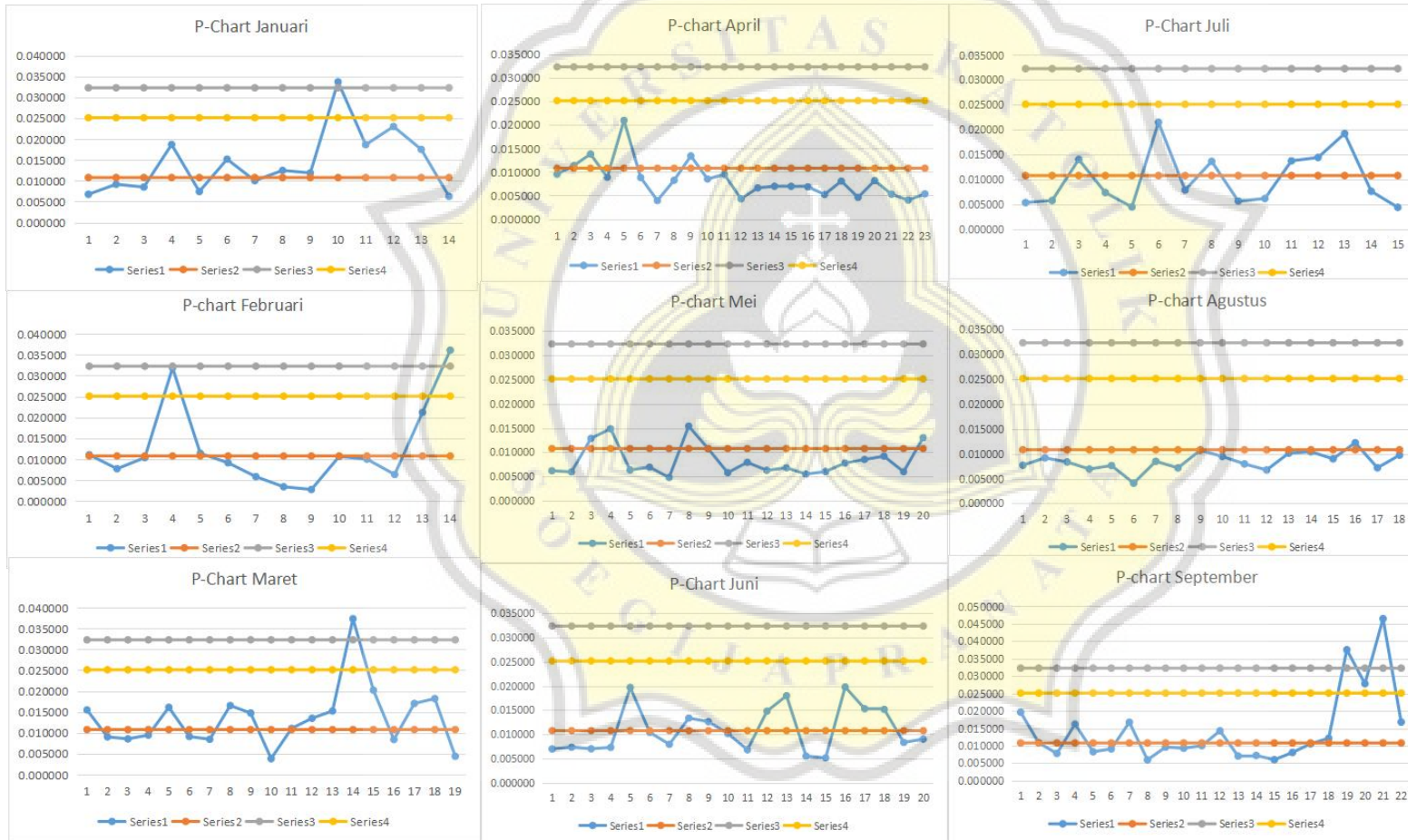
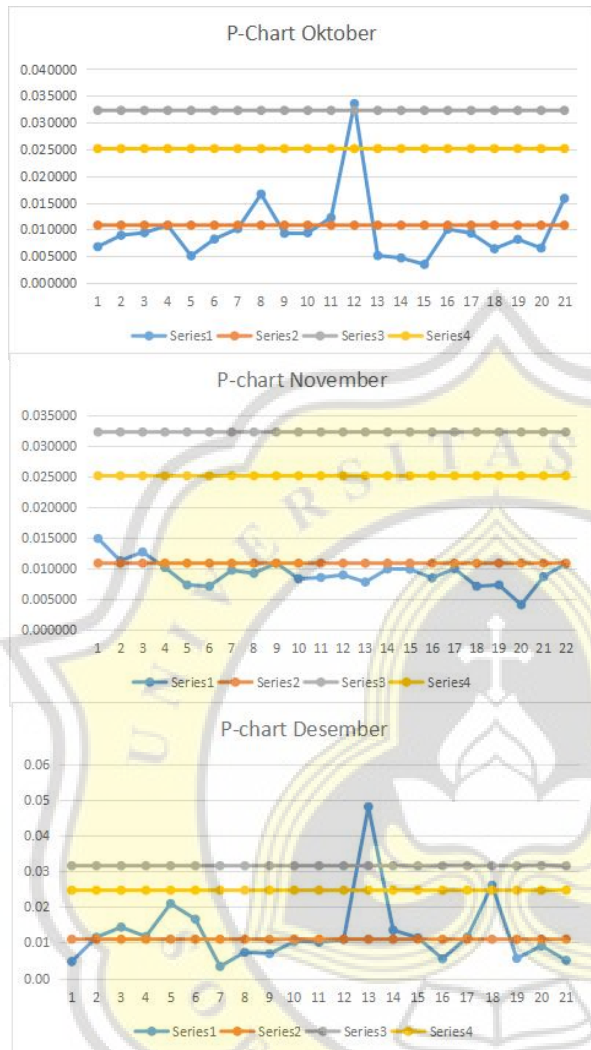


VII. LAMPIRAN

Lampiran 1. P-Chart Produk *Reject* Januari 2021-Desember 2021



Lampiran 1. P-Chart Produk *Reject* Januari 2021-Desember 2021 (Lanjutan)



