

BAB V

KESIMPULAN DAN SARAN

Berdasarkan tinjauan lapangan serta kajian dan pengolahan data yang dilakukan sesuai dengan rumusan masalah yang telah disusun, maka berikut adalah saran dan kesimpulan terkait Instalasi Pengolahan Air Limbah (IPAL) atau *Lagoon* ITDC Nusa Dua, Bali.

5.1 Kesimpulan

- 1 Proses pengolahan air limbah di IPAL (*Lagoon*) ITDC menggunakan sistem *lagoon* atau kolam (*pond*) dengan mempertahankan proses biologi. Dengan total 5 unit kolam pengolahan air limbah dan 4 unit kolam produksi air irigasi.
- 2 Kapasitas rencana IPAL adalah 10.000 m³/hari, dengan asumsi air limbah yang dihasilkan yakni 200 lt/hari/org maka air limbah maksimum yang dihasilkan 34 hotel adalah 8.400 m³/hari, jika sesuai Pergub Bali No.16 Thn 2016 yakni 250 lt/hari/org maka air limbah maksimum adalah 10.200 m³/hari. Pada kondisi saat ini volume air limbah harian maksimum yang diolah IPAL adalah sebesar 7.892 m³/hari.
- 3 Volume *collection pit* saat ini masih belum maksimal dalam menampung air limbah sementara. Sedangkan pada kolam anaerobik (sel IA dan sel IB) dan kolam aerobik (sel III) volume yang kurang efektif dari kolam-

kolam tersebut mengakibatkan standar waktu tinggal air limbah tidak terpenuhi.

- 4 Efisiensi Removal diperoleh rata-rata 60 – 90% hal ini menunjukkan bahwa IPAL sudah mampu mengolah air limbah dengan baik. Namun untuk TDS atau zat padat terlarut dinilai masih kurang karena hanya sebesar 8,50 %.
- 5 Berdasarkan hasil uji Laboratorium *output* air limbah dengan standar yakni TDS (- mg/l), TSS (50 mg/l), pH (6 sd 9), NH₃N (10 mg/l), BOD₅ (28 mg/l), COD (50 mg/l), Senyawa Metilen (5 mg/l) serta Minyak dan Lemak (10 mg/l). Pada tahun 2018 diperoleh data hasil uji laboratorium *output* pada *groundtank* yakni TDS (855,41 mg/l), (TSS (20,17 mg/l), pH (7,35), NH₃N (1,42 mg/l), BOD₅ (12,91 mg/l), COD (38,64 mg/l), Senyawa Metilen (0,44 mg/l) serta Minyak dan Lemak (< 0,1 mg/l)

5.2 Saran

Berdasarkan dari hasil pengkajian hasil penelitian di lapangan maka penulis bermaksud memberikan saran yang semoga dapat bermanfaat bagi pihak pengelola, pemerintah setempat dan peneliti selanjutnya, yaitu sebagai berikut ;

1. Bagi Pihak Pengelola IPAL (*Lagoon*) ITDC Nusa Dua, Bali
 - Memanfaatkan kapasitas sisa semaksimal mungkin dengan melakukan penambahan pengguna jasa layanan IPAL

- Melakukan *re-design* pada *collection pit*, kolam anaerobik (sel IA dan sel IB) dan kolam aerobik (sel III), baik itu diperluas atau dilakukan penyekatan kolam atau penambahan kolam baru untuk memenuhi standar waktu tinggal.
2. Bagi Pemerintah Daerah Kab. Badung, Bali terkhusus Kecamatan Kuta Selatan serta aparat desa Tanjung Benoa, Nusa Dua
- Melihat manfaat dari IPAL (*Lagoon*) ITDC yang membantu menerapkan konsep 3R (*Reuse, Reduce, Recycle*). Maka disarankan, bagi pemerintah daerah terus mendukung dan membantu operasi IPAL (*Lagoon*) ITDC.
3. Bagi Peneliti selanjutnya
- Bagi peneliti selanjutnya disarankan dapat melakukan penelitian lebih lanjut dan mendetail lagi berkaitan dengan IPAL (*Lagoon*) ITDC ini. Misalnya, dengan data debit harian yang akan lebih mendapat detail naik turunnya debit air limbah serta kualitas air limbah yang dapat langsung diambil sampel dilapangan. Atau dapat melakukan penelitian yang lebih terfokus lagi. Misalnya pada bagian struktur ataupun analisis *plumbing*.

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Lampiran 1

REALISASI VOLUME PENGOLAHAN AIR LIMBAH DAN PENJUALAN AIR HASIL OLAHAN TAHUN 2014 (m3 /bulan) IPAL (Lagoon) ITDC Nusa Dua, Bali

NO HOTEL PENGHASIL AIR LIMBAH	BULAN												TOTAL
	JAN m3	PEB m3	MARET m3	APRIL m3	MEI m3	JUNI m3	JULI m3	AGST m3	SEPT m3	OKT m3	NOP m3	DES m3	
1	15,362.90	5,120.97	28,160.00	6,594.30	2,198.10	468.96	1,369.44	456.48	2,376.75	792.70	264.23	549.40	63,714.25
2	19,782.90	6,594.30	1,406.89	4,108.33	1,369.44	7,130.26	2,378.11	792.70	1,648.20	152.68	50.89	61.60	45,476.30
3	12,325.00	4,108.33	21,390.78	7,134.33	2,378.11	4,944.59	458.03	152.68	184.79	0.03	0.01	21.33	53,098.01
4	21,403.00	7,134.33	14,833.78	1,374.10	458.03	554.36	0.08	0.03	63.99	1,101.15	367.05	294.58	47,584.48
5	4,122.30	1,374.10	1,663.07	0.23	0.08	191.96	3,303.46	1,101.15	883.74	789.81	263.27	34.67	13,727.84
6	0.70	0.23	575.89	9,910.37	3,303.46	2,651.23	2,369.42	789.81	104.00	799.38	266.46	464.26	21,235.20
7	29,731.10	9,910.37	7,953.70	7,108.27	2,369.42	312.00	2,398.13	799.38	1,392.78	29.06	9.69	101.59	62,115.49
8	21,324.80	7,108.27	936.00	7,194.40	2,398.13	4,178.33	87.19	29.06	304.78	0.00	0.00	457.58	44,018.54
9	21,583.20	7,194.40	12,535.00	261.57	87.19	914.33	0.00	0.00	1,372.73	506.85	168.95	82.53	44,706.75
10	784.70	261.57	2,743.00	0.00	0.00	4,118.20	1,520.56	506.85	247.59	0.83	0.28	83.98	10,267.55
11	0.00	0.00	12,354.59	4,561.67	1,520.56	742.77	2.49	0.83	251.95	191.97	63.99	45.53	19,736.35
12	13,685.00	4,561.67	2,228.30	7.47	2.49	755.85	575.92	191.97	136.60	80.84	26.95	306.28	22,559.34
13	22.40	7.47	2,267.56	1,727.77	575.92	409.80	242.53	80.84	918.83	85.69	28.56	286.87	6,654.25
14	5,183.30	1,727.77	1,229.41	727.60	242.53	2,756.49	257.08	85.69	860.62	2.18	0.73	216.05	13,289.44
15	2,182.80	727.60	8,269.48	771.23	257.08	2,581.85	6.53	2.18	648.14	253.48	84.49	1,283.04	17,067.91
16	2,313.70	771.23	7,745.56	19.60	6.53	1,944.42	760.45	253.48	3,849.12	27.26	9.09	0.00	17,700.45
17	58.80	19.60	5,833.26	2,281.35	760.45	11,547.37	81.79	27.26	0.00	290.83	96.94	7.74	21,005.39
18	6,844.04	2,281.35	34,642.11	245.37	81.79	0.00	872.48	290.83	23.23	299.40	99.80	47.82	45,728.20
19	736.10	245.37	0.00	2,617.43	872.48	69.68	898.19	299.40	143.46	56.16	18.72	1,102.10	7,059.09
20	7,852.30	2,617.43	209.04	2,694.58	898.19	430.37	168.49	56.16	3,306.30	0.00	0.00	17,655.18	35,888.05
21	8,083.74	2,694.58	1,291.11	505.47	0.00	9,918.91	0.00	0.00	52,965.55	647.64	215.88	0.00	76,491.37
22	1,514.40	505.47	29,756.74	0.00	0.00	158,896.65	1,942.91	647.64	0.00	63.83	21.28	0.00	193,350.92
23	0.00	0.00	476,689.96	5,828.73	1,942.91	0.00	191.49	63.83	0.00	462.49	154.16	0.00	485,333.58
24	17,486.20	5,828.73	0.00	574.47	191.49	0.00	1,387.48	462.49	0.00	65.98	21.99	5,991.77	32,010.61
25	1,723.40	574.47	0.00	4,162.43	1,387.48	0.00	197.94	65.98	17,975.32	1.22	0.41	321.22	26,409.87
26	12,487.30	4,162.43	0.00	593.83	197.94	53,925.95	3.66	1.22	963.66	28.16	0.00	100.16	72,464.32
27	1,781.50	593.83	161,777.86	10.97	3.66	2,890.98	84.47	0.00	300.49	0.00	0.00	0.00	167,443.76
28	32.90	10.97	8,672.94	253.40	0.00	901.48	0.00	0.00	0.00	0.00	0.00	0.00	9,871.69
29	760.20	0.00	2,704.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,464.64
30	3,141.00	778.00	5,825.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,744.22
31	6,768.00	2,934.00	827.92	8,647.00	116.00	761.00	962.00	98.00	87.00	45.00	91.00	100.00	21,436.92
32	786.80	786.80	786.80	786.80	786.80	786.80	786.80	786.80	786.80	786.80	786.80	786.80	9,441.60
33	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	260.40
34	91.70	91.70	91.70	91.70	91.70	91.70	91.70	91.70	91.70	91.70	91.70	91.70	1,100.40
TOTAL (m3/bn)	239,979.88	80,749.03	855,423.82	80,816.46	24,688.15	274,898.02	23,420.52	8,156.15	91,909.82	7,674.83	3,225.02	30,515.49	1,721,457.19

