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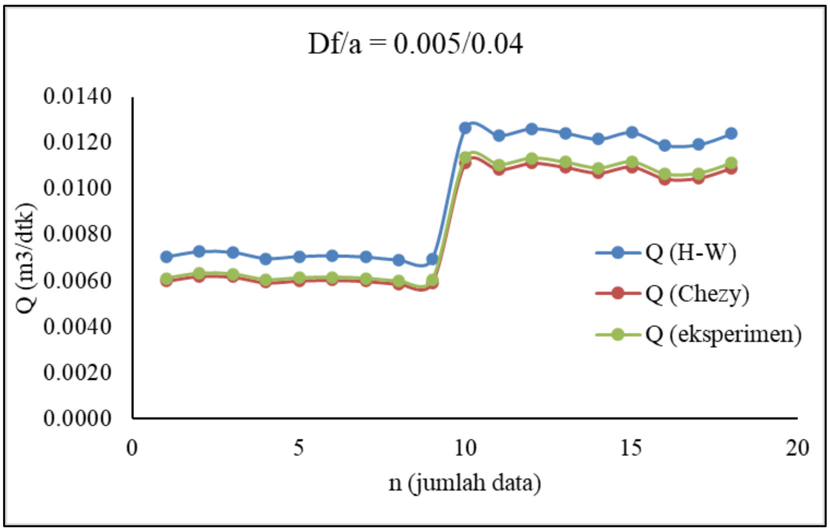
Lampiran 1. Tabel Kecepatan Aliran dan faktor koefisien gesek

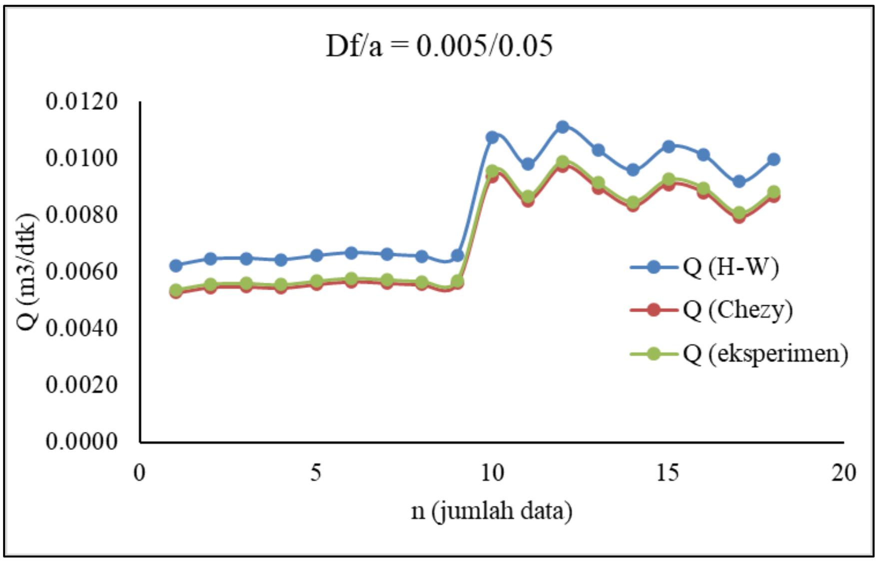
Sedimen	Spasi lubang	No	variabel			
			$f = \frac{0.316}{Re^{0.25}}$	*hf (D-W)*	V (m/s) (Hazen-William)	V (m/s) (Chezy)
Halus	4 cm	1	0.023	0.30	6.45	5.68
		2	0.023	0.29	6.28	5.52
		3	0.023	0.30	6.43	5.67
		4	0.023	0.29	6.34	5.58
		5	0.023	0.28	6.20	5.45
		6	0.023	0.29	6.35	5.58
		7	0.023	0.27	6.06	5.32
		8	0.023	0.27	6.08	5.33
		9	0.023	0.29	6.32	5.56
	5 cm	10	0.024	0.22	5.47	4.77
		11	0.025	0.19	5.00	4.34
		12	0.024	0.24	5.67	4.95
		13	0.024	0.21	5.25	4.57
		14	0.025	0.18	4.89	4.24
		15	0.024	0.21	5.32	4.64
		16	0.024	0.20	5.16	4.48
		17	0.025	0.17	4.68	4.04
		18	0.024	0.19	5.09	4.42
	6 cm	19	0.026	0.12	3.87	3.31
		20	0.026	0.11	3.81	3.25
		21	0.025	0.16	4.64	4.01
		22	0.026	0.11	3.82	3.27
		23	0.026	0.11	3.76	3.21
		24	0.025	0.15	4.45	3.83
		25	0.026	0.11	3.75	3.20
		26	0.026	0.11	3.75	3.20
		27	0.026	0.14	4.18	3.59
Sedang	4 cm	28	0.023	0.29	6.32	5.56
		29	0.023	0.29	6.25	5.50
		30	0.023	0.31	6.53	5.76
		31	0.023	0.29	6.32	5.56
		32	0.023	0.28	6.25	5.49
		33	0.023	0.29	6.31	5.55
		34	0.023	0.27	6.10	5.36
		35	0.023	0.27	6.05	5.31
		36	0.023	0.29	6.34	5.58
	5 cm	37	0.024	0.22	5.41	4.71
		38	0.024	0.19	5.08	4.41
		39	0.024	0.24	5.65	4.94
		40	0.024	0.21	5.23	4.55
		41	0.025	0.18	4.87	4.22
		42	0.024	0.22	5.44	4.75