Lampiran 2. Data Hasil Pengukuran pH *Shift 1*

Bulan	No Sampel	Tanggal	pH	
Januari	1	6	7.44	
	2	11	7.61	
	3	12	7.72	
	4	13	7.66	
	5	14	7.70	
	6	18	7.47	
	7	19	7.28	
	8	20	7.45	
	9	27	7.30	
	10	29	7.47	
	11	30	7.55	
Februari	12	1	7.31	
	13	2	7.33	
	14	5	7.47	
	15	11	7.47	
	16	16	7.63	
	17	17	7.40	
	18	19	7.46	
	19	22	7.02	
	20	23	7.51	
	21	24	7.31	
	22	25	7.44	
	Maret	23	1	7.29
		24	6	7.90
25		8	7.60	
26		9	7.71	
27		10	7.63	
28		13	7.65	
29		17	6.87	
30		18	6.83	
31		19	6.82	
32		20	6.79	
33		23	6.90	
34		25	6.96	
35		27	6.91	
36		29	6.83	
April	37	1	6.92	
	38	5	6.62	
	39	6	6.73	
	40	7	6.81	
	41	9	6.80	
	42	12	6.80	
	43	13	6.95	
	44	14	6.87	
	45	16	6.80	
	46	17	6.79	
	47	20	6.89	
	48	21	6.90	
	49	23	6.95	
	50	24	6.91	
	51	26	6.79	
	52	27	6.85	
	53	28	6.89	
	54	30	6.87	

Lampiran 2. Data Hasil Pengukuran pH *Shift* 1 (Lanjutan)

Mei	55	3	6.72
	56	4	6.88
	57	5	6.77
	58	6	6.88
	59	7	6.89
	60	11	6.74
	61	17	6.70
	62	18	6.71
	63	19	6.70
	64	20	7.10
	65	21	7.20
	66	22	7.14
	67	24	7.62
	68	25	6.90
Juni	69	27	7.01
	70	28	6.97
	71	29	7.15
	72	31	7.02
	73	2	7.02
	74	3	6.87
	75	5	6.87
	76	8	7.00
	77	9	6.83
	78	10	6.88
	79	16	6.97
	80	19	6.81
	81	21	6.66
	Juli	82	9
83		17	7.02
84		19	7.12
85		22	7.30
86		23	6.68
87		24	7.05
88		27	7.03
Agustus	89	2	6.80
	90	3	6.84
	91	4	7.01
	92	6	6.97
	93	9	6.80
	94	10	6.91
	95	12	6.81
	96	13	6.86
	97	14	6.94
	98	16	7.00
	99	19	6.97
	100	20	6.92
	101	21	6.88
	102	23	7.04
	103	24	6.91
	104	25	6.80
	105	26	6.94

Lampiran 2. Data Hasil Pengukuran pH *Shift* 1 (Lanjutan)

September	106	1	6.85
	107	3	6.90
	108	6	6.73
	109	7	6.09
	110	16	6.94
	111	18	7.05
	112	20	7.16
	113	21	7.04
	114	24	7.11
	115	25	7.13
	116	27	6.90
Oktober	117	29	7.01
	118	30	7.05
	119	2	7.04
	120	5	6.94
	121	6	6.99
	122	8	7.00
	123	14	7.00
	124	15	7.00
	125	18	7.00
	126	21	7.00
	127	23	7.00
November	128	26	7.00
	129	27	6.87
	130	30	7.20
	131	2	7.02
	132	3	7.05
	133	4	7.14
	134	5	7.25
	135	6	7.07
	136	10	7.68
	137	12	7.59
	138	13	7.55
Desember	139	15	7.46
	140	16	7.57
	141	19	7.56
	142	22	7.34
	143	23	7.50
	144	25	7.62
	145	26	7.37
	146	27	7.37
	147	29	7.51
	148	30	7.65
	149	2	7.64
	150	3	7.54
	151	4	7.40
	152	6	7.52
	153	7	7.45
	154	9	7.39
	155	10	7.34
	156	11	7.56
	157	14	7.49
	158	16	7.58
	159	17	7.57
	160	20	7.45
	161	21	7.51
	162	23	7.53
	163	24	7.43
	164	25	7.44
	165	27	7.43
	166	29	7.49
	Rata-rata		

Lampiran 3. Data Hasil Pengukuran pH *Shift 2*

Bulan	No Sampel	Tanggal	pH
Januari	1	5	7.52
	2	6	7.44
	3	12	7.76
	4	13	7.72
	5	14	7.70
	6	18	7.42
	7	19	7.57
	8	20	7.57
	9	25	7.64
	10	26	7.13
Februari	11	1	7.52
	12	5	7.57
	13	9	7.71
	14	10	7.45
	15	11	7.59
	16	16	7.74
	17	17	7.57
	18	18	7.60
	19	19	7.68
	20	22	7.28
	21	23	7.60
Maret	22	1	7.35
	23	8	7.76
	24	9	7.52
	25	12	7.75
	26	15	7.74
	27	16	7.82
	28	18	6.85
	29	20	6.95
	30	22	7.01
	31	23	6.86
	32	25	7.09
April	33	27	6.92
	34	29	7.02
	35	31	6.93
	36	1	7.00
	37	5	6.76
	38	6	6.70
	39	7	6.78
	40	9	6.77
	41	12	6.89
	42	13	6.72
	43	14	6.72
	44	16	6.83
	45	17	6.89
46	19	7.08	
47	20	6.97	
48	21	6.99	
49	22	6.93	
50	23	6.95	
51	24	6.99	
52	26	6.89	
53	27	6.87	
54	28	6.90	
55	30	6.18	

Lampiran 3. Data Hasil Pengukuran pH *Shift 2* (Lanjutan)

