

# **SILNICE II/385 ČEBÍN – OBCHVAT**

Podrobný inženýrsko-geologický průzkum

## **4.A Protokoly ze vsakovacích zkoušek**



Location: Čebín

Date of Readings: 17.3.2016

Site: VS1

Time interval between readings: 5 minutes

Ksat Method: Reynolds and Elrick Solution

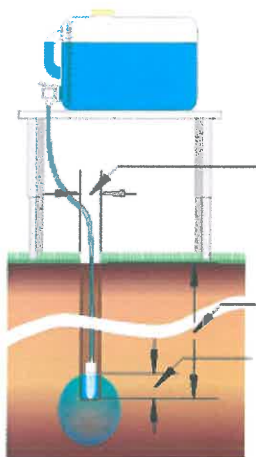
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 5$  ml for 13 consecutive readings

Steady Flow Rate: 57.40 ml/min

Infiltration area: 0.08836 m<sup>2</sup>

Koefficient vsaku: 5.7E-06 m/s

Ksat: 2.3E-06 m/s



15 cm Hole Diameter

12 ° C Water Temperature

78 cm Hole Depth

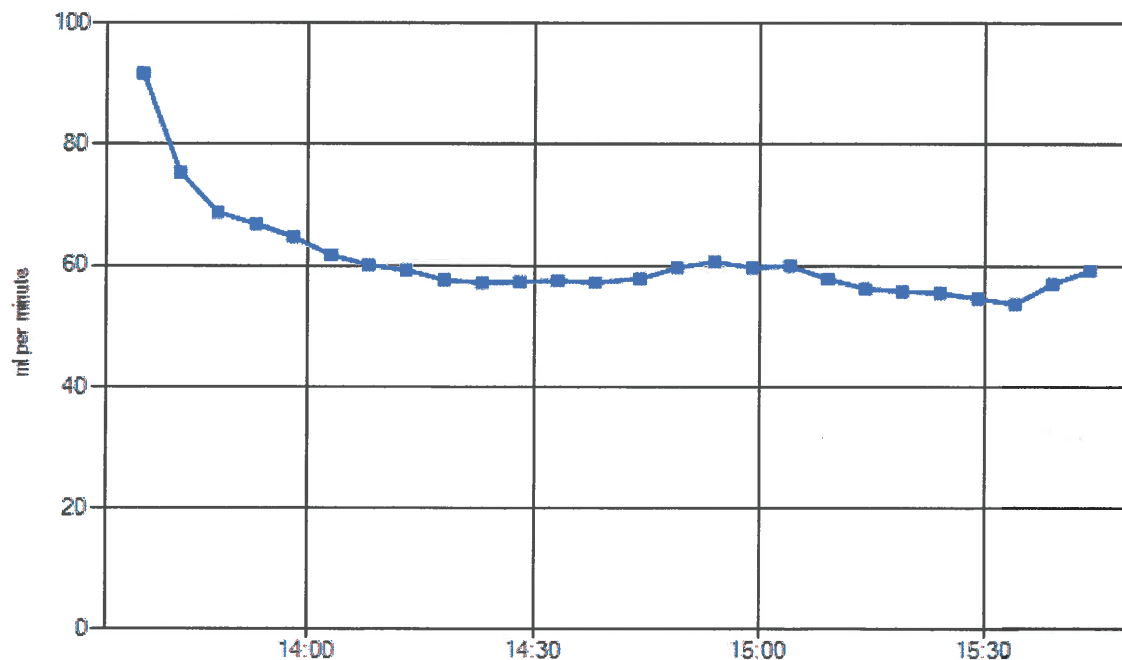
15 cm Water Height in Hole

Water Table Depth

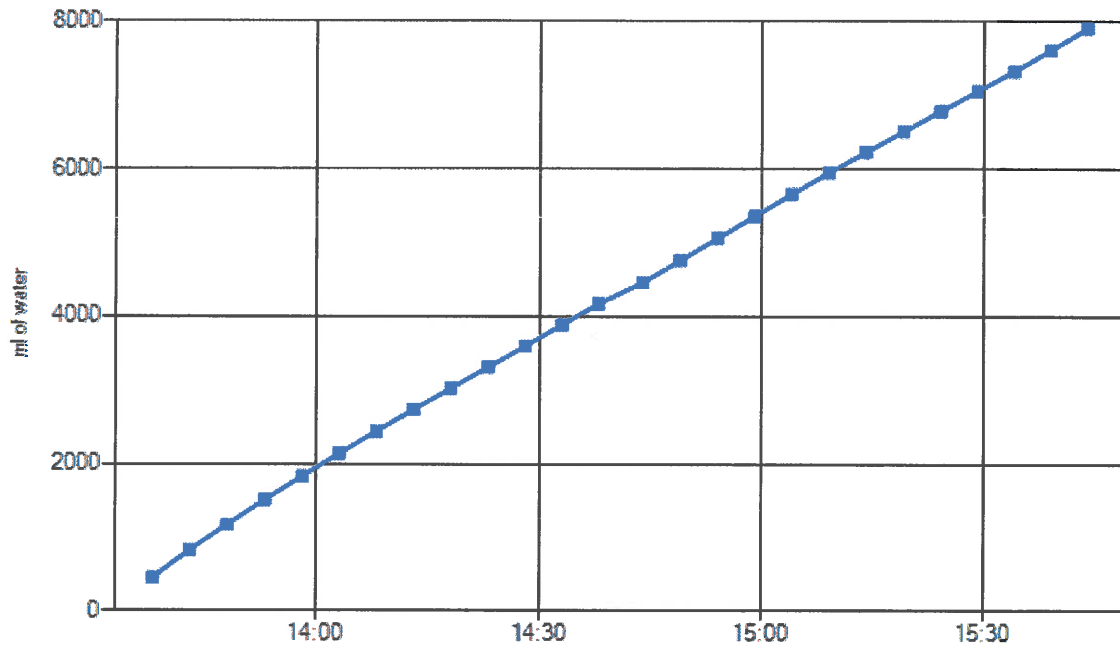
Soil Texture-Structure Category:

Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate



Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
13:28:00	8451,8 ml					
13:33:00	6669,2 ml	5 minutes				Yes
13:38:00	6211 ml	5 minutes	458,2 ml	458,2 ml	91,640 ml/min	
13:43:00	5834,6 ml	5 minutes	376,4 ml	834,6 ml	75,280 ml/min	
13:48:00	5491 ml	5 minutes	343,6 ml	1178,2 ml	68,720 ml/min	
13:53:00	5157 ml	5 minutes	334,0 ml	1512,2 ml	66,800 ml/min	
13:58:00	4834,2 ml	5 minutes	322,8 ml	1835,0 ml	64,560 ml/min	
14:03:00	4526,2 ml	5 minutes	308,0 ml	2143,0 ml	61,600 ml/min	
14:08:00	4226,2 ml	5 minutes	300,0 ml	2443,0 ml	60,000 ml/min	
14:13:00	3930,4 ml	5 minutes	295,8 ml	2738,8 ml	59,160 ml/min	
14:18:00	3642,6 ml	5 minutes	287,8 ml	3026,6 ml	57,560 ml/min	
14:23:00	3357 ml	5 minutes	285,6 ml	3312,2 ml	57,120 ml/min	
14:28:00	3070,8 ml	5 minutes	286,2 ml	3598,4 ml	57,240 ml/min	
14:33:00	2783,6 ml	5 minutes	287,2 ml	3885,6 ml	57,440 ml/min	
14:38:00	2497,8 ml	5 minutes	285,8 ml	4171,4 ml	57,160 ml/min	
14:39:00	8714,8 ml	1 minute				Yes
14:44:00	8426 ml	5 minutes	288,8 ml	4460,2 ml	57,760 ml/min	
14:49:00	8128,2 ml	5 minutes	297,8 ml	4758,0 ml	59,560 ml/min	
14:54:00	7825,4 ml	5 minutes	302,8 ml	5060,8 ml	60,560 ml/min	
14:59:00	7527,4 ml	5 minutes	298,0 ml	5358,8 ml	59,600 ml/min	
15:04:00	7228,2 ml	5 minutes	299,2 ml	5658,0 ml	59,840 ml/min	
15:09:00	6939,6 ml	5 minutes	288,6 ml	5946,6 ml	57,720 ml/min	
15:14:00	6658,8 ml	5 minutes	280,8 ml	6227,4 ml	56,160 ml/min	
15:19:00	6380,2 ml	5 minutes	278,6 ml	6506,0 ml	55,720 ml/min	
15:24:00	6103 ml	5 minutes	277,2 ml	6783,2 ml	55,440 ml/min	
15:29:00	5830,2 ml	5 minutes	272,8 ml	7056,0 ml	54,560 ml/min	
15:34:00	5562 ml	5 minutes	268,2 ml	7324,2 ml	53,640 ml/min	
15:39:00	5277,2 ml	5 minutes	284,8 ml	7609,0 ml	56,960 ml/min	
15:44:00	4981,8 ml	5 minutes	295,4 ml	7904,4 ml	59,080 ml/min	



Location: Čebín

Date of Readings: 17.3.2016

Site: VS2

Time interval between readings: 5 minutes

Ksat Method: Reynolds and Elrick Solution

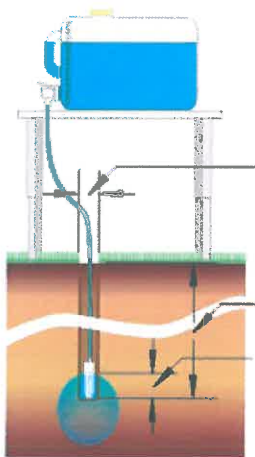
Steady Flow Rate achieved when Water Consumption Rate changes less than +/- 25 ml for 25 consecutive readings