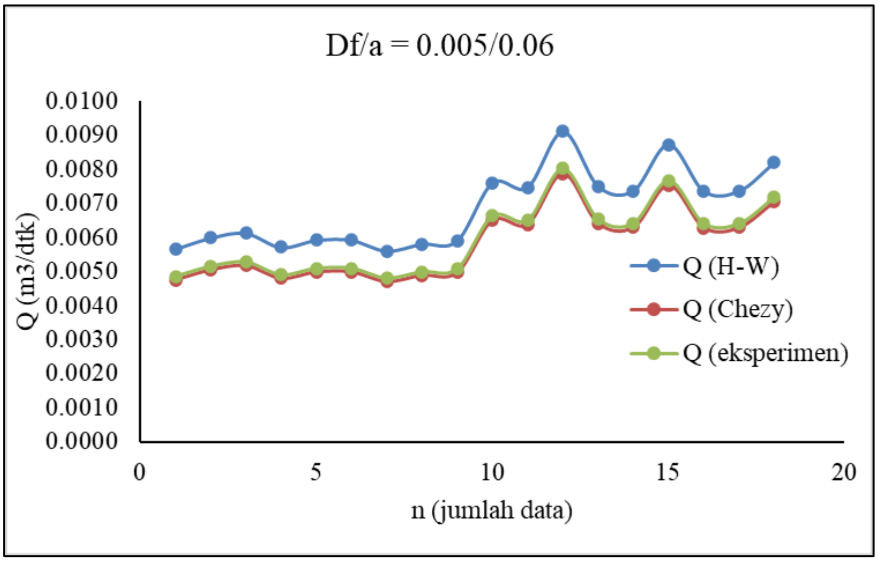
Sedimen	Spasi lubang	No	variabel			
			$f = \frac{0.316}{Re^{0.25}}$	*hf (D-W)*	V (m/s) (Hazen-William)	V (m/s) (Chezy)
		43	0.024	0.19	5.09	4.42
		44	0.025	0.16	4.61	3.99
		45	0.024	0.19	5.06	4.39
	6 cm	46	0.026	0.11	3.82	3.27
		47	0.026	0.11	3.81	3.25
		48	0.025	0.17	4.68	4.04
		49	0.026	0.11	3.81	3.25
		50	0.027	0.11	3.72	3.17
		51	0.025	0.15	4.46	3.85
		52	0.026	0.13	4.08	3.50
		53	0.026	0.11	3.76	3.21
		54	0.026	0.13	4.13	3.54
Kasar	4 cm	55	0.023	0.30	6.42	5.65
		56	0.023	0.29	6.31	5.56
		57	0.023	0.30	6.45	5.68
		58	0.023	0.30	6.41	5.64
		59	0.023	0.29	6.30	5.54
		60	0.023	0.28	6.24	5.49
		61	0.023	0.29	6.30	5.54
		62	0.023	0.27	6.13	5.38
		63	0.023	0.28	6.19	5.44
	5 cm	64	0.024	0.22	5.48	4.78
		65	0.024	0.20	5.13	4.46
		66	0.024	0.23	5.52	4.82
		67	0.024	0.21	5.25	4.57
		68	0.025	0.18	4.85	4.20
		69	0.024	0.22	5.43	4.73
		70	0.024	0.19	5.03	4.37
		71	0.025	0.16	4.62	3.99
		72	0.024	0.18	4.87	4.22
	6 cm	73	0.026	0.11	3.82	3.27
		74	0.026	0.11	3.79	3.24
		75	0.025	0.17	4.68	4.05
		76	0.026	0.11	3.82	3.27
		77	0.027	0.11	3.72	3.17
		78	0.025	0.16	4.50	3.88
		79	0.026	0.13	4.06	3.49
		80	0.026	0.11	3.77	3.22
		81	0.026	0.13	4.16	3.58