Mei	56	3	6.67
	57	4	6.71
	58	5	6.86
	59	6	6.76
	60	7	6.82
	61	10	7.05
	62	11	6.84
	63	17	6.79
	64	18	6.84
	65	19	7.22
	66	20	7.01
	67	21	7.29
	68	22	7.21
	69	24	6.73
Juni	70	25	7.02
	71	27	7.09
	72	28	6.91
	73	29	7.02
	74	31	7.01
	75	2	6.81
	76	3	6.70
	77	4	6.85
	78	5	6.90
	79	8	6.54
	80	9	6.61
	81	10	6.76
	82	12	7.00
	83	18	6.76
Juli	84	21	6.79
	85	22	6.74
	86	23	6.79
	87	24	6.83
	88	28	6.86
	89	30	6.86
	90	7	7.05
	91	8	7.01
	92	9	7.06
	93	13	6.89
	94	15	6.93
	95	17	7.09
	96	22	6.79
	97	23	6.89
Agustus	98	26	6.94
	99	28	6.89
	100	29	6.90
	101	30	6.78
	102	2	6.85
	103	3	7.04
	104	4	7.07
	105	6	7.20
	106	9	6.74
	107	10	6.76
	108	18	6.98
	109	19	6.85
	110	20	6.98
	111	23	7.01
112	24	6.96	
113	25	7.80	
114	26	6.98	

Lampiran 3. Data Hasil Pengukuran pH *Shift 2* (Lanjutan)

September	115	1	7.15
	116	2	7.16
	117	3	7.04
	118	8	7.08
	119	9	7.04
	120	13	7.20
	121	14	7.16
	122	15	7.00
	123	16	7.03
	124	17	7.07
	125	18	7.10
	126	20	7.04
	127	21	7.12
	128	22	7.49
Oktober	129	24	7.20
	130	27	7.03
	131	28	7.10
	132	29	7.05
	133	30	7.11
	134	1	7.18
	135	4	7.00
	136	6	7.06
	137	7	7.00
	138	8	7.00
	139	13	7.00
	140	14	7.00
	141	15	7.00
	142	18	7.00
143	19	7.00	
144	21	7.00	
145	22	7.00	
146	25	7.00	
147	26	7.00	
148	27	7.29	
149	28	7.25	
150	29	7.29	
November	151	1	7.14
	152	2	7.11
	153	3	7.19
	154	4	7.15
	155	5	7.10
	156	10	7.56
	157	12	7.59
	158	13	7.52
	159	15	7.45
	160	17	7.60
	161	18	7.49
	162	22	7.46
	163	23	7.53
	164	24	7.43
	165	25	7.35
	166	26	7.71
	167	27	7.55

Lampiran 3. Data Hasil Pengukuran pH *Shift 2* (Lanjutan)

Desember	168	1	7.66
	169	2	7.43
	170	6	7.44
	171	9	7.53
	172	14	7.54
	173	16	6.83
	174	17	7.44
	175	20	7.44
	176	21	7.49
	177	22	7.49
	178	23	7.50
	179	25	7.42
	180	27	7.45
	181	28	7.44
	182	29	7.39
Rata-rata			7.13

Lampiran 4. Data Hasil Pengukuran pH *Shift 3*

Bulan	No sampel	Tanggal	pH
Maret	1	31	6.90
	2	1	6.90
April	3	5	6.81
	4	6	6.96
	5	8	6.92
	6	9	7.00
	7	13	6.56
	8	14	6.82
	9	15	6.75
	10	16	6.82
	11	19	6.96
	12	20	6.89
	13	21	6.81
	14	22	6.94
	15	23	6.93
	16	24	6.91
	17	26	6.77
	18	27	6.93
	19	28	6.91
	20	29	6.90
	21	30	6.88

Lampiran 4. Data Hasil Pengukuran pH *Shift* 3 (Lanjutan)

Mei	22	4	6.89
	23	5	6.86
	24	6	6.88
	25	7	6.93
	26	8	7.02
	27	10	6.67
	28	11	6.82
	29	17	6.83
	30	18	6.83
	31	19	7.00
	32	20	7.25
	33	21	7.01
	34	22	7.08
	35	24	6.95
	36	27	7.06
	37	28	6.76
	38	29	6.93
	39	31	7.00
	Juni	40	2
41		3	6.78
42		5	7.04
43		9	6.80
44		14	6.94
45		15	6.90
46		16	6.77
47		17	6.81
Juli	48	29	7.09
	49	30	6.92
November	50	17	7.64
	51	18	7.62
Rata-rata			6.93

Lampiran 5. Data Hasil Pengukuran Suhu *Shift* 1

Bulan	No Sampel	Tanggal	Suhu (°C)
Januari	1	6	23.4
	2	11	24.2
	3	12	23.5
	4	13	23.1
	5	14	23.4
	6	18	23.4
	7	19	22.6
	8	20	22.7
	9	27	25.6
	10	29	23.3
	11	30	24.3

Lampiran 5. Data Hasil Pengukuran Suhu *Shift 1* (Lanjutan)

Februari	12	1	24.1
	13	2	23.9
	14	5	23.1
	15	11	24.1
	16	16	22.0
	17	17	23.1
	18	19	21.3
	19	22	25.6
	20	23	22.2
	21	24	23.2
	22	25	23.2
Maret	23	1	23.5
	24	6	25.4
	25	8	23.5
	26	9	23.7
	27	10	22.5
	28	13	24.5
	29	17	23.1
	30	18	23.6
	31	19	22.2
	32	20	22.9
	33	23	23.6
	34	25	23.2
	35	27	25.1
	36	29	22.4
April	37	1	23.7
	38	5	23.4
	39	6	23.8
	40	7	24.1
	41	9	22.9
	42	12	23.8
	43	13	22.3
	44	14	22.9
	45	16	24.3
	46	17	24.2
	47	20	23.8
	48	21	23.6
	49	23	22.2
	50	24	24.4
	51	26	23.6
	52	27	23.8
	53	28	23.7
	54	30	23.6
Mei	55	3	24.5
	56	4	24.6
	57	5	24.1
	58	6	24.3
	59	7	23.4
	60	11	24.7
	61	17	23.2
	62	18	24.3
	63	19	24.9
	64	20	24.7
	65	21	24.5
	66	22	24.0
	67	24	23.9
	68	25	23.0
	69	27	22.7
	70	28	23.6
	71	29	21.7
	72	31	20.9

Lampiran 5. Data Hasil Pengukuran Suhu *Shift* 1 (Lanjutan)