Steady Flow Rate: 27.24 ml/min

Infiltration area: 0.08836 m<sup>2</sup>

Koefficient vsaku: 2.7E-06 m/s

Ksat: 1.1E-06 m/s



15 cm Hole Diameter

12 ° C Water Temperature

40 cm Hole Depth

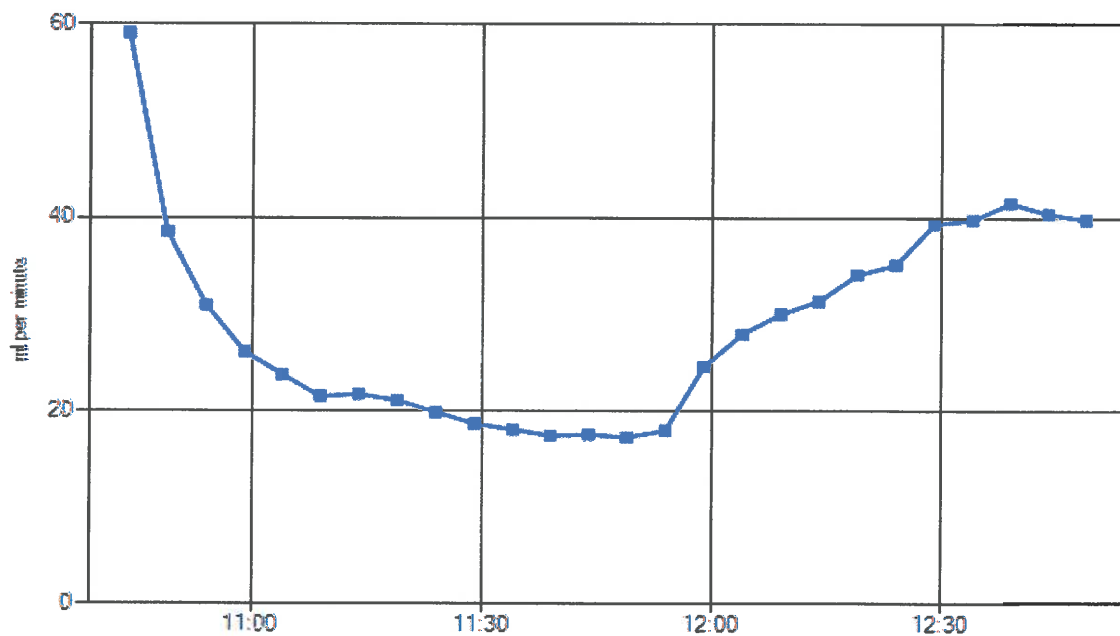
15 cm Water Height in Hole

Water Table Depth

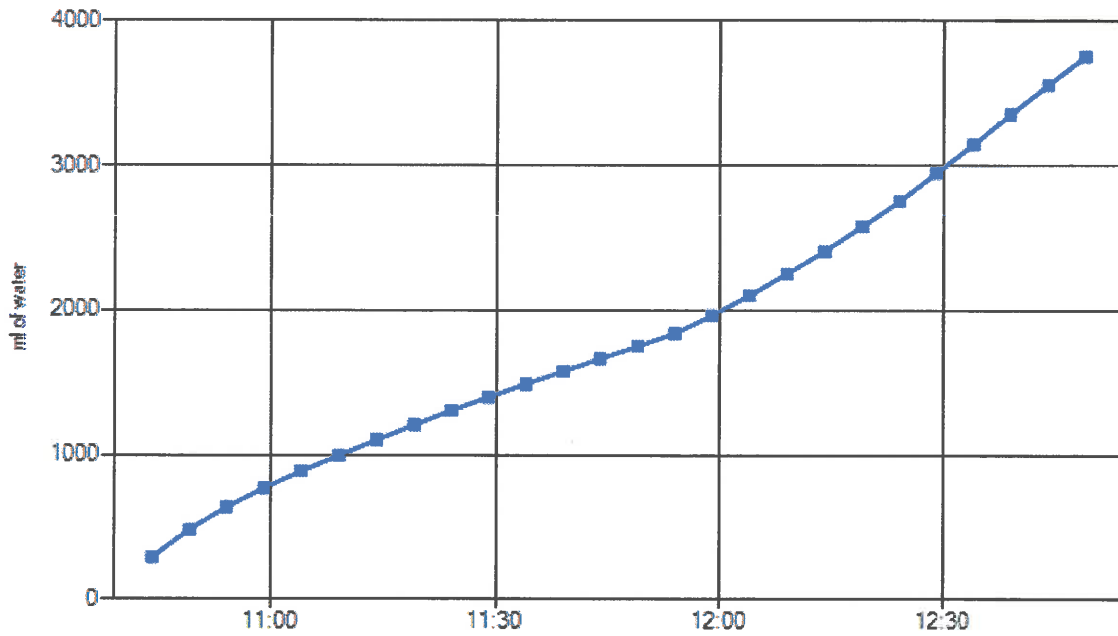
Soil Texture-Structure Category:

Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate



Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
10:33:58	8624,6 ml					
10:38:58	6672,2 ml	5 minutes				Yes
10:43:58	6377,4 ml	5 minutes	294,8 ml	294,8 ml	58,960 ml/min	
10:48:58	6185,2 ml	5 minutes	192,2 ml	487,0 ml	38,440 ml/min	
10:53:58	6031 ml	5 minutes	154,2 ml	641,2 ml	30,840 ml/min	
10:58:58	5900,6 ml	5 minutes	130,4 ml	771,6 ml	26,080 ml/min	
11:03:58	5782,2 ml	5 minutes	118,4 ml	890,0 ml	23,680 ml/min	
11:08:59	5674,8 ml	5 minutes	107,4 ml	997,4 ml	21,410 ml/min	
11:13:59	5566,6 ml	5 minutes	108,2 ml	1105,6 ml	21,640 ml/min	
11:18:59	5461,6 ml	5 minutes	105,0 ml	1210,6 ml	21,000 ml/min	
11:23:58	5363 ml	5 minutes	98,6 ml	1309,2 ml	19,790 ml/min	
11:28:58	5270 ml	5 minutes	93,0 ml	1402,2 ml	18,600 ml/min	
11:33:58	5180 ml	5 minutes	90,0 ml	1492,2 ml	18,000 ml/min	
11:38:58	5093,2 ml	5 minutes	86,8 ml	1579,0 ml	17,360 ml/min	
11:43:58	5005,8 ml	5 minutes	87,4 ml	1666,4 ml	17,480 ml/min	
11:48:58	4919,8 ml	5 minutes	86,0 ml	1752,4 ml	17,200 ml/min	
11:53:58	4830,4 ml	5 minutes	89,4 ml	1841,8 ml	17,880 ml/min	
11:58:59	4707,4 ml	5 minutes	123,0 ml	1964,8 ml	24,520 ml/min	
12:03:59	4568,2 ml	5 minutes	139,2 ml	2104,0 ml	27,840 ml/min	
12:08:59	4418,8 ml	5 minutes	149,4 ml	2253,4 ml	29,880 ml/min	
12:13:59	4262,6 ml	5 minutes	156,2 ml	2409,6 ml	31,240 ml/min	
12:18:59	4092,8 ml	5 minutes	169,8 ml	2579,4 ml	33,960 ml/min	
12:23:59	3917,8 ml	5 minutes	175,0 ml	2754,4 ml	35,000 ml/min	
12:28:59	3721,6 ml	5 minutes	196,2 ml	2950,6 ml	39,240 ml/min	
12:33:59	3523,4 ml	5 minutes	198,2 ml	3148,8 ml	39,640 ml/min	
12:38:59	3316,4 ml	5 minutes	207,0 ml	3355,8 ml	41,400 ml/min	
12:43:59	3114,8 ml	5 minutes	201,6 ml	3557,4 ml	40,320 ml/min	
12:48:59	2916,4 ml	5 minutes	198,4 ml	3755,8 ml	39,680 ml/min	



Location: Čebín

Date of Readings: 17.3.2016

Site: VS3

Time interval between readings: 5 minutes

Ksat Method: Reynolds and Elrick Solution

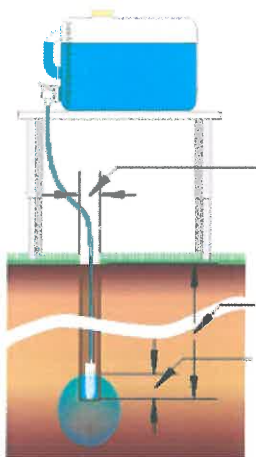
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 5$  ml for 17 consecutive readings

Steady Flow Rate: 70.59 ml/min

Infiltration area: 0.10652 m<sup>2</sup>

Koefficient vsaku: 5.8E-06 m/s

Ksat: 2.6E-06 m/s



17 cm Hole Diameter

12 ° C Water Temperature

280 cm Hole Depth

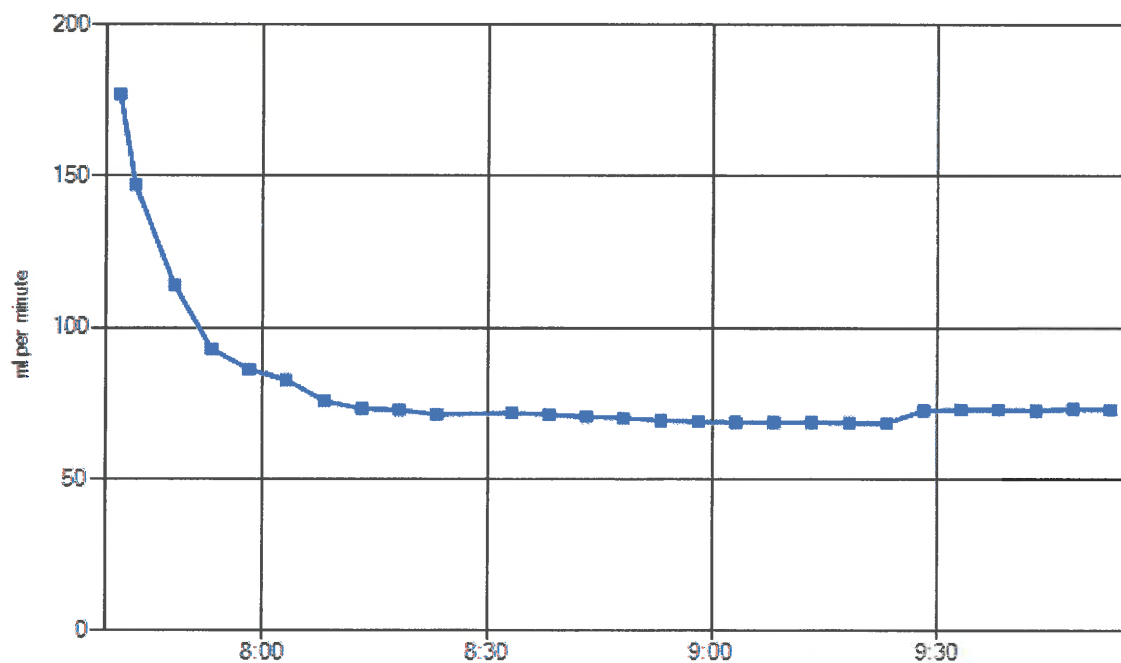
15 cm Water Height in Hole

Water Table Depth

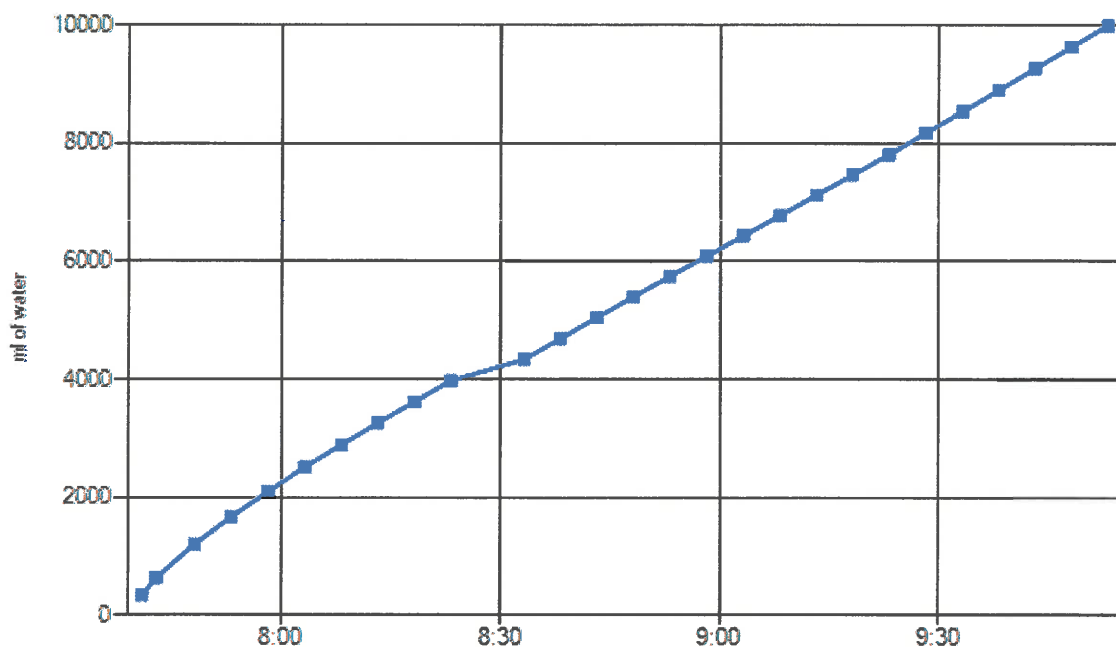
Soil Texture-Structure Category:

Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate



Total Water Consumed



Time	Reservoir Water Level	Elapsed Time Interval	Interval Water Consumed	Total Water Consumed	Water Consumption Rate	Ignore Reading
7:36:01	8165 ml					
7:37:00	7242,4 ml	59 seconds				Yes
7:39:00	6401,4 ml	2 minutes				Yes
7:41:00	6047,8 ml	2 minutes	353,6 ml	353,6 ml	176,800 ml/min	
7:43:00	5754,2 ml	2 minutes	293,6 ml	647,2 ml	146,800 ml/min	
7:43:13	5726 ml	13 seconds				Yes
7:43:14	5724,6 ml	1 second				Yes
7:48:14	5155,2 ml	5 minutes	569,4 ml	1216,6 ml	113,880 ml/min	
7:53:14	4691,4 ml	5 minutes	463,8 ml	1680,4 ml	92,760 ml/min	
7:58:14	4260,8 ml	5 minutes	430,6 ml	2111,0 ml	86,120 ml/min	
8:03:14	3848,8 ml	5 minutes	412,0 ml	2523,0 ml	82,400 ml/min	
8:08:14	3471,2 ml	5 minutes	377,6 ml	2900,6 ml	75,520 ml/min	
8:13:14	3106 ml	5 minutes	365,2 ml	3265,8 ml	73,040 ml/min	
8:18:14	2742,8 ml	5 minutes	363,2 ml	3629,0 ml	72,640 ml/min	
8:23:14	2387 ml	5 minutes	355,8 ml	3984,8 ml	71,160 ml/min	
8:28:14	8500,2 ml	5 minutes				Yes
8:33:14	8141,6 ml	5 minutes	358,6 ml	4343,4 ml	71,720 ml/min	
8:38:14	7785,8 ml	5 minutes	355,8 ml	4699,2 ml	71,160 ml/min	
8:43:14	7433,6 ml	5 minutes	352,2 ml	5051,4 ml	70,440 ml/min	
8:48:14	7083,2 ml	5 minutes	350,4 ml	5401,8 ml	70,080 ml/min	
8:53:14	6736,8 ml	5 minutes	346,4 ml	5748,2 ml	69,280 ml/min	
8:58:14	6392,2 ml	5 minutes	344,6 ml	6092,8 ml	68,920 ml/min	
9:03:14	6048,8 ml	5 minutes	343,4 ml	6436,2 ml	68,680 ml/min	
9:08:14	5705,6 ml	5 minutes	343,2 ml	6779,4 ml	68,640 ml/min	
9:13:14	5362 ml	5 minutes	343,6 ml	7123,0 ml	68,720 ml/min	
9:18:14	5019,6 ml	5 minutes	342,4 ml	7465,4 ml	68,480 ml/min	
9:23:14	4677,4 ml	5 minutes	342,2 ml	7807,6 ml	68,440 ml/min	
9:28:14	4315 ml	5 minutes	362,4 ml	8170,0 ml	72,480 ml/min	
9:33:14	3951,2 ml	5 minutes	363,8 ml	8533,8 ml	72,760 ml/min	
9:38:13	3588,4 ml	5 minutes	362,8 ml	8896,6 ml	72,800 ml/min	
9:43:14	3224,4 ml	5 minutes	364,0 ml	9260,6 ml	72,560 ml/min	
9:48:14	2859 ml	5 minutes	365,4 ml	9626,0 ml	73,080 ml/min	
9:53:13	2495,8 ml	5 minutes	363,2 ml	9989,2 ml	72,880 ml/min	



Location: Čebín

Date of Readings: 11.3.2016

Site: VS4

Time interval between readings: 2 minutes

Ksat Method:

Reynolds and Elrick Solution

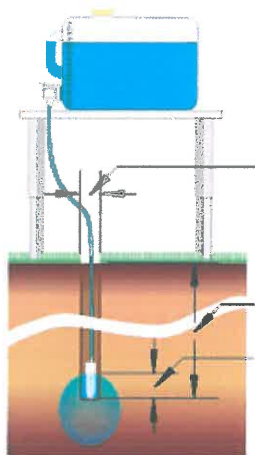
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 5$  ml for 9 consecutive readings

Steady Flow Rate: 7.34 ml/min

Infiltration area: 0.13548 m<sup>2</sup>

Koefficient vsaku: 4.6E-07 m/s

Ksat: 2.9E-07 m/s



15 cm Hole Diameter

12 ° C Water Temperature

70 cm Hole Depth

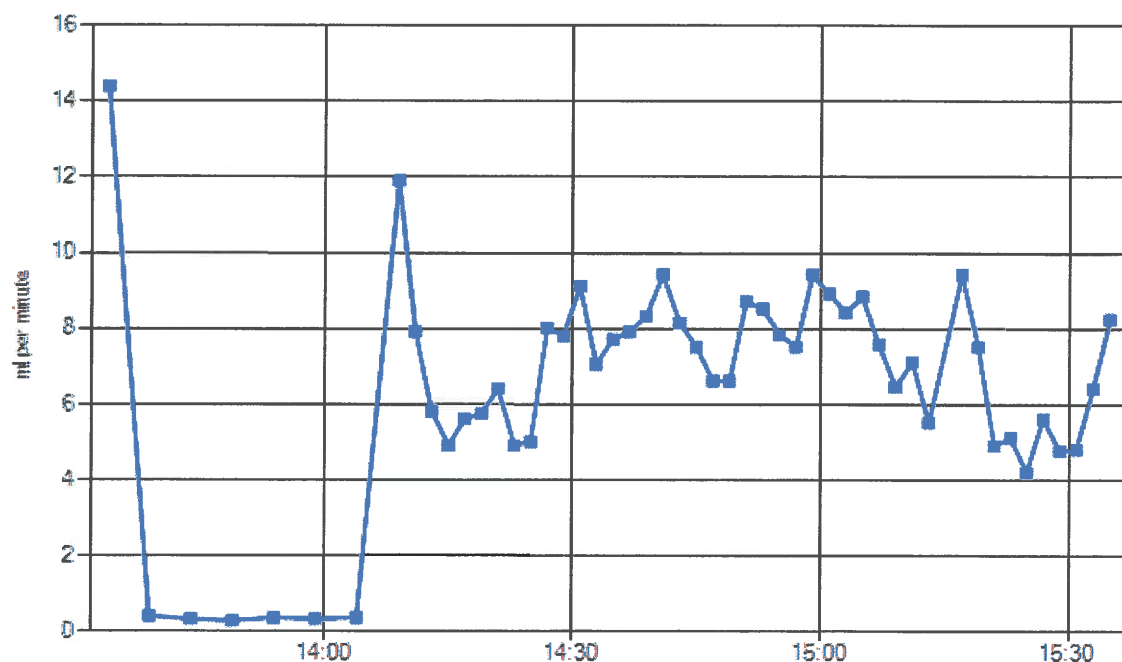
25 cm Water Height in Hole

Water Table Depth

Soil Texture-Structure Category:

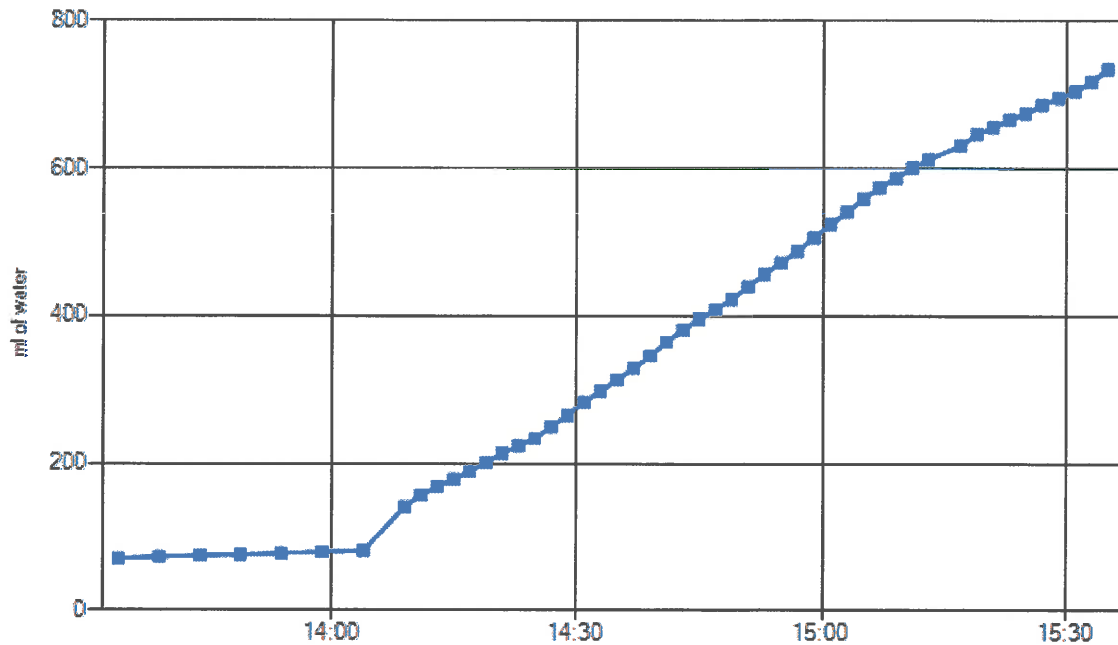
Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.

