

Lampiran 1.a Data pengukuran cross section di pias Jembatan Bantar

Index	Time	Elevation	Depth	Temperature (C°)	Leg Lenght	Leg Time	Leg Speed	Leg Speed	Position	Note
144	4/10/2017 13:13		0.5 m	26.1	7 m	0:00:18	1.4 kph	92- true	49 M 415466 9135188	Tepi Kiri
145	4/10/2017 13:14		0.9 m	26.2	2 m	0:00:02	4 kph	107- true	49 M 415474 9135188	
146	4/10/2017 13:14		0.8 m	26	7 m	0:00:07	4 kph	94- true	49 M 415476 9135187	
147	4/10/2017 13:14		0.8 m	26	14 m	0:00:17	3 kph	99- true	49 M 415483 9135187	
148	4/10/2017 13:14		1.6 m	26	19 m	0:00:21	3 kph	97- true	49 M 415497 9135185	
149	4/10/2017 13:14		1.6 m	27	9 m	0:00:12	3 kph	81- true	49 M 415516 9135182	
150	4/10/2017 13:15		1.6 m	26.7	20 m	0:00:24	3 kph	76- true	49 M 415525 9135184	
151	4/10/2017 13:15		2.0 m	26.5	13 m	0:00:21	2 kph	59- true	49 M 415544 9135188	
152	4/10/2017 13:15		2.2 m	26.3	9 m	0:00:17	2 kph	57- true	49 M 415555 9135195	
153	4/10/2017 13:16		2.3 m	26.1	3 m	0:00:04	3 kph	76- true	49 M 415563 9135200	
154	4/10/2017 13:16		1.6 m	25.9	0 m	0:00:02	0.9 kph	43- true	49 M 415566 9135201	

155	4/10/2017 13:16		1.4 m	25.7	1 m	0:00:03	2 kph	276- true	49 M 415566 9135201	
156	4/10/2017 13:16		0.7 m	25.5	0 m	0:00:01	0 kph	0- true	49 M 415565 9135201	Tepi Kanan
157	4/10/2017 13:16		0.7 m	25.3	1 m	0:00:10	0.4 kph	266- true	49 M 415565 9135201	Tepi Kanan II
158	4/10/2017 13:16		1.4 m	25.1	2 m	0:00:08	1.1 kph	227- true	49 M 415564 9135201	
159	4/10/2017 13:16		2.2 m	24.9	0 m	0:00:01	2 kph	287- true	49 M 415562 9135199	
160	4/10/2017 13:16		2.2 m	24.7	16 m	0:00:22	3 kph	269- true	49 M 415561 9135200	
161	4/10/2017 13:16		2.0 m	24.5	18 m	0:00:24	3 kph	260- true	49 M 415545 9135199	
162	4/10/2017 13:17		2.2 m	26.2	7 m	0:00:11	2 kph	253- true	49 M 415528 9135196	
163	4/10/2017 13:17		1.6 m	26.1	2 m	0:00:03	3 kph	216- true	49 M 415521 9135194	
164	4/10/2017 13:17		1.2 m	26.4	11 m	0:00:17	2 kph	236- true	49 M 415520 9135192	
165	4/10/2017 13:17		1.8 m	26.8	15 m	0:00:18	3 kph	232- true	49 M 415511 9135186	
166	4/10/2017 13:18		1.5 m	26.6	14 m	0:00:16	3 kph	261- true	49 M 415499 9135177	
167	4/10/2017 13:18		0.8 m	26.1	14 m	0:00:18	3 kph	279- true	49 M 415485 9135174	
168	4/10/2017 13:18		0.6 m	26.2	4 m	0:00:17	0.9 kph	264- true	49 M 415471 9135177	

169	4/10/2017 13:19		0.9 m	26	1 m	0:00:04	0.9 kph	253- true	49 M 415467 9135176	
170	4/10/2017 13:19		1.3 m	26.8	3 m	0:00:13	0.8 kph	337- true	49 M 415466 9135176	
171	4/10/2017 13:19		0.5 m	26.8	1 m	0:00:01	3 kph	71- true	49 M 415465 9135178	Tepi Kiri II
172	4/10/2017 13:19		0.6 m	26.8	1 m	0:00:02	2 kph	322- true	49 M 415466 9135179	Tepi Kiri II
173	4/10/2017 13:19		0.8 m	26	9 m	0:00:18	2 kph	8- true	49 M 415465 9135180	Tepi Kiri II
174	4/10/2017 13:19		0.8 m	26	3 m	0:00:27	0.4 kph	342- true	49 M 415467 9135188	Tepi Kiri II
175	4/10/2017 13:20		0.6 m	26	0 m	0:00:20	0.0 kph	251- true	49 M 415466 9135191	Tepi Kiri II
176	4/10/2017 13:20		0.6 m	26	2 m	0:00:30	0.3 kph	146- true	49 M 415465 9135191	Tepi Kiri II
177	4/10/2017 13:20			26	3 m	0:00:36	0.3 kph	290- true	49 M 415467 9135189	Tepi Kiri II
178	4/10/2017 13:21		0.7 m	26	2 m	0:01:38	0.1 kph	326- true	49 M 415464 9135190	Tepi Kiri II
179	4/10/2017 13:23		0.6 m	26	1 m	0:00:18	0.3 kph	120- true	49 M 415463 9135191	Tepi Kiri II
180	4/10/2017 13:23		0.6 m	26	0 m	0:00:49	0.0 kph	110- true	49 M 415464 9135191	Tepi Kiri II
181	4/10/2017 13:24		0.8 m	26.1	0 m	0:00:09	0.1 kph	84- true	49 M 415465 9135191	Tepi Kiri II
182	4/10/2017 13:24		0.6 m	26.1	3 m	0:00:40	0.3 kph	150- true	49 M 415465 9135191	Tepi Kiri II