Juni	73	2	21.8	
	74	3	24.2	
	75	5	25.7	
	76	8	23.6	
	77	9	20.1	
	78	10	23.2	
	79	16	22.0	
	80	19	23.0	
	81	21	21.0	
	Juli	82	9	23.0
		83	17	22.0
84		19	23.0	
85		22	21.0	
86		23	21.0	
87		24	23.0	
Agustus		88	4	23.0
	89	6	20.0	
	90	9	23.0	
	91	10	20.0	
	92	12	22.0	
	93	13	20.0	
	94	14	23.0	
	95	16	20.0	
	96	19	21.0	
	97	20	19.0	
	98	21	19.0	
	99	23	21.0	
	100	24	19.0	
	101	25	21.0	
September	102	26	20.0	
	103	1	22.0	
	104	3	23.0	
	105	6	21.0	
	106	7	23.0	
	107	16	22.0	
	108	18	23.0	
	109	20	21.0	
	110	21	21.0	
	111	24	23.0	
	112	25	23.0	
Oktober	113	27	20.0	
	114	29	23.0	
	115	30	20.0	
	116	2	22.0	
	117	5	20.0	
	118	6	23.0	
	119	8	20.0	
	120	14	21.0	
	121	15	19.0	
	122	18	19.0	
	123	21	21.0	
	124	23	19.0	
	125	26	21.0	
	126	27	20.0	
	127	30	20.0	
	128	10	24.8	

Lampiran 5. Data Hasil Pengukuran Suhu *Shift 1* (Lanjutan)

November	129	12	24.5
	130	13	24.3
	131	15	23.5
	132	16	24.1
	133	19	24.3
	134	22	26.1
	135	23	24.6
	136	25	24.1
	137	26	24.9
	138	27	24.7
Desember	139	29	24.1
	140	30	23.2
	141	2	24.4
	142	3	24.5
	143	4	25.0
	144	6	24.3
	145	7	24.5
	146	9	24.6
	147	10	24.7
	148	11	24.0
	149	14	24.6
	150	16	24.0
	151	17	23.7
	152	20	24.6
	153	21	23.2
	154	23	24.2
	155	24	25.6
	156	25	25.3
157	27	24.6	
158	29	21.0	
Rata-rata			23.0

Lampiran 6. Data Hasil Pengukuran Suhu *Shift 2*

Bulan	No Sampel	Tanggal	Suhu (°C)
Januari	1	5	24.6
	2	6	24.6
	3	12	24.9
	4	13	25.1
	5	14	24.7
	6	18	24.0
	7	19	23.3
	8	20	24.6
	9	25	23.2
	10	26	23.9
Februari	11	1	24.1
	12	5	24.9
	13	9	24.8
	14	10	25.6
	15	11	24.6
	16	16	23.5
	17	17	26.6
	18	18	23.4
	19	19	23.6
	20	22	24.3
	21	23	24.1

Lampiran 6. Data Hasil Pengukuran Suhu *Shift 2* (Lanjutan)

Maret	22	1	23.6
	23	8	24.9
	24	9	24.7
	25	12	24.4
	26	15	25.1
	27	16	25.4
	28	18	25.3
	29	20	24.6
	30	22	22.9
	31	23	23.3
	32	25	25.0
	33	27	25.9
	34	29	23.8
	35	31	24.3
April	36	1	24.3
	37	5	25.5
	38	6	23.4
	39	7	23.2
	40	9	25.1
	41	12	23.9
	42	13	24.6
	43	14	24.6
	44	16	25.4
	45	17	24.8
	46	19	24.1
	47	20	24.3
	48	21	25.2
	49	22	25.0
	50	23	24.9
	51	24	25.2
	52	26	24.8
	53	27	24.6
	54	28	23.6
Mei	55	30	25.1
	56	3	24.4
	57	4	24.1
	58	5	24.2
	59	6	22.1
	60	7	22.4
	61	10	25.3
	62	11	21.6
	63	17	24.3
	64	18	24.7
	65	19	25.3
	66	20	25.1
	67	21	24.2
	68	22	24.8
	69	24	24.6
	70	25	24.6
	71	27	22.4
	72	28	24.7
	73	29	24.9
	74	31	24.3
Juni	75	2	24.6
	76	3	24.1
	77	4	26.1
	78	5	26.3
	79	8	21.9
	80	9	21.6
	81	10	21.9
	82	12	24.0
	83	18	23.0
	84	21	22.0
	85	22	23.0
	86	23	24.0
	87	24	24.0
	88	28	24.0
	89	30	24.0

Lampiran 6. Data Hasil Pengukuran Suhu *Shift 2* (Lanjutan)

Juli	90	7	24.0
	91	8	24.0
	92	9	24.0
	93	13	24.0
	94	15	24.0
	95	17	23.0
	96	22	23.0
Agustus	97	23	24.0
	98	4	24.0
	99	6	24.0
	100	9	23.0
	101	10	22.0
	102	18	20.0
	103	19	22.0
	104	20	24.0
	105	23	23.0
	106	24	23.0
September	107	25	23.0
	108	26	23.0
	109	1	24.0
	110	2	22.0
	111	3	23.0
	112	8	24.0
	113	9	24.0
	114	13	24.0
	115	14	23.0
	116	15	24.0
	117	16	24.0
	118	17	24.0
	119	18	23.0
	120	20	24.0
Oktober	121	21	25.0
	122	22	25.0
	123	24	24.0
	124	27	24.0
	125	28	21.0
	126	29	25.0
	127	30	25.0
	128	1	24.0
	129	4	23.0
	130	6	24.0
	131	7	25.0
	132	8	23.0
	133	13	24.0
	134	14	25.0
135	15	25.0	
136	18	23.0	
137	19	24.0	
138	21	24.0	
139	22	24.0	
140	25	24.0	
141	26	25.0	
142	27	25.0	
143	28	26.0	
144	29	24.0	

Lampiran 6. Data Hasil Pengukuran Suhu Shift 2 (Lanjutan)

