

APPENDIX-1

SEA WATER ANALYSIS FROM GULF OF KUTCH

Parameter	Kotdi Creek		Gulf of Kutch off Tundawand	
	Apr 2006	Jan 2006	Apr 2006	Jan 2006
Temp (° C)	28.1	18.3	27.9	21.1
pH	8.0	8.1 - 8.4	7.9	8.1 - 8.4
SS (mg/l)	31	32 - 34	25.0	30 - 139
Salinity (ppt)	37.9	37.5	36.8	37.2
DO (ml/l)	4.5	5.4	4.7	5
BOD (ml/l)	0.6	0.8 – 5.4	1.0-2.1	0.8 – 5.4
PO ₄ ³⁻ -P (μmol/l)	1.8	1.7	0.9	1.6
NO ₃ ⁻ -N (μmol/l)	1.55	7.1	3.1	7.8
NH ₄ ⁺ -N (μmol/l)	0.7	0 – 3	0.6	0 – 23.5
PHc (μ g/l)	16.3	0.3	31.7	0.3 – 21.6

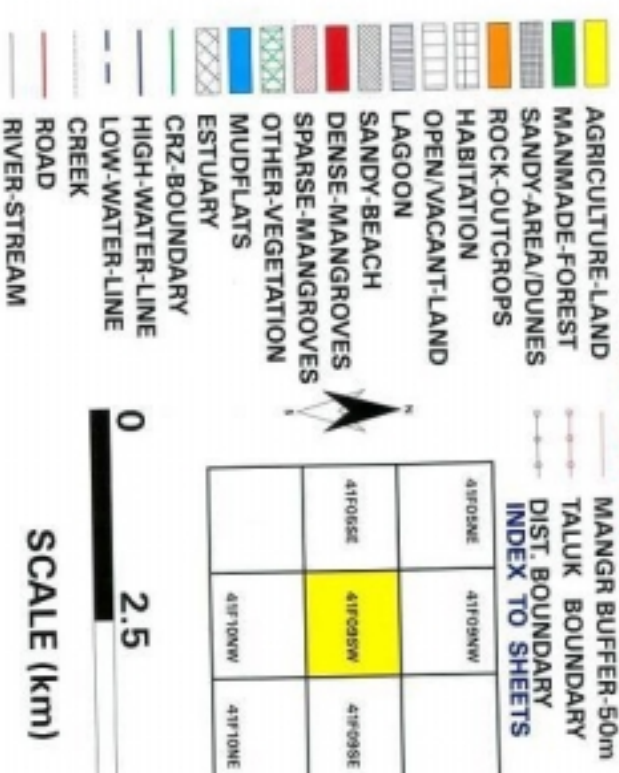
COASTAL LANDUSE MAP

FOR OFFICIAL USE ONLY

MAP NO. 41F09SW

COASTAL ZONE INFORMATION SYSTEM
GUJARAT

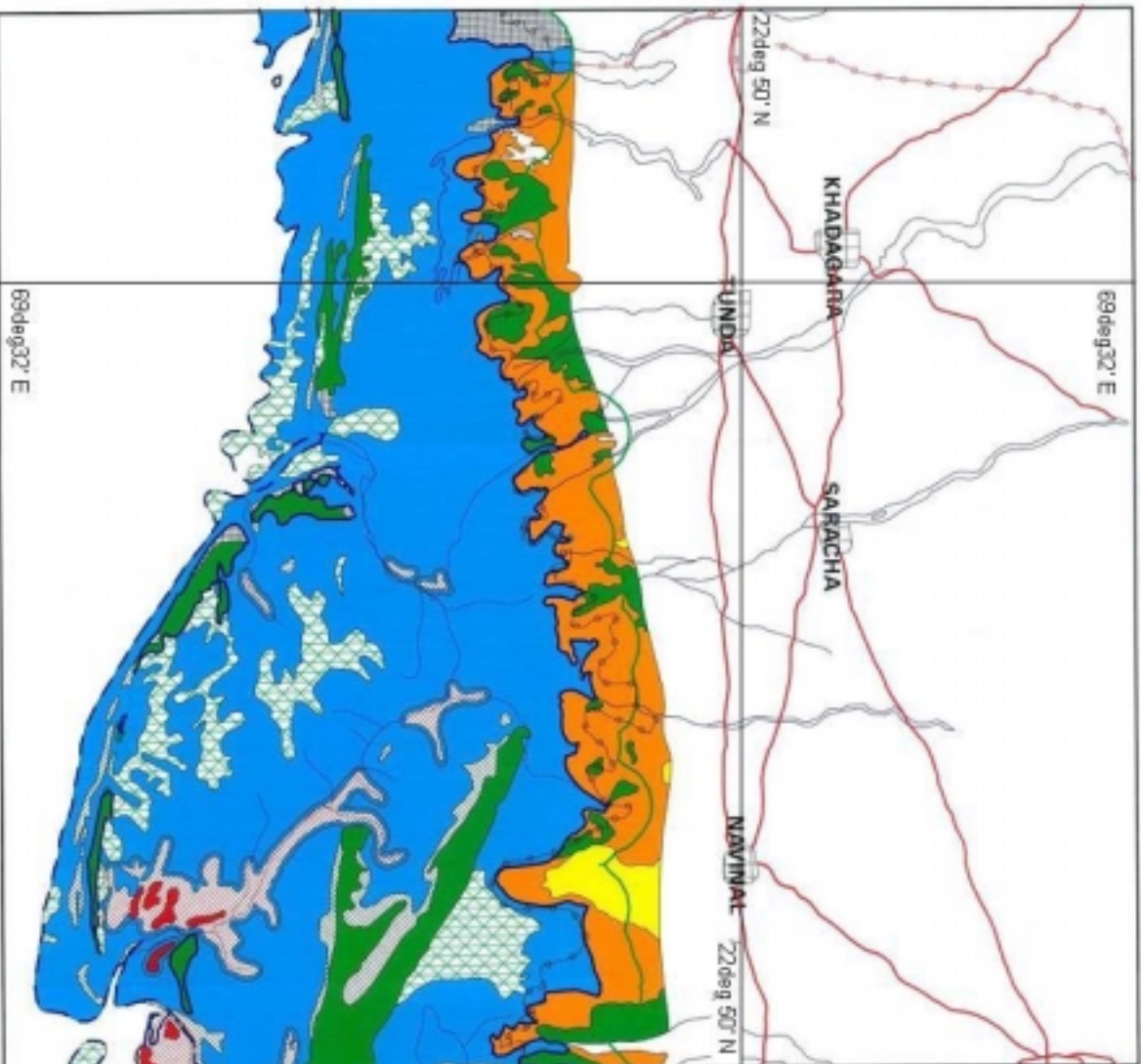
LEGEND



SOURCE : SATELLITE DATA 1989-1990

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APPENDIX - 3

METROLOGICAL STATION ESTABLISHED IN TUNDAWAND



APPENDIX – 4a

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Tunda Village							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01-03-2006	I	128	82	11.4	16.4	1800
2	03-03-2006	I	84	42	9.6	12.6	1400
3	06-03-2006	II	94	48	12.2	18.2	1000
4	08-03-2006	II	86	52	10.7	15.2	980
5	16-03-2006	III	114	96	8.4	13.8	1600
6	18-03-2006	III	108	62	9.8	15.9	1400
7	21-03-2006	IV	98	56	10.2	14.8	1200
8	23-03-2006	IV	84	42	8.0	13.2	1090
9	27-03-2006	V	110	82	11.8	18.5	1890
10	29-03-2006	V	78	38	9.2	16.4	2050
11	03-04-2006	I	132	88	13.8	18.2	1900
12	05-04-2006	I	88	42	10.9	12.6	1765
13	10-04-2006	II	128	82	11.8	15.6	1580
14	12-04-2006	II	110	68	9.2	12.8	1200
15	17-04-2006	III	94	42	10.9	14.4	1600
16	19-04-2006	III	82	88	8.2	15.2	1940
17	24-04-2006	IV	128	78	12.4	16.4	1820
18	26-04-2006	IV	110	48	10.8	11.8	1980
19	01-05-2006	I	128	88	16.2	23.4	1900
20	04-05-2006	I	102	64	12.4	19.4	1860
21	08-05-2006	II	130	94	14.2	21.2	1000
22	11-05-2006	II	98	42	10.4	18.2	1500
23	15-05-2006	III	124	82	15.7	19.8	1020
24	18-05-2006	III	138	70	9.4	16.7	1420
25	23-05-2006	IV	94	48	11.2	17.6	1680
26	27-05-2006	IV	86	38	8.4	18.2	1370
Maximum			138.0	96.0	16.2	23.4	2050
Minimum			78.0	38.0	8.0	11.8	980
Average			106.0	63.9	11.0	16.4	1536.3
98 Percentile			135.0	95.0	16.0	22.3	2015.0

