Annexure 13

Performance of STP Secondary Data at Tapovan and Panchak

a) TPOVAN STP (78 MLD)

November, 2013

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
1/11/13	258	100	7.2	ND	27	271	10	7.4	ND	28	7.42	4.1	29	7.6	4.5	30
2/11/13	260	110	7.23	ND	28	275	15	7.38	ND	27	7.48	3.8	27	7.62	4.6	27
3/11/13	255	120	7.28	ND	26	268	10	7.41	ND	29	7.50	4.10	29	7.63	4.4	29
4/11/13	261	110	7.30	ND	28	270	15	7.40	ND	28	7.47	4.10	28	7.61	4.5	28
5/11/13	263	100	7.31	ND	25	272	10	7.43	ND	27	7.51	3.70	28	7.58	4.4	29
6/11/13	268	120	7.45	ND	26	275	15	7.41	ND	26	7.46	3.80	26	7.6	4.3	26
7/11/13	248	131	6.76	ND	27	284	20	7.31	ND	29	7.39	3.90	29	7.56	4.1	29
8/11/13	256	128	7.21	ND	26	279	15	7.38	ND	28	7.43	4.20	28	7.68	4.5	28
9/11/13	241	135	7.26	ND	28	287	20	7.39	ND	29	7.46	4.50	29	7.56	4.6	29
11/11/13	250	110	6.84	ND	29	276	10	7.28	ND	31	7.42	3.90	31	7.58	4.3	31
12/11/13	268	120	7.21	ND	28	284	15	7.34	ND	29	7.51	4.20	29	7.62	4.4	29
13/11/13	241	110	6.81	ND	29	290	15	7.36	ND	30	7.41	4.40	31	7.68	4.6	32
14/11/13	248	120	7.22	ND	29	278	10	7.28	ND	28	7.39	4.30	28	7.65	4.1	28
15/11/13	259	110	6.94	ND	30	271	10	7.32	ND	31	7.42	3.90	31	7.68	4.3	31
16/11/13	271	131	7.18	ND	29	284	15	7.39	ND	28	7.31	4.50	28	7.65	4.6	28
18/11/13	254	110	6.84	ND	31	268	10	7.32	ND	30	7.42	4.70	30	7.67	4.9	30
19/11/13	281	120	7.16	ND	28	295	15	7.28	ND	29	7.38	4.60	29	7.69	4.5	29
20/11/13	268	110	6.74	ND	29	276	10	7.36	ND	28	7.40	4.50	27	7.71	4.4	30
21/11/13	271	120	7.12	ND	28	287	10	7.26	ND	29	7.36	4.40	29	7.81	4.6	29

November, 2013 (Contd..)

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
22/11/13	253	100	6.84	ND	29	271	10	7.29	ND	28	7.40	3.90	28	7.68	4.2	28
23/11/13	260	120	7.24	ND	31	284	15	7.36	ND	32	7.45	4.50	32	7.72	4.4	32
25/11/13	242	110	6.94	ND	29	276	15	7.41	ND	30	7.48	4.6	30	7.54	4.7	30
26/11/13	261	130	6.84	ND	28	294	15	7.31	ND	29	7.44	4.40	29	7.68	4.5	29
27/11/13	274	120	7.18	ND	29	284	15	7.28	ND	31	7.34	3.80	31	7.55	4.3	31
28/11/13	248	110	7.14	ND	27	270	10	7.32	ND	29	7.31	4.20	29	7.65	4.3	29
29/11/13	259	122	6.84	ND	29	281	15	7.24	ND	30	7.45	4.40	30	7.68	4.6	30
30/11/13	265	120	7.15	ND	31	290	15	6.81	ND	32	7.38	4.30	29	7.68	4.5	33
AVG=>	259	117	7.08	ND	28	279	13	7.30	ND	29	7.40	4.04	29	7.60	4.40	30

December, 2013

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
2/12/13	264	120	7.14	ND	28	281	15	7.36	ND	29	7.51	4.5	29	7.69	4.4	29
3/12/13	250	110	7.18	ND	29	275	10	7.33	ND	31	7.48	4.3	31	7.65	4.2	31
4/12/13	248	115	6.81	ND	31	264	15	7.34	ND	32	7.54	4.60	32	7.68	4.4	32
5/12/13	258	125	7.18	ND	30	271	15	7.38	ND	29	7.58	4.30	29	7.63	4.5	29
6/12/13	244	110	6.74	ND	28	268	10	7.28	ND	29	7.44	3.90	29	7.54	3.6	29
7/12/13	238	120	6.82	ND	29	271	15	1.24	ND	30	7.41	4.10	30	7.45	4.3	30
9/12/13	254	130	7.14	ND	28	280	15	7.26	ND	31	7.45	3.80	31	7.69	3.6	31
10/12/13	242	120	6.88	ND	27	285	10	7.33	ND	28	7.46	4.20	28	7.74	4.3	28
11/12/13	260	125	7.21	ND	26	295	15	7.38	ND	27	7.47	4.40	27	7.69	4.6	27
12/12/13	256	135	6.14	ND	25	281	20	7.29	ND	27	7.44	4.50	27	7.66	4.7	27

December, 2013 (Contd..)

