76	1.872.600,46	1.847.751,16
20	2.196.088,12	1.784.044,41	1.897.673,13	1.940.144,30	-42.471,17	698.555,59	1.825.248,78	1.845.850,96	1.866.453,15	1.887.055,33	1.907.657,52	1.928.259,71	1.948.861,89	1.969.464,08	1.990.066,26
21	1.250.980,94	1.849.905,58	1.723.534,53	1.816.974,99	-93.440,46	605.115,13	1.790.013,11	1.760.066,88	1.730.120,65	1.700.174,42	1.670.228,19	1.640.281,95	1.610.335,72	1.580.389,49	1.550.443,26
22	1.102.929,77	1.101.969,78	1.176.955,35	1.475.937,68	-298.982,32	306.132,81	1.102.065,78	1.102.113,78	1.102.161,77	1.102.209,77	1.102.257,77	1.102.305,77	1.102.353,77	1.102.401,77	1.102.449,77
23	1.162.616,69	1.128.647,02	1.132.773,23	1.115.308,40	17.464,83	323.597,64	1.132.043,99	1.133.742,47	1.135.440,95	1.137.139,44	1.138.837,92	1.140.536,40	1.142.234,89	1.143.933,37	1.145.631,86
24	1.296.839,64	1.224.993,62	1.229.728,17	1.176.820,32	52.907,85	376.505,48	1.232.178,23	1.235.770,53	1.239.362,83	1.242.955,13	1.246.547,43	1.250.139,73	1.253.732,03	1.257.324,33	1.260.916,63

0,10 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.150.941,28 - 512.763,48

0,15 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.160.401,10 - 514.105,79

0,20 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.169.860,91 - 515.448,10

0,25 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.179.320,73 - 516.790,42

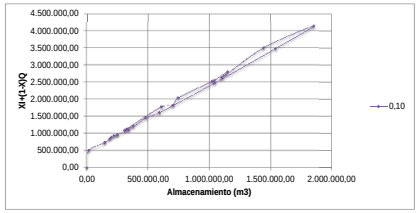
0,30 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.188.780,55 - 518.132,73

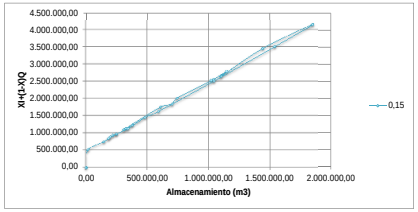
0,35 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.198.240,36 - 519.475,04

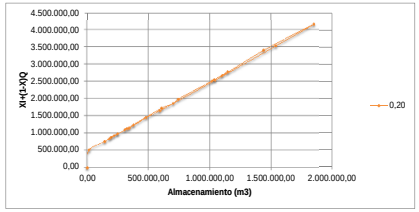
0,40 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.207.700,18 - 520.817,35

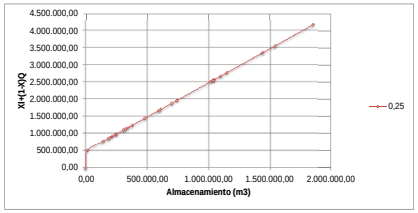
0,45 K = 1.844.688,28 - 13.423,13 = 0,50 Horas
4.217.160,00 - 522.159,67

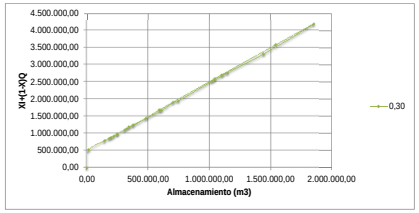
0,50 K = 1.844.688,28 - 13.423,13 = 0,49 Horas
4.226.619,82 - 523.501,98

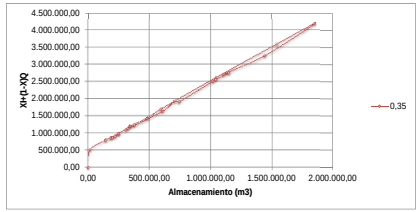

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Almacenamiento (m3)
Qdx-(t+Δt)x
0,10

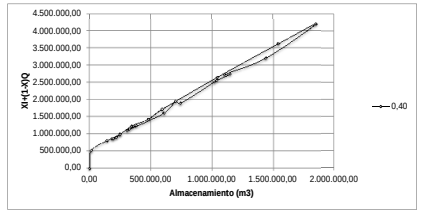

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Almacenamiento (m3)
Qdx-(t+Δt)x
0,15

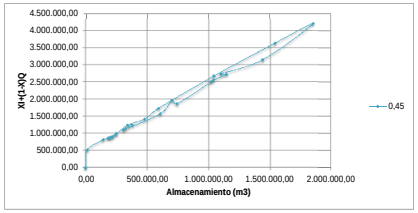

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Almacenamiento (m3)
Qdx-(t+Δt)x
0,20

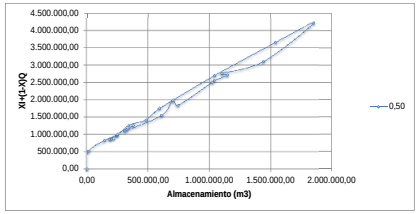

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Almacenamiento (m3)
Qdx-(t+Δt)x
0,25


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Almacenamiento (m3)
Qdx-(t+Δt)x
0,30


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0,00
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)
Qdx-(t+Δt)x
0,35


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)
Qdx-(t+Δt)x
0,40


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)
Qdx-(t+Δt)x
0,45


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
500.000,00
1.000.000,00
1.500.000,00
2.000.000,00
Almacenamiento (m3)
Qdx-(t+Δt)x
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	614.114,42	743.321,53	562.096,64	181.224,89	194.648,02	647.674,78	664.454,95	681.235,13	698.015,30	714.795,48	731.575,66	748.355,83	765.136,01	781.916,18
3	962.154,86	885.084,62	955.936,40	749.599,52	206.336,88	400.984,89	892.791,65	896.645,16	900.498,67	904.352,18	908.205,69	912.059,20	915.912,72	919.766,23	923.619,74
4	828.656,21	920.041,08	895.405,53	902.562,85	-7.157,32	393.827,57	910.902,59	906.333,35	901.764,11	897.194,86	892.625,62	888.056,37	883.487,13	878.917,89	874.348,64
5	888.435,40	858.889,02	858.545,80	889.465,05	-30.919,25	362.908,33	861.843,66	863.320,98	864.798,30	866.275,61	867.752,93	869.230,25	870.707,57	872.184,89	873.662,21
6	1.050.897,01	915.018,44	969.666,20	886.953,73	82.712,47	445.620,80	928.606,30	935.400,23	942.194,16	948.988,09	955.782,01	962.575,94	969.369,87	976.163,80	982.957,73
7	816.880,77	976.918,05	933.888,89	945.968,25	-12.079,35	433.541,44	960.914,32	952.912,46	944.910,59	936.908,73	928.906,87	920.905,00	912.903,14	904.901,28	896.899,41
8	1.464.595,11	978.431,10	1.140.737,94	977.674,57	163.063,37	596.604,81	1.027.047,50	1.051.355,70	1.075.663,90	1.099.972,10	1.124.280,30	1.148.588,50	1.172.896,70	1.197.204,90	1.221.513,11
9	1.363.224,74	1.347.088,23	1.413.909,93	1.162.759,67	251.150,26	847.755,07	1.348.701,89	1.349.508,71	1.350.315,54	1.351.122,36	1.351.929,19	1.352.736,01	1.353.542,84	1.354.349,66	1.355.156,49
10	1.924.173,70	1.472.187,23	1.643.699,22	1.409.637,73	234.061,49	1.081.816,56	1.517.385,88	1.539.985,20	1.562.584,52	1.585.183,85	1.607.783,17	1.630.382,49	1.652.981,82	1.675.581,14	1.698.180,47
11	2.990.327,36	2.047.007,14	2.457.250,53	1.759.597,18	697.653,35	1.779.469,91	2.141.339,16	2.188.505,17	2.235.671,18	2.282.837,19	2.330.003,20	2.377.169,21	2.424.335,23	2.471.501,24	2.518.667,25
12	3.882.684,66	2.980.134,77	3.436.506,01	2.513.570,96	922.935,05	2.702.404,96	3.070.389,76	3.115.517,26	3.160.644,75	3.205.772,24	3.250.899,74	3.296.027,23	3.341.154,73	3.386.282,22	3.431.409,72
13	4.321.217,99	3.789.881,35	4.101.951,32	3.385.008,06	716.943,26	3.419.348,22	3.843.015,01	3.869.581,84	3.896.148,68	3.922.715,51	3.949.282,34	3.975.849,17	4.002.416,00	4.028.982,84	4.055.549,67
14	2.606.656,88	3.872.036,44	3.463.937,43	3.830.959,89	-367.022,46	3.052.325,76	3.745.500,28	3.682.231,20	3.618.962,13	3.555.693,05	3.492.423,97	3.429.154,89	3.365.885,82	3.302.616,74	3.239.347,66
15	2.930.646,62	2.924.531,14	2.768.651,75	3.398.284,79	-629.633,04	2.422.692,72	2.925.142,69	2.925.448,46	2.925.754,24	2.926.060,01	2.926.365,78	2.926.671,56	2.926.977,33	2.927.283,11	2.927.588,88
16	2.602.678,64	2.863.829,93	2.766.662,63	2.894.180,53	-127.517,91	2.295.174,82	2.837.714,80	2.824.657,23	2.811.599,67	2.798.542,11	2.785.484,54	2.772.426,98	2.759.369,41	2.746.311,85	2.733.254,28
17	2.571.902,47	2.648.753,66	2.587.290,55	2.756.291,79	-169.001,24	2.126.173,58	2.641.068,54	2.637.225,98	2.633.383,42	2.629.540,86	2.625.698,30	2.621.855,74	2.618.013,18	2.614.170,62	2.610.328,06
18	2.482.345,45	2.569.361,30	2.527.123,96	2.609.057,48	-81.933,52	2.044.240,05	2.560.659,72	2.556.308,92	2.551.958,13	2.547.607,34	2.543.256,55	2.538.905,75	2.534.554,96	2.530.204,17	2.525.853,37
19	1.599.258,13	2.323.131,15	2.040.801,79	2.446.246,23	-405.444,44	1.638.795,61	2.250.743,85	2.214.550,20	2.178.356,55	2.142.162,90	2.105.969,25	2.069.775,60	2.033.581,95	1.997.388,29	1.961.194,64
20	2.196.088,12	1.863.398,73	1.897.673,13	2.093.264,94	-195.591,82	1.443.203,79	1.896.667,67	1.913.302,14	1.929.936,61	1.946.571,08	1.963.205,55	1.979.840,02	1.996.474,49	2.013.108,96	2.029.743,43
21	1.250.980,94	1.940.528,81	1.723.534,53	1.901.963,77	-178.429,24	1.264.774,55	1.871.574,02	1.837.096,63	1.802.619,24	1.768.141,84	1.733.664,45	1.699.187,06	1.664.709,66	1.630.232,27	1.595.754,88
22	1.102.929,77	1.359.280,28	1.176.955,35	1.649.904,54	-472.949,19	791.825,36	1.333.645,23	1.320.827,70	1.308.010,18	1.295.192,65	1.282.375,13	1.269.557,60	1.256.740,08	1.243.922,55	1.231.105,02
23	1.162.616,69	1.166.137,26	1.132.773,23	1.262.708,77	-129.935,54	661.889,83	1.165.785,20	1.165.609,17	1.165.433,14	1.165.257,11	1.165.081,09	1.164.905,06	1.164.729,03	1.164.553,00	1.164.376,97
24	1.296.839,64	1.190.165,39	1.229.728,17	1.178.151,33	51.576,84	713.466,67	1.200.832,82	1.206.166,53	1.211.500,24	1.216.833,96	1.222.167,67	1.227.501,38	1.232.835,09	1.238.168,81	1.243.502,52

0,10 K = 3.419.348,22 - 13.423,13 = 1,02 Horas
3.843.015,01 - 512.763,48

0,15 K = 3.419.348,22 - 13.423,13 = 1,02 Horas
3.869.581,84 - 514.105,79

0,20 K = 3.419.348,22 - 13.423,13 = 1,01 Horas
3.896.148,68 - 515.448,10

0,25 K = 3.419.348,22 - 13.423,13 = 1,00 Horas
3.922.715,51 - 516.790,42

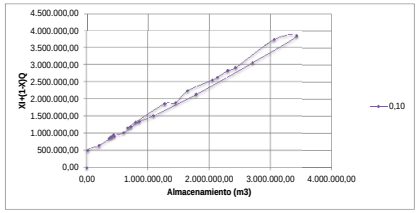
0,30 K = 3.419.348,22 - 13.423,13 = 0,99 Horas
3.949.282,34 - 518.132,73

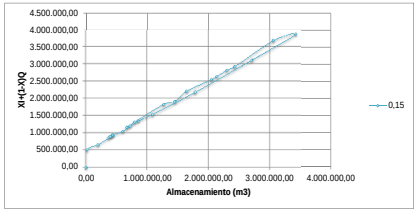
0,35 K = 3.419.348,22 - 13.423,13 = 0,99 Horas
3.975.849,17 - 519.475,04

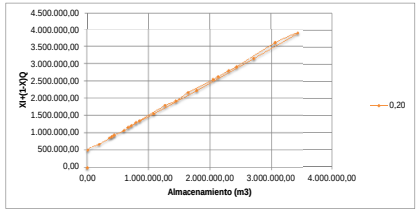
0,40 K = 3.419.348,22 - 13.423,13 = 0,98 Horas
4.002.416,00 - 520.817,35

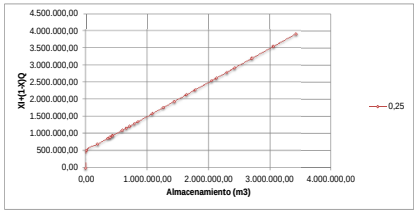
0,45 K = 3.419.348,22 - 13.423,13 = 0,97 Horas
4.028.982,84 - 522.159,67

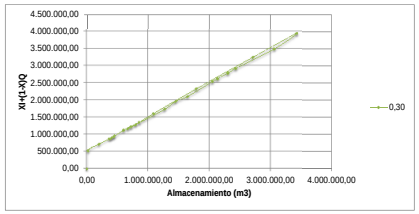
0,50 K = 3.419.348,22 - 13.423,13 = 0,96 Horas
4.055.549,67 - 523.501,98

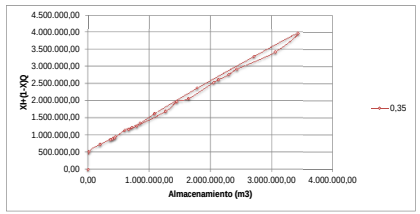

4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,10

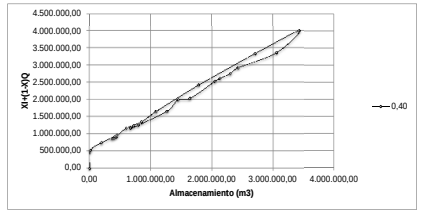

4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,15

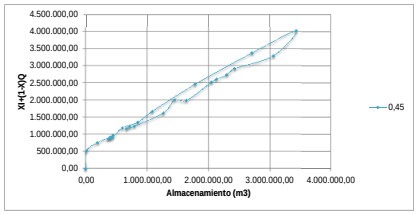

4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,20

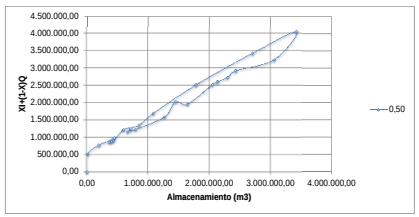

4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,25


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,30


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,35


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,40


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,45


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DX=1*X+DQ
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	558.352,92	743.321,53	534.215,89	209.105,64	222.528,77	597.489,42	617.057,67	636.625,92	656.194,18	675.762,43	695.330,68	714.898,93	734.467,18	754.035,43
3	962.154,86	800.149,62	955.936,40	679.251,27	276.685,13	499.213,90	816.350,14	824.450,41	832.550,67	840.650,93	848.751,19	856.851,45	864.951,71	873.051,98	881.152,24
4	828.656,21	889.576,02	895.405,53	844.862,82	50.542,71	549.756,61	883.484,04	880.438,05	877.392,06	874.346,07	871.300,08	868.254,09	865.208,10	862.162,11	859.116,12
5	888.435,40	856.685,31	858.545,80	873.130,66	-14.584,86	535.171,75	859.860,31	861.447,82	863.035,32	864.622,83	866.210,33	867.797,84	869.385,34	870.972,85	872.560,35
6	1.050.897,01	888.720,87	969.666,20	872.703,09	96.963,12	632.134,86	904.938,48	913.047,29	921.156,10	929.264,90	937.373,71	945.482,52	953.591,33	961.700,13	969.808,94
7	816.880,77	970.520,32	933.888,89	929.620,60	4.268,30	636.403,16	955.156,37	947.474,39	939.792,41	932.110,44	924.428,46	916.746,48	909.064,50	901.382,53	893.700,55
8	1.464.595,11	925.797,09	1.140.737,94	948.158,71	192.579,24	828.982,40	979.676,89	1.006.616,79	1.033.556,69	1.060.496,59	1.087.436,50	1.114.376,40	1.141.316,30	1.168.256,20	1.195.196,10
9	1.363.224,74	1.249.567,38	1.413.909,93	1.087.682,24	326.227,69	1.155.210,09	1.260.933,12	1.266.615,99	1.272.298,85	1.277.981,72	1.283.664,59	1.289.347,46	1.295.030,32	1.300.713,19	1.306.396,06
10	1.924.173,70	1.362.660,29	1.643.699,22	1.306.113,84	337.585,38	1.492.795,47	1.418.811,63	1.446.887,30	1.474.962,97	1.503.038,64	1.531.114,31	1.559.189,98	1.587.265,65	1.615.341,33	1.643.417,00
11	2.990.327,36	1.790.218,82	2.457.250,53	1.576.439,56	880.810,97	2.373.606,44	1.910.229,68	1.970.235,10	2.030.240,53	2.090.245,96	2.150.251,38	2.210.256,81	2.270.262,24	2.330.267,66	2.390.273,09
12	3.882.684,66	2.597.390,02	3.436.506,01	2.193.804,42	1.242.701,58	3.616.308,03	2.725.919,49	2.790.184,22	2.854.448,95	2.918.713,68	2.982.978,41	3.047.243,14	3.111.507,88	3.175.772,61	3.240.037,34
13	4.321.217,99	3.422.073,96	4.101.951,32	3.009.731,96	1.092.219,36	4.708.527,39	3.511.988,31	3.556.945,51	3.601.902,72	3.646.859,92	3.691.817,13	3.736.774,33	3.781.731,54	3.826.688,74	3.871.645,94
14	2.606.656,88	3.843.504,02	3.463.937,43	3.632.788,96	-168.851,53	4.539.675,86	3.719.819,31	3.657.976,95	3.596.134,59	3.534.292,24	3.472.449,88	3.410.607,52	3.348.765,17	3.286.922,81	3.225.080,45
15	2.930.646,62	3.107.289,61	2.768.651,75	3.475.396,82	-706.745,06	3.832.930,80	3.089.625,31	3.080.793,16	3.071.961,01	3.063.128,86	3.054.296,71	3.045.464,56	3.036.632,41	3.027.800,26	3.018.968,11
16	2.602.678,64	2.973.357,93	2.766.662,63	3.040.323,77	-273.661,14	3.559.269,66	2.936.290,00	2.917.756,03	2.899.222,07	2.880.688,10	2.862.154,14	2.843.620,17	2.825.086,21	2.806.552,25	2.788.018,28
17	2.571.902,47	2.742.880,20	2.587.290,55	2.858.119,06	-270.828,51	3.288.441,15	2.725.782,42	2.717.233,54	2.708.684,65	2.700.135,76	2.691.586,88	2.683.037,99	2.674.489,10	2.665.940,22	2.657.391,33
18	2.482.345,45	2.630.774,13	2.527.123,96	2.686.827,16	-159.703,21	3.128.737,94	2.615.931,26	2.608.509,83	2.601.088,39	2.593.666,96	2.586.245,53	2.578.824,09	2.571.402,66	2.563.981,22	2.556.559,79
19	1.599.258,13	2.471.503,61	2.040.801,79	2.551.138,87	-510.337,08	2.618.400,86	2.384.279,06	2.340.666,79	2.297.054,51	2.253.442,24	2.209.829,97	2.166.217,69	2.122.605,42	2.078.993,14	2.035.380,87
20	2.196.088,12	1.980.647,16	1.897.673,13	2.226.075,38	-328.402,26	2.289.998,61	2.002.191,26	2.012.963,30	2.023.735,35	2.034.507,40	2.045.279,45	2.056.051,50	2.066.823,55	2.077.595,59	2.088.367,64
21	1.250.980,94	2.040.525,66	1.723.534,53	2.010.586,41	-287.051,88	2.002.946,73	1.961.571,19	1.922.093,95	1.882.616,72	1.843.139,48	1.803.662,25	1.764.185,01	1.724.707,77	1.685.230,54	1.645.753,30
22	1.102.929,77	1.543.263,44	1.176.955,35	1.791.894,55	-614.939,19	1.388.007,53	1.499.230,07	1.477.213,39	1.455.196,70	1.433.180,02	1.411.163,34	1.389.146,65	1.367.129,97	1.345.113,29	1.323.096,60
23	1.162.616,69	1.276.880,17	1.132.773,23	1.410.071,80	-277.298,57	1.110.708,96	1.265.453,82	1.259.740,65	1.254.027,48	1.248.314,30	1.242.601,13	1.236.887,95	1.231.174,78	1.225.461,61	1.219.748,43
24	1.296.839,64	1.216.889,03	1.229.728,17	1.246.884,60	-17.156,43	1.093.552,53	1.224.884,09	1.228.881,62	1.232.879,15	1.236.876,68	1.240.874,21	1.244.871,74	1.248.869,27	1.252.866,80	1.256.864,34

0,10 K = 4.708.527,39 - 13.423,13 = 1,46 Horas
3.719.819,31 - 512.763,48

0,15 K = 4.708.527,39 - 13.423,13 = 1,49 Horas
3.657.976,95 - 514.105,79

0,20 K = 4.708.527,39 - 13.423,13 = 1,52 Horas
3.601.902,72 - 515.448,10

0,25 K = 4.708.527,39 - 13.423,13 = 1,50 Horas
3.646.859,92 - 516.790,42

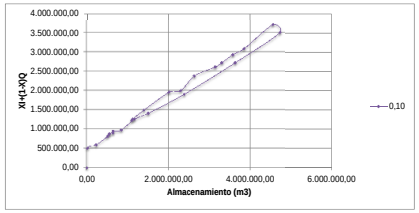
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3.691.817,13 - 518.132,73

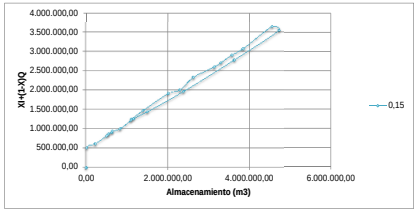
0,35 K = 4.708.527,39 - 13.423,13 = 1,46 Horas
3.736.774,33 - 519.475,04

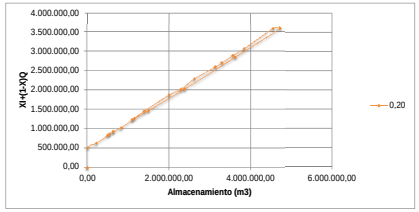
0,40 K = 4.708.527,39 - 13.423,13 = 1,44 Horas
3.781.731,54 - 520.817,35

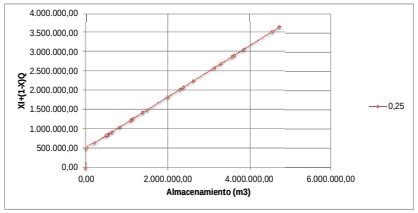
0,45 K = 4.708.527,39 - 13.423,13 = 1,42 Horas
3.826.688,74 - 522.159,67

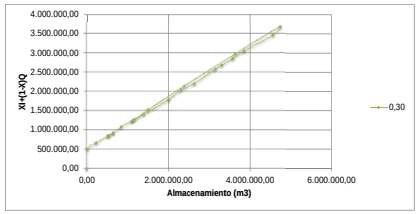
0,50 K = 4.708.527,39 - 13.423,13 = 1,40 Horas
3.871.645,94 - 523.501,98

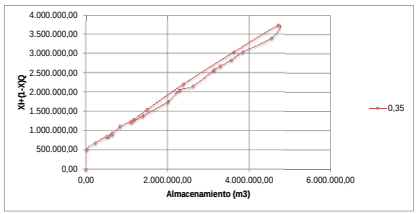

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Almacenamiento (m3)
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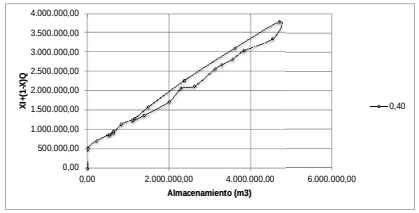

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Almacenamiento (m3)
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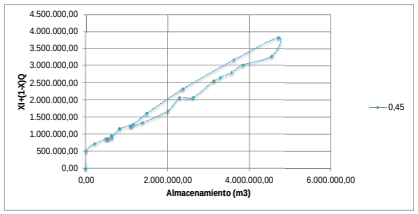

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Almacenamiento (m3)
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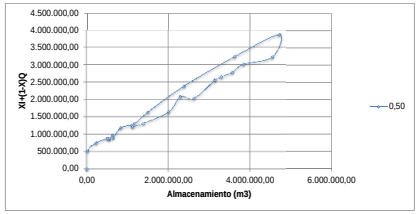

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	523.501,98	743.321,53	516.790,42	226.531,11	239.954,24	566.123,58	587.434,37	608.745,17	630.055,97	651.366,77	672.677,57	693.988,37	715.299,16	736.609,96
3	962.154,86	736.609,96	955.936,40	630.055,97	325.880,43	565.834,67	759.164,45	770.441,70	781.718,94	792.996,19	804.273,43	815.550,67	826.827,92	838.105,16	849.382,41
4	828.656,21	849.382,41	895.405,53	792.996,19	102.409,35	668.244,01	847.309,79	846.273,48	845.237,17	844.200,86	843.164,55	842.128,24	841.091,93	840.055,62	839.019,31
5	888.435,40	839.019,31	858.545,80	844.200,86	14.344,94	682.588,96	843.960,92	846.431,72	848.902,53	851.373,33	853.844,13	856.314,94	858.785,74	861.256,55	863.727,35
6	1.050.897,01	863.727,35	969.666,20	851.373,33	118.292,87	800.881,83	882.444,32	891.802,80	901.161,28	910.519,77	919.878,25	929.236,73	938.595,22	947.953,70	957.312,18
7	816.880,77	957.312,18	933.888,89	910.519,77	23.369,12	824.250,96	943.269,04	936.247,47	929.225,90	922.204,33	915.182,76	908.161,19	901.139,62	894.118,05	887.096,48
8	1.464.595,11	887.096,48	1.140.737,94	922.204,33	218.533,61	1.042.784,57	944.846,34	973.721,27	1.002.596,20	1.031.471,14	1.060.346,07	1.089.221,00	1.118.095,93	1.146.970,86	1.175.845,80
9	1.363.224,74	1.175.845,80	1.413.909,93	1.031.471,14	382.438,79	1.425.223,36	1.194.583,69	1.203.952,64	1.213.321,58	1.222.690,53	1.232.059,48	1.241.428,42	1.250.797,37	1.260.166,32	1.269.535,27
10	1.924.173,70	1.269.535,27	1.643.699,22	1.222.690,53	421.008,69	1.846.232,05	1.334.999,11	1.367.731,03	1.400.462,95	1.433.194,88	1.465.926,80	1.498.658,72	1.531.390,64	1.564.122,56	1.596.854,48
11	2.990.327,36	1.596.854,48	2.457.250,53	1.433.194,88	1.024.055,65	2.870.287,70	1.736.201,77	1.805.875,41	1.875.549,06	1.945.222,70	2.014.896,35	2.084.569,99	2.154.243,63	2.223.917,28	2.293.590,92
12	3.882.684,66	2.293.590,92	3.436.506,01	1.945.222,70	1.491.283,30	4.361.571,01	2.452.500,29	2.531.954,98	2.611.409,67	2.690.864,35	2.770.319,04	2.849.773,73	2.929.228,42	3.008.683,10	3.088.137,79
13	4.321.217,99	3.088.137,79	4.101.951,32	2.690.864,35	1.411.086,97	5.772.657,97	3.211.445,81	3.273.099,82	3.334.753,83	3.396.407,84	3.458.061,85	3.519.715,86	3.581.369,87	3.643.023,88	3.704.677,89
14	2.606.656,88	3.704.677,89	3.463.937,43	3.396.407,84	67.529,60	5.840.187,57	3.594.875,79	3.539.974,74	3.485.073,69	3.430.172,64	3.375.271,59	3.320.370,54	3.265.469,49	3.210.568,44	3.155.667,38
15	2.930.646,62	3.155.667,38	2.768.651,75	3.430.172,64	-661.520,89	5.178.666,69	3.133.165,31	3.121.914,27	3.110.663,23	3.099.412,19	3.088.161,16	3.076.910,12	3.065.659,08	3.054.408,04	3.043.157,00
16	2.602.678,64	3.043.157,00	2.766.662,63	3.099.412,19	-332.749,56	4.845.917,12	2.999.109,17	2.977.085,25	2.955.061,33	2.933.037,41	2.911.013,49	2.888.989,57	2.866.965,66	2.844.941,74	2.822.917,82
17	2.571.902,47	2.822.917,82	2.587.290,55	2.933.037,41	-345.746,86	4.500.170,26	2.797.816,28	2.785.265,52	2.772.714,75	2.760.163,98	2.747.613,21	2.735.062,45	2.722.511,68	2.709.960,91	2.697.410,14
18	2.482.345,45	2.697.410,14	2.527.123,96	2.760.163,98	-233.040,03	4.267.130,24	2.675.903,67	2.665.150,44	2.654.397,20	2.643.643,97	2.632.890,73	2.622.137,50	2.611.384,26	2.600.631,03	2.589.877,79
19	1.599.258,13	2.589.877,79	2.040.801,79	2.643.643,97	-602.842,18	3.664.288,06	2.490.815,83	2.441.284,85	2.391.753,86	2.342.222,88	2.292.691,90	2.243.160,91	2.193.629,93	2.144.098,95	2.094.567,96
20	2.196.088,12	2.094.567,96	1.897.673,13	2.342.222,88	-444.549,75	3.219.738,30	2.104.719,98	2.109.795,99	2.114.872,00	2.119.948,00	2.125.024,01	2.130.100,02	2.135.176,03	2.140.252,03	2.145.328,04
21	1.250.980,94	2.145.328,04	1.723.534,53	2.119.948,00	-396.413,47	2.823.324,83	2.055.893,33	2.011.175,98	1.966.458,62	1.921.741,27	1.877.023,91	1.832.306,56	1.787.589,20	1.742.871,85	1.698.154,49
22	1.102.929,77	1.698.154,49	1.176.955,35	1.921.741,27	-744.785,91	2.078.538,92	1.638.632,02	1.608.870,78	1.579.109,55	1.549.348,31	1.519.587,07	1.489.825,84	1.460.064,60	1.430.303,37	1.400.542,13
23	1.162.616,69	1.400.542,13	1.132.773,23	1.549.348,31	-416.575,08	1.661.963,84	1.376.749,59	1.364.853,31	1.352.957,04	1.341.060,77	1.329.164,50	1.317.268,23	1.305.371,95	1.293.475,68	1.281.579,41
24	1.296.839,64	1.281.579,41	1.229.728,17	1.341.060,77	-111.332,60	1.550.631,24	1.283.105,43	1.283.868,45	1.284.631,46	1.285.394,47	1.286.157,48	1.286.920,49	1.287.683,50	1.288.446,52	1.289.209,53

0,10 K = 5.840.187,57 - 13.423,13 = 1,89 Horas
3.594.875,79 - 512.763,48

0,15 K = 5.840.187,57 - 13.423,13 = 1,93 Horas
3.539.974,74 - 514.105,79

0,20 K = 5.840.187,57 - 13.423,13 = 1,96 Horas
3.485.073,69 - 515.448,10

0,25 K = 5.840.187,57 - 13.423,13 = 2,00 Horas
3.430.172,64 - 516.790,42

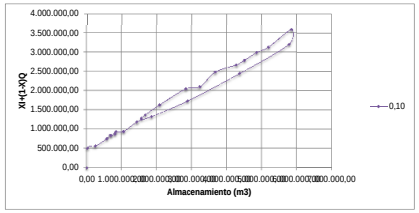
0,30 K = 5.840.187,57 - 13.423,13 = 1,98 Horas
3.458.061,85 - 518.132,73

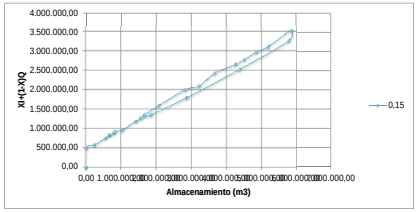
0,35 K = 5.840.187,57 - 13.423,13 = 1,94 Horas
3.519.715,86 - 519.475,04

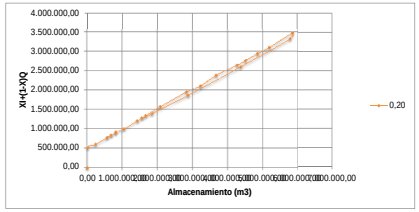
0,40 K = 5.840.187,57 - 13.423,13 = 1,90 Horas
3.581.369,87 - 520.817,35

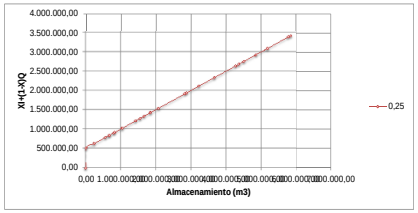
0,45 K = 5.840.187,57 - 13.423,13 = 1,87 Horas
3.643.023,88 - 522.159,67

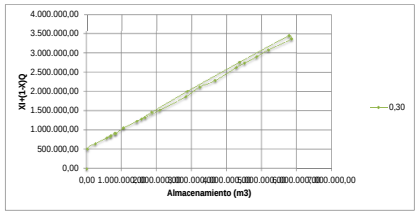
0,50 K = 5.840.187,57 - 13.423,13 = 1,83 Horas
3.704.677,89 - 523.501,98

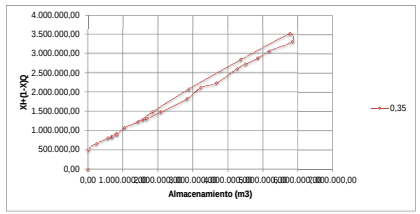

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Almacenamiento (m3)
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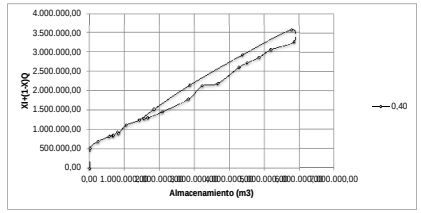

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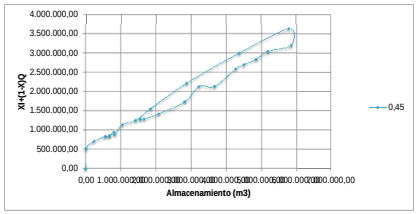

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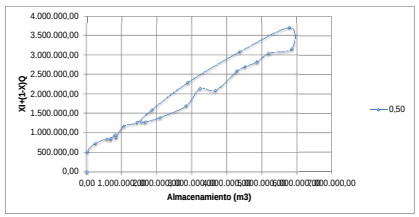

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	499.656,60	743.321,53	504.867,73	238.453,80	251.876,93	544.662,73	567.165,80	589.668,87	612.171,94	634.675,00	657.178,07	679.681,14	702.184,20	724.687,27
3	962.154,86	688.501,54	955.936,40	594.079,07	361.857,33	613.734,26	715.866,87	729.549,54	743.232,20	756.914,87	770.597,53	784.280,20	797.962,87	811.645,53	825.328,20
4	828.656,21	810.750,23	895.405,53	749.625,89	145.779,65	759.513,91	812.540,83	813.436,13	814.331,43	815.226,73	816.122,03	817.017,32	817.912,62	818.807,92	819.703,22
5	888.435,40	815.143,32	858.545,80	812.946,78	45.599,03	805.112,93	822.472,53	826.137,13	829.801,73	833.466,34	837.130,94	840.795,55	844.460,15	848.124,75	851.789,36
6	1.050.897,01	837.452,53	969.666,20	826.297,92	143.368,28	948.481,21	858.796,98	869.469,20	880.141,43	890.813,65	901.485,87	912.158,10	922.830,32	933.502,55	944.174,77
7	816.880,77	939.640,53	933.888,89	888.546,53	45.342,36	993.823,57	927.364,56	921.226,57	915.088,58	908.950,59	902.812,61	896.674,62	890.536,63	884.398,64	878.260,65
8	1.464.595,11	853.861,98	1.140.737,94	896.751,26	243.986,68	1.237.810,26	914.935,30	945.471,95	976.008,61	1.006.545,27	1.037.081,92	1.067.618,58	1.098.155,24	1.128.691,89	1.159.228,55
9	1.363.224,74	1.116.348,06	1.413.909,93	985.105,02	428.804,90	1.666.615,16	1.141.035,73	1.153.379,56	1.165.723,39	1.178.067,23	1.190.411,06	1.202.754,90	1.215.098,73	1.227.442,56	1.239.786,40
10	1.924.173,70	1.190.772,50	1.643.699,22	1.153.560,28	490.138,94	2.156.754,10	1.264.112,62	1.300.782,68	1.337.452,74	1.374.122,80	1.410.792,86	1.447.462,92	1.484.132,98	1.520.803,04	1.557.473,10
11	2.990.327,36	1.443.459,66	2.457.250,53	1.317.116,08	1.140.134,45	3.296.888,55	1.598.146,43	1.675.489,81	1.752.833,20	1.830.176,58	1.907.519,97	1.984.863,35	2.062.206,74	2.139.550,12	2.216.893,51
12	3.882.684,66	2.047.806,20	3.436.506,01	1.745.632,93	1.690.873,08	4.987.761,62	2.231.294,05	2.323.037,97	2.414.781,89	2.506.525,81	2.598.269,74	2.690.013,66	2.781.757,58	2.873.501,51	2.965.245,43
13	4.321.217,99	2.797.305,96	4.101.951,32	2.422.556,05	1.679.395,27	6.667.156,90	2.949.697,11	3.025.892,71	3.102.088,32	3.178.283,92	3.254.479,53	3.330.675,13	3.406.870,74	3.483.066,34	3.559.261,94
14	2.606.656,88	3.529.193,15	3.463.937,43	3.163.249,53	300.687,91	6.967.844,80	3.436.939,53	3.390.812,71	3.344.685,90	3.298.559,09	3.252.432,27	3.206.305,46	3.160.178,64	3.114.051,83	3.067.925,02
15	2.930.646,62	3.123.704,74	2.768.651,75	3.326.448,95	-557.797,19	6.410.047,61	3.104.398,93	3.094.746,02	3.085.093,11	3.075.440,21	3.065.787,30	3.056.134,40	3.046.481,49	3.036.828,59	3.027.175,68
16	2.602.678,64	3.059.678,58	2.766.662,63	3.091.691,66	-325.029,03	6.085.018,58	3.013.978,59	2.991.128,59	2.968.278,59	2.945.428,60	2.922.578,60	2.899.728,60	2.876.878,60	2.854.028,61	2.831.178,61
17	2.571.902,47	2.868.877,35	2.587.290,55	2.964.277,97	-376.987,41	5.708.031,16	2.839.179,86	2.824.331,12	2.809.482,37	2.794.633,63	2.779.784,89	2.764.936,14	2.750.087,40	2.735.238,65	2.720.389,91
18	2.482.345,45	2.748.548,82	2.527.123,96	2.808.713,09	-281.589,13	5.426.442,03	2.721.928,48	2.708.618,32	2.695.308,15	2.681.997,98	2.668.687,81	2.655.377,64	2.642.067,47	2.628.757,30	2.615.447,13
19	1.599.258,13	2.682.941,47	2.040.801,79	2.715.745,15	-674.943,36	4.751.498,68	2.574.573,14	2.520.388,97	2.466.204,80	2.412.020,64	2.357.836,47	2.303.652,30	2.249.468,13	2.195.283,97	2.141.099,80
20	2.196.088,12	2.195.241,64	1.897.673,13	2.439.091,56	-541.418,43	4.210.080,25	2.195.326,29	2.195.368,62	2.195.410,94	2.195.453,26	2.195.495,59	2.195.537,91	2.195.580,24	2.195.622,56	2.195.664,88
21	1.250.980,94	2.245.340,54	1.723.534,53	2.220.291,09	-496.756,56	3.713.323,69	2.145.904,58	2.096.186,60	2.046.468,62	1.996.750,64	1.947.032,66	1.897.314,68	1.847.596,70	1.797.878,72	1.748.160,74
22	1.102.929,77	1.834.454,98	1.176.955,35	2.039.897,76	-862.942,41	2.850.381,28	1.761.302,46	1.724.726,20	1.688.149,94	1.651.573,68	1.614.997,42	1.578.421,16	1.541.844,90	1.505.268,64	1.468.692,37
23	1.162.616,69	1.523.302,95	1.132.773,23	1.678.878,96	-546.105,73	2.304.275,55	1.487.234,32	1.469.200,01	1.451.165,70	1.433.131,38	1.415.097,07	1.397.062,76	1.379.028,45	1.360.994,13	1.342.959,82
24	1.296.839,64	1.364.370,68	1.229.728,17	1.443.836,82	-214.108,65	2.090.166,90	1.357.617,58	1.354.241,03	1.350.864,48	1.347.487,92	1.344.111,37	1.340.734,82	1.337.358,27	1.333.981,72	1.330.605,16

0,10 K = 6.967.844,80 - 13.423,13 = 2,38 Horas
3.436.939,53 - 512.763,48

0,15 K = 6.967.844,80 - 13.423,13 = 2,42 Horas
3.390.812,71 - 514.105,79

0,20 K = 6.967.844,80 - 13.423,13 = 2,46 Horas
3.344.685,90 - 515.448,10

0,25 K = 6.967.844,80 - 13.423,13 = 2,50 Horas
3.298.559,09 - 516.790,42

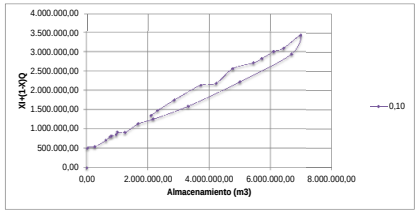
0,30 K = 6.967.844,80 - 13.423,13 = 2,54 Horas
3.254.479,53 - 518.132,73

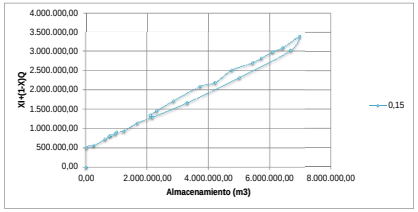
0,35 K = 6.967.844,80 - 13.423,13 = 2,47 Horas
3.330.675,13 - 519.475,04

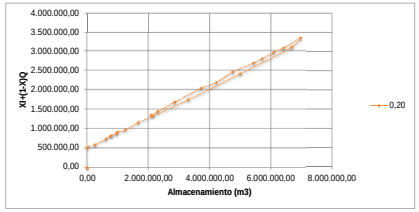
0,40 K = 6.967.844,80 - 13.423,13 = 2,41 Horas
3.406.870,74 - 520.817,35

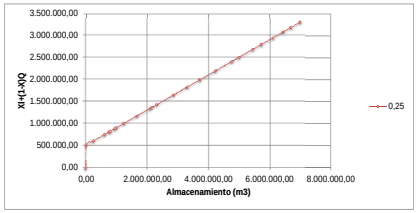
0,45 K = 6.967.844,80 - 13.423,13 = 2,35 Horas
3.483.066,34 - 522.159,67

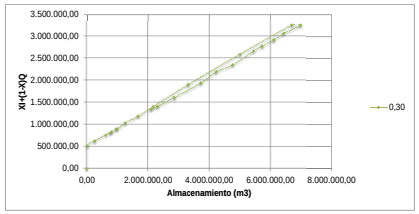
0,50 K = 6.967.844,80 - 13.423,13 = 2,29 Horas
3.559.261,94 - 523.501,98

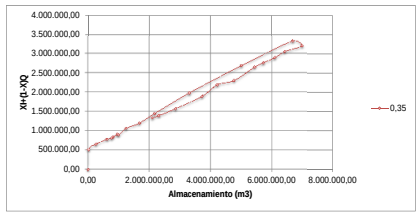

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Almacenamiento (m3)
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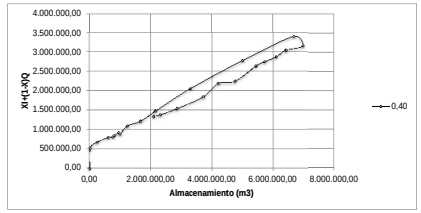