APPENDIX – 4a (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Jalpara							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM µg/m3	RPM µg/m3	SO ₂ µg/m3	NO _x µg/m3	CO µg/m3
1	02-03-2006	I	122	82	9.4	14.8	1280
2	04-03-2006	I	98	58	8.2	12.6	1400
3	07-03-2006	II	110	70	10.6	11.5	1180
4	09-03-2006	II	104	66	7.9	10.9	1240
5	13-03-2006	III	88	54	9.0	12.4	1000
6	15-03-2006	III	82	42	8.8	11.2	1200
7	20-03-2006	IV	124	76	10.6	15.5	1380.0
8	22-03-2006	IV	110	68	7.0	12.8	1100.0
9	28-03-2006	V	98	58	10.4	16.9	1890.0
10	30-03-2006	V	86	42	9.2	18.3	1680.0
11	04-04-2004	I	98	42	15.4	21.2	1880
12	06-04-2005	I	84	38	12.8	16.8	1660
13	11-04-2006	II	138	94	10.9	18.6	1940
14	13-04-2006	II	118	86	8.8	13.5	2000
15	18-04-2006	III	128	62	12.8	15.2	1790
16	20-04-2006	III	118	48	14.4	19.2	1680
17	25-04-2006	IV	128	86	10.6	16.5	1808
18	27-04-2006	IV	112	74	9.8	15.8	1680
19	02-05-2006	I	138	92	14.8	22.4	1950
20	05-05-2006	I	110	72	11.6	18.5	1890
21	09-05-2006	II	124	84	13.5	19.4	1650
22	12-05-2006	II	112	68	12.9	21.6	1480
23	16-05-2006	III	108	54	13.4	18.8	1560
24	19-05-2006	III	114	52	10.8	19.2	1700
25	24-05-2006	IV	128	88	8.8	20.2	1400
26	29-05-2006	IV	96	48	10.6	17.2	1580.0
Maximum			138.0	94.0	15.4	22.4	2000.0
Minimum			82.0	38.0	7.0	10.9	1000.0
Average			110.6	65.5	10.9	16.6	1576.8
98 Percentile			138.0	93.0	15.1	22.0	1975.0

APPENDIX – 4a(Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Desalpar							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO₂	NO_x	CO
			µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1	04-03-2006	I	124	84	8.4	18.5	1480
2	06/03/2006	I	110	78	10.2	20.4	1260
3	16-03-2006	II	98	58	13.2	22.8	1600
4	12-03-2006	II	86	42	11.8	19.7	1300
5	17-03-2006	III	134	86	10.9	16.8	900
6	19-03-2006	III	122	78	8.6	15.7	1400
7	23-03-2006	IV	110	78	12.7	18.4	1300.0
8	25-03-2006	IV	94	62	9.2	13.5	1000.0
9	31-03-2006	V	128	86	10.9	19.9	1680.0
10	02-03-2006	V	84	48	10.2	20.6	1800.0
11	04-04-2004	I	128	82	15.4	21.2	1880
12	09-04-2005	I	86	42	12.8	16.8	1660
13	14-04-2006	II	138	94	10.9	18.6	1940
14	16-04-2006	II	102	68	8.8	13.5	2000
15	21-04-2006	III	124	84	13.8	15.2	1790
16	23-04-2006	III	98	42	14.4	19.2	1680
17	28-04-2006	IV	128	84	10.6	16.5	1808
18	30-04-2006	IV	112	74	8.9	15.8	1680
19	04-05-2004	I	138	98	13.2	21.6	2010
20	06-05-2005	I	122	86	10.4	19.4	1800
21	10-05-2006	II	96	52	11.4	18.4	1680
22	13-05-2006	II	88	42	8.4	16.8	1020
23	17-05-2006	III	134	88	12.6	22.4	1400
24	20-05-2006	III	110	68	9.9	18.7	1380
25	25-05-2006	IV	128	82	12.5	19	1500
26	29-05-2006	IV	118	70	10.8	18.2	1700
Maximum			138.0	98.0	15.4	22.8	2010.0
Minimum			84.0	42.0	8.4	13.5	900.0
Average			113.1	71.4	11.2	18.4	1563.4
98 Percentile			138.0	96.0	14.9	22.6	2005.0

APPENDIX – 4a (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Mota Bhojapur							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	04-03-2006	I	136	94	10.4	16.8	1280
2	06-03-2006	I	110	68	9.8	14.2	1400
3	10-03-2006	II	128	72	12.2	19.2	1820
4	12-03-2006	II	96	48	8.2	13.5	1650
5	17-03-2006	III	134	92	9.9	14.4	1200
6	19-03-2006	III	118	84	7.6	12.4	1400
7	23-03-2006	IV	98	52	12.4	13.9	1520.0
8	25-03-2006	IV	86	42	10.6	11.2	1000.0
7	23-03-2006	IV	98	52	12.4	13.9	1520.0
8	25-03-2006	IV	86	42	10.6	11.2	1000.0
9	01-03-2006	V	122	84	8.6	14.2	1800.0
10	02-03-2006	V	110	62	9.4	15.9	1680.0
11	06-04-2004	I	122	86	18.4	22.4	1890
12	08-04-2005	I	98	42	14.6	17.5	1900
13	13-04-2006	II	130	92	10.4	16.3	1580
14	15-04-2006	II	112	62	8.6	14.9	1690
15	20-04-2006	III	132	98	10.4	14.2	2000
16	23-04-2006	III	110	68	13.5	16.8	1794
17	26-04-2006	IV	122	78	13.5	19.4	1850
18	28-04-2006	IV	84	38	9.9	14.2	1590
19	04-05-2004	I	130	94	13.8	19.4	1820
20	06-05-2005	I	116	72	11.6	21.8	1200
21	10-05-2006	II	108	64	10.4	18.4	1600
22	13-05-2006	II	94	42	9.8	16.9	1480
23	17-05-2006	III	136	88	14.5	22.8	1640
24	20-05-2006	III	110	64	9	18.5	1700
25	25-05-2006	IV	124	84	15.2	23.8	1680
26	29-05-2006	IV	110	62	8.2	20.5	1450.0
Maximum			136.0	98.0	18.4	23.8	2000.0
Minimum			84.0	38.0	7.6	11.2	1000.0
Average			112.9	68.8	11.2	16.7	1576.2
98 Percentile			136.0	95.8	16.7	23.3	1946.0

APPENDIX – 4a (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Tragadi							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO₂	NO_x	CO
			µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1	01-03-2006	I	128	78	8.2	14.4	1000
2	07-03-2006	II	110	64	8.8	12.6	1200
3	13-03-2006	III	102	62	10.2	16.8	1300
4	20-03-2006	IV	86	42	8.1	13.2	1200
5	27-03-2006	V	112	74	12.6	18.4	1890
6	03-04-2006	I	110	76	11.8	15.6	1900
7	10-04-2006	II	86	52	9.6	14.2	1820
8	17-04-2006	III	122	82	12.2	16.4	1900
9	24-04-2006	IV	78	38	10.4	17.2	1780
10	01-05-2006	I	122	78	12.3	22.8	1420
11	08-05-2006	II	86	42	10.4	19.2	1620
12	15-05-2006	III	134	92	8.6	16.5	1520
13	22-05-2006	IV	128	82	14.2	23.5	1260
Maximum			134.0	92.0	14.2	23.5	1900.0
Minimum			78.0	38.0	8.1	12.6	1000.0
Average			108.0	66.3	10.6	17.0	1523.8
98 Percentile			132.6	89.6	13.8	23.3	1900.0

APPENDIX – 4a (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Pipari							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	02-03-2006	I	118	84	8.2	14.8	1200
2	08-03-2005	I	108	74	9.4	12.4	1100
3	14-03-2006	II	98	52	10.6	13.5	900
4	21-03-2006	IV	78	38	10.2	16.2	980
5	28-03-2006	V	110	78	9.8	14.9	1490
6	04-04-2006	I	134	96	11.4	18.2	1680
7	11-04-2007	II	122	84	9.2	16.5	1920
8	18-04-2006	III	112	78	10.8	14.8	2000
9	25-04-2006	IV	98	52	8	12.7	1590
10	02-05-2006	I	110	68	11.8	16.8	1680
11	09-05-2006	II	82	40	7.8	12.4	980
12	16-05-2006	III	100	64	10.4	18	1010
13	23-05-2006	IV	96	58	13	22	1000
Maximum			134.0	96.0	13.0	22.0	2000.0
Minimum			78.0	38.0	7.8	12.4	900.0
Average			105.1	66.6	10.0	15.6	1348.5
98 Percentile			131.1	93.1	12.7	21.1	1980.8

APPENDIX – 4a (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Bidada							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO₂	NO_x	CO
			µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1	03-03-2006	I	132	88	12.2	22.2	1580
2	10-03-2006	II	128	68	10.2	16.2	1620
3	15-03-2006	III	110	58	8.9	19.2	1800
4	22-03-2006	IV	96	44	9.2	18.2	1260
5	29-03-2006	V	110	68	12.6	20.4	1690
6	05-4-2006	I	138	86	12.8	19.2	1890
7	12-04-2006	II	124	72	10.2	16.2	1800
8	19-04-2006	III	94	48	11.6	18.2	1650
9	27-04-2006	IV	82	34	9.8	15.2	1800
10	03-5-2006	I	142	98	15.9	21.2	1680
11	10-05-2006	II	128	82	11.6	19.5	1560
12	17-05-2006	III	118	62	12.8	22.8	1980
13	24-05-2006	IV	94	46	9.1	14.9	1800
Maximum			142.0	98.0	15.9	22.8	1980.0
Minimum			82.0	34.0	8.9	14.9	1260.0
Average			115.1	65.7	11.3	18.7	1700.8
98 Percentile			141.0	95.6	15.2	22.7	1958.4

APPENDIX – 4a (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR SUMMER-2006

