

Table 4.4

Water Quality in the Study Area

Sl. No.	Characteristics	Unit	Ground Water									Surface Water	Drinking Water Specification (ISO 10500)						
			Chand-mari Bongali Gaon	Nagaajan Gaon	Naoholia No. 3	Tenga-pani TE 316 Nlr Gt.	Wilton 22/157 Orr	Niz-Tenga-khat	Niz-Lahoal	Bokul Maj Gaon	Sessa River	Desirable Limit	Permissible Limit in the Absence of Alternate Source						
											Handpump			Tubewell		Well	River		
											W1			W2	W3	W4	W5	W6	W7
Essential Characteristics in Drinking Water																			
1.	Colour	--	-----Colorless-----									5 Hazen Unit	25 Hazen Unit						
2.	Odour	--	-----Unobjectionable-----									Unobjectionable	--						
3.	Taste	--	-----Agreeable-----									Agreeable	--						
4.	pH	--	7.6	6.5	7.4	7.6	7.1	7.3	7.3	7.0	7.3	6.5 to 8.5	No Relaxation						
5.	Total Hardness (as CaCO ₃)	mg/l	50	74	76	54	78	90	78	88	88	300	600						
6.	Iron	mg/l	0.09	0.10	0.10	0.14	0.15	0.12	0.14	0.09	0.10	0.3	1.0						
7.	Chlorides as Cl	mg/l	18.5	15.6	9.9	11.4	12.8	15.6	17.0	29.8	22.7	250	1000						
Desirable Characteristics in Drinking Water																			
8.	Total Dissolved Solids (TDS)	mg/l	104	100	110	125	130	165	135	170	164	500	2000						
9.	Calcium as Ca	mg/l	5.6	12.8	15.2	12.8	15.2	14.4	12.8	20.0	20.0	75	200						
10.	Magnesium as Mg	mg/l	3.9	10.2	9.3	5.3	9.7	13.2	11.2	9.3	9.3	30	100						
11.	Total Alkalinity as CaCO ₃	mg/l	60	60	80	80	90	120	90	110	110	200	600						
12.	Sulphate as SO ₄	mg/l	10.3	8.3	7.3	10.3	9.3	11.3	8.8	7.8	10.5	200	400+						
13.	Nitrate as NO ₃	mg/l	ND	0.22	ND	0.19	ND	ND	0.32	0.28	0.44	45	100						
14.	Fluoride as F	mg/l	ND	0.02	ND	ND	ND	0.01	0.03	ND	ND	1.0	1.5						
15.	Sodium as Na	mg/l	28	13	17	28	22	32	26	33	28	NS	NS						
16.	Total Suspended Solids (TSS)	mg/l	20	20	34	33	32	28	17	14	24	NS	NS						
17.	Phosphate as PO ₄	mg/l	0.06	0.25	0.25	0.30	0.15	0.63	0.45	0.28	0.29	NS	NS						
18.	Silica as SiO ₂	mg/l	1.63	1.70	2.58	1.90	1.42	1.50	2.16	1.51	2.15	NS	NS						
19.	BOD	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	4	NS	NS						
20.	COD	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	30	NS	NS						

- Note:**
1. Water samples were collected at 12/02/2009.
 2. **Abbreviations Used:** NS = Not Specified, ND = Not Detected and NA = Not Analyzed.
 3. * To be applicable only when water is chlorinated.
 4. + Provided magnesium (as Mg) does not exceed 30 mg/l.

Table 4.5

Quality of Treated Formation Water (ITF, Tengakhat)

Sl. No.	Characteristics	Unit	ITF, Tengakhat			
			Standards For Discharge			
			On-Shore	Re-injection in Well		
			Formation Water			
Essential Characteristics in Drinking Water						
1.	Colour	--	Colourless	NS	NS	
2.	Odour	--	Objectionable	NS	NS	
3.	Taste	--	Not Agreeable	NS	NS	
4.	pH	--	7.4	5.5 – 9.0	NS	
5.	Total Hardness (as CaCO ₃)	mg/l	514	NS	NS	
6.	Iron	mg/l	0.18	NS	NS	
7.	Chlorides as Cl	mg/l	1860.2	600	NS	
Desirable Characteristics in Drinking Water						
8.	Total Dissolved Solids (TDS)	mg/l	3294	2100	NS	
9.	Calcium as Ca	mg/l	156.3	NS	NS	
10.	Magnesium as Mg	mg/l	30.2	NS	NS	
11.	Total Alkalinity as CaCO ₃	mg/l	690	NS	NS	
12.	Sulphate as SO ₄	mg/l	27.3	1000	NS	
13.	Nitrate as NO ₃	mg/l	0.28	NS	NS	
14.	Sodium as Na	mg/l	1353	60	NS	
15.	Total Suspended Solids (TSS)	mg/l	298	100	100	
16.	Phosphate as PO ₄	mg/l	0.77	NS	NS	
17.	Silica as SiO ₃	mg/l	5.42	NS	NS	
18.	BOD	mg/l	28	30	NS	
19.	COD	mg/l	260	100	NS	
20.	Oil & Grease	mg/l	53.5	10	10	

- Note:**
1. Water samples were collected at 12/02/2009.
 2. **Abbreviations Used:** ND = Not Detected and NS = Not Specified.