KONSUMEN AIR OLAHAN	BULAN												Total
	JAN	PEB	MARET	APRIL	MEI	JUNI	JULI	AGST	SEPT	OKT	NOP	DES	
1	800.00	10,690.00	11,385.00	0.00	0.00	2,250.00	4,018.00	4,662.00	4,662.00	4,662.00	41,351.00	0.00	84,480.00
2	0.00	0.00	0.00	797.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,423.33	4,220.67
3	6.00	0.00	2,392.00	0.00	14,533.33	2,522.00	7,162.00	11,497.00	10,270.00	8,425.00	7,365.00	0.00	64,172.33
4	0.00	43,600.00	0.00	531.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	370.33	44,501.33
5	0.00	0.00	1,593.00	6.22	3,832.33	33.00	127.00	1,007.00	1,111.00	820.00	292.00	0.00	8,821.56
6	0.00	11,497.00	18.67	530.00	0.00	0.00	4.00	8.00	0.00	11.00	0.00	1,156.00	13,224.67
7	26.00	0.00	1,590.00	1.11	335.67	323.00	162.00	1,929.00	3,468.00	6,029.00	10,333.00	0.00	24,196.78
8	0.00	1,007.00	3.33	487.00	2.67	0.00	0.00	0.00	0.00	0.00	0.00	2,317.67	3,817.67
9	137.00	8.00	1,461.00	1,489.00	643.00	807.00	5,768.00	7,553.00	6,953.00	5,611.00	7,771.00	55.00	38,256.00
10	0.00	1,929.00	4,467.00	586.00	0.00	85.00	238.00	207.00	165.00	142.00	0.00	2,339.00	10,158.00
11	552.00	0.00	1,758.00	1,004.44	2,517.67	0.00	2,277.00	7,036.00	7,017.00	13,568.00	3,828.00	23.33	39,581.44
12	0.00	7,553.00	3,013.33	770.22	69.00	0.00	0.00	0.00	70.00	649.00	1,966.00	216.33	14,306.89
13	72.00	207.00	2,310.67	0.00	2,345.33	608.00	784.00	869.00	649.00	608.00	902.00	0.00	9,355.00
14	0.00	7,036.00	0.00	2,775.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	913.00	10,724.22
15	22.00	0.00	8,325.67	2,587.78	289.67	1,153.00	1,763.00	1,572.00	2,739.00	2,663.00	3,183.00	800.00	25,098.11
16	0.00	869.00	7,763.33	173.67	0.00	1,340.00	2,260.00	3,290.00	2,400.00	2,660.00	3,210.00	139.67	24,105.67
17	0.00	0.00	521.00	11,072.44	524.00	0.00	62.00	257.00	419.00	416.00	98.00	4,654.33	18,023.78
18	581.00	1,572.00	33,217.33	0.00	1,096.67	8,629.00	13,361.00	17,363.00	13,963.00	7,299.00	9,513.00	0.00	106,595.00
19	0.00	3,290.00	0.00	0.00	85.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,375.67
20	0.00	257.00	0.00	514.78	5,787.67	0.00	0.00	0.00	0.00	0.00	0.00	112.33	6,671.78
21	24.00	17,363.00	1,544.33	0.00	0.00	239.00	353.00	417.00	337.00	395.00	564.00	0.00	21,236.33
22	0.00	0.00	0.00	89,270.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89,270.22
23	0.00	0.00	267,810.67	116,391.44	152,017.44	0.00	0.00	0.00	0.00	0.00	0.00	346,519.44	882,739.00
TOTAL (m3/bn)	2,220.00	106,878.00	349,174.33	228,987.89	184,080.11	17,989.00	38,339.00	57,667.00	54,223.00	53,958.00	90,376.00	363,039.78	664,193.11

Lampiran 2

REALISASI VOLUME PENGOLAHAN AIR LIMBAH DAN PENJUALAN AIR HASIL OLAHAN TAHUN 2014 (m3 /bulan) IPAL (Lagoon) ITDC Nusa Dua, Bali