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
13/12/13	265	151	7.26	ND	27	284	15	7.28	ND	28	7.51	4.40	28	7.65	4.3	28
14/12/13	245	125	7.15	ND	25	269	20	7.28	ND	27	7.42	4.20	27	7.68	4.4	27
16/12/13	268	130	7.18	ND	26	278	15	7.35	ND	28	7.49	4.50	28	7.66	4.6	28
17/12/13	244	125	6.94	ND	25	280	15	7.36	ND	27	7.54	4.60	27	7.65	4.5	27
18/12/13	254	120	7.14	ND	26	274	20	7.26	ND	28	7.51	4.40	28	7.68	4.3	28
19/12/13	260	110	6.81	ND	27	292	10	7.16	ND	29	7.47	4.20	29	7.63	4.3	29
20/12/13	259	125	6.84	ND	28	286	15	7.28	ND	29	7.56	4.30	29	7.65	4.1	29
21/12/13	248	120	7.16	ND	26	278	15	7.31	ND	27	7.58	4.20	27	7.64	4.4	27
23/12/13	257	130	6.91	ND	25	284	15	7.26	ND	27	7.44	4.50	27	7.67	4.2	27
24/12/13	258	110	6.78	ND	27	276	10	7.27	ND	28	7.42	4.60	28	7.66	4.5	28
25/12/13	265	120	7.14	ND	28	281	15	7.31	ND	29	7.43	4.10	27	7.68	4.3	27
26/12/13	244	110	6.84	ND	27	261	20	7.26	ND	28	7.55	3.90	28	7.71	4.2	29
27/12/13	252	120	7.18	ND	26	286	15	7.26	ND	27	7.49	3.80	28	7.65	4.1	28
28/12/13	251	110	6.91	ND	27	269	10	7.24	ND	26	7.46	4.20	27	7.51	3.9	27
30/12/13	254	120	7.01	ND	28	274	15	7.22	ND	29	7.34	4.30	26	7.68	4.4	28
31/12/13	255	100	6.76	ND	26	284	10	7.27	ND	28	7.47	4.40	29	7.64	4.1	30
AVG=>	254	120	6.97	ND	27	278	15	7.32	ND	29	7.48	4.20	28	7.60	4.20	29

January, 2014

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
1/1/14	244	100	7.12	ND	26	276	20	7.24	ND	29	7.33	4.2	27	7.52	4.5	28
2/1/14	257	110	6.81	ND	28	268	15	7.21	ND	31	7.41	4.5	25	7.56	4.4	29
3/1/14	261	90	7.16	ND	27	281	10	7.26	ND	28	7.45	4.1	28	7.54	4.5	30

January, 2014 (Contd..)