November	145	10	24.4	
	146	12	24.3	
	147	13	24.4	
	148	15	24.2	
	149	17	24.3	
	150	18	24.9	
	151	22	25.0	
	152	23	24.4	
	153	24	25.6	
	154	25	24.4	
	155	26	24.7	
	156	27	24.2	
	Desember	157	1	23.8
		158	2	24.9
		159	6	24.3
		160	9	24.7
		161	14	24.0
162		16	25.2	
163		17	24.9	
164		20	25.3	
165		21	24.2	
166		22	25.6	
167		23	24.8	
168		25	24.5	
169		27	24.2	
170		28	24.6	
171		29	25.2	
Rata-rata			24.2	

Lampiran 7. Data Hasil Pengukuran Suhu *Shift 3*

Bulan	No Sampel	Tanggal	Suhu (°C)	
Maret	1	31	24.6	
	2	1	23.1	
	3	5	24.1	
	4	6	25.1	
	5	7	23.9	
	6	8	24.3	
	7	13	22.2	
	8	14	24.3	
	9	15	24.1	
	10	16	23.7	
	11	19	24.6	
	12	20	24.3	
	13	21	23.7	
	14	22	24.3	
	15	23	24.2	
	16	24	24.4	
	17	26	24.2	
	18	27	23.5	
	19	28	24.6	
	20	29	23.7	
	21	30	23.7	
April	22	4	23.8	
	23	5	23.7	
	24	6	24.6	
	25	7	23.6	
	26	8	24.1	
	27	10	23.4	
	28	11	24.1	
	29	17	25.1	
	30	18	24.6	
	31	19	24.6	
	32	20	23.8	
	33	21	22.7	
	34	22	22.9	
	35	24	23.6	
	36	27	22.7	
	37	28	23.2	
	38	29	24.8	
	Mei	39	31	24.3
40		2	23.7	
41		3	24.4	
42		5	25.6	
43		9	24.0	
44		14	23.0	
45		15	22.0	
46		16	24.0	
47		17	23.0	
November		48	17	24.4
		49	18	24.5
Rata-rata			23.9	

Lampiran 8. Data Hasil Pengukuran TDS *Shift 1*

Bulan	No sampel	Tanggal	TDS (Mg/L) <i>Shift 1</i>	
Januari	1	6	154	
	2	11	156	
	3	12	159	
	4	13	159	
	5	14	160	
	6	18	150	
	7	19	144	
	8	20	145	
	9	27	151	
	10	29	141	
	11	30	155	
Februari	12	1	141	
	13	2	143	
	14	5	143	
	15	11	128	
	16	16	151	
	17	17	121	
	18	19	147	
	19	22	121	
	20	23	131	
	21	24	107	
	22	25	123	
	Maret	23	1	141
		24	6	154
25		8	168	
26		9	159	
27		10	168	
28		13	153	
29		17	155	
30		18	156	
31		19	157	
32		20	155	
33		23	170	
34		25	170	
35		27	171	
36		29	149	
April	37	1	154	
	38	5	150	
	39	6	153	
	40	7	157	
	41	9	160	
	42	12	161	
	43	13	159	
	44	14	153	
	45	16	153	
	46	17	153	
	47	20	157	
	48	21	160	
	49	23	164	
	50	24	164	
	51	26	142	
	52	27	147	
	53	28	139	
	54	30	153	

Lampiran 8. Data Hasil Pengukuran TDS *Shift 1* (Lanjutan)

Mei	55	3	133
	56	4	133
	57	5	133
	58	6	141
	59	7	150
	60	11	142
	61	17	157
	62	18	157
	63	19	155
	64	20	169
	65	21	155
	66	22	163
	67	24	159
	68	25	155
Juni	69	27	120
	70	28	121
	71	29	110
	72	31	119
	73	2	118
	74	3	117
	75	5	116
	76	8	121
	77	9	116
	78	10	124
Juli	79	16	137
	80	19	137
	81	21	131
	82	9	137
	83	17	138
	84	19	140
	85	22	130
	86	23	144
	87	24	131
	Agustus	88	4
89		6	127
90		9	131
91		10	136
92		12	130
93		13	128
94		14	129
95		16	140
96		19	135
97		20	130
98		21	142
99		23	120
100		24	123
101		25	125
102		26	138

Lampiran 8. Data Hasil Pengukuran TDS *Shift 1* (Lanjutan)

September	103	1	144	
	104	3	138	
	105	6	117	
	106	7	123	
	107	16	127	
	108	18	127	
	109	20	128	
	110	21	134	
	111	24	130	
	112	25	121	
	113	27	135	
	114	29	132	
	115	30	130	
	Oktober	116	2	128
		117	5	125
118		6	128	
119		8	118	
120		14	127	
121		15	135	
122		18	138	
123		21	140	
124		23	119	
125		26	135	
126		27	104	
127		30	127	
November		128	10	105
		129	12	110
		130	13	108
	131	15	104	
	132	16	111	
	133	19	110	
	134	22	110	
	135	23	113	
	136	25	108	
	137	26	110	
	138	27	110	
	139	29	114	
	140	30	114	
	Desember	141	2	113
		142	3	113
143		4	110	
144		6	107	
145		7	108	
146		9	110	
147		10	113	
148		11	113	
149		14	111	
150		16	109	
151		17	111	
152		20	112	
153		21	110	
154		23	113	
155		24	111	
156		25	112	
157		27	107	
158		29	117	
Rata-rata			134.44	

Lampiran 9. Data hasil pengukuran TDS *Shift 2*

Bulan	No Sampel	Tanggal	TDS (Mg/L) Shift 2
Januari	1	5	152
	2	6	150
	3	12	159
	4	13	159
	5	14	159
	6	18	149
	7	19	146
	8	20	152
	9	25	157
	10	26	147
Februari	11	1	128
	12	5	142
	13	9	158
	14	10	132
	15	11	144
	16	16	147
	17	17	122
	18	18	132
	19	19	145
	20	22	141
	21	23	153
	Maret	22	1
23		8	155
24		9	152
25		12	157
26		15	151
27		16	159
28		18	151
29		20	153
30		22	157
31		23	161
32		25	163
33		27	167
34		29	147
35		31	151
April	36	1	155
	37	5	161
	38	6	157
	39	7	157
	40	9	161
	41	12	158
	42	13	154
	43	14	158
	44	16	156
	45	17	157
46	19	156	
47	20	159	
48	21	160	
49	22	164	
50	23	161	
51	24	161	
52	26	139	
53	27	137	
54	28	142	
55	30	149	