183	4/10/2017 13:25		0.9 m	26.2	0 m	0:00:03	0.1 kph	30- true	49 M 415467 9135188	Tepi Kiri II
184	4/10/2017 13:25		0.6 m	26.7	1 m	0:00:17	0.2 kph	1- true	49 M 415467 9135188	Tepi Kiri II
185	4/10/2017 13:25		0.8 m	26.6	0 m	0:00:05	0.1 kph	152- true	49 M 415467 9135189	Tepi Kiri II
186	4/10/2017 13:25		0.6 m	26.2	3 m	0:01:04	0.2 kph	165- true	49 M 415467 9135188	Tepi Kiri II
187	4/10/2017 13:26		0.6 m	26.4	4 m	0:00:41	0.4 kph	356- true	49 M 415468 9135185	Tepi Kiri II
188	4/10/2017 13:27		0.7 m	26.1	2 m	0:00:15	0.5 kph	294- true	49 M 415467 9135190	Tepi Kiri II
189	4/10/2017 13:27		0.7 m	26.2	2 m	0:00:27	0.2 kph	343- true	49 M 415466 9135190	Tepi Kiri II
190	4/10/2017 13:28			26.2	1 m	0:00:05	0.6 kph	98- true	49 M 415465 9135192	Tepi Kiri II
191	4/10/2017 13:28		0.9 m	26.2	4 m	0:00:21	0.7 kph	36- true	49 M 415466 9135192	Tepi Kiri II
192	4/10/2017 13:28		0.7 m	26.2	10 m	0:00:18	2 kph	359- true	49 M 415468 9135195	Tepi Kiri II
193	4/10/2017 13:28		0.7 m	26.2	6 m	0:00:19	1.1 kph	5- true	49 M 415468 9135205	Tepi Kiri II
194	4/10/2017 13:29		0.8 m	26.2	13 m	0:00:20	2 kph	15- true	49 M 415469 9135211	Tepi Kiri II
195	4/10/2017 13:29		1.3 m	26.2	7 m	0:00:21	1.2 kph	343- true	49 M 415472 9135223	Tepi Kiri II
196	4/10/2017 13:29		1.4 m	26.2	3 m	0:00:25	0.4 kph	192- true	49 M 415470 9135230	Tepi Kiri II

197	4/10/2017 13:30		1.3 m	26.2	0 m	0:00:01	1.0 kph	46- true	49 M 415469 9135227	Tepi Kiri III
198	4/10/2017 13:30		1.2 m	26.2	10 m	0:00:17	2 kph	88- true	49 M 415470 9135227	
199	4/10/2017 13:30		1.4 m	26.4	4 m	0:00:05	3 kph	85- true	49 M 415480 9135228	
200	4/10/2017 13:30		2.2 m	26.2	1 m	0:00:01	3 kph	97- true	49 M 415483 9135228	
201	4/10/2017 13:30		2.4 m	26.1	3 m	0:00:02	5 kph	112- true	49 M 415484 9135228	
202	4/10/2017 13:30		2.6 m	25.8	29 m	0:00:18	6 kph	125- true	49 M 415487 9135227	
203	4/10/2017 13:30		3.1 m	25.6	7 m	0:00:04	6 kph	126- true	49 M 415510 9135210	
204	4/10/2017 13:30		2.3 m	25.7	1 m	0:00:01	5 kph	111- true	49 M 415516 9135206	
205	4/10/2017 13:30		1.5 m	26.1	3 m	0:00:02	5 kph	115- true	49 M 415517 9135206	
206	4/10/2017 13:31		1.2 m	26	3 m	0:00:02	5 kph	102- true	49 M 415520 9135205	
207	4/10/2017 13:31		2.0 m	26.5	3 m	0:00:02	5 kph	98- true	49 M 415522 9135204	
208	4/10/2017 13:31		2.6 m	26.7	1 m	0:00:01	4 kph	93- true	49 M 415525 9135204	
209	4/10/2017 13:31		2.5 m	26.6	19 m	0:00:19	4 kph	86- true	49 M 415526 9135204	
210	4/10/2017 13:31		2.1 m	26	11 m	0:00:14	3 kph	79- true	49 M 415545 9135205	

211	4/10/2017 13:31		1.9 m	26.1	10 m	0:00:20	2 kph	58- true	49 M 415556 9135207	
212	4/10/2017 13:31		1.4 m	26.2	1 m	0:00:02	1.2 kph	8- true	49 M 415565 9135213	
213	4/10/2017 13:32		1.2 m	26.8	1 m	0:00:05	0.7 kph	6- true	49 M 415565 9135213	Tepi Kanan III
214	4/10/2017 13:32		1.6 m	26.8	10 m	0:00:19	2 kph	313- true	49 M 415565 9135214	Tepi Kanan IV
215	4/10/2017 13:32		1.8 m	26.8	11 m	0:00:19	2 kph	328- true	49 M 415557 9135221	
216	4/10/2017 13:32		2.3 m	26.8	10 m	0:00:22	2 kph	297- true	49 M 415551 9135231	
217	4/10/2017 13:33		2.4 m	26.8	5 m	0:00:05	4 kph	250- true	49 M 415542 9135235	
218	4/10/2017 13:33		2.2 m	26.8	10 m	0:00:08	4 kph	212- true	49 M 415537 9135234	
219	4/10/2017 13:33		2.7 m	26	4 m	0:00:03	5 kph	203- true	49 M 415532 9135226	
220	4/10/2017 13:33		3.6 m	26.1	3 m	0:00:02	5 kph	203- true	49 M 415530 9135222	
221	4/10/2017 13:33		4.2 m	26.4	1 m	0:00:01	4 kph	198- true	49 M 415529 9135219	
222	4/10/2017 13:33		4.3 m	26.3	2 m	0:00:02	4 kph	200- true	49 M 415529 9135218	
223	4/10/2017 13:33		4.6 m	26.8	3 m	0:00:03	4 kph	203- true	49 M 415528 9135216	
224	4/10/2017 13:33		3.9 m	26.2	4 m	0:00:05	3 kph	217- true	49 M 415527 9135213	

225	4/10/2017 13:33		3.0 m	26.1	1 m	0:00:02	2 kph	262- true	49 M 415525 9135210		
226	4/10/2017 13:33		2.7 m	26	5 m	0:00:11	2 kph	251- true	49 M 415523 9135210		
227	4/10/2017 13:33		1.8 m	26	3 m	0:00:04	2 kph	259- true	49 M 415519 9135208		
228	4/10/2017 13:33		2.1 m	26	6 m	0:00:07	3 kph	261- true	49 M 415516 9135208		
229	4/10/2017 13:33		2.9 m	26	13 m	0:00:16	3 kph	246- true	49 M 415510 9135207		
230	4/10/2017 13:34		2.5 m	26	3 m	0:00:05	2 kph	254- true	49 M 415498 9135202		
231	4/10/2017 13:34		2.1 m	26	7 m	0:00:14	2 kph	280- true	49 M 415495 9135201		
232	4/10/2017 13:34		1.5 m	26.2	10 m	0:00:16	2 kph	300- true	49 M 415488 9135202		
233	4/10/2017 13:34		0.9 m	26.2	13 m	0:00:24	2 kph	328- true	49 M 415480 9135207		
234	4/10/2017 13:35		1.2 m	26.2	8 m	0:00:12	3 kph	338- true	49 M 415473 9135218		
235	4/10/2017 13:35		1.0 m	26.3	5 m	0:00:07	2 kph	341- true	49 M 415469 9135226		
236	4/10/2017 13:35		0.6 m	26.1	3 m	0:00:18	0.6 kph	299- true	49 M 415468 9135230	Tepi Kiri IV	
Temperature Rata-Rata				26.2							