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
4/1/14	245	100	6.91	ND	28	264	15	7.27	ND	27	7.46	3.90	27	7.56	4.1	27
6/1/14	251	90	7.12	ND	27	257	10	7.28	ND	28	7.51	4.20	28	7.62	4.3	28
7/1/14	243	110	7.16	ND	28	269	15	7.26	ND	29	7.54	4.60	27	7.68	4.2	31
8/1/14	251	100	6.81	ND	27	275	15	7.24	ND	28	7.56	4.40	28	7.61	4.2	28
9/1/14	245	90	7.11	ND	26	268	10	7.21	ND	27	7.45	4.20	27	7.59	4.3	27
10/1/14	261	110	6.75	ND	27	284	15	7.29	ND	28	7.46	4.50	29	7.68	4.2	30
11/1/14	259	100	7.18	ND	28	270	20	7.31	ND	24	7.47	3.90	24	7.65	4.3	24
13/1/14	247	110	6.91	ND	26	268	15	7.28	ND	27	7.51	4.30	27	7.71	4.1	27
14/1/14	245	120	7.12	ND	25	284	15	7.22	ND	26	7.38	3.80	26	7.65	4.2	26
15/1/14	267	131	7.14	ND	25	295	15	7.29	ND	27	7.41	4.30	27	7.69	4.5	27
16/1/14	258	125	7.16	ND	27	276	15	7.26	ND	28	7.36	3.90	27	7.59	4.5	28
17/1/14	251	110	6.81	ND	26	281	10	7.24	ND	27	7.39	3.60	26	7.4	4.2	27
18/1/14	240	130	7.11	ND	25	260	15	7.28	ND	27	7.30	3.70	27	7.4	4.1	27
20/1/14	236	125	7.13	ND	26	258	10	7.25	ND	28	7.34	3.80	28	7.39	4.3	28
21/1/14	241	131	6.81	ND	27	265	15	7.24	ND	29	7.31	3.90	30	7.56	4.2	31
22/1/14	265	140	7.16	ND	26	284	15	7.22	ND	27	7.44	4.20	27	7.61	4.3	27
23/1/14	270	120	6.84	ND	27	286	10	7.21	ND	26	7.37	3.60	26	7.54	3.8	26
24/1/14	245	130	7.15	ND	28	268	15	7.23	ND	29	7.36	4.30	24	7.65	4.5	25
25/1/14	258	125	6.94	ND	29	276	20	7.28	ND	31	7.41	4.50	27	7.56	4.7	31
27/1/14	269	135	7.11	ND	28	281	15	7.29	ND	29	7.44	4.30	29	7.69	4.2	28
28/1/14	244	110	7.16	ND	29	285	20	7.31	ND	31	7.47	4.40	31	7.58	4.5	31
29/1/14	251	130	7.14	ND	27	280	15	7.30	ND	30	7.45	4.20	30	7.64	4.4	29
30/1/14	244	125	6.91	ND	27	274	20	7.34	ND	28	7.41	4.30	27	7.58	4.5	30
31/1/14	254	131	7.12	ND	28	285	15	7.29	ND	29	7.31	4.60	29	7.65	4.4	31
AVG=>	252	120	7.05	ND	27	274	15	7.27	ND	28	7.43	4.20	27	7.61	4.30	29

February, 2014

Date	Waste Water Quality Parameters															
	Influent					Effluent					FAL-1			FEC		
	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	Alkalinity mg/l	VFA mg/l	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº	pH	DO mg/l	Temp Cº
1/2/14	241	130	6.29	ND	27	284	10	7.26	ND	29	7.39	4.3	27	7.58	3.9	28
3/2/14	252	120	7.12	ND	28	290	15	7.31	ND	29	7.42	4.2	28	7.68	4.3	30
4/2/14	257	110	6.84	ND	27	284	20	7.28	ND	28	7.36	4.4	26	7.56	4.2	29
5/2/14	246	100	7.16	ND	29	275	10	7.32	ND	31	7.38	4.30	30	7.65	4.5	29
6/2/14	251	110	6.81	ND	30	286	20	7.24	ND	29	7.39	4.10	27	7.68	4.3	28
7/2/14	243	120	7.14	ND	28	285	15	7.21	ND	29	7.36	3.90	30	7.64	4.2	27
8/2/14	249	130	6.76	ND	29	296	20	7.24	ND	31	7.38	4.30	28	7.68	4.5	30
10/2/14	241	120	7.11	ND	28	285	15	7.26	ND	29	7.34	4.10	27	7.56	4.3	31
11/2/14	250	100	6.71	ND	31	265	10	7.29	ND	30	7.36	4.30	31	7.64	4.5	28
12/2/14	242	120	7.21	ND	28	276	15	7.23	ND	29	7.29	4.20	28	7.56	4.6	27
13/2/14	251	130	6.81	ND	31	284	15	7.32	ND	29	7.50	3.80	27	7.68	4.3	28
14/2/14	235	110	7.18	ND	29	268	10	7.24	ND	28	7.41	4.50	26	7.69	4.6	27
15/2/14	244	130	7.14	ND	31	284	15	7.22	ND	32	7.51	4.60	31	7.68	4.8	31
17/2/14	246	120	6.76	ND	28	290	15	7.16	ND	29	7.26	4.50	28	7.54	4.4	29
18/2/14	251	125	7.12	ND	29	276	15	7.21	ND	31	7.31	4.30	30	7.58	4.5	31
19/2/14	255	134	6.85	ND	32	281	20	7.24	ND	30	7.39	4.40	31	7.66	4.6	29
20/2/14	265	125	7.11	ND	29	278	15	7.22	ND	31	7.35	4.10	29	7.56	3.9	30
21/2/14	241	136	6.81	ND	28	280	10	7.21	ND	32	7.34	3.60	29	7.66	3.8	31
22/2/14	238	120	7.16	ND	31	251	10	7.24	ND	30	7.31	4.20	31	7.57	4.5	29
24/2/14	256	133	6.94	ND	29	278	20	7.26	ND	31	7.28	3.90	28	7.67	4.6	30
25/2/14	247	120	7.16	ND	28	284	15	7.23	ND	29	7.34	4.30	29	7.63	4.6	31
26/2/14	258	130	6.81	ND	29	291	20	7.28	ND	31	7.35	4.10	27	7.58	4.5	30
27/2/14	234	110	7.14	ND	30	280	10	7.22	ND	32	7.37	4.20	28	7.65	4.4	29
28/2/14	261	100	6.81	ND	28	281	15	7.31	ND	31	7.34	4.50	29	7.64	4.6	28
AVG=>	248	120	6.98	ND	29	280	15	7.25	ND	30	7.36	4.21	28	7.63	4.39	29

