



ANNEX F1

SURFACE WATER QUALITY MONITORING
RESULTS

TABLE F1.1 SURFACE WATER QUALITY MONITORING RESULTS AT DP3

Date	Time	Weather Condition	Water Appearance	Water Condition	Water Temperature (°C)	Ammoniacal-nitrogen (mg/L)	COD	Suspended Solids (SS) (mg/L)	Remarks
11 Apr 23	16:00	Sunny	Unable to collect water sample due to insufficient flow						
5 May 23	10:40	Sunny	Unable to collect water sample due to insufficient flow						
9 Jun 23	10:55	Sunny	Unable to collect water sample due to insufficient flow						
11 Jul 23	10:43	Sunny	Unable to collect water sample due to insufficient flow						
4 Aug 23	14:10	Sunny	Unable to collect water sample due to insufficient flow						
22 Sep 23	10:08	Sunny	Unable to collect water sample due to insufficient flow						
3 Nov 23	10:14	Sunny	Unable to collect water sample due to insufficient flow						
15 Dec 23	09:44	Sunny	Unable to collect water sample due to insufficient flow						
						Average	-	-	-
						Min	-	-	-
						Max	-	-	-

TABLE F1.2 SURFACE WATER QUALITY MONITORING RESULTS AT DP3

Date			20 Oct 23
		Limit Level (DP3)	DP3
On-site Measurement			
pH Value	pH Unit	6 - 9	8.1
Electrical Conductivity	µS/cm	-	531
Dissolved Oxygen	mg/L	-	8.3
Volume Discharge	m ³	-	- (a)
Laboratory Analysis			
Bicarbonate	mg/L	-	103
Carbonate	mg/L	-	<1
Suspended Solids (SS)	mg/L	30	10.5
Ammonia-nitrogen	mg/L	0.5	0.09
Chloride	mg/L	-	62
Nitrite-nitrogen	mg/L	-	0.06
Phosphate	mg/L	5	<0.01
Sulphate	mg/L	-	95
Sulphide	mg/L	2.5	<0.1
Total Kjeldahl Nitrogen(TKN)	mg/L	-	1.5
Nitrate-nitrogen	mg/L	-	1.92
Total Nitrogen(TN)	mg/L	50	3.5
Biochemical Oxygen Demand	mg/L	20	<2

Chemical Oxygen Demand	mg/L	80	6
Oil & Grease	mg/L	20	<5
Total Organic Carbon	mg/L	-	4
Boron	µg/L	1100	100
Calcium	mg/L	-	59.7
Mercury	µg/L	1	<0.20
Magnesium	mg/L	-	4.55
Sodium	mg/L	-	34.4
Iron	mg/L	3	<0.04
Potassium	mg/L	-	8.8
Cadmium	µg/L	1	<0.2
Chromium	µg/L	300	2
Copper	µg/L	300	2
Lead	µg/L	300	<1
Manganese	µg/L	-	7
Nickel	µg/L	300	<1
Zinc	µg/L	-	<10

(a) The flow meter of DP3 is under maintenance.

TABLE F1.3 SURFACE WATER QUALITY MONITORING RESULTS AT DP4

Date	Time	Weather Condition	Water Appearance	Water Condition	Water Temperature (°C)	Ammoniacal-nitrogen (mg/L)	COD	Suspended Solids (SS) (mg/L)	Remarks	
4 Jan 23	14:37	Sunny	Unable to collect water sample due to insufficient flow							
8 Feb 23	14:18	Cloudy	Unable to collect water sample due to insufficient flow							
7 Mar 23	15:15	Sunny	Unable to collect water sample due to insufficient flow							
5 May 23	10:30	Sunny	Unable to collect water sample due to insufficient flow							
11 Jul 23	10:47	Sunny	Unable to collect water sample due to insufficient flow							
3 Nov 23	10:08	Sunny	Unable to collect water sample due to insufficient flow							
15 Dec 23	09:49	Sunny	Unable to collect water sample due to insufficient flow							
						Average	-	-	-	-
						Min	-	-	-	-
						Max	-	-	-	-