Monitoring Location : Kandagra							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			ug/m ³	ug/m ³	ug/m ³	ug/m ³	mg/m ³
1	05-03-2006	I	112	78	11.2	16.8	1274
2	11/3/2006	II	98	52	8.2	14.2	1400
3	17-03-2006	III	122	72	10.4	19.4	1000
4	24-03-2006	IV	86	38	7.6	15.2	1200
5	30-03-2006	V	118	82	9.6	19.5	1600
6	08-04-2006	I	134	92	10.4	18.4	1650
7	15-04-2006	I	110	62	9.9	19.2	1980
8	22-04-2006	II	122	82	12.2	22.8	1820
9	29-04-2006	III	84	40	8.8	17.4	1790
10	05-05-2006	I	134	96	12.8	22.8	1480
11	12-05-2006	II	94	54	9.8	17	1260
12	19-05-2006	III	120	82	16.4	19.6	1180
13	26-05-2006	IV	88	38	10.4	15.8	900
Maximum			134.0	96.0	16.4	22.8	1980.0
Minimum			84.0	38.0	7.6	14.2	900.0
Average			109.4	66.8	10.6	18.3	1425.7
98 Percentile			134.0	95.0	15.5	22.8	1941.6

APPENDIX – 4b

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : TUNDA VILLAGE							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	03/10/2006	I	114	78	12.4	18.8	1782
2	07/10/2006	I	94	68	10.8	13.4	1345
3	10/10/2006	II	96	52	9.6	14.2	1010
4	14/10/2006	II	82	48	11.2	16.4	1210
5	17/10/2006	III	122	84	10.2	12.8	1468
6	21/10/2006	III	110	82	8.6	14.4	1620
7	24/10/2006	IV	88	62	11.9	17.6	1274
8	28/10/2006	IV	82	56	10.6	15.8	1089
1	03/11/2006	I	124	84	14.4	21.6	1845.0
2	06/11/2006	I	110	56	11.2	18.4	1452.0
3	10/11/2006	II	98	52.0	10.6	13.7	1622.0
4	14/11/2006	II	88	48	8.4	12.2	1289.0
5	18/11/2006	III	112	58	12.6	19.2	1564.0
6	22/11/2006	III	82	42	9.8	11.5	1388.0
7	25/11/2006	IV	130	92.0	13.7	20.2	1812.0
8	29/11/2006	IV	118	62	10.4	12.8	1458.0
Maximum			130.0	92.0	14.4	21.6	1845.0
Minimum			82.0	42.0	8.4	11.5	1010.0
Average			103.1	64.0	11.0	15.8	1451.8

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : JALPARA							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	03/10/2006	I	132	88	14.4	21.4	1494
2	07/10/2006	I	124	74	10.8	16.8	1352
3	10/10/2006	II	92	56	9.8	15.2	1846
4	14/10/2006	II	110	64	7.8	13.8	1568
5	17/10/2006	III	122	72	12.6	18.2	1697
6	21/10/2006	III	114	68	10.9	15.8	1578
7	24/10/2006	IV	86	52	11.9	19.4	1722.0
8	28/10/2006	IV	94	70	8.8	14.4	1489.0
1	03/11/2006	I	124	84	12.8	19.2	1682.0
2	06/11/2006	I	118	78	11.9	16.4	1446.0
3	10/11/2006	II	108.0	62.0	16.8	22.8	1842.0
4	14/11/2006	II	94	72	11.2	15.6	1389.0
5	18/11/2006	III	138	92	14.6	18.4	1578.0
6	22/11/2006	III	126	70	10.8	14.2	1620.0
7	25/11/2006	IV	110.0	68.0	15.4	21.5	1864.0
8	29/11/2006	IV	86	64	9.9	12.8	1298.0
Maximum			138.0	92.0	16.8	22.8	1864.0
Minimum			86.0	52.0	7.8	12.8	1298.0
Average			111.1	70.9	11.9	17.2	1591.6

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : DESALPAR							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	04/10/2006	I	126	78	14.4	22.6	1724.0
2	08/10/2006	I	118	68	11.8	16.4	1562.0
3	11/10/2006	II	110	62	12.4	18.2	1945.0
4	15/10/2006	II	94	58	10.5	14.3	1684.0
5	18/10/2006	III	88	48	9.4	12.8	1250.0
6	22/10/2006	III	108	62	9.2	12.2	1368.0
7	25/10/2006	IV	132	92	13.2	18.8	1645.0
8	29/10/2006	IV	120	72	11.2	17.2	1552.0
1	04/11/2006	I	116	78	14.6	21.6	1645.0
2	07/11/2006	I	94	64	12.4	20.4	1487.0
3	11/11/2006	II	124.0	82.0	11.2	18.2	1842.0
4	15/11/2006	II	112	70	9.8	12.2	1735.0
5	19/11/2006	III	138	92	14.2	16.5	1522.0
6	23/11/2006	III	122	84	13.5	15.4	1489.0
7	27/11/2006	IV	128.0	92.0	10.4	12.8	1847.0
8	30/11/2006	IV	114	72	9	12.8	1347.0
Maximum			138.0	92.0	14.6	22.6	1945.0
Minimum			88.0	48.0	9.0	12.2	1250.0
Average			115.3	73.4	11.7	16.4	1602.8

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : Mota Bhojapur							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	04/10/2006	I	142	98	12.8	19.8	1674
2	08/10/2006	I	110	68	11.6	18.5	1562
3	11/10/2006	II	112	72	10.8	16.4	1927
4	15/10/2006	II	84	52	9.2	15.2	1820
5	18/10/2006	III	132	82	15.2	22.2	1689
6	22/10/2006	III	96	64	11.9	18.2	1522
7	25/10/2006	IV	94	60	13.4	17.6	1745
8	29/10/2006	IV	82	42	12.2	15.2	1469
1	04/11/2006	I	134	94	15.4	21.3	1687.0
2	07/11/2006	I	128	88	10.8	14.6	1845.0
3	11/11/2006	II	118.0	82.0	14.6	18.9	1420.0
4	15/11/2006	II	88	58	12.9	16.7	1320.0
5	19/11/2006	III	120	86	16.4	24.8	1942.0
6	23/11/2006	III	98	66	11.2	15.5	1560.0
7	27/11/2006	IV	124.0	82.0	14.8	19.4	1824.0
8	30/11/2006	IV	114	78	12.9	15.8	1245.0
Maximum			142.0	98.0	16.4	24.8	1942.0
Minimum			82.0	42.0	9.2	14.6	1245.0
Average			111.0	73.3	12.9	18.1	1640.7

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : Tragadi							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	05/10/2006	I	118	68	12.4	18.2	1620.0
2	12/10/2006	II	98	54	10.2	15.9	1489.0
3	19/10/2006	III	124	72	14.6	20.4	1562.0
4	26/10/2006	IV	110	60	11.4	16.8	1382.0
1	01/11/2006	I	122	84	13.4	18.4	1847
2	08/11/2006	II	94	56	10.8	14.9	1542
3	16/11/2006	III	110	62	12.9	15.8	1624
4	24/11/2006	IV	82	52	11.4	14.3	1289
Maximum			124.0	84.0	14.6	20.4	1847.0
Minimum			82.0	52.0	10.2	14.3	1289.0
Average			107.3	63.5	12.1	16.8	1544.4

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : Pipari							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	05/10/2006	I	112	82	10.8	16.8	1620.0
2	12/10/2006	II	94	64	8.6	12.2	1478.0
3	19/10/2006	III	86	48	11.9	14.8	1569.0
4	26/10/2006	IV	110	78	9.2	13.8	1520.0
1	02/11/2006	I	116	88	14.6	19.4	1654
2	09/11/2006	II	86	54	10.4	15.4	1845
3	17/11/2006	III	110	80	16.2	21.2	1624
4	25/11/2006	IV	92	62	9.9	12.8	1463
Maximum			116.0	88.0	16.2	21.2	1845.0
Minimum			86.0	48.0	8.6	12.2	1463.0
Average			100.8	69.5	11.5	15.8	1596.6

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : Bidada							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	06/10/2006	I	142	94	15.2	21.6	1842
2	13/10/2006	II	98	58	12.6	15.2	1524
3	20/10/2006	III	122	82	13.8	18.9	1674
4	27/10/2006	IV	86	52	14.4	20.2	1489
1	02/11/2006	I	132.0	88.0	16.8	22.1	1684.0
2	09/11/2006	II	86.0	56.0	12.5	18.2	1520.0
3	17/11/2006	III	126.0	74.0	14.6	19.6	1826.0
4	25/11/2006	IV	114.0	64.0	11.9	14.8	1584.0
Maximum			142.0	94.0	16.8	22.1	1842.0
Minimum			86.0	52.0	11.9	14.8	1489.0
Average			113.3	71.0	14.0	18.8	1642.9

APPENDIX – 4b (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR POST-MONSOON-2006

Monitoring Location : Kandagra							
Sr.	Date of	Week	Ground Level Concentration				
No.	Monitoring		SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	06/10/2006	I	124	82	11.8	18.4	1489.0
2	13/10/2006	II	86	46	9.9	15.2	1642.0
3	20/10/2006	III	112	76	12.2	16.2	1542.0
4	27/10/2006	IV	98	54	8.4	13.5	1368.0
1	01/11/2006	I	110	82	12.4	16.9	1754.0
2	08/11/2006	I	128	92	10.6	14.2	1452.0
3	16/11/2006	II	114	84	14.6	21.6	1946.0
4	24/11/2006	III	94	52	9.4	15.8	1389.0
Maximum			128.0	92.0	14.6	21.6	1946.0
Minimum			86.0	46.0	8.4	13.5	1368.0
Average			108.3	71.0	11.2	16.5	1572.8