b) Panchak STP 28.5 MLD

Location	Inlet					Aeration Outlet					Clarifier Outlet				
January, 2013															
Date	pH	COD	BOD	TSS	DO	pH	COD	BOD	TSS	DO1/DO2	pH	COD	BOD	TSS	DO1/DO2
3/1/13	6.76	264	87	112	ND	7.18	155	49	45	ND	7.61	54	17	20	2.8 / 2.6
9/1/13	6 .82	281	92	106	ND	7.22	145	47	43	ND	7.58	47	16	19	3.2/2.9
17/1/13	7.18	258	85	121	ND	7.16	162	55	53	ND	7.52	49	18	16	2.6/3.1
23/1/13	7.06	269	90	92	ND	7.26	169	52	57	ND	7.63	58	20	18	3.3/3.4
March, 2013															
4/3/13	6.94	272	88	122	ND	7.21	160	54	49	ND	7.54	60	21	18	2.9/2.7
12/3/13	7.08	288	94	110	ND	7.19	113	39	55	ND	7.62	58	19	21	2.4/ 2.9
21/3/13	6.81	294	96	131	ND	7.26	155	48	60	ND	7.61	57	18	19	3.3/3.6
28/3/13	7.16	280	95	133	ND	7.22	140	47	48	ND	7.55	62	21	20	2.8/2.7
April, 2013															
5/4/13	7.10	269	89	118	ND	7.18	154	50	45	ND (*)	7.55	54	19	14	2.7/2.9
12/4/13	6.87	276	90	122	ND	6.94	139	45	44	ND	7.64	51	16	18	2.4/3.1
20/4/13	7.14	284	92	124	ND	7.25	155	49	58	ND	7.51	48	16	20	3.1/2.7
27/4/13	6.94	289	94	132	ND	7.16	164	54	54	ND	7.62	58	22	16	2.8/2.9
May, 2013															
3/5/13	7.12	288	94	121	ND	7.23	153	48	40	ND (*)	7.58	64	22	21	2.8/2.9
9/5/13	6.87	276	89	105	ND	7.18	145	46	53	ND	7.64	56	17	23	2.6/3.1
17/5/13	7.16	292	96	127	ND	7.24	136	44	57	ND	7.51	47	15	19	3.4/3.2
25/5/13	6.95	279	92	132	ND	7.25	142	46	45	ND	7.67	59	18	24	2.9/2.8

(*) Only DO

b) Panchak STP 28.5 MLD (Contd..)

Location	Inlet					Aeration Outlet					Clarifier Outlet				
Date	**pH**	**COD**	**BOD**	**TSS**	**DO**	**pH**	**COD**	**BOD**	**TSS**	**DO**	**pH**	**COD**	**BOD**	**TSS**	**DO**
June, 2013															
5/6/13	7.09	276	91	121	ND	7.19	166	53	49	ND	7.62	60	21	15	2.9/3.2
13/6/13	7.18	284	94	126	ND	6.96	150	49	61	ND	7.66	58	19	19	2.6/3.4
19/6/13	6.94	279	89	129	ND	7.24	138	48	56	ND	7.69	62	21	21	3.2/2.9
28/6/13	7.21	291	95	116	ND	7.26	144	50	58	ND	7.59	66	18	18	3.4/3.5
July, 2013															
4/7/13	7.18	269	88	138	ND	7.23	165	58	44	ND	7.64	64	21	18	3.2/3.5
9/7/13	6.94	273	90	125	ND	7.26	145	49	50	ND	7.59	58	18	16	3.4/3.6
18/7/13	7.16	281	87	133	ND	7.31	161	54	48	ND	7.68	49	15	21	2.9/3.3
25/7/13	6.85	279	89	122	ND	7.29	159	56	52	ND	7.71	56	19	15	3.1/3.4
August, 2013															
5/8/13	7.16	267	86	116	ND	7.27	160	51	38	ND	7.59	51	16	18	2.8/3.2
14/8/13	6.84	280	89	121	ND	7.31	157	49	41	ND	7.64	45	14	14	2.9/3.7
22/8/13	7.21	274	87	118	ND	7.24	165	56	39	ND	7.55	49	15	20	3.2/3.6
29/8/13	7.15	269	86	122	ND	7.20	158	54	45	ND	7.63	54	18	17	3.4/3.5