Lampiran 2. Data Validasi untuk Debit (Q)

n	Q (Hazen-Wiliam)			Q (Chezy)			Q eksperimen		
	4	5	6	4	5	6	4	5	6
1	0.0070	0.0062	0.0057	0.0060	0.0053	0.0048	0.0061	0.0054	0.0048
2	0.0073	0.0065	0.0060	0.0062	0.0055	0.0050	0.0063	0.0056	0.0051
3	0.0072	0.0065	0.0061	0.0062	0.0055	0.0052	0.0063	0.0056	0.0053
4	0.0070	0.0064	0.0057	0.0059	0.0054	0.0048	0.0060	0.0056	0.0049
5	0.0070	0.0066	0.0059	0.0060	0.0056	0.0050	0.0061	0.0057	0.0051
6	0.0071	0.0067	0.0059	0.0060	0.0057	0.0050	0.0061	0.0058	0.0051
7	0.0070	0.0066	0.0056	0.0060	0.0056	0.0047	0.0061	0.0057	0.0048
8	0.0069	0.0066	0.0058	0.0059	0.0056	0.0049	0.0060	0.0057	0.0050
9	0.0069	0.0066	0.0059	0.0059	0.0056	0.0050	0.0060	0.0057	0.0051
10	0.0127	0.0107	0.0076	0.0111	0.0094	0.0065	0.0114	0.0095	0.0066
11	0.0123	0.0098	0.0075	0.0108	0.0085	0.0064	0.0110	0.0087	0.0065
12	0.0126	0.0111	0.0091	0.0111	0.0097	0.0079	0.0113	0.0099	0.0080
13	0.0124	0.0103	0.0075	0.0109	0.0090	0.0064	0.0112	0.0091	0.0065
14	0.0122	0.0096	0.0074	0.0107	0.0083	0.0063	0.0109	0.0085	0.0064
15	0.0125	0.0104	0.0087	0.0110	0.0091	0.0075	0.0112	0.0093	0.0077
16	0.0119	0.0101	0.0074	0.0104	0.0088	0.0063	0.0106	0.0090	0.0064
17	0.0119	0.0092	0.0074	0.0105	0.0079	0.0063	0.0107	0.0081	0.0064
18	0.0124	0.0100	0.0082	0.0109	0.0087	0.0070	0.0111	0.0088	0.0072




Df/a = 0.005/0.05
0.0120
0.0100
0.0080
0.0060
0.0040
0.0020
0.0000
Q (m3/dtk)
0
5
10
15
20
n (jumlah data)
Q (H-W)
Q (Chezy)
Q (eksperimen)


Df/a = 0.005/0.06
0.0100
0.0090
0.0080
0.0070
0.0060
0.0050
0.0040
0.0030
0.0020
0.0010
0.0000
Q (m3/dtk)
0
5
10
15
20
n (jumlah data)
Q (H-W)
Q (Chezy)
Q (eksperimen)