APPENDIX – 4c

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : TUNDA VILLAGE							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO₂	NO_x	CO
			mg/m³	mg/m³	mg/m³	mg/m³	mg/m³
1	1/12/2006	I	112	73	10.8	13.6	1695
2	6/12/2006	I	95	66	9.5	12.8	1423
3	9/12/2006	II	97	60	9.9	14.1	1124
4	14-12-2006	II	92	58	11.2	15.6	1234
5	18-12-2006	III	118	75	10.5	12.4	1462
6	22-12-2006	III	112	77	9.8	14.2	1602
7	25-12-2006	IV	91	60	8.4	17.2	1265
8	29-12-2006	IV	90	57	9.6	15.5	1132
9	1/1/2007	I	126	82	13.2	20.1	1765
10	5/1/2007	I	112	58	10.3	14.2	1467
11	8/1/2007	II	106	55	11.4	16.5	1578
12	12/1/2007	II	92	52	9.2	12.3	1326
13	15-01-2007	III	115	62	12.2	16.7	1574
14	19-01-2007	III	89	48	10.1	12.2	1432
15	22-01-2007	IV	129	85	11.4	15.4	1798
16	26-01-2007	IV	121	66	9.7	13.4	1524
17	1/2/2007	I	124	75	13.8	17.4	1689
18	6/2/2007	I	110	56	12.4	18.5	1452
19	8/2/2007	II	98	54	9.8	15.2	1541
20	13-02-2007	II	90	50	9.2	12.6	1365
21	15-02-2007	III	112	66	13.4	16.4	1481
22	20-02-2007	III	88	52	10.2	12.5	1524
23	22-02-2007	IV	126	74	14.3	18.2	1692
24	27-02-2007	IV	118	63	11.2	13.6	1620
Maximum			129.0	85.0	14.3	20.1	1798.0
Minimum			88.0	48.0	8.4	12.2	1124.0
Average			106.8	63.5	10.9	15.0	1490.2
98% Perc. of Max.			126.4	83.3	14.0	19.7	1762.0

APPENDIX – 4c (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : JALPARA							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	2/12/2006	I	123	76	10.1	18.6	1523
2	7/12/2006	I	120	71	11.6	15.7	1365
3	11/12/2006	II	95	60	9.2	14.9	1796
4	15-12-2006	II	114	66	10.4	14.2	1545
5	19-12-2006	III	118	73	12.6	15.3	1687
6	23-12-2006	III	115	70	11.3	16.2	1486
7	26-12-2006	IV	92	58	8.8	17.6	1657
8	30-12-2006	IV	97	69	12.6	14.2	1516
9	2/1/2007	I	125	72	12.9	18.9	1689
10	6/1/2007	I	121	66	12.4	17.5	1512
11	9/1/2007	II	110	70	15.7	20.1	1689
12	13-01-2007	II	96	58	12.4	16.3	1485
13	16-01-2007	III	135	82	15.2	18.7	1572
14	20-01-2007	III	128	72	11.4	15.6	1592
15	23-01-2007	IV	111	64	14.8	18.6	1786
16	27-01-2007	IV	92	52	10.3	14.5	1319
17	2/2/2007	I	121	76	14.3	17.6	1576
18	7/2/2007	I	117	72	13.6	16.4	1432
19	9/2/2007	II	106	58	15.8	21.3	1642
20	14-02-2007	II	94	64	12.6	15.8	1423
21	16-02-2007	III	138	84	14.5	18.5	1572
22	21-02-2007	III	120	88	12.2	15.2	1534
23	23-02-2007	IV	110	72	13.2	20.1	1872
24	28-02-2007	IV	87	66	10.2	14.2	1298
Maximum			138.0	88.0	15.8	21.3	1872.0
Minimum			87.0	52.0	8.8	14.2	1298.0
Average			111.9	69.1	12.3	16.9	1565.3
98% Perc. of Max.			135.2	86.2	15.5	20.9	1834.6

APPENDIX – 4c (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : DESALPAR							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	1/12/2006	I	124	76	13.8	20.3	1685
2	6/12/2006	I	120	66	12.2	15.8	1523
3	9/12/2006	II	112	64	12.5	17.3	1825
4	14-12-2006	II	95	62	11.3	13.8	1672
5	18-12-2006	III	92	58	10.2	14.2	1423
6	22-12-2006	III	110	66	10.5	14.6	1489
7	25-12-2006	IV	128	82	14.2	17.5	1576
8	29-12-2006	IV	124	70	12.6	16.4	1685
9	1/1/2007	I	118	81	15.2	18.7	1653
10	5/1/2007	I	96	66	12.6	19.3	1532
11	8/1/2007	II	126	83	11.5	18.3	1859
12	12/1/2007	II	114	74	10.3	14.5	1765
13	15-01-2007	III	139	93	14.6	15.8	1533
14	19-01-2007	III	128	80	14.3	15.5	1524
15	22-01-2007	IV	132	89	11.3	13.2	1796
16	26-01-2007	IV	116	74	10.2	12.9	1466
17	1/2/2007	I	120	78	14.9	21.1	1542
18	6/2/2007	I	97	65	13.1	19.5	1486
19	08-02-2007	II	123	76	12.1	18.4	1624
20	13-02-2007	II	115	73	10.5	16.2	1356
21	15-02-2007	III	128	81	13.9	15.5	1475
22	20-02-2007	III	127	78	14.4	14.6	1513
23	22-02-2007	IV	126	75	11.6	13.4	1624
24	27-02-2007	IV	121	73	9.6	12.6	1416
Maximum			139.0	93.0	15.2	21.1	1859.0
Minimum			92.0	58.0	9.6	12.6	1356.0
Average			118.0	74.3	12.4	16.2	1585.1
98% Perc. of Max.			136.2	91.1	14.9	20.7	1821.8

APPENDIX – 4c (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : Mota Bhojapur							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	2/12/2006	I	137	94	12.4	17.6	1598
2	7/12/2006	I	114	66	12.2	17.2	1572
3	11/12/2006	II	110	74	10.6	16.6	1789
4	15-12-2006	II	92	56	9.5	15.5	1652
5	19-12-2006	III	134	76	14.8	17.9	1679
6	23-12-2006	III	98	60	12.4	16.4	1545
7	26-12-2006	IV	92	59	13.6	15.8	1648
8	30-12-2006	IV	88	48	12.5	14.9	1476
9	2/1/2007	I	132	84	15.6	20.3	1691
10	6/1/2007	I	112	64	11.2	15.1	1793
11	9/1/2007	II	121	78	14.8	17.8	1521
12	13-01-2007	II	90	58	13.4	16.9	1365
13	16-01-2007	III	118	72	16.8	21.2	1867
14	20-01-2007	III	103	58	11.6	15.9	1587
15	23-01-2007	IV	119	70	15.2	18.6	1820
16	27-01-2007	IV	116	62	13.2	16.2	1345
17	2/2/2007	I	131	81	10.9	18.6	1685
18	7/2/2007	I	126	72	13.5	15.6	1598
19	9/2/2007	II	118	77	12.6	16.8	1483
20	14-02-2007	II	91	55	11.5	17.2	1372
21	16-02-2007	III	114	66	13.2	20.1	1756
22	21-02-2007	III	108	62	12.8	16.2	1564
23	23-02-2007	IV	120	72	11.6	17.7	1682
24	28-02-2007	IV	112	58	10.5	16.7	1277
Maximum			137.0	94.0	16.8	21.2	1867.0
Minimum			88.0	48.0	9.5	14.9	1277.0
Average			112.3	67.6	12.8	17.2	1598.5
98% Perc. of Max.			134.3	92.1	16.5	20.8	1829.7

APPENDIX – 4c (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : Tragadi							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	4/12/2006	I	110	64	9.6	12.2	1598
2	12/12/2006	II	98	58	10.5	14.8	1476
3	20-12-2006	III	118	68	11.2	16.4	1622
4	27-12-2006	IV	92	52	8.9	12.8	1485
5	3/1/2007	I	124	72	10.6	13.9	1795
6	10/1/2007	II	102	58	11.2	15.6	1536
7	17-01-2007	III	112	68	9.5	12.6	1599
8	24-01-2007	IV	93	62	10.8	13.2	1362
9	3/2/2007	I	120	72	9.8	11.9	1697
10	10/2/2007	II	110	62	11.3	14.5	1542
11	17-02-2007	III	117	68	12.6	16.2	1576
12	24-02-2007	IV	98	58	10.2	12.8	1485
Maximum			124.0	72.0	12.6	16.4	1795.0
Minimum			92.0	52.0	8.9	11.9	1362.0
Average			107.8	63.5	10.5	13.9	1564.4
98% Perc. of Max.			121.5	70.6	12.3	16.1	1759.1

APPENDIX – 4c (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : Pipari							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	5/12/2006	I	110	68	11.2	16.5	1590
2	13-12-2006	II	92	46	10.1	13.2	1624
3	21-12-2006	III	94	48	11.6	14.2	1546
4	28-12-2006	IV	112	64	9.6	14.8	1475
5	4/1/2007	I	123	76	9.6	12.6	1662
6	11/1/2007	II	110	59	10.4	15.6	1843
7	18-01-2007	III	117	78	11.4	16.3	1596
8	25-01-2007	IV	108	65	8.9	11.8	1472
9	5/2/2007	I	118	68	9.5	17.9	1598
10	12/2/2007	II	111	62	12.3	15.8	1756
11	19-02-2007	III	112	58	10.8	14.5	1598
12	26-02-2007	IV	110	60	11.4	12.6	1523
Maximum			123.0	78.0	12.3	17.9	1843.0
Minimum			92.0	46.0	8.9	11.8	1472.0
Average			109.8	62.7	10.6	14.7	1606.9
98% Perc. of Max.			120.5	76.4	12.1	17.5	1806.1