NO	BULAN												TOTAL
HOTEL	JAN	PEB	MARET	APRIL	MEI	JUNI	JULI	AGST	SEPT	OKT	NOP	DES	
PENGHASIL	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3
AIR LIMBAH													
1	15,362.90	4,791.73	310,723.92	6,594	2,175	-	1,369	455	743	793	271	1,286	344,565.70
2	19,782.90	6,524.60	-	4,108	1,366	2,230	2,378	814	3,858	153	24	16	41,254.03
3	12,325.00	4,097.00	6,689.67	7,134	2,443	11,573	458	72	48	0	0	192	45,031.21
4	21,403.00	7,328.70	34,718.67	1,374	215	144	0	0	575	1,101	381	184	67,424.86
5	-	-	431.67	0	0	1,724	3,303	1,144	551	790	262	3	8,209.28
6	0.70	0.23	5,172.67	9,910	3,433	1,653	2,369	785	9	799	269	172	24,573.29
7	29,731.10	10,297.93	4,958.67	7,108	2,354	28	2,398	808	515	29	14	17	58,258.41
8	21,324.80	7,060.67	84.67	7,194	2,425	1,545	87	41	50	-	-	46	39,858.42
9	-	7,273.73	4,635.00	262	123	150	-	-	139	507	117	361	13,566.40
10	784.70	368.90	448.67	-	-	417	1,521	350	108	1	0	26	4,024.13
11	-	-	1,249.67	4,562	1,050	3,250	2	0	77	192	61	59	10,504.30
12	13,685.00	3,151.23	971.00	7	1	231	576	183	178	81	25	163	19,252.42
13	22.40	2.10	694.00	1,728	549	533	243	75	489	86	27	30	4,478.72
14	-	1,648.43	155.00	728	225	1,467	257	82	91	2	-	2	4,656.53
15	2,182.80	675.47	440.00	771	245	272	7	-	5	253	77	830	5,759.08
16	2,313.70	735.53	449.00	20	-	15	760	231	2,491	27	10	44	7,095.83
17	58.80	-	44.67	2,281	692	7,474	82	29	132	291	94	14	11,191.93
18	-	-	245	86	395	872	395	283	42	299	114	117	2,454.08
19	736.10	258.97	1,184.67	2,617	849	126	898	341	351	56	18	20	7,455.91
20	7,852.30	2,546.03	378.20	2,695	1,024	1,052	168	54	59	-	-	0	15,828.63
21	8,083.74	3,072.91	315.00	505	162	176	-	-	0	648	-	15,337	28,299.33
22	1,516.40	485.07	527.67	-	-	1	1,943	-	46,010	64	203	-	50,749.47
23	-	-	2.34	582	-	138,031	191	608	-	462	20	-	139,896.60
24	1,748.00	-	4,140.00	574	1,823	-	1,387	60	-	66	42	-	9,840.84
25	1,723.40	5,469.47	-	4,162	179	-	198	127	-	1	24	-	11,883.32
26	-	535.73	-	594	380	-	4	71	-	28	2,895	-	4,507.18
27	1,781.50	-	-	11	212	-	84	8,685	-	2	3	0	10,778.84
28	32.90	636.77	-	253	26,055	-	6	8	0	9	10	239,330	266,340.48
29	760.20	78,163.58	-	19	24	0	26	30	717,990	2	241	-	797,255.33
30	3,141.00	-	-	-	-	-	-	-	-	-	-	-	3,141.00
31	-	864.00	804.00	-	749.00	360.00	615.00	832.00	-	-	-	-	4,224.00
32	786.80	874.30	651.70	548.80	346.50	660.00	700.70	686.00	-	-	-	-	5,254.80
33	21.70	12.60	0	31.50	21.70	627.37	0	191.80	20.30	234,490.74	375.67	-	235,793.38
34	91.70	100.10	0	86.10	88.90	-	0	112.00	99.40	134.00	241.27	-	953.47
TOTAL (m3/bln)	167,253.54	146,975.79	379,870.50	66,707.59	49,295.16	174,134.51	22,906.38	17,156.17	774,629.52	241,366.78	5,817.91	258,247.34	2,304,361.19

KONSUMEN	BULAN													Total
AIR OLAHAN	JAN	PEB	MARET	APRIL	MEI	JUNI	JULI	AGST	SEPT	OKT	NOP	DES		
1	2,668.00	4,447.00	9,029.00	11,149.00	13,572.00	14,628.00	18,529.00	25,027.00	35,583.00	15,719.00	0.00	0.00	150,351.00	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	0.00	616.00	1,766.00	1,184.00	1,469.00	575.00	2,857.00	7,223.00	8,501.00	2,796.00	937.23	0.00	27,924.23	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.00	0.00	92.00	0.00	388.00	90.00	0.00	253.00	823.00	
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	
7	1,878.00	3,447.00	6,489.00	7,125.00	8,332.00	6,652.00	11,615.00	8,392.00	5,053.00	330.00	1,236.00	0.00	60,549.00	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9	0.00	188.00	1,694.00	1,100.00	1,362.00	1,082.00	2,511.00	6,116.00	4,574.00	588.00	0.00	974.00	20,189.00	
10	21.00	154.00	95.00	42.00	5.00	19.00	0.00	0.00	1.00	0.00	56.00	0.00	393.00	
11	60.00	0.00	0.00	0.00	0.00	0.00	893.00	6,315.00	107.00	335.00	0.00	0.00	7,710.00	
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	218.33	218.33	
13	181.00	43.00	115.00	179.00	273.00	353.00	375.00	437.00	492.00	445.00	613.00	0.00	3,506.00	
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	553.00	415.00	897.00	1,373.00	2,943.00	1,541.00	693.00	3,151.00	3,078.00	1,374.00	0.00	317.00	16,335.00	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	195.00	0.00	0.00	0.00	0.00	0.00	204.00	388.00	136.00	52.00	0.00	0.00	975.00	
18	5,940.00	5,744.00	5,064.00	3,872.00	1,473.00	2,314.00	9,434.00	9,815.00	10,103.00	7,601.00	2,543.33	0.00	63,903.33	
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	25.00	65.00	182.00	190.00	282.00	277.00	349.00	392.00	220.00	169.00	0.00	184.00	2,335.00	
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	
TOTAL (m3/bln)	11,521.00	15,119.00	25,331.00	26,214.00	29,711.00	27,441.00	47,552.00	67,256.00	68,236.00	29,501.00	5,385.57	1,946.33	355,213.90	

Lampiran 3

REALISASI VOLUME PENGOLAHAN AIR LIMBAH DAN PENJUALAN AIR HASIL OLAHAN TAHUN 2014 (m3 /bulan) IPAL (Lagoon) ITDC Nusa Dua, Bali

