

LIST OF CONTENTS

Page No.

1. INTRODUCTION	1-15
PURPOSE AND SCOPE	1
Objectives	2
Methodology	2
THE STUDY AREA	3
Climate	4
Physiography	6
Drainage	7
Geomorphology	10
Soils	12
Terrestrial And Coastal Biota	14
Geology	15
2. GEOLOGICAL SETUP	16-46
REGIONAL GEOLOGY	16
Tectonic Setup	16
Stratigraphic Setup	18
<i>Dhrangadhra Formation</i>	19
<i>Wadhwan Formation</i>	20
<i>Deccan Trap Formation</i>	21
<i>Laterites</i>	22
<i>Dwarka Formation</i>	24
<i>Miliolite Formation</i>	25
<i>Chaya Formation</i>	26
<i>Holocene Deposits</i>	27
GEOLOGY OF THE STUDY AREA	28
Daccan Trap Formation	28
Laterites	29
Gaj and Dwarka Formations	29
Miliolite and Chaya Formations	30
CARBONATE MICRO-FACIES	31
MF1 (SMF 18)	31
MF2 (SMF 5)	32
MF3 (SMF 11)	32
MF4 (SMF 14)	33
MF5 (SMF 17)	34
MF6 (SMF 18)	34
MF7 (SMF 15)	35
MF8 (SMF 15)	35
MODE OF OCCURRENCES	36
Location 1: (N 21°50.13', E 69°22.11')	36
Location 2: (N 21°50.15', E 69°22.01' to N 21°50.20', E 69°22.08')	38
Location 3: (N 21°50.07' and E 69°21.40')	39
Location 4: (N 21°50.21' and E 69°22.13')	41
Location 5: (N 21°50.39' and E 69°22.06')	41

Location 6: (N 21°39.37' E 69°22.58')	43
Location 7: (N 21°49.42' E 69°23.18')	43
Recent Deposits	44
3. HABITAT CHARACTERISATION	47-83
GENERAL	47
GEOMORPHOLOGY	47
INTERTIDAL MORPHOLOGY AND BENTHIC FAUNA	51
DISTRIBUTION	
PHYSICOCHEMICAL ENVIRONMENT OF THE MEDA CREEK	59
Methodology	59
<i>Sampling</i>	59
<i>pH</i>	60
<i>Total Suspended Solids</i>	61
<i>Salinity</i>	62
<i>Phosphate - Phosphorous</i>	63
<i>Total Phosphorous</i>	64
<i>Organic Phosphorous</i>	66
<i>Dissolved Oxygen (DO)</i>	66
<i>Biological Oxygen Demand (BOD)</i>	68
<i>Nitrate - Nitrogen And Nitrite-Nitrogen</i>	68
Results	72
<i>pH</i>	72
<i>Total Suspended Solids (TSS)</i>	76
<i>Salinity</i>	77
<i>Nitrite Nitrogen</i>	78
<i>Nitrate Nitrogen</i>	78
<i>Phosphate Phosphorous</i>	79
<i>Organic Phosphate</i>	80
<i>Dissolved Oxygen (Do)</i>	81
<i>Biochemical Oxygen Demand (BOD)</i>	83
4. SEDIMENTOLOGY	84-97
INTRODUCTION	84
METHODOLOGY	84
Sampling	84
Grain Size Analysis	85
Clay Mineralogy	86
RESULTS	88
Meda Creek Bottom Sediments	88
<i>Grain size analysis</i>	88
<i>Clay Mineralogy</i>	88
Shallow Subsurface Sediments	91
<i>Grain size analysis</i>	91
<i>Clay Mineralogy</i>	93
<i>Intensity analysis</i>	96

5. MICROPALAEONTOLOGY	98-125
INTRODUCTION	98
METHODOLOGY	98
MEDA CREEK BOTTOM SEDIMENTS	100
Systematic Descriptions of Foraminifera	100
Foraminifera Distribution	111
Foraminifera Morpho-groups	113
Reworked Foraminifera	114
Species Diversity and Richness	114
SHALLOW SUBSURFACE SEDIMENTS	115
Foraminifera	118
Charophytes	119
Pollens Grains	125
 6. DISCUSSION	 126-140
GENERAL	126
PLEISTOCENE HISTORY	128
HOLOCENE HISTORY	131
Event E1 (7.2 to 5 ka BP)	132
Event E2 (5 to 3 ka BP)	135
Event E3 (3 to 2.5 ka BP)	136
Event E4 (2.5 to 1 ka BP)	136
Event E5 (1 ka BP to 1974 AD)	137
Event E6 (since 1974 AD)	137
 REFERENCES	 142-151
 List of Figures	 iv-vii
 List of Tables	 viii