APPENDIX – 4c(Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : Bidada							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	5/12/2006	I	136	75	11.6	16.4	1756
2	13-12-2006	II	102	61	13.2	18.5	1534
3	21-12-2006	III	126	73	12.4	15.3	1620
4	28-12-2006	IV	89	64	10.9	13.5	1476
5	4/1/2007	I	126	82	15.8	20.8	1689
6	11/1/2007	II	93	61	13.2	16.5	1524
7	18-01-2007	III	121	70	14.2	18.7	1836
8	25-01-2007	IV	116	68	12.1	15.6	1589
9	5/2/2007	I	124	72	14.9	18.6	1598
10	12/2/2007	II	95	62	13.6	16.9	1575
11	19-02-2007	III	117	68	14.5	17.4	1725
12	26-02-2007	IV	118	66	12.8	16.5	1488
Maximum			136.0	82.0	15.8	20.8	1836.0
Minimum			89.0	61.0	10.9	13.5	1476.0
Average			113.6	68.5	13.3	17.1	1617.5
98% Perc. of Max.			133.3	80.4	15.5	20.4	1799.3

APPENDIX – 4c (Cont'd)

AMBIENT AIR QUALITY MONITORING REPORT FOR WINTER-2006

Monitoring Location : Kandagra							
Sr. No.	Date of Monitoring	Week	Ground Level Concentration				
			SPM	RPM	SO ₂	NO _x	CO
			mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³
1	4/12/2006	I	128	78	11.6	16.4	1475
2	12/12/2006	II	89	56	10.2	15.3	1624
3	20-12-2006	III	110	72	12.4	15.8	1573
4	27-12-2006	IV	103	60	9.6	14.2	1352
5	3/1/2007	I	114	64	9.2	12.8	1759
6	10/1/2007	I	123	72	11.4	14.8	1456
7	17-01-2007	II	115	68	12.8	17.6	1893
8	24-01-2007	III	99	52	9.9	15.8	1423
9	3/2/2007	I	112	62	10.5	12.5	1657
10	10/2/2007	I	118	74	11.6	15.7	1485
11	17-02-2007	II	116	70	10.8	13.2	1712
12	24-02-2007	III	106	58	12.3	17.2	1464
Maximum			128.0	78.0	12.8	17.6	1893.0
Minimum			89.0	52.0	9.2	12.5	1352.0
Average			111.1	65.5	11.0	15.1	1572.8
98% Perc. of Max.			125.4	76.4	12.5	17.2	1855.1

APPENDIX - 5
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

Pollutants	Time-weighted average	Concentration in ambient air			Method of measurement
		Industrial Areas	Residential, Rural & other Areas	Sensitive Areas	
Sulphur Dioxide (SO ₂)	Annual Average*	80 µg/m ³	60 µg/m ³	15 µg/m ³	- Improved West and Geake Method - Ultraviolet Fluorescence
	24 hours**	120 µg/m ³	80 µg/m ³	30 µg/m ³	
Oxides of Nitrogen as (NO ₂)	Annual Average*	80 µg/m ³	60 µg/m ³	15 µg/m ³	- Jacob & Hochheiser Modified (Na-Arsenite) Method
	24 hours**	120 µg/m ³	80 µg/m ³	30 µg/m ³	- Gas Phase Chemi luminescence
Suspended Particulate Matter (SPM)	Annual Average*	360 µg/m ³	140 µg/m ³	70 µg/m ³	- High Volume Sampling, (Average flow rate not less than 1.1 m ³ /minute).
	24 hours**	500 µg/m ³	200 µg/m ³	100 µg/m ³	
Respirable Particulate Matter (RPM) (size less than 10 microns)	Annual Average*	120 µg/m ³	60 µg/m ³	50 µg/m ³	- Respirable particulate matter sampler
	24 hours**	150 µg/m ³	100 µg/m ³	75 µg/m ³	
Lead (Pb)	Annual Average*	1.0 µg/m ³	0.75 µg/m ³	0.50 µg/m ³	- ASS Method after sampling using EPM 2000 or equivalent Filter paper
	24 hours**	1.5 µg/m ³	1.00 µg/m ³	0.75 µg/m ³	
Ammonia ¹	Annual Average*	0.1 mg/ m ³	0.1 mg/ m ³	0.1 mg/m ³	
	24 hours**	0.4 mg/ m ³	0.4 mg/m ³	0.4 mg/m ³	
Carbon Monoxide (CO)	8 hours**	5.0 mg/m ³	2.0 mg/m ³	1.0 mg/ m ³	- Non Dispersive Infra Red (NDIR)
	1 hour	10.0 mg/m ³	4.0 mg/m ³	2.0 mg/m ³	Spectroscopy
*	Annual Arithmetic mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval.				
**	24 hourly/8 hourly values should be met 98% of the time in a year. However, 2% of the time, it may exceed but not on two consecutive days.				

NOTE:

1. National Ambient Air Quality Standard: The levels of air quality with an adequate margin of safety, to protect the public health,, vegetation and property.
2. Whenever and wherever two consecutive values exceeds the limit specified above for the respective category, it would be considered adequate reason to institute regular/continuous monitoring and further investigations.
3. The standards for H₂S and CS₂ have been notified separately vide GSR No. 7, dated December 22, 1998 under Rayon Industry - for details please see Sl. No. 65 of this document
[S.O. 384(E), Air (Prevention & Control of Pollution) Act, 1981, dated April 11, 1994]
[EPA Notification: GSR 176 (E), April 02, 1996]
4. 1. Included vide Notification SO. 955 (E), Air (Prevention & Control of Pollution) Act, 1981 dated October 14,1998)

APPENDIX - 6
National Ambient Noise Quality Standards

Area Code	Category of Area/ Zone	Limit in dBA (Leq)*	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

- Note: 1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is defined as an area comprising not less than 100 metres around hospitals, educational institutes and courts. The silence zones are zones which are declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- * dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

APPENDIX - 7

GROUND WATER SAMPLING AT VILLAGE DESALPAR



GROUND WATER SAMPLING AT VILLAGE KANDAGARA



APPENDIX –8a

Soil Quality In The Study Area During Summer 2006

Sr.No.	Sampling Location :	Nani Khakhar	Desalper	Nana Bhadiya	Bidada	Kandagra	Wand	Jalpara	Bhojpur	Gundiyaali	Navinal
	Date of Sampling :	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006
	Parameters ,units										
1	Apperance	Dark Brown	Dark Brown	Light Brown	Light Brown	Light Brown	Light Brown	Dark Brown	Dark Brown	Light Brown	Dark Brown
2	Texture	Clay Loam	Clay Loam	Silty Clay	Silty Clay	Silty Clay Loam	Clay Loam	Silt Clay	Silty Caly	Silty caly loam	Silty caly loam
3	Sand, %	33.3	31.9	20.1	14.6	23.2	26.9	20.1	22.2	25.4	23.5
4	Silt,%	28.5	27.6	40.3	58.6	36.3	33.3	40.1	42.6	46.3	48.9
5	Clay,%	38.2	40.5	39.6	26.8	40.5	39.8	39.8	35.2	28.3	27.6
6	Organic Matter%	0.853	0.624	0.583	0.439	0.716	0.771	1.03	0.722	0.487	0.179
7	Electric conductivity,ms/cm	0.087	0.233	0.221	0.086	0.134	2.32	0.226	0.101	0.084	0.138
8	Bulk Density .gm/cc	1.298	1.210	1.284	1.351	1.506	0.958	1.236	1.335	1.256	1.276
9	Moisture Content .%	1.4	0.195	1.785	0.0307	0.224	1.065	0.285	0.33	0.039	0.417
10	Porosity%	37.1	45.8	34.3	52.1	86.1	96.5	23.7	43.5	34.1	14.8
11	Nitrogen,mg/gm	0.038	0.031	0.03	0.022	0.029	0.031	0.035	0.028	0.021	0.019
12	Phosphorus mg/gm	0.5	0.48	0.45	0.43	0.56	0.51	0.6	0.35	0.31	0.29
13	Potassuim %	0.6056	0.924	0.3502	0.318	0.408	0.915	0.621	0.44	0.2593	0.4154
14	Sodium Adsorption Ratio	0.037	0.197	0.048	0.00792	0.0514	0.289	0.024	0.0423	0.079	0.024
15	PH(1:10Suspension)	6.96	7.2	7.9	7	7.5	6.8	7.2	7	6.9	7.1
16	Water Holding Capacity,(%)	28.7	18.9	24.4	8.6	16.8	23.4	23.3	27.3	20.9	29.4
17	Permeablity,cm/sec.	0.041	0.05	0.053	0.058	0.056	0.051	0.053	0.05	0.051	0.053
18	Sodium (as Na),ppm	95.81	1065	341.7	62.99	389.8	1677	187.4	162.6	61.49	165.3
19	Chloride (as cl) mg/gm	0.091	0.275	0.242	0.048	0.073	4.612	0.218	0.058	0.0613	0.129

Sr.No.	Sampling Location :	Nani Khakhar	Desalper	Nana Bhadiya	Bidada	Kandagra	Wand	Jalpara	Bhojpur	Gundiyali	Navinal
	Date of Sampling :	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006	19/03/2006
	Parameters ,units										
20	Total Alkalinity mg/gm	0.081	0.3	0.374	0.143	0.233	0.133	0.141	0.112	0.087	0.169
21	Iron (as Fe),mg/gm	0.4528	0.0166	0.3735	0.178	1.9072	2.2136	1.6392	0.4889	0.5153	1.0017
22	Cadmium(as Cd)mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Zinc (as Zn),mg/gm	0.5799	0.5963	0.3578	0.004874	0.005107	0.007336	0.008758	0.4785	0.5562	0.4553
24	Copper (as Cu),mg/gm	0.01285	0.01409	0.8671	0.008832	0.01402	0.01627	0.00651	0.01088	0.01186	0.01097
25	Lead (asPb)mg/gm	0.001541	0.001661	0.00111	0.001463	0.000802	0.000976	0.001153	0.001018	0.00085	0.000967
26	Chromium (as Cr+6) mg/gm	0.029	0.03554	0.03697	0.03134	0.04266	0.03723	0.002232	0.01866	0.03187	0.02926