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Almacenamiento (m3)
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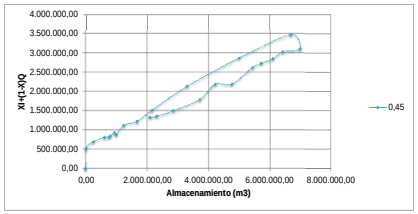

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Almacenamiento (m3)
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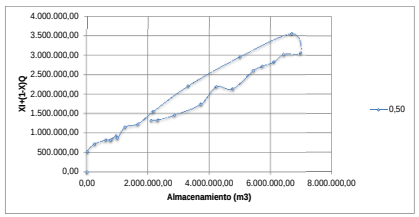

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	482.314,50	743.321,53	496.196,68	247.124,85	260.547,98	529.054,85	552.425,02	575.795,19	599.165,36	622.535,54	645.905,71	669.275,88	692.646,05	716.016,22
3	962.154,86	651.148,76	955.936,40	566.731,63	389.204,77	649.752,74	682.249,37	697.799,68	713.349,98	728.900,29	744.450,59	760.000,90	775.551,20	791.101,51	806.651,81
4	828.656,21	776.378,13	895.405,53	713.763,45	181.642,09	831.394,83	781.605,94	784.219,84	786.833,74	789.447,65	792.061,55	794.675,46	797.289,36	799.903,26	802.517,17
5	888.435,40	789.953,87	858.545,80	783.166,00	75.379,80	906.774,63	799.802,02	804.726,10	809.650,17	814.574,25	819.498,33	824.422,40	829.346,48	834.270,56	839.194,63
6	1.050.897,01	810.996,10	969.666,20	800.474,98	169.191,22	1.075.965,85	834.986,19	846.981,23	858.976,28	870.971,32	882.966,37	894.961,42	906.956,46	918.951,51	930.946,55
7	816.880,77	919.506,99	933.888,89	865.251,54	68.637,35	1.144.603,20	909.244,37	904.113,06	898.981,75	893.850,44	888.719,13	883.587,82	878.456,51	873.325,20	868.193,88
8	1.464.595,11	823.305,25	1.140.737,94	871.406,12	269.331,82	1.413.935,02	887.434,23	919.498,73	951.563,22	983.627,71	1.015.692,21	1.047.756,70	1.079.821,19	1.111.885,69	1.143.950,18
9	1.363.224,74	1.065.717,05	1.413.909,93	944.511,15	469.398,78	1.883.333,80	1.095.467,82	1.110.343,20	1.125.218,59	1.140.093,97	1.154.969,36	1.169.844,74	1.184.720,13	1.199.595,51	1.214.470,89
10	1.924.173,70	1.122.906,30	1.643.699,22	1.094.311,68	549.387,54	2.432.721,34	1.203.033,04	1.243.096,41	1.283.159,78	1.323.223,15	1.363.286,52	1.403.349,89	1.443.413,26	1.483.476,63	1.523.540,00
11	2.990.327,36	1.317.353,21	2.457.250,53	1.220.129,76	1.237.120,77	3.669.842,12	1.484.650,62	1.568.299,33	1.651.948,04	1.735.596,74	1.819.245,45	1.902.894,16	1.986.542,87	2.070.191,57	2.153.840,28
12	3.882.684,66	1.844.584,05	3.436.506,01	1.580.968,63	1.855.537,38	5.525.379,49	2.048.394,11	2.150.299,14	2.252.204,17	2.354.109,20	2.456.014,23	2.557.919,26	2.659.824,29	2.761.729,32	2.863.634,35
13	4.321.217,99	2.545.844,98	4.101.951,32	2.195.214,47	1.906.736,86	7.432.116,35	2.723.382,19	2.812.150,85	2.900.919,50	2.989.688,16	3.078.456,81	3.167.225,47	3.255.994,12	3.344.762,78	3.433.531,43
14	2.606.656,88	3.347.304,29	3.463.937,43	2.946.574,59	517.362,85	7.949.479,20	3.273.239,55	3.236.207,18	3.199.174,81	3.162.142,44	3.125.110,07	3.088.077,70	3.051.045,33	3.014.012,96	2.976.980,59
15	2.930.646,62	3.048.524,35	2.768.651,75	3.197.914,32	-429.262,57	7.520.216,63	3.036.736,58	3.030.842,69	3.024.948,80	3.019.054,92	3.013.161,03	3.007.267,14	3.001.373,26	2.995.479,37	2.989.585,48
16	2.602.678,64	3.035.474,99	2.766.662,63	3.041.999,67	-275.337,04	7.244.879,59	2.992.195,36	2.970.555,54	2.948.915,72	2.927.275,90	2.905.636,09	2.883.996,27	2.862.356,45	2.840.716,63	2.819.076,81
17	2.571.902,47	2.880.892,33	2.587.290,55	2.958.183,66	-370.893,11	6.873.986,48	2.849.993,35	2.834.543,85	2.819.094,36	2.803.644,87	2.788.195,37	2.772.745,88	2.757.296,39	2.741.846,89	2.726.397,40
18	2.482.345,45	2.776.673,93	2.527.123,96	2.828.783,13	-301.659,17	6.572.327,31	2.747.241,08	2.732.524,66	2.717.808,23	2.703.091,81	2.688.375,38	2.673.658,96	2.658.942,54	2.644.226,11	2.629.509,69
19	1.599.258,13	2.749.926,05	2.040.801,79	2.763.299,99	-722.498,20	5.849.829,10	2.634.859,26	2.577.325,87	2.519.792,47	2.462.259,07	2.404.725,68	2.347.192,28	2.289.658,89	2.232.125,49	2.174.592,09
20	2.196.088,12	2.277.244,08	1.897.673,13	2.513.585,07	-615.911,94	5.233.917,16	2.269.128,49	2.265.070,69	2.261.012,89	2.256.955,09	2.252.897,30	2.248.839,50	2.244.781,70	2.240.723,90	2.236.666,10
21	1.250.980,94	2.333.651,66	1.723.534,53	2.305.447,87	-581.913,34	4.652.003,82	2.225.384,59	2.171.251,05	2.117.117,52	2.062.983,98	2.008.850,44	1.954.716,91	1.900.583,37	1.846.449,84	1.792.316,30
22	1.102.929,77	1.953.412,41	1.176.955,35	2.143.532,04	-966.576,68	3.685.427,14	1.868.364,15	1.825.840,02	1.783.315,89	1.740.791,75	1.698.267,62	1.655.743,49	1.613.219,36	1.570.695,22	1.528.171,09
23	1.162.616,69	1.638.719,91	1.132.773,23	1.796.066,16	-663.292,93	3.022.134,21	1.591.109,59	1.567.304,43	1.543.499,27	1.519.694,11	1.495.888,95	1.472.083,79	1.448.278,62	1.424.473,46	1.400.668,30
24	1.296.839,64	1.453.389,38	1.229.728,17	1.546.054,65	-316.326,48	2.705.807,73	1.437.734,41	1.429.906,92	1.422.079,43	1.414.251,95	1.406.424,46	1.398.596,97	1.390.769,49	1.382.942,00	1.375.114,51

0,10 K = 7.949.479,20 - 13.423,13 = 2,87 Horas
3.273.239,55 - 512.763,48

0,15 K = 7.949.479,20 - 13.423,13 = 2,92 Horas
3.236.207,18 - 514.105,79

0,20 K = 7.949.479,20 - 13.423,13 = 2,96 Horas
3.199.174,81 - 515.448,10

0,25 K = 7.949.479,20 - 13.423,13 = 3,00 Horas
3.162.142,44 - 516.790,42

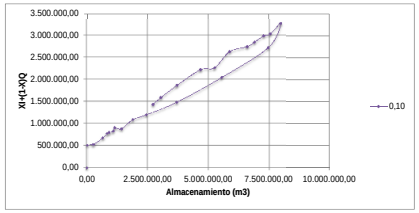
0,30 K = 7.949.479,20 - 13.423,13 = 3,04 Horas
3.125.110,07 - 518.132,73

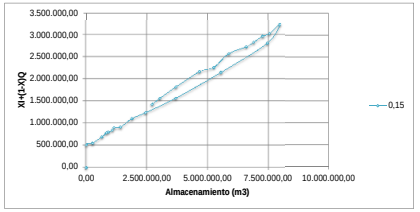
0,35 K = 7.949.479,20 - 13.423,13 = 3,00 Horas
3.167.225,47 - 519.475,04

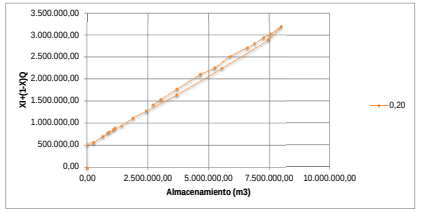
0,40 K = 7.949.479,20 - 13.423,13 = 2,90 Horas
3.255.994,12 - 520.817,35

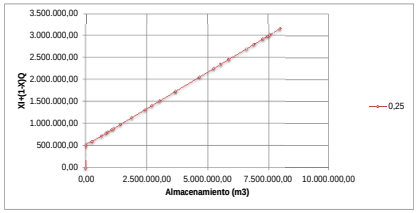
0,45 K = 7.949.479,20 - 13.423,13 = 2,81 Horas
3.344.762,78 - 522.159,67

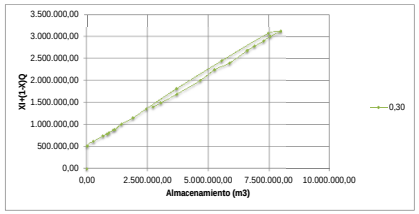
0,50 K = 7.949.479,20 - 13.423,13 = 2,73 Horas
3.433.531,43 - 523.501,98

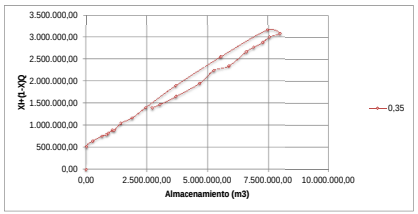

3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,10

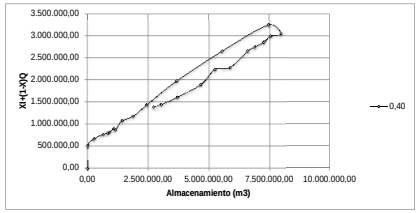

3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,15

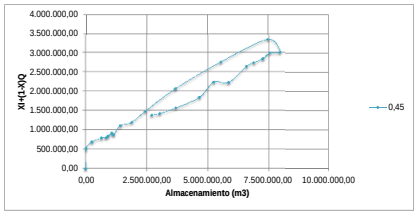

3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,20

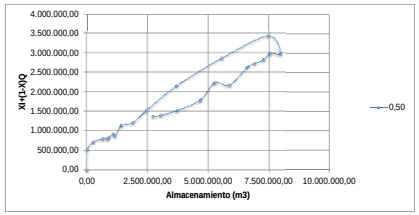

3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,25


3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,30


3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,35


3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,40


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,45


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qx(t+1)-Qx(t)+Ix
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	711.636,20	743.321,53	610.857,53	132.464,00	145.887,13	735.444,38	747.348,46	759.252,55	771.156,64	783.060,72	794.964,81	806.868,90	818.772,99	830.677,07
3	962.154,86	996.853,45	955.936,40	854.244,83	101.691,57	247.578,70	993.383,59	991.648,66	989.913,73	988.178,80	986.443,87	984.708,94	982.974,01	981.239,08	979.504,15
4	828.656,21	901.061,54	895.405,53	948.957,50	-53.551,96	194.026,74	893.821,01	890.200,74	886.580,48	882.960,21	879.339,94	875.719,68	872.099,41	868.479,14	864.858,88
5	888.435,40	840.493,76	858.545,80	870.777,65	-12.231,85	181.794,89	845.287,92	847.685,00	850.082,08	852.479,17	854.876,25	857.273,33	859.670,41	862.067,49	864.464,58
6	1.050.897,01	963.791,64	969.666,20	902.142,70	67.523,50	249.318,39	972.502,18	976.857,45	981.212,72	985.567,99	989.923,25	994.278,52	998.633,79	1.002.989,06	1.007.344,33
7	816.880,77	969.908,92	933.888,89	966.850,28	-32.961,39	216.357,00	954.606,10	946.954,70	939.303,29	931.651,88	924.000,47	916.349,07	908.697,66	901.046,25	893.394,85
8	1.464.595,11	1.056.581,71	1.140.737,94	1.013.245,31	127.492,63	343.849,63	1.097.383,05	1.117.783,72	1.138.184,39	1.158.585,06	1.178.985,73	1.199.386,40	1.219.787,07	1.240.187,74	1.260.588,41
9	1.363.224,74	1.494.856,74	1.413.909,93	1.275.719,22	138.190,70	482.040,33	1.481.693,54	1.475.111,94	1.468.530,34	1.461.948,74	1.455.367,14	1.448.785,54	1.442.203,94	1.435.622,34	1.429.040,74
10	1.924.173,70	1.570.974,55	1.643.699,22	1.532.915,64	110.783,58	592.823,91	1.606.294,46	1.623.954,42	1.641.614,38	1.659.274,34	1.676.934,29	1.694.594,25	1.712.254,21	1.729.914,17	1.747.574,12
11	2.990.327,36	2.425.507,41	2.457.250,53	1.998.240,98	459.009,55	1.051.833,46	2.481.989,41	2.510.230,40	2.538.471,40	2.566.712,40	2.594.953,39	2.623.194,39	2.651.435,39	2.679.676,39	2.707.917,38
12	3.882.684,66	3.457.442,71	3.436.506,01	2.941.475,06	495.030,95	1.546.864,41	3.499.966,90	3.521.229,00	3.542.491,10	3.563.753,19	3.585.015,29	3.606.277,39	3.627.539,49	3.648.801,58	3.670.063,68
13	4.321.217,99	4.138.299,90	4.101.951,32	3.797.871,30	304.080,02	1.850.944,43	4.156.591,71	4.165.737,62	4.174.883,52	4.184.029,42	4.193.175,33	4.202.321,23	4.211.467,14	4.220.613,04	4.229.758,95
14	2.606.656,88	3.647.501,90	3.463.937,43	3.892.900,90	-428.963,47	1.421.980,96	3.543.417,40	3.491.375,15	3.439.332,90	3.387.290,65	3.335.248,39	3.283.206,14	3.231.163,89	3.179.121,64	3.127.079,39
15	2.930.646,62	2.556.385,89	2.768.651,75	3.101.943,89	-333.292,14	1.088.688,82	2.593.811,96	2.612.525,00	2.631.238,04	2.649.951,07	2.668.664,11	2.687.377,15	2.706.090,18	2.724.803,22	2.743.516,26
16	2.602.678,64	2.861.646,99	2.766.662,63	2.709.016,44	57.646,19	1.146.335,01	2.835.750,16	2.822.801,74	2.809.853,32	2.796.904,90	2.783.956,49	2.771.008,07	2.758.059,65	2.745.111,23	2.732.162,81
17	2.571.902,47	2.544.305,80	2.587.290,55	2.702.976,40	-115.685,84	1.030.649,16	2.547.065,47	2.548.445,30	2.549.825,13	2.551.204,97	2.552.584,80	2.553.964,63	2.555.344,47	2.556.724,30	2.558.104,13
18	2.482.345,45	2.539.896,05	2.527.123,96	2.542.100,92	-14.976,97	1.015.672,20	2.534.140,99	2.531.263,46	2.528.385,93	2.525.508,40	2.522.630,87	2.519.753,34	2.516.875,81	2.513.998,28	2.511.120,75
19	1.599.258,13	2.108.565,27	2.040.801,79	2.324.230,66	-283.428,87	732.243,33	2.057.634,56	2.032.169,20	2.006.703,84	1.981.238,49	1.955.773,13	1.930.307,77	1.904.842,41	1.879.377,06	1.853.911,70
20	2.196.088,12	1.755.133,93	1.897.673,13	1.931.849,60	-34.176,47	698.066,86	1.799.229,35	1.821.277,06	1.843.324,77	1.865.372,48	1.887.420,19	1.909.467,90	1.931.515,61	1.953.563,32	1.975.611,02
21	1.250.980,94	1.884.741,79	1.723.534,53	1.819.937,86	-96.403,33	601.663,53	1.821.365,70	1.789.677,66	1.757.989,62	1.726.301,58	1.694.613,53	1.662.925,49	1.631.237,45	1.599.549,41	1.567.861,36
22	1.102.929,77	1.078.178,54	1.176.955,35	1.481.460,17	-304.504,81	297.158,72	1.080.653,67	1.081.891,23	1.083.128,79	1.084.366,35	1.085.603,91	1.086.841,47	1.088.079,03	1.089.316,59	1.090.554,16
23	1.162.616,69	1.131.874,60	1.132.773,23	1.105.026,57	27.746,66	324.905,38	1.134.948,81	1.136.485,91	1.138.023,02	1.139.560,12	1.141.097,23	1.142.634,33	1.144.171,44	1.145.708,54	1.147.245,65
24	1.296.839,64	1.223.310,04	1.229.728,17	1.177.592,32	52.135,85	377.041,22	1.230.663,00	1.234.339,48	1.238.015,96	1.241.692,44	1.245.368,92	1.249.045,40	1.252.721,88	1.256.398,36	1.260.074,84

0,10 K = 1.850.944,43 - 13.423,13 = 0,50 Horas
4.156.591,71 - 512.763,48

0,15 K = 1.850.944,43 - 13.423,13 = 0,50 Horas
4.165.737,62 - 514.105,79

0,20 K = 1.850.944,43 - 13.423,13 = 0,50 Horas
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0,25 K = 1.850.944,43 - 13.423,13 = 0,50 Horas
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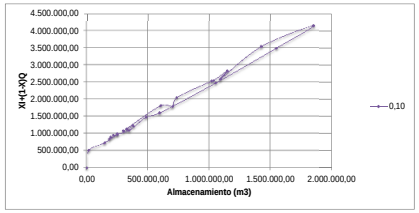
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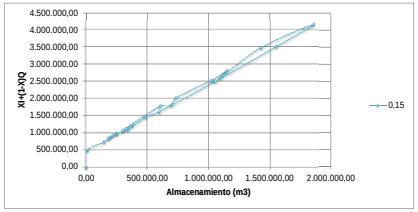
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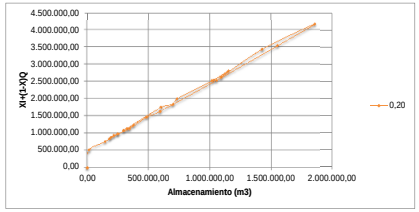
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4.211.467,14 - 520.817,35

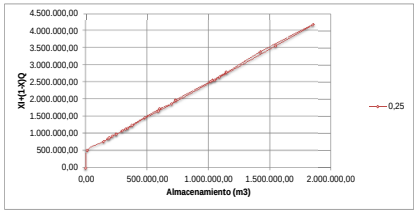
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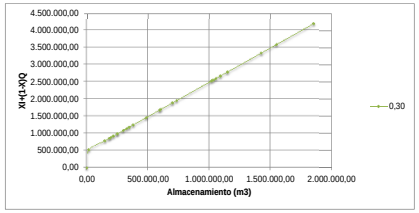
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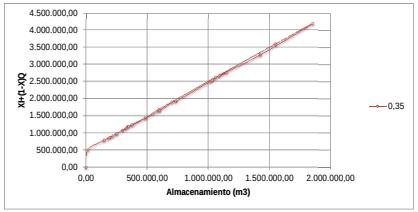

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Almacenamiento (m3)
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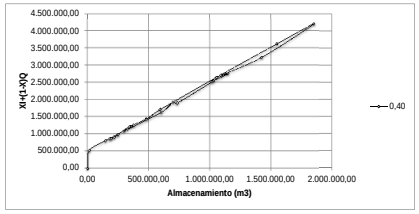

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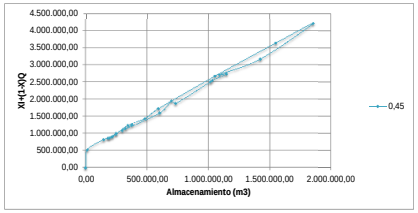

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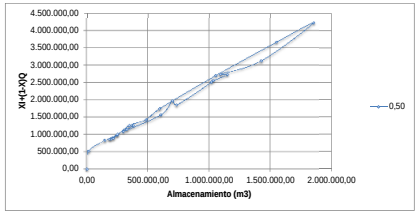

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	601.249,54	743.321,53	555.664,19	187.657,33	201.080,46	636.096,38	653.519,80	670.943,22	688.366,64	705.790,06	723.213,48	740.636,90	758.060,32	775.483,74
3	962.154,86	893.712,69	955.936,40	747.481,12	208.455,28	409.535,74	900.556,91	903.979,02	907.401,13	910.823,24	914.245,34	917.667,45	921.089,56	924.511,67	927.933,78
4	828.656,21	928.498,06	895.405,53	911.105,38	-15.699,84	393.835,90	918.513,87	913.521,78	908.529,69	903.537,59	898.545,50	893.553,41	888.561,32	883.569,22	878.577,13
5	888.435,40	855.259,71	858.545,80	891.878,88	-33.333,08	360.502,82	858.577,28	860.236,07	861.894,85	863.553,63	865.212,42	866.871,20	868.529,99	870.188,77	871.847,55
6	1.050.897,01	909.983,05	969.666,20	882.621,38	87.044,82	447.547,64	924.074,45	931.120,14	938.165,84	945.211,54	952.257,24	959.302,94	966.348,63	973.394,33	980.440,03
7	816.880,77	988.408,64	933.888,89	949.195,85	-15.306,96	432.240,68	971.255,86	962.679,46	954.103,07	945.526,68	936.950,28	928.373,89	919.797,50	911.221,10	902.644,71
8	1.464.595,11	953.421,14	1.140.737,94	970.914,89	169.823,05	602.063,73	1.004.538,54	1.030.097,24	1.055.655,94	1.081.214,63	1.106.773,33	1.132.332,03	1.157.890,73	1.183.449,43	1.209.008,13
9	1.363.224,74	1.362.504,39	1.413.909,93	1.157.962,77	255.947,16	858.010,89	1.362.576,42	1.362.612,44	1.362.648,46	1.362.684,48	1.362.720,49	1.362.756,51	1.362.792,53	1.362.828,55	1.362.864,56
10	1.924.173,70	1.456.596,17	1.643.699,22	1.409.550,28	234.148,94	1.092.159,83	1.503.353,93	1.526.732,80	1.550.111,68	1.573.490,56	1.596.869,43	1.620.248,31	1.643.627,18	1.667.006,06	1.690.384,94
11	2.990.327,36	2.023.936,39	2.457.250,53	1.740.266,28	716.984,25	1.809.144,08	2.120.575,49	2.168.895,03	2.217.214,58	2.265.534,13	2.313.853,68	2.362.173,23	2.410.492,78	2.458.812,32	2.507.131,87
12	3.882.684,66	2.977.988,41	3.436.506,01	2.500.962,40	935.543,61	2.744.687,69	3.068.458,04	3.113.692,85	3.158.927,66	3.204.162,47	3.249.397,29	3.294.632,10	3.339.866,91	3.385.101,72	3.430.336,54
13	4.321.217,99	3.804.990,84	4.101.951,32	3.391.489,63	710.461,70	3.455.149,38	3.856.613,55	3.882.424,91	3.908.236,27	3.934.047,63	3.959.858,98	3.985.670,34	4.011.481,70	4.037.293,06	4.063.104,41
14	2.606.656,88	3.949.419,95	3.463.937,43	3.877.205,39	-413.267,96	3.041.881,43	3.815.143,64	3.748.005,49	3.680.867,33	3.613.729,18	3.546.591,03	3.479.452,87	3.412.314,72	3.345.176,57	3.278.038,41
15	2.930.646,62	2.884.449,02	2.768.651,75	3.416.934,48	-648.282,73	2.393.598,70	2.889.068,78	2.891.378,66	2.893.688,54	2.895.998,42	2.898.308,30	2.900.618,18	2.902.928,06	2.905.237,94	2.907.547,82
16	2.602.678,64	2.868.285,69	2.766.662,63	2.876.367,35	-109.704,72	2.283.893,97	2.841.724,98	2.828.444,63	2.815.164,28	2.801.883,93	2.788.603,57	2.775.323,22	2.762.042,87	2.748.762,52	2.735.482,16
17	2.571.902,47	2.641.817,12	2.587.290,55	2.755.051,40	-167.760,85	2.116.133,12	2.634.825,65	2.631.329,92	2.627.834,19	2.624.338,45	2.620.842,72	2.617.346,99	2.613.851,26	2.610.355,52	2.606.859,79
18	2.482.345,45	2.568.628,74	2.527.123,96	2.605.222,93	-78.098,97	2.038.034,15	2.560.000,41	2.555.686,24	2.551.372,08	2.547.057,92	2.542.743,75	2.538.429,59	2.534.115,42	2.529.801,26	2.525.487,09
19	1.599.258,13	2.349.544,78	2.040.801,79	2.459.086,76	-418.284,97	1.619.749,18	2.274.516,11	2.237.001,78	2.199.487,45	2.161.973,11	2.124.458,78	2.086.944,45	2.049.430,12	2.011.915,79	1.974.401,45
20	2.196.088,12	1.823.777,57	1.897.673,13	2.086.661,17	-188.988,05	1.430.761,14	1.861.008,63	1.879.624,15	1.898.239,68	1.916.855,21	1.935.470,74	1.954.086,26	1.972.701,79	1.991.317,32	2.009.932,85
21	1.250.980,94	1.976.518,50	1.723.534,53	1.900.148,04	-176.613,50	1.254.147,63	1.903.964,74	1.867.687,87	1.831.410,99	1.795.134,11	1.758.857,23	1.722.580,35	1.686.303,48	1.650.026,60	1.613.749,72
22	1.102.929,77	1.347.228,67	1.176.955,35	1.661.873,59	-484.918,23	769.229,40	1.322.798,78	1.310.583,84	1.298.368,89	1.286.153,95	1.273.939,00	1.261.724,06	1.249.509,11	1.237.294,17	1.225.079,22
23	1.162.616,69	1.153.594,07	1.132.773,23	1.250.411,37	-117.638,14	651.591,26	1.154.496,33	1.154.947,47	1.155.398,60	1.155.849,73	1.156.300,86	1.156.751,99	1.157.203,12	1.157.654,25	1.158.105,38
24	1.296.839,64	1.183.483,41	1.229.728,17	1.168.538,74	61.189,42	712.780,68	1.194.819,04	1.200.486,85	1.206.154,66	1.211.822,47	1.217.490,28	1.223.158,09	1.228.825,91	1.234.493,72	1.240.161,53

0,10 K = 3.455.149,38 - 13.423,13 = 1,03 Horas
3.856.613,55 - 512.763,48

0,15 K = 3.455.149,38 - 13.423,13 = 1,02 Horas
3.882.424,91 - 514.105,79

0,20 K = 3.455.149,38 - 13.423,13 = 1,01 Horas
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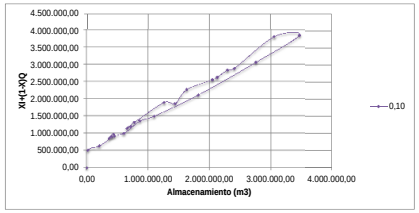
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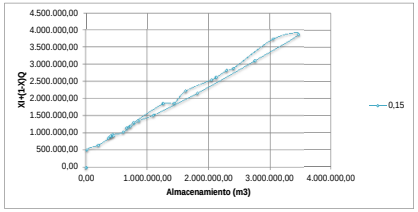
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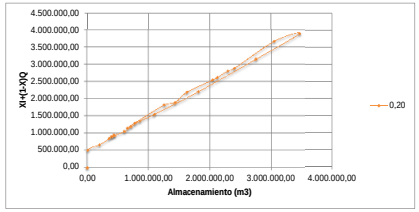
0,40 K = 3.455.149,38 - 13.423,13 = 0,99 Horas
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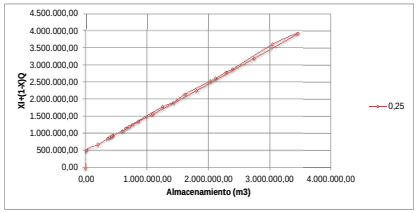
0,45 K = 3.455.149,38 - 13.423,13 = 0,98 Horas
4.037.293,06 - 522.159,67

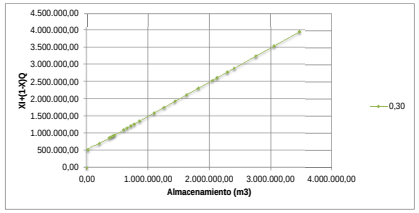
0,50 K = 3.455.149,38 - 13.423,13 = 0,97 Horas
4.063.104,41 - 523.501,98

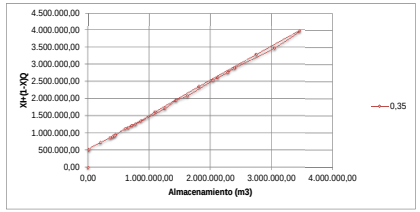

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Almacenamiento (m3)
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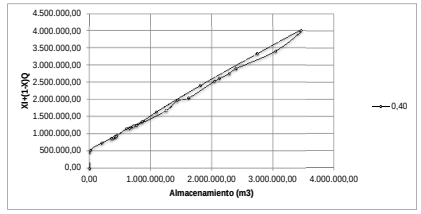

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Almacenamiento (m3)
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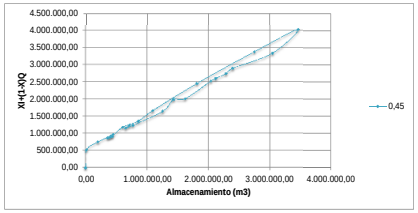

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Almacenamiento (m3)
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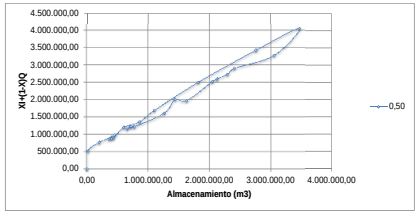

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	540.714,91	743.321,53	525.396,88	217.924,64	231.347,77	581.615,22	602.065,37	622.515,52	642.965,67	663.415,82	683.865,97	704.316,13	724.766,28	745.216,43
3	962.154,86	804.989,03	955.936,40	672.851,97	283.084,43	514.432,20	820.705,61	828.563,90	836.422,19	844.280,48	852.138,78	859.997,07	867.855,36	875.713,65	883.571,94
4	828.656,21	902.079,93	895.405,53	853.534,48	41.871,05	556.303,25	894.737,56	891.066,37	887.395,18	883.724,00	880.052,81	876.381,63	872.710,44	869.039,25	865.368,07
5	888.435,40	856.638,15	858.545,80	879.359,04	-20.813,24	535.490,02	859.817,87	861.407,73	862.997,60	864.587,46	866.177,32	867.767,18	869.357,05	870.946,91	872.536,77
6	1.050.897,01	882.393,20	969.666,20	869.515,67	100.150,53	635.640,55	899.243,58	907.668,77	916.093,96	924.519,15	932.944,34	941.369,53	949.794,72	958.219,91	966.645,10
7	816.880,77	983.556,42	933.888,89	932.974,81	914,08	636.554,63	966.888,86	958.555,08	950.221,29	941.887,51	933.553,73	925.219,95	916.886,16	908.552,38	900.218,60
8	1.464.595,11	896.917,76	1.140.737,94	940.237,09	200.500,85	837.055,48	953.685,49	982.069,36	1.010.453,23	1.038.837,10	1.067.220,96	1.095.604,83	1.123.988,70	1.152.372,57	1.180.756,44
9	1.363.224,74	1.259.891,20	1.413.909,93	1.078.404,48	335.505,45	1.172.560,93	1.270.224,55	1.275.391,23	1.280.557,91	1.285.724,58	1.290.891,26	1.296.057,94	1.301.224,62	1.306.391,29	1.311.557,97
10	1.924.173,70	1.344.653,13	1.643.699,22	1.302.272,16	341.427,06	1.513.987,98	1.402.605,18	1.431.581,21	1.460.557,24	1.489.533,27	1.518.509,30	1.547.485,33	1.576.461,36	1.605.437,39	1.634.413,41
11	2.990.327,36	1.752.929,42	2.457.250,53	1.548.791,27	908.459,26	2.422.447,24	1.876.669,22	1.938.539,11	2.000.409,01	2.062.278,91	2.124.148,80	2.186.018,70	2.247.888,60	2.309.758,49	2.371.628,39
12	3.882.684,66	2.580.036,39	3.436.506,01	2.166.482,91	1.270.023,10	3.692.470,34	2.710.301,22	2.775.433,63	2.840.566,04	2.905.698,46	2.970.830,87	3.035.963,28	3.101.095,70	3.166.228,11	3.231.360,52
13	4.321.217,99	3.434.600,86	4.101.951,32	3.007.318,63	1.094.632,70	4.787.103,04	3.523.262,58	3.567.593,43	3.611.924,29	3.656.255,14	3.700.586,00	3.744.916,86	3.789.247,71	3.833.578,57	3.877.909,43
14	2.606.656,88	3.951.303,48	3.463.937,43	3.692.952,18	-229.014,74	4.558.088,30	3.816.838,83	3.749.606,50	3.682.374,17	3.615.141,84	3.547.909,51	3.480.677,18	3.413.444,85	3.346.212,52	3.278.980,18
15	2.930.646,62	3.094.240,83	2.768.651,75	3.522.772,16	-754.120,41	3.803.967,89	3.077.881,41	3.069.701,70	3.061.521,99	3.053.342,28	3.045.162,57	3.036.982,86	3.028.803,15	3.020.623,44	3.012.443,73
16	2.602.678,64	2.978.116,57	2.766.662,63	3.036.178,70	-269.516,07	3.534.451,82	2.940.572,77	2.921.800,88	2.903.028,98	2.884.257,08	2.865.485,19	2.846.713,29	2.827.941,39	2.809.169,50	2.790.397,60
17	2.571.902,47	2.734.905,77	2.587.290,55	2.856.511,17	-269.220,62	3.265.231,20	2.718.605,44	2.710.455,27	2.702.305,11	2.694.154,94	2.686.004,78	2.677.854,61	2.669.704,45	2.661.554,28	2.653.404,12
18	2.482.345,45	2.626.853,41	2.527.123,96	2.680.879,59	-153.755,63	3.111.475,57	2.612.402,62	2.605.177,22	2.597.951,82	2.590.726,42	2.583.501,02	2.576.275,62	2.569.050,23	2.561.824,83	2.554.599,43
19	1.599.258,13	2.505.135,78	2.040.801,79	2.565.994,60	-525.192,81	2.586.282,76	2.414.548,01	2.369.254,13	2.323.960,25	2.278.666,37	2.233.372,48	2.188.078,60	2.142.784,72	2.097.490,84	2.052.196,96
20	2.196.088,12	1.939.951,17	1.897.673,13	2.222.543,47	-324.870,35	2.261.412,42	1.965.564,86	1.978.371,71	1.991.178,56	2.003.985,41	2.016.792,25	2.029.599,10	2.042.405,95	2.055.212,80	2.068.019,64
21	1.250.980,94	2.074.713,49	1.723.534,53	2.007.332,33	-283.797,80	1.977.614,62	1.992.340,23	1.951.153,61	1.909.966,98	1.868.780,35	1.827.593,72	1.786.407,10	1.745.220,47	1.704.033,84	1.662.847,21
22	1.102.929,77	1.538.497,29	1.176.955,35	1.806.605,39	-629.650,03	1.347.964,59	1.494.940,54	1.473.162,16	1.451.383,79	1.429.605,41	1.407.827,03	1.386.048,66	1.364.270,28	1.342.491,91	1.320.713,53
23	1.162.616,69	1.259.411,37	1.132.773,23	1.398.954,33	-266.181,10	1.081.783,49	1.249.731,90	1.244.892,17	1.240.052,43	1.235.212,70	1.230.372,97	1.225.533,23	1.220.693,50	1.215.853,76	1.211.014,03
24	1.296.839,64	1.201.292,96	1.229.728,17	1.230.352,17	-624,00	1.081.159,49	1.210.847,63	1.215.624,97	1.220.402,30	1.225.179,63	1.229.956,97	1.234.734,30	1.239.511,64	1.244.288,97	1.249.066,30

0,10 K = 4.787.103,04 - 13.423,13 = 1,44 Horas
3.816.838,83 - 512.763,48

0,15 K = 4.787.103,04 - 13.423,13 = 1,48 Horas
3.749.606,50 - 514.105,79

0,20 K = 4.787.103,04 - 13.423,13 = 1,51 Horas
3.682.374,17 - 515.448,10

0,25 K = 4.787.103,04 - 13.423,13 = 1,52 Horas
3.656.255,14 - 516.790,42

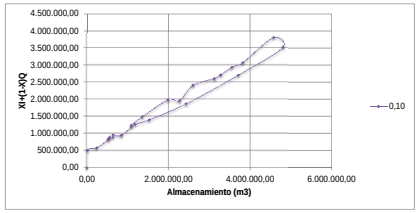
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3.700.586,00 - 518.132,73

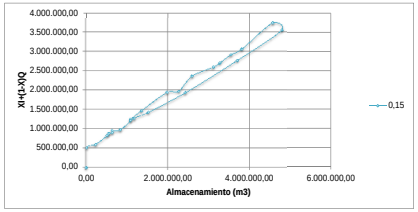
0,35 K = 4.787.103,04 - 13.423,13 = 1,48 Horas
3.744.916,86 - 519.475,04

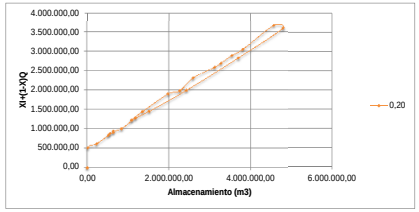
0,40 K = 4.787.103,04 - 13.423,13 = 1,46 Horas
3.789.247,71 - 520.817,35

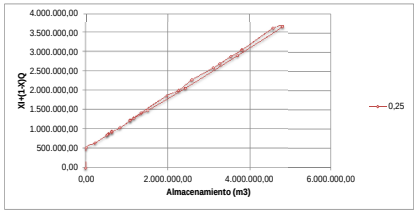
0,45 K = 4.787.103,04 - 13.423,13 = 1,44 Horas
3.833.578,57 - 522.159,67

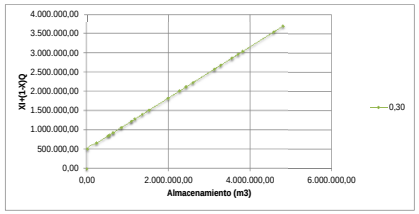
0,50 K = 4.787.103,04 - 13.423,13 = 1,42 Horas
3.877.909,43 - 523.501,98

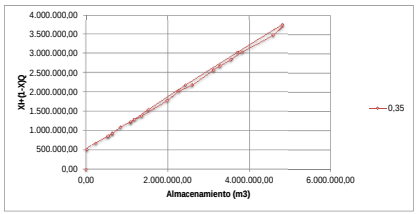

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Almacenamiento (m3)
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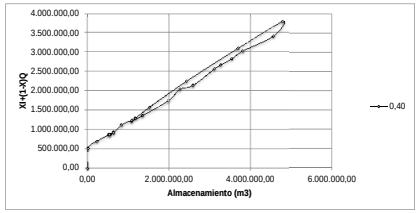

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Almacenamiento (m3)
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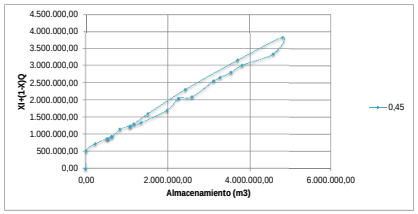

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Almacenamiento (m3)
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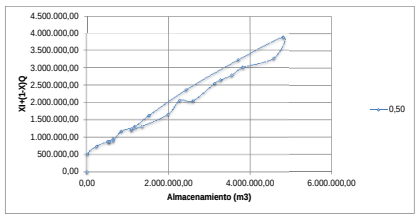

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	502.482,52	743.321,53	506.280,69	237.040,84	250.463,97	547.206,06	569.567,83	591.929,61	614.291,38	636.653,15	659.014,92	681.376,69	703.738,46	726.100,23
3	962.154,86	737.215,01	955.936,40	619.848,77	336.087,63	586.551,60	759.709,00	770.955,99	782.202,98	793.449,97	804.696,96	815.943,96	827.190,95	838.437,94	849.684,93
4	828.656,21	862.630,65	895.405,53	799.922,83	95.482,70	682.034,30	859.233,20	857.534,48	855.835,76	854.137,04	852.438,32	850.739,59	849.040,87	847.342,15	845.643,43
5	888.435,40	841.603,09	858.545,80	852.116,87	6.428,93	688.463,24	846.286,32	848.627,94	850.969,55	853.311,17	855.652,78	857.994,40	860.336,01	862.677,63	865.019,24
6	1.050.897,01	857.701,06	969.666,20	849.652,08	120.014,13	808.477,36	877.020,66	886.680,45	896.340,25	906.000,05	915.659,85	925.319,64	934.979,44	944.639,24	954.299,04
7	816.880,77	971.699,78	933.888,89	914.700,42	19.188,47	827.665,83	956.217,88	948.476,93	940.735,98	932.995,03	925.254,08	917.513,13	909.772,18	902.031,23	894.290,28
8	1.464.595,11	856.125,87	1.140.737,94	913.912,82	226.825,12	1.054.490,95	916.972,79	947.396,25	977.819,72	1.008.243,18	1.038.666,64	1.069.090,10	1.099.513,56	1.129.937,03	1.160.360,49
9	1.363.224,74	1.181.708,12	1.413.909,93	1.018.916,99	394.992,93	1.449.483,88	1.199.859,78	1.208.935,61	1.218.011,44	1.227.087,28	1.236.163,11	1.245.238,94	1.254.314,77	1.263.390,60	1.272.466,43
10	1.924.173,70	1.247.719,55	1.643.699,22	1.214.713,84	428.985,38	1.878.469,27	1.315.364,97	1.349.187,67	1.383.010,38	1.416.833,09	1.450.655,80	1.484.478,50	1.518.301,21	1.552.123,92	1.585.946,63
11	2.990.327,36	1.547.634,70	2.457.250,53	1.397.677,13	1.059.573,40	2.938.042,67	1.691.903,97	1.764.038,60	1.836.173,23	1.908.307,87	1.980.442,50	2.052.577,13	2.124.711,76	2.196.846,40	2.268.981,03
12	3.882.684,66	2.259.980,45	3.436.506,01	1.903.807,58	1.532.698,43	4.470.741,10	2.422.250,87	2.503.386,08	2.584.521,29	2.665.656,50	2.746.791,71	2.827.926,92	2.909.062,13	2.990.197,34	3.071.332,55
13	4.321.217,99	3.090.954,60	4.101.951,32	2.675.467,52	1.426.483,80	5.897.224,90	3.213.980,93	3.275.494,10	3.337.007,27	3.398.520,44	3.460.033,61	3.521.546,78	3.583.059,95	3.644.573,12	3.706.086,29
14	2.606.656,88	3.828.701,70	3.463.937,43	3.459.828,15	4.109,29	5.901.334,18	3.706.497,22	3.645.394,98	3.584.292,74	3.523.190,50	3.462.088,26	3.400.986,01	3.339.883,77	3.278.781,53	3.217.679,29
15	2.930.646,62	3.168.468,13	2.768.651,75	3.498.584,91	-729.933,16	5.171.401,02	3.144.685,98	3.132.794,90	3.120.903,83	3.109.012,75	3.097.121,67	3.085.230,60	3.073.339,52	3.061.448,45	3.049.557,37
16	2.602.678,64	3.060.560,39	2.766.662,63	3.114.514,26	-347.851,63	4.823.549,39	3.014.772,21	2.991.878,12	2.968.984,04	2.946.089,95	2.923.195,86	2.900.301,77	2.877.407,69	2.854.513,60	2.831.619,51
17	2.571.902,47	2.821.189,79	2.587.290,55	2.940.875,09	-353.584,54	4.469.964,86	2.796.261,06	2.783.796,69	2.771.332,33	2.758.867,96	2.746.403,59	2.733.939,23	2.721.474,86	2.709.010,49	2.696.546,13
18	2.482.345,45	2.694.699,46	2.527.123,96	2.757.944,63	-230.820,67	4.239.144,19	2.673.464,06	2.662.846,36	2.652.228,66	2.641.610,96	2.630.993,26	2.620.375,56	2.609.757,86	2.599.140,16	2.588.522,45
19	1.599.258,13	2.629.412,47	2.040.801,79	2.662.055,97	-621.254,18	3.617.890,01	2.526.397,04	2.474.889,32	2.423.381,60	2.371.873,89	2.320.366,17	2.268.858,45	2.217.350,74	2.165.843,02	2.114.335,30
20	2.196.088,12	2.055.813,87	1.897.673,13	2.342.613,17	-444.940,04	3.172.949,97	2.069.841,30	2.076.855,01	2.083.868,72	2.090.882,43	2.097.896,15	2.104.909,86	2.111.923,57	2.118.937,28	2.125.951,00
21	1.250.980,94	2.179.384,91	1.723.534,53	2.117.599,39	-394.064,86	2.778.885,11	2.086.544,51	2.040.124,31	1.993.704,11	1.947.283,92	1.900.863,72	1.854.443,52	1.808.023,32	1.761.603,12	1.715.182,92
22	1.102.929,77	1.698.543,41	1.176.955,35	1.938.964,16	-762.008,80	2.016.876,30	1.638.982,04	1.609.201,36	1.579.420,68	1.549.640,00	1.519.859,32	1.490.078,63	1.460.297,95	1.430.517,27	1.400.736,59
23	1.162.616,69	1.381.921,13	1.132.773,23	1.540.232,27	-407.459,04	1.609.417,27	1.359.990,68	1.349.025,46	1.338.060,24	1.327.095,02	1.316.129,80	1.305.164,58	1.294.199,35	1.283.234,13	1.272.268,91
24	1.296.839,64	1.259.433,37	1.229.728,17	1.320.677,25	-90.949,08	1.518.468,18	1.263.174,00	1.265.044,32	1.266.914,63	1.268.784,94	1.270.655,26	1.272.525,57	1.274.395,88	1.276.266,20	1.278.136,51