TABLE F1.4 SURFACE WATER QUALITY MONITORING RESULTS AT DP4

Date			11 Apr 23	11 Apr 23	9 Jun 23	9 Jun 23	4 Aug 23	4 Aug 23	15 Aug 23	15 Aug 23	22 Sep 23	22 Sep 23	20 Oct 23	20 Oct 23
	Limit Level (DP4 & 6)	DP4	DP4 (Duplicate)	DP4	DP4 (Duplicate)	DP4	DP4 (Duplicate)	DP4	DP4 (Duplicate)	DP4	DP4 (Duplicate)	DP4	DP4 (Duplicate)	
On-site Measurement														
pH Value	pH Unit	6 - 9	7.57	7.6	7.8	7.4	8.2	8.6	7.36	7.92	8.1	8.1	7.7	7.8
Electrical Conductivity	µS/cm	-	2140	2160	643	649	763	764	360	345	360	360	198	199
Dissolved Oxygen	mg/L	-	6.96	6.43	4.8	4.4	57.4	46.3	6.75	6.39	7.1	7.3	7.7	8
Volume Discharge	m ³	-	18	18	3,180	3,180	1,360	1,360	6.75	6.39	7.1	7.3	290	290
Laboratory Analysis														
Bicarbonate	mg/L	-	34	34	36	36	39	36	-	-	62	62	35	35
Carbonate	mg/L	-	<1	<1	<1	<1	<1	2	-	-	<1	<1	<1	<1
Suspended Solids (SS)	mg/L	20	4.7	7.6	11.4	11.4	57.4	46.3	12.2	12.6	8.1	8.4	6.1	6
Ammonia-nitrogen	mg/L	7.1	0.03	0.05	0.02	0.03	0.04	0.03	-	-	0.02	0.03	0.02	0.02
Chloride	mg/L	-	410	400	124	123	164	170	-	-	50	50	29	28
Nitrite-nitrogen	mg/L	-	0.03	0.03	0.02	0.02	0.02	0.02	-	-	0.02	0.02	0.02	0.02
Phosphate	mg/L	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	-	125	112	42	46	76	76	-	-	36	36	21	22
Sulphide	mg/L	2.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen(TKN)	mg/L	-	0.5	0.5	0.2	0.2	0.6	0.6	-	-	0.4	0.5	0.2	0.2
Nitrate-nitrogen	mg/L	-	0.79	0.77	0.2	0.2	0.14	0.13	-	-	0.06	0.06	0.29	0.28
Total Nitrogen(TN)	mg/L	50	1.3	1.3	0.4	0.4	0.8	0.8	-	-	0.5	0.5	0.5	0.5
Biochemical Oxygen Demand	mg/L	20	<2	<2	<2	<2	3	3	-	-	<2	<2	<2	<2

Chemical Oxygen Demand	mg/L	30	22	18	8	8	18	20	-	-	10	9	3	2
Oil & Grease	mg/L	20	<5	<5	<5	<5	<5	<5	-	-	<5	<5	<5	<5
Total Organic Carbon	mg/L	-	5	4	3	3	3	3	-	-	4	4	2	1
Boron	µg/L	1100	150	150	50	50	70	70	-	-	60	60	20	20
Calcium	mg/L	-	106	104	33.2	33.2	52.1	51.9	-	-	29.8	30.8	24	23.7
Mercury	µg/L	1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	-	<0.20	<0.20	<0.20	<0.20
Magnesium	mg/L	-	23.5	23	3.7	3.71	3.4	3.4	-	-	1.7	1.74	0.98	0.98
Sodium	mg/L	-	253	246	58.6	53.7	74.1	76	-	-	31.5	31	11.5	10.6
Iron	mg/L	3	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	<0.04	<0.04	<0.04	<0.04
Potassium	mg/L	-	19.5	18.8	9.64	9.65	10.6	10.4	-	-	7.61	7.87	2.75	2.71
Cadmium	µg/L	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<0.2
Chromium	µg/L	300	<1	<1	1	1	<1	<1	-	-	<1	<1	<1	<1
Copper	µg/L	300	3	2	2	1	1	2	-	-	1	1	<1	<1
Lead	µg/L	300	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1
Manganese	µg/L	-	17	16	6	7	3	9	-	-	5	7	4	4
Nickel	µg/L	300	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1
Zinc	µg/L	-	<10	<10	<10	<10	<10	13	-	-	86	1780	<10	<10