Water Consumption Rate





Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
13:28:53	8033,2 ml					
13:33:53	7961,4 ml	5 minutes	71,8 ml	71,8 ml	14,360 ml/min	
13:38:53	7959,4 ml	5 minutes	2,0 ml	73,8 ml	,400 ml/min	
13:43:53	7957,8 ml	5 minutes	1,6 ml	75,4 ml	,320 ml/min	
13:48:53	7956,4 ml	5 minutes	1,4 ml	76,8 ml	,280 ml/min	
13:53:53	7954,6 ml	5 minutes	1,8 ml	78,6 ml	,360 ml/min	
13:58:53	7953 ml	5 minutes	1,6 ml	80,2 ml	,320 ml/min	
14:03:53	7951,2 ml	5 minutes	1,8 ml	82,0 ml	,360 ml/min	
14:08:53	7891,8 ml	5 minutes	59,4 ml	141,4 ml	11,880 ml/min	
14:10:53	7876 ml	2 minutes	15,8 ml	157,2 ml	7,900 ml/min	
14:12:53	7864,4 ml	2 minutes	11,6 ml	168,8 ml	5,800 ml/min	
14:14:53	7854,6 ml	2 minutes	9,8 ml	178,6 ml	4,900 ml/min	
14:16:53	7843,4 ml	2 minutes	11,2 ml	189,8 ml	5,600 ml/min	
14:18:54	7831,8 ml	2 minutes	11,6 ml	201,4 ml	5,750 ml/min	
14:20:54	7819 ml	2 minutes	12,8 ml	214,2 ml	6,400 ml/min	
14:22:54	7809,2 ml	2 minutes	9,8 ml	224,0 ml	4,900 ml/min	
14:24:54	7799,2 ml	2 minutes	10,0 ml	234,0 ml	5,000 ml/min	
14:26:54	7783,2 ml	2 minutes	16,0 ml	250,0 ml	8,000 ml/min	
14:28:54	7767,6 ml	2 minutes	15,6 ml	265,6 ml	7,800 ml/min	
14:30:54	7749,4 ml	2 minutes	18,2 ml	283,8 ml	9,100 ml/min	
14:32:55	7735,2 ml	2 minutes	14,2 ml	298,0 ml	7,040 ml/min	
14:34:55	7719,8 ml	2 minutes	15,4 ml	313,4 ml	7,700 ml/min	
14:36:55	7704 ml	2 minutes	15,8 ml	329,2 ml	7,900 ml/min	
14:38:55	7687,4 ml	2 minutes	16,6 ml	345,8 ml	8,300 ml/min	
14:40:55	7668,6 ml	2 minutes	18,8 ml	364,6 ml	9,400 ml/min	
14:42:56	7652,2 ml	2 minutes	16,4 ml	381,0 ml	8,130 ml/min	
14:44:56	7637,2 ml	2 minutes	15,0 ml	396,0 ml	7,500 ml/min	
14:46:56	7624 ml	2 minutes	13,2 ml	409,2 ml	6,600 ml/min	
14:48:56	7610,8 ml	2 minutes	13,2 ml	422,4 ml	6,600 ml/min	
14:50:56	7593,4 ml	2 minutes	17,4 ml	439,8 ml	8,700 ml/min	
14:52:56	7576,4 ml	2 minutes	17,0 ml	456,8 ml	8,500 ml/min	
14:54:57	7560,6 ml	2 minutes	15,8 ml	472,6 ml	7,830 ml/min	
14:56:57	7545,6 ml	2 minutes	15,0 ml	487,6 ml	7,500 ml/min	
14:58:57	7526,8 ml	2 minutes	18,8 ml	506,4 ml	9,400 ml/min	
15:00:57	7509 ml	2 minutes	17,8 ml	524,2 ml	8,900 ml/min	

15:02:57	7492,2 ml	2 minutes	16,8 ml	541,0 ml	8,400 ml/min
15:04:58	7474,4 ml	2 minutes	17,8 ml	558,8 ml	8,830 ml/min
15:06:57	7459,4 ml	2 minutes	15,0 ml	573,8 ml	7,560 ml/min
15:08:58	7446,4 ml	2 minutes	13,0 ml	586,8 ml	6,450 ml/min
15:10:58	7432,2 ml	2 minutes	14,2 ml	601,0 ml	7,100 ml/min
15:12:58	7421,2 ml	2 minutes	11,0 ml	612,0 ml	5,500 ml/min
15:14:58	7383,6 ml	2 minutes			
15:16:58	7364,8 ml	2 minutes	18,8 ml	630,8 ml	9,400 ml/min
15:18:58	7349,8 ml	2 minutes	15,0 ml	645,8 ml	7,500 ml/min
15:20:58	7340 ml	2 minutes	9,8 ml	655,6 ml	4,900 ml/min
15:22:58	7329,8 ml	2 minutes	10,2 ml	665,8 ml	5,100 ml/min
15:24:58	7321,4 ml	2 minutes	8,4 ml	674,2 ml	4,200 ml/min
15:26:58	7310,2 ml	2 minutes	11,2 ml	685,4 ml	5,600 ml/min
15:28:59	7300,6 ml	2 minutes	9,6 ml	695,0 ml	4,760 ml/min
15:30:59	7291 ml	2 minutes	9,6 ml	704,6 ml	4,800 ml/min
15:32:59	7278,2 ml	2 minutes	12,8 ml	717,4 ml	6,400 ml/min
15:35:00	7261,6 ml	2 minutes	16,6 ml	734,0 ml	8,230 ml/min

Yes



Location: Čebín

Date of Readings: 16.3.2016

Site: VS5

Time interval between readings: 5 minutes

Ksat Method:

Reynolds and Elrick Solution

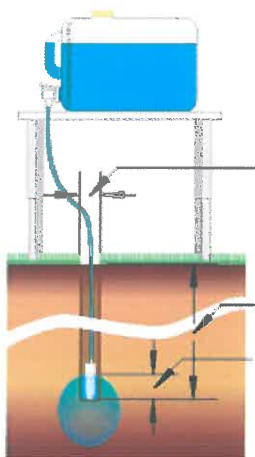
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 19$  ml for 6 consecutive readings

Steady Flow Rate: 116.26 ml/min

Infiltration area: 0.08836 m<sup>2</sup>

Koefficient vsaku: 1.2E-05 m/s

Ksat: 4.6E-06 m/s



15 cm Hole Diameter

12 ° C Water Temperature

55 cm Hole Depth

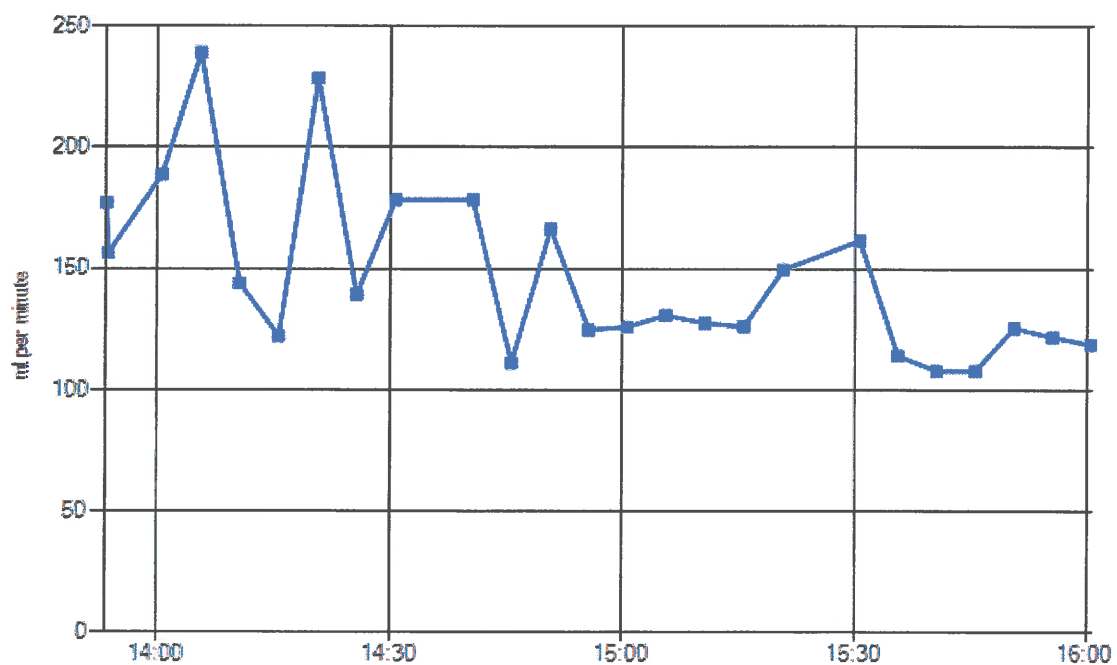
15 cm Water Height in Hole

400 cm Water Table Depth

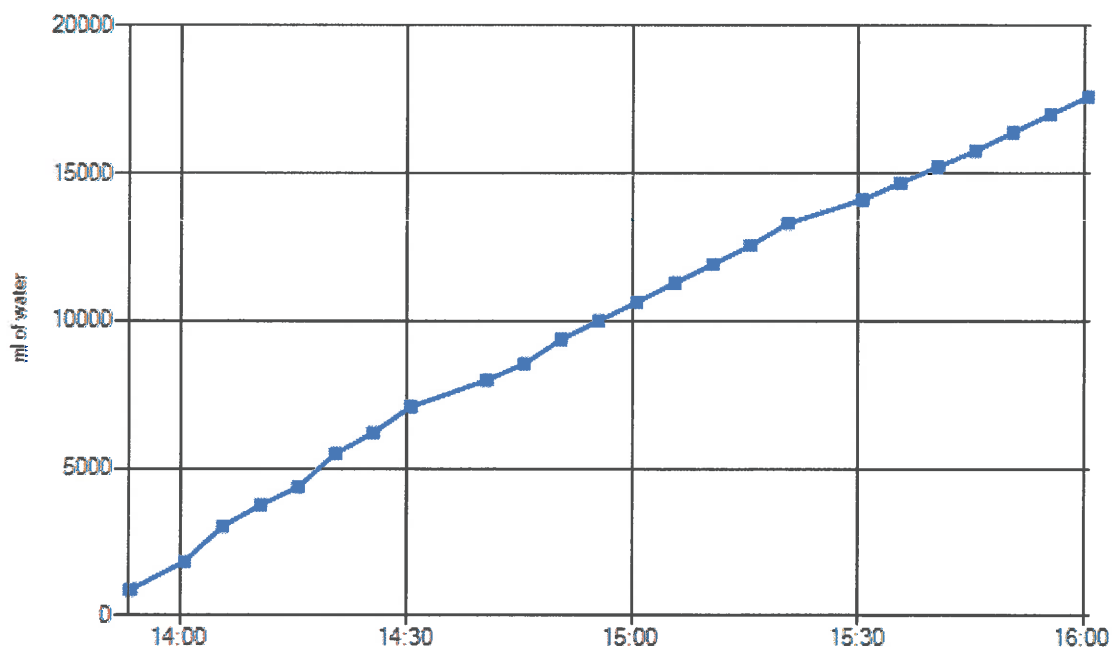
Soil Texture-Structure Category:

Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate



Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
13:43:22	8028,2 ml					
13:48:22	2915 ml	5 minutes				Yes
13:53:22	2031,4 ml	5 minutes	883,6 ml	883,6 ml	176,720 ml/min	
13:53:33	2002,8 ml	11 seconds	28,6 ml	912,2 ml	156,000 ml/min	
13:53:34	2001,4 ml	1 second				Yes
13:55:33	8038,8 ml	2 minutes				Yes
14:00:33	7096,6 ml	5 minutes	942,2 ml	1854,4 ml	188,440 ml/min	
14:05:33	5903,4 ml	5 minutes	1193,2 ml	3047,6 ml	238,640 ml/min	
14:10:33	5185 ml	5 minutes	718,4 ml	3766,0 ml	143,680 ml/min	
14:15:33	4575 ml	5 minutes	610,0 ml	4376,0 ml	122,000 ml/min	
14:20:33	3434,4 ml	5 minutes	1140,6 ml	5516,6 ml	228,120 ml/min	
14:25:33	2739 ml	5 minutes	695,4 ml	6212,0 ml	139,080 ml/min	
14:30:33	1848,4 ml	5 minutes	890,6 ml	7102,6 ml	178,120 ml/min	
14:35:33	8310,8 ml	5 minutes				Yes
14:40:33	7421 ml	5 minutes	889,8 ml	7992,4 ml	177,960 ml/min	
14:45:33	6866,6 ml	5 minutes	554,4 ml	8546,8 ml	110,880 ml/min	
14:50:33	6036,2 ml	5 minutes	830,4 ml	9377,2 ml	166,080 ml/min	
14:55:33	5413,2 ml	5 minutes	623,0 ml	10000,2 ml	124,600 ml/min	
15:00:33	4784,4 ml	5 minutes	628,8 ml	10629,0 ml	125,760 ml/min	
15:05:33	4131,2 ml	5 minutes	653,2 ml	11282,2 ml	130,640 ml/min	
15:10:33	3494,2 ml	5 minutes	637,0 ml	11919,2 ml	127,400 ml/min	
15:15:33	2864,6 ml	5 minutes	629,6 ml	12548,8 ml	125,920 ml/min	
15:20:33	2117,6 ml	5 minutes	747,0 ml	13295,8 ml	149,400 ml/min	
15:25:33	8386,4 ml	5 minutes				Yes
15:30:33	7580 ml	5 minutes	806,4 ml	14102,2 ml	161,280 ml/min	
15:35:33	7010,2 ml	5 minutes	569,8 ml	14672,0 ml	113,960 ml/min	
15:40:33	6471 ml	5 minutes	539,2 ml	15211,2 ml	107,840 ml/min	
15:45:33	5931,8 ml	5 minutes	539,2 ml	15750,4 ml	107,840 ml/min	
15:50:33	5305,2 ml	5 minutes	626,6 ml	16377,0 ml	125,320 ml/min	
15:55:33	4696,8 ml	5 minutes	608,4 ml	16985,4 ml	121,680 ml/min	
16:00:33	4103,8 ml	5 minutes	593,0 ml	17578,4 ml	118,600 ml/min	



Location: Čebín

Date of Readings: 16.3.2016

Site: VS6

Time interval between readings: 5 minutes

Ksat Method:

Reynolds and Elrick Solution

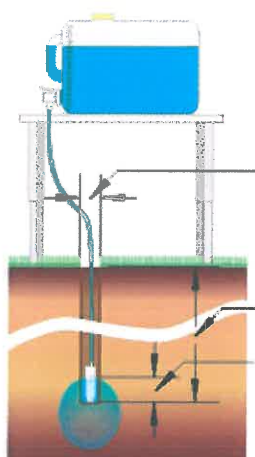
Steady Flow Rate achieved when Water Consumption Rate changes less than +/- 13 ml for 10 consecutive readings

Steady Flow Rate: 46.51 ml/min

Infiltration area: 0.10652 m<sup>2</sup>

Koefficient vsaku: 4.5E-06 m/s

Ksat: 2.7E-06 m/s



17 cm Hole Diameter

10 ° C Water Temperature

404 cm Hole Depth

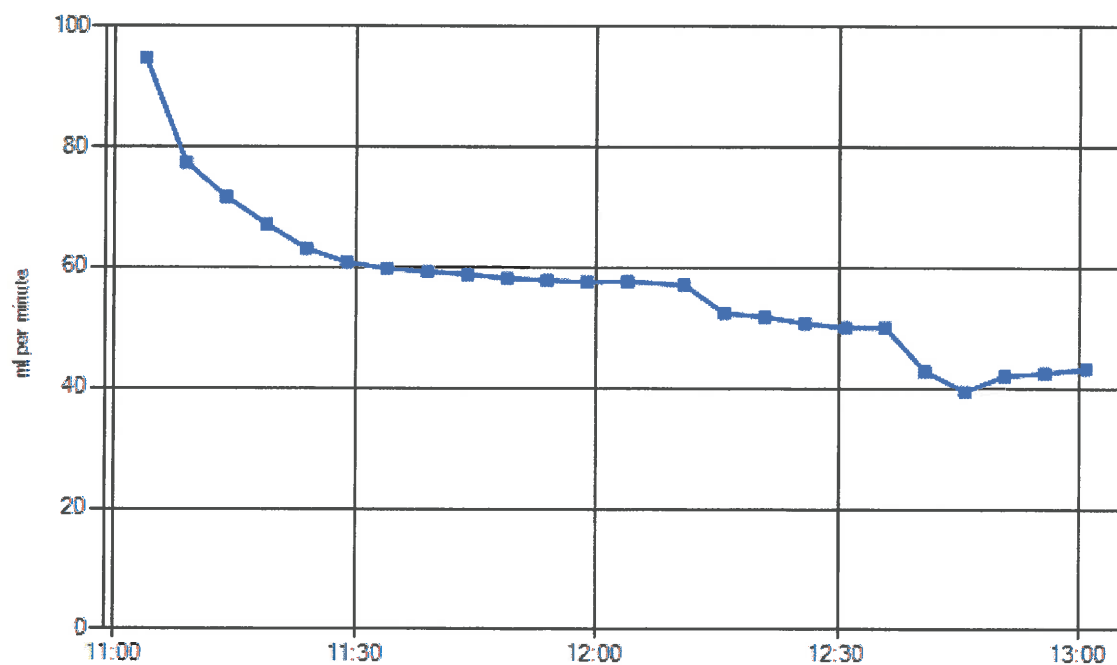
15 cm Water Height in Hole

Water Table Depth

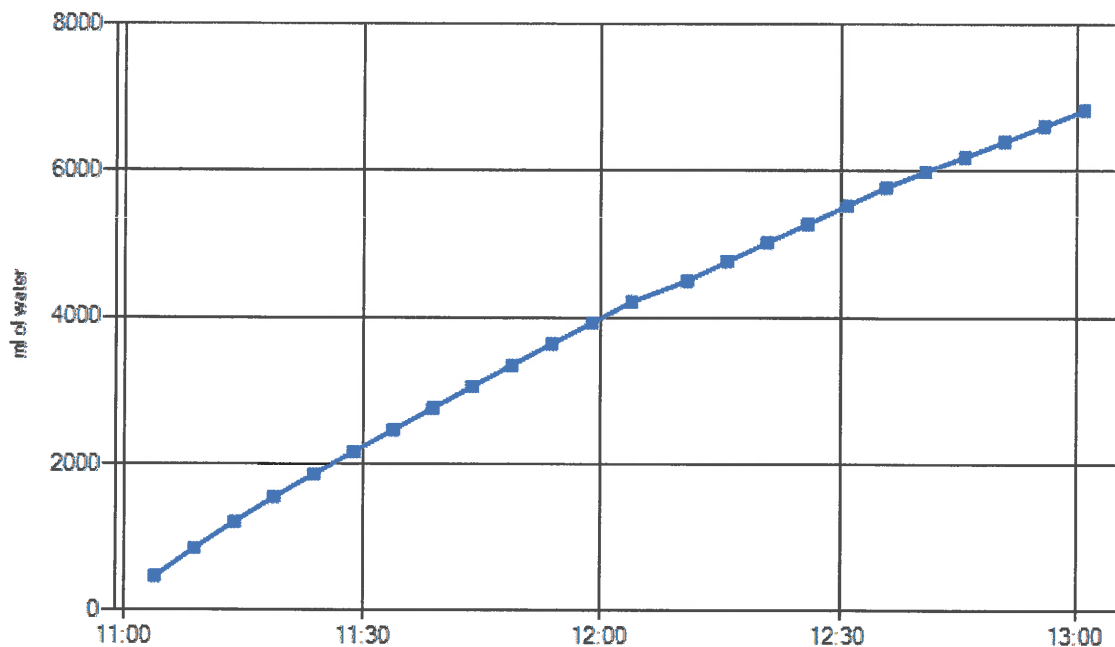
Soil Texture-Structure Category:

Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.

Water Consumption Rate



Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
10:53:51	8745,6 ml					
10:58:51	6276,8 ml	5 minutes				Yes
11:03:51	5804,4 ml	5 minutes	472,4 ml	472,4 ml	94,480 ml/min	
11:08:51	5418,4 ml	5 minutes	386,0 ml	858,4 ml	77,200 ml/min	
11:13:51	5060,8 ml	5 minutes	357,6 ml	1216,0 ml	71,520 ml/min	
11:18:51	4725,6 ml	5 minutes	335,2 ml	1551,2 ml	67,040 ml/min	
11:23:51	4410,6 ml	5 minutes	315,0 ml	1866,2 ml	63,000 ml/min	
11:28:51	4106,8 ml	5 minutes	303,8 ml	2170,0 ml	60,760 ml/min	
11:33:51	3808,2 ml	5 minutes	298,6 ml	2468,6 ml	59,720 ml/min	
11:38:51	3512 ml	5 minutes	296,2 ml	2764,8 ml	59,240 ml/min	
11:43:51	3218,2 ml	5 minutes	293,8 ml	3058,6 ml	58,760 ml/min	
11:48:51	2927,6 ml	5 minutes	290,6 ml	3349,2 ml	58,120 ml/min	
11:53:51	2638,6 ml	5 minutes	289,0 ml	3638,2 ml	57,800 ml/min	
11:58:51	2350,8 ml	5 minutes	287,8 ml	3926,0 ml	57,560 ml/min	
12:03:51	2062,6 ml	5 minutes	288,2 ml	4214,2 ml	57,640 ml/min	
12:03:52	2061,6 ml	1 second				Yes
12:03:52	2061 ml					Yes
12:05:52	8360,6 ml	2 minutes				Yes
12:10:52	8075,4 ml	5 minutes	285,2 ml	4499,4 ml	57,040 ml/min	
12:15:52	7813,4 ml	5 minutes	262,0 ml	4761,4 ml	52,400 ml/min	
12:20:52	7554,4 ml	5 minutes	259,0 ml	5020,4 ml	51,800 ml/min	
12:25:52	7300,8 ml	5 minutes	253,6 ml	5274,0 ml	50,720 ml/min	
12:30:52	7050,6 ml	5 minutes	250,2 ml	5524,2 ml	50,040 ml/min	
12:35:52	6800,4 ml	5 minutes	250,2 ml	5774,4 ml	50,040 ml/min	
12:40:52	6586,2 ml	5 minutes	214,2 ml	5988,6 ml	42,840 ml/min	
12:45:52	6388,8 ml	5 minutes	197,4 ml	6186,0 ml	39,480 ml/min	
12:50:52	6178,6 ml	5 minutes	210,2 ml	6396,2 ml	42,040 ml/min	
12:55:52	5966 ml	5 minutes	212,6 ml	6608,8 ml	42,520 ml/min	
13:00:52	5750 ml	5 minutes	216,0 ml	6824,8 ml	43,200 ml/min	

Akce :	Silnice II/385 Čebín - obchvat		VS7
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Datum : 15.3.2016

Měřil : Zbyněk Kadaňka

Typ provádění zkoušení :

Zkouška s neustálenou hladinou vody v sondě  
(měření poklesu hladiny s přesností +/- 0.5 cm)

Zkoušená půda :

písek stř. zrnitý s příměsí drobného šterku GT 5.2 (tř.S3)