Lampiran 1.b Data pengukuran cross section di pias Intake Sapon

Index	Time	Elevation	Depth	Temperature (C°)	Leg Lenght	Leg Time	Leg Speed	Leg Speed	Position	Note
1	4/12/2017 11:10		1.1 m	26.1	1 m	0:00:11	0.2 kt	252° true	49 M 418120 9124085	Tepi Kiri
2	4/12/2017 11:11		2.1 m	26.1	1 m	0:00:02	0.9 kt	194° true	49 M 418119 9124085	
3	4/12/2017 11:11		3.3 m	26.4	1 m	0:00:02	0.8 kt	196° true	49 M 418118 9124084	
4	4/12/2017 11:11		4.4 m	26.5	0 m	0:00:01	0.8 kt	181° true	49 M 418118 9124083	
5	4/12/2017 11:11		4.2 m	26.1	5 m	0:00:11	0.8 kt	195° true	49 M 418118 9124083	
6	4/12/2017 11:11		5.2 m	26.2	1 m	0:00:03	1.0 kt	180° true	49 M 418117 9124079	
7	4/12/2017 11:11		5.8 m	26.3	1 m	0:00:01	1.4 kt	176° true	49 M 418117 9124077	
8	4/12/2017 11:11		5.9 m	26.3	11 m	0:00:12	2 kt	180° true	49 M 418117 9124076	
9	4/12/2017 11:11		5.3 m	26.1	6 m	0:00:06	2 kt	206° true	49 M 418117 9124065	
10	4/12/2017 11:11		5.5 m	26.2	7 m	0:00:05	3 kt	239° true	49 M 418114 9124060	
11	4/12/2017 11:11		4.6 m	26.6	1 m	0:00:01	3 kt	244° true	49 M 418109 9124057	
12	4/12/2017		4.6 m	26.1	14 m	0:00:11	3 kt	242°	49 M 418107	

	11:11							true	9124056	
13	4/12/2017 11:12		5.2 m	26.4	2 m	0:00:01	3 kt	228° true	49 M 418095 9124049	
14	4/12/2017 11:12		4.9 m	26.5	4 m	0:00:03	2 kt	243° true	49 M 418094 9124048	
15	4/12/2017 11:12		4.4 m	26.1	12 m	0:00:09	3 kt	238° true	49 M 418090 9124047	
16	4/12/2017 11:12		3.7 m	26.2	1 m	0:00:01	2 kt	243° true	49 M 418080 9124040	
17	4/12/2017 11:12		3.6 m	26.3	7 m	0:00:05	3 kt	236° true	49 M 418079 9124040	
18	4/12/2017 11:12		3.2 m	26.3	11 m	0:00:08	3 kt	240° true	49 M 418073 9124036	
19	4/12/2017 11:12		2.6 m	26.1	15 m	0:00:14	2 kt	244° true	49 M 418064 9124030	
20	4/12/2017 11:12		1.6 m	26.2	1 m	0:00:01	1.0 kt	228° true	49 M 418050 9124024	
21	4/12/2017 11:12		0.8 m	26.1	0 m	0:00:01	0.6 kt	265° true	49 M 418050 9124023	
22	4/12/2017 11:12		0.8 m	26.1	0 m	0:00:34	0.0 kt	130° true	49 M 418050 9124023	Tepi Kanan
23	4/12/2017 11:13				11 m	0:01:09	0.3 kt	123° true	49 M 418050 9124023	
24	4/12/2017 11:14				14 m	0:00:31	0.8 kt	120° true	49 M 418059 9124017	
25	4/12/2017 11:15				8 m	0:00:20	0.7 kt	124° true	49 M 418071 9124010	
26	4/12/2017				0 m	0:00:32	0.0 kt	100°	49 M 418077	

	11:15							true	9124006	
27	4/12/2017 11:15				1 m	0:00:35	0.1 kt	102° true	49 M 418077 9124006	
28	4/12/2017 11:16				1 m	0:00:35	0.1 kt	163° true	49 M 418079 9124006	
29	4/12/2017 11:17				0 m	0:00:45	0.0 kt	14° true	49 M 418079 9124005	
30	4/12/2017 11:17				1 m	0:00:20	0.0 kt	115° true	49 M 418079 9124005	
31	4/12/2017 11:18				1 m	0:00:47	0.1 kt	130° true	49 M 418080 9124005	
32	4/12/2017 11:18				9 m	0:00:14	1.2 kt	111° true	49 M 418081 9124004	
33	4/12/2017 11:19		2.6 m	26.2	1 m	0:00:01	2 kt	93° true	49 M 418089 9124001	Tepi Kanan II
34	4/12/2017 11:19		2.6 m	26.3	5 m	0:00:07	1.5 kt	66° true	49 M 418090 9124001	
35	4/12/2017 11:19		3.2 m	26.3	1 m	0:00:01	2 kt	29° true	49 M 418095 9124003	
36	4/12/2017 11:19		3.4 m	26.1	8 m	0:00:06	3 kt	26° true	49 M 418095 9124004	
37	4/12/2017 11:19		3.3 m	26.2	20 m	0:00:12	3 kt	16° true	49 M 418099 9124011	
38	4/12/2017 11:19		4.1 m	26.1	13 m	0:00:12	2 kt	12° true	49 M 418104 9124030	
39	4/12/2017 11:19		4.7 m	26.1	3 m	0:00:06	0.9 kt	35° true	49 M 418107 9124043	
40	4/12/2017		4.3 m	26.4	3 m	0:00:03	2 kt	35° true	49 M 418108	