APPENDIX –8b

Soil Quality In The Study Area During Post-Monsoon 2006

Sampling Location :			Nani Khakhar	Desalpur	Nana Bhudiya	Bidada	Kandagra	Wand	Jalpara	Bhojpur	Gundiyali	Navinal
Date of Sampling :			16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006
Sr. No.	Parameters	Units	S - 1	S - 2	S - 3	S - 4	S - 5	S - 6	S - 7	S - 8	S - 9	S - 10
1	Appearance		Light brown	Dark Brown	Dark Brown	Light brown	Dark Brown	Light brown	Dark Brown	Dark Brown	Light brown	Dark Brown
2	Texture		Clay Loam	Clay Loam	Silt Clay	Silty Clay	Clay Loam	Clay Loam	Silt Clay	Silt Clay	Silty Clay Loam	Silty Clay Loam
3	Sand	%	30.4	29.8	25.3	16.9	20.4	23.4	22.8	19.6	23.8	21.9
4	Silt	%	29.3	30.6	45.1	51.6	37.5	34.8	42.9	44.9	45.8	46.9
5	Clay	%	40.3	39.6	29.6	31.5	42.1	41.8	34.3	35.5	30.4	31.2
6	Organic Matter	%	1.213	0.913	0.691	0.762	0.823	0.963	0.916	0.864	0.691	0.583
7	Electrical conductivity	ms/cm	0.169	0.196	0.246	0.186	0.183	1.961	0.388	0.216	0.201	0.219
8	Bulk Density	gm/cm ³	0.916	0.929	0.986	1.1032	1.236	1.116	1.316	1.226	1.168	1.184
9	Moisture	%	0.893	0.361	1.126	0.316	0.306	0.983	0.384	0.416	0.145	0.386
10	Porosity	%	39.8	42.3	30.3	56.3	72.3	81.6	36.8	45.6	37.4	25.1
11	Nitrogen	mg/gm	0.123	0.085	0.041	0.123	0.091	0.216	0.163	0.131	0.143	0.093
12	Phosphorus	mg/gm	0.433	0.365	0.319	0.366	0.481	0.431	0.55	0.48	0.46	0.35
13	Potassium	mg/gm	0.5561	0.7631	0.3110	0.388	0.3961	0.616	0.583	0.3610	0.2163	0.3762
14	Sodium Absorption Ratio		0.212	0.168	0.085	0.71	0.059	0.414	0.163	0.109	0.164	0.093
15	pH (1:10 suspension)		7.10	7.3	7.4	7	7.2	7.0	7.3	7.4	7.1	7.5
16	Water Holding Capacity	%	31.6	28.7	25.3	19.8	25.9	31.9	29.6	33.5	24.6	36.3
17	Permeability	cm/sec	0.056	0.064	0.069	0.068	0.059	0.064	0.066	0.059	0.062	0.06

Sampling Location :			Nani Khakhar	Desalpur	Nana Bhudiya	Bidada	Kandagra	Wand	Jalpara	Bhojpur	Gundiyali	Navinal
18	Sodium as (Na)	mg/gm	0.138	0.983	0.506	0.123	0.326	1.260	0.216	0.209	0.109	0.138
19	Chlorides as (Cl)	mg/gm	0.186	0.199	0.296	0.134	0.116	6.113	0.363	0.184	0.129	216.3
20	Total Alkalinity	mg/gm	0.123	0.289	0.326	0.266	0.268	0.219	0.225	0.316	0.143	0.316
21	Iron as (Fe)	mg/gm	0.24	0.18	0.22	1.47	0.19	1.80	1.42	0.37	0.49	0.82
22	Cadmium as (Cd)	mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Zinc as (Zn)	mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Copper as (Cu)	mg/gm	0.016	0.026	0.061	0.010	0.022	0.018	0.021	0.013	0.016	0.012
25	Lead as (Pb)	mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Chromium as (Cr)	mg/gm	0.035	0.030	0.041	0.038	0.037	0.03	0.025	0.020	0.028	0.022

APPENDIX –8c

Soil Quality In The Study Area During Winter 2006

Sampling Location :			Nani Khakhar	Desalpur	Nana Bhudiya	Bidada	Kandagra	Wand	Jalpara	Bhojpur	Gundiyali	Navinal
Date of Sampling :			16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006	16/11/2006
Sr. No.	Parameters	Units	S - 1	S - 2	S - 3	S - 4	S - 5	S - 6	S - 7	S - 8	S - 9	S - 10
1	Appearance		Light brown	Dark Brown	Dark Brown	Light brown	Dark Brown	Light brown	Dark Brown	Dark Brown	Light brown	Dark Brown
2	Texture		Clay Loam	Clay Loam	Silt Clay	Silty Clay	Clay Loam	Clay Loam	Silt Clay	Silt Clay	Silty Clay Loam	Silty Clay Loam
3	Sand	%	29.2	30.1	26.4	19.3	22.6	21.6	20.9	20.8	21.6	20.6
4	Silt	%	28.8	29.7	42.1	50.4	36.8	33.7	41.3	42.3	44.3	45.8
5	Clay	%	42.0	40.2	31.5	30.3	40.6	44.7	37.8	36.9	34.1	33.6
6	Organic Matter	%	1.191	0.968	0.716	0.784	0.839	0.978	0.941	0.886	0.764	0.626
7	Electrical conductivity	ms/cm	0.176	0.208	0.252	0.198	0.199	1.813	0.416	0.243	0.239	0.240
8	Bulk Density	gm/cm ³	0.923	0.941	0.994	1.094	1.196	1.023	1.224	1.196	1.149	1.196
9	Moisture	%	0.911	0.373	1.109	0.328	0.292	0.926	0.416	0.398	0.168	0.374
10	Porosity	%	40.3	43.4	34.6	51.4	65.4	73.4	39.4	41.8	38.6	26.8
11	Nitrogen	mg/gm	0.129	0.093	0.045	0.135	0.116	0.198	0.184	0.146	0.154	0.109
12	Phosphorus	mg/gm	0.396	0.372	0.326	0.353	0.424	0.409	0.513	0.493	0.478	0.376
13	Potassium	mg/gm	0.5433	0.7819	0.326	0.396	0.378	0.594	0.536	0.376	0.224	0.381
14	Sodium Absorption Ratio		0.209	0.179	0.093	0.635	0.050	0.399	0.175	0.163	0.181	0.116
15	pH (1:10 suspension)		7.2	7.4	7.3	7.1	7.3	7.1	7.2	7.2	7.3	7.4
16	Water Holding Capacity	%	32.4	30.4	26.9	21.6	28.7	34.3	30.4	31.8	26.8	35.6
17	Permeability	cm/sec	0.04	0.039	0.041	0.054	0.048	0.053	0.049	0.048	0.049	0.051

Sampling Location :			Nani Khakhar	Desalpur	Nana Bhudiya	Bidada	Kandagra	Wand	Jalpara	Bhojpur	Gundiyali	Navinal
18	Sodium as (Na)	mg/gm	0.129	0.995	0.513	0.136	0.334	1.199	0.242	0.219	0.116	0.143
19	Chlorides as (Cl)	mg/gm	0.194	0.215	0.314	0.146	0.131	0.124	0.349	0.196	0.136	0.209
20	Total Alkalinity	mg/gm	0.134	0.296	0.319	0.281	0.276	0.230	0.241	0.299	0.156	0.303
21	Iron as (Fe)	mg/gm	0.26	0.21	0.25	0.093	0.203	1.35	1.28	0.43	0.53	0.75
22	Cadmium as (Cd)	mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Zinc as (Zn)	mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Copper as (Cu)	mg/gm	0.018	0.022	0.072	0.019	0.026	0.023	0.019	0.020	0.022	0.019
25	Lead as (Pb)	mg/gm	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Chromium as (Cr)	mg/gm	0.029	0.026	0.038	0.031	0.029	0.02	0.019	0.016	0.023	0.026