0,10 K = 5.901.334,18 - 13.423,13 = 1,84 Horas
3.706.497,22 - 512.763,48

0,15 K = 5.901.334,18 - 13.423,13 = 1,88 Horas
3.645.394,98 - 514.105,79

0,20 K = 5.901.334,18 - 13.423,13 = 1,92 Horas
3.584.292,74 - 515.448,10

0,25 K = 5.901.334,18 - 13.423,13 = 1,96 Horas
3.523.190,50 - 516.790,42

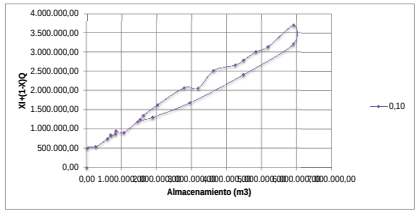
0,30 K = 5.901.334,18 - 13.423,13 = 2,00 Horas
3.462.088,26 - 518.132,73

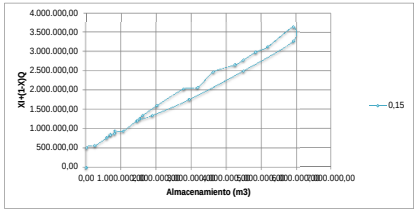
0,35 K = 5.901.334,18 - 13.423,13 = 1,96 Horas
3.521.546,78 - 519.475,04

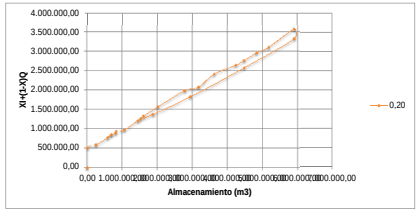
0,40 K = 5.901.334,18 - 13.423,13 = 1,92 Horas
3.583.059,95 - 520.817,35

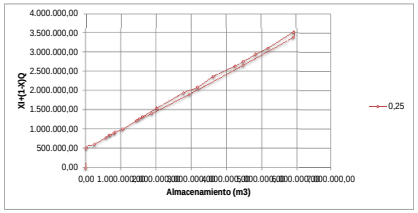
0,45 K = 5.901.334,18 - 13.423,13 = 1,89 Horas
3.644.573,12 - 522.159,67

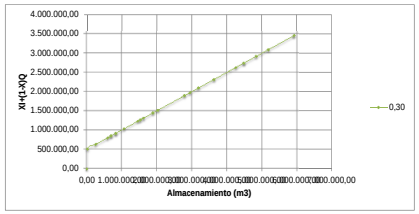
0,50 K = 5.901.334,18 - 13.423,13 = 1,85 Horas
3.706.086,29 - 523.501,98

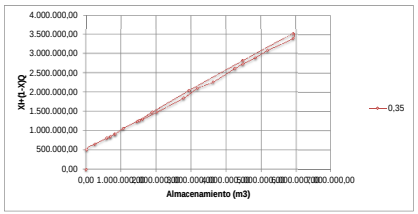

4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,10

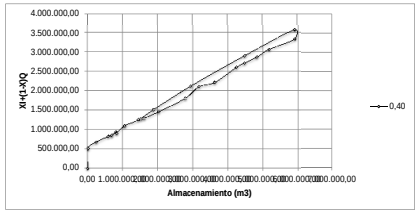

4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00
0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,15

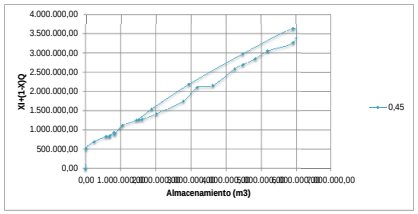

4.000.000,00
3.500.000,00
3.000.000,00
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0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,20

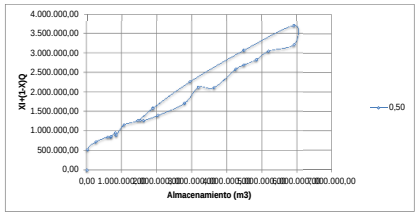

4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00
0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,25


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,30


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,35


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00
0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,40


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,45


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00 1.000.000,00 2.000.000,00 3.000.000,00 4.000.000,00 5.000.000,00 6.000.000,00 7.000.000,00
Almacenamiento (m3)
ΔX+(1+X)Q
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	476.144,65	743.321,53	493.111,75	250.209,77	263.632,90	523.501,98	547.180,64	570.859,31	594.537,97	618.216,64	641.895,30	665.573,97	689.252,63	712.931,30
3	962.154,86	685.239,79	955.936,40	580.692,22	375.244,18	638.877,08	712.931,30	726.777,05	740.622,80	754.468,56	768.314,31	782.160,06	796.005,82	809.851,57	823.697,32
4	828.656,21	823.146,34	895.405,53	754.193,06	141.212,47	780.089,55	823.697,32	823.972,82	824.248,31	824.523,80	824.799,30	825.074,79	825.350,28	825.625,78	825.901,27
5	888.435,40	818.953,04	858.545,80	821.049,69	37.496,12	817.585,67	825.901,27	829.375,39	832.849,51	836.323,63	839.797,74	843.271,86	846.745,98	850.220,10	853.694,22
6	1.050.897,01	831.782,79	969.666,20	825.367,92	144.298,29	961.883,96	853.694,22	864.649,93	875.605,64	886.561,35	897.517,06	908.472,77	919.428,48	930.384,19	941.339,90
7	816.880,77	955.168,69	933.888,89	893.475,74	40.413,15	1.002.297,10	941.339,90	934.425,51	927.511,11	920.596,71	913.682,32	906.767,92	899.853,53	892.939,13	886.024,73
8	1.464.595,11	821.739,14	1.140.737,94	888.453,92	252.284,03	1.254.581,13	886.024,73	918.167,53	950.310,33	982.453,13	1.014.595,93	1.046.738,73	1.078.881,53	1.111.024,33	1.143.167,12
9	1.363.224,74	1.118.716,28	1.413.909,93	970.227,71	443.682,22	1.698.263,35	1.143.167,12	1.155.392,55	1.167.617,97	1.179.843,39	1.192.068,82	1.204.294,24	1.216.519,66	1.228.745,09	1.240.970,51
10	1.924.173,70	1.165.059,04	1.643.699,22	1.141.887,66	501.811,56	2.200.074,91	1.240.970,51	1.278.926,24	1.316.881,97	1.354.837,71	1.392.793,44	1.430.749,17	1.468.704,91	1.506.660,64	1.544.616,37
11	2.990.327,36	1.383.981,82	2.457.250,53	1.274.520,43	1.182.730,10	3.382.805,01	1.544.616,37	1.624.933,65	1.705.250,93	1.785.568,20	1.865.885,48	1.946.202,76	2.026.520,03	2.106.837,31	2.187.154,59
12	3.882.684,66	1.998.762,36	3.436.506,01	1.691.372,09	1.745.133,92	5.127.938,93	2.187.154,59	2.281.350,70	2.375.546,82	2.469.742,93	2.563.939,05	2.658.135,16	2.752.331,28	2.846.527,39	2.940.723,51
13	4.321.217,99	2.787.335,23	4.101.951,32	2.393.048,79	1.708.902,53	6.836.841,45	2.940.723,51	3.017.417,65	3.094.111,78	3.170.805,92	3.247.500,06	3.324.194,20	3.400.888,33	3.477.582,47	3.554.276,61
14	2.606.656,88	3.659.567,68	3.463.937,43	3.223.451,46	240.485,97	7.077.327,43	3.554.276,61	3.501.631,07	3.448.985,53	3.396.339,99	3.343.694,45	3.291.048,91	3.238.403,37	3.185.757,83	3.133.112,29
15	2.930.646,62	3.155.608,47	2.768.651,75	3.407.588,08	-638.936,33	6.438.391,10	3.133.112,29	3.121.864,19	3.110.616,10	3.099.368,01	3.088.119,92	3.076.871,82	3.065.623,73	3.054.375,64	3.043.127,55
16	2.602.678,64	3.092.066,31	2.766.662,63	3.123.837,39	-357.174,76	6.081.216,33	3.043.127,55	3.018.658,16	2.994.188,78	2.969.719,39	2.945.250,01	2.920.780,63	2.896.311,24	2.871.841,86	2.847.372,48
17	2.571.902,47	2.877.980,25	2.587.290,55	2.985.023,28	-397.732,73	5.683.483,60	2.847.372,48	2.832.068,59	2.816.764,70	2.801.460,81	2.786.156,92	2.770.853,03	2.755.549,14	2.740.245,25	2.724.941,36
18	2.482.345,45	2.751.896,46	2.527.123,96	2.814.938,36	-287.814,40	5.395.669,20	2.724.941,36	2.711.463,81	2.697.986,26	2.684.508,71	2.671.031,16	2.657.553,61	2.644.076,06	2.630.598,51	2.617.120,95
19	1.599.258,13	2.730.216,82	2.040.801,79	2.741.056,64	-700.254,85	4.695.414,35	2.617.120,95	2.560.573,02	2.504.025,09	2.447.477,15	2.390.929,22	2.334.381,28	2.277.833,35	2.221.285,41	2.164.737,48
20	2.196.088,12	2.161.254,07	1.897.673,13	2.445.735,45	-548.062,32	4.147.352,03	2.164.737,48	2.166.479,18	2.168.220,88	2.169.962,59	2.171.704,29	2.173.445,99	2.175.187,69	2.176.929,40	2.178.671,10
21	1.250.980,94	2.281.747,78	1.723.534,53	2.221.500,93	-497.966,40	3.649.385,63	2.178.671,10	2.127.132,76	2.075.594,41	2.024.056,07	1.972.517,73	1.920.979,39	1.869.441,05	1.817.902,70	1.766.364,36
22	1.102.929,77	1.840.079,32	1.176.955,35	2.060.913,55	-883.958,19	2.765.427,44	1.766.364,36	1.729.506,88	1.692.649,41	1.655.791,93	1.618.934,45	1.582.076,97	1.545.219,50	1.508.362,02	1.471.504,54
23	1.162.616,69	1.505.825,41	1.132.773,23	1.672.952,37	-540.179,14	2.225.248,30	1.471.504,54	1.454.344,11	1.437.183,67	1.420.023,23	1.402.862,80	1.385.702,36	1.368.541,93	1.351.381,49	1.334.221,05
24	1.296.839,64	1.338.374,54	1.229.728,17	1.422.099,98	-192.371,81	2.032.876,49	1.334.221,05	1.332.144,31	1.330.067,56	1.327.990,82	1.325.914,07	1.323.837,33	1.321.760,58	1.319.683,84	1.317.607,09

0,10 K = 7.077.327,43 - 13.423,13 = 2,32 Horas
3.554.276,61 - 512.763,48

0,15 K = 7.077.327,43 - 13.423,13 = 2,36 Horas
3.501.631,07 - 514.105,79

0,20 K = 7.077.327,43 - 13.423,13 = 2,41 Horas
3.448.985,53 - 515.448,10

0,25 K = 7.077.327,43 - 13.423,13 = 2,45 Horas
3.396.339,99 - 516.790,42

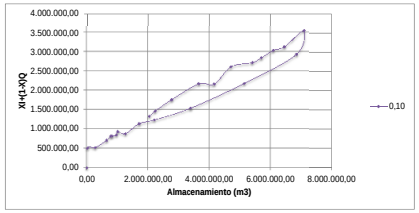
0,30 K = 7.077.327,43 - 13.423,13 = 2,50 Horas
3.343.694,45 - 518.132,73

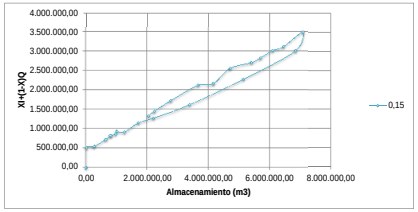
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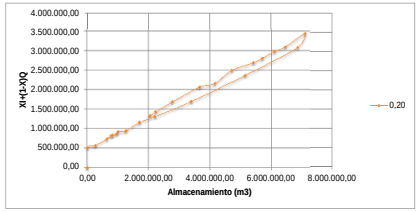
0,40 K = 7.077.327,43 - 13.423,13 = 2,45 Horas
3.400.888,33 - 520.817,35

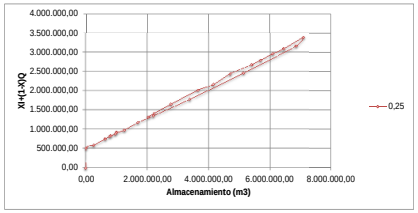
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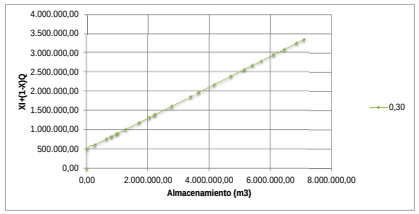
0,50 K = 7.077.327,43 - 13.423,13 = 2,33 Horas
3.554.276,61 - 523.501,98

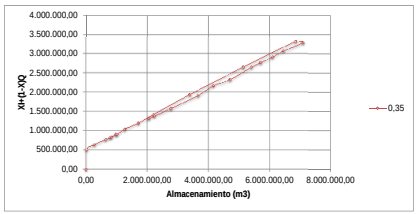

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Almacenamiento (m3)
0,10

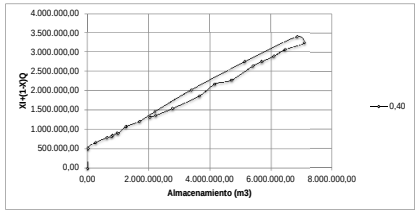

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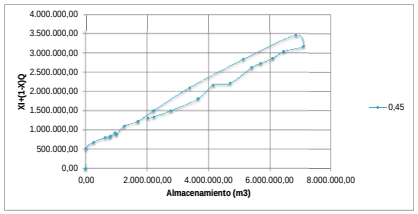

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Almacenamiento (m3)
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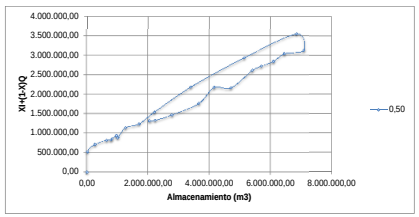

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	456.897,74	743.321,53	483.488,30	259.833,23	273.256,36	506.179,76	530.820,77	555.461,78	580.102,79	604.743,80	629.384,81	654.025,82	678.666,83	703.307,84
3	962.154,86	644.530,60	955.936,40	550.714,17	405.222,23	678.478,58	676.293,03	692.174,24	708.055,45	723.936,67	739.817,88	755.699,09	771.580,30	787.461,52	803.342,73
4	828.656,21	787.232,03	895.405,53	715.881,32	179.524,21	858.002,80	791.374,45	793.445,66	795.516,87	797.588,08	799.659,28	801.730,49	803.801,70	805.872,91	807.944,12
5	888.435,40	793.967,61	858.545,80	790.599,82	67.945,98	925.948,78	803.414,39	808.137,78	812.861,17	817.584,56	822.307,95	827.031,33	831.754,72	836.478,11	841.201,50
6	1.050.897,01	805.307,28	969.666,20	799.637,44	170.028,76	1.095.977,54	829.866,25	842.145,74	854.425,22	866.704,71	878.984,20	891.263,68	903.543,17	915.822,66	928.102,14
7	816.880,77	935.767,37	933.888,89	870.537,32	63.351,57	1.159.329,11	923.878,71	917.934,38	911.990,05	906.045,72	900.101,39	894.157,06	888.212,73	882.268,40	876.324,07
8	1.464.595,11	790.393,39	1.140.737,94	863.080,38	277.657,56	1.436.986,67	857.813,57	891.523,65	925.233,74	958.943,82	992.653,91	1.026.364,00	1.060.074,08	1.093.784,17	1.127.494,25
9	1.363.224,74	1.065.297,19	1.413.909,93	927.845,29	486.064,63	1.923.051,31	1.095.089,94	1.109.986,32	1.124.882,70	1.139.779,08	1.154.675,45	1.169.571,83	1.184.468,21	1.199.364,59	1.214.260,96
10	1.924.173,70	1.093.584,87	1.643.699,22	1.079.441,03	564.258,19	2.487.309,50	1.176.643,75	1.218.173,19	1.259.702,63	1.301.232,08	1.342.761,52	1.384.290,96	1.425.820,40	1.467.349,84	1.508.879,28
11	2.990.327,36	1.249.018,47	2.457.250,53	1.171.301,67	1.285.948,86	3.773.258,36	1.423.149,36	1.510.214,80	1.597.280,25	1.684.345,69	1.771.411,14	1.858.476,58	1.945.542,03	2.032.607,47	2.119.672,91
12	3.882.684,66	1.781.466,92	3.436.506,01	1.515.242,70	1.921.263,31	5.694.521,67	1.991.588,69	2.096.649,58	2.201.710,47	2.306.771,35	2.411.832,24	2.516.893,13	2.621.954,01	2.727.014,90	2.832.075,79
13	4.321.217,99	2.522.160,92	4.101.951,32	2.151.813,92	1.950.137,40	7.644.659,07	2.702.066,63	2.792.019,48	2.881.972,34	2.971.925,19	3.061.878,04	3.151.830,90	3.241.783,75	3.331.736,60	3.421.689,46
14	2.606.656,88	3.477.884,56	3.463.937,43	3.000.022,75	463.914,68	8.108.573,75	3.390.761,81	3.347.200,42	3.303.639,04	3.260.077,65	3.216.516,27	3.172.954,88	3.129.393,50	3.085.832,12	3.042.270,73
15	2.930.646,62	3.092.952,43	2.768.651,75	3.285.418,50	-516.766,75	7.591.807,00	3.076.721,85	3.068.606,56	3.060.491,27	3.052.375,98	3.044.260,69	3.036.145,40	3.028.030,11	3.019.914,81	3.011.799,52
16	2.602.678,64	3.080.983,73	2.766.662,63	3.086.968,08	-320.305,45	7.271.501,55	3.033.153,22	3.009.237,97	2.985.322,71	2.961.407,46	2.937.492,20	2.913.576,95	2.889.661,69	2.865.746,44	2.841.831,18
17	2.571.902,47	2.901.755,03	2.587.290,55	2.991.369,38	-404.078,83	6.867.422,72	2.868.769,77	2.852.277,14	2.835.784,52	2.819.291,89	2.802.799,26	2.786.306,63	2.769.814,00	2.753.321,38	2.736.828,75
18	2.482.345,45	2.788.666,66	2.527.123,96	2.845.210,85	-318.086,89	6.549.335,84	2.758.034,54	2.742.718,48	2.727.402,42	2.712.086,36	2.696.770,30	2.681.454,24	2.666.138,18	2.650.822,11	2.635.506,05
19	1.599.258,13	2.806.710,40	2.040.801,79	2.797.688,53	-756.886,74	5.792.449,10	2.685.965,17	2.625.592,56	2.565.219,94	2.504.847,33	2.444.474,72	2.384.102,10	2.323.729,49	2.263.356,88	2.202.984,26
20	2.196.088,12	2.250.485,68	1.897.673,13	2.528.598,04	-630.924,91	5.161.524,18	2.245.045,93	2.242.326,05	2.239.606,17	2.236.886,29	2.234.166,41	2.231.446,54	2.228.726,66	2.226.006,78	2.223.286,90
21	1.250.980,94	2.374.964,65	1.723.534,53	2.312.725,16	-589.190,63	4.572.333,55	2.262.566,28	2.206.367,09	2.150.167,91	2.093.968,72	2.037.769,54	1.981.570,35	1.925.371,17	1.869.171,98	1.812.972,79
22	1.102.929,77	1.965.440,33	1.176.955,35	2.170.202,49	-993.247,13	3.579.086,42	1.879.189,27	1.836.063,74	1.792.938,21	1.749.812,69	1.706.687,16	1.663.561,63	1.620.436,10	1.577.310,57	1.534.185,05
23	1.162.616,69	1.624.522,89	1.132.773,23	1.794.981,61	-662.208,38	2.916.878,04	1.578.332,27	1.555.236,96	1.532.141,65	1.509.046,34	1.485.951,03	1.462.855,72	1.439.760,41	1.416.665,10	1.393.569,79
24	1.296.839,64	1.426.216,98	1.229.728,17	1.525.369,93	-295.641,77	2.621.236,27	1.413.279,24	1.406.810,38	1.400.341,51	1.393.872,64	1.387.403,78	1.380.934,91	1.374.466,04	1.367.997,18	1.361.528,31

0,10 K = 8.108.573,75 - 13.423,13 = 2,81 Horas
3.390.761,81 - 506.179,76

0,15 K = 8.108.573,75 - 13.423,13 = 2,86 Horas
3.347.200,42 - 514.105,79

0,20 K = 8.108.573,75 - 13.423,13 = 2,90 Horas
3.303.639,04 - 515.448,10

0,25 K = 8.108.573,75 - 13.423,13 = 2,95 Horas
3.260.077,65 - 516.790,42

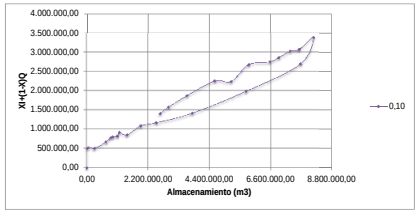
0,30 K = 8.108.573,75 - 13.423,13 = 3,00 Horas
3.216.516,27 - 518.132,73

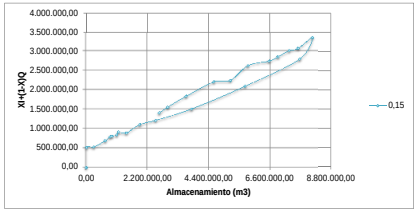
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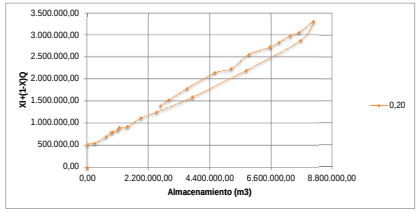
0,40 K = 8.108.573,75 - 13.423,13 = 2,98 Horas
3.241.783,75 - 520.817,35

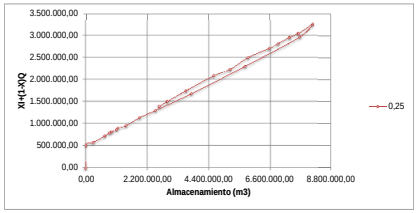
0,45 K = 8.108.573,75 - 13.423,13 = 2,88 Horas
3.331.736,60 - 522.159,67

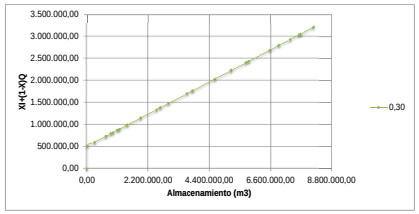
0,50 K = 8.108.573,75 - 13.423,13 = 2,79 Horas
3.421.689,46 - 523.501,98

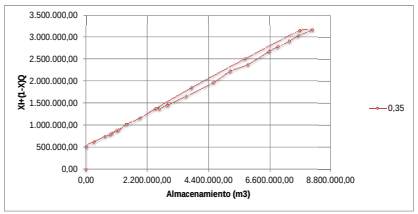

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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,10

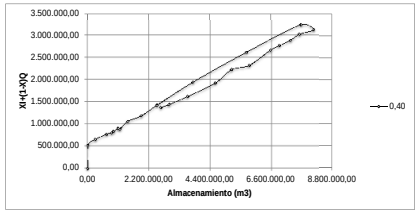

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2.000.000,00
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1.000.000,00
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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,15

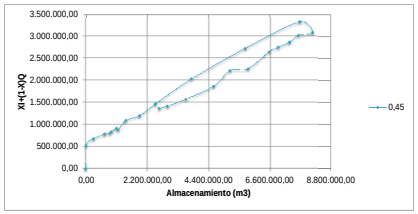

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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,20

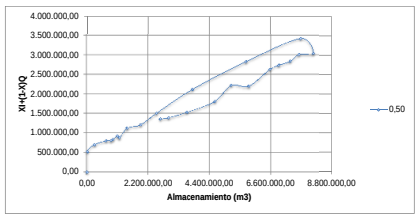

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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,25


3.500.000,00
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2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,30


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500.000,00
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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,35


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3.000.000,00
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2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,40


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500.000,00
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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,45


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2.200.000,00
4.400.000,00
6.600.000,00
8.800.000,00
Almacenamiento (m3)
DQ(t+1)-DQ(t)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	705.235,13	743.321,53	607.656,99	135.664,54	149.087,66	729.683,41	741.907,55	754.131,69	766.355,83	778.579,97	790.804,11	803.028,25	815.252,39	827.476,54
3	962.154,86	1.006.477,33	955.936,40	855.856,23	100.080,17	249.167,84	1.002.045,08	999.828,96	997.612,83	995.396,71	993.180,58	990.964,46	988.748,34	986.532,21	984.316,09
4	828.656,21	900.162,74	895.405,53	953.320,03	-57.914,50	191.253,34	893.012,09	889.436,76	885.861,44	882.286,11	878.710,78	875.135,46	871.560,13	867.984,80	864.409,48
5	888.435,40	837.037,53	858.545,80	868.600,14	-10.054,34	181.199,00	842.177,32	844.747,21	847.317,10	849.887,00	852.456,89	855.026,78	857.596,68	860.166,57	862.736,46
6	1.050.897,01	963.338,00	969.666,20	900.187,77	69.478,44	250.677,43	972.093,90	976.471,85	980.849,80	985.227,75	989.605,70	993.983,66	998.361,61	1.002.739,56	1.007.117,51
7	816.880,77	977.281,92	933.888,89	970.309,96	-36.421,07	214.256,37	961.241,80	953.221,75	945.201,69	937.181,63	929.161,57	921.141,52	913.121,46	905.101,40	897.081,35
8	1.464.595,11	1.038.016,48	1.140.737,94	1.007.649,20	133.088,74	347.345,11	1.080.674,35	1.102.003,28	1.123.332,21	1.144.661,14	1.165.990,07	1.187.319,00	1.208.647,94	1.229.976,87	1.251.305,80
9	1.363.224,74	1.515.147,70	1.413.909,93	1.276.582,09	137.327,83	484.672,94	1.499.955,41	1.492.359,26	1.484.763,11	1.477.166,96	1.469.570,81	1.461.974,67	1.454.378,52	1.446.782,37	1.439.186,22
10	1.924.173,70	1.551.978,55	1.643.699,22	1.533.563,13	110.136,09	594.809,03	1.589.198,06	1.607.807,82	1.626.417,58	1.645.027,34	1.663.637,09	1.682.246,85	1.700.856,61	1.719.466,37	1.738.076,13
11	2.990.327,36	2.423.124,11	2.457.250,53	1.987.551,33	469.699,20	1.064.508,23	2.479.844,44	2.508.204,60	2.536.564,76	2.564.924,92	2.593.285,09	2.621.645,25	2.650.005,41	2.678.365,57	2.706.725,74
12	3.882.684,66	3.462.177,89	3.436.506,01	2.942.651,00	493.855,01	1.558.363,24	3.504.228,57	3.525.253,91	3.546.279,24	3.567.304,58	3.588.329,92	3.609.355,26	3.630.380,60	3.651.405,94	3.672.431,27
13	4.321.217,99	4.144.638,62	4.101.951,32	3.803.408,25	298.543,07	1.856.906,31	4.162.296,55	4.171.125,52	4.179.954,49	4.188.783,46	4.197.612,43	4.206.441,40	4.215.270,37	4.224.099,33	4.232.928,30
14	2.606.656,88	3.683.241,05	3.463.937,43	3.913.939,84	-450.002,40	1.406.903,90	3.575.582,64	3.521.753,43	3.467.924,22	3.414.095,01	3.360.265,80	3.306.436,59	3.252.607,39	3.198.778,18	3.144.948,97
15	2.930.646,62	2.505.922,86	2.768.651,75	3.094.581,96	-325.930,21	1.080.973,70	2.548.395,24	2.569.631,43	2.590.867,61	2.612.103,80	2.633.339,99	2.654.576,18	2.675.812,37	2.697.048,55	2.718.284,74
16	2.602.678,64	2.891.540,03	2.766.662,63	2.698.731,45	67.931,18	1.148.904,88	2.862.653,89	2.848.210,82	2.833.767,75	2.819.324,68	2.804.881,61	2.790.438,54	2.775.995,47	2.761.552,40	2.747.109,33
17	2.571.902,47	2.529.281,06	2.587.290,55	2.710.410,55	-123.119,99	1.025.784,88	2.533.543,20	2.535.674,27	2.537.805,34	2.539.936,41	2.542.067,48	2.544.198,55	2.546.329,62	2.548.460,69	2.550.591,76
18	2.482.345,45	2.545.663,33	2.527.123,96	2.537.472,20	-10.348,24	1.015.436,64	2.539.331,54	2.536.165,65	2.532.999,76	2.529.833,86	2.526.667,97	2.523.502,07	2.520.336,18	2.517.170,28	2.514.004,39
19	1.599.258,13	2.121.031,50	2.040.801,79	2.333.347,42	-292.545,63	722.891,02	2.068.854,16	2.042.765,49	2.016.676,82	1.990.588,16	1.964.499,49	1.938.410,82	1.912.322,15	1.886.233,48	1.860.144,81
20	2.196.088,12	1.723.693,78	1.897.673,13	1.922.362,64	-24.689,51	698.201,51	1.770.933,21	1.794.552,93	1.818.172,65	1.841.792,36	1.865.412,08	1.889.031,80	1.912.651,52	1.936.271,23	1.959.890,95
21	1.250.980,94	1.923.978,03	1.723.534,53	1.823.835,91	-100.301,37	597.900,13	1.856.678,32	1.823.028,47	1.789.378,61	1.755.728,76	1.722.078,91	1.688.429,05	1.654.779,20	1.621.129,34	1.587.479,49
22	1.102.929,77	1.049.900,79	1.176.955,35	1.486.939,41	-309.984,06	287.916,07	1.055.203,69	1.057.855,14	1.060.506,59	1.063.158,04	1.065.809,49	1.068.460,93	1.071.112,38	1.073.763,83	1.076.415,28
23	1.162.616,69	1.137.691,37	1.132.773,23	1.093.796,08	38.977,15	326.893,22	1.140.183,90	1.141.430,17	1.142.676,43	1.143.922,70	1.145.168,97	1.146.415,23	1.147.661,50	1.148.907,76	1.150.154,03
24	1.296.839,64	1.220.779,59	1.229.728,17	1.179.235,48	50.492,69	377.385,91	1.228.385,60	1.232.188,60	1.235.991,60	1.239.794,60	1.243.597,61	1.247.400,61	1.251.203,61	1.255.006,61	1.258.809,62

0,10 K = 1.856.906,31 - 13.423,13 = 0,51 Horas
4.162.296,55 - 512.763,48

0,15 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.171.125,52 - 514.105,79

0,20 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.179.954,49 - 515.448,10

0,25 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.188.783,46 - 516.790,42

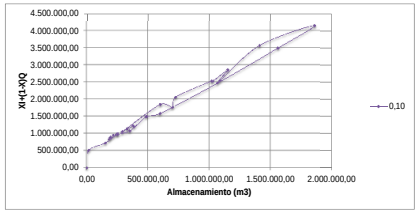
0,30 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.197.612,43 - 518.132,73

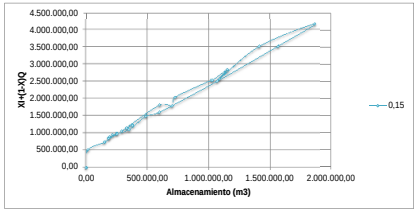
0,35 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.206.441,40 - 519.475,04

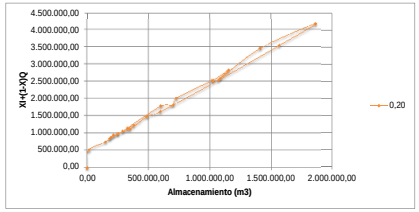
0,40 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.215.270,37 - 520.817,35

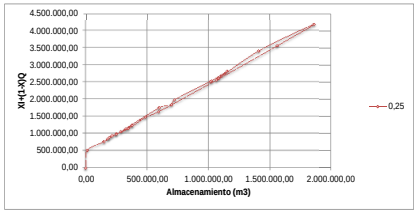
0,45 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.224.099,33 - 522.159,67

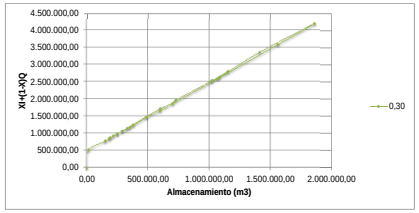
0,50 K = 1.856.906,31 - 13.423,13 = 0,50 Horas
4.232.928,30 - 523.501,98

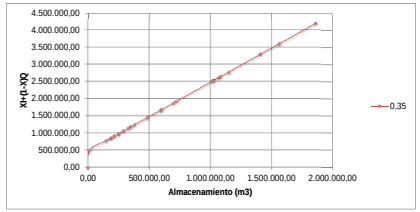

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Almacenamiento (m3)
0,10

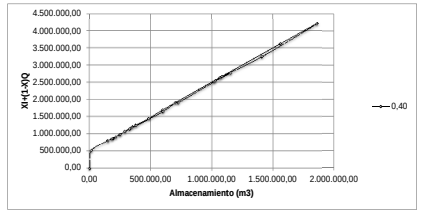

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Almacenamiento (m3)
0,15

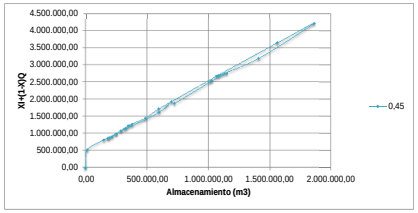

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Almacenamiento (m3)
0,20

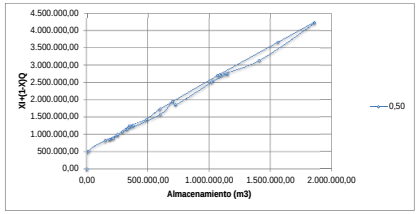

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Almacenamiento (m3)
0,25


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Almacenamiento (m3)
0,30


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Almacenamiento (m3)
0,35


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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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1.500.000,00
2.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	587.265,97	743.321,53	548.672,41	194.649,12	208.072,24	623.511,16	641.633,76	659.756,36	677.878,96	696.001,56	714.124,16	732.246,76	750.369,36	768.491,95
3	962.154,86	904.063,80	955.936,40	745.664,89	210.271,52	418.343,76	909.872,91	912.777,46	915.682,02	918.586,57	921.491,12	924.395,67	927.300,23	930.204,78	933.109,33
4	828.656,21	937.164,90	895.405,53	920.614,35	-25.208,82	393.134,94	926.314,03	920.888,59	915.463,16	910.037,72	904.612,29	899.186,86	893.761,42	888.335,99	882.910,55
5	888.435,40	850.606,80	858.545,80	893.885,85	-35.340,05	357.794,90	854.389,66	856.281,09	858.172,52	860.063,95	861.955,38	863.846,81	865.738,24	867.629,67	869.521,10
6	1.050.897,01	904.691,88	969.666,20	877.649,34	92.016,86	449.811,76	919.312,39	926.622,65	933.932,90	941.243,16	948.553,42	955.863,67	963.173,93	970.484,19	977.794,44
7	816.880,77	1.001.302,92	933.888,89	952.997,40	-19.108,51	430.703,25	982.860,70	973.639,60	964.418,49	955.197,38	945.976,27	936.755,17	927.534,06	918.312,95	909.091,85
8	1.464.595,11	925.420,32	1.140.737,94	963.361,62	177.376,33	608.079,58	979.337,79	1.006.296,53	1.033.255,27	1.060.214,01	1.087.172,75	1.114.131,49	1.141.090,23	1.168.048,97	1.195.007,71
9	1.363.224,74	1.381.045,74	1.413.909,93	1.153.233,03	260.676,90	868.756,48	1.379.263,64	1.378.372,59	1.377.481,54	1.376.590,49	1.375.699,44	1.374.808,39	1.373.917,34	1.373.026,29	1.372.135,24
10	1.924.173,70	1.438.716,47	1.643.699,22	1.409.881,11	233.818,11	1.102.574,59	1.487.262,20	1.511.535,06	1.535.807,92	1.560.080,78	1.584.353,64	1.608.626,50	1.632.899,36	1.657.172,23	1.681.445,09
11	2.990.327,36	1.999.916,71	2.457.250,53	1.719.316,59	737.933,94	1.840.508,53	2.098.957,78	2.148.478,31	2.197.998,84	2.247.519,37	2.297.039,91	2.346.560,44	2.396.080,97	2.445.601,50	2.495.122,04
12	3.882.684,66	2.977.537,79	3.436.506,01	2.488.727,25	947.778,75	2.788.287,28	3.068.052,48	3.113.309,82	3.158.567,16	3.203.824,51	3.249.081,85	3.294.339,19	3.339.596,54	3.384.853,88	3.430.111,22
13	4.321.217,99	3.821.822,02	4.101.951,32	3.399.679,91	702.271,42	3.490.558,70	3.871.761,62	3.896.731,42	3.921.701,22	3.946.671,01	3.971.640,81	3.996.610,61	4.021.580,41	4.046.550,21	4.071.520,01
14	2.606.656,88	4.032.440,98	3.463.937,43	3.927.131,50	-463.194,07	3.027.364,63	3.889.862,57	3.818.573,36	3.747.284,16	3.675.994,95	3.604.705,75	3.533.416,54	3.462.127,34	3.390.838,13	3.319.548,93
15	2.930.646,62	2.834.888,25	2.768.651,75	3.433.664,61	-665.012,86	2.362.351,77	2.844.464,09	2.849.252,01	2.854.039,93	2.858.827,84	2.863.615,76	2.868.403,68	2.873.191,60	2.877.979,52	2.882.767,44
16	2.602.678,64	2.875.377,97	2.766.662,63	2.855.133,11	-88.470,48	2.273.881,29	2.848.108,03	2.834.473,07	2.820.838,10	2.807.203,13	2.793.568,17	2.779.933,20	2.766.298,23	2.752.663,27	2.739.028,30
17	2.571.902,47	2.634.233,83	2.587.290,55	2.754.805,90	-167.515,35	2.106.365,94	2.628.000,70	2.624.884,13	2.621.767,56	2.618.650,99	2.615.534,42	2.612.417,85	2.609.301,29	2.606.184,72	2.603.068,15
18	2.482.345,45	2.568.351,29	2.527.123,96	2.601.292,56	-74.168,61	2.032.197,33	2.559.750,71	2.555.450,42	2.551.150,13	2.546.849,83	2.542.549,54	2.538.249,25	2.533.948,96	2.529.648,66	2.525.348,37
19	1.599.258,13	2.378.378,30	2.040.801,79	2.473.364,80	-432.563,01	1.599.634,33	2.300.466,28	2.261.510,27	2.222.554,27	2.183.598,26	2.144.642,25	2.105.686,24	2.066.730,23	2.027.774,22	1.988.818,22
20	2.196.088,12	1.778.729,89	1.897.673,13	2.078.554,09	-180.880,97	1.418.753,36	1.820.465,71	1.841.333,63	1.862.201,54	1.883.069,45	1.903.937,36	1.924.805,27	1.945.673,18	1.966.541,10	1.987.409,01
21	1.250.980,94	2.018.375,24	1.723.534,53	1.898.552,57	-175.018,04	1.243.735,32	1.941.635,81	1.903.266,10	1.864.896,38	1.826.526,67	1.788.156,95	1.749.787,24	1.711.417,52	1.673.047,81	1.634.678,09
22	1.102.929,77	1.331.764,83	1.176.955,35	1.675.070,04	-498.114,68	745.620,64	1.308.881,32	1.297.439,57	1.285.997,82	1.274.556,06	1.263.114,31	1.251.672,56	1.240.230,80	1.228.789,05	1.217.347,30
23	1.162.616,69	1.140.563,07	1.132.773,23	1.236.163,95	-103.390,72	642.229,92	1.142.768,43	1.143.871,11	1.144.973,79	1.146.076,48	1.147.179,16	1.148.281,84	1.149.384,52	1.150.487,20	1.151.589,88
24	1.296.839,64	1.177.247,47	1.229.728,17	1.158.905,27	70.822,90	713.052,82	1.189.206,69	1.195.186,30	1.201.165,91	1.207.145,52	1.213.125,13	1.219.104,73	1.225.084,34	1.231.063,95	1.237.043,56

0,10 K = 3.490.558,70 - 13.423,13 = 1,03 Horas
3.889.862,57 - 512.763,48

0,15 K = 3.490.558,70 - 13.423,13 = 1,03 Horas
3.896.731,42 - 514.105,79

0,20 K = 3.490.558,70 - 13.423,13 = 1,02 Horas
3.921.701,22 - 515.448,10

0,25 K = 3.490.558,70 - 13.423,13 = 1,01 Horas
3.946.671,01 - 516.790,42

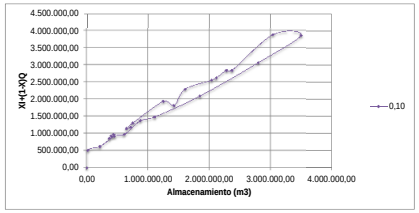
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3.971.640,81 - 518.132,73

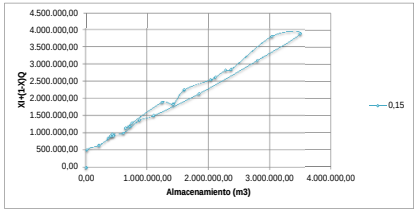
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3.996.610,61 - 519.475,04

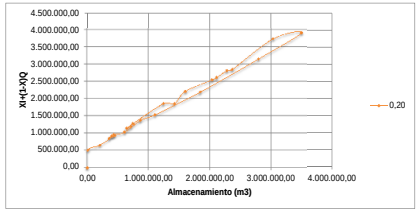
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4.021.580,41 - 520.817,35

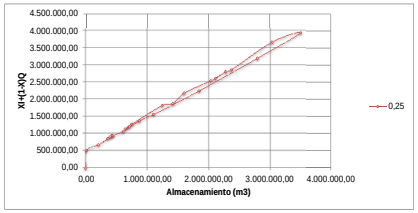
0,45 K = 3.490.558,70 - 13.423,13 = 0,99 Horas
4.046.550,21 - 522.159,67

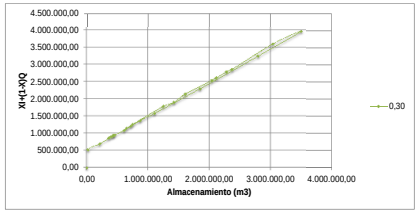
0,50 K = 3.490.558,70 - 13.423,13 = 0,98 Horas
4.071.520,01 - 523.501,98

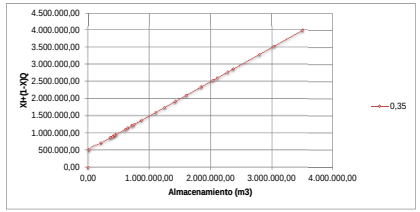

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4.000.000,00
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1.000.000,00
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4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,10

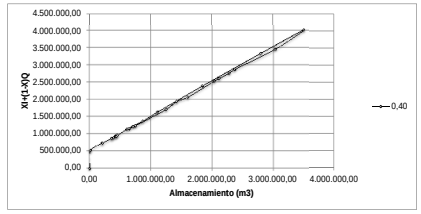

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4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,15