Lampiran 9. Data hasil pengukuran TDS *Shift 2* (Lanjutan)

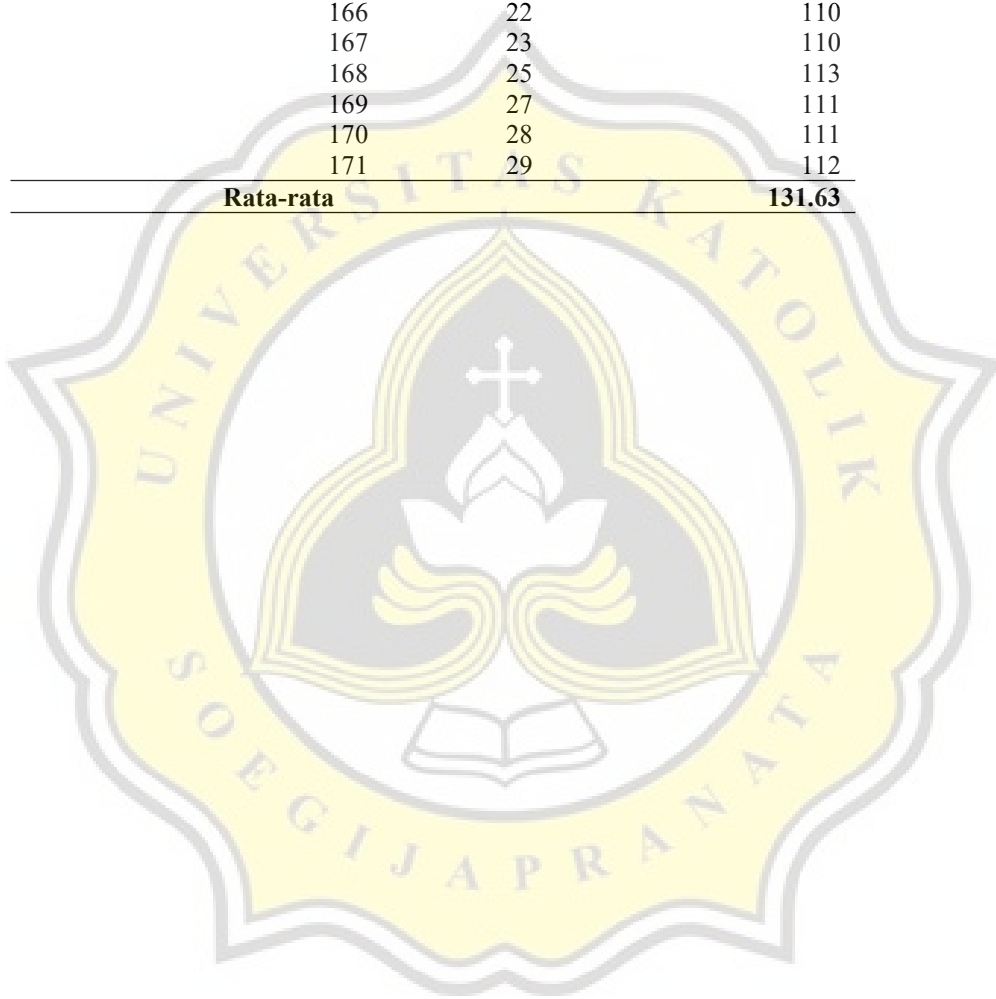
Mei	56	3	145	
	57	4	137	
	58	5	130	
	59	6	149	
	60	7	155	
	61	10	153	
	62	11	122	
	63	17	158	
	64	18	157	
	65	19	159	
	66	20	161	
	67	21	158	
	68	22	157	
	69	24	158	
	70	25	158	
	71	27	117	
	72	28	120	
	73	29	121	
	74	31	119	
	Juni	75	2	119
		76	3	119
77		4	119	
78		5	124	
79		8	117	
80		9	126	
81		10	122	
82		12	138	
83		18	136	
84		21	134	
85		22	136	
86		23	133	
87		24	132	
88		28	133	
89		30	134	
Juli		90	7	133
	91	8	136	
	92	9	134	
	93	13	137	
	94	15	138	
	95	17	140	
	96	22	130	
	97	23	132	
Agustus	98	4	115	
	99	6	120	
	100	9	121	
	101	10	127	
	102	18	125	
	103	19	114	
	104	20	118	
	105	23	120	
	106	24	123	
	107	25	122	
	108	26	120	

Lampiran 9. Data hasil pengukuran TDS *Shift 2* (Lanjutan)

September	109	1	125
	110	2	123
	111	3	120
	112	8	126
	113	9	124
	114	13	119
	115	14	120
	116	15	111
	117	16	120
	118	17	119
	119	18	118
	120	20	115
	121	21	109
	122	22	118
	123	24	119
	124	27	117
	125	28	114
	126	29	116
	127	30	115
	Oktober	128	1
129		4	118
130		6	111
131		7	120
132		8	120
133		13	111
134		14	135
135		15	107
136		18	118
137		19	120
138		21	111
139		22	111
140		25	115
141		26	116
142		27	108
143		28	105
November		144	29
	145	10	108
	146	12	110
	147	13	110
	148	15	103
	149	17	108
	150	18	109
	151	22	102
	152	23	103
	153	24	105
	154	25	105
	155	26	105
	156	27	105

Lampiran 9. Data hasil pengukuran TDS *Shift 2* (Lanjutan)

Desember	157	1	107
	158	2	108
	159	6	109
	160	9	103
	161	14	109
	162	16	105
	163	17	112
	164	20	112
	165	21	111
	166	22	110
	167	23	110
	168	25	113
	169	27	111
	170	28	111
	171	29	112
	Rata-rata		131.63