Údaje o zkoušce :

Hloubka od terénu :	384 cm
Průměr sondy :	175 mm
Výstroj :	PVC
Průměr výstroje :	110 mm
Perforovaný úsek :	344 - 384 cm

Celkový čas :	2 hod 2min
Celk. dosažený pokles :	10.94 m
Celk. infiltrovaný objem :	200 l

Koeficient vsaku : 1.4E-05 m/s

Záznam průběhu zkoušky								
Nálev č.1			Nálev č.2		Nálev č.3		Nálev č.4	
Čas (min)	Výška vodního sloupce (cm)	Snížení hladiny (cm/min)	Výška vodního sloupce (cm)	Snížení hladiny (cm/min)	Výška vodního sloupce (cm)	Snížení hladiny (cm/min)	Výška vodního sloupce (cm)	Snížení hladiny (cm/min)
0	214		299		364		351	
1	185	29	206	93	290	74	298	53
2	75	110	173	33	254	36	261	37
3	63	12	150	23	217	37	197	64
4	56	7	128	22	188	29	183	14
5	51	5	107	21	168	20	166	17
6	46	5	97	10	147	21	151	15
7	42	4	87	10	135	12	141	10
8	38	4	79	8	120	15	126	15
9	35	3	72	7	108	12	116	10
10	32	3	68	4	98	10	107	9
11			66	2	90	8	101	6
12	28	2	62	4	83	7	94	7
13			59	3	78	5	88	6
14	25	2	56	3	73	5	83	5
15			53	3	70	3	79	4
16			51	2	67	3	75	4
17			49	2	65	2	71	4
18			46	3	62	3	68	3
20			43	2	58	2	65	2
22			39	2	53	3	60	3
24			37	1	50	2		
26			35	1	46	2		
28	13	1	30	3	43	2		
30					40	2		
32								
34								
36								
38					31	1		
40								



Location: Čebín

Date of Readings: 11.3.2016

Site: VS8

Time interval between readings: 5 minutes

Ksat Method:

Reynolds and Elrick Solution

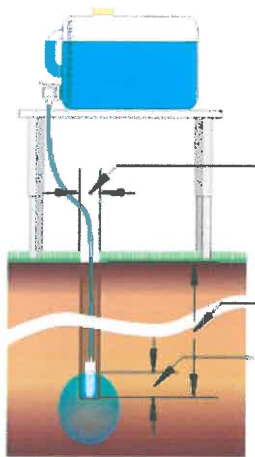
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 1$  ml for 9 consecutive readings

Steady Flow Rate: 0.8 ml/min

Infiltration area: 0.15904 m<sup>2</sup>

Koefficient vsaku: 4.8E-08 m/s

Ksat: 3.2E-08 m/s



15 cm Hole Diameter

10 ° C Water Temperature

88 cm Hole Depth

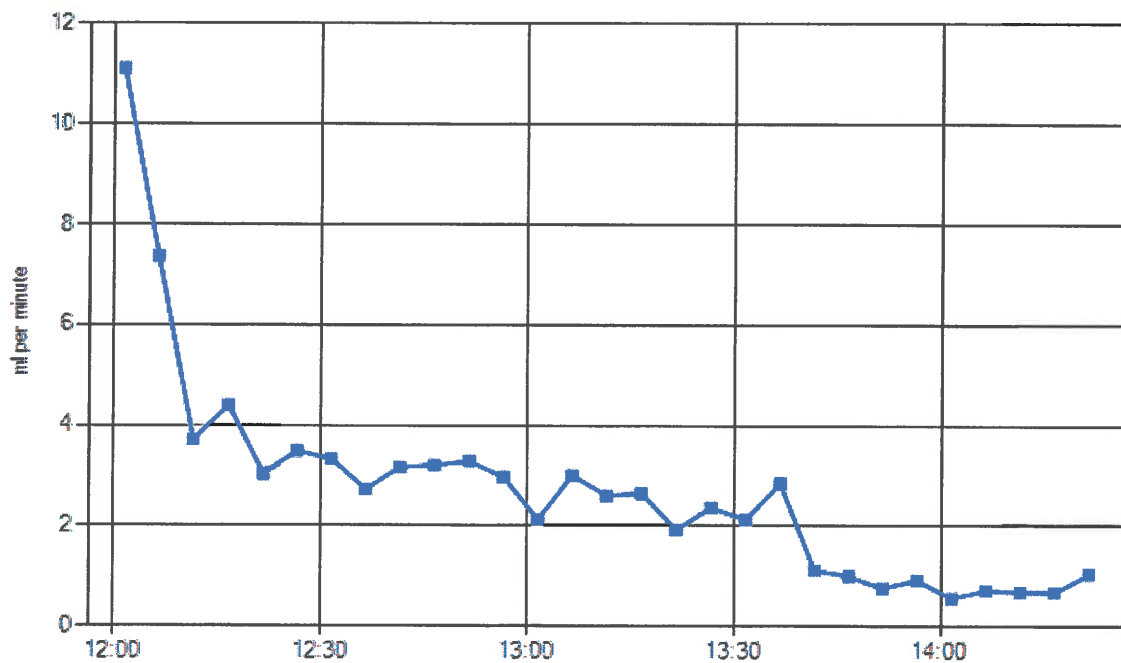
15 cm Water Height in Hole

Water Table Depth

Soil Texture-Structure Category:

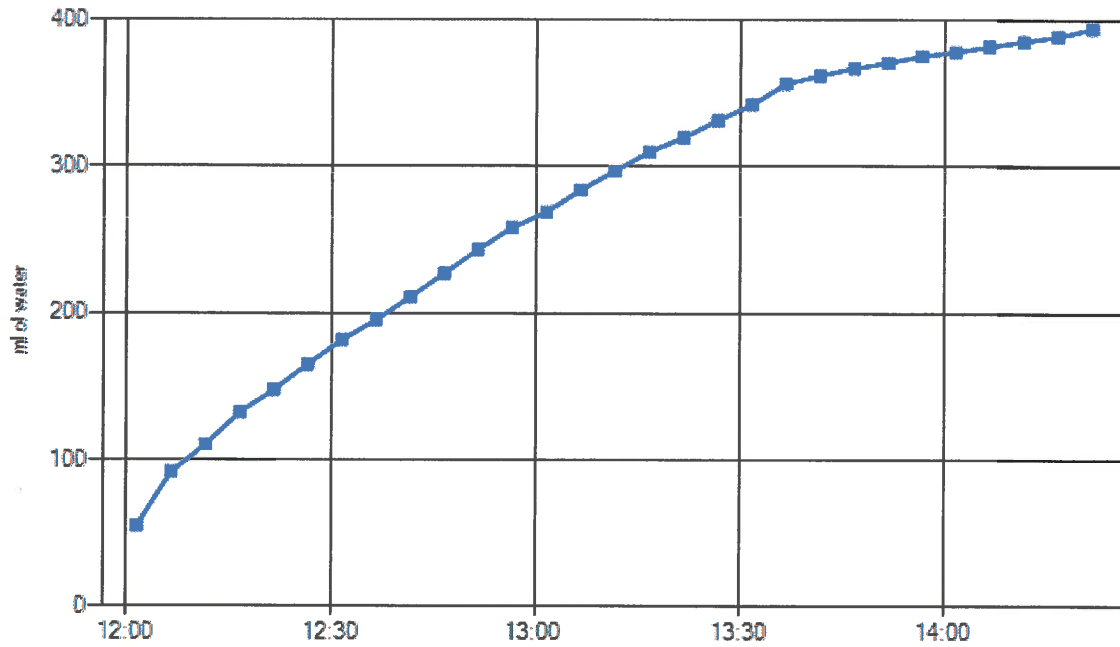
Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate





Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
11:41:34	8431 ml					
11:46:34	6501,4 ml	5 minutes				Yes
11:51:34	6301,2 ml	5 minutes				Yes
11:56:34	6183,4 ml	5 minutes				Yes
12:01:34	6128 ml	5 minutes	55,4 ml	55,4 ml	11,080 ml/min	
12:06:34	6091,2 ml	5 minutes	36,8 ml	92,2 ml	7,360 ml/min	
12:11:34	6072,6 ml	5 minutes	18,6 ml	110,8 ml	3,720 ml/min	
12:16:34	6050,6 ml	5 minutes	22,0 ml	132,8 ml	4,400 ml/min	
12:21:34	6035,4 ml	5 minutes	15,2 ml	148,0 ml	3,040 ml/min	
12:26:34	6018 ml	5 minutes	17,4 ml	165,4 ml	3,480 ml/min	
12:31:34	6001,4 ml	5 minutes	16,6 ml	182,0 ml	3,320 ml/min	
12:36:34	5987,8 ml	5 minutes	13,6 ml	195,6 ml	2,720 ml/min	
12:41:34	5972 ml	5 minutes	15,8 ml	211,4 ml	3,160 ml/min	
12:46:34	5956 ml	5 minutes	16,0 ml	227,4 ml	3,200 ml/min	
12:51:34	5939,6 ml	5 minutes	16,4 ml	243,8 ml	3,280 ml/min	
12:56:34	5924,8 ml	5 minutes	14,8 ml	258,6 ml	2,960 ml/min	
13:01:34	5914,2 ml	5 minutes	10,6 ml	269,2 ml	2,120 ml/min	
13:06:34	5899,2 ml	5 minutes	15,0 ml	284,2 ml	3,000 ml/min	
13:11:34	5886,2 ml	5 minutes	13,0 ml	297,2 ml	2,600 ml/min	
13:16:34	5873 ml	5 minutes	13,2 ml	310,4 ml	2,640 ml/min	
13:21:34	5863,4 ml	5 minutes	9,6 ml	320,0 ml	1,920 ml/min	
13:26:34	5851,6 ml	5 minutes	11,8 ml	331,8 ml	2,360 ml/min	
13:31:34	5841 ml	5 minutes	10,6 ml	342,4 ml	2,120 ml/min	
13:36:34	5826,8 ml	5 minutes	14,2 ml	356,6 ml	2,840 ml/min	
13:41:34	5821,2 ml	5 minutes	5,6 ml	362,2 ml	1,120 ml/min	
13:46:34	5816,2 ml	5 minutes	5,0 ml	367,2 ml	1,000 ml/min	
13:51:34	5812,4 ml	5 minutes	3,8 ml	371,0 ml	,760 ml/min	
13:56:34	5807,8 ml	5 minutes	4,6 ml	375,6 ml	,920 ml/min	
14:01:34	5805 ml	5 minutes	2,8 ml	378,4 ml	,560 ml/min	
14:06:34	5801,4 ml	5 minutes	3,6 ml	382,0 ml	,720 ml/min	
14:11:34	5798 ml	5 minutes	3,4 ml	385,4 ml	,680 ml/min	
14:16:34	5794,6 ml	5 minutes	3,4 ml	388,8 ml	,680 ml/min	
14:21:34	5789,4 ml	5 minutes	5,2 ml	394,0 ml	1,040 ml/min	



Location: Čebín

Date of Readings: 11.3.2016

Site: VS9

Time interval between readings: 2 minutes

Ksat Method:

Reynolds and Elrick Solution

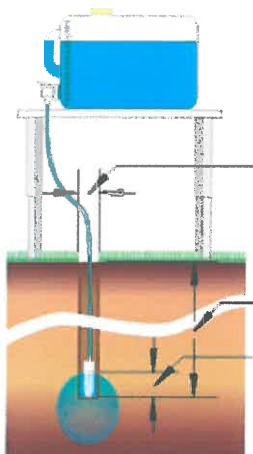
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 34$  ml for 4 consecutive readings

Steady Flow Rate: 796.4 ml/min

Infiltration area: 0.13548 m<sup>2</sup>

Koefficient vsaku: 5.5E-05 m/s

Ksat: 2.1E-05 m/s



15 cm Hole Diameter

12 ° C Water Temperature

102 cm Hole Depth

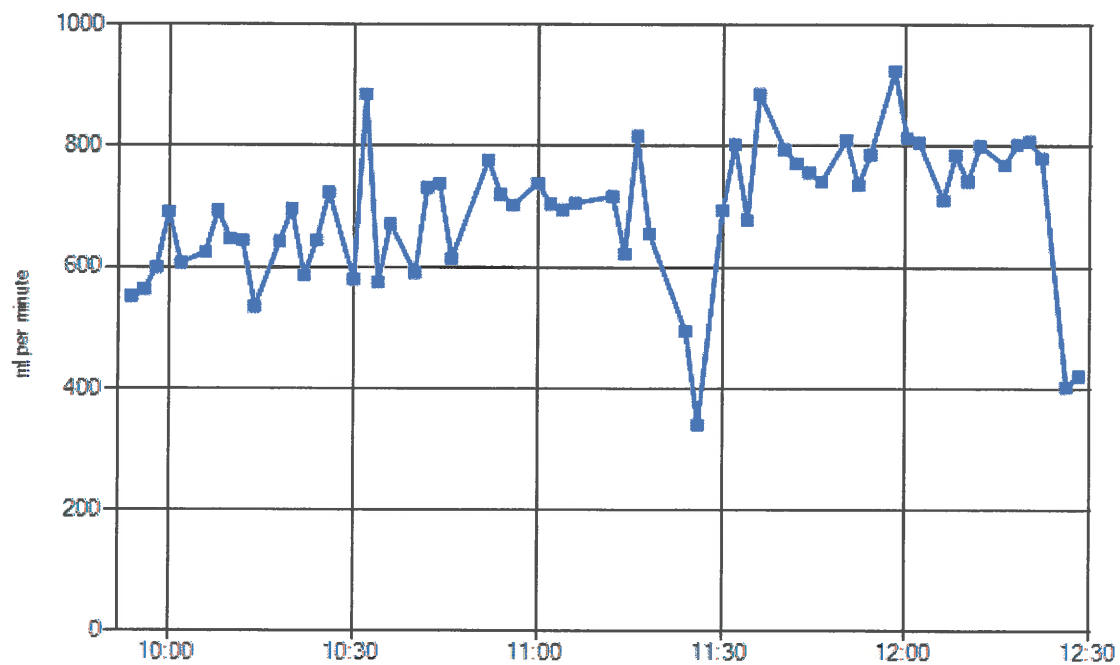
25 cm Water Height in Hole

350 cm Water Table Depth

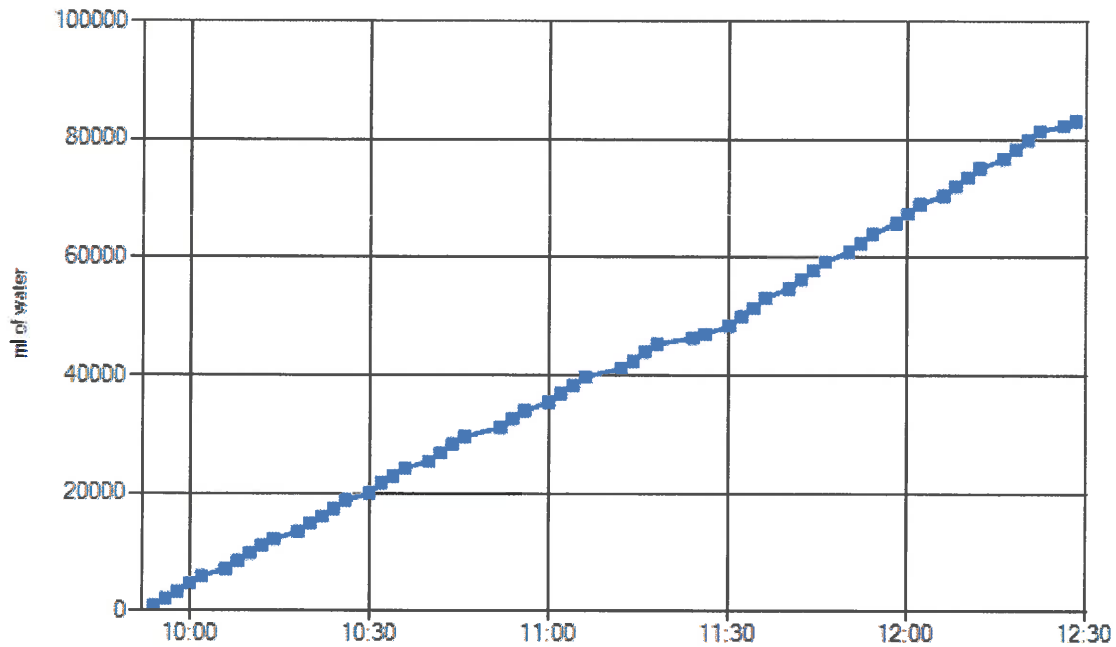
Soil Texture-Structure Category:

Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate



Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
9:51:59	8210,8 ml					
9:54:00	7100 ml	2 minutes	1110,8 ml	1110,8 ml	550,810 ml/min	
9:56:00	5975 ml	2 minutes	1125,0 ml	2235,8 ml	562,500 ml/min	
9:58:00	4777,8 ml	2 minutes	1197,2 ml	3433,0 ml	598,600 ml/min	
10:00:00	3396,8 ml	2 minutes	1381,0 ml	4814,0 ml	690,500 ml/min	
10:02:00	2184,4 ml	2 minutes	1212,4 ml	6026,4 ml	606,200 ml/min	
10:04:00	8724,6 ml	2 minutes				Yes
10:06:00	7475,8 ml	2 minutes	1248,8 ml	7275,2 ml	624,400 ml/min	
10:08:00	6089,8 ml	2 minutes	1386,0 ml	8661,2 ml	693,000 ml/min	
10:10:00	4797,4 ml	2 minutes	1292,4 ml	9953,6 ml	646,200 ml/min	
10:12:00	3510 ml	2 minutes	1287,4 ml	11241,0 ml	643,700 ml/min	
10:14:00	2441,6 ml	2 minutes	1068,4 ml	12309,4 ml	534,200 ml/min	
10:16:00	8417,6 ml	2 minutes				Yes
10:18:01	7124 ml	2 minutes	1293,6 ml	13603,0 ml	641,450 ml/min	
10:20:01	5733,4 ml	2 minutes	1390,6 ml	14993,6 ml	695,300 ml/min	
10:22:01	4562,6 ml	2 minutes	1170,8 ml	16164,4 ml	585,400 ml/min	
10:24:01	3275,2 ml	2 minutes	1287,4 ml	17451,8 ml	643,700 ml/min	
10:26:01	1829,8 ml	2 minutes	1445,4 ml	18897,2 ml	722,700 ml/min	
10:28:01	7200,2 ml	2 minutes				Yes
10:30:01	6041 ml	2 minutes	1159,2 ml	20056,4 ml	579,600 ml/min	
10:32:01	4272 ml	2 minutes	1769,0 ml	21825,4 ml	884,500 ml/min	
10:34:01	3122,6 ml	2 minutes	1149,4 ml	22974,8 ml	574,700 ml/min	
10:36:01	1780,2 ml	2 minutes	1342,4 ml	24317,2 ml	671,200 ml/min	
10:38:01	7843,2 ml	2 minutes				Yes
10:40:01	6662,4 ml	2 minutes	1180,8 ml	25498,0 ml	590,400 ml/min	
10:42:01	5200,8 ml	2 minutes	1461,6 ml	26959,6 ml	730,800 ml/min	
10:44:02	3714,6 ml	2 minutes	1486,2 ml	28445,8 ml	736,960 ml/min	
10:46:02	2486,8 ml	2 minutes	1227,8 ml	29673,6 ml	613,900 ml/min	
10:48:02	4069,2 ml	2 minutes				Yes
10:50:02	6857,6 ml	2 minutes				Yes
10:52:02	5304,8 ml	2 minutes	1552,8 ml	31226,4 ml	776,400 ml/min	
10:54:02	3865,6 ml	2 minutes	1439,2 ml	32665,6 ml	719,600 ml/min	
10:56:02	2461,8 ml	2 minutes	1403,8 ml	34069,4 ml	701,900 ml/min	
10:58:02	8481,4 ml	2 minutes				Yes
11:00:02	7005,8 ml	2 minutes	1475,6 ml	35545,0 ml	737,800 ml/min	

11:02:02	5597,6 ml	2 minutes	1408,2 ml	36953,2 ml	704,100 ml/min	
11:04:03	4197,4 ml	2 minutes	1400,2 ml	38353,4 ml	694,310 ml/min	
11:06:03	2786,8 ml	2 minutes	1410,6 ml	39764,0 ml	705,300 ml/min	
11:08:03	7077,4 ml	2 minutes				Yes
11:10:03	7056 ml	2 minutes				Yes
11:12:03	5623 ml	2 minutes	1433,0 ml	41197,0 ml	716,500 ml/min	
11:14:03	4380,4 ml	2 minutes	1242,6 ml	42439,6 ml	621,300 ml/min	
11:16:03	2748 ml	2 minutes	1632,4 ml	44072,0 ml	816,200 ml/min	
11:18:03	1438,8 ml	2 minutes	1309,2 ml	45381,2 ml	654,600 ml/min	
11:20:04	7173,8 ml	2 minutes				Yes
11:22:04	4507 ml	2 minutes				Yes
11:24:03	3527,2 ml	2 minutes	979,8 ml	46361,0 ml	494,020 ml/min	
11:26:04	2841,8 ml	2 minutes	685,4 ml	47046,4 ml	339,870 ml/min	
11:28:04	8249 ml	2 minutes				Yes
11:30:04	6861,6 ml	2 minutes	1387,4 ml	48433,8 ml	693,700 ml/min	
11:32:04	5257,6 ml	2 minutes	1604,0 ml	50037,8 ml	802,000 ml/min	
11:34:05	3890,8 ml	2 minutes	1366,8 ml	51404,6 ml	677,750 ml/min	
11:36:05	2119,8 ml	2 minutes	1771,0 ml	53175,6 ml	885,500 ml/min	
11:38:05	7939,6 ml	2 minutes				Yes
11:40:05	6352 ml	2 minutes	1587,6 ml	54763,2 ml	793,800 ml/min	
11:42:05	4810,6 ml	2 minutes	1541,4 ml	56304,6 ml	770,700 ml/min	
11:44:05	3297,2 ml	2 minutes	1513,4 ml	57818,0 ml	756,700 ml/min	
11:46:05	1816,8 ml	2 minutes	1480,4 ml	59298,4 ml	740,200 ml/min	
11:48:05	7747,2 ml	2 minutes				Yes
11:50:05	6127,2 ml	2 minutes	1620,0 ml	60918,4 ml	810,000 ml/min	
11:52:05	4657,4 ml	2 minutes	1469,8 ml	62388,2 ml	734,900 ml/min	
11:54:06	3073,4 ml	2 minutes	1584,0 ml	63972,2 ml	785,450 ml/min	
11:56:06	8330,2 ml	2 minutes				Yes
11:58:06	6483,6 ml	2 minutes	1846,6 ml	65818,8 ml	923,300 ml/min	
12:00:06	4856,8 ml	2 minutes	1626,8 ml	67445,6 ml	813,400 ml/min	
12:02:06	3245,2 ml	2 minutes	1611,6 ml	69057,2 ml	805,800 ml/min	
12:04:07	8711,2 ml	2 minutes				Yes
12:06:07	7290,4 ml	2 minutes	1420,8 ml	70478,0 ml	710,400 ml/min	
12:08:06	5734,2 ml	2 minutes	1556,2 ml	72034,2 ml	784,640 ml/min	
12:10:07	4237,8 ml	2 minutes	1496,4 ml	73530,6 ml	742,020 ml/min	
12:12:07	2638 ml	2 minutes	1599,8 ml	75130,4 ml	799,900 ml/min	
12:14:07	8378,8 ml	2 minutes				Yes
12:16:07	6842 ml	2 minutes	1536,8 ml	76667,2 ml	768,400 ml/min	
12:18:07	5238,4 ml	2 minutes	1603,6 ml	78270,8 ml	801,800 ml/min	
12:20:07	3623,6 ml	2 minutes	1614,8 ml	79885,6 ml	807,400 ml/min	
12:22:07	2063,6 ml	2 minutes	1560,0 ml	81445,6 ml	780,000 ml/min	
12:24:07	7604,8 ml	2 minutes				Yes
12:26:08	6794,4 ml	2 minutes	810,4 ml	82256,0 ml	401,850 ml/min	
12:28:08	5952,4 ml	2 minutes	842,0 ml	83098,0 ml	421,000 ml/min	