APPENDIX-9
List Of Survey No. In The Main Plant Area

List of Survey Nos. of proposed land to be acquired under land Acquisition Act for Mundra UMF															
Village: Tunda, Tal: Mundra, Dist: Kachchh															
SR.	SURVEY		AREA			TYPE	CLASS	SR.	SURVEY		AREA			TYPE	CLASS
NO	NO		HEC	ARE	PARE	OF LAND	OF LAND	NO	NO		HEC	ARE	PARE	OF LAND	OF LAND
1	89		3	51	18	NT		36	117	/1	1	2	18		
2	90		3	59	28	NT		37	117	/2	0	80	94		
3	91		2	24	60	OT		38	118	/1	0	84	98	OT	
4	92		2	24	60	OT		39	118	/2	0	89	3	OT	
5	93		3	29	82	OT		40	118	/3	0	98	14		
6	94		2	29	65	OT		41	119	/1	1	11	29	OT	
7	95		2	60	1	NT		42	119	/2	2	16	51	OT	
8	96		3	45	0	OT		43	121		2	7	40	OT	
9	97		2	30	67	OT		44	122	/1	1	86	16	OT	
10	98		2	27	64	OT		45	122	/2	1	26	47	OT	
11	99		5	64	54	OT		46	124		0	47	55		
12	100		8	46	48	OT		47	125	/1	0	52	61		
13	101		3	51	7	OT		48	125	/2	1	74	2		
14	102	/1	1	25	45			49	125	/3	1	55	81		
15	102	/2	1	61	88			50	126	/1	0	94	6		
16	103		1	73	6	OT		51	128	/2	0	92	7		
17	104		1	98	30	OT		52	128	/4	0	72	84		
18	105	/1	1	85	14	OT		53	128	/5	0	55	64		
19	105	/2	1	44	68	OT		54	127		0	27	32		
20	106		2	12	46	OT		55	128	/4	1	32	54		
21	107	/1	1	14	32	OT		56	130		1	23	43		
22	107	/2	0	84	98	OT		57	131		1	37	59		
23	108	/1	1	36	58			58	132		1	63	90		
24	109		1	71	99	OT		59	133		2	35	73		
25	110		1	81	88	OT		60	134		0	86	0		
26	111		4	95	74	OT		61	135	/1	1	8	25	NT	
27	112		1	97	17	OT		62	135	/2	1	98	70	NT	
28	113	/1	1	33	57			63	135	/3	1	70	82	NT	
29	113	/2	0	80	64			64	135	/4					
30	114	/1	1	64	91	OT		65	136	/1	1	61	87	NT	
31	114	/2	1	60	66	OT		66	136	/2	0	5	6	NT	
32	115	/1	1	28	49	OT		67	136	/3	0	69	81		
33	115	/2	0	40	47	OT		68	137	/1	0	60	70	OT	
34	115	/3	0	37	43	OT		69	137	/2	1	21	41	OT	
35	116		2	5	38			70	137	/3	0	30	2	NT	

APPENDIX - 10
Population Distribution within the Study Area (within 10 kms)- 2001

Village Name	Tot HH	Tot_P	Tot_M	Tot_F	P_06	M_06	F_06	P_SC	M_SC	F_SC	P_ST	M_ST	F_ST
Mandvi Taluka													
Bag	476	2528	1288	1240	387	204	183	0	0	0	32	15	17
Bidada	1491	7595	3842	3753	1034	549	485	1374	709	665	321	159	162
Faradi	386	1933	974	959	311	151	160	404	207	197	9	5	4
Gundiyali	891	5353	2705	2648	957	500	457	444	217	227	164	73	91
Maska	932	5055	2546	2509	699	350	349	211	109	102	117	65	52
Mota Bhadiya	511	2822	1417	1405	547	289	258	380	193	187	15	8	7
Nana Bhadiya	179	799	394	405	110	56	54	330	160	170	43	26	17
Nani Khakhar	645	3374	1676	1698	505	253	252	534	278	256	248	121	127
Pipari	283	1485	751	734	263	148	115	58	28	30	6	4	2
Tragadi	143	824	402	422	150	75	75	0	0	0	0	0	0
Mundra Taluka													
Deshalpar	424	2013	1045	968	285	161	124	366	188	178	125	62	63
Jarpara	1019	5762	2893	2869	1067	564	503	649	343	306	86	43	43
Kandagara Mota	454	2306	1150	1156	353	174	179	317	171	146	144	70	74
Khakhar Moti	324	1596	810	786	265	143	122	335	177	158	60	36	24
Moti Bhujpar	1188	5952	2942	3010	983	492	491	895	466	429	498	253	245
Nani Bhujpar	126	717	370	347	101	60	41	252	129	123	0	0	0
Navinal	241	1146	598	548	238	131	107	189	99	90	98	57	41
Pratappar	20	62	31	31	7	2	5	0	0	0	0	0	0
Shiracha	187	923	456	467	154	69	85	463	222	241	59	30	29
Tunda	241	1207	607	600	237	119	118	68	37	31	0	0	0
Sukhpar*	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total	10161	53452	26897	26555	8653	4490	4163	7269	3733	3536	2025	1027	998

* Un-habitated

Source: Census 2001

HH House Holds

Tot_P Total Population

Tot_M Total Male Population

F Female

SC Scheduled Caste

ST Scheduled Tribes

Tot_F Total Female Population

P_06 Population 0-6 years age group

M Male

APPENDIX- 11
WORKERS DISTRIBUTION PATTERN IN THE STUDY AREA

Vill_Name	TOT_P	TOT_WORK_P	MAIN_WORK_P	MAIN_CL_P	MAIN_AL_P	MAIN_HH_P	MAIN_OT_P	MAR_WORK_P	MAR_CL_P	MAR_AL_P	MAR_HH_P	MAR_OT_P	NON_WORK_P
Mandvi Taluka													
Faradi	1933	526	188	20	8	8	152	338	33	110	11	184	1407
Bidada	7595	2961	2236	505	866	77	788	725	194	292	35	204	4634
Nani Khakhar	3374	1370	1051	284	393	40	334	319	16	206	57	40	2004
Nana Bhadiya	799	288	272	0	48	16	208	16	0	3	0	13	511
Pipari	1485	661	454	146	136	8	164	207	126	75	3	3	824
Maska	5055	1789	1523	293	149	62	1019	266	32	46	25	163	3266
Bag	2528	1078	684	312	103	4	265	394	214	62	3	115	1450
Gundiyali	5353	2148	1537	319	395	131	692	611	47	223	188	153	3205
Mota Bhadiya	2822	1167	981	423	294	12	252	186	43	65	6	72	1655
Tragadi	824	440	359	46	67	91	155	81	0	60	16	5	384
Mundra Taluka													
Deshalpar	2013	822	440	162	75	1	202	382	20	222	3	137	1191
Khakhar Moti	1596	567	517	118	222	1	176	50	4	29	1	16	1029
Kandagara Mota	2306	700	600	154	90	9	347	100	0	18	2	80	1606
Tunda	1207	605	482	46	66	23	347	123	25	44	1	53	602
Shiracha	923	353	281	78	82	43	78	72	0	14	44	14	570
Moti Bhujpar	5952	2286	1810	460	493	74	783	476	46	182	83	165	3666
Pratappar	62	14	14	2	5	0	7	0	0	0	0	0	48
Nani Bhujpar	717	355	191	87	71	1	32	164	93	62	2	7	362
Navinal	1146	337	302	85	69	1	147	35	0	8	0	27	809
Jarpara	5762	2471	2002	956	525	2	519	469	152	296	1	20	3291
Sukhpar*	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total	53452	20938	15924	4496	4157	604	6667	5014	1045	2017	481	1471	32514

*Un-habitated

Source: Census 2001

APPENDIX –12
LANDUSE PATTERN OF THE STUDY AREA (In Hectare)

<i>Village Name</i>	<i>Total Irrigated Area</i>	<i>Un-Irrigated Area</i>	<i>Culturable waste</i>	<i>Area not under cultivation</i>
<i>Mandvi Taluka</i>				
Faradi	1327.5	1756.6	1929.7	856.32
Bidada	1161.9	1005.7	543.25	48.18
Nani Khakhar	545.5	212.1	139.15	85.09
Nana Bhadiya	82.6	1134.3	88.45	547.95
Pipari	62.7	301.9	72.62	19.02
Maska	464.6	357.3	208.94	362.22
Bag	801.0	0.0	0.00	12.96
Gundiyali	1227.6	1122.1	208.00	127.62
Mota Bhadiya	194.1	180.0	41.94	20.77
Tragadi	68.3	414.8	246.41	727.46
<i>Mundra Taluka</i>				
Deshalpar	809	920	379	822
Khakhar Moti	293.40	669.4	202.55	85.43
Kandagara Mota	153.8	1118.6	278.39	534.15
Tunda	30.4	403.20	266.51	614.24
Shiracha	80.9	613.5	301.01	554.50
Moti Bhujpar	127.5	2263.6	394.09	513.15
Pratappar	57.9	122.9	57.77	104.97
Nani Bhujpar	80.94	266.30	57.90	35.84
Navinal	121.41	439.90	176.37	55.40
Jarpara	1416.5	177.40	1238.33	359.12
Sukhpar	NA	NA	NA	NA

APPENDIX -13
LITERACY PATTERN OF THE STUDY AREA

VILL_NAME	TOT_P	P_LIT	M_LIT	F_LIT	P_ILL	M_ILL	F_ILL
Mandvi Taluka							
Faradi	1933	1013	592	421	920	382	538
Bidada	7595	5015	2823	2192	2580	1019	1561
Nani Khakhar	3374	2027	1120	907	1347	556	791
Nana Bhadiya	799	486	276	210	313	118	195
Pipari	1485	721	444	277	764	307	457
Maska	5055	2998	1704	1294	2057	842	1215
Bag	2528	1361	800	561	1167	488	679
Gundiyali	5353	2480	1452	1028	2873	1253	1620
Mota Bhadiya	2822	1344	855	489	1478	562	916
Tragadi	824	281	159	122	543	243	300
Mundra Taluka							
Deshalpar	2013	1158	639	519	855	406	449
Khakhar Moti	1596	861	515	346	735	295	440
Kandagara Mota	2306	1397	800	597	909	350	559
Tunda	1207	558	317	241	649	290	359
Shiracha	923	479	280	199	444	176	268
Moti Bhujpar	5952	3213	1840	1373	2739	1102	1637
Pratappar	62	40	23	17	22	8	14
Nani Bhujpar	717	423	266	157	294	104	190
Navinal	1146	574	352	222	572	246	326
Jarpara	5762	2517	1616	901	3245	1277	1968
Sukhpar	0	0	0	0	0	0	0
Total	53452	28946	16873	12073	24506	10024	14482