NO HOTEL PENGHASIL AIR LIMBAH	BULAN												TOTAL
	JAN m3	PEB m3	MARET m3	APRIL m3	MEI m3	JUNI m3	JULI m3	AGST m3	SEPT m3	OKT m3	NOP m3	DES m3	
1	10,161.24	9,461.90	8,843.80	8,595.30	8,473.50	8,145.90	9,226.00	9,788.10	9,095.80	9,888.90	234.50	8,383.90	100,298.84
2	14,098.00	10,142.20	11,665.40	11,454.60	14,684.60	13,173.30	17,357.00	17,778.60	17,453.90	16,197.60	13,294.00	11,524.30	168,823.50
3	18,772.00	16,386.30	17,515.10	14,961.70	16,104.10	17,924.80	19,714.90	19,978.40	19,470.10	20,070.20	20,070.00	18,298.80	219,266.40
4	11,618.70	10,388.70	8,795.80	8,097.60	11,357.70	11,490.30	12,187.30	12,938.70	13,033.90	12,644.60	9,679.80	7,760.50	129,993.60
5	18,055.00	18,722.10	16,150.00	16,911.60	21,091.90	21,986.10	22,984.00	23,997.20	22,193.50	21,685.20	18,120.30	15,296.60	237,193.50
6	2,901.00	2,764.30	2,568.30	1,854.30	1,121.40	0.00	216.30	1,977.50	3,626.70	3,842.30	3,640.00	3,152.10	27,664.20
7	100.00	46.90	83.30	167.30	68.60	42.70	71.40	101.50	74.90	22.40	108.50	180.60	1,068.10
8	30,772.00	11,076.10	12,101.60	3,315.20	7,269.50	4,968.60	2,935.80	4,717.30	7,681.10	7,903.00	283,571.89	6,955.20	383,267.29
9	1,892.00	14,201.80	12,471.20	10,332.60	16,105.80	15,119.80	20,250.40	21,341.80	19,539.80	19,925.70	16,114.30	17,331.50	184,626.70
10	16,002.00	17,715.70	16,677.00	18,218.90	19,150.50	20,442.50	22,625.30	21,941.90	21,139.50	18,868.30	10,931.00	14,030.10	217,742.70
11	21,004.00	6,186.60	1,743.00	1,930.60	2,818.90	2,342.20	1,774.50	1,098.30	1,633.80	1,093.40	954.80	788.90	43,369.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	7,089.10	8,709.10	7,580.30	5,676.30	9,538.70	9,537.00	11,583.80	11,945.90	10,123.50	8,755.00	8,506.80	9,452.00	108,497.50
14	7.00	16.80	18.90	8.40	22.40	15.40	11.90	16.80	14.70	24.50	24.50	21.70	203.00
15	4,900.00	3,643.10	3,819.90	4,440.40	5,312.50	5,203.70	6,082.60	6,138.70	5,778.30	5,664.40	4,178.60	3,636.30	58,798.50
16	1,702.00	1,904.00	2,233.80	1,978.80	2,692.80	2,320.50	2,762.50	2,680.90	2,415.70	2,616.30	2,369.80	2,301.80	27,978.90
17	580.00	1,904.00	3,707.70	1,378.70	0.00	1,706.80	2,150.50	2,283.10	2,247.40	2,109.70	1,599.70	1,827.50	21,495.10
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.40
19	4,592.00	5,603.36	5,503.68	4,298.14	5,608.61	5,834.71	9,524.20	7,177.80	7,207.90	7,350.70	5,450.90	6,349.00	74,501.00
20	670.00	773.50	729.00	1,978.80	865.30	831.30	885.70	882.30	580.60	904.40	2,369.80	780.30	12,551.00
21	4,590.00	6,016.30	5,355.00	5,820.80	7,087.30	7,046.50	8,156.60	8,182.10	7,408.60	6,990.40	5,492.70	6,973.40	79,119.70
22	10,778.00	8,965.74	8,354.92	0.00	9,732.94	10,075.80	9,659.86	10,110.66	9,964.08	9,884.14	10,376.52	7,435.96	105,338.62
23	1,699.00	812.60	1,065.90	1,332.80	1,547.00	1,246.10	1,649.00	1,725.50	1,591.20	1,625.20	1,237.60	1,288.60	16,820.50
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	17,005.00	13,526.90	13,348.40	13,200.50	17,863.60	16,801.10	17,868.70	17,248.20	16,525.70	17,340.00	14,728.80	17,669.80	193,126.70
27	2,766.00	2,312.10	2,719.50	2,930.20	3,341.80	2,574.60	3,011.40	3,195.50	1,814.40	2,507.40	1,974.70	1,593.90	30,741.50
28	0.00	0.00	0.00	193.80	232.90	2,450.70	2,293.90	2,272.20	3,290.00	4,376.40	3,324.30	2,956.10	21,390.30
29	866.00	1,175.30	1,127.00	1,416.10	1,703.80	975.80	1,308.30	1,838.20	53.90	1,535.80	1,428.00	1,836.80	15,265.00
30	4.00	35.70	35.00	34.30	39.90	37.10	35.70	34.30	37.10	37.80	37.10	37.10	405.10
31	1,500.00	995.82	980.98	682.50	1,032.50	973.70	1,135.40	174.30	2,442.30	969.50	809.20	880.60	12,576.80
32	3,294.19	4,348.50	3,183.00	0.00	3,543.00	4,216.50	5,751.00	4,743.00	4,042.50	4,170.00	3,607.50	4,147.50	45,046.69
33	8,342.00	6,964.50	6,525.00	5,830.50	7,062.00	6,078.00	8,275.50	7,269.00	7,984.50	6,601.50	6,808.50	8,617.50	86,172.50
34	78.00	539.65	483.75	636.61	260.08	231.48	250.04	585.16	600.26	312.57	627.37	487.73	5,092.70
TOTAL (m3/bln)	215,838.23	185,339.57	175,386.23	147,677.35	195,733.63	193,797.99	221,739.50	225,325.42	218,650.14	217,320.71	451,464.48	180,187.09	2,628,455.34

KONSUMEN AIR OLAHAN	BULAN												Total
	JAN	PEB	MARET	APRIL	MEI	JUNI	JULI	AGST	SEPT	OKT	NOP	DES	
1	46,540.00	3,191.00	24,815.00	1,911.00	24,099.00	8,071.00	12,272.00	20,994.00	13,504.00	13,443.00	10,343.00	6,045.00	185,228.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	6,631.00	2.00	2,553.00	6,519.00	3,825.00	17.00	1.00	0.00	3,290.00	2,447.00	1,419.00	0.00	26,704.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	94.00	17.00	32.00	74.00	0.00	0.00	0.00	0.00	0.00	79.00	0.00	0.00	296.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	5,672.00	1,084.00	5,463.00	8,509.00	5,777.00	1.00	5,599.00	10,877.00	5,702.00	7,919.00	3,146.00	3,734.00	63,483.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	1,808.00	0.00	1,634.00	3,320.00	1,589.00	264.00	628.00	1,316.00	1,335.00	1,196.00	656.00	0.00	13,746.00
10	94.00	0.00	0.00	439.00	13.00	0.00	0.00	0.00	0.00	272.00	171.00	140.00	1,129.00
11	1,193.00	559.00	2,438.00	2,709.00	0.00	0.00	507.00	1,987.00	1.00	181.00	120.00	498.00	10,193.00
12	6,006.00	1,234.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,240.00
13	473.00	34.00	239.00	359.00	153.00	173.00	193.00	141.00	180.00	118.00	39.00	20.00	2,122.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	3,067.00	1,204.00	3,942.00	1,915.00	426.00	1,098.00	604.00	2,285.00	2,368.00	2,595.00	1,070.00	2,502.00	23,076.00
16	2,290.00	110.00	1,920.00	2,490.00	20.00	20.00	740.00	60.00	0.00	0.00	0.00	0.00	7,650.00
17	72.00	0.00	0.00	39.00	161.00	0.00	0.00	137.00	72.00	75.00	0.00	0.00	556.00
18	312.00	1,634.00	1,897.00	0.00	4,192.00	992.00	1,000.00	2,474.00	2,526.00	2,717.00	3,585.00	4,522.00	25,851.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	353.00	93.00	275.00	345.00	277.00	109.00	222.00	314.00	174.00	226.00	137.00	68.00	2,593.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL (m3/bln)	74,605.00	9,162.00	45,208.00	28,629.00	40,532.00	10,745.00	21,766.00	40,585.00	29,152.00	31,268.00	20,686.00	17,529.00	369,867.00

Lampiran 4

REALISASI VOLUME PENGOLAHAN AIR LIMBAH DAN PENJUALAN AIR HASIL OLAHAN TAHUN 2014 (m3/bulan) IPAL (Lagoon) ITDC Nusa Dua, Bali