Lampiran 10. Data Hasil Pengukuran TDS *Shift 3*

Bulan	No sampel	Tanggal	TDS (Mg/L) Shift 3
Maret	1	31	155
	2	1	157
	3	5	157
	4	6	157
	5	7	153
	6	8	157
	7	13	149
	8	14	145
	9	15	152
	10	16	148
	11	19	159
	12	20	160
	13	21	162
	14	22	160
	15	23	163
	16	24	163
	17	26	117
	18	27	147
	19	28	149
	20	29	147
	21	30	157
April	22	4	147
	23	5	142
	24	6	147
	25	7	149
	26	8	153
	27	10	132
	28	11	121
	29	17	160
	30	18	159
	31	19	155
	32	20	170
	33	21	163
Mei	34	22	151
	35	24	152
	36	27	124
	37	28	116
	38	29	116
	39	31	116
	40	2	115
	41	3	119
	42	5	121
	43	9	116
November	44	14	135
	45	15	133
	46	16	136
	47	17	136
	48	17	108
	49	18	106
Rata-rata			143.10

Lampiran 11. Data Hasil Pengukuran *Hardness Shift 1*

Bulan	No Sampel	Tanggal	Hardness (Mg/L) Shift 1
Februari	1	17	80
	2	19	84
	3	22	72
	4	23	64
	5	24	72
	6	25	72
Maret	7	1	80
	8	6	72
	9	8	80
	10	9	80
	11	10	80
	12	13	76
	13	17	76
	14	18	76
	15	19	76
	16	20	80
	17	23	68
	18	25	64
	19	27	72
	20	29	76
April	21	1	76
	22	5	76
	23	6	76
	24	7	76
	25	9	76
	26	12	76
	27	13	76
	28	14	76
	29	16	76
	30	17	76
	31	20	72
	32	21	76
	33	23	72
	34	24	76
	35	26	76
	36	27	76
37	28	76	
Mei	38	30	76
	39	3	76
	40	4	76
	41	5	76
	42	6	72
	43	7	76
	44	11	72
	45	17	76
	46	18	76
47	19	76	
48	20	60	
49	21	76	
50	22	76	
51	24	76	
52	25	76	
53	27	76	
54	28	72	
55	29	76	
56	31	76	

Lampiran 11. Data Hasil Pengukuran *Hardness Shift 1* (Lanjutan)

Juni	57	2	76	
	58	3	76	
	59	5	76	
	60	8	76	
	61	9	76	
	62	10	76	
	63	16	72	
	64	19	76	
	65	21	76	
	Juli	66	9	72
67		17	72	
68		19	72	
69		22	72	
70		23	72	
71		24	72	
72		27	72	
Agustus		73	2	72
		74	3	72
		75	4	72
	76	6	72	
	77	9	72	
	78	10	68	
	79	12	72	
	80	13	72	
	81	14	72	
	82	16	68	
September	83	19	68	
	84	20	72	
	85	21	72	
	86	23	72	
	87	24	72	
	88	25	72	
	89	26	72	
	90	1	72	
	91	3	72	
	92	6	72	
Oktober	93	7	68	
	94	16	72	
	95	18	68	
	96	20	72	
	97	21	72	
	98	24	72	
	99	25	72	
	100	27	72	
	101	29	72	
	102	30	72	
Oktober	103	6	64	
	104	8	72	
	105	14	72	
	106	15	72	
	107	18	72	
	108	21	72	
	109	23	72	
	110	26	72	
	111	27	76	
	112	30	72	

Lampiran 11. Data Hasil Pengukuran *Hardness Shift* 1 (Lanjutan)

November	113	2	72
	114	3	72
	115	4	72
	116	5	72
	117	6	72
	118	10	72
	119	12	72
	120	13	72
	121	15	72
	122	16	72
	123	19	72
	124	22	72
	125	23	72
	126	25	72
	127	26	72
	128	27	72
	129	29	72
	130	30	68
Desember	131	2	72
	132	3	72
	133	4	72
	134	6	72
	135	7	72
	136	9	72
	137	10	72
	138	11	72
	139	14	72
	140	16	72
	141	17	72
	142	20	72
	143	21	72
	144	23	72
	145	24	72
	146	25	72
	147	27	64
	148	29	68
	Rata-rata		73.08

Lampiran 12. Data Hasil Pengukuran *Hardness Shift 2*

Bulan	No Sampel	Tanggal	Hardness (Mg/L) Shift 2
Februari	1	16	80
	2	17	80
	3	18	80
	4	19	80
	5	22	76
	6	23	80
Maret	7	1	72
	8	8	76
	9	9	72
	10	12	72
	11	15	76
	12	16	76
	13	18	76
	14	20	72
	15	22	76
	16	23	76
	17	25	76
	18	27	76
	19	29	80
	20	31	76
April	21	1	76
	22	5	76
	23	6	76
	24	7	76
	25	9	76
	26	12	76
	27	13	76
	28	14	72
	29	16	76
	30	17	72
	31	19	72
	32	20	76
	33	21	76
	34	22	76
	35	23	76
	36	24	76
	37	26	76
	38	27	76
	39	28	76
	40	30	76

Lampiran 12. Data Hasil Pengukuran *Hardness Shift 2* (Lanjutan)

Mei	41	3	76
	42	4	76
	43	5	76
	44	6	76
	45	7	76
	46	10	72
	47	11	72
	48	17	72
	49	18	72
	50	19	72
	51	20	72
	52	21	72
	53	22	72
	54	24	76
	55	25	76
	56	27	76
	57	28	76
	58	29	76
	59	31	76
Juni	60	2	80
	61	3	76
	62	4	76
	63	5	76
	64	8	76
	65	9	72
	66	10	72
	67	12	76
	68	18	76
	69	21	76
	70	22	72
	71	23	76
	72	24	76
	73	28	72
	74	30	72
Juli	75	7	68
	76	8	72
	77	9	72
	78	13	72
	79	15	76
	80	17	72
	81	22	68
	82	23	68
	83	28	72
	84	29	72
	85	30	72