	11:19								9124045	
41	4/12/2017 11:19		4.7 m	26.5	6 m	0:00:05	2 kt	19° true	49 M 418110 9124047	
42	4/12/2017 11:20		4.3 m	26.7	14 m	0:00:09	3 kt	14° true	49 M 418112 9124053	
43	4/12/2017 11:20		4.9 m	26.2	13 m	0:00:15	2 kt	56° true	49 M 418115 9124067	
44	4/12/2017 11:20		4.4 m	26.3	7 m	0:00:11	1.2 kt	88° true	49 M 418126 9124074	
45	4/12/2017 11:20		4.1 m	26.3	2 m	0:00:15	0.2 kt	111° true	49 M 418133 9124074	
46	4/12/2017 11:20		4.8 m	26.1	0 m	0:00:04	0.2 kt	79° true	49 M 418134 9124074	
47	4/12/2017 11:20		3.6 m	26.2	0 m	0:00:01	0 kt	0° true	49 M 418135 9124074	
48	4/12/2017 11:20		3.0 m	26.6	0 m	0:00:02	0.2 kt	270° true	49 M 418135 9124074	
49	4/12/2017 11:20		2.3 m	26.1	0 m	0:00:01	0.2 kt	105° true	49 M 418134 9124074	
50	4/12/2017 11:20		2.3 m	26.3	0 m	0:00:03	0.0 kt	301° true	49 M 418135 9124074	
51	4/12/2017 11:21		1.9 m	26.1	0 m	0:00:03	0.1 kt	144° true	49 M 418134 9124074	Tepi Kiri II
52	4/12/2017 11:21		2.7 m	26.3	0 m	0:00:01	0.1 kt	270° true	49 M 418135 9124073	Tepi Kiri II
53	4/12/2017 11:21		3.4 m	26.1	0 m	0:00:02	0.0 kt	180° true	49 M 418135 9124073	Tepi Kiri II
54	4/12/2017		3.6 m	26.2	0 m	0:00:23	0.0 kt	136°	49 M 418135	Tepi Kiri II

	11:21							true	9124073	
55	4/12/2017 11:21		3.0 m	26.1	0 m	0:00:05	0.2 kt	122° true	49 M 418135 9124073	Tepi Kiri II
56	4/12/2017 11:21		3.5 m	26.1	0 m	0:00:14	0.0 kt	111° true	49 M 418135 9124073	Tepi Kiri II
57	4/12/2017 11:21		2.5 m	26.4	0 m	0:00:02	0.0 kt	243° true	49 M 418135 9124073	Tepi Kiri II
58	4/12/2017 11:21		2.2 m	26.4	0 m	0:00:06	0.0 kt	234° true	49 M 418135 9124073	Tepi Kiri II
59	4/12/2017 11:21		2.2 m	26.5	0 m	0:00:08	0.1 kt	314° true	49 M 418135 9124073	Tepi Kiri II
60	4/12/2017 11:22		1.6 m	26.7	0 m	0:00:09	0.0 kt	113° true	49 M 418135 9124073	Tepi Kiri II
61	4/12/2017 11:22		2.2 m	26.2	0 m	0:00:06	0.1 kt	292° true	49 M 418135 9124073	Tepi Kiri II
62	4/12/2017 11:22		1.6 m	26.3	0 m	0:00:02	0.2 kt	143° true	49 M 418135 9124073	Tepi Kiri II
63	4/12/2017 11:22		1.2 m	26.3	0 m	0:00:02	0.0 kt	206° true	49 M 418135 9124073	Tepi Kiri II
64	4/12/2017 11:22		2.0 m	26.1	0 m	0:00:04	0.0 kt	180° true	49 M 418135 9124073	Tepi Kiri II
65	4/12/2017 11:22		4.0 m	26.3	0 m	0:00:02	0.0 kt	0° true	49 M 418135 9124073	Tepi Kiri II
66	4/12/2017 11:22		4.7 m	26.3	0 m	0:00:05	0.0 kt	48° true	49 M 418135 9124073	Tepi Kiri II
67	4/12/2017 11:22		5.7 m	26.1	0 m	0:00:04	0.1 kt	15° true	49 M 418135 9124073	Tepi Kiri II
68	4/12/2017		4.8 m	26.2	0 m	0:00:01	0.1 kt	117°	49 M 418135	Tepi Kiri II

	11:22							true	9124073	
69	4/12/2017 11:22		3.7 m	26.1	0 m	0:00:02	0.0 kt	289° true	49 M 418135 9124073	Tepi Kiri II
70	4/12/2017 11:22		3.2 m	26.1	0 m	0:00:12	0.0 kt	146° true	49 M 418135 9124073	Tepi Kiri II
71	4/12/2017 11:22		4.3 m	26.1	1 m	0:00:01	1.1 kt	152° true	49 M 418135 9124073	Tepi Kiri II
72	4/12/2017 11:22		4.3 m	26.1	0 m	0:00:05	0.0 kt	346° true	49 M 418136 9124072	Tepi Kiri II
73	4/12/2017 11:23		3.5 m	26.1	0 m	0:00:02	0.0 kt	338° true	49 M 418136 9124072	Tepi Kiri II
74	4/12/2017 11:23		3.1 m	26.1	1 m	0:00:03	0.6 kt	329° true	49 M 418136 9124072	Tepi Kiri II
75	4/12/2017 11:23		3.8 m	26.1	1 m	0:00:21	0.0 kt	109° true	49 M 418135 9124073	Tepi Kiri II
76	4/12/2017 11:23		3.2 m	26.2	0 m	0:00:04	0.0 kt	120° true	49 M 418136 9124073	Tepi Kiri II
77	4/12/2017 11:23		2.4 m	26.3	0 m	0:00:01	0.0 kt	90° true	49 M 418136 9124073	Tepi Kiri II
78	4/12/2017 11:23		2.3 m	26.3	0 m	0:00:04	0.1 kt	78° true	49 M 418136 9124073	Tepi Kiri II
79	4/12/2017 11:23		3.3 m	26.3	0 m	0:00:01	0.1 kt	180° true	49 M 418136 9124073	Tepi Kiri II
80	4/12/2017 11:23		3.2 m	26.3	0 m	0:00:03	0.0 kt	309° true	49 M 418136 9124073	Tepi Kiri II
81	4/12/2017 11:23		2.4 m	26.1	0 m	0:00:01	0 kt	0° true	49 M 418136 9124073	Tepi Kiri II
82	4/12/2017		2.5 m	26.2	0 m	0:00:16	0.0 kt	95° true	49 M 418136	Tepi Kiri II