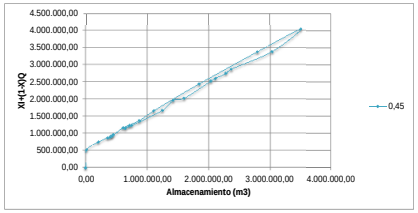

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Almacenamiento (m3)
DQx-(x+1)x
0,20

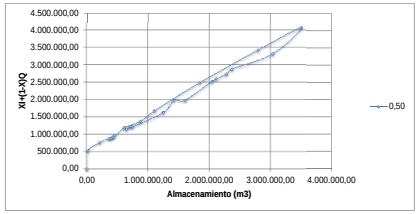

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4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,25


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
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1.000.000,00
2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,30


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
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500.000,00
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3.000.000,00
4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,35


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
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3.000.000,00
4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,40


4.500.000,00
4.000.000,00
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3.000.000,00
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3.000.000,00
4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,45


4.500.000,00
4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
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3.000.000,00
4.000.000,00
Almacenamiento (m3)
DQx-(x+1)x
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	521.283,21	743.321,53	515.681,03	227.640,49	241.063,62	564.126,69	585.548,42	606.970,16	628.391,90	649.813,63	671.235,37	692.657,11	714.078,84	735.500,58
3	962.154,86	811.536,64	955.936,40	666.409,93	289.526,47	530.590,09	826.598,46	834.129,37	841.660,29	849.191,20	856.722,11	864.253,02	871.783,93	879.314,84	886.845,75
4	828.656,21	915.913,38	895.405,53	863.725,01	31.680,52	562.270,62	907.187,66	902.824,80	898.461,94	894.099,08	889.736,22	885.373,37	881.010,51	876.647,65	872.284,79
5	888.435,40	855.742,77	858.545,80	885.828,07	-27.282,27	534.988,35	859.012,03	860.646,66	862.281,29	863.915,92	865.550,56	867.185,19	868.819,82	870.454,45	872.089,08
6	1.050.897,01	875.153,67	969.666,20	865.448,22	104.217,98	639.206,33	892.728,01	901.515,17	910.302,34	919.089,51	927.876,68	936.663,84	945.451,01	954.238,18	963.025,34
7	816.880,77	998.268,08	933.888,89	936.710,87	-2.821,98	636.384,35	980.129,35	971.059,98	961.990,61	952.921,25	943.851,88	934.782,52	925.713,15	916.643,79	907.574,42
8	1.464.595,11	864.315,42	1.140.737,94	931.291,75	209.446,19	845.830,54	924.343,39	954.357,38	984.371,36	1.014.385,35	1.044.399,33	1.074.413,32	1.104.427,30	1.134.441,28	1.164.455,27
9	1.363.224,74	1.273.002,85	1.413.909,93	1.068.659,14	345.250,79	1.191.081,33	1.282.025,04	1.286.536,13	1.291.047,23	1.295.558,32	1.300.069,41	1.304.580,51	1.309.091,60	1.313.602,70	1.318.113,79
10	1.924.173,70	1.324.662,62	1.643.699,22	1.298.832,73	344.866,49	1.535.947,81	1.384.613,73	1.414.589,28	1.444.564,84	1.474.540,39	1.504.515,94	1.534.491,50	1.564.467,05	1.594.442,61	1.624.418,16
11	2.990.327,36	1.713.040,41	2.457.250,53	1.518.851,52	938.399,01	2.474.346,83	1.840.769,11	1.904.633,45	1.968.497,80	2.032.362,15	2.096.226,49	2.160.090,84	2.223.955,19	2.287.819,54	2.351.683,88
12	3.882.684,66	2.563.872,98	3.436.506,01	2.138.456,69	1.298.049,32	3.772.396,15	2.695.754,13	2.761.694,72	2.827.635,30	2.893.575,89	2.959.516,47	3.025.457,06	3.091.397,64	3.157.338,23	3.223.278,81
13	4.321.217,99	3.450.549,82	4.101.951,32	3.007.211,39	1.094.739,93	4.867.136,08	3.537.616,63	3.581.150,04	3.624.683,45	3.668.216,86	3.711.750,27	3.755.283,68	3.798.817,09	3.842.350,49	3.885.883,90
14	2.606.656,88	4.069.893,68	3.463.937,43	3.760.221,75	-296.284,31	4.570.851,77	3.923.570,00	3.850.408,16	3.777.246,32	3.704.084,48	3.630.922,64	3.557.760,80	3.484.598,96	3.411.437,12	3.338.275,28
15	2.930.646,62	3.072.377,38	2.768.651,75	3.571.135,53	-802.483,78	3.768.367,99	3.058.204,30	3.051.117,77	3.044.031,23	3.036.944,69	3.029.858,15	3.022.771,61	3.015.685,08	3.008.598,54	3.001.512,00
16	2.602.678,64	2.981.847,51	2.766.662,63	3.027.112,45	-260.449,82	3.507.918,17	2.943.930,62	2.924.972,18	2.906.013,74	2.887.055,29	2.868.096,85	2.849.138,40	2.830.179,96	2.811.221,52	2.792.263,07
17	2.571.902,47	2.725.305,50	2.587.290,55	2.853.576,50	-266.285,95	3.241.632,22	2.709.965,19	2.702.295,04	2.694.624,89	2.686.954,74	2.679.284,59	2.671.614,44	2.663.944,29	2.656.274,13	2.648.603,98
18	2.482.345,45	2.622.821,36	2.527.123,96	2.674.063,43	-146.939,47	3.094.692,75	2.608.773,77	2.601.749,97	2.594.726,18	2.587.702,38	2.580.678,58	2.573.654,79	2.566.630,99	2.559.607,20	2.552.583,40
19	1.599.258,13	2.542.551,03	2.040.801,79	2.582.686,20	-541.884,41	2.552.808,34	2.448.221,74	2.401.057,10	2.353.892,45	2.306.727,81	2.259.563,16	2.212.398,52	2.165.233,87	2.118.069,23	2.070.904,58
20	2.196.088,12	1.892.914,66	1.897.673,13	2.217.732,85	-320.059,72	2.232.748,62	1.923.232,01	1.938.390,68	1.953.549,35	1.968.708,03	1.983.866,70	1.999.025,37	2.014.184,04	2.029.342,72	2.044.501,39
21	1.250.980,94	2.114.474,76	1.723.534,53	2.003.694,71	-280.160,18	1.952.588,45	2.028.125,37	1.984.950,68	1.941.775,99	1.898.601,30	1.855.426,61	1.812.251,92	1.769.077,23	1.725.902,54	1.682.727,85
22	1.102.929,77	1.531.564,56	1.176.955,35	1.823.019,66	-646.064,30	1.306.524,14	1.488.701,08	1.467.269,34	1.445.837,60	1.424.405,86	1.402.974,12	1.381.542,38	1.360.110,64	1.338.678,91	1.317.247,17
23	1.162.616,69	1.239.953,06	1.132.773,23	1.385.758,81	-252.985,58	1.053.538,56	1.232.219,42	1.228.352,60	1.224.485,79	1.220.618,97	1.216.752,15	1.212.885,33	1.209.018,51	1.205.151,69	1.201.284,88
24	1.296.839,64	1.185.246,66	1.229.728,17	1.212.599,86	17.128,31	1.070.666,87	1.196.405,96	1.201.985,61	1.207.565,26	1.213.144,90	1.218.724,55	1.224.304,20	1.229.883,85	1.235.463,50	1.241.043,15

0,10 K = 4.867.136,08 - 13.423,13 = 1,42 Horas
3.923.570,00 - 512.763,48

0,15 K = 4.867.136,08 - 13.423,13 = 1,45 Horas
3.850.408,16 - 514.105,79

0,20 K = 4.867.136,08 - 13.423,13 = 1,49 Horas
3.777.246,32 - 515.448,10

0,25 K = 4.867.136,08 - 13.423,13 = 1,52 Horas
3.704.084,48 - 516.790,42

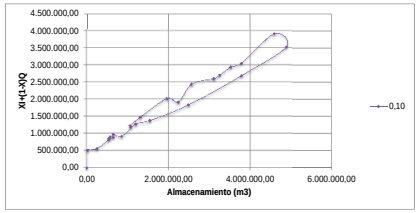
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3.711.750,27 - 518.132,73

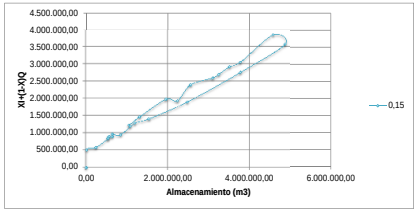
0,35 K = 4.867.136,08 - 13.423,13 = 1,50 Horas
3.755.283,68 - 519.475,04

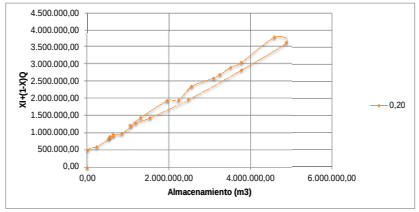
0,40 K = 4.867.136,08 - 13.423,13 = 1,48 Horas
3.798.817,09 - 520.817,35

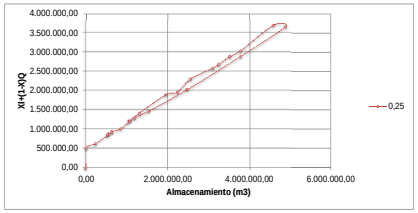
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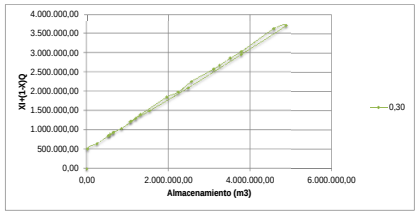
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3.885.883,90 - 523.501,98

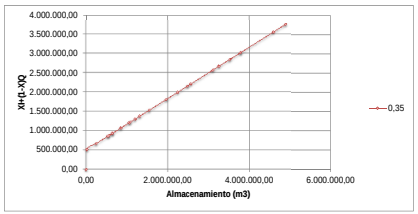

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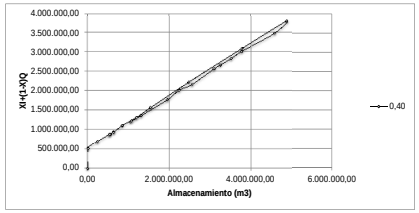

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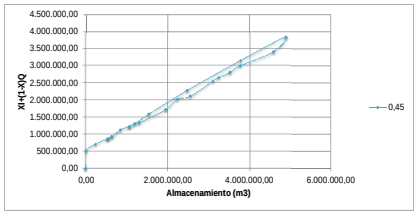

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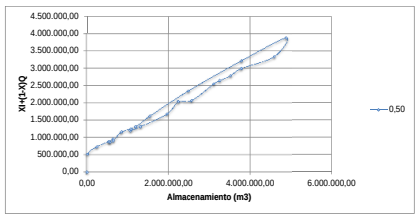

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	479.127,57	743.321,53	494.603,21	248.718,32	262.141,44	526.186,60	549.716,12	573.245,64	596.775,16	620.304,68	643.834,20	667.363,72	690.893,24	714.422,76
3	962.154,86	739.184,79	955.936,40	609.156,18	346.780,22	608.921,67	761.481,79	772.630,30	783.778,80	794.927,30	806.075,81	817.224,31	828.372,81	839.521,32	850.669,82
4	828.656,21	877.890,23	895.405,53	808.537,51	86.868,02	695.789,69	872.966,83	870.505,13	868.043,43	865.581,73	863.120,02	860.658,32	858.196,62	855.734,92	853.273,22
5	888.435,40	843.895,86	858.545,80	860.893,05	-2.347,25	693.442,45	848.349,82	850.576,79	852.803,77	855.030,75	857.257,72	859.484,70	861.711,68	863.938,65	866.165,63
6	1.050.897,01	850.588,76	969.666,20	847.242,31	122.423,89	815.866,34	870.619,58	880.635,00	890.650,41	900.665,82	910.681,23	920.696,65	930.712,06	940.727,47	950.742,88
7	816.880,77	987.872,92	933.888,89	919.230,84	14.658,05	830.524,39	970.773,71	962.224,10	953.674,49	945.124,89	936.575,28	928.025,67	919.476,06	910.926,46	902.376,85
8	1.464.595,11	820.909,02	1.140.737,94	904.390,97	236.346,97	1.066.871,36	885.277,63	917.461,94	949.646,24	981.830,55	1.014.014,85	1.046.199,16	1.078.383,46	1.110.567,76	1.142.752,07
9	1.363.224,74	1.189.775,78	1.413.909,93	1.005.342,40	408.567,52	1.475.438,88	1.207.120,68	1.215.793,13	1.224.465,57	1.233.138,02	1.241.810,47	1.250.482,92	1.259.155,36	1.267.827,81	1.276.500,26
10	1.924.173,70	1.223.808,65	1.643.699,22	1.206.792,22	436.907,00	1.912.345,88	1.293.845,16	1.328.863,41	1.363.881,66	1.398.899,91	1.433.918,17	1.468.936,42	1.503.954,67	1.538.972,92	1.573.991,18
11	2.990.327,36	1.494.438,83	2.457.250,53	1.359.123,74	1.098.126,79	3.010.472,67	1.644.027,68	1.718.822,11	1.793.616,53	1.868.410,96	1.943.205,39	2.017.999,81	2.092.794,24	2.167.588,67	2.242.383,09
12	3.882.684,66	2.226.337,20	3.436.506,01	1.860.388,01	1.576.117,99	4.586.590,67	2.391.971,95	2.474.789,32	2.557.606,69	2.640.424,06	2.723.241,44	2.806.058,81	2.888.876,18	2.971.693,56	3.054.510,93
13	4.321.217,99	3.097.804,31	4.101.951,32	2.662.070,75	1.439.880,57	6.026.471,24	3.220.145,67	3.281.316,36	3.342.487,04	3.403.657,73	3.464.828,41	3.525.999,09	3.587.169,78	3.648.340,46	3.709.511,15
14	2.606.656,88	3.967.985,36	3.463.937,43	3.532.894,83	-68.957,40	5.957.513,84	3.831.852,52	3.763.786,09	3.695.719,67	3.627.653,24	3.559.586,82	3.491.520,39	3.423.453,97	3.355.387,55	3.287.321,12
15	2.930.646,62	3.175.692,90	2.768.651,75	3.571.839,13	-803.187,38	5.154.326,45	3.151.188,27	3.138.935,96	3.126.683,65	3.114.431,33	3.102.179,02	3.089.926,70	3.077.674,39	3.065.422,08	3.053.169,76
16	2.602.678,64	3.075.996,97	2.766.662,63	3.125.844,93	-359.182,31	4.795.144,15	3.028.665,13	3.004.999,22	2.981.333,30	2.957.667,38	2.934.001,47	2.910.335,55	2.886.669,63	2.863.003,72	2.839.337,80
17	2.571.902,47	2.816.461,91	2.587.290,55	2.946.229,44	-358.938,89	4.436.205,26	2.792.005,97	2.779.778,00	2.767.550,02	2.755.322,05	2.743.094,08	2.730.866,11	2.718.638,14	2.706.410,16	2.694.182,19
18	2.482.345,45	2.690.546,33	2.527.123,96	2.753.504,12	-226.380,17	4.209.825,09	2.669.726,25	2.659.316,20	2.648.906,16	2.638.496,11	2.628.086,07	2.617.676,02	2.607.265,98	2.596.855,93	2.586.445,89
19	1.599.258,13	2.672.999,99	2.040.801,79	2.681.773,16	-640.971,37	3.568.853,72	2.565.625,80	2.511.938,71	2.458.251,62	2.404.564,52	2.350.877,43	2.297.190,34	2.243.503,25	2.189.816,15	2.136.129,06
20	2.196.088,12	2.010.162,29	1.897.673,13	2.341.581,14	-443.908,01	3.124.945,71	2.028.754,87	2.038.051,17	2.047.347,46	2.056.643,75	2.065.940,04	2.075.236,33	2.084.532,62	2.093.828,92	2.103.125,21
21	1.250.980,94	2.218.466,33	1.723.534,53	2.114.314,31	-390.779,78	2.734.165,93	2.121.717,79	2.073.343,52	2.024.969,25	1.976.594,98	1.928.220,71	1.879.846,44	1.831.472,17	1.783.097,90	1.734.723,64
22	1.102.929,77	1.697.424,58	1.176.955,35	1.957.945,45	-780.990,10	1.953.175,83	1.637.975,10	1.608.250,36	1.578.525,62	1.548.800,87	1.519.076,13	1.489.351,39	1.459.626,65	1.429.901,91	1.400.177,17
23	1.162.616,69	1.360.517,80	1.132.773,23	1.528.971,19	-396.197,96	1.556.977,87	1.340.727,69	1.330.832,64	1.320.937,58	1.311.042,53	1.301.147,47	1.291.252,41	1.281.357,36	1.271.462,30	1.261.567,25
24	1.296.839,64	1.235.659,08	1.229.728,17	1.298.088,44	-68.360,27	1.488.617,60	1.241.777,14	1.244.836,16	1.247.895,19	1.250.954,22	1.254.013,25	1.257.072,28	1.260.131,31	1.263.190,33	1.266.249,36

0,10 K = 6.026.471,24 - 13.423,13 = 1,81 Horas
3.831.852,52 - 512.763,48

0,15 K = 6.026.471,24 - 13.423,13 = 1,85 Horas
3.763.786,09 - 514.105,79

0,20 K = 6.026.471,24 - 13.423,13 = 1,89 Horas
3.695.719,67 - 515.448,10

0,25 K = 6.026.471,24 - 13.423,13 = 1,93 Horas
3.627.653,24 - 516.790,42

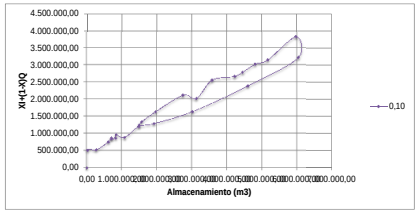
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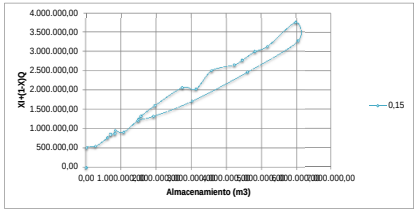
0,35 K = 6.026.471,24 - 13.423,13 = 2,00 Horas
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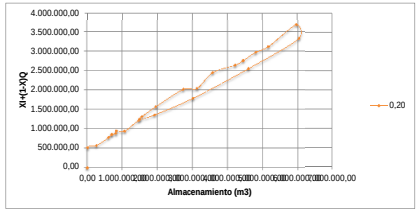
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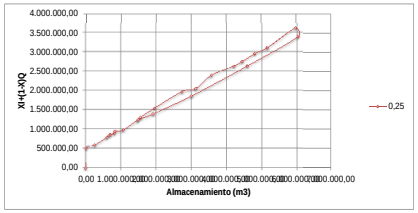
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3.648.340,46 - 522.159,67

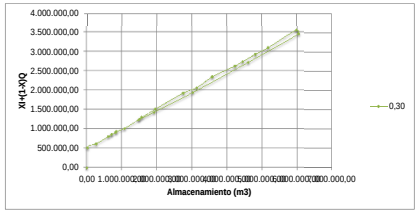
0,50 K = 6.026.471,24 - 13.423,13 = 1,89 Horas
3.709.511,15 - 523.501,98

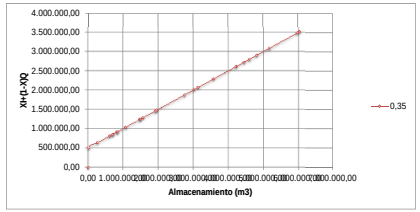

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Almacenamiento (m3)
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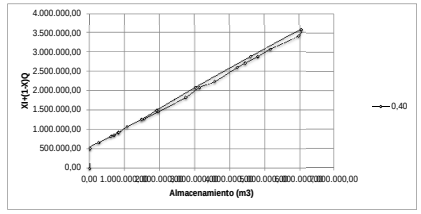

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Almacenamiento (m3)
0,15

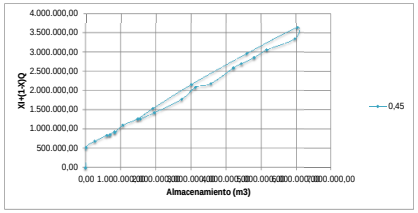

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Almacenamiento (m3)
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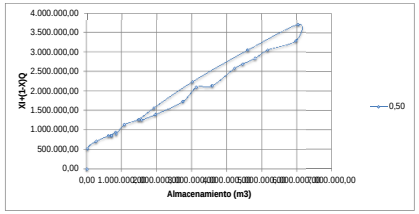

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	449.866,59	743.321,53	479.972,72	263.348,81	276.771,93	499.851,72	524.844,29	549.836,86	574.829,43	599.822,00	624.814,56	649.807,13	674.799,70	699.792,27
3	962.154,86	682.896,01	955.936,40	566.381,30	389.555,10	666.327,04	710.821,89	724.784,83	738.747,78	752.710,72	766.673,66	780.636,60	794.599,55	808.562,49	822.525,43
4	828.656,21	837.870,52	895.405,53	760.383,26	135.022,27	801.349,30	836.949,09	836.488,37	836.027,66	835.566,94	835.106,23	834.645,51	834.184,80	833.724,08	833.263,36
5	888.435,40	822.985,11	858.545,80	830.427,81	28.117,99	829.467,29	829.530,13	832.802,65	836.075,16	839.347,68	842.620,19	845.892,71	849.165,22	852.437,74	855.710,25
6	1.050.897,01	825.115,55	969.666,20	824.050,33	145.615,88	975.083,17	847.693,69	858.982,77	870.271,84	881.560,91	892.849,98	904.139,06	915.428,13	926.717,20	938.006,28
7	816.880,77	972.662,63	933.888,89	898.889,09	34.999,80	1.010.082,97	957.084,44	949.295,35	941.506,26	933.717,17	925.928,07	918.138,98	910.349,89	902.560,79	894.771,70
8	1.464.595,11	785.050,99	1.140.737,94	878.856,81	261.881,13	1.271.964,11	853.005,40	886.982,61	920.959,81	954.937,02	988.914,23	1.022.891,43	1.056.868,64	1.090.845,85	1.124.823,05
9	1.363.224,74	1.122.725,35	1.413.909,93	953.888,17	460.021,76	1.731.985,86	1.146.775,29	1.158.800,26	1.170.825,23	1.182.850,20	1.194.875,17	1.206.900,14	1.218.925,10	1.230.950,07	1.242.975,04
10	1.924.173,70	1.136.910,54	1.643.699,22	1.129.817,94	513.881,28	2.245.867,14	1.215.636,85	1.255.000,01	1.294.363,17	1.333.726,33	1.373.089,49	1.412.452,65	1.451.815,80	1.491.178,96	1.530.542,12
11	2.990.327,36	1.319.242,56	2.457.250,53	1.228.076,55	1.229.173,98	3.475.041,12	1.486.351,04	1.569.905,28	1.653.459,52	1.737.013,76	1.820.568,00	1.904.122,24	1.987.676,48	2.071.230,72	2.154.784,96
12	3.882.684,66	1.948.160,59	3.436.506,01	1.633.701,57	1.802.804,43	5.277.845,55	2.141.612,99	2.238.339,20	2.335.065,40	2.431.791,60	2.528.517,81	2.625.244,01	2.721.970,22	2.818.696,42	2.915.422,62
13	4.321.217,99	2.781.136,62	4.101.951,32	2.364.648,60	1.737.302,72	7.015.148,27	2.935.144,76	3.012.148,83	3.089.152,89	3.166.156,96	3.243.161,03	3.320.165,10	3.397.169,17	3.474.173,24	3.551.177,30
14	2.606.656,88	3.808.450,40	3.463.937,43	3.294.793,51	169.143,92	7.184.292,20	3.688.271,05	3.628.181,37	3.568.091,70	3.508.002,02	3.447.912,34	3.387.822,67	3.327.732,99	3.267.643,32	3.207.553,64
15	2.930.646,62	3.185.725,85	2.768.651,75	3.497.088,12	-728.436,37	6.455.855,82	3.160.217,93	3.147.463,96	3.134.710,00	3.121.956,04	3.109.202,08	3.096.448,12	3.083.694,16	3.070.940,20	3.058.186,24
16	2.602.678,64	3.123.565,27	2.766.662,63	3.154.645,56	-387.982,93	6.067.872,89	3.071.476,61	3.045.432,27	3.019.387,94	2.993.343,61	2.967.299,28	2.941.254,95	2.915.210,62	2.889.166,28	2.863.121,95
17	2.571.902,47	2.883.873,24	2.587.290,55	3.003.719,25	-416.428,70	5.651.444,19	2.852.676,16	2.837.077,62	2.821.479,08	2.805.880,54	2.790.282,01	2.774.683,47	2.759.084,93	2.743.486,39	2.727.887,85
18	2.482.345,45	2.752.867,64	2.527.123,96	2.818.370,44	-291.246,48	5.360.197,71	2.725.815,42	2.712.289,31	2.698.763,20	2.685.237,09	2.671.710,98	2.658.184,87	2.644.658,76	2.631.132,65	2.617.606,54
19	1.599.258,13	2.781.402,02	2.040.801,79	2.767.134,83	-726.333,04	4.633.864,67	2.663.187,63	2.604.080,43	2.544.973,24	2.485.866,05	2.426.758,85	2.367.651,66	2.308.544,46	2.249.437,27	2.190.330,07
20	2.196.088,12	2.119.776,07	1.897.673,13	2.450.589,05	-552.915,92	4.080.948,75	2.127.407,28	2.131.222,88	2.135.038,48	2.138.854,09	2.142.669,69	2.146.485,29	2.150.300,89	2.154.116,50	2.157.932,10
21	1.250.980,94	2.322.471,25	1.723.534,53	2.221.123,66	-497.589,13	3.583.359,62	2.215.322,22	2.161.747,70	2.108.173,18	2.054.598,67	2.001.024,15	1.947.449,64	1.893.875,12	1.840.300,61	1.786.726,09
22	1.102.929,77	1.844.367,19	1.176.955,35	2.083.419,22	-906.463,86	2.676.895,76	1.770.223,45	1.733.151,58	1.696.079,71	1.659.007,84	1.621.935,96	1.584.864,09	1.547.792,22	1.510.720,35	1.473.648,48
23	1.162.616,69	1.484.922,48	1.132.773,23	1.664.644,83	-531.871,60	2.145.024,16	1.452.691,90	1.436.576,61	1.420.461,32	1.404.346,03	1.388.230,74	1.372.115,45	1.356.000,16	1.339.884,87	1.323.769,58
24	1.296.839,64	1.309.562,76	1.229.728,17	1.397.242,62	-167.514,45	1.977.509,70	1.308.290,45	1.307.654,29	1.307.018,14	1.306.381,98	1.305.745,83	1.305.109,67	1.304.473,52	1.303.837,36	1.303.201,20

0,10 K = 7.184.292,20 - 13.423,13 = 2,25 Horas
3.688.271,05 - 499.851,72

0,15 K = 7.184.292,20 - 13.423,13 = 2,30 Horas
3.628.181,37 - 514.105,79

0,20 K = 7.184.292,20 - 13.423,13 = 2,35 Horas
3.568.091,70 - 515.448,10

0,25 K = 7.184.292,20 - 13.423,13 = 2,40 Horas
3.508.002,02 - 516.790,42

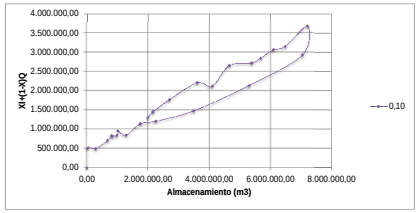
0,30 K = 7.184.292,20 - 13.423,13 = 2,45 Horas
3.447.912,34 - 518.132,73

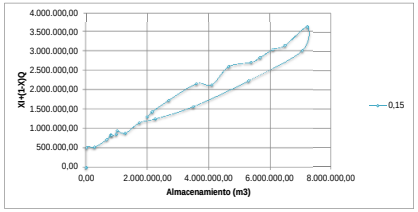
0,35 K = 7.184.292,20 - 13.423,13 = 2,50 Horas
3.387.822,67 - 519.475,04

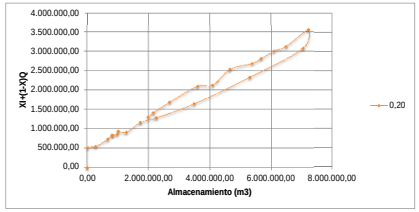
0,40 K = 7.184.292,20 - 13.423,13 = 2,49 Horas
3.397.169,17 - 520.817,35

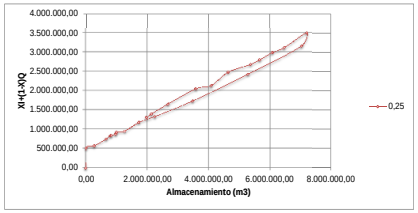
0,45 K = 7.184.292,20 - 13.423,13 = 2,43 Horas
3.474.173,24 - 522.159,67

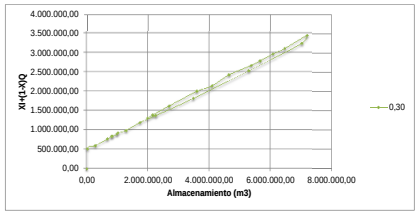
0,50 K = 7.184.292,20 - 13.423,13 = 2,37 Horas
3.551.177,30 - 523.501,98

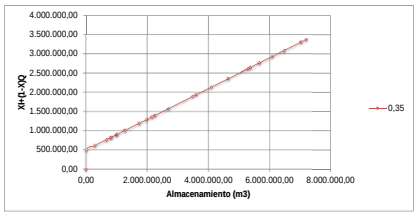

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Almacenamiento (m3)
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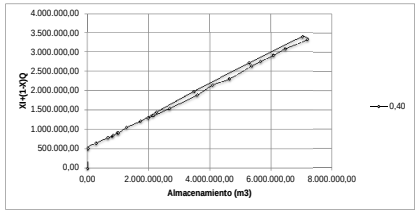

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Almacenamiento (m3)
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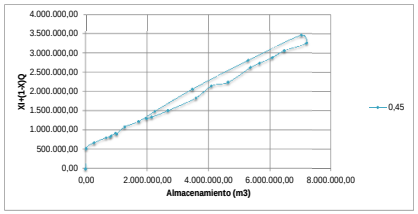

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Almacenamiento (m3)
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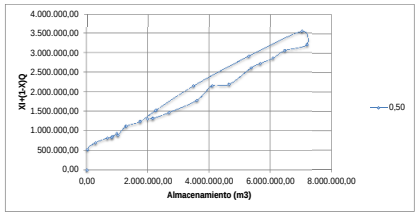

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	428.368,73	743.321,53	469.223,79	274.097,74	287.520,86	480.503,65	506.571,11	532.638,57	558.706,03	584.773,49	610.840,95	636.908,41	662.975,87	689.043,34
3	962.154,86	638.372,37	955.936,40	533.370,55	422.565,85	710.086,72	670.750,61	686.939,74	703.128,86	719.317,99	735.507,11	751.696,24	767.885,36	784.074,49	800.263,61
4	828.656,21	800.497,57	895.405,53	719.434,97	175.970,57	886.057,28	803.313,43	804.721,36	806.129,30	807.537,23	808.945,16	810.353,09	811.761,02	813.168,96	814.576,89
5	888.435,40	798.571,07	858.545,80	799.534,32	59.011,48	945.068,76	807.557,51	812.050,72	816.543,94	821.037,15	825.530,37	830.023,59	834.516,80	839.010,02	843.503,23
6	1.050.897,01	798.779,41	969.666,20	798.675,24	170.990,96	1.116.059,72	823.991,17	836.597,05	849.202,93	861.808,81	874.414,69	887.020,57	899.626,45	912.232,33	924.838,21
7	816.880,77	954.218,81	933.888,89	876.499,11	57.389,78	1.173.449,50	940.485,01	933.618,11	926.751,20	919.884,30	913.017,40	906.150,50	899.283,60	892.416,69	885.549,79
8	1.464.595,11	752.757,21	1.140.737,94	853.488,01	287.249,93	1.460.699,43	823.941,00	859.532,90	895.124,79	930.716,69	966.308,58	1.001.900,48	1.037.492,37	1.073.084,27	1.108.676,16
9	1.363.224,74	1.066.059,91	1.413.909,93	909.408,56	504.501,37	1.965.200,80	1.095.776,39	1.110.634,63	1.125.492,87	1.140.351,12	1.155.209,36	1.170.067,60	1.184.925,84	1.199.784,08	1.214.642,32
10	1.924.173,70	1.061.424,36	1.643.699,22	1.063.742,13	579.957,09	2.545.157,89	1.147.699,29	1.190.836,76	1.233.974,23	1.277.111,69	1.320.249,16	1.363.386,63	1.406.524,09	1.449.661,56	1.492.799,03
11	2.990.327,36	1.174.226,33	2.457.250,53	1.117.825,34	1.339.425,19	3.884.583,07	1.355.836,43	1.446.641,48	1.537.446,54	1.628.251,59	1.719.056,64	1.809.861,69	1.900.666,74	1.991.471,79	2.082.276,84
12	3.882.684,66	1.715.166,95	3.436.506,01	1.444.696,64	1.991.809,37	5.876.392,44	1.931.918,72	2.040.294,60	2.148.670,49	2.257.046,37	2.365.422,26	2.473.798,15	2.582.174,03	2.690.549,92	2.798.925,80
13	4.321.217,99	2.501.421,80	4.101.951,32	2.108.294,37	1.993.656,95	7.870.049,39	2.683.401,41	2.774.391,22	2.865.381,03	2.956.370,84	3.047.360,65	3.138.350,46	3.229.340,27	3.320.330,08	3.411.319,89
14	2.606.656,88	3.629.097,22	3.463.937,43	3.065.259,51	398.677,92	8.268.727,32	3.526.853,19	3.475.731,17	3.424.609,16	3.373.487,14	3.322.365,12	3.271.243,10	3.220.121,09	3.168.999,07	3.117.877,05
15	2.930.646,62	3.139.042,24	2.768.651,75	3.384.069,73	-615.417,98	7.653.309,34	3.118.202,68	3.107.782,90	3.097.363,12	3.086.943,34	3.076.523,56	3.066.103,78	3.055.684,00	3.045.264,21	3.034.844,43
16	2.602.678,64	3.127.608,27	2.766.662,63	3.133.325,26	-366.662,63	7.286.646,71	3.075.115,31	3.048.868,83	3.022.622,35	2.996.375,86	2.970.129,38	2.943.882,90	2.917.636,42	2.891.389,94	2.865.143,45
17	2.571.902,47	2.920.260,21	2.587.290,55	3.023.934,24	-436.643,69	6.850.003,01	2.885.424,44	2.868.006,55	2.850.588,67	2.833.170,78	2.815.752,89	2.798.335,00	2.780.917,12	2.763.499,23	2.746.081,34
18	2.482.345,45	2.798.178,02	2.527.123,96	2.859.219,12	-332.095,16	6.517.907,86	2.766.594,76	2.750.803,13	2.735.011,50	2.719.219,87	2.703.428,25	2.687.636,62	2.671.844,99	2.656.053,36	2.640.261,73
19	1.599.258,13	2.867.510,85	2.040.801,79	2.832.844,44	-792.042,65	5.725.865,21	2.740.685,58	2.677.272,95	2.613.860,31	2.550.447,67	2.487.035,04	2.423.622,40	2.360.209,77	2.296.797,13	2.233.384,49
20	2.196.088,12	2.215.874,44	1.897.673,13	2.541.692,65	-644.019,52	5.081.845,69	2.213.895,81	2.212.906,49	2.211.917,18	2.210.927,86	2.209.938,54	2.208.949,23	2.207.959,91	2.206.970,60	2.205.981,28
21	1.250.980,94	2.419.965,31	1.723.534,53	2.317.919,87	-594.385,34	4.487.460,35	2.303.066,87	2.244.617,65	2.186.168,44	2.127.719,22	2.069.270,00	2.010.820,78	1.952.371,56	1.893.922,34	1.835.473,13
22	1.102.929,77	1.976.064,81	1.176.955,35	2.198.015,06	-1.021.059,71	3.466.400,64	1.888.751,31	1.845.094,55	1.801.437,80	1.757.781,05	1.714.124,30	1.670.467,55	1.626.810,79	1.583.154,04	1.539.497,29
23	1.162.616,69	1.606.284,06	1.132.773,23	1.791.174,43	-658.401,20	2.807.999,44	1.561.917,32	1.539.733,95	1.517.550,58	1.495.367,21	1.473.183,85	1.451.000,48	1.428.817,11	1.406.633,74	1.384.450,37
24	1.296.839,64	1.395.063,65	1.229.728,17	1.500.673,85	-270.945,69	2.537.053,75	1.385.241,25	1.380.330,05	1.375.418,85	1.370.507,65	1.365.596,45	1.360.685,25	1.355.774,05	1.350.862,85	1.345.951,65

0,10 K = 8.268.727,32 - 13.423,13 = 2,71 Horas
3.526.853,19 - 480.503,65

0,15 K = 8.268.727,32 - 13.423,13 = 2,78 Horas
3.475.731,17 - 506.571,11

0,20 K = 8.268.727,32 - 13.423,13 = 2,84 Horas
3.424.609,16 - 515.448,10

0,25 K = 8.268.727,32 - 13.423,13 = 2,89 Horas
3.373.487,14 - 516.790,42

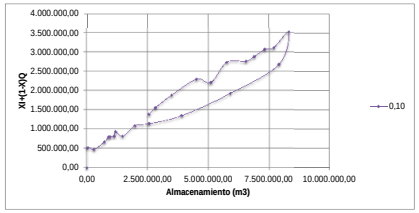
0,30 K = 8.268.727,32 - 13.423,13 = 2,94 Horas
3.322.365,12 - 518.132,73

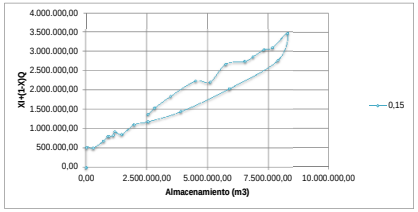
0,35 K = 8.268.727,32 - 13.423,13 = 3,00 Horas
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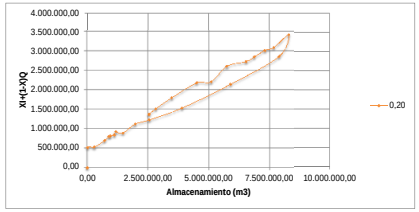
0,40 K = 8.268.727,32 - 13.423,13 = 3,05 Horas
3.229.340,27 - 520.817,35

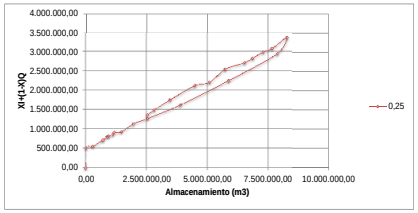
0,45 K = 8.268.727,32 - 13.423,13 = 2,95 Horas
3.320.330,08 - 522.159,67

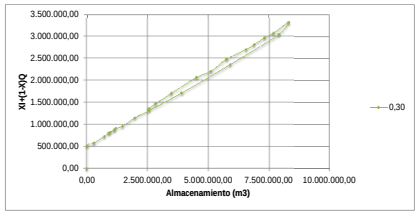
0,50 K = 8.268.727,32 - 13.423,13 = 2,86 Horas
3.411.319,89 - 523.501,98

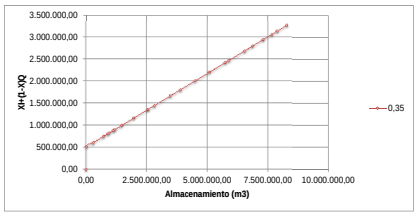

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Almacenamiento (m3)
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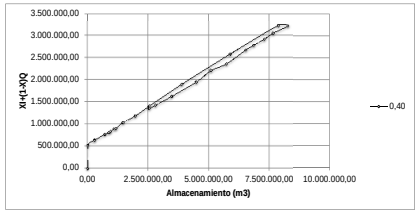

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Almacenamiento (m3)
0,15

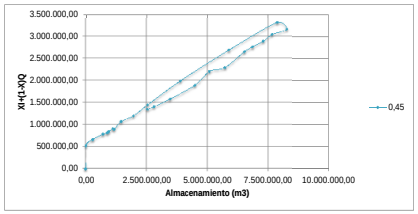

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Almacenamiento (m3)
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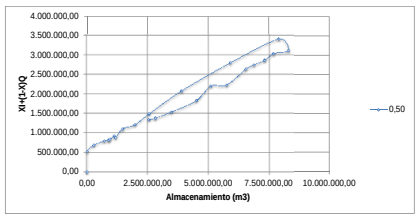

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	698.433,98	743.321,53	604.256,42	139.065,11	152.488,24	723.562,38	736.126,58	748.690,78	761.254,97	773.819,17	786.383,37	798.947,57	811.511,77	824.075,96
3	962.154,86	1.017.202,78	955.936,40	857.818,38	98.118,02	250.606,26	1.011.697,98	1.008.945,59	1.006.193,19	1.003.440,80	1.000.688,40	997.936,00	995.183,61	992.431,21	989.678,82
4	828.656,21	898.330,88	895.405,53	957.766,83	-62.361,30	188.244,96	891.363,42	887.879,68	884.395,95	880.912,21	877.428,48	873.944,75	870.461,01	866.977,28	863.493,55
5	888.435,40	833.654,73	858.545,80	865.992,81	-7.447,01	180.797,95	839.132,80	841.871,83	844.610,87	847.349,90	850.088,93	852.827,97	855.567,00	858.306,03	861.045,07
6	1.050.897,01	963.053,67	969.666,20	898.354,20	71.312,00	252.109,95	971.838,00	976.230,17	980.622,34	985.014,50	989.406,67	993.798,84	998.191,00	1.002.583,17	1.006.975,34
7	816.880,77	985.101,76	933.888,89	974.077,71	-40.188,82	211.921,13	968.279,66	959.868,61	951.457,56	943.046,51	934.635,46	926.224,41	917.813,36	909.402,31	900.991,27
8	1.464.595,11	1.017.718,41	1.140.737,94	1.001.410,08	139.327,86	351.249,00	1.062.406,08	1.084.749,91	1.107.093,75	1.129.437,58	1.151.781,42	1.174.125,25	1.196.469,09	1.218.812,92	1.241.156,76
9	1.363.224,74	1.538.300,40	1.413.909,93	1.278.009,40	135.900,52	487.149,52	1.520.792,83	1.512.039,05	1.503.285,27	1.494.531,48	1.485.777,70	1.477.023,92	1.468.270,13	1.459.516,35	1.450.762,57
10	1.924.173,70	1.529.811,68	1.643.699,22	1.534.056,04	109.643,18	596.792,70	1.569.247,88	1.588.965,99	1.608.684,09	1.628.402,19	1.648.120,29	1.667.838,39	1.687.556,49	1.707.274,59	1.726.992,69
11	2.990.327,36	2.422.571,83	2.457.250,53	1.976.191,76	481.058,77	1.077.851,47	2.479.347,38	2.507.735,16	2.536.122,93	2.564.510,71	2.592.898,49	2.621.286,26	2.649.674,04	2.678.061,82	2.706.449,59
12	3.882.684,66	3.466.900,23	3.436.506,01	2.944.736,03	491.769,98	1.569.621,45	3.508.478,67	3.529.267,89	3.550.057,11	3.570.846,33	3.591.635,56	3.612.424,78	3.633.214,00	3.654.003,22	3.674.792,44
13	4.321.217,99	4.151.080,76	4.101.951,32	3.808.990,50	292.960,83	1.862.582,28	4.168.094,49	4.176.601,35	4.185.108,21	4.193.615,07	4.202.121,93	4.210.628,79	4.219.135,65	4.227.642,51	4.236.149,38
14	2.606.656,88	3.720.791,88	3.463.937,43	3.935.936,32	-471.998,89	1.390.583,39	3.609.378,38	3.553.671,63	3.497.964,88	3.442.258,13	3.386.551,38	3.330.844,63	3.275.137,88	3.219.431,13	3.163.724,38
15	2.930.646,62	2.449.619,28	2.768.651,75	3.085.205,58	-316.553,83	1.074.029,56	2.497.722,02	2.521.773,38	2.545.824,75	2.569.876,12	2.593.927,49	2.617.978,85	2.642.030,22	2.666.081,59	2.690.132,95
16	2.602.678,64	2.927.915,46	2.766.662,63	2.688.767,37	77.895,26	1.151.924,82	2.895.391,78	2.879.129,94	2.862.868,10	2.846.606,26	2.830.344,41	2.814.082,57	2.797.820,73	2.781.558,89	2.765.297,05
17	2.571.902,47	2.509.828,37	2.587.290,55	2.718.871,91	-131.581,36	1.020.343,45	2.516.035,78	2.519.139,48	2.522.243,19	2.525.346,89	2.528.450,60	2.531.554,30	2.534.658,01	2.537.761,71	2.540.865,42
18	2.482.345,45	2.553.837,11	2.527.123,96	2.531.832,74	-4.708,78	1.015.634,67	2.546.687,94	2.543.113,36	2.539.538,78	2.535.964,19	2.532.389,61	2.528.815,03	2.525.240,44	2.521.665,86	2.518.091,28
19	1.599.258,13	2.133.314,79	2.040.801,79	2.343.575,95	-302.774,16	712.860,51	2.079.909,12	2.053.206,29	2.026.503,46	1.999.800,62	1.973.097,79	1.946.394,96	1.919.692,13	1.892.989,29	1.866.286,46
20	2.196.088,12	1.689.555,21	1.897.673,13	1.911.435,00	-13.761,87	699.098,64	1.740.208,51	1.765.535,15	1.790.861,80	1.816.188,44	1.841.515,09	1.866.841,73	1.892.168,38	1.917.495,02	1.942.821,67
21	1.250.980,94	1.968.306,16	1.723.534,53	1.828.930,69	-105.396,15	593.702,49	1.896.573,64	1.860.707,37	1.824.841,11	1.788.974,85	1.753.108,59	1.717.242,33	1.681.376,07	1.645.509,81	1.609.643,55
22	1.102.929,77	1.016.130,45	1.176.955,35	1.492.218,30	-315.262,95	278.439,54	1.024.810,38	1.029.150,35	1.033.490,31	1.037.830,28	1.042.170,24	1.046.510,21	1.050.850,18	1.055.190,14	1.059.530,11
23	1.162.616,69	1.147.012,19	1.132.773,23	1.081.571,32	51.201,91	329.641,45	1.148.572,64	1.149.352,87	1.150.133,09	1.150.913,32	1.151.693,54	1.152.473,77	1.153.253,99	1.154.034,22	1.154.814,44
24	1.296.839,64	1.216.851,42	1.229.728,17	1.181.931,81	47.796,36	377.437,81	1.224.850,25	1.228.849,66	1.232.849,07	1.236.848,48	1.240.847,89	1.244.847,30	1.248.846,71	1.252.846,12	1.256.845,53