NO HOTEL PENGHASIL AIR LIMBAH	BULAN												TOTAL
	JAN m3	PEB m3	MARET m3	APRIL m3	MEI m3	JUNI m3	JULI m3	AGST m3	SEPT m3	OKT m3	NOP m3	DES m3	
1	8,696.10	7,441.70	7,455.00	7,753.90	8,318.80	8,211.70	8,675.10	7,883.40	8,159.90	7,564.90	6,378.40	6,411.30	92,950.20
2	16,892.90	12,702.40	12,884.30	13,498.00	15,300.00	14,375.20	17,113.90	17,918.00	17,020.40	13,107.00	8,778.80	5,060.90	164,651.80
3	20,670.30	15,845.70	17,268.60	18,603.10	16,760.30	19,573.80	21,525.40	21,739.60	19,929.10	15,269.40	12,841.80	10,536.60	210,563.70
4	11,551.50	10,543.40	12,685.40	9,854.90	10,558.70	12,291.00	13,904.30	13,812.50	13,610.20	11,976.50	8,241.60	4,311.20	133,341.20
5	22,783.40	17,867.00	17,991.10	20,493.50	21,569.60	21,986.10	23,776.20	23,971.70	22,859.90	19,701.30	15,592.40	7,578.60	236,170.80
6	3,994.20	2,224.60	2,457.00	1,930.60	1,656.20	1,939.00	1,435.00	3,054.80	3,354.40	4,119.50	5,426.40	5,819.10	37,410.80
7	130.90	84.70	93.10	23.80	160.30	86.80	84.70	114.10	114.80	28.70	14.70	15.40	952.00
8	33,115.60	32,190.90	28,547.40	29,900.50	35,095.20	30,893.80	34,344.80	48,164.20	29,365.70	29,315.30	30,666.30	27,376.30	388,976.00
9	20,910.00	18,987.30	16,804.50	19,738.7+H85	21,717.50	21,182.00	22,344.80	22,691.60	20,673.70	18,271.60	15,238.80	10,784.80	229,345.30
10	18,938.00	17,715.70	13,511.60	18,217.20	17,443.70	21,821.20	24,536.10	25,296.00	22,703.50	18,303.90	14,016.50	8,699.10	221,202.50
11	891.10	1,197.70	1,114.40	756.70	1,024.80	1,106.70	984.90	1,138.20	1,327.90	863.10	863.80	327.60	11,596.90
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	10,206.80	7,430.70	7,876.10	9,496.20	8,501.70	9,453.70	11,216.60	11,799.70	10,285.00	6,366.50	6,505.90	4,953.80	104,092.70
14	41.30	30.10	0.00	2.80	7.00	6.30	11.90	23.10	23.80	13.30	8.40	8.40	176.40
15	3,486.70	2,937.60	3,471.40	4,107.20	4,554.30	4,945.30	5,829.30	6,128.50	5,848.00	5,688.20	3,529.20	1,616.70	52,142.40
16	2,543.20	2,155.60	2,111.40	1,960.10	2,446.30	2,026.40	2,572.10	2,643.50	2,652.00	1,638.80	924.80	1,269.90	24,944.10
17	2,391.90	2,351.10	2,145.40	2,136.90	2,249.10	2,206.60	2,607.80	2,771.00	2,711.50	2,470.10	1,795.20	911.20	26,747.80
18	0.00	0.00	0.00	54.40	0.00	0.00	0.00	0.00	0.00	0.00	1.70	39.20	95.30
19	7,490.70	6,556.20	7,695.10	6,910.40	7,500.85	6,224.12	6,025.39	6,570.34	6,941.48	11,990.44	7,720.30	6,682.34	88,307.66
20	816.00	598.40	695.30	776.90	814.30	800.70	800.70	827.90	739.50	496.40	442.00	442.00	6,687.00
21	7,876.10	6,325.70	6,145.50	7,354.20	7,784.30	7,638.10	8,532.30	8,647.90	7,990.00	7,770.70	7,172.30	5,227.50	88,464.60
22	11,116.28	9,832.48	7,842.10	8,854.30	8,806.70	9,218.72	8,778.98	9,454.48	9,386.86	7,975.10	7,686.84	6,847.26	105,800.10
23	1,484.10	1,310.70	1,154.30	1,504.50	1,375.30	1,455.20	1,570.80	1,703.40	1,596.30	1,467.10	946.90	829.60	16,398.20
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	18,089.70	13,826.10	14,701.60	16,882.70	16,857.20	16,408.40	18,105.60	19,386.80	17,496.40	14,106.60	12,044.50	10,750.80	188,655.80
27	1,241.80	1,971.20	1,978.90	1,849.40	2,249.10	1,607.20	1,824.90	1,787.80	1,291.50	576.10	905.80	325.50	17,609.20
28	4,132.80	1,666.00	2,909.20	2,223.90	3,760.40	3,420.90	4,081.70	4,375.70	3,441.20	857.50	630.70	34,111.70	22,694.00
29	1,854.30	1,685.60	1,871.10	1,829.10	2,594.90	1,910.30	1,520.40	1,873.20	2,310.00	2,157.40	2,016.00	1,071.70	22,694.00
30	37.80	38.50	39.20	37.10	43.40	40.60	38.50	41.30	32.20	30.80	38.50	3.50	421.40
31	727.30	893.20	1,296.96	2,133.04	1,436.40	731.50	1,698.20	1,387.40	561.40	434.70	227.50	169.40	11,697.00
32	4,309.50	4,297.50	4,368.00	4,434.00	4,590.00	4,261.50	4,896.00	4,860.00	3,466.50	4,138.50	2,034.00	50,322.00	50,322.00
33	7,918.50	7,047.00	7,690.50	7,185.00	7,885.50	8,040.00	8,473.50	8,365.50	8,212.50	5,356.50	6,729.00	3,594.00	86,497.50
34	623.82	281.95	399.91	661.29	664.30	651.70	720.30	776.30	991.90	856.10	669.20	430.50	7,727.27
TOTAL (m3/bin)	244,962.60	208,133.63	205,107.47	221,164.33	233,726.15	234,490.74	256,599.57	278,795.22	247,513.94	215,066.84	182,473.94	134,758.90	2,662,753.33