	11:23								9124073	
83	4/12/2017 11:23		3.2 m	26.1	0 m	0:00:11	0.1 kt	245° true	49 M 418136 9124073	Tepi Kiri II
84	4/12/2017 11:24		4.0 m	26.1	0 m	0:00:02	0.0 kt	90° true	49 M 418136 9124073	Tepi Kiri II
85	4/12/2017 11:24		4.2 m	26.7	0 m	0:00:01	0.1 kt	109° true	49 M 418136 9124073	Tepi Kiri II
86	4/12/2017 11:24		4.8 m	26.2	0 m	0:00:03	0.2 kt	77° true	49 M 418136 9124073	Tepi Kiri II
87	4/12/2017 11:24		5.1 m	26.3	0 m	0:00:02	0.1 kt	117° true	49 M 418136 9124073	Tepi Kiri II
88	4/12/2017 11:24		4.6 m	26.3	0 m	0:00:06	0.1 kt	135° true	49 M 418136 9124073	Tepi Kiri II
89	4/12/2017 11:24		4.9 m	26.3	0 m	0:00:06	0.1 kt	92° true	49 M 418136 9124073	Tepi Kiri II
90	4/12/2017 11:24		3.0 m	26.3	0 m	0:00:06	0.0 kt	340° true	49 M 418136 9124073	Tepi Kiri II
91	4/12/2017 11:24		3.2 m	26.4	0 m	0:00:07	0.0 kt	40° true	49 M 418136 9124073	Tepi Kiri II
92	4/12/2017 11:24		2.4 m	26.4	0 m	0:00:02	0.0 kt	117° true	49 M 418136 9124073	Tepi Kiri II
93	4/12/2017 11:24		2.2 m	26.5	0 m	0:00:03	0.1 kt	202° true	49 M 418136 9124073	Tepi Kiri II
94	4/12/2017 11:24		3.4 m	26.1	0 m	0:00:02	0.0 kt	236° true	49 M 418136 9124073	Tepi Kiri II
95	4/12/2017 11:24		4.1 m	26.2	0 m	0:00:02	0.1 kt	246° true	49 M 418136 9124073	Tepi Kiri II
96	4/12/2017		4.4 m	26.3	0 m	0:00:03	0.0 kt	231°	49 M 418136	Tepi Kiri II

	11:24							true	9124073	
97	4/12/2017 11:24		3.6 m	26.3	0 m	0:00:01	0.0 kt	90° true	49 M 418136 9124073	Tepi Kiri II
98	4/12/2017 11:24		2.6 m	26.1	0 m	0:00:02	0.0 kt	117° true	49 M 418136 9124073	Tepi Kiri II
99	4/12/2017 11:24		2.1 m	26.3	0 m	0:00:09	0.0 kt	146° true	49 M 418136 9124073	Tepi Kiri II
100	4/12/2017 11:25		3.0 m	26.3	0 m	0:00:02	0.0 kt	194° true	49 M 418136 9124072	Tepi Kiri II
101	4/12/2017 11:25		3.5 m	26.1	0 m	0:00:03	0.0 kt	211° true	49 M 418136 9124072	Tepi Kiri II
102	4/12/2017 11:25		3.1 m	26.2	0 m	0:00:05	0.1 kt	234° true	49 M 418136 9124072	Tepi Kiri II
103	4/12/2017 11:25		3.8 m	26.1	0 m	0:00:02	0.0 kt	147° true	49 M 418136 9124072	Tepi Kiri II
104	4/12/2017 11:25		2.9 m	26.1	0 m	0:00:02	0.0 kt	225° true	49 M 418136 9124072	Tepi Kiri II
105	4/12/2017 11:25		2.5 m	26.4	0 m	0:00:02	0.0 kt	166° true	49 M 418136 9124072	Tepi Kiri II
106	4/12/2017 11:25		3.6 m	26.1	0 m	0:00:01	0.0 kt	154° true	49 M 418136 9124072	Tepi Kiri II
107	4/12/2017 11:25		3.0 m	26.1	0 m	0:00:05	0.1 kt	160° true	49 M 418136 9124072	Tepi Kiri II
108	4/12/2017 11:25		2.2 m	26.1	0 m	0:00:01	0.0 kt	26° true	49 M 418136 9124072	Tepi Kiri II
109	4/12/2017 11:25		2.2 m	26.1	0 m	0:00:06	0.0 kt	86° true	49 M 418136 9124072	Tepi Kiri III
110	4/12/2017		3.3 m	26.4	0 m	0:00:02	0.0 kt	68° true	49 M 418136	

	11:25								9124072	
111	4/12/2017 11:25		3.4 m	26.5	1 m	0:00:13	0.2 kt	147° true	49 M 418136 9124072	
112	4/12/2017 11:25		3.1 m	26.1	3 m	0:00:06	1.0 kt	149° true	49 M 418137 9124071	
113	4/12/2017 11:25		3.8 m	26.3	4 m	0:00:05	2 kt	170° true	49 M 418139 9124068	
114	4/12/2017 11:26		3.7 m	26.1	4 m	0:00:04	2 kt	184° true	49 M 418140 9124064	
115	4/12/2017 11:26		3.9 m	26.2	3 m	0:00:03	2 kt	186° true	49 M 418139 9124060	
116	4/12/2017 11:26		4.5 m	26.1	6 m	0:00:06	2 kt	198° true	49 M 418139 9124057	
117	4/12/2017 11:26		4.3 m	26	8 m	0:00:06	3 kt	232° true	49 M 418137 9124051	
118	4/12/2017 11:26		4.8 m	26	9 m	0:00:06	3 kt	253° true	49 M 418131 9124047	
119	4/12/2017 11:26		4.4 m	26	11 m	0:00:08	3 kt	255° true	49 M 418122 9124044	
120	4/12/2017 11:26		4.6 m	26.5	10 m	0:00:07	3 kt	252° true	49 M 418111 9124041	
121	4/12/2017 11:26		4.4 m	26.1	5 m	0:00:04	3 kt	253° true	49 M 418102 9124038	
122	4/12/2017 11:26		4.2 m	26.3	3 m	0:00:02	2 kt	249° true	49 M 418097 9124036	
123	4/12/2017 11:26		3.8 m	26.1	8 m	0:00:06	2 kt	250° true	49 M 418094 9124035	
124	4/12/2017		3.3 m	26.1	13 m	0:00:10	2 kt	248°	49 M 418087	