0,10 K = 1.862.582,28 - 13.423,13 = 0,51 Horas
4.168.094,49 - 512.763,48

0,15 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.176.601,35 - 514.105,79

0,20 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.185.108,21 - 515.448,10

0,25 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.193.615,07 - 516.790,42

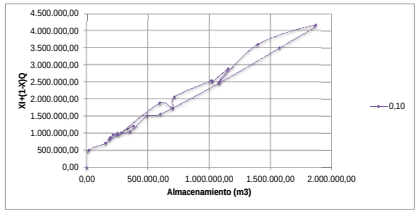
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4.202.121,93 - 518.132,73

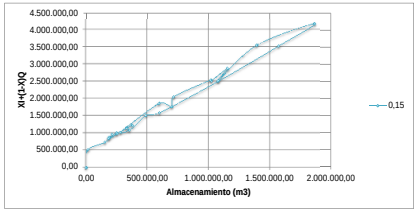
0,35 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.210.628,79 - 519.475,04

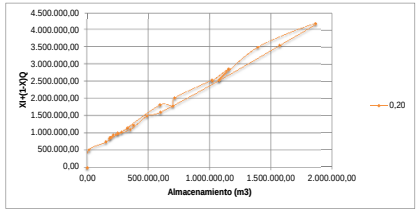
0,40 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.219.135,65 - 520.817,35

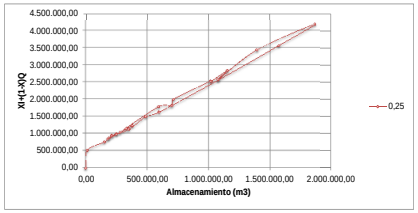
0,45 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.227.642,51 - 522.159,67

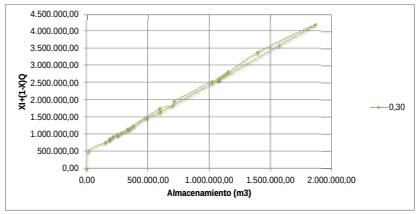
0,50 K = 1.862.582,28 - 13.423,13 = 0,50 Horas
4.236.149,38 - 523.501,98

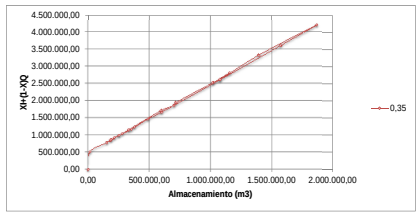

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Almacenamiento (m3)
Qdx-t1+x
0,10

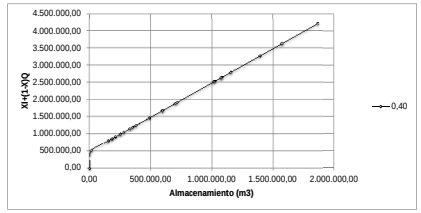

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Qdx-t2+x
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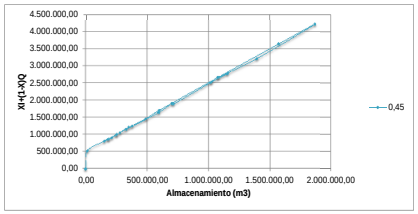

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Almacenamiento (m3)
Qdx-t3+x
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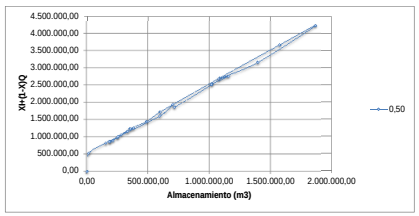

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Almacenamiento (m3)
Qdx-t4+x
0,25


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Almacenamiento (m3)
Qdx-t5+x
0,30


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Almacenamiento (m3)
Qdx-t6+x
0,35


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Almacenamiento (m3)
Qdx-t7+x
0,40


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Almacenamiento (m3)
Qdx-t8+x
0,45


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Almacenamiento (m3)
Qdx-t9+x
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	572.011,16	743.321,53	541.045,01	202.276,52	215.699,65	609.781,84	628.667,18	647.552,52	666.437,86	685.323,19	704.208,53	723.093,87	741.979,21	760.864,55
3	962.154,86	916.511,59	955.936,40	744.261,38	211.675,02	427.374,67	921.075,92	923.358,08	925.640,24	927.922,41	930.204,57	932.486,73	934.768,90	937.051,06	939.333,22
4	828.656,21	945.869,23	895.405,53	931.190,41	-35.784,88	391.589,79	934.147,93	928.287,28	922.426,62	916.565,97	910.705,32	904.844,67	898.984,02	893.123,37	887.262,72
5	888.435,40	844.746,41	858.545,80	895.307,82	-36.762,02	354.827,78	849.115,31	851.299,76	853.484,21	855.668,66	857.853,10	860.037,55	862.222,00	864.406,45	866.590,90
6	1.050.897,01	899.232,91	969.666,20	871.989,66	97.676,54	452.504,32	914.399,32	921.982,52	929.565,73	937.148,93	944.732,14	952.315,34	959.898,55	967.481,75	975.064,96
7	816.880,77	1.015.835,16	933.888,89	957.534,03	-23.645,14	428.859,18	995.939,72	985.992,00	976.044,28	966.096,56	956.148,84	946.201,13	936.253,41	926.305,69	916.357,97
8	1.464.595,11	893.850,66	1.140.737,94	954.842,91	185.895,03	614.754,21	950.925,10	979.462,33	1.007.999,55	1.036.536,77	1.065.073,99	1.093.611,22	1.122.148,44	1.150.685,66	1.179.222,89
9	1.363.224,74	1.403.493,77	1.413.909,93	1.148.672,21	265.237,71	879.991,93	1.399.466,86	1.397.453,41	1.395.439,96	1.393.426,51	1.391.413,06	1.389.399,61	1.387.386,15	1.385.372,70	1.383.359,25
10	1.924.173,70	1.417.880,92	1.643.699,22	1.410.687,34	233.011,88	1.113.003,81	1.468.510,20	1.493.824,84	1.519.139,47	1.544.454,11	1.569.768,75	1.595.083,39	1.620.398,03	1.645.712,67	1.671.027,31
11	2.990.327,36	1.975.070,14	2.457.250,53	1.696.475,53	760.775,00	1.873.778,80	2.076.595,87	2.127.358,73	2.178.121,59	2.228.884,45	2.279.647,31	2.330.410,17	2.381.173,03	2.431.935,89	2.482.698,75
12	3.882.684,66	2.979.154,64	3.436.506,01	2.477.112,39	959.393,62	2.833.172,42	3.069.507,64	3.114.684,14	3.159.860,64	3.205.037,14	3.250.213,64	3.295.390,14	3.340.566,65	3.385.743,15	3.430.919,65
13	4.321.217,99	3.840.412,23	4.101.951,32	3.409.783,43	692.167,89	3.525.340,31	3.888.492,81	3.912.533,09	3.936.573,38	3.960.613,67	3.984.653,96	4.008.694,25	4.032.734,53	4.056.774,82	4.080.815,11
14	2.606.656,88	4.121.639,18	3.463.937,43	3.981.025,71	-517.088,27	3.008.252,04	3.970.140,95	3.894.391,84	3.818.642,72	3.742.893,61	3.667.144,49	3.591.395,38	3.515.646,26	3.439.897,15	3.364.148,03
15	2.930.646,62	2.773.836,16	2.768.651,75	3.447.737,67	-679.085,92	2.329.166,12	2.789.517,20	2.797.357,73	2.805.198,25	2.813.038,77	2.820.879,30	2.828.719,82	2.836.560,34	2.844.400,87	2.852.241,39
16	2.602.678,64	2.886.575,85	2.766.662,63	2.830.206,01	-63.543,38	2.265.622,74	2.858.186,13	2.843.991,27	2.829.796,41	2.815.601,55	2.801.406,69	2.787.211,83	2.773.016,97	2.758.822,11	2.744.627,25
17	2.571.902,47	2.625.689,64	2.587.290,55	2.756.132,75	-168.842,20	2.096.780,55	2.620.310,92	2.617.621,57	2.614.932,21	2.612.242,85	2.609.553,49	2.606.864,13	2.604.174,77	2.601.485,41	2.598.796,05
18	2.482.345,45	2.568.650,66	2.527.123,96	2.597.170,15	-70.046,20	2.026.734,35	2.560.020,14	2.555.704,88	2.551.389,62	2.547.074,36	2.542.759,10	2.538.443,84	2.534.128,58	2.529.813,32	2.525.498,05
19	1.599.258,13	2.409.910,71	2.040.801,79	2.489.280,69	-448.478,90	1.578.255,45	2.328.845,45	2.288.312,82	2.247.780,19	2.207.247,57	2.166.714,94	2.126.182,31	2.085.649,68	2.045.117,05	2.004.584,42
20	2.196.088,12	1.727.211,09	1.897.673,13	2.068.560,90	-170.887,77	1.407.367,68	1.774.098,80	1.797.542,65	1.820.986,50	1.844.430,35	1.867.874,20	1.891.318,05	1.914.761,90	1.938.205,76	1.961.649,61
21	1.250.980,94	2.067.544,10	1.723.534,53	1.897.377,60	-173.843,07	1.233.524,61	1.985.887,79	1.945.059,63	1.904.231,47	1.863.403,31	1.822.575,15	1.781.747,00	1.740.918,84	1.700.090,68	1.659.262,52
22	1.102.929,77	1.311.754,76	1.176.955,35	1.689.649,43	-512.694,08	720.830,54	1.290.872,26	1.280.431,01	1.269.989,76	1.259.548,51	1.249.107,26	1.238.666,01	1.228.224,76	1.217.783,51	1.207.342,26
23	1.162.616,69	1.127.339,94	1.132.773,23	1.219.547,35	-86.774,12	634.056,42	1.130.867,62	1.132.631,45	1.134.395,29	1.136.159,13	1.137.922,97	1.139.686,80	1.141.450,64	1.143.214,48	1.144.978,32
24	1.296.839,64	1.171.611,80	1.229.728,17	1.149.475,87	80.252,30	714.308,71	1.184.134,59	1.190.395,98	1.196.657,37	1.202.918,76	1.209.180,15	1.215.441,55	1.221.702,94	1.227.964,33	1.234.225,72

0,10 K = 3.525.340,31 - 13.423,13 = 1,02 Horas
3.970.140,95 - 512.763,48

0,15 K = 3.525.340,31 - 13.423,13 = 1,03 Horas
3.912.533,09 - 514.105,79

0,20 K = 3.525.340,31 - 13.423,13 = 1,03 Horas
3.936.573,38 - 515.448,10

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3.960.613,67 - 516.790,42

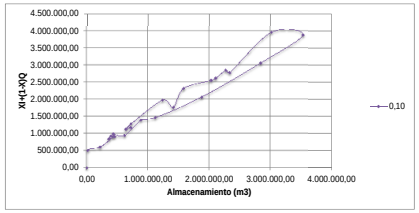
0,30 K = 3.525.340,31 - 13.423,13 = 1,01 Horas
3.984.653,96 - 518.132,73

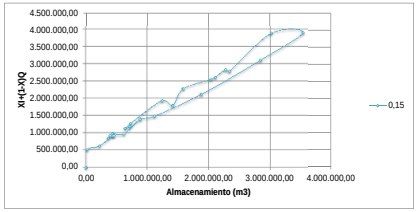
0,35 K = 3.525.340,31 - 13.423,13 = 1,01 Horas
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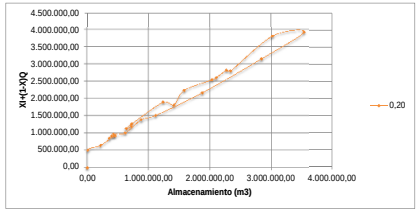
0,40 K = 3.525.340,31 - 13.423,13 = 1,00 Horas
4.032.734,53 - 520.817,35

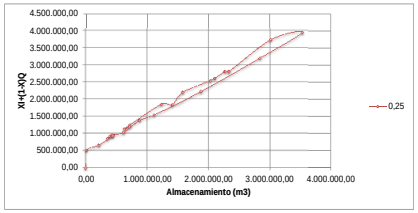
0,45 K = 3.525.340,31 - 13.423,13 = 0,99 Horas
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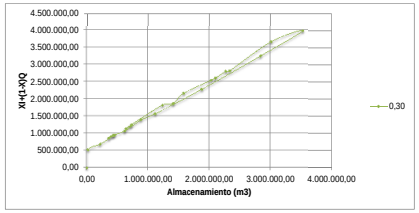
0,50 K = 3.525.340,31 - 13.423,13 = 0,99 Horas
4.080.815,11 - 523.501,98

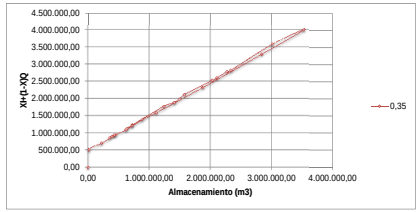

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Almacenamiento (m3)
DQX-1+X
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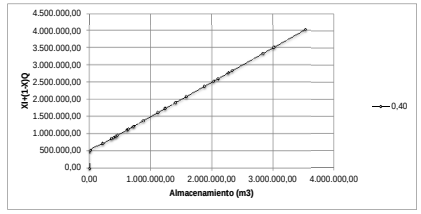

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Almacenamiento (m3)
DQX-1+X
0,15

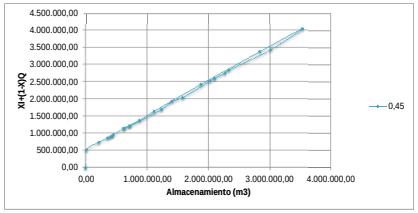

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Almacenamiento (m3)
DQX-1+X
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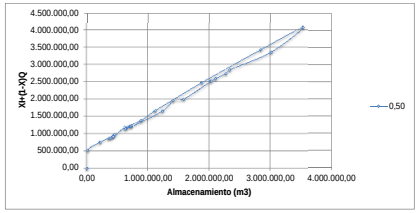

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Almacenamiento (m3)
DQX-1+X
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Almacenamiento (m3)
DQX-1+X
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Almacenamiento (m3)
DQX-1+X
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Almacenamiento (m3)
DQX-1+X
0,40


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Almacenamiento (m3)
DQX-1+X
0,45


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Almacenamiento (m3)
DQX-1+X
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	499.769,55	743.321,53	504.924,20	238.397,33	251.820,45	544.764,39	567.261,81	589.759,23	612.256,65	634.754,07	657.251,48	679.748,90	702.246,32	724.743,74
3	962.154,86	820.272,91	955.936,40	660.021,23	295.915,17	547.735,63	834.461,10	841.555,20	848.649,30	855.743,40	862.837,49	869.931,59	877.025,69	884.119,78	891.213,88
4	828.656,21	931.152,77	895.405,53	875.712,84	19.692,69	567.428,32	920.903,12	915.778,29	910.653,46	905.528,63	900.403,80	895.278,98	890.154,15	885.029,32	879.904,49
5	888.435,40	853.671,00	858.545,80	892.411,89	-33.866,09	533.562,23	857.147,44	858.885,66	860.623,88	862.362,10	864.100,32	865.838,54	867.576,76	869.314,98	871.053,20
6	1.050.897,01	866.898,31	969.666,20	860.284,65	109.381,55	642.943,78	885.298,18	894.498,12	903.698,05	912.897,99	922.097,92	931.297,86	940.497,79	949.697,72	958.897,66
7	816.880,77	1.015.041,40	933.888,89	940.969,85	-7.080,96	635.862,82	995.225,34	985.317,30	975.409,27	965.501,24	955.593,21	945.685,18	935.777,15	925.869,12	915.961,09
8	1.464.595,11	827.232,78	1.140.737,94	921.137,09	219.600,85	855.463,67	890.969,02	922.837,13	954.705,25	986.573,37	1.018.441,48	1.050.309,60	1.082.177,72	1.114.045,83	1.145.913,95
9	1.363.224,74	1.289.732,33	1.413.909,93	1.058.482,56	355.427,37	1.210.891,04	1.297.081,57	1.300.756,19	1.304.430,81	1.308.105,43	1.311.780,05	1.315.454,67	1.319.129,29	1.322.803,91	1.326.478,53
10	1.924.173,70	1.302.159,12	1.643.699,22	1.295.945,73	347.753,49	1.558.644,53	1.364.360,58	1.395.461,31	1.426.562,04	1.457.662,77	1.488.763,50	1.519.864,23	1.550.964,96	1.582.065,68	1.613.166,41
11	2.990.327,36	1.670.301,42	2.457.250,53	1.486.230,27	971.020,26	2.529.664,79	1.802.304,01	1.868.305,31	1.934.306,61	2.000.307,90	2.066.309,20	2.132.310,50	2.198.311,79	2.264.313,09	2.330.314,39
12	3.882.684,66	2.549.437,28	3.436.506,01	2.109.869,35	1.326.636,66	3.856.301,45	2.682.762,02	2.749.424,39	2.816.086,76	2.882.749,13	2.949.411,49	3.016.073,86	3.082.736,23	3.149.398,60	3.216.060,97
13	4.321.217,99	3.470.433,03	4.101.951,32	3.009.935,15	1.092.016,17	4.948.317,61	3.555.511,52	3.598.050,77	3.640.590,02	3.683.129,27	3.725.668,51	3.768.207,76	3.810.747,01	3.853.286,26	3.895.825,51
14	2.606.656,88	4.200.605,22	3.463.937,43	3.835.519,12	-371.581,69	4.576.735,92	4.041.210,39	3.961.512,97	3.881.815,55	3.802.118,14	3.722.420,72	3.642.723,30	3.563.025,89	3.483.328,47	3.403.631,05
15	2.930.646,62	3.038.928,57	2.768.651,75	3.619.766,89	-851.115,14	3.725.620,78	3.028.100,37	3.022.686,28	3.017.272,18	3.011.858,08	3.006.443,98	3.001.029,89	2.995.615,79	2.990.201,69	2.984.787,59
16	2.602.678,64	2.985.010,61	2.766.662,63	3.011.969,59	-245.306,96	3.480.313,82	2.946.777,41	2.927.660,81	2.908.544,21	2.889.427,61	2.870.311,01	2.851.194,42	2.832.077,82	2.812.961,22	2.793.844,62
17	2.571.902,47	2.714.114,64	2.587.290,55	2.849.562,62	-262.272,07	3.218.041,75	2.699.893,42	2.692.782,81	2.685.672,21	2.678.561,60	2.671.450,99	2.664.340,38	2.657.229,77	2.650.119,16	2.643.008,55
18	2.482.345,45	2.618.931,45	2.527.123,96	2.666.523,04	-139.399,09	3.078.642,67	2.605.272,85	2.598.443,55	2.591.614,25	2.584.784,95	2.577.955,65	2.571.126,35	2.564.297,05	2.557.467,75	2.550.638,45
19	1.599.258,13	2.584.447,68	2.040.801,79	2.601.689,56	-560.887,78	2.517.754,89	2.485.928,73	2.436.669,25	2.387.409,77	2.338.150,30	2.288.890,82	2.239.631,34	2.190.371,86	2.141.112,39	2.091.852,91
20	2.196.088,12	1.838.110,15	1.897.673,13	2.211.278,92	-313.605,79	2.204.149,10	1.873.907,94	1.891.806,84	1.909.705,74	1.927.604,64	1.945.503,54	1.963.402,44	1.981.301,34	1.999.200,24	2.017.099,13
21	1.250.980,94	2.161.316,36	1.723.534,53	1.999.713,25	-276.178,72	1.927.970,38	2.070.282,82	2.024.766,04	1.979.249,27	1.933.732,50	1.888.215,73	1.842.698,96	1.797.182,19	1.751.665,42	1.706.148,65
22	1.102.929,77	1.521.651,86	1.176.955,35	1.841.484,11	-664.528,75	1.263.441,63	1.479.779,65	1.458.843,54	1.437.907,44	1.416.971,34	1.396.035,23	1.375.099,13	1.354.163,02	1.333.226,92	1.312.290,81
23	1.162.616,69	1.218.301,30	1.132.773,23	1.369.976,58	-237.203,35	1.026.238,28	1.212.732,84	1.209.948,61	1.207.164,38	1.204.380,15	1.201.595,92	1.198.811,69	1.196.027,46	1.193.243,23	1.190.459,00
24	1.296.839,64	1.168.939,23	1.229.728,17	1.193.620,26	36.107,91	1.062.346,19	1.181.729,27	1.188.124,29	1.194.519,31	1.200.914,33	1.207.309,35	1.213.704,37	1.220.099,39	1.226.494,41	1.232.889,44

0,10 K = 4.948.317,61 - 13.423,13 = 1,40 Horas
4.041.210,39 - 512.763,48

0,15 K = 4.948.317,61 - 13.423,13 = 1,43 Horas
3.961.512,97 - 514.105,79

0,20 K = 4.948.317,61 - 13.423,13 = 1,47 Horas
3.881.815,55 - 515.448,10

0,25 K = 4.948.317,61 - 13.423,13 = 1,50 Horas
3.802.118,14 - 516.790,42

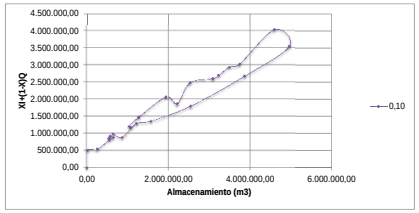
0,30 K = 4.948.317,61 - 13.423,13 = 1,54 Horas
3.725.668,51 - 518.132,73

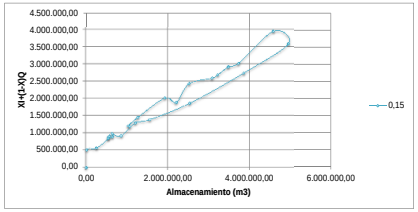
0,35 K = 4.948.317,61 - 13.423,13 = 1,52 Horas
3.768.207,76 - 519.475,04

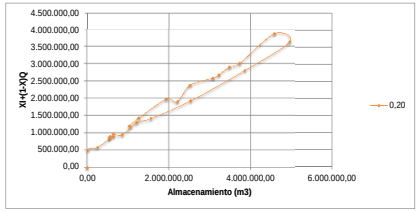
0,40 K = 4.948.317,61 - 13.423,13 = 1,50 Horas
3.810.747,01 - 520.817,35

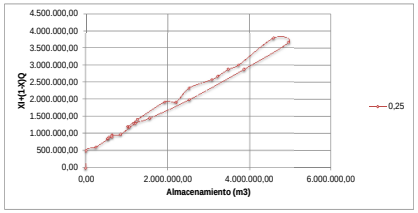
0,45 K = 4.948.317,61 - 13.423,13 = 1,48 Horas
3.853.286,26 - 522.159,67

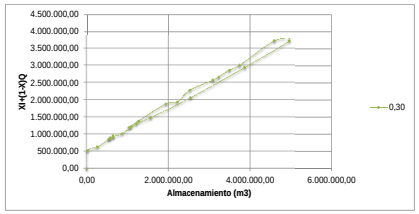
0,50 K = 4.948.317,61 - 13.423,13 = 1,46 Horas
3.895.825,51 - 523.501,98

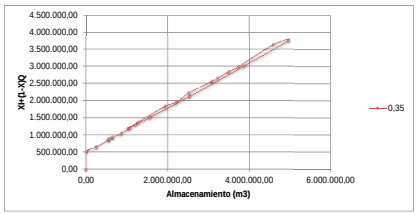

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Almacenamiento (m3)
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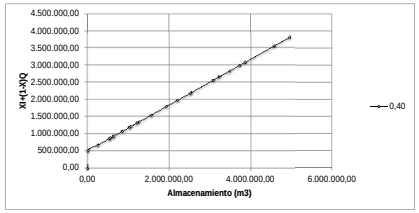

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Almacenamiento (m3)
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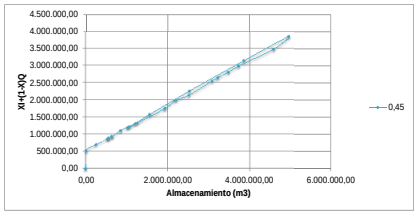

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Almacenamiento (m3)
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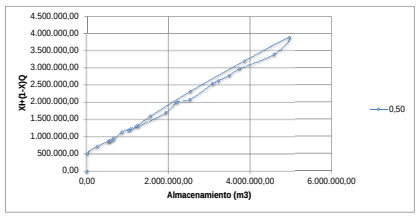

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	453.024,97	743.321,53	481.551,91	261.769,61	275.192,74	502.694,27	527.528,92	552.363,57	577.198,21	602.032,86	626.867,51	651.702,16	676.536,81	701.371,46
3	962.154,86	743.002,56	955.936,40	598.013,77	357.922,64	633.115,38	764.917,79	775.875,40	786.833,02	797.790,63	808.748,25	819.705,86	830.663,48	841.621,09	852.578,71
4	828.656,21	895.474,26	895.405,53	819.238,41	76.167,12	709.282,50	888.792,46	885.451,55	882.110,65	878.769,75	875.428,84	872.087,94	868.747,04	865.406,14	862.065,23
5	888.435,40	845.620,26	858.545,80	870.547,26	-12.001,46	697.281,04	849.901,77	852.042,53	854.183,28	856.324,04	858.464,80	860.605,55	862.746,31	864.887,07	867.027,83
6	1.050.897,01	842.135,94	969.666,20	843.878,10	125.788,11	823.069,15	863.012,04	873.450,10	883.888,15	894.326,20	904.764,26	915.202,31	925.640,37	936.078,42	946.516,47
7	816.880,77	1.006.233,55	933.888,89	924.184,74	9.704,15	832.773,30	987.298,27	977.830,63	968.362,99	958.895,36	949.427,72	939.960,08	930.492,44	921.024,80	911.557,16
8	1.464.595,11	780.547,03	1.140.737,94	893.390,29	247.347,65	1.080.120,95	848.951,84	883.154,25	917.356,65	951.559,05	985.761,46	1.019.963,86	1.054.166,27	1.088.368,67	1.122.571,07
9	1.363.224,74	1.200.817,15	1.413.909,93	990.682,09	423.227,83	1.503.348,79	1.217.057,91	1.225.178,29	1.233.298,67	1.241.419,04	1.249.539,42	1.257.659,80	1.265.780,18	1.273.900,56	1.282.020,94
10	1.924.173,70	1.197.360,03	1.643.699,22	1.199.088,59	444.610,63	1.947.959,42	1.270.041,40	1.306.382,08	1.342.722,76	1.379.063,45	1.415.404,13	1.451.744,81	1.488.085,50	1.524.426,18	1.560.766,87
11	2.990.327,36	1.436.752,72	2.457.250,53	1.317.056,38	1.140.194,15	3.088.153,57	1.592.110,18	1.669.788,92	1.747.467,65	1.825.146,38	1.902.825,11	1.980.503,84	2.058.182,58	2.135.861,31	2.213.540,04
12	3.882.684,66	2.193.145,34	3.436.506,01	1.814.949,03	1.621.556,98	4.709.710,55	2.362.099,27	2.446.576,23	2.531.053,20	2.615.530,17	2.700.007,13	2.784.484,10	2.868.961,06	2.953.438,03	3.037.915,00
13	4.321.217,99	3.109.603,76	4.101.951,32	2.651.374,55	1.450.576,77	6.160.287,32	3.230.765,18	3.291.345,90	3.351.926,61	3.412.507,32	3.473.088,03	3.533.668,74	3.594.249,45	3.654.830,16	3.715.410,87
14	2.606.656,88	4.124.887,62	3.463.937,43	3.617.245,69	-153.308,26	6.006.979,07	3.973.064,55	3.897.153,01	3.821.241,47	3.745.329,93	3.669.418,40	3.593.506,86	3.517.595,32	3.441.683,79	3.365.772,25
15	2.930.646,62	3.174.636,05	2.768.651,75	3.649.761,84	-881.110,09	5.125.868,98	3.150.237,11	3.138.037,64	3.125.838,17	3.113.638,70	3.101.439,22	3.089.239,75	3.077.040,28	3.064.840,81	3.052.641,34
16	2.602.678,64	3.088.989,56	2.766.662,63	3.131.812,81	-365.150,18	4.760.718,80	3.040.358,47	3.016.042,92	2.991.727,38	2.967.411,83	2.943.096,28	2.918.780,74	2.894.465,19	2.870.149,65	2.845.834,10
17	2.571.902,47	2.808.355,40	2.587.290,55	2.948.672,48	-361.381,93	4.399.336,88	2.784.710,11	2.772.887,46	2.761.064,81	2.749.242,17	2.737.419,52	2.725.596,87	2.713.774,23	2.701.951,58	2.690.128,93
18	2.482.345,45	2.685.069,62	2.527.123,96	2.746.712,51	-219.588,55	4.179.748,32	2.664.797,20	2.654.660,99	2.644.524,79	2.634.388,58	2.624.252,37	2.614.116,16	2.603.979,95	2.593.843,74	2.583.707,53
19	1.599.258,13	2.721.659,04	2.040.801,79	2.703.364,33	-662.562,54	3.517.185,78	2.609.418,95	2.553.298,91	2.497.178,86	2.441.058,82	2.384.938,77	2.328.818,72	2.272.698,68	2.216.578,63	2.160.458,59
20	2.196.088,12	1.956.100,27	1.897.673,13	2.338.879,66	-441.206,53	3.075.979,25	1.980.099,06	1.992.098,45	2.004.097,84	2.016.097,24	2.028.096,63	2.040.096,02	2.052.095,41	2.064.094,81	2.076.094,20
21	1.250.980,94	2.264.053,22	1.723.534,53	2.110.076,75	-386.542,21	2.689.437,03	2.162.745,99	2.112.092,38	2.061.438,76	2.010.785,15	1.960.131,53	1.909.477,92	1.858.824,31	1.808.170,69	1.757.517,08
22	1.102.929,77	1.694.255,03	1.176.955,35	1.979.154,12	-802.198,77	1.887.238,27	1.635.122,50	1.605.556,24	1.575.989,97	1.546.423,71	1.516.857,45	1.487.291,19	1.457.724,92	1.428.158,66	1.398.592,40
23	1.162.616,69	1.335.883,65	1.132.773,23	1.515.069,34	-382.296,11	1.504.942,16	1.318.556,96	1.309.893,61	1.301.230,26	1.292.566,91	1.283.903,56	1.275.240,22	1.266.576,87	1.257.913,52	1.249.250,17
24	1.296.839,64	1.210.275,51	1.229.728,17	1.273.079,58	-43.351,41	1.461.590,75	1.218.931,92	1.223.260,13	1.227.588,33	1.231.916,54	1.236.244,75	1.240.572,96	1.244.901,16	1.249.229,37	1.253.557,58

0,10 K = 6.160.287,32 - 13.423,13 = 1,77 Horas
3.973.064,55 - 502.694,27

0,15 K = 6.160.287,32 - 13.423,13 = 1,82 Horas
3.897.153,01 - 514.105,79

0,20 K = 6.160.287,32 - 13.423,13 = 1,86 Horas
3.821.241,47 - 515.448,10

0,25 K = 6.160.287,32 - 13.423,13 = 1,90 Horas
3.745.329,93 - 516.790,42

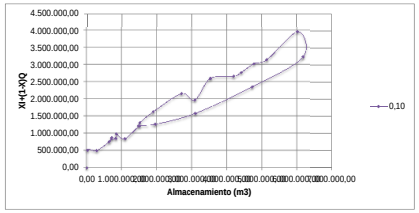
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3.669.418,40 - 518.132,73

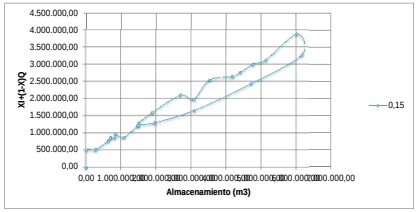
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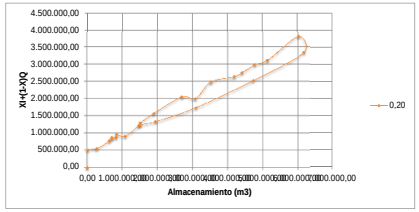
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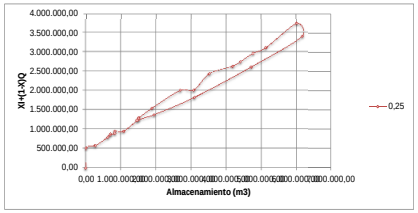
0,45 K = 6.160.287,32 - 13.423,13 = 1,96 Horas
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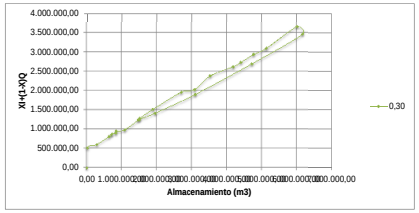
0,50 K = 6.160.287,32 - 13.423,13 = 1,93 Horas
3.715.410,87 - 523.501,98

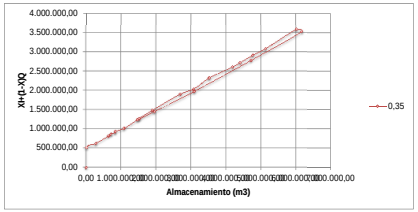

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Almacenamiento (m3)
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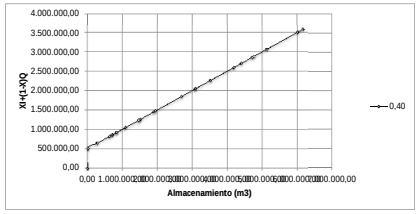

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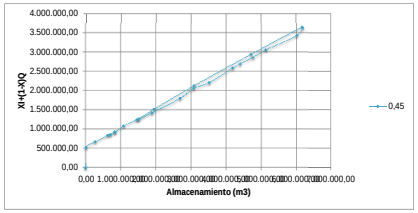

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Almacenamiento (m3)
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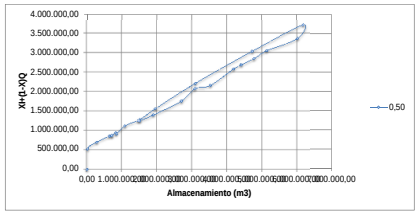

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	420.303,77	743.321,53	465.191,31	278.130,21	291.553,34	473.245,19	499.715,90	526.186,60	552.657,31	579.128,02	605.598,73	632.069,44	658.540,15	685.010,86
3	962.154,86	681.901,63	955.936,40	551.102,70	404.833,70	696.387,04	709.926,95	723.939,61	737.952,27	751.964,94	765.977,60	779.990,26	794.002,92	808.015,58	822.028,24
4	828.656,21	855.402,90	895.405,53	768.652,27	126.753,27	823.140,31	852.728,24	851.390,90	850.053,57	848.716,23	847.378,90	846.041,56	844.704,23	843.366,89	842.029,56
5	888.435,40	827.084,76	858.545,80	841.243,83	17.301,97	840.442,28	833.219,82	836.287,35	839.354,89	842.422,42	845.489,95	848.557,48	851.625,01	854.692,55	857.760,08
6	1.050.897,01	817.144,67	969.666,20	822.114,72	147.551,49	987.993,76	840.519,91	852.207,52	863.895,14	875.582,76	887.270,37	898.957,99	910.645,61	922.333,23	934.020,84
7	816.880,77	992.524,90	933.888,89	904.834,79	29.054,10	1.017.047,87	974.960,49	966.178,28	957.396,08	948.613,87	939.831,66	931.049,46	922.267,25	913.485,04	904.702,84
8	1.464.595,11	742.774,25	1.140.737,94	867.649,58	273.088,37	1.290.136,24	814.956,34	851.047,38	887.138,42	923.229,47	959.320,51	995.411,55	1.031.502,60	1.067.593,64	1.103.684,68
9	1.363.224,74	1.129.027,28	1.413.909,93	935.900,76	478.009,16	1.768.145,40	1.152.447,02	1.164.156,90	1.175.866,77	1.187.576,64	1.199.286,52	1.210.996,39	1.222.706,26	1.234.416,13	1.246.126,01
10	1.924.173,70	1.105.888,77	1.643.699,22	1.117.458,02	526.241,20	2.294.386,59	1.187.717,26	1.228.631,51	1.269.545,75	1.310.460,00	1.351.374,25	1.392.288,49	1.433.202,74	1.474.116,99	1.515.031,23
11	2.990.327,36	1.248.492,82	2.457.250,53	1.177.190,79	1.280.059,74	3.574.446,33	1.422.676,27	1.509.768,00	1.596.859,73	1.683.951,45	1.771.043,18	1.858.134,91	1.945.226,63	2.032.318,36	2.119.410,09
12	3.882.684,66	1.896.320,76	3.436.506,01	1.572.406,79	1.864.099,22	5.438.545,55	2.094.957,15	2.194.275,35	2.293.593,54	2.392.911,74	2.492.229,93	2.591.548,13	2.690.866,32	2.790.184,52	2.889.502,71
13	4.321.217,99	2.779.869,38	4.101.951,32	2.338.095,07	1.763.856,25	7.202.401,80	2.934.004,24	3.011.071,67	3.088.139,10	3.165.206,53	3.242.273,96	3.319.341,39	3.396.408,82	3.473.476,25	3.550.543,68
14	2.606.656,88	3.979.183,96	3.463.937,43	3.379.526,67	84.410,77	7.286.812,56	3.841.931,25	3.773.304,90	3.704.678,54	3.636.052,19	3.567.425,84	3.498.799,48	3.430.173,13	3.361.546,77	3.292.920,42
15	2.930.646,62	3.211.922,99	2.768.651,75	3.595.553,47	-826.901,72	6.459.910,84	3.183.795,35	3.169.731,53	3.155.667,71	3.141.603,89	3.127.540,08	3.113.476,26	3.099.412,44	3.085.348,62	3.071.284,80
16	2.602.678,64	3.153.276,80	2.766.662,63	3.182.599,89	-415.937,26	6.043.973,58	3.098.216,98	3.070.687,08	3.043.157,17	3.015.627,26	2.988.097,35	2.960.567,44	2.933.037,53	2.905.507,63	2.877.977,72
17	2.571.902,47	2.885.671,76	2.587.290,55	3.019.474,28	-432.183,73	5.611.789,85	2.854.294,83	2.838.606,37	2.822.917,90	2.807.229,44	2.791.540,97	2.775.852,51	2.760.164,04	2.744.475,58	2.728.787,11
18	2.482.345,45	2.751.176,37	2.527.123,96	2.818.424,06	-291.300,11	5.320.489,74	2.724.293,28	2.710.851,73	2.697.410,18	2.683.968,64	2.670.527,09	2.657.085,55	2.643.644,00	2.630.202,45	2.616.760,91
19	1.599.258,13	2.837.532,74	2.040.801,79	2.794.354,55	-753.552,76	4.566.936,98	2.713.705,28	2.651.791,55	2.589.877,82	2.527.964,09	2.466.050,35	2.404.136,62	2.342.222,89	2.280.309,16	2.218.395,43
20	2.196.088,12	2.069.187,94	1.897.673,13	2.453.360,34	-555.687,21	4.011.249,77	2.081.877,96	2.088.222,96	2.094.567,97	2.100.912,98	2.107.257,99	2.113.603,00	2.119.948,01	2.126.293,02	2.132.638,03
21	1.250.980,94	2.368.914,82	1.723.534,53	2.219.051,38	-495.516,85	3.515.732,92	2.257.121,44	2.201.224,74	2.145.328,05	2.089.431,35	2.033.534,66	1.977.637,97	1.921.741,27	1.865.844,58	1.809.947,88
22	1.102.929,77	1.846.960,68	1.176.955,35	2.107.937,75	-930.982,40	2.584.750,53	1.772.557,59	1.735.356,04	1.698.154,49	1.660.952,95	1.623.751,40	1.586.549,86	1.549.348,31	1.512.146,77	1.474.945,22
23	1.162.616,69	1.460.023,49	1.132.773,23	1.653.492,08	-520.718,85	2.064.031,67	1.430.282,81	1.415.412,47	1.400.542,13	1.385.671,79	1.370.801,45	1.355.931,11	1.341.060,77	1.326.190,43	1.311.320,09
24	1.296.839,64	1.277.764,35	1.229.728,17	1.368.893,92	-139.165,75	1.924.865,92	1.279.671,88	1.280.625,65	1.281.579,41	1.282.533,18	1.283.486,94	1.284.440,71	1.285.394,47	1.286.348,23	1.287.302,00

0,10 K = 7.286.812,56 - 13.423,13 = 2,16 Horas
3.841.931,25 - 473.245,19

0,15 K = 7.286.812,56 - 13.423,13 = 2,22 Horas
3.773.304,90 - 499.715,90

0,20 K = 7.286.812,56 - 13.423,13 = 2,28 Horas
3.704.678,54 - 515.448,10

0,25 K = 7.286.812,56 - 13.423,13 = 2,33 Horas
3.636.052,19 - 516.790,42

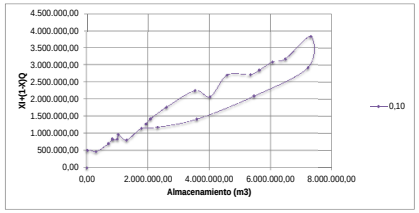
0,30 K = 7.286.812,56 - 13.423,13 = 2,39 Horas
3.567.425,84 - 518.132,73

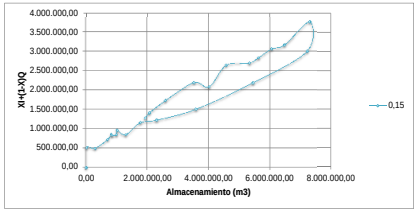
0,35 K = 7.286.812,56 - 13.423,13 = 2,44 Horas
3.498.799,48 - 519.475,04

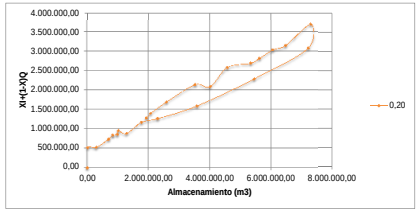
0,40 K = 7.286.812,56 - 13.423,13 = 2,50 Horas
3.430.173,13 - 520.817,35

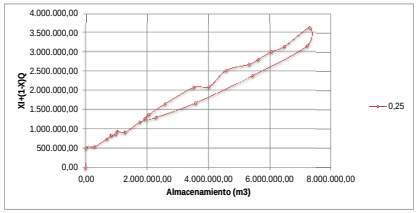
0,45 K = 7.286.812,56 - 13.423,13 = 2,46 Horas
3.473.476,25 - 522.159,67