Agustus	86	2	72
	87	3	72
	88	4	72
	89	6	72
	90	9	72
	91	10	72
	92	18	72
	93	19	72
	94	20	72
	95	23	68
	96	24	72
	97	25	72
	98	26	72
September	99	1	72
	100	2	72
	101	3	72
	102	8	72
	103	9	72
	104	13	72
	105	14	72
	106	15	72
	107	16	68
	108	17	72
	109	18	72
	110	20	72
	111	21	72
	112	22	72
	113	24	72
	114	27	72
	115	28	72
	116	29	72
	117	30	72
Oktober	118	1	72
	119	6	72
	120	7	72
	121	8	72
	122	13	72
	123	14	72
	124	15	72
	125	18	72
	126	19	72
	127	21	72
	128	22	72
	129	25	72
	130	26	72
	131	27	72
	132	28	72
	133	29	72

Lampiran 12. Data Hasil Pengukuran *Hardness Shift 2* (Lanjutan)

November	134	1	72	
	135	2	72	
	136	3	72	
	137	4	72	
	138	5	72	
	139	10	68	
	140	12	68	
	141	13	72	
	142	15	72	
	143	17	72	
	144	18	72	
	145	22	72	
	146	23	72	
	147	24	72	
	148	25	72	
	149	26	72	
	150	27	72	
	Desember	151	1	72
		152	2	72
		153	6	72
154		9	72	
155		14	72	
156		16	72	
157		17	72	
158		20	72	
159		21	72	
160		22	72	
161		23	72	
162		25	72	
163		27	72	
164		28	72	
165		29	72	
Rata-rata		73.33		

Lampiran 13. Data Hasil Pengukuran *Hardness Shift 3*

Bulan	No Sampel	Tanggal	Hardness (Mg/L) Shift 3
Maret	1	31	72
April	2	1	72
	3	5	76
	4	6	76
	5	8	76
	6	9	76
	7	13	76
	8	14	76
	9	15	76
	10	16	76
	11	19	76
	12	20	76
	13	21	76
	14	22	76
	15	23	76
	16	24	76
	17	26	76
	18	27	76
	19	28	76
	20	29	72
	21	30	72
Mei	22	4	76
	23	5	72
	24	6	72
	25	7	72
	26	8	72
	27	10	72
	28	11	72
	29	17	76
	30	18	76
	31	19	76
	32	20	76
	33	21	76
	34	22	76
	35	24	72
	36	27	72
	37	28	72
	38	29	72
	39	31	72
Juni	40	2	72
	41	3	72
	42	5	72
	43	9	76
	44	14	76
	45	15	76
	46	16	72
	47	17	76
Juli	48	29	72
	49	30	72
November	50	17	72
	51	18	72
Rata-rata			74.20

Lampiran 14. Tabel Konstanta Perhitungan I-MR Chart

Sample Size = m	A ₂	A ₃	d ₂	D ₃	D ₄	B ₃	B ₄
2	1.880	2.659	1.128	0	3.267	0	3.267
3	1.023	1.954	1.693	0	2.574	0	2.568
4	0.729	1.628	2.059	0	2.282	0	2.266
5	0.577	1.427	2.326	0	2.114	0	2.089
6	0.483	1.287	2.534	0	2.004	0.030	1.970
7	0.419	1.182	2.704	0.076	1.924	0.118	1.882
8	0.373	1.099	2.847	0.136	1.864	0.185	1.815
9	0.337	1.032	2.970	0.184	1.816	0.239	1.761
10	0.308	0.975	3.078	0.223	1.777	0.284	1.716
11	0.285	0.927	3.173	0.256	1.744	0.321	1.679
12	0.266	0.886	3.258	0.283	1.717	0.354	1.646
13	0.249	0.850	3.336	0.307	1.693	0.382	1.618
14	0.235	0.817	3.407	0.328	1.672	0.406	1.594
15	0.223	0.789	3.472	0.347	1.653	0.428	1.572
16	0.212	0.763	3.532	0.363	1.637	0.448	1.552
17	0.203	0.739	3.588	0.378	1.622	0.466	1.534
18	0.194	0.718	3.640	0.391	1.608	0.482	1.518
19	0.187	0.698	3.689	0.403	1.597	0.497	1.503
20	0.180	0.680	3.735	0.415	1.585	0.510	1.490
21	0.173	0.663	3.778	0.425	1.575	0.523	1.477
22	0.167	0.647	3.819	0.434	1.566	0.534	1.466
23	0.162	0.633	3.858	0.443	1.557	0.545	1.455
24	0.157	0.619	3.895	0.451	1.548	0.555	1.445
25	0.153	0.606	3.931	0.459	1.541	0.565	1.435

Control chart constants for X-bar, R, S, Individuals (called "X" or "I" charts), and MR (Moving Range) Charts.

NOTES: To construct the "X" and "MR" charts (these are companions) we compute the Moving Ranges as:

R_2 = range of 1st and 2nd observations, R_3 = range of 2nd and 3rd observations, R_4 = range of 3rd and 4th observations, etc. with the "average" moving range or "MR-bar" being the average of these ranges with the "sample size" for each of these ranges being $n = 2$ since each is based on consecutive observations ... this should provide an estimated standard deviation (needed for the "I" chart) of

$\sigma = (\text{MR-bar})/d_2$ where the value of d_2 is based on, as just stated, $m = 2$.

Similarly, the UCL and LCL for the MR chart will be: $\text{UCL} = D_4(\text{MR-bar})$ and $\text{LCL} = D_3(\text{MR-bar})$

but, since $D_3 = 0$ when $n = 0$ (or, more accurately, is "not applicable") there will be no LCL for the MR chart, just a UCL.

Lampiran 15. Halaman Pengesahan

**HALAMAN PENGESAHAN**

Judul Tugas Akhir: : Pengendalian Mutu Pada Proses Produksi Air Minum Dalam Kemasan
Menggunakan SPC (Statistical Process Control) di CV. XYZ

Diajukan oleh : Imas Oktaviani

NIM : 18.11.0072

Tanggal disetujui : 03 Oktober 2022

Telah setuju oleh

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Pembimbing 2 : Dr. Ir. Bernadeta Soedarini M.P.

Penguji 1 : Dr.,Ir. Sumardi M.Sc.

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Dekan : Dr., Dra. Laksmi Hartayanie, M.P.

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Lampiran 16. Hasil Uji Plagiasi

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