	11:26							true	9124033	
125	4/12/2017 11:27		2.7 m	26.3	10 m	0:00:09	2 kt	244° true	49 M 418075 9124028	
126	4/12/2017 11:27		2.1 m	26.4	10 m	0:00:19	1.1 kt	229° true	49 M 418067 9124024	
127	4/12/2017 11:27		2.3 m	26.1	2 m	0:00:53	0.1 kt	49° true	49 M 418059 9124017	Tepi Kanan III
128	4/12/2017 11:28				5 m	0:00:22	0.4 kt	128° true	49 M 418061 9124019	
129	4/12/2017 11:28				6 m	0:00:21	0.6 kt	125° true	49 M 418064 9124016	
130	4/12/2017 11:29				9 m	0:00:23	0.8 kt	126° true	49 M 418069 9124012	
131	4/12/2017 11:29				4 m	0:00:16	0.5 kt	122° true	49 M 418076 9124007	
132	4/12/2017 11:29				11 m	0:00:28	0.8 kt	125° true	49 M 418080 9124005	
133	4/12/2017 11:30				9 m	0:00:18	1.0 kt	119° true	49 M 418089 9123999	
134	4/12/2017 11:30		3.4 m	26.1	1 m	0:00:01	1.1 kt	103° true	49 M 418097 9123995	Tepi Kanan IV
135	4/12/2017 11:30		3.4 m	26.4	4 m	0:00:07	1.2 kt	98° true	49 M 418097 9123994	
136	4/12/2017 11:30		2.9 m	26.1	1 m	0:00:02	1.2 kt	92° true	49 M 418101 9123994	
137	4/12/2017 11:30		3.8 m	26	1 m	0:00:02	1.2 kt	96° true	49 M 418103 9123994	
138	4/12/2017		4.2 m	26.2	2 m	0:00:03	1.1 kt	102°	49 M 418104	

	11:30							true	9123994		
139	4/12/2017 11:30		3.8 m	26.3	5 m	0:00:09	1.2 kt	61° true	49 M 418105 9123993		
140	4/12/2017 11:30		3.5 m	26.1	25 m	0:00:17	3 kt	6° true	49 M 418110 9123996		
141	4/12/2017 11:31		4.1 m	26.1	2 m	0:00:01	3 kt	11° true	49 M 418113 9124021		
142	4/12/2017 11:31		4.0 m	26.3	25 m	0:00:16	3 kt	11° true	49 M 418113 9124022		
143	4/12/2017 11:31		4.5 m	26.1	27 m	0:00:20	3 kt	17° true	49 M 418118 9124047		
144	4/12/2017 11:31		5.0 m	26.2	1 m	0:00:01	2 kt	57° true	49 M 418125 9124072		
145	4/12/2017 11:31		4.8 m	26.1	3 m	0:00:03	2 kt	84° true	49 M 418126 9124073		
146	4/12/2017 11:31		4.1 m	26.1	1 m	0:00:01	2 kt	95° true	49 M 418129 9124073		
147	4/12/2017 11:31		4.1 m	26.4	8 m	0:00:22	0.7 kt	97° true	49 M 418129 9124073	Tepi Kiri IV	
Temperature Rata-Rata				26.2							

Lampiran 2.a Analisa ukuran butiran pias Jembatan Bantar

DISTRIBUSI UKURAN BUTIRAN

Sampel : I

Lokasi : Bantar Hilir

Jenis Tanah : Undisturb

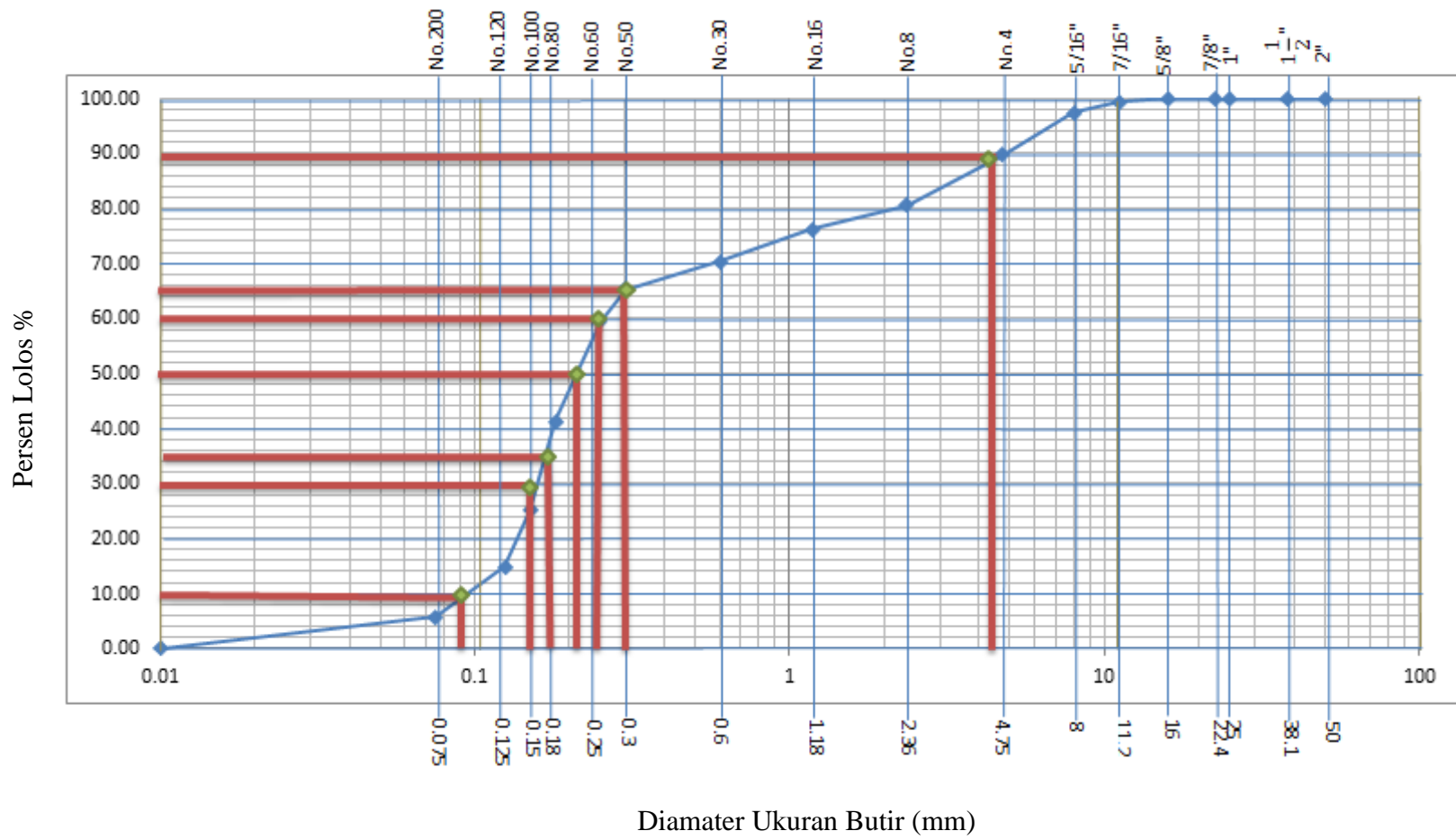
Tanggal Uji :