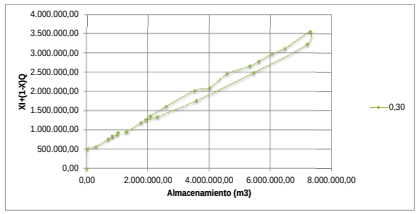
0,50 K = 7.286.812,56 - 13.423,13 = 2,40 Horas
3.550.543,68 - 523.501,98

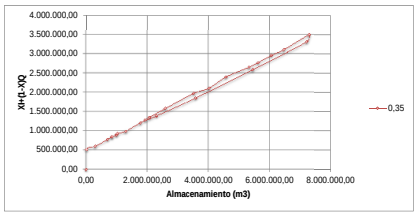

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Almacenamiento (m3)
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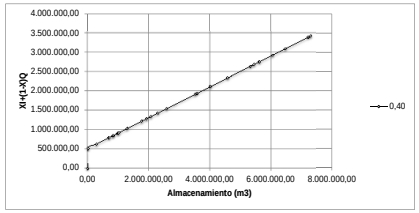

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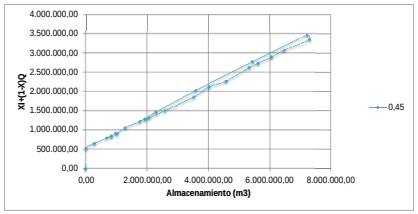

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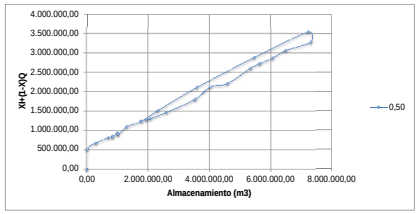

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	396.118,53	743.321,53	453.098,69	290.222,83	303.645,96	451.478,47	479.158,45	506.838,42	534.518,39	562.198,36	589.878,33	617.558,30	645.238,27	672.918,24
3	962.154,86	633.028,78	955.936,40	514.573,66	441.362,74	745.008,70	665.941,39	682.397,69	698.854,00	715.310,30	731.766,60	748.222,91	764.679,21	781.135,52	797.591,82
4	828.656,21	816.757,10	895.405,53	724.892,94	170.512,59	915.521,29	817.947,01	818.541,97	819.136,92	819.731,88	820.326,83	820.921,79	821.516,74	822.111,70	822.706,65
5	888.435,40	803.736,96	858.545,80	810.247,03	48.298,77	963.820,07	812.206,80	816.441,72	820.676,65	824.911,57	829.146,49	833.381,41	837.616,33	841.851,26	846.086,18
6	1.050.897,01	791.117,53	969.666,20	797.427,24	172.238,96	1.136.059,03	817.095,48	830.084,45	843.073,42	856.062,40	869.051,37	882.040,35	895.029,32	908.018,29	921.007,27
7	816.880,77	975.287,46	933.888,89	883.202,49	50.686,40	1.186.745,43	959.446,79	951.526,46	943.606,12	935.685,79	927.765,45	919.845,12	911.924,79	904.004,45	896.084,12
8	1.464.595,11	709.284,54	1.140.737,94	842.286,00	298.451,94	1.485.197,37	784.815,59	822.581,12	860.346,65	898.112,18	935.877,71	973.643,24	1.011.408,77	1.049.174,30	1.086.939,83
9	1.363.224,74	1.068.532,29	1.413.909,93	888.908,42	525.001,51	2.010.198,88	1.098.001,54	1.112.736,16	1.127.470,78	1.142.205,40	1.156.940,03	1.171.674,65	1.186.409,27	1.201.143,89	1.215.878,52
10	1.924.173,70	1.025.935,84	1.643.699,22	1.047.234,07	596.465,15	2.606.664,03	1.115.759,63	1.160.671,52	1.205.583,42	1.250.495,31	1.295.407,20	1.340.319,09	1.385.230,99	1.430.142,88	1.475.054,77
11	2.990.327,36	1.091.992,50	2.457.250,53	1.058.964,17	1.398.286,36	4.004.950,39	1.281.825,98	1.376.742,73	1.471.659,47	1.566.576,21	1.661.492,95	1.756.409,70	1.851.326,44	1.946.243,18	2.041.159,93
12	3.882.684,66	1.645.768,47	3.436.506,01	1.368.880,49	2.067.625,52	6.072.575,91	1.869.460,09	1.981.305,90	2.093.151,71	2.204.997,52	2.316.843,33	2.428.689,14	2.540.534,95	2.652.380,76	2.764.226,57
13	4.321.217,99	2.484.874,06	4.101.951,32	2.065.321,27	2.036.630,05	8.109.205,96	2.668.508,45	2.760.325,65	2.852.142,85	2.943.960,04	3.035.777,24	3.127.594,44	3.219.411,63	3.311.228,83	3.403.046,03
14	2.606.656,88	3.805.107,41	3.463.937,43	3.144.990,74	318.946,70	8.428.152,66	3.685.262,36	3.625.339,83	3.565.417,30	3.505.494,78	3.445.572,25	3.385.649,73	3.325.727,20	3.265.804,67	3.205.882,15
15	2.930.646,62	3.185.436,39	2.768.651,75	3.495.271,90	-726.620,15	7.701.532,51	3.159.957,41	3.147.217,92	3.134.478,44	3.121.738,95	3.108.999,46	3.096.259,97	3.083.520,48	3.070.780,99	3.058.041,51
16	2.602.678,64	3.174.474,57	2.766.662,63	3.179.955,48	-413.292,85	7.288.239,66	3.117.294,98	3.088.705,18	3.060.115,39	3.031.525,59	3.002.935,79	2.974.346,00	2.945.756,20	2.917.166,40	2.888.576,60
17	2.571.902,47	2.935.234,30	2.587.290,55	3.054.854,44	-467.563,89	6.820.675,78	2.898.901,12	2.880.734,53	2.862.567,94	2.844.401,35	2.826.234,75	2.808.068,16	2.789.901,57	2.771.734,98	2.753.568,39
18	2.482.345,45	2.804.520,43	2.527.123,96	2.869.877,36	-342.753,41	6.477.922,37	2.772.302,93	2.756.194,18	2.740.085,43	2.723.976,68	2.707.867,93	2.691.759,18	2.675.650,43	2.659.541,68	2.643.432,94
19	1.599.258,13	2.933.210,05	2.040.801,79	2.868.865,24	-828.063,45	5.649.858,92	2.799.814,86	2.733.117,26	2.666.419,67	2.599.722,07	2.533.024,48	2.466.326,88	2.399.629,28	2.332.931,69	2.266.234,09
20	2.196.088,12	2.171.587,05	1.897.673,13	2.552.398,55	-654.725,42	4.995.133,50	2.174.037,15	2.175.262,21	2.176.487,26	2.177.712,32	2.178.937,37	2.180.162,42	2.181.387,48	2.182.612,53	2.183.837,58
21	1.250.980,94	2.469.881,00	1.723.534,53	2.320.734,02	-597.199,49	4.397.934,00	2.347.991,00	2.287.045,99	2.226.100,99	2.165.155,99	2.104.210,99	2.043.265,98	1.982.320,98	1.921.375,98	1.860.430,97
22	1.102.929,77	1.984.983,51	1.176.955,35	2.227.432,26	-1.050.476,90	3.347.457,10	1.896.778,13	1.852.675,45	1.808.572,76	1.764.470,07	1.720.367,39	1.676.264,70	1.632.162,01	1.588.059,32	1.543.956,64
23	1.162.616,69	1.583.316,30	1.132.773,23	1.784.149,90	-651.376,67	2.696.080,43	1.541.246,34	1.520.211,36	1.499.176,38	1.478.141,40	1.457.106,41	1.436.071,43	1.415.036,45	1.394.001,47	1.372.966,49
24	1.296.839,64	1.359.552,96	1.229.728,17	1.471.434,63	-241.706,46	2.454.373,97	1.353.281,63	1.350.145,96	1.347.010,30	1.343.874,63	1.340.738,97	1.337.603,30	1.334.467,63	1.331.331,97	1.328.196,30

0,10 K = 8.428.152,66 - 13.423,13 = 2,60 Horas
3.685.262,36 - 451.478,47

0,15 K = 8.428.152,66 - 13.423,13 = 2,67 Horas
3.625.339,83 - 479.158,45

0,20 K = 8.428.152,66 - 13.423,13 = 2,75 Horas
3.565.417,30 - 506.838,42

0,25 K = 8.428.152,66 - 13.423,13 = 2,82 Horas
3.505.494,78 - 516.790,42

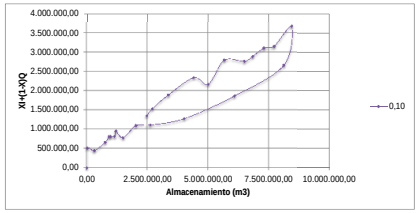
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3.445.572,25 - 518.132,73

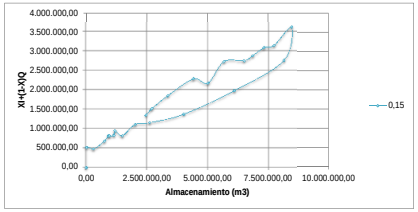
0,35 K = 8.428.152,66 - 13.423,13 = 2,94 Horas
3.385.649,73 - 519.475,04

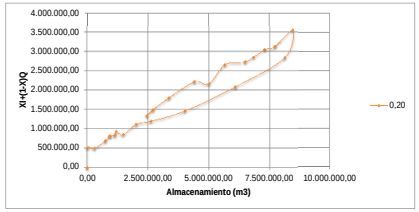
0,40 K = 8.428.152,66 - 13.423,13 = 3,00 Horas
3.325.727,20 - 520.817,35

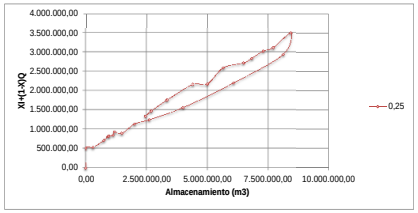
0,45 K = 8.428.152,66 - 13.423,13 = 3,02 Horas
3.311.228,83 - 522.159,67

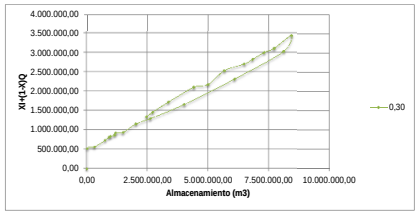
0,50 K = 8.428.152,66 - 13.423,13 = 2,92 Horas
3.403.046,03 - 523.501,98

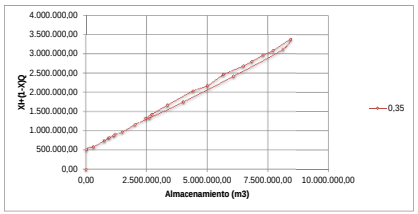

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Almacenamiento (m3)
Qdx-(I+H)x
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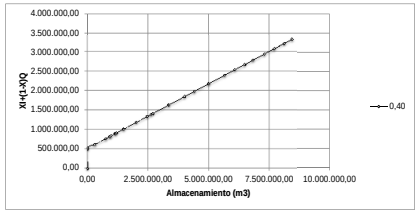

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Almacenamiento (m3)
Qdx-(I+H)x
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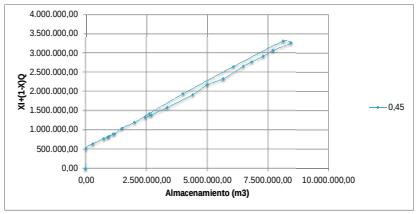

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10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,20

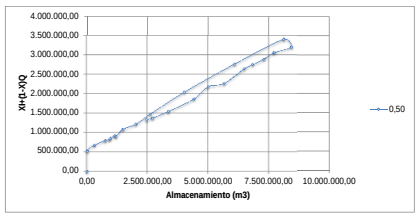

4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,25


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
0,00
0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,30


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
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500.000,00
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0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,35


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
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0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,40


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
1.500.000,00
1.000.000,00
500.000,00
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0,00
2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,45


4.000.000,00
3.500.000,00
3.000.000,00
2.500.000,00
2.000.000,00
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2.500.000,00
5.000.000,00
7.500.000,00
10.000.000,00
Almacenamiento (m3)
Qdx-(I+H)x
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	691.194,06	743.321,53	600.636,46	142.685,07	156.108,20	717.046,45	729.972,64	742.898,84	755.825,03	768.751,22	781.677,42	794.603,61	807.529,81	820.456,00
3	962.154,86	1.029.186,36	955.936,40	860.190,21	95.746,19	251.854,39	1.022.483,21	1.019.131,64	1.015.780,06	1.012.428,49	1.009.076,91	1.005.725,34	1.002.373,76	999.022,19	995.670,61
4	828.656,21	895.323,61	895.405,53	962.254,99	-66.849,45	185.004,93	888.656,87	885.323,50	881.990,13	878.656,76	875.323,39	871.990,02	868.656,65	865.323,28	861.989,91
5	888.435,40	830.513,13	858.545,80	862.918,37	-4.372,57	180.632,37	836.305,35	839.201,47	842.097,58	844.993,69	847.889,81	850.785,92	853.682,03	856.578,15	859.474,26
6	1.050.897,01	962.899,21	969.666,20	896.706,17	72.960,04	253.592,40	971.698,99	976.098,88	980.498,77	984.898,66	989.298,55	993.698,44	998.098,33	1.002.498,22	1.006.898,11
7	816.880,77	993.406,74	933.888,89	978.152,97	-44.264,08	209.328,32	975.754,14	966.927,84	958.101,55	949.275,25	940.448,95	931.622,65	922.796,35	913.970,05	905.143,76
8	1.464.595,11	995.465,42	1.140.737,94	994.436,08	146.301,86	355.630,19	1.042.378,39	1.065.834,87	1.089.291,36	1.112.747,84	1.136.204,33	1.159.660,81	1.183.117,30	1.206.573,78	1.230.030,27
9	1.363.224,74	1.564.823,92	1.413.909,93	1.280.144,67	133.765,25	489.395,44	1.544.664,00	1.534.584,05	1.524.504,09	1.514.424,13	1.504.344,17	1.494.264,21	1.484.184,25	1.474.104,29	1.464.024,33
10	1.924.173,70	1.503.742,35	1.643.699,22	1.534.283,14	109.416,08	598.811,52	1.545.785,48	1.566.807,05	1.587.828,62	1.608.850,19	1.629.871,75	1.650.893,32	1.671.914,89	1.692.936,46	1.713.958,02
11	2.990.327,36	2.424.547,00	2.457.250,53	1.964.144,68	493.105,85	1.091.917,38	2.481.125,04	2.509.414,06	2.537.703,08	2.565.992,09	2.594.281,11	2.622.570,13	2.650.859,15	2.679.148,16	2.707.437,18
12	3.882.684,66	3.471.229,08	3.436.506,01	2.947.888,04	488.617,96	1.580.535,34	3.512.374,64	3.532.947,42	3.553.520,20	3.574.092,98	3.594.665,75	3.615.238,53	3.635.811,31	3.656.384,09	3.676.956,87
13	4.321.217,99	4.157.748,10	4.101.951,32	3.814.488,59	287.462,73	1.867.998,07	4.174.095,09	4.182.268,59	4.190.442,08	4.198.615,57	4.206.789,07	4.214.962,56	4.223.136,06	4.231.309,55	4.239.483,05
14	2.606.656,88	3.760.284,34	3.463.937,43	3.959.016,22	-495.078,79	1.372.919,29	3.644.921,59	3.587.240,22	3.529.558,85	3.471.877,47	3.414.196,10	3.356.514,73	3.298.833,35	3.241.151,98	3.183.470,61
15	2.930.646,62	2.386.696,88	2.768.651,75	3.073.490,61	-304.838,86	1.068.080,43	2.441.091,86	2.468.289,34	2.495.486,83	2.522.684,32	2.549.881,80	2.577.079,29	2.604.276,78	2.631.474,27	2.658.671,75
16	2.602.678,64	2.972.191,78	2.766.662,63	2.679.444,33	87.218,30	1.155.298,73	2.935.240,46	2.916.764,81	2.898.289,15	2.879.813,49	2.861.337,83	2.842.862,18	2.824.386,52	2.805.910,86	2.787.435,21
17	2.571.902,47	2.484.480,05	2.587.290,55	2.728.335,91	-141.045,36	1.014.253,36	2.493.222,29	2.497.593,41	2.501.964,54	2.506.335,66	2.510.706,78	2.515.077,90	2.519.449,02	2.523.820,14	2.528.191,26
18	2.482.345,45	2.565.504,87	2.527.123,96	2.524.992,46	2.131,50	1.016.384,86	2.557.188,93	2.553.030,96	2.548.872,99	2.544.715,01	2.540.557,04	2.536.399,07	2.532.241,10	2.528.083,13	2.523.925,16
19	1.599.258,13	2.144.848,82	2.040.801,79	2.355.176,85	-314.375,06	702.009,80	2.090.289,75	2.063.010,22	2.035.730,69	2.008.451,15	1.981.171,62	1.953.892,08	1.926.612,55	1.899.333,01	1.872.053,48
20	2.196.088,12	1.652.639,22	1.897.673,13	1.898.744,02	-1.070,89	700.938,91	1.706.984,11	1.734.156,55	1.761.329,00	1.788.501,44	1.815.673,89	1.842.846,33	1.870.018,78	1.897.191,22	1.924.363,67
21	1.250.980,94	2.018.503,00	1.723.534,53	1.835.571,11	-112.036,58	588.902,33	1.941.750,79	1.903.374,69	1.864.998,59	1.826.622,48	1.788.246,38	1.749.870,28	1.711.494,18	1.673.118,07	1.634.741,97
22	1.102.929,77	975.617,67	1.176.955,35	1.497.060,33	-320.104,98	268.797,35	988.348,88	994.714,48	1.001.080,09	1.007.445,69	1.013.811,30	1.020.176,90	1.026.542,51	1.032.908,11	1.039.273,72
23	1.162.616,69	1.161.070,58	1.132.773,23	1.068.344,12	64.429,11	333.226,46	1.161.225,19	1.161.302,49	1.161.379,80	1.161.457,10	1.161.534,41	1.161.611,72	1.161.689,02	1.161.766,33	1.161.843,63
24	1.296.839,64	1.210.693,06	1.229.728,17	1.185.881,82	43.846,35	377.072,81	1.219.307,72	1.223.615,05	1.227.922,38	1.232.229,71	1.236.537,04	1.240.844,37	1.245.151,70	1.249.459,02	1.253.766,35

0,10 K = 1.867.998,07 - 13.423,13 = 0,51 Horas
4.174.095,09 - 512.763,48

0,15 K = 1.867.998,07 - 13.423,13 = 0,51 Horas
4.182.268,59 - 514.105,79

0,20 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.190.442,08 - 515.448,10

0,25 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.198.615,57 - 516.790,42

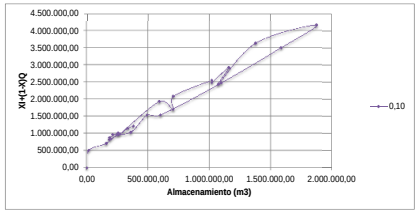
0,30 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.206.789,07 - 518.132,73

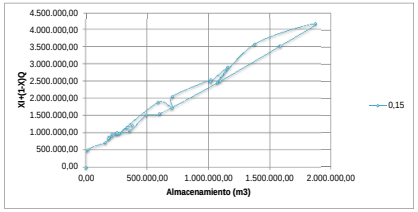
0,35 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.214.962,56 - 519.475,04

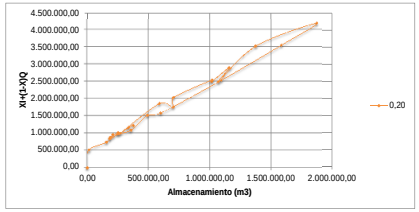
0,40 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.223.136,06 - 520.817,35

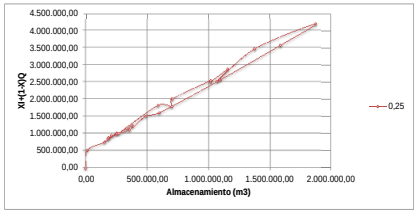
0,45 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.231.309,55 - 522.159,67

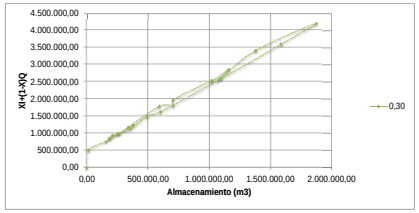
0,50 K = 1.867.998,07 - 13.423,13 = 0,50 Horas
4.239.483,05 - 523.501,98

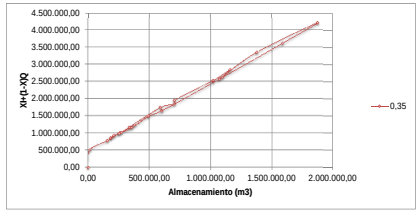

4.500.000,00
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Almacenamiento (m3)
0,10

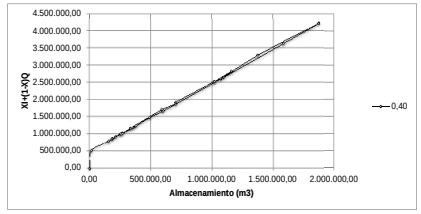

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2.000.000,00
Almacenamiento (m3)
0,15

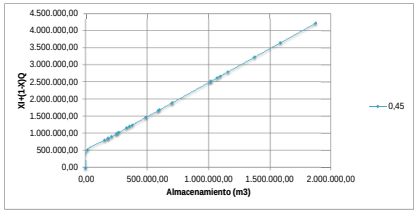

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Almacenamiento (m3)
0,20

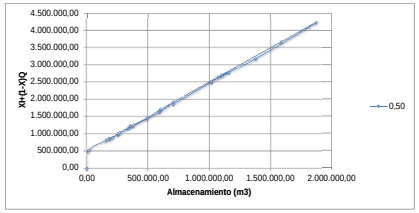

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Almacenamiento (m3)
0,25


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Almacenamiento (m3)
0,30


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Almacenamiento (m3)
0,35


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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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1.500.000,00
2.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	555.303,52	743.321,53	532.691,18	210.630,34	224.053,47	594.744,96	614.465,68	634.186,40	653.907,12	673.627,84	693.348,57	713.069,29	732.790,01	752.510,73
3	962.154,86	931.528,54	955.936,40	743.416,03	212.520,37	436.573,84	934.591,17	936.122,49	937.653,80	939.185,12	940.716,43	942.247,75	943.779,07	945.310,38	946.841,70
4	828.656,21	954.339,38	895.405,53	942.933,96	-47.528,43	389.045,42	941.771,06	935.486,91	929.202,75	922.918,59	916.634,43	910.350,27	904.066,11	897.781,95	891.497,80
5	888.435,40	837.487,75	858.545,80	895.913,57	-37.367,76	351.677,65	842.582,51	845.129,90	847.677,28	850.224,66	852.772,04	855.319,43	857.866,81	860.414,19	862.961,57
6	1.050.897,01	893.745,58	969.666,20	865.616,67	104.049,54	455.727,19	909.460,73	917.318,30	925.175,87	933.033,44	940.891,01	948.748,58	956.606,15	964.463,73	972.321,30
7	816.880,77	1.032.269,98	933.888,89	963.007,78	-29.118,89	426.608,30	1.010.731,06	999.961,60	989.192,14	978.422,68	967.653,22	956.883,76	946.114,30	935.344,84	924.575,38
8	1.464.595,11	857.980,94	1.140.737,94	945.125,46	195.612,48	622.220,78	918.642,36	948.973,07	979.303,78	1.009.634,49	1.039.965,19	1.070.295,90	1.100.626,61	1.130.957,32	1.161.288,03
9	1.363.224,74	1.430.881,56	1.413.909,93	1.144.431,25	269.478,67	891.699,45	1.424.115,88	1.420.733,04	1.417.350,20	1.413.967,36	1.410.584,52	1.407.201,67	1.403.818,83	1.400.435,99	1.397.053,15
10	1.924.173,70	1.393.158,35	1.643.699,22	1.412.019,95	231.679,26	1.123.378,72	1.446.259,88	1.472.810,65	1.499.361,42	1.525.912,18	1.552.462,95	1.579.013,72	1.605.564,49	1.632.115,26	1.658.666,02
11	2.990.327,36	1.949.656,48	2.457.250,53	1.671.407,41	785.843,12	1.909.221,83	2.053.723,57	2.105.757,11	2.157.790,65	2.209.824,20	2.261.857,74	2.313.891,29	2.365.924,83	2.417.958,37	2.469.991,92
12	3.882.684,66	2.983.264,81	3.436.506,01	2.466.460,64	970.045,37	2.879.267,20	3.073.206,79	3.118.177,78	3.163.148,78	3.208.119,77	3.253.090,76	3.298.061,75	3.343.032,75	3.388.003,74	3.432.974,73
13	4.321.217,99	3.860.737,68	4.101.951,32	3.422.001,24	679.950,08	3.559.217,28	3.906.785,71	3.929.809,73	3.952.833,74	3.975.857,76	3.998.881,77	4.021.905,79	4.044.929,80	4.067.953,82	4.090.977,83
14	2.606.656,88	4.217.644,58	3.463.937,43	4.039.191,13	-575.253,70	2.983.963,58	4.056.545,82	3.975.996,43	3.895.447,05	3.814.897,66	3.734.348,28	3.653.798,89	3.573.249,50	3.492.700,12	3.412.150,73
15	2.930.646,62	2.698.798,66	2.768.651,75	3.458.221,63	-689.569,87	2.294.393,71	2.721.983,46	2.733.575,86	2.745.168,26	2.756.760,65	2.768.353,05	2.779.945,45	2.791.537,85	2.803.130,25	2.814.722,64
16	2.602.678,64	2.903.988,72	2.766.662,63	2.801.393,69	-34.731,06	2.259.662,64	2.873.857,71	2.858.792,21	2.843.726,70	2.828.661,20	2.813.595,69	2.798.530,19	2.783.464,69	2.768.399,18	2.753.333,68
17	2.571.902,47	2.615.561,20	2.587.290,55	2.759.774,96	-172.484,41	2.087.178,23	2.611.195,33	2.609.012,39	2.606.829,46	2.604.646,52	2.602.463,58	2.600.280,65	2.598.097,71	2.595.914,77	2.593.731,84
18	2.482.345,45	2.569.716,83	2.527.123,96	2.592.639,02	-65.515,06	2.021.663,17	2.560.979,70	2.556.611,13	2.552.242,56	2.547.873,99	2.543.505,42	2.539.136,85	2.534.768,28	2.530.399,71	2.526.031,14
19	1.599.258,13	2.444.454,21	2.040.801,79	2.507.085,52	-466.283,73	1.555.379,44	2.359.934,60	2.317.674,80	2.275.415,00	2.233.155,19	2.190.895,39	2.148.635,58	2.106.375,78	2.064.115,98	2.021.856,17
20	2.196.088,12	1.667.926,04	1.897.673,13	2.056.190,13	-158.517,00	1.396.862,44	1.720.742,25	1.747.150,35	1.773.558,46	1.799.966,56	1.826.374,66	1.852.782,77	1.879.190,87	1.905.598,98	1.932.007,08
21	1.250.980,94	2.125.932,44	1.723.534,53	1.896.929,24	-173.394,71	1.223.467,73	2.038.437,29	1.994.689,72	1.950.942,14	1.907.194,57	1.863.446,99	1.819.699,42	1.775.951,84	1.732.204,27	1.688.456,69
22	1.102.929,77	1.285.595,24	1.176.955,35	1.705.763,84	-528.808,49	694.659,24	1.267.328,70	1.258.195,42	1.249.062,15	1.239.928,87	1.230.795,60	1.221.662,33	1.212.529,05	1.203.395,78	1.194.262,51
23	1.162.616,69	1.114.470,36	1.132.773,23	1.200.032,80	-67.259,57	627.399,67	1.119.284,99	1.121.692,31	1.124.099,63	1.126.506,94	1.128.914,26	1.131.321,58	1.133.728,89	1.136.136,21	1.138.543,53
24	1.296.839,64	1.166.715,58	1.229.728,17	1.140.592,97	89.135,20	716.534,87	1.179.727,98	1.186.234,19	1.192.740,39	1.199.246,59	1.205.752,80	1.212.259,00	1.218.765,20	1.225.271,41	1.231.777,61

0,10 K = 3.559.217,28 - 13.423,13 = 1,00 Horas
4.056.545,82 - 512.763,48

0,15 K = 3.559.217,28 - 13.423,13 = 1,02 Horas
3.975.996,43 - 514.105,79

0,20 K = 3.559.217,28 - 13.423,13 = 1,03 Horas
3.952.833,74 - 515.448,10

0,25 K = 3.559.217,28 - 13.423,13 = 1,03 Horas
3.975.857,76 - 516.790,42

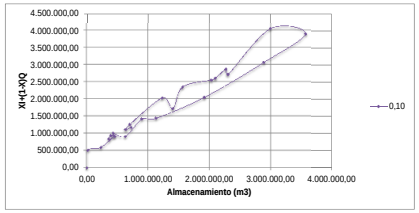
0,30 K = 3.559.217,28 - 13.423,13 = 1,02 Horas
3.998.881,77 - 518.132,73

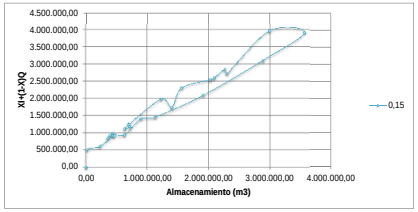
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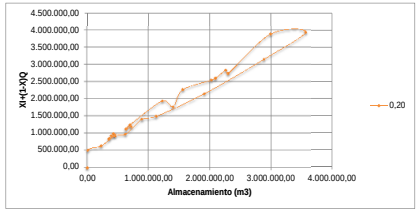
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4.044.929,80 - 520.817,35

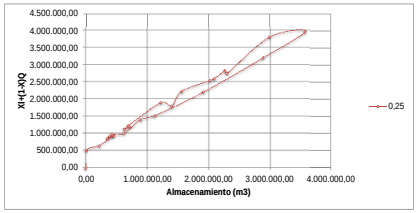
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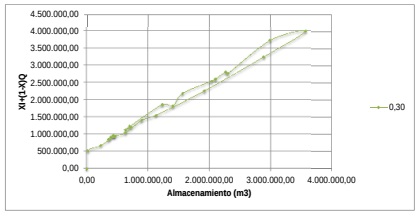
0,50 K = 3.559.217,28 - 13.423,13 = 0,99 Horas
4.090.977,83 - 523.501,98

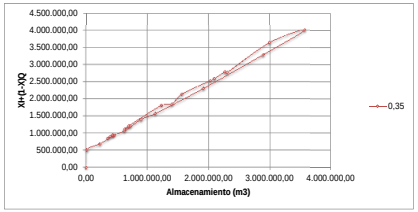

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Almacenamiento (m3)
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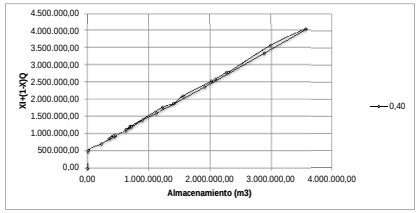

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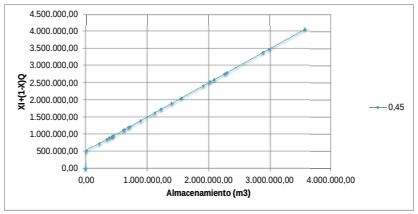

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Almacenamiento (m3)
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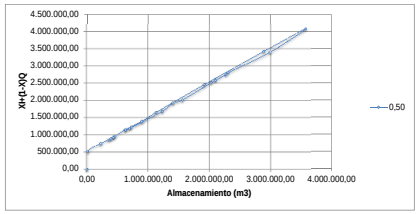

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	475.820,37	743.321,53	492.949,61	250.371,92	263.795,04	523.210,13	546.905,00	570.599,88	594.294,76	617.989,64	641.684,52	665.379,40	689.074,28	712.769,16
3	962.154,86	831.836,30	955.936,40	653.828,34	302.108,06	565.903,11	844.868,16	851.384,09	857.900,02	864.415,94	870.931,87	877.447,80	883.963,73	890.479,65	896.995,58
4	828.656,21	947.821,83	895.405,53	889.829,07	5.576,47	571.479,57	935.905,26	929.946,98	923.988,70	918.030,42	912.072,14	906.113,86	900.155,58	894.197,30	888.239,02
5	888.435,40	849.990,15	858.545,80	898.905,99	-40.360,18	531.119,39	853.834,67	855.756,93	857.679,20	859.601,46	861.523,72	863.445,98	865.368,25	867.290,51	869.212,77
6	1.050.897,01	857.548,23	969.666,20	853.769,19	115.897,01	647.016,40	876.883,11	886.550,55	896.217,99	905.885,43	915.552,87	925.220,31	934.887,74	944.555,18	954.222,62
7	816.880,77	1.034.379,64	933.888,89	945.963,94	-12.075,05	634.941,36	1.012.629,76	1.001.754,81	990.879,87	980.004,93	969.129,98	958.255,04	947.380,10	936.505,15	925.630,21
8	1.464.595,11	784.682,38	1.140.737,94	909.531,01	231.206,93	866.148,29	852.673,65	886.669,29	920.664,92	954.660,56	988.656,20	1.022.651,83	1.056.647,47	1.090.643,11	1.124.638,74
9	1.363.224,74	1.311.212,61	1.413.909,93	1.047.947,49	365.962,43	1.232.110,72	1.316.413,82	1.319.014,42	1.321.615,03	1.324.215,64	1.326.816,24	1.329.416,85	1.332.017,46	1.334.618,06	1.337.218,67
10	1.924.173,70	1.276.379,44	1.643.699,22	1.293.796,03	349.903,19	1.582.013,92	1.341.158,87	1.373.548,58	1.405.938,30	1.438.328,01	1.470.717,72	1.503.107,43	1.535.497,15	1.567.886,86	1.600.276,57
11	2.990.327,36	1.624.468,02	2.457.250,53	1.450.423,73	1.006.826,79	2.588.840,71	1.761.053,96	1.829.346,92	1.897.639,89	1.965.932,86	2.034.225,82	2.102.518,79	2.170.811,76	2.239.104,72	2.307.397,69
12	3.882.684,66	2.537.446,74	3.436.506,01	2.080.957,38	1.355.548,62	3.944.389,34	2.671.970,54	2.739.232,43	2.806.494,33	2.873.756,22	2.941.018,12	3.008.280,01	3.075.541,91	3.142.803,81	3.210.065,70
13	4.321.217,99	3.494.801,14	4.101.951,32	3.016.123,94	1.085.827,38	5.030.216,71	3.577.442,83	3.618.763,67	3.660.084,51	3.701.405,36	3.742.726,20	3.784.047,04	3.825.367,88	3.866.688,72	3.908.009,57
14	2.606.656,88	4.344.963,44	3.463.937,43	3.919.882,29	-455.944,86	4.574.271,86	4.171.132,78	4.084.217,45	3.997.302,13	3.910.386,80	3.823.471,47	3.736.556,14	3.649.640,81	3.562.725,49	3.475.810,16
15	2.930.646,62	2.990.242,86	2.768.651,75	3.667.603,15	-898.951,40	3.675.320,46	2.984.283,24	2.981.303,43	2.978.323,61	2.975.343,80	2.972.363,99	2.969.384,18	2.966.404,37	2.963.424,55	2.960.444,74
16	2.602.678,64	2.988.581,09	2.766.662,63	2.989.411,98	-222.749,35	3.452.571,11	2.949.990,85	2.930.695,73	2.911.400,60	2.892.105,48	2.872.810,36	2.853.515,23	2.834.220,11	2.814.924,99	2.795.629,87
17	2.571.902,47	2.701.398,73	2.587.290,55	2.844.989,91	-257.699,36	3.194.871,75	2.688.449,11	2.681.974,29	2.675.499,48	2.669.024,67	2.662.549,85	2.656.075,04	2.649.600,23	2.643.125,41	2.636.650,60
18	2.482.345,45	2.615.493,99	2.527.123,96	2.658.446,36	-131.322,40	3.063.549,34	2.602.179,13	2.595.521,71	2.588.864,28	2.582.206,85	2.575.549,43	2.568.892,00	2.562.234,57	2.555.577,14	2.548.919,72
19	1.599.258,13	2.631.638,70	2.040.801,79	2.623.566,34	-582.764,55	2.480.784,79	2.528.400,64	2.476.781,61	2.425.162,58	2.373.543,56	2.321.924,53	2.270.305,50	2.218.686,47	2.167.067,44	2.115.448,41
20	2.196.088,12	1.773.656,95	1.897.673,13	2.202.647,82	-304.974,70	2.175.810,10	1.815.900,07	1.837.021,63	1.858.143,19	1.879.264,74	1.900.386,30	1.921.507,86	1.942.629,42	1.963.750,98	1.984.872,54
21	1.250.980,94	2.217.298,41	1.723.534,53	1.995.477,68	-271.943,15	1.903.866,95	2.120.666,66	2.072.350,79	2.024.034,91	1.975.719,04	1.927.403,17	1.879.087,29	1.830.771,42	1.782.455,55	1.734.139,67
22	1.102.929,77	1.507.556,14	1.176.955,35	1.862.427,27	-685.471,92	1.218.395,03	1.467.093,50	1.446.862,18	1.426.630,86	1.406.399,54	1.386.168,22	1.365.936,91	1.345.705,59	1.325.474,27	1.305.242,95
23	1.162.616,69	1.194.294,57	1.132.773,23	1.350.925,35	-218.152,12	1.000.242,91	1.191.126,78	1.189.542,89	1.187.958,99	1.186.375,10	1.184.791,20	1.183.207,31	1.181.623,42	1.180.039,52	1.178.455,63
24	1.296.839,64	1.152.659,18	1.229.728,17	1.173.476,87	56.251,30	1.056.494,21	1.167.077,22	1.174.286,25	1.181.495,27	1.188.704,29	1.195.913,32	1.203.122,34	1.210.331,36	1.217.540,39	1.224.749,41

0,10 K = 5.030.216,71 - 13.423,13 = 1,37 Horas
4.171.132,78 - 512.763,48

0,15 K = 5.030.216,71 - 13.423,13 = 1,41 Horas
4.084.217,45 - 514.105,79

0,20 K = 5.030.216,71 - 13.423,13 = 1,44 Horas
3.997.302,13 - 515.448,10

0,25 K = 5.030.216,71 - 13.423,13 = 1,48 Horas
3.910.386,80 - 516.790,42

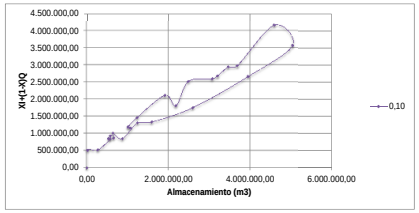
0,30 K = 5.030.216,71 - 13.423,13 = 1,52 Horas
3.823.471,47 - 518.132,73

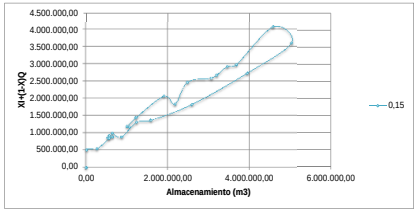
0,35 K = 5.030.216,71 - 13.423,13 = 1,54 Horas
3.784.047,04 - 519.475,04

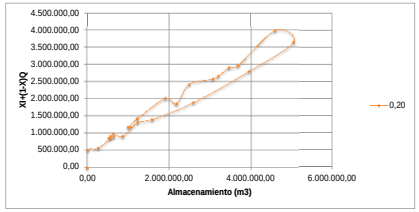
0,40 K = 5.030.216,71 - 13.423,13 = 1,52 Horas
3.825.367,88 - 520.817,35

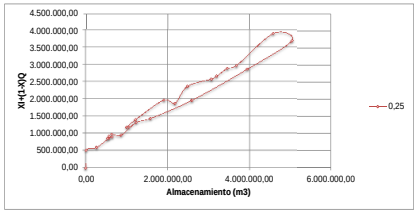
0,45 K = 5.030.216,71 - 13.423,13 = 1,50 Horas
3.866.688,72 - 522.159,67

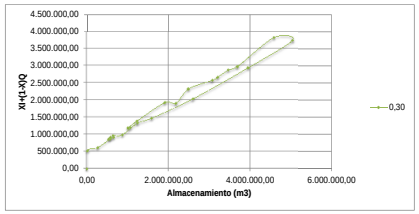
0,50 K = 5.030.216,71 - 13.423,13 = 1,48 Horas
3.908.009,57 - 523.501,98

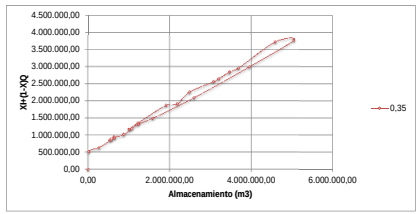

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Almacenamiento (m3)
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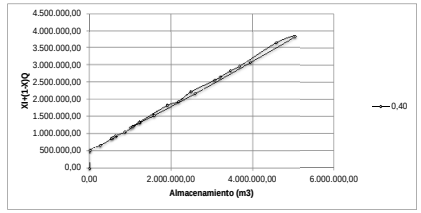

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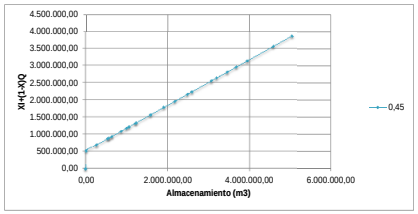

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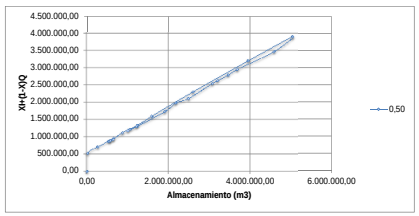