KONSUMEN AIR OLAHAN	BULAN												Total
	JAN	PEB	MARET	APRIL	MEI	JUNI	JULI	AGST	SEPT	OKT	NOP	DES	
1	46,540.00	4,018.00	6,015.00	11,750.58	0.00	0.00	7,125.00	834.00	7,919.00	11,615.00	0.00	13,572.00	489,388.58
2	0.00	0.00	-	-	74.00	0.00	0.00	-	0.00	0.00	0.00	0.00	74.00
3	6,631.00	7,162.00	0.00	0.00	0.00	0.00	1,100.00	0.00	1,196.00	2,511.00	0.00	1,469.00	20,069.00
4	0.00	0.00	2,502.00	2,521.00	8,509.00	6,652.00	42.00	44,018.00	272.00	0.00	6,652.00	0.00	71,168.00
5	94.00	127.00	0.00	0.00	0.00	0.00	0.00	0.00	181.00	893.00	0.00	0.00	1,295.00
6	0.00	4.00	2,522.00	0.00	3,320.00	1,082.00	0.00	7,162.00	0.00	0.00	108.00	0.00	14,198.00
7	5,672.00	162.00	0.00	0.00	-	19.00	179.00	0.00	118.00	375.00	19.00	8,332.00	14,876.00
8	0.00	0.00	33.00	70.00	2,709.00	0.00	0.00	127.00	0.00	0.00	0.00	0.00	2,939.00
9	1,808.00	5,768.00	0.00	0.00	0.00	0.00	1,373.00	4.00	2,595.00	693.00	0.00	1,362.00	13,901.00
10	94.00	238.00	323.00	239.00	359.00	353.00	0.00	162.00	97.00	0.00	235.00	5.00	2,105.00
11	1,193.00	1,277.00	0.00	10.00	0.00	0.00	0.00	0.00	75.00	204.00	0.00	0.00	3,759.00
12	-	0.00	807.00	11.00	1,915.00	1,541.00	1,872.00	1,768.00	2,717.00	2,343.00	154.00	0.00	26,219.00
13	473.00	784.00	85.00	18.00	2,490.00	0.00	76.00	238.00	0.00	0.00	0.00	273.00	4,437.00
14	245.00	0.00	0.00	0.00	39.00	0.00	0.00	2,277.00	0.00	0.00	0.00	0.00	2,561.00
15	3,067.00	1,763.00	0.00	0.00	0.00	2,314.00	190.00	0.00	226.00	349.00	2,351.00	2,943.00	13,203.00
16	-	-	608.00	262.00	0.00	0.00	0.00	784.00	0.00	0.00	881.00	0.00	2,535.00
17	72.00	62.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	134.00
18	312.00	13,361.00	1,153.00	1,103.00	345.00	277.00	262.00	1,763.00	278.00	47,552.00	227.00	1,473.00	68,106.00
19	0.00	0.00	1,340.00	0.00	0.00	0.00	781.00	-	331.00	182.00	0.00	0.00	2,634.00
20	0.00	0.00	0.00	43.00	0.00	0.00	0.83	62.00	1,008.65	1.13	0.00	0.00	1,115.61
21	353.00	353.00	6,629.00	2,458.00	2,862.00	2,744.00	0.00	134.00	0.00	0.00	2,741.00	282.00	20,556.00
22	0.00	0.00	0.00	0.00	135.00	94.00	0.00	0.00	0.00	0.00	1,354.00	0.00	1,583.00
23	0.00	0.00	0.00	0.00	0.76	0.76	1.00	1.00	0.76	1.00	0.76	1.00	7.03
TOTAL (m3/bin)	66,554.00	35,079.00	22,017.00	18,485.58	22,757.76	15,076.76	13,001.83	59,334.00	17,014.40	66,719.13	14,722.76	29,712.00	380,474.22

Lampiran 5 REALISASI VOLUME PENGOLAHAN AIR LIMBAH DAN PENJUALAN AIR HASIL OLAHAN TAHUN 2014 (m3 /bulan) IPAL (Lagoon) ITDC Nusa Dua, Bali

NO HOTEL PENGHASIL AIR LIMBAH	BULAN												TOTAL
	JAN m3	PEB m3	MARET m3	APRIL m3	MEI m3	JUNI m3	JULI m3	AGST m3	SEPT m3	OKT m3	NOP m3	DES m3	m3
1	6,848.10	6,671.00	7,441.70	8,263.50	8,171.80	7,865.20	8,362.20	8,347.50	8,359.40	9,055.90	6,510.70	7,382.90	93,279.90
2	9,771.60	12,105.70	13,567.70	14,983.80	14,230.70	15,362.90	17,210.80	16,705.90	16,739.90	14,701.60	9,924.60	8,901.20	164,206.40
3	15,786.20	18,579.30	17,787.10	19,534.70	18,509.60	19,782.90	21,146.30	19,072.30	19,471.80	21,909.60	12,853.70	15,073.90	219,507.40
4	8,581.60	9,360.20	11,364.50	12,177.10	12,442.30	12,325.00	13,322.90	13,227.70	13,270.20	11,537.90	9,504.70	9,537.00	136,651.10
5	13,899.20	21,148.00	20,396.60	20,707.70	18,938.00	21,403.00	23,147.20	22,997.60	23,225.40	21,712.40	15,050.10	14,138.90	236,764.10
6	2,252.60	2,880.50	3,824.80	3,338.30	3,017.00	4,122.30	5,355.00	5,770.80	5,062.40	8,198.40	6,866.30	9,513.70	60,202.10
7	7.70	2.80	0.70	0.00	0.00	0.70	0.00	262.50	361.90	0.00	0.00	0.00	636.30
8	28,042.70	26,270.30	24,273.90	33,425.00	24,072.30	29,731.10	33,800.90	32,827.20	33,936.70	35,569.80	27,288.80	19,826.80	349,065.50
9	18,875.10	20,019.20	21,229.60	20,792.70	21,921.50	21,324.80	22,501.20	22,196.90	21,001.80	21,476.10	17,487.90	18,613.30	247,440.10
10	15,609.40	16,935.40	20,180.70	21,204.10	19,172.60	21,583.20	24,080.50	23,409.00	22,229.20	21,182.00	16,442.40	17,928.20	239,956.70
11	72.80	630.70	316.40	532.00	431.90	784.70	932.40	925.40	1,096.20	1,513.40	1,134.70	845.60	9,216.20
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	10,206.80	7,430.70	9,820.90	12,979.50	19,289.90	13,685.00	14,618.30	14,608.10	13,623.80	13,515.00	10,461.80	11,937.40	152,177.20
14	7.00	8.40	7.70	15.40	39.20	22.40	40.60	66.50	70.70	102.20	26.60	39.20	445.90
15	2,278.00	3,847.10	3,379.60	4,158.20	4,612.10	5,183.30	6,211.80	5,978.90	5,535.20	5,304.00	4,127.60	2,660.50	53,276.30
16	2,164.10	2,000.90	1,725.50	2,215.10	2,189.60	2,182.80	2,781.20	2,601.00	2,553.40	2,811.80	1,727.20	2,045.10	26,997.70
17	1,897.20	1,907.40	1,618.40	2,531.30	2,546.60	2,313.70	2,730.20	2,713.20	2,595.90	2,631.60	1,829.20	1,706.80	27,021.50
18	48.30	32.20	56.70	282.80	695.10	58.80	133.00	179.90	246.40	242.20	178.50	180.60	2,334.50
19	7,133.00	7,437.50	8,547.00	7,948.43	6,937.07	6,844.04	8,676.08	10,093.09	12,183.08	9,426.90	5,091.87	10,856.37	101,174.43
20	340.00	566.10	589.90	632.40	601.80	736.10	816.00	872.10	722.50	810.90	457.30	547.40	7,692.50
21	7,335.50	6,570.50	7,344.00	7,930.50	7,536.10	7,852.30	8,450.70	8,454.10	7,578.60	7,393.30	5,718.80	6,256.00	88,420.40
22	9,438.24	4,471.04	7,286.00	8,167.25	8,404.62	8,083.74	8,700.16	9,079.00	7,751.24	8,984.64	7,844.06	5,950.98	94,160.97
23	911.20	967.30	824.50	1,247.80	1,399.10	1,516.40	1,669.40	1,745.90	1,548.70	1,615.00	1,434.80	1,348.10	16,228.20
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	12,588.50	14,992.30	15,561.80	15,427.50	16,017.40	17,486.20	18,854.70	18,519.80	17,889.10	16,262.20	11,381.50	15,776.00	190,757.00
26	833.00	826.70	1,154.65	511.35	3,608.50	1,723.40	2,053.80	1,933.40	2,327.50	2,721.60	1,124.20	1,297.10	20,115.20
27	2,881.90	6,080.20	0.00	0.00	0.00	12,487.30	7,597.80	7,252.00	5,739.30	5,957.70	5,777.10	4,498.20	58,271.50
28	1,821.40	1,434.30	1,575.00	1,894.90	1,773.80	1,781.50	1,887.20	1,332.10	1,624.00	1,628.20	1,648.50	1,624.00	20,024.90
29	60.20	34.30	37.10	39.20	37.80	32.90	44.10	42.70	42.00	201.60	43.40	33.60	648.90
30	254.80	224.00	367.50	496.30	912.10	760.20	1,149.40	973.70	1,444.10	2,543.80	2,794.40	2,924.60	14,844.90
31	2,034.00	2,971.50	3,205.50	2,929.50	3,072.00	3,141.00	3,103.50	3,250.50	2,575.50	3,279.00	2,758.50	2,898.00	35,218.50
32	5,265.00	6,891.00	5,584.50	7,714.50	7,275.00	6,768.00	8,647.50	8,424.00	7,629.00	7,495.50	5,374.50	6,151.50	83,220.00
33	505.40	385.70	540.40	758.10	672.70	786.80	874.30	459.20	548.80	346.50	285.60	700.70	6,864.20
34	7.00	7.00	0.00	16.10	9.80	21.70	12.60	22.40	31.50	21.70	21.70	20.30	191.80
TOTAL (m3/bn)	187,757.54	203,689.24	209,610.35	232,855.03	228,537.99	247,753.38	268,911.74	264,344.39	259,015.22	260,152.44	193,171.03	201,213.95	2,757,012.30