Berat Sampel : 775 gr

Berat Cawan : 230 gr

NO	Nomor Saringan ASTM	Ukuran Butiran (mm)	Berat Tertahan Pada Saringan (gr)	Berat Tertahan (%)	Persen Kumulatif Berat Tertahan (%)	Persen Lolos Saringan (%)
1	2-in	50	0	0	0	100.00
2	1.5-in	38.1	0	0	0	100.00
3	1-in	25	0	0	0	100.00
4	7/8-in	22.4	0	0	0	100.00
5	5/8-in	16	0	0	0	100.00
6	7/16-in	11.2	5	0.65	0.65	99.35
7	5/16-in	8	15	1.94	2.58	97.42
8	No.4	4.75	60	7.74	10.32	89.68
9	No.8	2.36	70	9.03	19.35	80.65
10	No.16	1.18	35	4.52	23.87	76.13
12	No.30	0.6	45	5.81	29.68	70.32
13	No.50	0.3	39	5.03	34.71	65.29
14	No.60	0.25	46	5.94	40.65	59.35
15	No.80	0.18	140	18.06	58.71	41.29
16	No.100	0.15	125	16.13	74.84	25.16
17	No.120	0.125	80	10.32	85.16	14.84

18	No.200	0.075	70	9.03	94.19	5.81
19	Pan	0.01	45	5.81	100	0.00
Total			775			



% Kerikil	= 19,35%	}	butir kasar » pasir (S)
% Pasir	= 74,84%		
% Lanau	= 5,81%	}	peralihan
% Lempung	= 0%		
D10	= 0,08 mm		
D30	= 0,15 mm		
D35	= 0,15 mm		
D50	= 0,18 mm		
D60	= 0,21 mm		
D65	= 0,3 mm		
D90	= 4,6 mm		
Cu	= 3,250	}	P (poorly graded)
Cc	= 1,082		
Klasifikasi	= SP		

Lampiran 2.b Analisa ukuran butiran pias Intake Sapon

DISTRIBUSI UKURAN BUTIRAN

Sampel : I

Lokasi : Sapon Hulu

Jenis Tanah : Undisturb

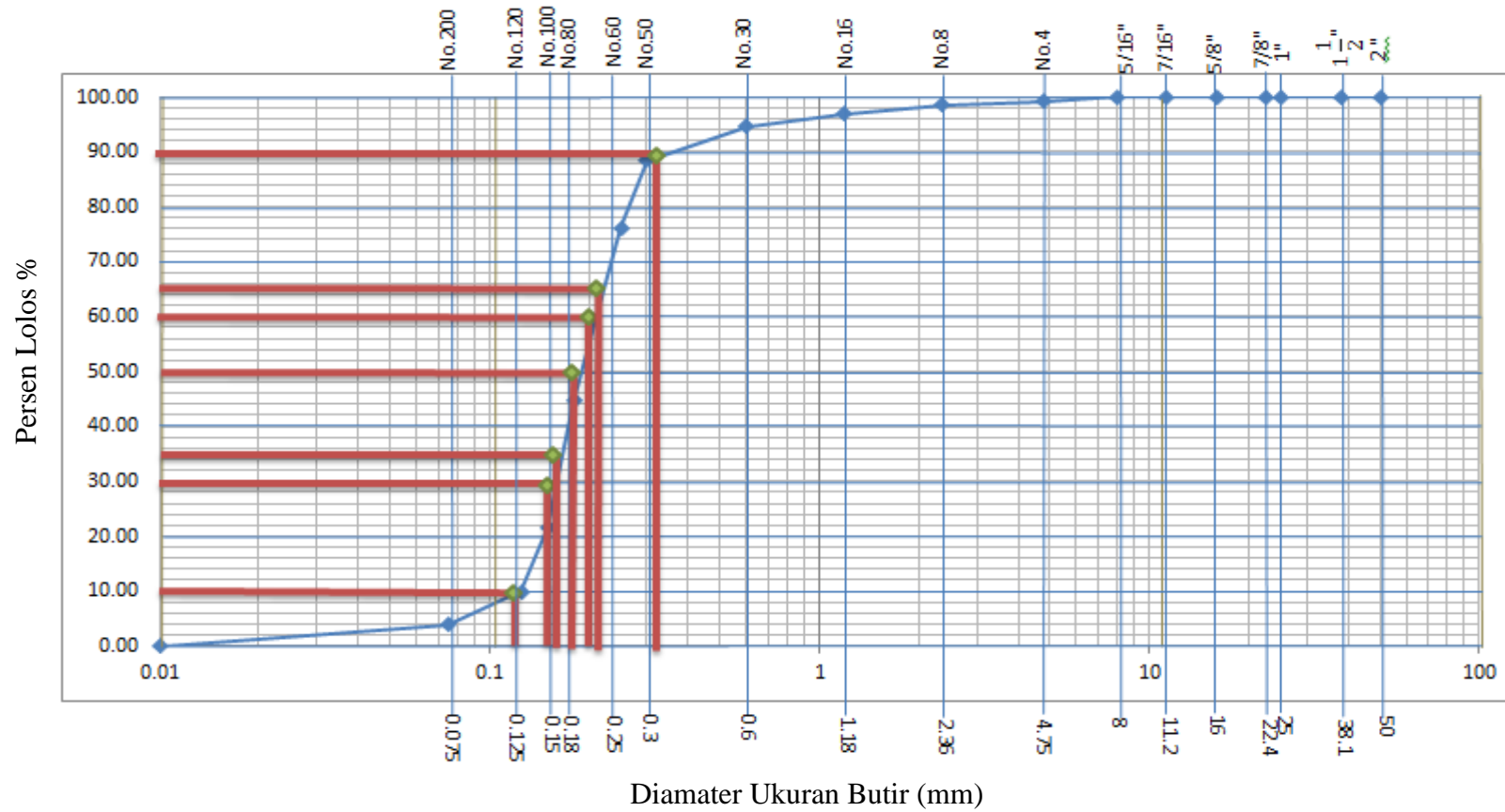
Tanggal Uji :