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	423.659,55	743.321,53	466.869,20	276.452,32	289.875,45	476.265,39	502.568,31	528.871,23	555.174,15	581.477,07	607.779,99	634.082,91	660.385,83	686.688,75
3	962.154,86	749.336,82	955.936,40	586.498,19	369.438,22	659.313,67	770.618,62	781.259,52	791.900,43	802.541,33	813.182,23	823.823,13	834.464,03	845.104,94	855.745,84
4	828.656,21	915.722,75	895.405,53	832.529,79	62.875,75	722.189,41	907.016,10	902.662,77	898.309,45	893.956,12	889.602,79	885.249,46	880.896,14	876.542,81	872.189,48
5	888.435,40	846.361,37	858.545,80	881.042,06	-22.496,26	699.693,15	850.568,77	852.672,47	854.776,17	856.879,87	858.983,58	861.087,28	863.190,98	865.294,68	867.398,38
6	1.050.897,01	832.042,23	969.666,20	839.201,80	130.464,40	830.157,56	853.927,71	864.870,45	875.813,19	886.755,93	897.698,66	908.641,40	919.584,14	930.526,88	941.469,62
7	816.880,77	1.027.330,53	933.888,89	929.686,38	4.202,51	834.360,07	1.006.285,55	995.763,06	985.240,58	974.718,09	964.195,60	953.673,11	943.150,63	932.628,14	922.105,65
8	1.464.595,11	733.870,85	1.140.737,94	880.600,69	260.137,26	1.094.497,33	806.943,27	843.479,49	880.015,70	916.551,91	953.088,13	989.624,34	1.026.160,55	1.062.696,77	1.099.232,98
9	1.363.224,74	1.215.916,11	1.413.909,93	974.893,48	439.016,45	1.533.513,78	1.230.646,97	1.238.012,40	1.245.377,83	1.252.743,26	1.260.108,70	1.267.474,13	1.274.839,56	1.282.204,99	1.289.570,42
10	1.924.173,70	1.167.746,76	1.643.699,22	1.191.831,43	451.867,79	1.985.381,56	1.243.389,45	1.281.210,80	1.319.032,15	1.356.853,50	1.394.674,84	1.432.496,19	1.470.317,54	1.508.138,88	1.545.960,23
11	2.990.327,36	1.373.975,18	2.457.250,53	1.270.860,97	1.186.389,56	3.171.771,12	1.535.610,40	1.616.428,01	1.697.245,62	1.778.063,23	1.858.880,84	1.939.698,45	2.020.516,05	2.101.333,66	2.182.151,27
12	3.882.684,66	2.161.105,97	3.436.506,01	1.767.540,58	1.668.965,43	4.840.736,55	2.333.263,84	2.419.342,77	2.505.421,71	2.591.500,64	2.677.579,57	2.763.658,51	2.849.737,44	2.935.816,38	3.021.895,31
13	4.321.217,99	3.127.459,32	4.101.951,32	2.644.282,64	1.457.668,68	6.298.405,23	3.246.835,18	3.306.523,12	3.366.211,05	3.425.898,98	3.485.586,92	3.545.274,85	3.604.962,78	3.664.650,72	3.724.338,65
14	2.606.656,88	4.302.198,76	3.463.937,43	3.714.829,04	-250.891,60	6.047.513,63	4.132.644,57	4.047.867,48	3.963.090,39	3.878.313,29	3.793.536,20	3.708.759,10	3.623.982,01	3.539.204,92	3.454.427,82
15	2.930.646,62	3.161.487,65	2.768.651,75	3.731.843,21	-963.191,46	5.084.322,17	3.138.403,55	3.126.861,50	3.115.319,45	3.103.777,39	3.092.235,34	3.080.693,29	3.069.151,24	3.057.609,19	3.046.067,14
16	2.602.678,64	3.099.204,00	2.766.662,63	3.130.345,83	-363.683,20	4.720.638,97	3.049.551,47	3.024.725,20	2.999.898,93	2.975.072,66	2.950.246,39	2.925.420,13	2.900.593,86	2.875.767,59	2.850.941,32
17	2.571.902,47	2.796.569,69	2.587.290,55	2.947.886,85	-360.596,30	4.360.042,68	2.774.102,97	2.762.869,61	2.751.636,25	2.740.402,89	2.729.169,52	2.717.936,16	2.706.702,80	2.695.469,44	2.684.236,08
18	2.482.345,45	2.678.541,93	2.527.123,96	2.737.555,81	-210.431,86	4.149.610,82	2.658.922,28	2.649.112,46	2.639.302,63	2.629.492,81	2.619.682,99	2.609.873,16	2.600.063,34	2.590.253,51	2.580.443,69
19	1.599.258,13	2.776.690,96	2.040.801,79	2.727.616,44	-686.814,66	3.462.796,17	2.658.947,67	2.600.076,03	2.541.204,39	2.482.332,75	2.423.461,11	2.364.589,47	2.305.717,83	2.246.846,19	2.187.974,54
20	2.196.088,12	1.891.587,94	1.897.673,13	2.334.139,45	-436.466,32	3.026.329,84	1.922.037,96	1.937.262,97	1.952.487,98	1.967.712,99	1.982.938,00	1.998.163,01	2.013.388,02	2.028.613,02	2.043.838,03
21	1.250.980,94	2.318.177,35	1.723.534,53	2.104.882,65	-381.348,12	2.644.981,73	2.211.457,71	2.158.097,89	2.104.738,07	2.051.378,25	1.998.018,43	1.944.658,61	1.891.298,79	1.837.938,97	1.784.579,15
22	1.102.929,77	1.688.192,39	1.176.955,35	2.003.184,87	-826.229,51	1.818.752,21	1.629.666,13	1.600.403,00	1.571.139,86	1.541.876,73	1.512.613,60	1.483.350,47	1.454.087,34	1.424.824,21	1.395.561,08
23	1.162.616,69	1.307.481,52	1.132.773,23	1.497.836,95	-365.063,72	1.453.688,49	1.292.995,04	1.285.751,80	1.278.508,55	1.271.265,31	1.264.022,07	1.256.778,83	1.249.535,59	1.242.292,35	1.235.049,11
24	1.296.839,64	1.183.385,26	1.229.728,17	1.245.433,39	-15.705,22	1.437.983,27	1.194.730,70	1.200.403,42	1.206.076,14	1.211.748,86	1.217.421,58	1.223.094,30	1.228.767,02	1.234.439,74	1.240.112,45

0,10 K = 6.298.405,23 - 13.423,13 = 1,72 Horas
4.132.644,57 - 476.265,39

0,15 K = 6.298.405,23 - 13.423,13 = 1,77 Horas
4.047.867,48 - 502.568,31

0,20 K = 6.298.405,23 - 13.423,13 = 1,82 Horas
3.963.090,39 - 515.448,10

0,25 K = 6.298.405,23 - 13.423,13 = 1,87 Horas
3.878.313,29 - 516.790,42

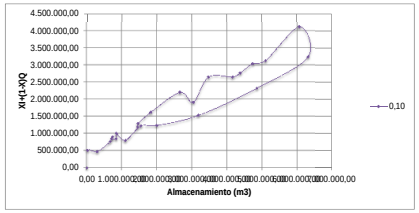
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3.793.536,20 - 518.132,73

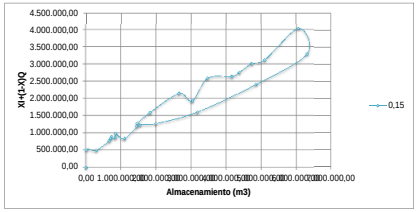
0,35 K = 6.298.405,23 - 13.423,13 = 1,97 Horas
3.708.759,10 - 519.475,04

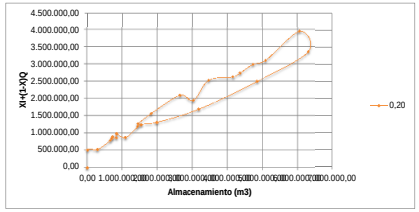
0,40 K = 6.298.405,23 - 13.423,13 = 2,03 Horas
3.623.982,01 - 520.817,35

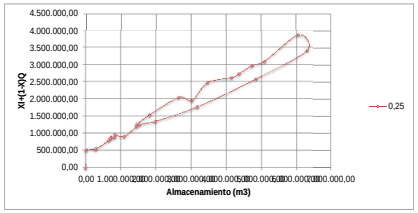
0,45 K = 6.298.405,23 - 13.423,13 = 2,00 Horas
3.664.650,72 - 522.159,67

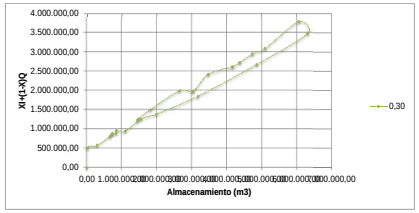
0,50 K = 6.298.405,23 - 13.423,13 = 1,96 Horas
3.724.338,65 - 523.501,98

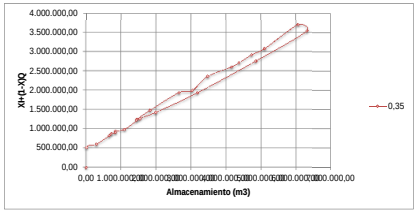

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Almacenamiento (m3)
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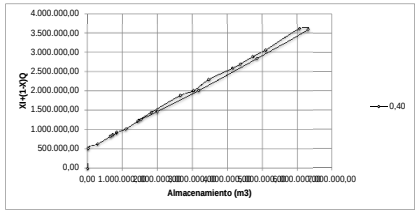

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Almacenamiento (m3)
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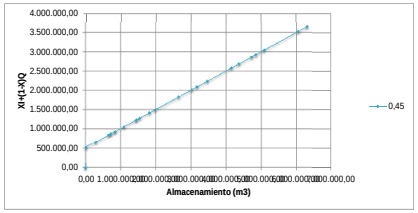

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Almacenamiento (m3)
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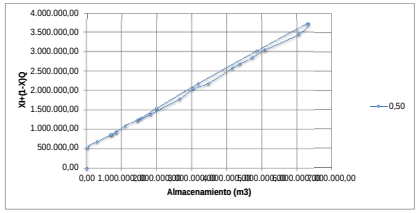

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	386.799,24	743.321,53	448.439,05	294.882,48	308.305,61	443.091,11	471.237,05	499.382,98	527.528,92	555.674,85	583.820,79	611.966,72	640.112,66	668.258,59
3	962.154,86	682.876,91	955.936,40	534.838,08	421.098,32	729.403,93	710.804,71	724.768,60	738.732,50	752.696,40	766.660,30	780.624,19	794.588,09	808.551,99	822.515,88
4	828.656,21	876.324,70	895.405,53	779.600,81	115.804,73	845.208,66	871.557,85	869.174,43	866.791,00	864.407,58	862.024,15	859.640,73	857.257,30	854.873,88	852.490,45
5	888.435,40	830.975,11	858.545,80	853.649,90	4.895,90	850.104,56	836.721,14	839.594,15	842.467,17	845.340,18	848.213,19	851.086,21	853.959,22	856.832,24	859.705,25
6	1.050.897,01	807.466,72	969.666,20	819.220,92	150.445,29	1.000.549,84	831.809,75	843.981,27	856.152,78	868.324,30	880.495,81	892.667,32	904.838,84	917.010,35	929.181,87
7	816.880,77	1.015.301,62	933.888,89	911.384,17	22.504,72	1.023.054,56	995.459,54	985.538,49	975.617,45	965.696,41	955.775,37	945.854,32	935.933,28	926.012,24	916.091,20
8	1.464.595,11	693.572,39	1.140.737,94	854.437,01	286.300,94	1.309.355,50	770.674,66	809.225,80	847.776,93	886.328,07	924.879,21	963.430,34	1.001.981,48	1.040.532,62	1.079.083,75
9	1.363.224,74	1.138.574,63	1.413.909,93	916.073,51	497.836,41	1.807.191,91	1.161.039,64	1.172.272,15	1.183.504,65	1.194.737,16	1.205.969,67	1.217.202,17	1.228.434,68	1.239.667,18	1.250.899,69
10	1.924.173,70	1.071.405,03	1.643.699,22	1.104.989,83	538.709,39	2.345.901,30	1.156.681,90	1.199.320,33	1.241.958,77	1.284.597,20	1.327.235,63	1.369.874,07	1.412.512,50	1.455.150,93	1.497.789,37
11	2.990.327,36	1.170.830,44	2.457.250,53	1.121.117,74	1.336.132,79	3.682.034,09	1.352.780,13	1.443.754,98	1.534.729,82	1.625.704,67	1.716.679,51	1.807.654,36	1.898.629,21	1.989.604,05	2.080.578,90
12	3.882.684,66	1.843.776,36	3.436.506,01	1.507.303,40	1.929.202,61	5.611.236,70	2.047.667,19	2.149.612,61	2.251.558,02	2.353.503,44	2.455.448,85	2.557.394,27	2.659.339,68	2.761.285,09	2.863.230,51
13	4.321.217,99	2.785.016,34	4.101.951,32	2.314.396,35	1.787.554,97	7.398.791,67	2.938.636,51	3.015.446,59	3.092.256,67	3.169.066,75	3.245.876,84	3.322.686,92	3.399.497,00	3.476.307,08	3.553.117,17
14	2.606.656,88	4.175.844,26	3.463.937,43	3.480.430,30	-16.492,86	7.382.298,80	4.018.925,52	3.940.466,15	3.862.006,78	3.783.547,41	3.705.088,04	3.626.628,67	3.548.169,31	3.469.709,94	3.391.250,57
15	2.930.646,62	3.230.947,74	2.768.651,75	3.703.396,00	-934.744,25	6.447.554,56	3.200.917,63	3.185.902,57	3.170.887,52	3.155.872,46	3.140.857,41	3.125.842,35	3.110.827,29	3.095.812,24	3.080.797,18
16	2.602.678,64	3.180.109,81	2.766.662,63	3.205.528,77	-438.866,15	6.008.688,41	3.122.366,69	3.093.495,13	3.064.623,57	3.035.752,01	3.006.880,46	2.978.008,90	2.949.137,34	2.920.265,78	2.891.394,22
17	2.571.902,47	2.882.405,24	2.587.290,55	3.031.257,52	-443.966,97	5.564.721,44	2.851.354,96	2.835.829,82	2.820.304,68	2.804.779,55	2.789.254,41	2.773.729,27	2.758.204,13	2.742.678,99	2.727.153,85
18	2.482.345,45	2.746.656,10	2.527.123,96	2.814.530,67	-287.406,71	5.277.314,73	2.720.225,04	2.707.009,50	2.693.793,97	2.680.578,44	2.667.362,90	2.654.147,37	2.640.931,84	2.627.716,31	2.614.500,77
19	1.599.258,13	2.900.052,86	2.040.801,79	2.823.354,48	-782.552,69	4.494.762,04	2.769.973,38	2.704.933,65	2.639.893,91	2.574.854,18	2.509.814,44	2.444.774,70	2.379.734,97	2.314.695,23	2.249.655,49
20	2.196.088,12	2.007.352,34	1.897.673,13	2.453.702,60	-556.029,47	3.938.732,57	2.026.225,92	2.035.662,71	2.045.099,50	2.054.536,29	2.063.973,07	2.073.409,86	2.082.846,65	2.092.283,44	2.101.720,23
21	1.250.980,94	2.423.047,15	1.723.534,53	2.215.199,75	-491.665,21	3.447.067,35	2.305.840,53	2.247.237,22	2.188.633,91	2.130.030,60	2.071.427,29	2.012.823,98	1.954.220,67	1.895.617,36	1.837.014,05
22	1.102.929,77	1.847.295,56	1.176.955,35	2.135.171,36	-958.216,00	2.488.851,35	1.772.858,98	1.735.640,69	1.698.422,40	1.661.204,11	1.623.985,83	1.586.767,54	1.549.549,25	1.512.330,96	1.475.112,67
23	1.162.616,69	1.430.404,83	1.132.773,23	1.638.850,20	-506.076,97	1.982.774,38	1.403.626,02	1.390.236,61	1.376.847,20	1.363.457,80	1.350.068,39	1.336.678,98	1.323.289,58	1.309.900,17	1.296.510,76
24	1.296.839,64	1.242.843,51	1.229.728,17	1.336.624,17	-106.896,00	1.875.878,38	1.248.243,12	1.250.942,93	1.253.642,73	1.256.342,54	1.259.042,35	1.261.742,15	1.264.441,96	1.267.141,77	1.269.841,58

0,10 K = 7.398.791,67 - 13.423,13 = 2,07 Horas
4.018.925,52 - 443.091,11

0,15 K = 7.398.791,67 - 13.423,13 = 2,13 Horas
3.940.466,15 - 471.237,05

0,20 K = 7.398.791,67 - 13.423,13 = 2,20 Horas
3.862.006,78 - 499.382,98

0,25 K = 7.398.791,67 - 13.423,13 = 2,26 Horas
3.783.547,41 - 516.790,42

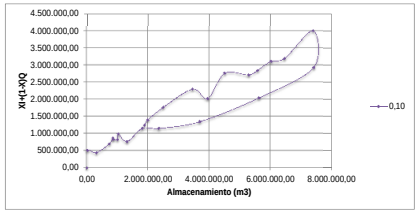
0,30 K = 7.398.791,67 - 13.423,13 = 2,32 Horas
3.705.088,04 - 518.132,73

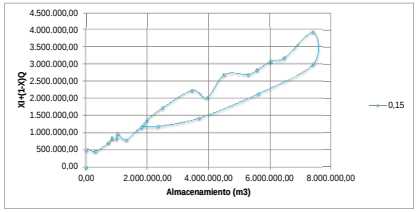
0,35 K = 7.398.791,67 - 13.423,13 = 2,38 Horas
3.626.628,67 - 519.475,04

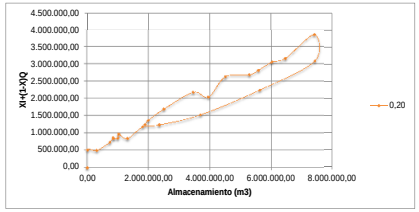
0,40 K = 7.398.791,67 - 13.423,13 = 2,44 Horas
3.548.169,31 - 520.817,35

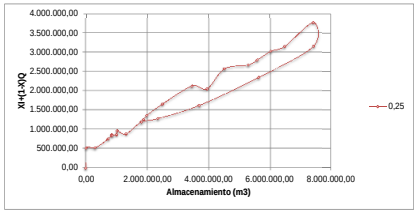
0,45 K = 7.398.791,67 - 13.423,13 = 2,50 Horas
3.476.307,08 - 522.159,67

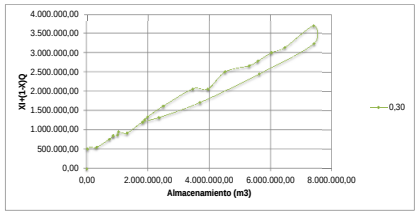
0,50 K = 7.398.791,67 - 13.423,13 = 2,44 Horas
3.553.117,17 - 523.501,98

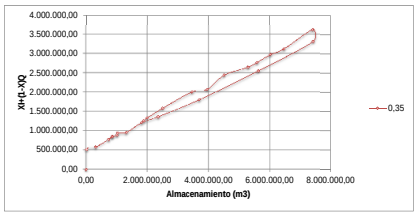

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Almacenamiento (m3)
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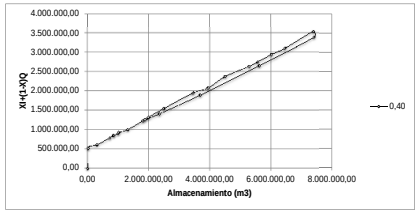

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Almacenamiento (m3)
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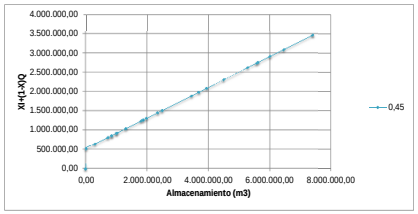

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Almacenamiento (m3)
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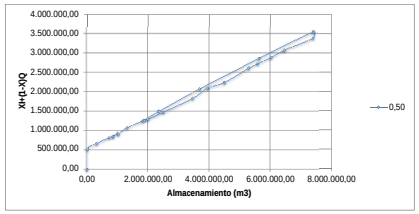

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	359.368,31	743.321,53	434.723,58	308.597,94	322.021,07	418.403,28	447.920,76	477.438,24	506.955,72	536.473,20	565.990,68	595.508,17	625.025,65	654.543,13
3	962.154,86	629.032,62	955.936,40	494.200,47	461.735,93	783.757,01	662.344,84	679.000,95	695.657,07	712.313,18	728.969,29	745.625,40	762.281,51	778.937,63	795.593,74
4	828.656,21	836.751,73	895.405,53	732.892,17	162.513,36	946.270,36	835.942,18	835.537,40	835.132,63	834.727,85	834.323,07	833.918,30	833.513,52	833.108,74	832.703,97
5	888.435,40	809.352,74	858.545,80	823.052,23	35.493,57	981.763,93	817.261,00	821.215,14	825.169,27	829.123,40	833.077,54	837.031,67	840.985,80	844.939,93	848.894,07
6	1.050.897,01	781.906,36	969.666,20	795.629,55	174.036,65	1.155.800,59	808.805,42	822.254,96	835.704,49	849.154,02	862.603,55	876.053,09	889.502,62	902.952,15	916.401,68
7	816.880,77	999.536,34	933.888,89	890.721,35	43.167,54	1.198.968,13	981.270,78	972.138,00	963.005,22	953.872,45	944.739,67	935.606,89	926.474,11	917.341,33	908.208,56
8	1.464.595,11	658.507,15	1.140.737,94	829.021,74	311.716,20	1.510.684,33	739.115,95	779.420,34	819.724,74	860.029,14	900.333,54	940.637,94	980.942,34	1.021.246,73	1.061.551,13
9	1.363.224,74	1.073.508,44	1.413.909,93	866.007,80	547.902,13	2.058.586,46	1.102.480,07	1.116.965,89	1.131.451,70	1.145.937,52	1.160.423,33	1.174.909,15	1.189.394,96	1.203.880,78	1.218.366,59
10	1.924.173,70	986.489,69	1.643.699,22	1.029.999,07	613.700,15	2.672.286,61	1.080.258,09	1.127.142,29	1.174.026,49	1.220.910,69	1.267.794,89	1.314.679,09	1.361.563,29	1.408.447,49	1.455.331,69
11	2.990.327,36	1.001.119,18	2.457.250,53	993.804,43	1.463.446,10	4.135.732,71	1.200.040,00	1.299.500,41	1.398.960,81	1.498.421,22	1.597.881,63	1.697.342,04	1.796.802,45	1.896.262,86	1.995.723,27
12	3.882.684,66	1.573.539,86	3.436.506,01	1.287.329,52	2.149.176,49	6.284.909,19	1.804.454,34	1.919.911,58	2.035.368,82	2.150.826,06	2.266.283,30	2.381.740,54	2.497.197,78	2.612.655,02	2.728.112,26
13	4.321.217,99	2.474.187,06	4.101.951,32	2.023.863,46	2.078.087,86	8.362.997,05	2.658.890,15	2.751.241,70	2.843.593,24	2.935.944,79	3.028.296,34	3.120.647,88	3.212.999,43	3.305.350,98	3.397.702,52
14	2.606.656,88	4.011.120,95	3.463.937,43	3.242.654,00	221.283,43	8.584.280,49	3.870.674,54	3.800.451,34	3.730.228,14	3.660.004,93	3.589.781,73	3.519.558,53	3.449.335,32	3.379.112,12	3.308.888,92
15	2.930.646,62	3.229.792,88	2.768.651,75	3.620.456,92	-851.805,16	7.732.475,32	3.199.878,26	3.184.920,94	3.169.963,63	3.155.006,32	3.140.049,00	3.125.091,69	3.110.134,38	3.095.177,06	3.080.219,75
16	2.602.678,64	3.220.316,85	2.766.662,63	3.225.054,86	-458.392,24	7.274.083,09	3.158.553,03	3.127.671,12	3.096.789,21	3.065.907,29	3.035.025,38	3.004.143,47	2.973.261,56	2.942.379,65	2.911.497,74
17	2.571.902,47	2.945.210,58	2.587.290,55	3.082.763,72	-495.473,16	6.778.609,92	2.907.879,77	2.889.214,37	2.870.548,96	2.851.883,55	2.833.218,15	2.814.552,74	2.795.887,34	2.777.221,93	2.758.556,53
18	2.482.345,45	2.806.985,17	2.527.123,96	2.876.097,88	-348.973,92	6.429.636,00	2.774.521,19	2.758.289,21	2.742.057,22	2.725.825,24	2.709.593,25	2.693.361,26	2.677.129,28	2.660.897,29	2.644.665,31
19	1.599.258,13	3.005.117,49	2.040.801,79	2.906.051,33	-865.249,54	5.564.386,47	2.864.531,55	2.794.238,59	2.723.945,62	2.653.652,65	2.583.359,68	2.513.066,71	2.442.773,75	2.372.480,78	2.302.187,81
20	2.196.088,12	2.115.273,37	1.897.673,13	2.560.195,43	-662.522,30	4.901.864,16	2.123.354,85	2.127.395,59	2.131.436,32	2.135.477,06	2.139.517,80	2.143.558,54	2.147.599,27	2.151.640,01	2.155.680,75
21	1.250.980,94	2.526.508,65	1.723.534,53	2.320.891,01	-597.356,48	4.304.507,68	2.398.955,88	2.335.179,50	2.271.403,11	2.207.626,73	2.143.850,34	2.080.073,95	2.016.297,57	1.952.521,18	1.888.744,80
22	1.102.929,77	1.991.771,81	1.176.955,35	2.259.140,23	-1.082.184,88	3.222.322,80	1.902.887,61	1.858.445,50	1.814.003,40	1.769.561,30	1.725.119,20	1.680.677,10	1.636.234,99	1.591.792,89	1.547.350,79
23	1.162.616,69	1.554.759,75	1.132.773,23	1.773.265,78	-640.492,55	2.581.830,25	1.515.545,44	1.495.938,29	1.476.331,14	1.456.723,99	1.437.116,83	1.417.509,68	1.397.902,53	1.378.295,37	1.358.688,22
24	1.296.839,64	1.319.302,74	1.229.728,17	1.437.031,25	-207.303,08	2.374.527,17	1.317.056,43	1.315.933,28	1.314.810,12	1.313.686,97	1.312.563,81	1.311.440,66	1.310.317,50	1.309.194,35	1.308.071,19

0,10 K = 8.584.280,49 - 13.423,13 = 2,48 Horas
3.870.674,54 - 418.403,28

0,15 K = 8.584.280,49 - 13.423,13 = 2,56 Horas
3.800.451,34 - 447.920,76

0,20 K = 8.584.280,49 - 13.423,13 = 2,63 Horas
3.730.228,14 - 477.438,24

0,25 K = 8.584.280,49 - 13.423,13 = 2,72 Horas
3.660.004,93 - 506.955,72

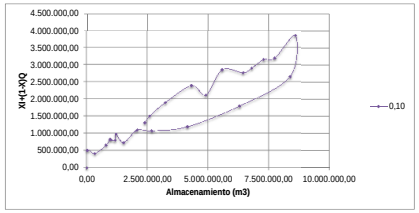
0,30 K = 8.584.280,49 - 13.423,13 = 2,79 Horas
3.589.781,73 - 518.132,73

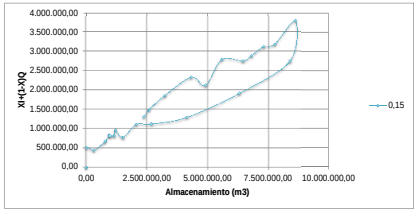
0,35 K = 8.584.280,49 - 13.423,13 = 2,86 Horas
3.519.558,53 - 519.475,04

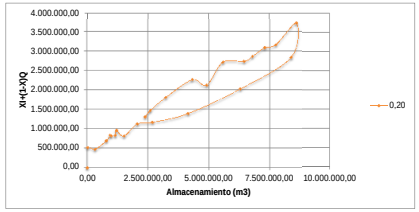
0,40 K = 8.584.280,49 - 13.423,13 = 2,93 Horas
3.449.335,32 - 520.817,35

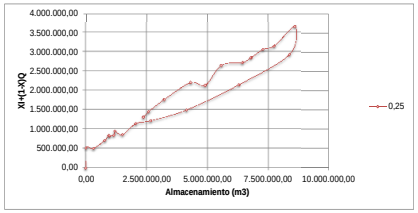
0,45 K = 8.584.280,49 - 13.423,13 = 3,00 Horas
3.379.112,12 - 522.159,67

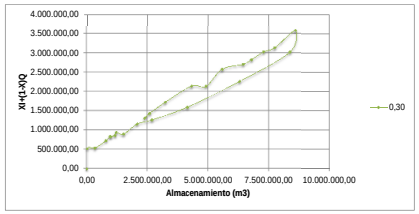
0,50 K = 8.584.280,49 - 13.423,13 = 2,98 Horas
3.397.702,52 - 523.501,98

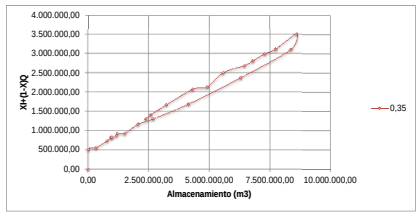

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Almacenamiento (m3)
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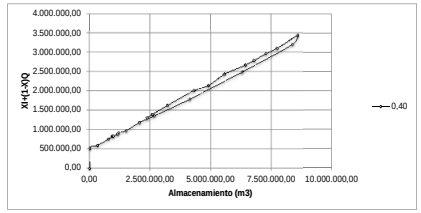

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Almacenamiento (m3)
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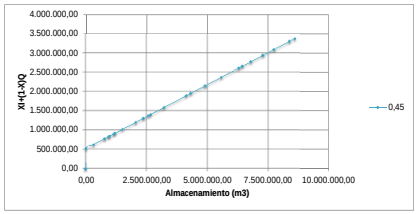

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Almacenamiento (m3)
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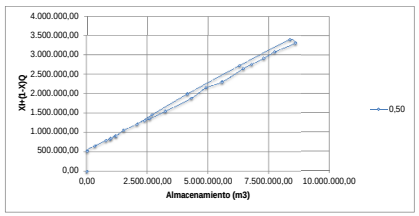

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	683.471,47	743.321,53	596.775,16	146.546,36	159.969,49	710.096,12	723.408,44	736.720,77	750.033,09	763.345,41	776.657,74	789.970,06	803.282,38	816.594,71
3	962.154,86	1.042.612,41	955.936,40	863.041,94	92.894,46	252.863,95	1.034.566,65	1.030.543,77	1.026.520,90	1.022.498,02	1.018.475,14	1.014.452,26	1.010.429,39	1.006.406,51	1.002.383,63
4	828.656,21	890.836,12	895.405,53	966.724,27	-71.318,73	181.545,22	884.618,13	881.509,14	878.400,14	875.291,15	872.182,15	869.073,15	865.964,16	862.855,16	859.746,17
5	888.435,40	827.855,97	858.545,80	859.346,04	-800,24	180.744,98	833.913,91	836.942,88	839.971,85	843.000,82	846.029,79	849.058,77	852.087,74	855.116,71	858.145,68
6	1.050.897,01	962.782,41	969.666,20	895.319,19	74.347,01	255.091,99	971.593,87	975.999,60	980.405,33	984.811,06	989.216,79	993.622,52	998.028,25	1.002.433,98	1.006.839,71
7	816.880,77	1.002.263,13	933.888,89	982.522,77	-48.633,88	206.458,11	983.724,89	974.455,78	965.186,66	955.917,54	946.648,42	937.379,31	928.110,19	918.841,07	909.571,95
8	1.464.595,11	970.991,43	1.140.737,94	986.627,28	154.110,66	360.568,78	1.020.351,80	1.045.031,99	1.069.712,17	1.094.392,35	1.119.072,54	1.143.752,72	1.168.432,91	1.193.113,09	1.217.793,27
9	1.363.224,74	1.595.339,55	1.413.909,93	1.283.165,49	130.744,43	491.313,21	1.572.128,07	1.560.522,33	1.548.916,59	1.537.310,84	1.525.705,10	1.514.099,36	1.502.493,62	1.490.887,88	1.479.282,14
10	1.924.173,70	1.472.836,12	1.643.699,22	1.534.087,83	109.611,38	600.924,59	1.517.969,88	1.540.536,76	1.563.103,64	1.585.670,52	1.608.237,40	1.630.804,27	1.653.371,15	1.675.938,03	1.698.504,91
11	2.990.327,36	2.430.004,11	2.457.250,53	1.951.420,12	505.830,41	1.106.755,01	2.486.036,44	2.514.052,60	2.542.068,76	2.570.084,92	2.598.101,09	2.626.117,25	2.654.133,41	2.682.149,57	2.710.165,74
12	3.882.684,66	3.474.554,20	3.436.506,01	2.952.279,16	484.226,85	1.590.981,85	3.515.367,25	3.535.773,77	3.556.180,30	3.576.586,82	3.596.993,34	3.617.399,86	3.637.806,39	3.658.212,91	3.678.619,43
13	4.321.217,99	4.164.905,92	4.101.951,32	3.819.730,06	282.221,26	1.873.203,11	4.180.537,13	4.188.352,73	4.196.168,33	4.203.983,94	4.211.799,54	4.219.615,14	4.227.430,75	4.235.246,35	4.243.061,95
14	2.606.656,88	3.801.801,64	3.463.937,43	3.983.353,78	-519.416,35	1.353.786,77	3.682.287,17	3.622.529,93	3.562.772,69	3.503.015,45	3.443.258,21	3.383.500,98	3.323.743,74	3.263.986,50	3.204.229,26
15	2.930.646,62	2.316.271,87	2.768.651,75	3.059.036,76	-290.385,01	1.063.401,76	2.377.709,35	2.408.428,09	2.439.146,82	2.469.865,56	2.500.584,30	2.531.303,04	2.562.021,77	2.592.740,51	2.623.459,25
16	2.602.678,64	3.026.115,54	2.766.662,63	2.671.193,71	95.468,92	1.158.870,68	2.983.771,85	2.962.600,01	2.941.428,16	2.920.256,32	2.899.084,47	2.877.912,63	2.856.740,78	2.835.568,93	2.814.397,09
17	2.571.902,47	2.451.274,28	2.587.290,55	2.738.694,91	-151.404,36	1.007.466,32	2.463.337,10	2.469.368,51	2.475.399,92	2.481.431,33	2.487.462,74	2.493.494,14	2.499.525,55	2.505.556,96	2.511.588,37
18	2.482.345,45	2.582.259,52	2.527.123,96	2.516.766,90	10.357,06	1.017.823,38	2.572.268,12	2.567.272,41	2.562.276,71	2.557.281,00	2.552.285,30	2.547.289,60	2.542.293,89	2.537.298,19	2.532.302,48
19	1.599.258,13	2.154.678,32	2.040.801,79	2.368.468,92	-327.667,13	690.156,25	2.099.136,30	2.071.365,29	2.043.594,28	2.015.823,27	1.988.052,26	1.960.281,25	1.932.510,24	1.904.739,23	1.876.968,22
20	2.196.088,12	1.613.061,40	1.897.673,13	1.883.869,86	13.803,27	703.959,52	1.671.364,07	1.700.515,41	1.729.666,75	1.758.818,08	1.787.969,42	1.817.120,75	1.846.272,09	1.875.423,43	1.904.574,76
21	1.250.980,94	2.075.394,64	1.723.534,53	1.844.228,02	-120.693,49	583.266,03	1.992.953,27	1.951.732,58	1.910.511,90	1.869.291,21	1.828.070,53	1.786.849,84	1.745.629,16	1.704.408,47	1.663.187,79
22	1.102.929,77	926.825,99	1.176.955,35	1.501.110,31	-324.154,96	259.111,08	944.436,36	953.241,55	962.046,74	970.851,93	979.657,12	988.462,31	997.267,50	1.006.072,69	1.014.877,88
23	1.162.616,69	1.181.526,67	1.132.773,23	1.054.176,33	78.596,90	337.707,98	1.179.635,67	1.178.690,17	1.177.744,67	1.176.799,18	1.175.853,68	1.174.908,18	1.173.962,68	1.173.017,18	1.172.071,68
24	1.296.839,64	1.201.054,35	1.229.728,17	1.191.290,51	38.437,66	376.145,64	1.210.632,88	1.215.422,14	1.220.211,41	1.225.000,67	1.229.789,94	1.234.579,20	1.239.368,47	1.244.157,73	1.248.947,00

0,10 K = 1.873.203,11 - 13.423,13 = 0,51 Horas
4.180.537,13 - 512.763,48

0,15 K = 1.873.203,11 - 13.423,13 = 0,51 Horas
4.188.352,73 - 514.105,79

0,20 K = 1.873.203,11 - 13.423,13 = 0,51 Horas
4.196.168,33 - 515.448,10

0,25 K = 1.873.203,11 - 13.423,13 = 0,50 Horas
4.203.983,94 - 516.790,42

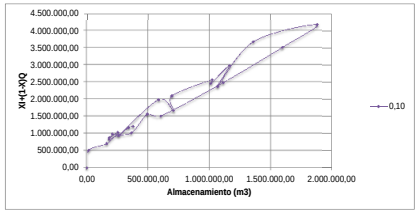
0,30 K = 1.873.203,11 - 13.423,13 = 0,50 Horas
4.211.799,54 - 518.132,73

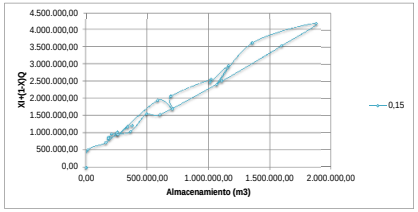
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4.219.615,14 - 519.475,04

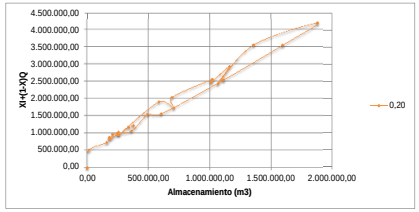
0,40 K = 1.873.203,11 - 13.423,13 = 0,50 Horas
4.227.430,75 - 520.817,35

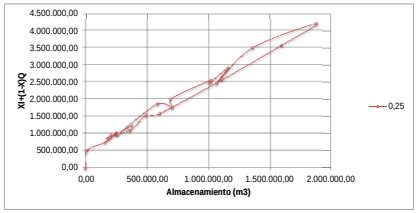
0,45 K = 1.873.203,11 - 13.423,13 = 0,50 Horas
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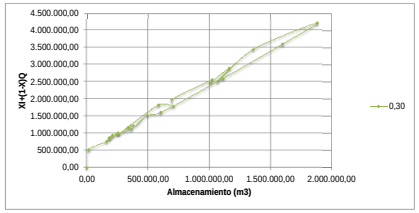
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4.243.061,95 - 523.501,98

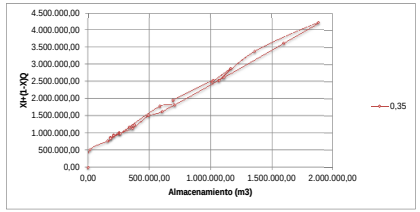

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Almacenamiento (m3)
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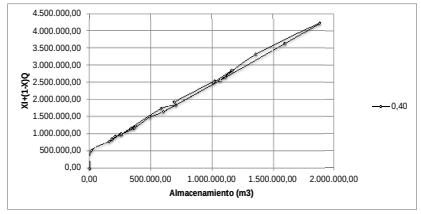

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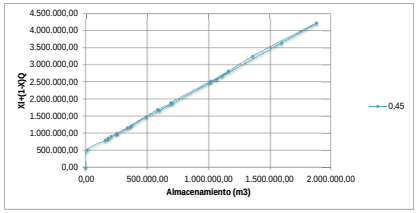

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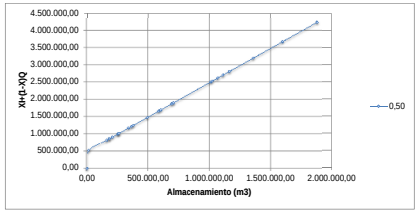

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_1+I_{1+1})/2$	$(Q_1+Q_{1+1})/2$	$\Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ]$	$S_{1+1} = \Delta t\ [(I_1+I_{1+1})/2 - (Q_1+Q_{1+1})/2\ ] + S_1$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	536.925,11	743.321,53	523.501,98	219.819,55	233.242,67	578.204,39	598.844,03	619.483,67	640.123,32	660.762,96	681.402,60	702.042,24	722.681,88	743.321,53
3	962.154,86	949.717,94	955.936,40	743.321,53	212.614,88	445.857,55	950.961,64	951.583,48	952.205,33	952.827,17	953.449,02	954.070,86	954.692,71	955.314,55	955.936,40
4	828.656,21	962.154,86	895.405,53	955.936,40	-60.530,87	385.326,68	948.804,99	942.130,06	935.455,13	928.780,19	922.105,26	915.430,33	908.755,40	902.080,46	895.405,53
5	888.435,40	828.656,21	858.545,80	895.405,53	-36.859,73	348.466,95	834.634,13	837.623,09	840.612,05	843.601,01	846.589,96	849.578,92	852.567,88	855.556,84	858.545,80
6	1.050.897,01	888.435,40	969.666,20	858.545,80	111.120,40	459.587,35	904.681,56	912.804,64	920.927,72	929.050,80	937.173,88	945.296,96	953.420,04	961.543,12	969.666,20
7	816.880,77	1.050.897,01	933.888,89	969.666,20	-35.777,31	423.810,04	1.027.495,39	1.015.794,57	1.004.093,76	992.392,95	980.692,14	968.991,33	957.290,52	945.589,70	933.888,89
8	1.464.595,11	816.880,77	1.140.737,94	933.888,89	206.849,05	630.659,09	881.652,21	914.037,92	946.423,64	978.809,36	1.011.195,08	1.043.580,79	1.075.966,51	1.108.352,23	1.140.737,94
9	1.363.224,74	1.464.595,11	1.413.909,93	1.140.737,94	273.171,98	903.831,07	1.454.458,08	1.449.389,56	1.444.321,04	1.439.252,52	1.434.184,00	1.429.115,48	1.424.046,96	1.418.978,44	1.413.909,93
10	1.924.173,70	1.363.224,74	1.643.699,22	1.413.909,93	229.789,29	1.133.620,37	1.419.319,63	1.447.367,08	1.475.414,53	1.503.461,98	1.531.509,43	1.559.556,87	1.587.604,32	1.615.651,77	1.643.699,22
11	2.990.327,36	1.924.173,70	2.457.250,53	1.643.699,22	813.551,31	1.947.171,68	2.030.789,07	2.084.096,75	2.137.404,43	2.190.712,12	2.244.019,80	2.297.327,48	2.350.635,16	2.403.942,85	2.457.250,53
12	3.882.684,66	2.990.327,36	3.436.506,01	2.457.250,53	979.255,48	2.926.427,16	3.079.563,09	3.124.180,95	3.168.798,82	3.213.416,68	3.258.034,55	3.302.652,41	3.347.270,28	3.391.888,14	3.436.506,01
13	4.321.217,99	3.882.684,66	4.101.951,32	3.436.506,01	665.445,32	3.591.872,47	3.926.537,99	3.948.464,66	3.970.391,32	3.992.317,99	4.014.244,66	4.036.171,32	4.058.097,99	4.080.024,66	4.101.951,32
14	2.606.656,88	4.321.217,99	3.463.937,43	4.101.951,32	-638.013,89	2.953.858,58	4.149.761,88	4.064.033,82	3.978.305,77	3.892.577,71	3.806.849,66	3.721.121,60	3.635.393,55	3.549.665,49	3.463.937,43
15	2.930.646,62	2.606.656,88	2.768.651,75	3.463.937,43	-695.285,68	2.258.572,90	2.639.055,86	2.655.255,34	2.671.454,83	2.687.654,32	2.703.853,80	2.720.053,29	2.736.252,78	2.752.452,26	2.768.651,75
16	2.602.678,64	2.930.646,62	2.766.662,63	2.768.651,75	-1.989,12	2.256.583,78	2.897.849,82	2.881.451,42	2.865.053,02	2.848.654,63	2.832.256,23	2.815.857,83	2.799.459,43	2.783.061,03	2.766.662,63
17	2.571.902,47	2.602.678,64	2.587.290,55	2.766.662,63	-179.372,08	2.077.211,70	2.599.601,02	2.598.062,21	2.596.523,40	2.594.984,59	2.593.445,79	2.591.906,98	2.590.368,17	2.588.829,36	2.587.290,55
18	2.482.345,45	2.571.902,47	2.527.123,96	2.587.290,55	-60.166,60	2.017.045,11	2.562.946,77	2.558.468,91	2.553.991,06	2.549.513,21	2.545.035,36	2.540.557,51	2.536.079,66	2.531.601,81	2.527.123,96
19	1.599.258,13	2.482.345,45	2.040.801,79	2.527.123,96	-486.322,17	1.530.722,94	2.394.036,71	2.349.882,35	2.305.727,98	2.261.573,62	2.217.419,25	2.173.264,89	2.129.110,52	2.084.956,15	2.040.801,79
20	2.196.088,12	1.599.258,13	1.897.673,13	2.040.801,79	-143.128,66	1.387.594,28	1.658.941,13	1.688.782,63	1.718.624,13	1.748.465,63	1.778.307,13	1.808.148,63	1.837.990,13	1.867.831,63	1.897.673,13
21	1.250.980,94	2.196.088,12	1.723.534,53	1.897.673,13	-174.138,60	1.213.455,68	2.101.577,40	2.054.322,05	2.007.066,69	1.959.811,33	1.912.555,97	1.865.300,61	1.818.045,25	1.770.789,89	1.723.534,53
22	1.102.929,77	1.250.980,94	1.176.955,35	1.723.534,53	-546.579,18	666.876,50	1.236.175,82	1.228.773,27	1.221.370,71	1.213.968,15	1.206.565,59	1.199.163,03	1.191.760,47	1.184.357,91	1.176.955,35
23	1.162.616,69	1.102.929,77	1.132.773,23	1.176.955,35	-44.182,13	622.694,38	1.108.898,46	1.111.882,81	1.114.867,15	1.117.851,50	1.120.835,85	1.123.820,19	1.126.804,54	1.129.788,88	1.132.773,23
24	1.296.839,64	1.162.616,69	1.229.728,17	1.132.773,23	96.954,94	719.649,32	1.176.038,99	1.182.750,13	1.189.461,28	1.196.172,43	1.202.883,58	1.209.594,73	1.216.305,87	1.223.017,02	1.229.728,17

0,10 K = 3.591.872,47 - 13.423,13 = 0,98 Horas
4.149.761,88 - 512.763,48

0,15 K = 3.591.872,47 - 13.423,13 = 1,01 Horas
4.064.033,82 - 514.105,79

0,20 K = 3.591.872,47 - 13.423,13 = 1,03 Horas
3.978.305,77 - 515.448,10

0,25 K = 3.591.872,47 - 13.423,13 = 1,03 Horas
3.992.317,99 - 516.790,42

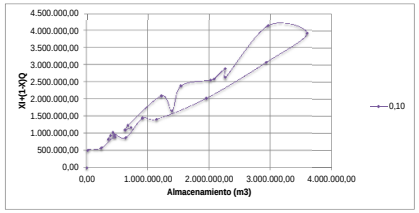
0,30 K = 3.591.872,47 - 13.423,13 = 1,02 Horas
4.014.244,66 - 518.132,73

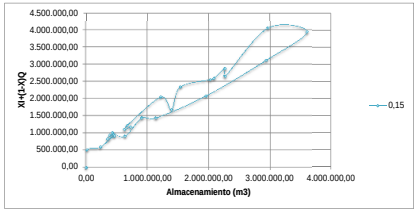
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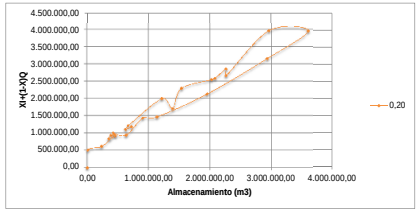
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4.058.097,99 - 520.817,35