Lampiran 3. Tabel Parameter Tak Berdimensi

Sedimen	Spasi lubang	No	Parameter tak berdimensi			
			$\frac{V_s}{V_w}$	$e^{k1\left(\frac{a-Df}{a}\right)}$	$\left(\frac{(1-n)db}{da+db}\right)^{k2}$	$\left(\frac{V-Vt}{V}\right)^{k3}$
Halus	4 cm	1	0.007952	0.875	0.349	0.852
		2	0.033548	0.875	0.392	0.857
		3	0.023919	0.875	0.418	0.861
		4	0.007452	0.875	0.349	0.850
		5	0.030484	0.875	0.392	0.852
		6	0.045161	0.875	0.418	0.855
		7	0.003871	0.875	0.349	0.848
		8	0.014113	0.875	0.392	0.847
		9	0.045323	0.875	0.418	0.853
	5 cm	10	0.007403	0.900	0.387	0.829
		11	0.012581	0.900	0.424	0.827
		12	0.018065	0.900	0.445	0.838
		13	0.007339	0.900	0.387	0.829
		14	0.010403	0.900	0.424	0.827
		15	0.027742	0.900	0.445	0.837
		16	0.00371	0.900	0.387	0.831
		17	0.006613	0.900	0.424	0.823
		18	0.022097	0.900	0.445	0.832
	6 cm	19	0.007016	0.917	0.418	0.789
		20	0.009355	0.917	0.448	0.795
		21	0.015161	0.917	0.465	0.817
		22	0.006903	0.917	0.418	0.789
		23	0.007903	0.917	0.448	0.793
		24	0.014516	0.917	0.465	0.809
		25	0.003548	0.917	0.418	0.785
		26	0.006048	0.917	0.448	0.790
		27	0.013065	0.917	0.465	0.803
Sedang	4 cm	28	0.005048	0.875	0.374	0.718
		29	0.025484	0.875	0.421	0.729
		30	0.040323	0.875	0.449	0.734
		31	0.004661	0.875	0.374	0.716
		32	0.027903	0.875	0.421	0.720
		33	0.029355	0.875	0.449	0.725
		34	0.002258	0.875	0.374	0.713
		35	0.010161	0.875	0.421	0.709
		36	0.026774	0.875	0.449	0.719
	5 cm	37	0.003855	0.900	0.416	0.676
		38	0.010645	0.900	0.455	0.677
		39	0.019516	0.900	0.477	0.692
		40	0.003629	0.900	0.416	0.675
		41	0.008516	0.900	0.455	0.669

Sedimen	Spasi lubang	No	Parameter tak berdimensi			
			$\frac{V_s}{V_w}$	$e^{k1\left(\frac{a-Df}{a}\right)}$	$\left(\frac{(1-n)db}{da+db}\right)^{k2}$	$\left(\frac{V-Vt}{V}\right)^{k3}$
		42	0.026613	0.900	0.477	0.696
		43	0.000484	0.900	0.416	0.680
		44	0.004839	0.900	0.455	0.666
		45	0.020645	0.900	0.477	0.681
	6 cm	46	0.001855	0.917	0.449	0.602
		47	0.008226	0.917	0.481	0.616
		48	0.017742	0.917	0.499	0.657
		49	0.001726	0.917	0.449	0.603
		50	0.005677	0.917	0.481	0.607
		51	0.012097	0.917	0.499	0.637
		52	0.000323	0.917	0.449	0.611
		53	0.003226	0.917	0.481	0.604
		54	0.011129	0.917	0.499	0.630
Kasar	4 cm	55	0.002903	0.875	0.403	0.516
		56	0.021774	0.875	0.454	0.514
		57	0.026613	0.875	0.484	0.519
		58	0.001613	0.875	0.403	0.506
		59	0.018548	0.875	0.454	0.504
		60	0.018548	0.875	0.484	0.504
		61	0.001371	0.875	0.403	0.497
		62	0.007258	0.875	0.454	0.486
		63	0.009032	0.875	0.484	0.491
	5 cm	64	0.002419	0.900	0.448	0.446
		65	0.007258	0.900	0.491	0.427
		66	0.017742	0.900	0.515	0.452
		67	0.001774	0.900	0.448	0.431
		68	0.00371	0.900	0.491	0.420
		69	0.015323	0.900	0.515	0.461
		70	0.001274	0.900	0.448	0.440
		71	0.004032	0.900	0.491	0.413
		72	0.007258	0.900	0.515	0.420
	6 cm	73	0.001452	0.917	0.484	0.299
		74	0.003548	0.917	0.519	0.318
		75	0.012097	0.917	0.538	0.387
		76	0.001371	0.917	0.484	0.296
		77	0.003226	0.917	0.519	0.311
		78	0.008871	0.917	0.538	0.359
		79	0.000887	0.917	0.484	0.314
		80	0.001613	0.917	0.519	0.304
		81	0.004032	0.917	0.538	0.348