Berat Sampel : 650 gr

Berat Cawan : 230 gr

NO	Nomor Saringan ASTM	Ukuran Butiran (mm)	Berat Tertahan Pada Saringan (gr)	Berat Tertahan (%)	Persen Kumulatif Berat Tertahan (%)	Persen Lolos Saringan (%)
1	2-in	50	0	0	0	100.00
2	1.5-in	38.1	0	0	0	100.00
3	1-in	25	0	0	0	100.00
4	7/8-in	22.4	0	0	0	100.00
5	5/8-in	16	0	0	0	100.00
6	7/16-in	11.2	0	0	0	100.00
7	5/16-in	8	0	0	0	100.00
8	No.4	4.75	5	0.77	0.77	99.23
9	No.8	2.36	5	0.77	1.54	98.46
10	No.16	1.18	10	1.54	3.08	96.92
12	No.30	0.6	15	2.31	5.38	94.62
13	No.50	0.3	40	6.15	11.54	88.46
14	No.60	0.25	80	12.31	23.85	76.15
15	No.80	0.18	205	31.54	55.38	44.62
16	No.100	0.15	150	23.08	78.46	21.54
17	No.120	0.125	75	11.54	90.00	10.00

18	No.200	0.075	40	6.15	96.15	3.85
19	Pan	0.01	25	3.85	100	0.00
	Total		650			



% Kerikil	= 19,35%	}	butir kasar » pasir (S)
% Pasir	= 74,84%		
% Lanau	= 5,81%	}	peralihan
% Lempung	= 0%		
D10	= 0,126 mm		
D30	= 0,16 mm		
D35	= 0,17 mm		
D50	= 0,19 mm		
D60	= 0,2 mm		
D65	= 0,21 mm		
D90	= 0,31 mm		
Cu	= 1,587	}	P (poorly graded)
Cc	= 1,016		
Klasifikasi	= SM		

Lampiran 3.a Kalibrasi Piknometer

NO	Uraian	Satuan	Sampel											
			Kebun Agung 2 Sampel 1	Kebun Agung 2 Sampel 2	Kebun Agung 1 Sampel 1	Kebun Agung 1 Sampel 2	Bantar Hulu	Bantar Hilir	Kamijoro Hulu	Kamijoro Hilir	Sapon Hulu	Sapon Hilir	Srandakan Hulu	Srandakan Hilir
1	Berat Piknometer Kosong (Wp)	g	30	30	29.3	29.3	30	30	29.3	29.3	30	30	29.3	29.3
2	Berat Piknometer + Air (Wpw,c)	g	81.4	79.8	81	80	79.5	81	80	80	78.78	78.8	79.4	79.37
3	Temperatur Dalam Piknometer (T)	°C	30	29	31.5	30	30	31.5	30	30	31.5	31.5	31.5	30
4	Berat Volume Air (Xw,c)		0.9958 3	0.9958 3	0.9958 3	0.9958 3	0.9958 3	0.9958 3	0.99565	0.99565	0.9958 3	0.9958 3	0.99583	0.99565
5	Volume Piknometer (Vp)	ml	51.62	50.00	51.92	50.92	49.72	51.21	50.92	50.92	48.98	49.00	50.31	50.29

Lampiran 3.b Berat Jenis

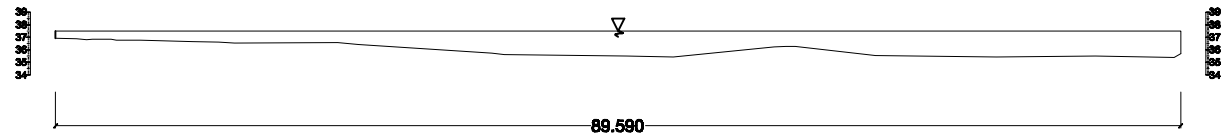
NO	Uraian	Satuan	Sampel											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Berat Piknometer Kosong (Wp)	g	30	30	29.3	29.3	30	30	29.3	29.3	30	30	29.3	29.3
2	Berat Piknometer + Tanah Kering (Wps)	g	40	40	39.3	39.3	40	40	39.3	39.3	40	40	39.3	39.3
3	Berat Piknometer + Tanah Kering + Air (Wpws,t)	g	87.63	86	87.22	86.2	85.7	87.12	86.2	86.27	84.9	85	85.66	85.66
4	Berat Piknometer + air (Wpw,t)	g	81.41	79.79	81.00	80.01	79.51	81.00	80.01	80.01	78.78	78.8	79.4	79.37905 2
5	Temperatur Piknometer (T)	°C	30	30	30	30	30	30	30	30	30	29	30	30

6	Berat Jenis (Gs,t)	ton/m ³	2.65	2.64	2.65	2.63	2.63	2.58	2.63	2.67	2.58	2.63	2.67	2.69
7	Berat Jenis Pada T= 20°C		2.65	2.64	2.65	2.63	2.63	2.58	2.63	2.67	2.58	2.63	2.67	2.69
8	Rata-Rata Berat Jenis (Gs) (*lebih Dari 1 Sampel)		2.64		2.64									

Lampiran 4. Hasil analisis

No	Pias	Koordinat X	Koordinat Y	Batimetri								Angkutan Sedimen (m ³ /day)		
				Jarak (m)	Elv. Muka Air	Elv. Dasar Sungai	Kecepatan Aliran (m/s)	Lebar (m)	Keliling Basah (m)	Luas Basah (m ²)	Debit (m ³ /s)	MPM	Einstein	Frijlink
1	Jembatan Bantar	415461 415566	9135189 9135192	16426	37.5	35.38	0.73	89.59	91.813	139.053	101.455	412.53	110.959	237.512
2	Intake Sapon	418074 418130	9124006 9124076		12.5	7.02	0.87	89.57	181.45 4	194.506	169.744	634.138	227.864	362.138

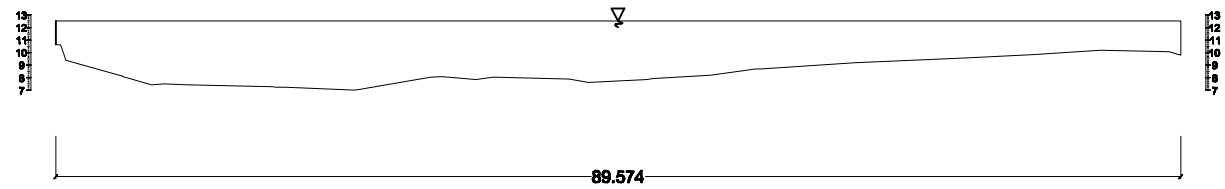
JEMBATAN BANTAR



 Potongan titik A-A
Skala 1 : 200

Elevasi muka air 37.50
Elevasi dasar 35.38

INTAKE SAPON



 Potongan titik B-B
Skala 1 : 200

Elevasi muka air 12.50m
Elevasi dasar 7.02 m