Location: Čebín

Date of Readings: 11.3.2016

Site: VS10

Time interval between readings: 5 minutes

Ksat Method:

Reynolds and Elrick Solution

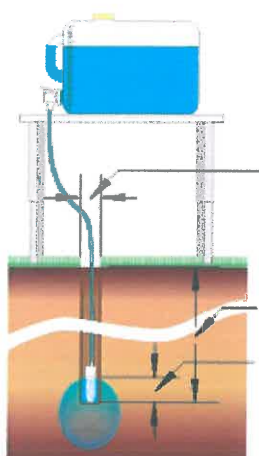
Steady Flow Rate achieved when Water Consumption Rate changes less than  $\pm 3$  ml for 16 consecutive readings

Steady Flow Rate: 4.71 ml/min

Infiltration area: 0.15904 m<sup>2</sup>

Koefficient vsaku: 2.6E-07 m/s

Ksat: 1.1E-07 m/s



15 cm Hole Diameter

12 ° C Water Temperature

76 cm Hole Depth

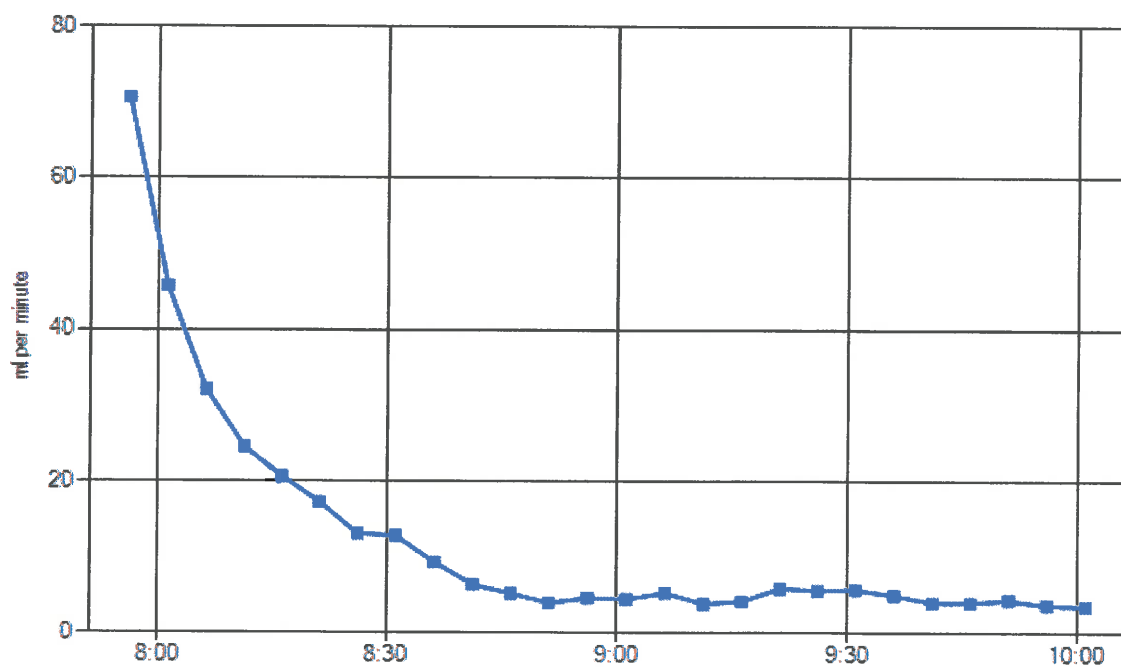
30 cm Water Height in Hole

Water Table Depth

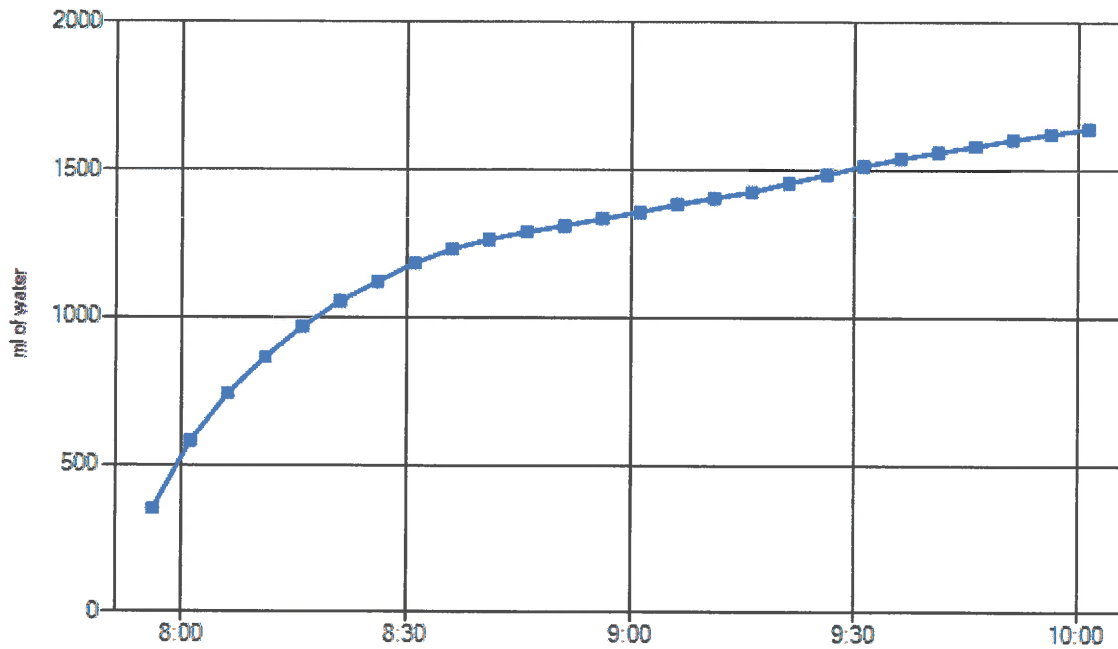
Soil Texture-Structure Category:

Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.

Water Consumption Rate



Total Water Consumed



<u>Time</u>	<u>Reservoir Water Level</u>	<u>Elapsed Time Interval</u>	<u>Interval Water Consumed</u>	<u>Total Water Consumed</u>	<u>Water Consumption Rate</u>	<u>Ignore Reading</u>
7:46:10	7159 ml					
7:51:10	4960,2 ml	5 minutes				Yes
7:56:10	4607,6 ml	5 minutes	352,6 ml	352,6 ml	70,520 ml/min	
8:01:11	4378,2 ml	5 minutes	229,4 ml	582,0 ml	45,730 ml/min	
8:06:11	4217,6 ml	5 minutes	160,6 ml	742,6 ml	32,120 ml/min	
8:11:11	4094,6 ml	5 minutes	123,0 ml	865,6 ml	24,600 ml/min	
8:16:11	3991,6 ml	5 minutes	103,0 ml	968,6 ml	20,600 ml/min	
8:21:11	3905,4 ml	5 minutes	86,2 ml	1054,8 ml	17,240 ml/min	
8:26:11	3839,8 ml	5 minutes	65,6 ml	1120,4 ml	13,120 ml/min	
8:31:11	3775,6 ml	5 minutes	64,2 ml	1184,6 ml	12,840 ml/min	
8:36:11	3728,6 ml	5 minutes	47,0 ml	1231,6 ml	9,400 ml/min	
8:41:10	3696,2 ml	5 minutes	32,4 ml	1264,0 ml	6,500 ml/min	
8:46:11	3669,6 ml	5 minutes	26,6 ml	1290,6 ml	5,300 ml/min	
8:51:11	3649 ml	5 minutes	20,6 ml	1311,2 ml	4,120 ml/min	
8:56:11	3625,4 ml	5 minutes	23,6 ml	1334,8 ml	4,720 ml/min	
9:01:11	3602,4 ml	5 minutes	23,0 ml	1357,8 ml	4,600 ml/min	
9:06:11	3575,4 ml	5 minutes	27,0 ml	1384,8 ml	5,400 ml/min	
9:11:11	3555,4 ml	5 minutes	20,0 ml	1404,8 ml	4,000 ml/min	
9:16:11	3533,8 ml	5 minutes	21,6 ml	1426,4 ml	4,320 ml/min	
9:21:11	3503,8 ml	5 minutes	30,0 ml	1456,4 ml	6,000 ml/min	
9:26:11	3475,2 ml	5 minutes	28,6 ml	1485,0 ml	5,720 ml/min	
9:31:11	3446 ml	5 minutes	29,2 ml	1514,2 ml	5,840 ml/min	
9:36:11	3420,4 ml	5 minutes	25,6 ml	1539,8 ml	5,120 ml/min	
9:41:11	3399,6 ml	5 minutes	20,8 ml	1560,6 ml	4,160 ml/min	
9:46:11	3378,8 ml	5 minutes	20,8 ml	1581,4 ml	4,160 ml/min	
9:51:11	3356,4 ml	5 minutes	22,4 ml	1603,8 ml	4,480 ml/min	
9:56:11	3337,4 ml	5 minutes	19,0 ml	1622,8 ml	3,800 ml/min	
10:01:11	3319,2 ml	5 minutes	18,2 ml	1641,0 ml	3,640 ml/min	