TOT_P Total Population
P_LIT Population Literate
F Female Population

P_ILL Population Illiterate
M Male Population

APPENDIX – 14

COAL PRODUCTION BY VILLAGERS FROM WOOD NEAR TRAGADI VILLAGE



APPENDIX-15
AMENITIES IN THE VILLAGES OF THE STUDY AREA

<i>Village Name</i>	<i>Total Area (Hac)</i>	<i>No. of Households & total population</i>	<i>Educational Facilities</i>	<i>Medical Facilities</i>	<i>Drinking Water (potable)</i>	<i>Post, Telegraph & Telephone Facilities</i>	<i>Communication (Bus stop, railways, navigation)</i>	<i>Approach to the Village</i>	<i>Nearest Town - Distance in km</i>	<i>Power Supply</i>	<i>Most Imp. Commodities manufactured.</i>
Faradi	5870.1	386 (1933)	P	NA	T, W (2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO(1), P(10)	BS, NW (2)	PR	Mandvi - 22	PALL	Pulses, Guvar, wheat
Bidada	2759.0	1491 (7595)	P(8), S(1), SS(1)	ALL, ALLD (3), AYUD (2), MCWC, FWCC, NH, RMP(4), CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO(1), P(400)	BS, NW (2)	PR	Mandvi - 15	PALL	Bajri, groundnut, wheat
Nani Khakhar	981.9	645 (3374)	P(2)	CHW	T, W (2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO (1), P(7)	BS, NW (2)	PR	Mandvi - 22	PALL	Cotton, wheat, maize
Nana Bhadiya	1853.3	179 (799)	P	ALLD, RMP, CHW	T, W, TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO (1), P	BS, NW (2)	PR	Mandvi - 16	PALL	Bajri, Jowar, Wheat
Pipari	456.3	283 (1485)	P	CHW	T, W, TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	P(2)	BS, NW (2)	PR	Mandvi - 12	PALL	Wheat, Bajri, Mug

APPENDIX-15
AMENITIES IN THE VILLAGES OF THE STUDY AREA

<i>Village Name</i>	<i>Total Area (Hac)</i>	<i>No. of Households & total population</i>	<i>Educational Facilities</i>	<i>Medical Facilities</i>	<i>Drinking Water (potable)</i>	<i>Post, Telegraph & Telephone Facilities</i>	<i>Communication (Bus stop, railways, navigation)</i>	<i>Approach to the Village</i>	<i>Nearest Town - Distance in km</i>	<i>Power Supply</i>	<i>Most Imp. Commodities manufactured.</i>
Maska	1393.1	932 (5055)	P(2), S(1)	ALLD(4), MCWC, PHC, PHSC, FWC, TBC, RMP, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO(1), P(10)	BS, NW (2)	PR	Mandvi-3	PALL	Bajri, Groundnut, Jowar
Bag	814.0	476 (2528)	P(3)	RMP, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO(1), PO(2)	BS, NW (2)	PR	Mandvi-6	PDOM, PAGR	Cotton, Bajri
Gundiya	2898.5	891 (5353)	P(3)	FWC, RMP, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(4)	BS, NW (2)	PR	Mandvi-8	PDOM, PAGR	Bajri, Cotton, Jowar
Mota Bhadiya	436.8	511 (2822)	P(3)	HOMH, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(5)	BS, NW (2)	PR	Mandvi-13	PALL	Bajri, Mug, Groundnut
Tragadi	1456.9	143(824)	P	CHW	T, W, TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	- 3KMS-	BS, NW (2)	PR	Mandvi-13	PALL	Bajri, Jowar, Wheat
Deshapur	2930	424 (2013)	P	CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(20)	BS, NW(2)	PR	Mundra-23	PALL	Cotton, Castor seeds, Isabgul

APPENDIX-15
AMENITIES IN THE VILLAGES OF THE STUDY AREA

<i>Village Name</i>	<i>Total Area (Hac)</i>	<i>No. of Households & total population</i>	<i>Educational Facilities</i>	<i>Medical Facilities</i>	<i>Drinking Water (potable)</i>	<i>Post, Telegraph & Telephone Facilities</i>	<i>Communication (Bus stop, railways, navigation)</i>	<i>Approach to the Village</i>	<i>Nearest Town - Distance in km</i>	<i>Power Supply</i>	<i>Most Imp. Commodities manufactured.</i>
Khakhar Moti	1250.8	324(1596)	P(3)	NA	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(23)	BS, NW(2)	PR	Mundra-26	PALL	Cotton, wheat, Bajri
Kandagara Mota	2085.0	454(2306)	P, S	HC, PHSC, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(27)	BS, NW(2)	PR	Mundra-22	PALL	
Tunda	1314.3	241(1207)	P	CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO	BS, NW(2)	PR	Bhuj-58	PALL	Cotton, Guvar, Jowar
Shiracha	1676.6	187(923)	P	CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(11)	BS, NW(2)	PR	Mundra-15	PALL	Wheat, Bajri, Mug
Moti Bhujpar	3298.4	1188 (5952)	P(3), S	MH, CWC(2), PHC, RMP, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(100)	BS, NW(2)	PR	Mundra-15	PALL	Groundnut, Bajri, Wheat
Pratapp ar	343.6	20(62)	P	CWC, CHW	T(2), W, TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	P(20)	BS, NW(2)	MR	Mundra-8	PALL	Wheat, Castor Seeds, Guvar

APPENDIX-15
AMENITIES IN THE VILLAGES OF THE STUDY AREA

<i>Village Name</i>	<i>Total Area (Hac)</i>	<i>No. of Households & total population</i>	<i>Educational Facilities</i>	<i>Medical Facilities</i>	<i>Drinking Water (potable)</i>	<i>Post, Telegraph & Telephone Facilities</i>	<i>Communication (Bus stop, railways, navigation)</i>	<i>Approach to the Village</i>	<i>Nearest Town - Distance in km</i>	<i>Power Supply</i>	<i>Most Imp. Commodities manufactured.</i>
Nani Bhujpar	441.0	126(717)	P	CWC, CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(2)	BS, NW(2)	PR	Mundra-9	PALL	Groundnut, castor seeds, guvar
Navinal	1038.3	241(1146)	P	CHW	T, W(2), TK(2), TW(2), HP(2), R(2), C(2), L(2), S(2), O(2)	PO, P(25)	BS, NW(2)	PR	Mundra-13	PALL	Cotton, wheat, bajri
Jarpara	3191.3	1019 (5762)	P(4)	ALLD, CHW	T, W, TK, TW(2), HP(2), R(1), C(2), L(2), S(2), O(2)	PO, P (50)	BS, NW (2)	PR	Mundra-8	PALL	Kharek, chikoo, coconut
Sukhpar	819.8	0	NA	NA	NA	NA	NA	NA	Mundra	NA	NA

Source: Census 2001

Drinking Water: T - Tap, W - Well, TK- Tank, TW- Tube well, HP- Hand pump, R - River, C- Canal, L - Lake, S- Spring, O - Others

Medical Facilities– ALLH- Allopathic Hospital, AYUH- Ayurvedic Hospital, UN- Unani Hospital, HOM-Homeopathic, ALLD -Allopathic Dispensary, AYUD- Ayurvedic Dispensary, MCWC- Maternity Child and Welfare Center, MH- Maternity Home, CWC- Child Welfare Centre, HC- Health Centre, PHC- Primary Health Centre, FWC-Family Welfare Centre, TB- TB clinic, NH- Nursing Home, RMP- Registered Medical Practitioner, SMP- Subsidized Medical Practitioner, CHW- Community Health workers, O- Others,

Irrigated by Source: CG- Canal Government, CP- Canal Private, WWOEL- Well without electricity, WWEL- Well with Electricity, TWWOEL- Tubewell without electricity, TWWEL- Tubewell with electricity, TK- Tank, R- River, L - Lake

Communication - BS- Bus Stop, RS- Railway Station, NW- Navigational Water

Approach to roads- PR- Paved Roads, MR- Mud roads, FP- Foot path

Power PALL - Electricity for all purpose, PAGR – Electricity for agricultural purpose, PDOM- Electricity for domestic purpose

NA- Not Available

APPENDIX – 15A

IMPORTANT COMMODITIES MANUFACTURED IN THE STUDY AREA

Name of the Village	Most important Commodity Manufactured-1	Most important Commodity Manufactured-2	Most important Commodity Manufactured-3
Mandvi Taluka			
Faradi	Pulses	Guvar	Wheat
Bidada	Bajri	Groundnut	Wheat
Nani Khakhar	Cotton	Wheat	Maize
Nana Bhadiya	Bajri	Jowar	Wheat
Pipari	Wheat	Bajri	Mug
Maska	Bajri	Groundnut	Jowar
Bag	Cotton	Bajri	
Gundiyali	Bajri	Cotton	Jowar
Mota Bhadiya	Bajri	Mug	Groundnut
Tragadi	Bajri	Jowar	
Mundra Taluka			
Deshalpar	Cotton	Castor Seeds	Isabgul
Khakhar Moti	Cotton	Wheat	Bajri
Kandagara Mota			
Tunda	Cotton	Guvar	Jowar
Shiracha	Wheat	Bajri	Mug
Moti Bhujpar	Groundnut	Bajri	Wheat
Pratappar	Wheat	Castor Seeds	Guvar
Nani Bhujpar	Groundnut	Castor Seeds	Guvar
Navinal	Cotton	Wheat	Bajri
Jarpara	Kharek	Chikoo	Coconut

APPENDIX – 15B

LOCAL TRANSPORTATION SYSTEM (CHAKKADA) FOR GOODS AND VILLAGERS