TABLE F1.5 SURFACE WATER QUALITY MONITORING RESULTS AT DP6

Date	Time	Weather Condition	Water Appearance	Water Condition	Water Temperature (°C)	Ammoniacal-nitrogen (mg/L)	COD	Suspended Solids (SS) (mg/L)	Remarks	
4 Jan 23	14:31	Sunny	Unable to collect water sample due to insufficient flow							
8 Feb 23	14:12	Cloudy	Unable to collect water sample due to insufficient flow							
7 Mar 23	16:00	Sunny	Unable to collect water sample due to insufficient flow							
11 Apr 23	15:46	Sunny	Unable to collect water sample due to insufficient flow							
5 May 23	10:15	Sunny	Unable to collect water sample due to insufficient flow							
9 Jun 23	10:50	Sunny	Unable to collect water sample due to insufficient flow							
11 Jul 23	10:32	Sunny	Unable to collect water sample due to insufficient flow							
4 Aug 23	14:02	Sunny	Unable to collect water sample due to insufficient flow							
3 Nov 23	09:55	Sunny	Unable to collect water sample due to insufficient flow							
15 Dec 23	09:53	Sunny	Unable to collect water sample due to insufficient flow							
						Average	-	-	-	-
						Min	-	-	-	-
						Max	-	-	-	-

TABLE F1.6 SURFACE WATER QUALITY MONITORING RESULTS AT DP6

Date			22 Sep 23	20 Oct 23
		Limit Level (DP4 & 6)	DP6	DP6
On-site Measurement				
pH Value	pH Unit	6 - 9	8.2	7.9
Electrical Conductivity	µS/cm	-	273	282
Dissolved Oxygen	mg/L	-	8.3	7.8
Volume Discharge	m ³	-	8.3	64
Laboratory Analysis				
Bicarbonate	mg/L	-	83	84
Carbonate	mg/L	-	<1	<1
Suspended Solids (SS)	mg/L	20	2.4	1.8
Ammonia-nitrogen	mg/L	7.1	0.04	0.03
Chloride	mg/L	-	22	23
Nitrite-nitrogen	mg/L	-	0.01	<0.01
Phosphate	mg/L	5	<0.01	0.01
Sulphate	mg/L	-	19	29
Sulphide	mg/L	2.5	<0.1	<0.1
Total Kjeldahl Nitrogen(TKN)	mg/L	-	0.3	0.2
Nitrate-nitrogen	mg/L	-	0.2	0.4
Total Nitrogen(TN)	mg/L	50	0.5	0.6
Biochemical Oxygen Demand	mg/L	20	<2	<2

Chemical Oxygen Demand	mg/L	30	6	4
Oil & Grease	mg/L	20	<5	<5
Total Organic Carbon	mg/L	-	3	2
Boron	µg/L	1100	50	40
Calcium	mg/L	-	28.6	33.1
Mercury	µg/L	1	<0.20	<0.20
Magnesium	mg/L	-	1.9	1.87
Sodium	mg/L	-	20.1	10.6
Iron	mg/L	3	<0.04	<0.04
Potassium	mg/L	-	5.92	6.51
Cadmium	µg/L	1	<0.2	<0.2
Chromium	µg/L	300	<1	<1
Copper	µg/L	300	<1	<1
Lead	µg/L	300	<1	<1
Manganese	µg/L	-	3	4
Nickel	µg/L	300	<1	<1
Zinc	µg/L	-	<10	<10