KONSUMEN AIR OLAHAN	BULAN												Total
	JAN	PEB	MARET	APRIL	MEI	JUNI	JULI	AGST	SEPT	OKT	NOP	DES	
1	800.00	2,521.00	22,502.00	44,018.00	46,622.00	45,664.00	54,275.00	45,501.00	41,351.00	52,022.00	21,139.00	39,266.00	415,681.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	6.00	0.00	2,522.00	7,162.00	11,497.00	10,270.00	8,425.00	9,339.00	7,365.00	6,579.00	1,567.00	2,446.00	67,178.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	70.00	33.00	127.00	1,007.00	1,111.00	820.00	541.00	292.00	547.00	159.00	72.00	4,779.00
6	0.00	0.00	0.00	4.00	8.00	0.00	11.00	29.00	0.00	4.00	0.00	0.00	56.00
7	26.00	239.00	323.00	162.00	1,929.00	3,468.00	6,029.00	6,698.00	10,333.00	9,906.00	5,296.00	3,296.00	47,705.00
8	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
9	137.00	11.00	807.00	5,768.00	7,553.00	6,953.00	5,611.00	3,195.00	7,771.00	5,860.00	187.00	0.00	43,853.00
10	0.00	18.00	85.00	238.00	207.00	165.00	142.00	460.00	0.00	0.00	19.00	0.00	1,334.00
11	552.00	0.00	0.00	2,277.00	7,036.00	7,017.00	13,568.00	7,894.00	3,828.00	5,778.00	1,840.00	2,959.00	52,749.00
12	0.00	0.00	0.00	0.00	0.00	70.00	649.00	903.00	1,966.00	3,925.00	499.00	1,028.00	9,040.00
13	72.00	262.00	608.00	784.00	869.00	649.00	608.00	765.00	902.00	820.00	504.00	89.00	6,932.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	22.00	1,103.00	1,153.00	1,763.00	1,572.00	2,739.00	2,663.00	1,874.00	3,183.00	4,265.00	2,562.00	2,078.00	24,977.00
16	0.00	0.00	1,340.00	2,260.00	3,290.00	2,400.00	2,660.00	2,310.00	3,210.00	3,110.00	1,290.00	1,420.00	23,290.00
17	0.00	43.00	0.00	62.00	257.00	419.00	416.00	84.00	98.00	127.00	57.00	0.00	1,563.00
18	581.00	2,458.00	8,629.00	13,361.00	17,363.00	13,963.00	7,299.00	7,576.00	9,513.00	9,105.00	4,953.00	4,851.00	99,652.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	24.00	51.00	239.00	353.00	417.00	337.00	395.00	448.00	564.00	762.00	445.00	598.00	4,633.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL (m3/bn)	2,220.00	6,786.00	38,241.00	78,339.00	99,627.00	95,225.00	103,571.00	87,617.00	90,376.00	102,810.00	40,517.00	58,103.00	803,432.00

Lampiran 6 Dokumentasi Kondisi Lingkungan sekitar IPAL (*Lagoon*) ITDC Nusa Dua, Bali dan Proses Pengolahan hingga Proses Produksi Air Limbah menjadi Air Hasil Olahan

Kondisi Lingkungan sekitar



Proses Penyimpanan Air Limbah di Masing-masing Hotel



Jalur dan Jumlah LPS (Lift Pump Station)



Proses Pengolahan Air Limbah

Pembersihan Sampah secara Manual

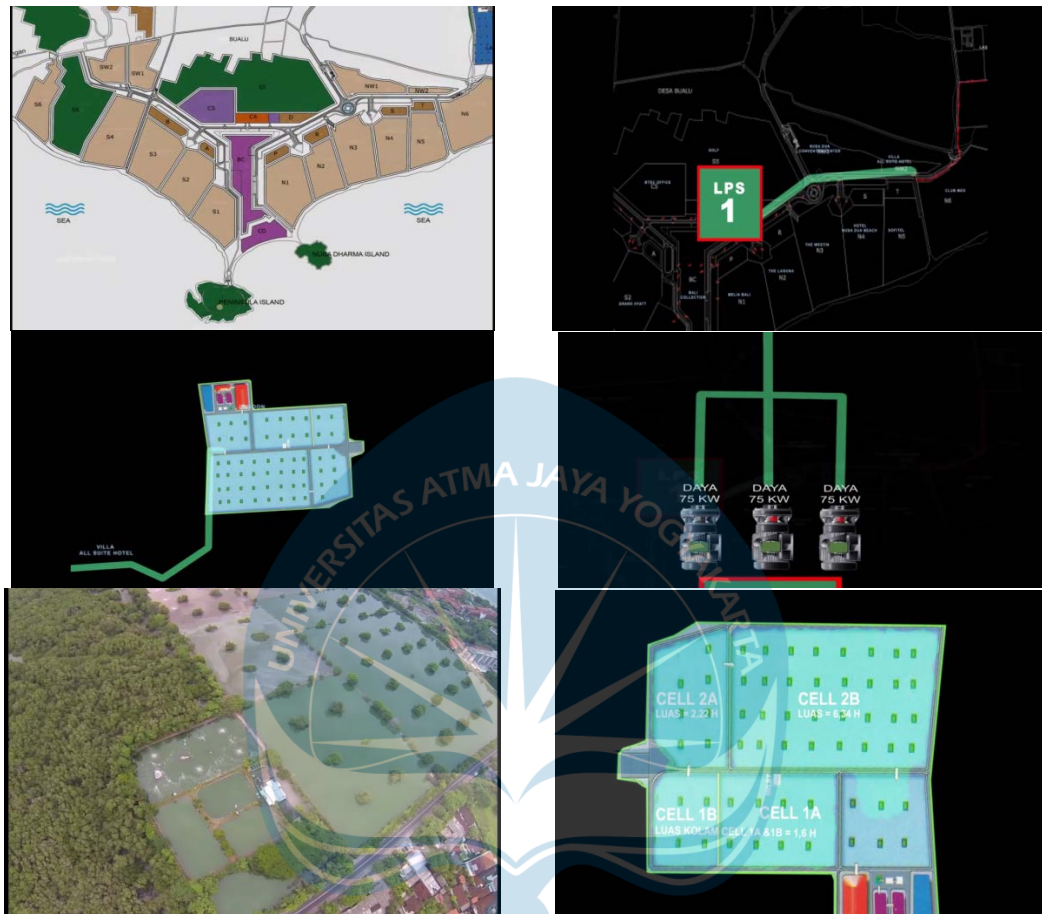


Pembuatan dan Pemberian EM (Effective Microorganism)