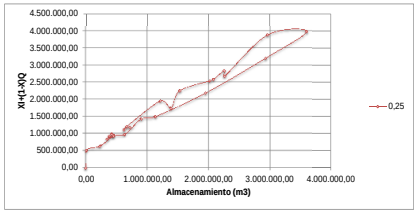
0,45 K = 3.591.872,47 - 13.423,13 = 1,01 Horas
4.080.024,66 - 522.159,67

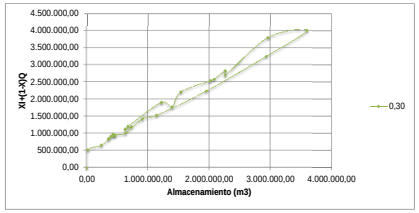
0,50 K = 3.591.872,47 - 13.423,13 = 1,00 Horas
4.101.951,32 - 523.501,98

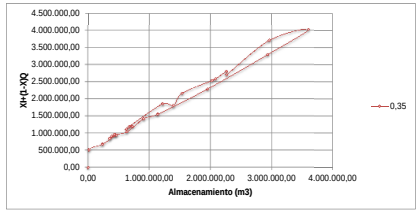

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Almacenamiento (m3)
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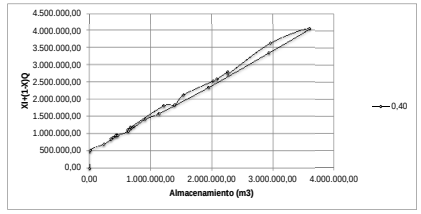

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Almacenamiento (m3)
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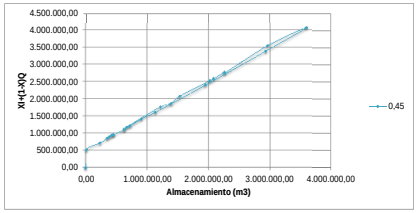

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Almacenamiento (m3)
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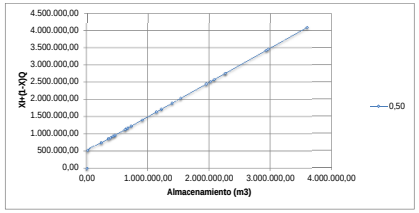

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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2.000.000,00
3.000.000,00
4.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	448.997,29	743.321,53	479.538,07	263.783,46	277.206,58	499.069,35	524.105,39	549.141,42	574.177,45	599.213,49	624.249,52	649.285,55	674.321,58	699.357,62
3	962.154,86	847.086,43	955.936,40	648.041,86	307.894,54	585.101,12	858.593,27	864.346,69	870.100,12	875.853,54	881.606,96	887.360,38	893.113,80	898.867,22	904.620,64
4	828.656,21	965.840,90	895.405,53	906.463,67	-11.058,13	574.042,99	952.122,43	945.263,20	938.403,96	931.544,73	924.685,49	917.826,26	910.967,02	904.107,79	897.248,55
5	888.435,40	844.137,31	858.545,80	904.989,11	-46.443,30	527.599,69	848.567,12	850.782,02	852.996,93	855.211,83	857.426,74	859.641,64	861.856,54	864.071,45	866.286,35
6	1.050.897,01	847.083,46	969.666,20	845.610,38	124.055,82	651.655,51	867.464,81	877.655,49	887.846,17	898.036,84	908.227,52	918.418,20	928.608,88	938.799,56	948.990,23
7	816.880,77	1.056.937,55	933.888,89	952.010,50	-18.121,61	633.533,90	1.032.931,87	1.020.929,03	1.008.926,19	996.923,35	984.920,51	972.917,68	960.914,84	948.912,00	936.909,16
8	1.464.595,11	735.349,26	1.140.737,94	896.143,40	244.594,54	878.128,44	808.273,85	844.736,14	881.198,43	917.660,72	954.123,02	990.585,31	1.027.047,60	1.063.509,89	1.099.972,19
9	1.363.224,74	1.339.020,02	1.413.909,93	1.037.184,64	376.725,29	1.254.853,73	1.341.440,49	1.342.650,73	1.343.860,96	1.345.071,20	1.346.281,43	1.347.491,67	1.348.701,91	1.349.912,14	1.351.122,38
10	1.924.173,70	1.246.194,00	1.643.699,22	1.292.607,01	351.092,21	1.605.945,94	1.313.991,97	1.347.890,96	1.381.789,94	1.415.688,93	1.449.587,91	1.483.486,90	1.517.385,88	1.551.284,87	1.585.183,85
11	2.990.327,36	1.575.347,03	2.457.250,53	1.410.770,52	1.046.480,01	2.652.425,95	1.716.845,06	1.787.594,08	1.858.343,10	1.929.092,11	1.999.841,13	2.070.590,14	2.141.339,16	2.212.088,18	2.282.837,19
12	3.882.684,66	2.528.859,83	3.436.506,01	2.052.103,43	1.384.402,58	4.036.828,53	2.664.242,31	2.731.933,56	2.799.624,80	2.867.316,04	2.935.007,28	3.002.698,52	3.070.389,76	3.138.081,00	3.205.772,24
13	4.321.217,99	3.524.213,03	4.101.951,32	3.026.536,43	1.075.414,89	5.112.243,42	3.603.913,52	3.643.763,77	3.683.614,02	3.723.464,27	3.763.314,51	3.803.164,76	3.843.015,01	3.882.865,26	3.922.715,51
14	2.606.656,88	4.504.729,22	3.463.937,43	4.014.471,12	-550.533,69	4.561.709,73	4.314.921,98	4.220.018,37	4.125.114,75	4.030.211,13	3.935.307,52	3.840.403,90	3.745.500,28	3.650.596,67	3.555.693,05
15	2.930.646,62	2.921.473,40	2.768.651,75	3.713.101,31	-944.449,56	3.617.260,18	2.922.390,72	2.922.849,38	2.923.308,04	2.923.766,71	2.924.225,37	2.924.684,03	2.925.142,69	2.925.601,35	2.926.060,01
16	2.602.678,64	2.994.405,57	2.766.662,63	2.957.939,49	-191.276,86	3.425.983,32	2.955.232,88	2.935.646,53	2.916.060,19	2.896.473,84	2.876.887,49	2.857.301,15	2.837.714,80	2.818.128,45	2.798.542,11
17	2.571.902,47	2.687.179,26	2.587.290,55	2.840.792,42	-253.501,86	3.172.481,45	2.675.651,58	2.669.887,74	2.664.123,90	2.658.360,06	2.652.596,22	2.646.832,38	2.641.068,54	2.635.304,70	2.629.540,86
18	2.482.345,45	2.612.869,23	2.527.123,96	2.650.024,24	-122.900,29	3.049.581,17	2.599.816,85	2.593.290,66	2.586.764,47	2.580.238,28	2.573.712,09	2.567.185,91	2.560.659,72	2.554.133,53	2.547.607,34
19	1.599.258,13	2.685.067,67	2.040.801,79	2.648.968,45	-608.166,66	2.441.414,51	2.576.486,71	2.522.196,24	2.467.905,76	2.413.615,28	2.359.324,81	2.305.034,33	2.250.743,85	2.196.453,38	2.142.162,90
20	2.196.088,12	1.697.054,04	1.897.673,13	2.191.060,85	-293.387,73	2.148.026,78	1.746.957,45	1.771.909,15	1.796.860,86	1.821.812,56	1.846.764,27	1.871.715,97	1.896.667,67	1.921.619,38	1.946.571,08
21	1.250.980,94	2.285.302,74	1.723.534,53	1.991.178,39	-267.643,86	1.880.382,92	2.181.870,56	2.130.154,47	2.078.438,38	2.026.722,29	1.975.006,20	1.923.290,11	1.871.574,02	1.819.857,93	1.768.141,84
22	1.102.929,77	1.487.455,54	1.176.955,35	1.886.379,14	-709.423,78	1.170.959,14	1.449.002,96	1.429.776,67	1.410.550,38	1.391.324,09	1.372.097,81	1.352.871,52	1.333.645,23	1.314.418,94	1.295.192,65
23	1.162.616,69	1.167.897,54	1.132.773,23	1.327.676,54	-194.903,31	976.055,83	1.167.369,45	1.167.105,41	1.166.841,37	1.166.577,33	1.166.313,28	1.166.049,24	1.165.785,20	1.165.521,16	1.165.257,11
24	1.296.839,64	1.136.828,27	1.229.728,17	1.152.362,90	77.365,26	1.053.421,09	1.152.829,41	1.160.829,98	1.168.830,54	1.176.831,11	1.184.831,68	1.192.832,25	1.200.832,82	1.208.833,39	1.216.833,96

0,10 K = 5.112.243,42 - 13.423,13 = 1,34 Horas
4.314.921,98 - 499.069,35

0,15 K = 5.112.243,42 - 13.423,13 = 1,38 Horas
4.220.018,37 - 514.105,79

0,20 K = 5.112.243,42 - 13.423,13 = 1,41 Horas
4.125.114,75 - 515.448,10

0,25 K = 5.112.243,42 - 13.423,13 = 1,45 Horas
4.030.211,13 - 516.790,42

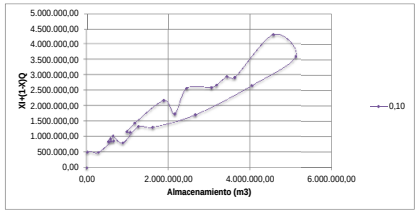
0,30 K = 5.112.243,42 - 13.423,13 = 1,49 Horas
3.935.307,52 - 518.132,73

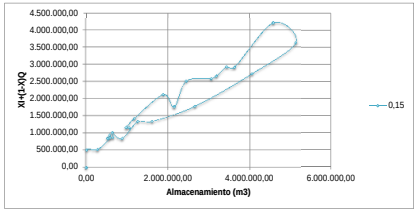
0,35 K = 5.112.243,42 - 13.423,13 = 1,54 Horas
3.840.403,90 - 519.475,04

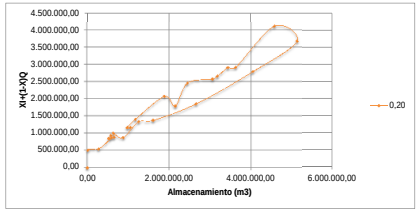
0,40 K = 5.112.243,42 - 13.423,13 = 1,53 Horas
3.843.015,01 - 520.817,35

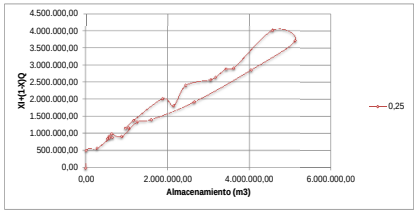
0,45 K = 5.112.243,42 - 13.423,13 = 1,52 Horas
3.882.865,26 - 522.159,67

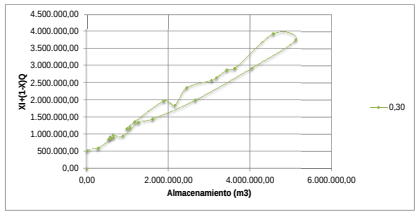
0,50 K = 5.112.243,42 - 13.423,13 = 1,50 Horas
3.922.715,51 - 523.501,98

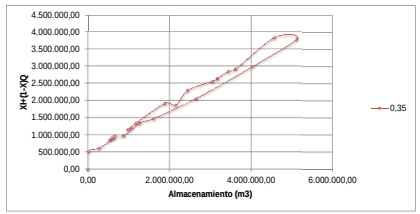

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Almacenamiento (m3)
0,10

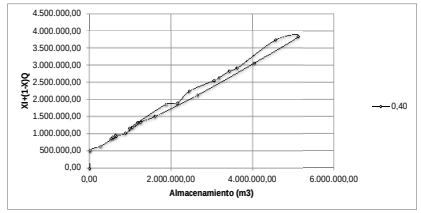

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Almacenamiento (m3)
0,15

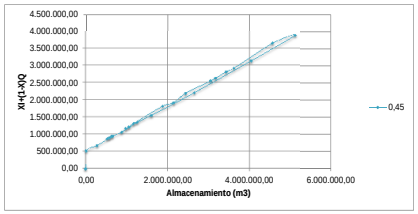

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Almacenamiento (m3)
0,20

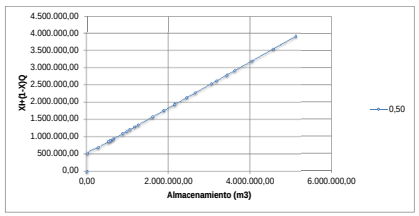

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Almacenamiento (m3)
0,25


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Almacenamiento (m3)
0,30


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Almacenamiento (m3)
0,35


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Almacenamiento (m3)
0,40


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Almacenamiento (m3)
0,45


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4.000.000,00
6.000.000,00
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_j+I_{j+1})/2$	$(Q_j+Q_{j+1})/2$	$\Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ]$	$S_{j+1} = \Delta t\ [(I_j+I_{j+1})/2 - (Q_j+Q_{j+1})/2\ ] + S_j$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	390.378,74	743.321,53	450.228,80	293.092,73	306.515,86	446.312,66	474.279,62	502.246,58	530.213,54	558.180,50	586.147,46	614.114,42	642.081,38	670.048,34
3	962.154,86	759.125,91	955.936,40	574.752,32	381.184,08	687.699,93	779.428,80	789.580,25	799.731,70	809.883,14	820.034,59	830.186,04	840.337,49	850.488,93	860.640,38
4	828.656,21	938.978,09	895.405,53	849.052,00	46.353,53	734.053,47	927.945,90	922.429,81	916.913,71	911.397,62	905.881,53	900.365,43	894.849,34	889.333,24	883.817,15
5	888.435,40	845.503,77	858.545,80	892.240,93	-33.695,13	700.358,34	849.796,93	851.943,52	854.090,10	856.236,68	858.383,26	860.529,84	862.676,42	864.823,00	866.969,58
6	1.050.897,01	819.970,98	969.666,20	832.737,38	136.928,82	837.287,16	843.063,59	854.609,89	866.156,19	877.702,49	889.248,79	900.795,09	912.341,39	923.887,70	935.434,00
7	816.880,77	1.051.927,08	933.888,89	935.949,03	-2.060,14	835.227,02	1.028.422,45	1.016.670,13	1.004.917,82	993.165,50	981.413,19	969.660,87	957.908,56	946.156,24	934.403,93
8	1.464.595,11	679.324,76	1.140.737,94	865.625,92	275.112,02	1.110.339,05	757.851,80	797.115,31	836.378,83	875.642,35	914.905,87	954.169,39	993.432,90	1.032.696,42	1.071.959,94
9	1.363.224,74	1.236.628,46	1.413.909,93	957.976,61	455.933,32	1.566.272,36	1.249.288,08	1.255.617,90	1.261.947,71	1.268.277,53	1.274.607,34	1.280.937,15	1.287.266,97	1.293.596,78	1.299.926,60
10	1.924.173,70	1.134.042,99	1.643.699,22	1.185.335,72	458.363,50	2.024.635,86	1.213.056,06	1.252.562,60	1.292.069,13	1.331.575,67	1.371.082,20	1.410.588,74	1.450.095,27	1.489.601,81	1.529.108,34
11	2.990.327,36	1.305.412,25	2.457.250,53	1.219.727,62	1.237.522,91	3.262.158,77	1.473.903,76	1.558.149,51	1.642.395,27	1.726.641,02	1.810.886,78	1.895.132,53	1.979.378,29	2.063.624,05	2.147.869,80
12	3.882.684,66	2.131.236,55	3.436.506,01	1.718.324,40	1.718.181,61	4.980.340,38	2.306.381,36	2.393.953,77	2.481.526,17	2.569.098,58	2.656.670,98	2.744.243,39	2.831.815,79	2.919.388,20	3.006.960,61
13	4.321.217,99	3.152.690,85	4.101.951,32	2.641.963,70	1.459.987,62	6.440.328,00	3.269.543,56	3.327.969,92	3.386.396,27	3.444.822,63	3.503.248,99	3.561.675,35	3.620.101,70	3.678.528,06	3.736.954,42
14	2.606.656,88	4.503.229,31	3.463.937,43	3.827.960,08	-364.022,64	6.076.305,36	4.313.572,07	4.218.743,45	4.123.914,82	4.029.086,20	3.934.257,58	3.839.428,96	3.744.600,34	3.649.771,72	3.554.943,10
15	2.930.646,62	3.130.851,11	2.768.651,75	3.817.040,21	-1.048.388,46	5.027.916,90	3.110.830,66	3.100.820,44	3.090.810,21	3.080.799,99	3.070.789,76	3.060.779,54	3.050.769,31	3.040.759,09	3.030.748,87
16	2.602.678,64	3.106.704,11	2.766.662,63	3.118.777,61	-352.114,98	4.675.801,92	3.056.301,57	3.031.100,29	3.005.899,02	2.980.697,74	2.955.496,47	2.930.295,20	2.905.093,92	2.879.892,65	2.854.691,37
17	2.571.902,47	2.780.945,85	2.587.290,55	2.943.824,98	-356.534,43	4.319.267,49	2.760.041,51	2.749.589,34	2.739.137,18	2.728.685,01	2.718.232,84	2.707.780,67	2.697.328,50	2.686.876,33	2.676.424,16
18	2.482.345,45	2.671.435,94	2.527.123,96	2.726.190,89	-199.066,94	4.120.200,55	2.652.526,89	2.643.072,36	2.633.617,84	2.624.163,31	2.614.708,79	2.605.254,26	2.595.799,74	2.586.345,22	2.576.890,69
19	1.599.258,13	2.839.738,05	2.040.801,79	2.755.586,99	-714.785,20	3.405.415,35	2.715.690,06	2.653.666,06	2.591.642,06	2.529.618,07	2.467.594,07	2.405.570,08	2.343.546,08	2.281.522,09	2.219.498,09
20	2.196.088,12	1.813.808,11	1.897.673,13	2.326.773,08	-429.099,95	2.976.315,40	1.852.036,11	1.871.150,11	1.890.264,11	1.909.378,11	1.928.492,11	1.947.606,11	1.966.720,11	1.985.834,11	2.004.948,11
21	1.250.980,94	2.383.697,18	1.723.534,53	2.098.752,64	-375.218,11	2.601.097,29	2.270.425,55	2.213.789,74	2.157.153,93	2.100.518,12	2.043.882,31	1.987.246,49	1.930.610,68	1.873.974,87	1.817.339,06
22	1.102.929,77	1.677.903,41	1.176.955,35	2.030.800,29	-853.844,94	1.747.252,35	1.620.406,05	1.591.657,36	1.562.908,68	1.534.160,00	1.505.411,32	1.476.662,64	1.447.913,95	1.419.165,27	1.390.416,59
23	1.162.616,69	1.274.692,01	1.132.773,23	1.476.297,71	-343.524,48	1.403.727,87	1.263.484,48	1.257.880,71	1.252.276,94	1.246.673,18	1.241.069,41	1.235.465,65	1.229.861,88	1.224.258,12	1.218.654,35
24	1.296.839,64	1.155.234,15	1.229.728,17	1.214.963,08	14.765,09	1.418.492,96	1.169.394,70	1.176.474,97	1.183.555,25	1.190.635,52	1.197.715,80	1.204.796,07	1.211.876,35	1.218.956,62	1.226.036,90

0,10 K = 6.440.328,00 - 13.423,13 = 1,66 Horas
4.313.572,07 - 446.312,66

0,15 K = 6.440.328,00 - 13.423,13 = 1,72 Horas
4.218.743,45 - 474.279,62

0,20 K = 6.440.328,00 - 13.423,13 = 1,77 Horas
4.123.914,82 - 502.246,58

0,25 K = 6.440.328,00 - 13.423,13 = 1,83 Horas
4.029.086,20 - 516.790,42

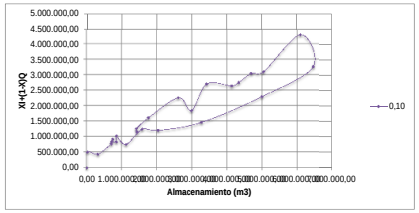
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3.934.257,58 - 518.132,73

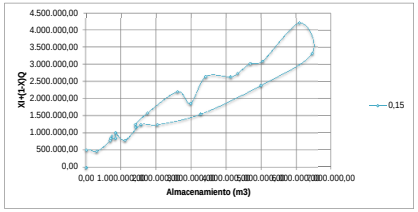
0,35 K = 6.440.328,00 - 13.423,13 = 1,94 Horas
3.839.428,96 - 519.475,04

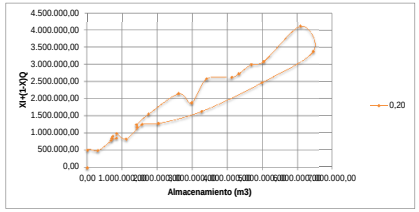
0,40 K = 6.440.328,00 - 13.423,13 = 1,99 Horas
3.744.600,34 - 520.817,35

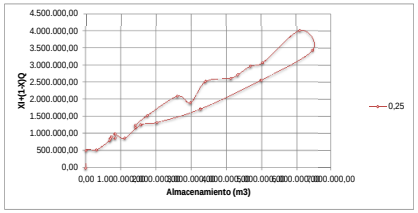
0,45 K = 6.440.328,00 - 13.423,13 = 2,04 Horas
3.678.528,06 - 522.159,67

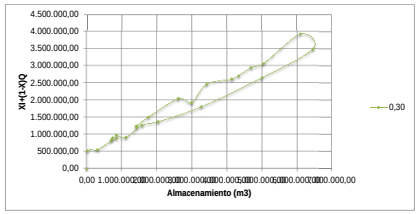
0,50 K = 6.440.328,00 - 13.423,13 = 2,00 Horas
3.736.954,42 - 523.501,98

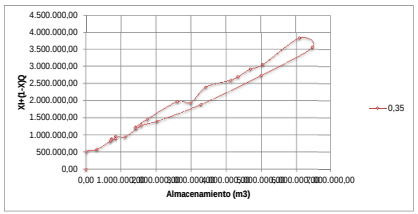

Qx(t+1)+x
Almacenamiento (m3)
0,10

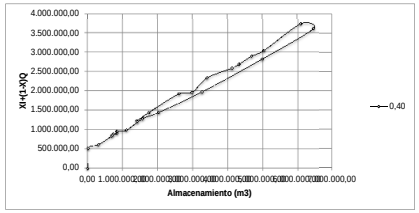

Qx(t+1)+x
Almacenamiento (m3)
0,15

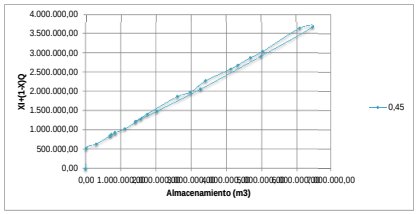

Qx(t+1)+x
Almacenamiento (m3)
0,20

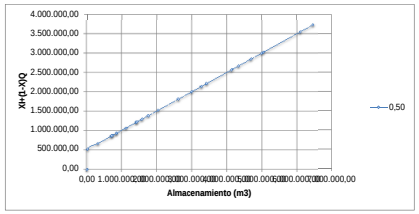

Qx(t+1)+x
Almacenamiento (m3)
0,25


Qx(t+1)+x
Almacenamiento (m3)
0,30


Qx(t+1)+x
Almacenamiento (m3)
0,35


Qx(t+1)+x
Almacenamiento (m3)
0,40


Qx(t+1)+x
Almacenamiento (m3)
0,45


Qx(t+1)+x
Almacenamiento (m3)
0,50

Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_t+I_{t+1})/2$	$(Q_t+Q_{t+1})/2$	$\Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ]$	$S_{t+1} = \Delta t\ [(I_t+I_{t+1})/2 - (Q_t+Q_{t+1})/2\ ] + S_t$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	348.508,35	743.321,53	429.293,60	314.027,92	327.451,05	408.629,31	438.689,79	468.750,27	498.810,75	528.871,23	558.931,71	588.992,19	619.052,67	649.113,15
3	962.154,86	686.726,59	955.936,40	517.617,47	438.318,93	765.769,98	714.269,41	728.040,83	741.812,24	755.583,65	769.355,07	783.126,48	796.897,89	810.669,31	824.440,72
4	828.656,21	901.327,88	895.405,53	794.027,23	101.378,30	867.148,28	894.060,71	890.427,13	886.793,54	883.159,96	879.526,38	875.892,79	872.259,21	868.625,63	864.992,04
5	888.435,40	834.181,56	858.545,80	867.754,72	-9.208,91	857.939,37	839.606,94	842.319,63	845.032,32	847.745,02	850.457,71	853.170,40	855.883,09	858.595,78	861.308,48
6	1.050.897,01	795.557,34	969.666,20	814.869,45	154.796,75	1.012.736,12	821.091,31	833.858,29	846.625,28	859.392,26	872.159,24	884.926,23	897.693,21	910.460,19	923.227,18
7	816.880,77	1.041.758,40	933.888,89	918.657,87	15.231,02	1.027.967,14	1.019.270,63	1.008.026,75	996.782,87	985.538,99	974.295,11	963.051,23	951.807,35	940.563,47	929.319,59
8	1.464.595,11	635.665,04	1.140.737,94	838.711,72	302.026,23	1.329.993,37	718.558,05	760.004,55	801.451,05	842.897,56	884.344,06	925.790,56	967.237,07	1.008.683,57	1.050.130,08
9	1.363.224,74	1.152.783,81	1.413.909,93	894.224,43	519.685,50	1.849.678,87	1.173.827,91	1.184.349,95	1.194.872,00	1.205.394,04	1.215.916,09	1.226.438,14	1.236.960,18	1.247.482,23	1.258.004,28
10	1.924.173,70	1.032.629,07	1.643.699,22	1.092.706,44	550.992,78	2.400.671,65	1.121.783,53	1.166.360,77	1.210.938,00	1.255.515,23	1.300.092,46	1.344.669,69	1.389.246,92	1.433.824,15	1.478.401,39
11	2.990.327,36	1.085.160,15	2.457.250,53	1.058.894,61	1.398.355,92	3.799.027,56	1.275.676,87	1.370.935,23	1.466.193,59	1.561.451,95	1.656.710,31	1.751.968,67	1.847.227,03	1.942.485,39	2.037.743,75
12	3.882.684,66	1.791.388,28	3.436.506,01	1.438.274,22	1.998.231,79	5.797.259,35	2.000.517,92	2.105.082,74	2.209.647,56	2.314.212,38	2.418.777,19	2.523.342,01	2.627.906,83	2.732.471,65	2.837.036,47
13	4.321.217,99	2.798.471,93	4.101.951,32	2.294.930,10	1.807.021,22	7.604.280,57	2.950.746,53	3.026.883,84	3.103.021,14	3.179.158,44	3.255.295,75	3.331.433,05	3.407.570,35	3.483.707,65	3.559.844,96
14	2.606.656,88	4.403.424,44	3.463.937,43	3.600.948,18	-137.010,75	7.467.269,83	4.223.747,68	4.133.909,30	4.044.070,93	3.954.232,55	3.864.394,17	3.774.555,79	3.684.717,41	3.594.879,04	3.505.040,66
15	2.930.646,62	3.237.847,37	2.768.651,75	3.820.635,90	-1.051.984,15	6.415.285,67	3.207.127,30	3.191.767,26	3.176.407,22	3.161.047,19	3.145.687,15	3.130.327,11	3.114.967,07	3.099.607,03	3.084.247,00
16	2.602.678,64	3.202.861,79	2.766.662,63	3.220.354,58	-453.691,95	5.961.593,72	3.142.843,48	3.112.834,32	3.082.825,16	3.052.816,00	3.022.806,85	2.992.797,69	2.962.788,53	2.932.779,37	2.902.770,22
17	2.571.902,47	2.873.089,78	2.587.290,55	3.037.975,79	-450.685,23	5.510.908,49	2.842.971,05	2.827.911,68	2.812.852,31	2.797.792,95	2.782.733,58	2.767.674,22	2.752.614,85	2.737.555,49	2.722.496,12
18	2.482.345,45	2.739.364,32	2.527.123,96	2.806.227,05	-279.103,09	5.231.805,39	2.713.662,44	2.700.811,49	2.687.960,55	2.675.109,60	2.662.258,66	2.649.407,72	2.636.556,77	2.623.705,83	2.610.854,88
19	1.599.258,13	2.970.962,39	2.040.801,79	2.855.163,35	-814.361,57	4.417.443,83	2.833.791,96	2.765.206,75	2.696.621,53	2.628.036,32	2.559.451,11	2.490.865,90	2.422.280,68	2.353.695,47	2.285.110,26
20	2.196.088,12	1.931.347,10	1.897.673,13	2.451.154,74	-553.481,62	3.863.962,21	1.957.821,20	1.971.058,25	1.984.295,31	1.997.532,36	2.010.769,41	2.024.006,46	2.037.243,51	2.050.480,56	2.063.717,61
21	1.250.980,94	2.487.673,62	1.723.534,53	2.209.510,36	-485.975,83	3.377.986,38	2.364.004,35	2.302.169,72	2.240.335,08	2.178.500,45	2.116.665,82	2.054.831,18	1.992.996,55	1.931.161,91	1.869.327,28
22	1.102.929,77	1.844.442,59	1.176.955,35	2.166.058,11	-989.102,75	2.388.883,63	1.770.291,31	1.733.215,67	1.696.140,03	1.659.064,39	1.621.988,74	1.584.913,10	1.547.837,46	1.510.761,82	1.473.686,18
23	1.162.616,69	1.395.140,87	1.132.773,23	1.619.791,73	-487.018,50	1.901.865,13	1.371.888,45	1.360.262,24	1.348.636,03	1.337.009,82	1.325.383,62	1.313.757,41	1.302.131,20	1.290.504,99	1.278.878,78
24	1.296.839,64	1.204.745,79	1.229.728,17	1.299.943,33	-70.215,16	1.831.649,97	1.213.955,17	1.218.559,87	1.223.164,56	1.227.769,25	1.232.373,94	1.236.978,64	1.241.583,33	1.246.188,02	1.250.792,72

0,10 K = 7.604.280,57 - 13.423,13 = 1,99 Horas
4.223.747,68 - 408.629,31

0,15 K = 7.604.280,57 - 13.423,13 = 2,05 Horas
4.133.909,30 - 438.689,79

0,20 K = 7.604.280,57 - 13.423,13 = 2,12 Horas
4.044.070,93 - 468.750,27

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3.954.232,55 - 498.810,75

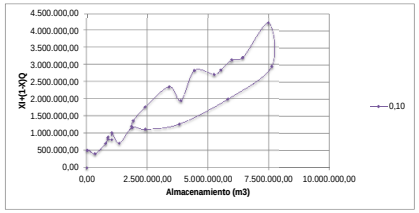
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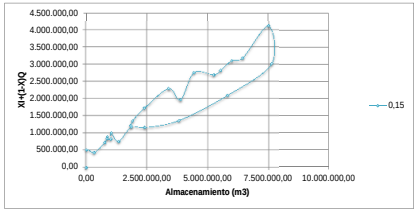
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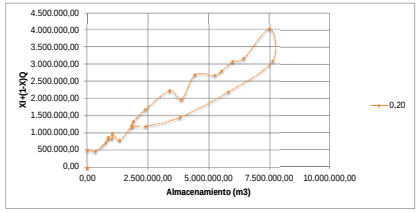
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3.684.717,41 - 520.817,35

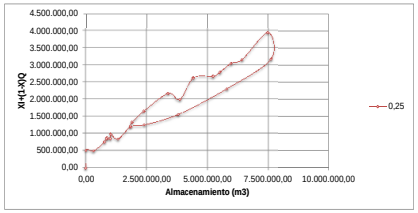
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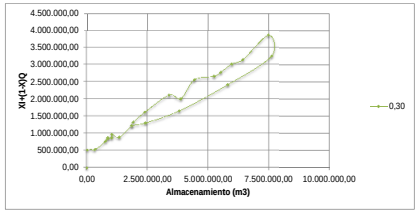
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3.559.844,96 - 523.501,98

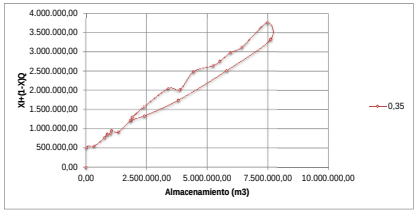

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Almacenamiento (m3)
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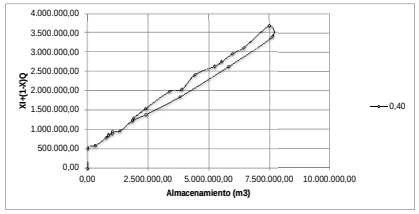

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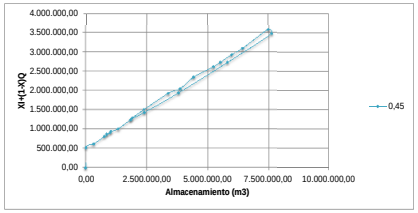

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Almacenamiento (m3)
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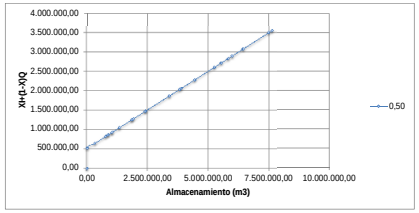

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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Almacenamiento (m3)
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Δt 1,00 Hora

PICO HORA 58															
Hidrograma de entrada y de salida conocidos			Cálculo del almacenamiento				XI+(1-X)Q								
Periódo de Tránsito	Caudal de Entrada	Caudal de Salida	$(I_i+I_{i+1})/2$	$(Q_i+Q_{i+1})/2$	$\Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ]$	$S_{i+1} = \Delta t\ [(I_i+I_{i+1})/2 - (Q_i+Q_{i+1})/2\ ] + S_i$	Factor de peso X								
j (Horas)	I (m3/hora)	Q (m3/hora)	(m3/hora)	(m3/hora)	(m3)	(m3)	0,10	0,15	0,20	0,25	0,30	0,35	0,40	0,45	0,50
0	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1	536.925,11	510.078,85	268.462,55	255.039,43	13.423,13	13.423,13	512.763,48	514.105,79	515.448,10	516.790,42	518.132,73	519.475,04	520.817,35	522.159,67	523.501,98
2	949.717,94	317.105,56	743.321,53	413.592,21	329.729,32	343.152,45	380.366,80	411.997,42	443.628,04	475.258,66	506.889,28	538.519,89	570.150,51	601.781,13	633.411,75
3	962.154,86	627.193,30	955.936,40	472.149,43	483.786,97	826.939,42	660.689,45	677.437,53	694.185,61	710.933,69	727.681,76	744.429,84	761.177,92	777.926,00	794.674,08
4	828.656,21	861.423,40	895.405,53	744.308,35	151.097,18	978.036,60	858.146,68	856.508,32	854.869,96	853.231,60	851.593,24	849.954,88	848.316,52	846.678,16	845.039,80
5	888.435,40	815.150,21	858.545,80	838.286,81	20.259,00	998.295,60	822.478,73	826.142,99	829.807,25	833.471,51	837.135,77	840.800,03	844.464,28	848.128,54	851.792,80
6	1.050.897,01	770.562,00	969.666,20	792.856,10	176.810,10	1.175.105,70	798.595,50	812.612,25	826.629,00	840.645,75	854.662,50	868.679,25	882.696,00	896.712,75	910.729,50
7	816.880,77	1.027.737,62	933.888,89	899.149,81	34.739,08	1.209.844,78	1.006.651,94	996.109,09	985.566,25	975.023,41	964.480,57	953.937,72	943.394,88	932.852,04	922.309,20
8	1.464.595,11	598.452,03	1.140.737,94	813.094,82	327.643,12	1.537.487,90	685.066,34	728.373,49	771.680,64	814.987,80	858.294,95	901.602,11	944.909,26	988.216,42	1.031.523,57
9	1.363.224,74	1.082.208,76	1.413.909,93	840.330,39	573.579,53	2.111.067,43	1.110.310,36	1.124.361,16	1.138.411,95	1.152.462,75	1.166.513,55	1.180.564,35	1.194.615,15	1.208.665,95	1.222.716,75
10	1.924.173,70	942.242,27	1.643.699,22	1.012.225,51	631.473,71	2.742.541,14	1.040.435,41	1.089.531,98	1.138.628,55	1.187.725,12	1.236.821,70	1.285.918,27	1.335.014,84	1.384.111,41	1.433.207,98
11	2.990.327,36	900.131,16	2.457.250,53	921.186,71	1.536.063,82	4.278.604,96	1.109.150,78	1.213.660,59	1.318.170,40	1.422.680,21	1.527.190,02	1.631.699,83	1.736.209,64	1.840.719,45	1.945.229,26
12	3.882.684,66	1.499.050,61	3.436.506,01	1.199.590,88	2.236.915,13	6.515.520,09	1.737.414,01	1.856.595,71	1.975.777,42	2.094.959,12	2.214.140,82	2.333.322,52	2.452.504,23	2.571.685,93	2.690.867,63
13	4.321.217,99	2.471.600,97	4.101.951,32	1.985.325,79	2.116.625,54	8.632.145,62	2.656.562,67	2.749.043,52	2.841.524,37	2.934.005,22	3.026.486,07	3.118.966,92	3.211.447,78	3.303.928,63	3.396.409,48
14	2.606.656,88	4.253.690,03	3.463.937,43	3.362.645,50	101.291,94	8.733.437,56	4.088.986,72	4.006.635,06	3.924.283,40	3.841.931,74	3.759.580,09	3.677.228,43	3.594.876,77	3.512.525,11	3.430.173,46
15	2.930.646,62	3.268.178,59	2.768.651,75	3.760.934,31	-992.282,56	7.741.155,00	3.234.425,39	3.217.548,79	3.200.672,19	3.183.795,59	3.166.919,00	3.150.042,40	3.133.165,80	3.116.289,20	3.099.412,60
16	2.602.678,64	3.263.396,60	2.766.662,63	3.265.787,59	-499.124,96	7.242.030,04	3.197.324,80	3.164.288,90	3.131.253,00	3.098.217,11	3.065.181,21	3.032.145,31	2.999.109,41	2.966.073,51	2.933.037,62
17	2.571.902,47	2.948.425,70	2.587.290,55	3.105.911,15	-518.620,60	6.723.409,44	2.910.773,38	2.891.947,22	2.873.121,05	2.854.294,89	2.835.468,73	2.816.642,57	2.797.816,41	2.778.990,25	2.760.164,08
18	2.482.345,45	2.804.942,60	2.527.123,96	2.876.684,15	-349.560,19	6.373.849,25	2.772.682,88	2.756.553,02	2.740.423,17	2.724.293,31	2.708.163,45	2.692.033,59	2.675.903,74	2.659.773,88	2.643.644,02
19	1.599.258,13	3.085.187,68	2.040.801,79	2.945.065,14	-904.263,35	5.469.585,90	2.936.594,72	2.862.298,25	2.788.001,77	2.713.705,29	2.639.408,81	2.565.112,34	2.490.815,86	2.416.519,38	2.342.222,90
20	2.196.088,12	2.043.807,91	1.897.673,13	2.564.497,79	-666.824,67	4.802.761,24	2.059.035,93	2.066.649,94	2.074.263,95	2.081.877,96	2.089.491,97	2.097.105,98	2.104.719,99	2.112.334,01	2.119.948,02
21	1.250.980,94	2.592.501,61	1.723.534,53	2.318.154,76	-594.620,23	4.208.141,01	2.458.349,54	2.391.273,51	2.324.197,47	2.257.121,44	2.190.045,41	2.122.969,37	2.055.893,34	1.988.817,31	1.921.741,27
22	1.102.929,77	1.995.766,86	1.176.955,35	2.294.134,23	-1.117.178,88	3.090.962,13	1.906.483,15	1.861.841,30	1.817.199,44	1.772.557,59	1.727.915,73	1.683.273,88	1.638.632,02	1.593.990,17	1.549.348,31
23	1.162.616,69	1.519.504,85	1.132.773,23	1.757.635,86	-624.862,63	2.466.099,51	1.483.816,04	1.465.971,63	1.448.127,22	1.430.282,81	1.412.438,40	1.394.594,00	1.376.749,59	1.358.905,18	1.341.060,77
24	1.296.839,64	1.273.949,30	1.229.728,17	1.396.727,07	-166.998,91	2.299.100,60	1.276.238,33	1.277.382,85	1.278.527,37	1.279.671,88	1.280.816,40	1.281.960,92	1.283.105,44	1.284.249,95	1.285.394,47

0,10 K = 8.733.437,56 - 13.423,13 = 2,35 Horas
4.088.986,72 - 380.366,80

0,15 K = 8.733.437,56 - 13.423,13 = 2,43 Horas
4.006.635,06 - 411.997,42

0,20 K = 8.733.437,56 - 13.423,13 = 2,51 Horas
3.924.283,40 - 443.628,04

0,25 K = 8.733.437,56 - 13.423,13 = 2,59 Horas
3.841.931,74 - 475.258,66

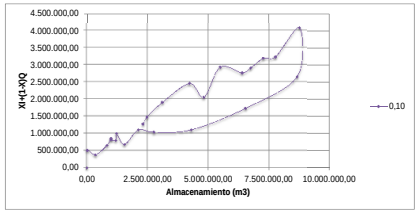
0,30 K = 8.733.437,56 - 13.423,13 = 2,68 Horas
3.759.580,09 - 506.889,28

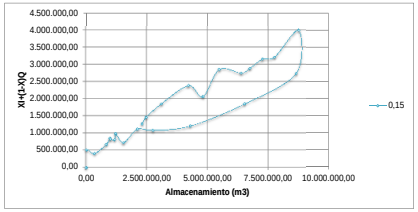
0,35 K = 8.733.437,56 - 13.423,13 = 2,76 Horas
3.677.228,43 - 519.475,04

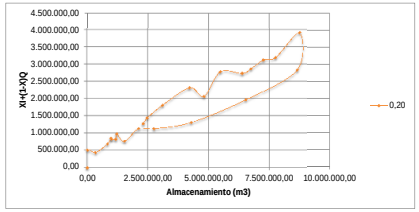
0,40 K = 8.733.437,56 - 13.423,13 = 2,84 Horas
3.594.876,77 - 520.817,35

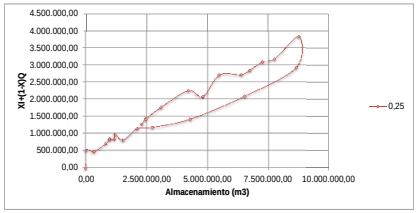
0,45 K = 8.733.437,56 - 13.423,13 = 2,92 Horas
3.512.525,11 - 522.159,67

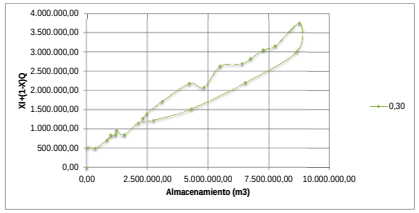
0,50 K = 8.733.437,56 - 13.423,13 = 3,00 Horas
3.430.173,46 - 523.501,98

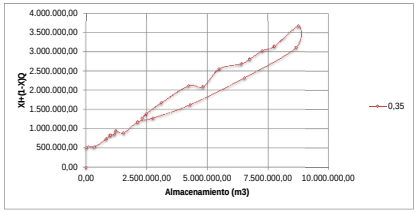

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Almacenamiento (m3)
Qdx-(1+x)
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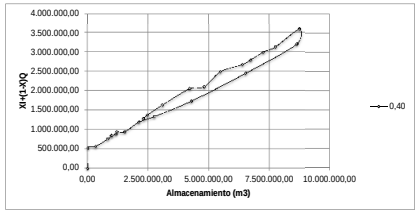

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Almacenamiento (m3)
Qdx-(1+x)
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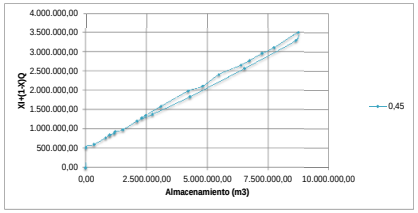

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Almacenamiento (m3)
Qdx-(1+x)
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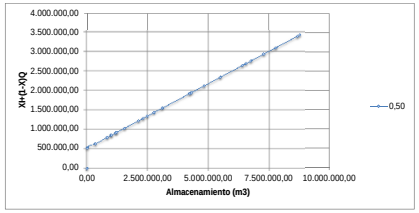

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Almacenamiento (m3)
Qdx-(1+x)
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Almacenamiento (m3)
Qdx-(1+x)
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Almacenamiento (m3)
Qdx-(1+x)
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Almacenamiento (m3)
Qdx-(1+x)
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Almacenamiento (m3)
Qdx-(1+x)
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Almacenamiento (m3)
Qdx-(1+x)
0,50