Proses Pengolahan Air Limbah di IPAL (Lagoon) ITDC Nusa Dua, Bali

Air Limbah dipompa dari LPS 1 menuju ke Sel IA (*Inlet*)



Air Limbah dipompa dari Sel IA (*Inlet*) menuju ke Sel IB



Air Limbah dipompa dari Sel IB menuju ke Sel IIA



Air Limbah dipompa dari Sel IIA menuju ke Sel IIB



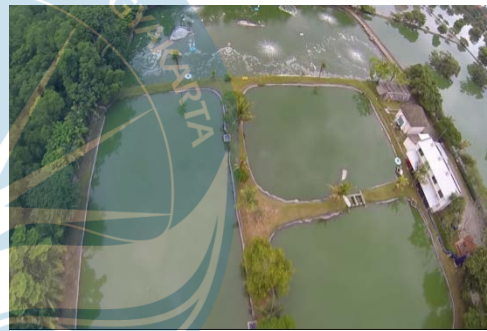
Air Limbah dipompa dari Sel IIB menuju ke Sel III



Air Limbah dipompa dari Sel III menuju ke Kolam Aerasi



Air Limbah dipompa dari Sel III kemudian diolah di Kolam Aerasi dan Kolam Seimentasi I, II, II



Lampiran 7 Peraturan Gubernur Provinsi Bali No.16 Tahun 2016 tentang

Lampiran VII
Peraturan Gubernur Bali
Nomor : 16 Tahun 2016
Tanggal : 14 Maret 2016

BAKU MUTU AIR LIMBAH BAGI USAHA/ATAU KEGIATAN

PERHOTELAN

NO	PARAMETER	SATUAN	KADAR MAKSIMUM	BEBAN (KG/ORANG)
1	2	3	4	5
FISIKA				
*1.	Zat Padat tersuspensi	mg/L	50	12,5
KIMIA				
*2.	pH			6-9
3.	Amonia (NH ₃ -N)	mg/L	10	2,5
*4.	BOD	mg/L	28	7,0
*5.	COD	mg/L	50	12,5
6.	MBAS	mg/L	5	1,25
7.	Minyak Lemak	mg/L	10	2,5
8.	Coliform	MPN		4000
9.	Volume paling tinggi air limbah (liter/hari/orang)			250

Keterangan :

Tanda * = Paramater wajib uji

GUBERNUR BALI,

MADE MANGKU PASTIKA

Lampiran 8 Hasil Laporan Laboratorium Kulaitas Air Limbah Input

 PEMERINTAH PROVINSI BALI DINAS KESEHATAN UPT. BALAI LABORATORIUM KESEHATAN PROVINSI BALI Jl. Angsoka No. 12 Denpasar, Telp. (0361) 221698, Fax. (0361) 221054 E-mail : balailabkesbali@yahoo.co.id 					
Perihal :		Hasil Pemeriksaan Air Limbah Hotel		KEPADA	
Contoh berasal dari :		Air Limbah Cell 1		YTH. ITDC	
Diambil Oleh :		Petugas Lab.Kes. Prov. Bali		NUSA DUA	
Diambil/ DiterimaTgl :		13 Desember 2018		BADUNG	
No. Lab. :		6186			

NO	UNSUR-UNSUR	METODE	SATUAN	MAKS.YG DIPERBOLEH KAN	HASIL PEMERIKSAAN
	FISIKA				
1	Zat padat terlarut (TDS)	Elektrometri	mg/l	-	1.253
2	Zat padat tersuspensi (TSS)	Spektrofotometri	mg/l	50	308
	KIMIA				
	pH	Elektrometri	-	6 - 9	7,50
4	Ammonia Bebas (NH ₃ .N)	Nessler	mg/l	10	20,5850
5	BOD ₅	Titrimetri	mg/l	28	41,23
6	COD	Titrimetri	mg/l	50	133,38
7	Senyawa aktif biru metilen	Biru Metilen	mg/l	5	< 0,05
8	Minyak dan lemak	Gravimetri	mg/l	10	< 0,1
9	Total N	Spektrofotometri	mg/l	-	20,955
10	Total P	Spektrofotometri	mg/l	-	11,1613

Per.Gubernur Bali No.16.Tahun 2016

Mengetahui
a.n. Ka UPT Balai Lab.Kes.Prov.Bali



I Gusti Ayu Vengah Adayani, S.Si
NIP. 19610419 198111 2 003

Denpasar, 29 Desember 2018
Validator,



I Ketut Mandikin, S.Si..Apt.
NIP. 19720328 200003 1 003

Lampiran 9 Hasil Laporan Laboratorium Kulaitas Air Limbah Output

	PEMERINTAH PROVINSI BALI DINAS KESEHATAN UPT. BALAI LABORATORIUM KESEHATAN PROVINSI BALI Jl. Angsoka No. 12 Denpasar, Telp. (0361) 221698, Fax. (0361) 221054 E-mail : balailabkesbali@yahoo.co.id	

Perihal : Hasil Pemeriksaan Air Limbah Hotel
 Contoh berasal dari : Air Limbah Ground Tank
 Diambil Oleh : Petugas Lab.Kes. Prov. Bali
 Diambil/ DiterimaTgl : 13 Desember 2018
 No. Lab. : 6186

KEPADA
 YTH. ITDC
 NUSA DUA
 BADUNG

NO	UNSUR-UNSUR	METODE	SATUAN	MAKS.YG DIPERBOLEH KAN	HASIL PEMERIKSAAN
	FISIKA				
1	Zat padat terlarut (TDS)	Elektrometri	mg/l	-	1,079
2	Zat padat tersuspensi (TSS)	Spektrofotometri	mg/l	50	3
	KIMIA				
3	pH	Elektrometri	-	6 - 9	7,27
4	Ammonia Bebas (NH ₃ .N)	Nessler	mg/l	10	1,3450
5	BOD ₅	Titrimetri	mg/l	28	10,77
6	COD	Titrimetri	mg/l	50	30,77
7	Senyawa aktif biru metilen	Biru Metilen	mg/l	5	0,2776
8	Minyak dan lemak	Gravimetri	mg/l	10	< 0,1
9	Total N	Spektrofotometri	mg/l	-	1,455
10	Total P	Spektrofotometri	mg/l	-	3,476

Per.Gubernur Bali No.16.Tahun 2016

Mengetahui
a.n. Kepala Lab. Kes.Prov.Bali



I Gusti Ayu Nengah Adnyani, S.Si
NIP. 19610419-198111 2 003

Denpasar, 29 Desember 2018
Validator,

[Signature]

I Ketut Mandikin, S.Si., Apt.
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