## LIST OF FIGURES

Figure 1-1: Location map of study area
Figure 1-2: Tectonic map of Cambay basin5
Figure 1-3: Hydrograph of Narmada River at Garudeshwar Gauge10
Figure 1-4: Flow chart showing methodology adopted in the present study12
Figure 2-1: Geomorphological map of Lower Reaches of Narmada Valley19
Figure 2-2: Geomorphology of the area under study
Figure 2-3: Cross-section of Narmada channel at Uchediya Sequence23
Figure 2-4: Field photograph showing the contact between gravel and silt in23
Figure 2-5: Field photograph of Neobank showing sandy and muddy sequence24
Figure 2-6: Field photograph showing the development of QS <sub>3</sub>
Figure 2-7: Historic modification of Tavra bar and Kabirvad bar26
Figure 2-8: Historic development in QS <sub>3</sub>
Figure 3-1: Locations of Microtremor stations in the study area
Figure 3-2: Image showing borehole correlations from the available boreholes32
Figure 3-3: An example of waveform recorded
Figure 3-4: H/V spectral ratio for 31 stations
Figure 3-5: Comparison between depths calculated
Figure 3-6: Cross profiles showing the contact of unconsolidated soft sediment and
consolidated bedrock variations of Quaternary sediments
Figure 3-7: Late Tertiary–Early Quaternary palaeo-topography of area42
Figure 4-1: Cross-section of Narmada channel at different segments

Figure 4-2: (A) Contour map of Sandy sector showing Uchediya surface and
palaeobank surface; (B) Lithologs47
Figure 4-3: Field photographs showing four trench sequence
Figure 4-4: Photograph showing sampling technique adopted for OSL50
Figure 4-5: Sediment log of Uchediaya sequence, visual observations along with OSL
dates52
Figure 5-1: Litholog of Uchediya sequence showing different sedimentary subfacies
and their associations58
Figure 5-2: Plot of average sorting against averaged mean grain size of individual
facies clearly shows clustering of two groups59
Figure 5-3: Pie diagram showing average values of sand, silt and clay percentage
variation in sandy sedimentary subfacies60
Figure 5-4: Pie diagram showing average values of sand, silt and clay percentage
variation in muddy sedimentary subfacies62
Figure 5-5: Bivariate plots of 401 samples used for the characterization64
Figure 5-6: Statistical parameters of Uchediya Sediments
Figure 5-7: Suite analysis of Uchediya sequence after Tenner, (2007)67
Figure 6-1: Histogram showing relative percentages of foraminiferal species at
lithounit 2 and lithounit 491
Figure 6-2: Litholog of Uchediya sequence showing sedimentological characteristics
of foraminifera bearing lithounits92
Figure 7-1: Plot of χ <sub>IF</sub> against SIRM100
Figure 7-2: Depth wise variation of magnetic parameters from the Uchediya101
Figure 7-3: Depth wise variation of χ <sub>I</sub> values for Uchediya sequence

Figure 7-4: Minimum, maximum and average values of different parameters 105
Figure 7-5: Plot of ferrimagnetic mineral weight percent verses SIRM106
Figure 7-6: Depth wise variation of individual major elemental composition along
Uchediya sequence compared with sediment subfacies109
Figure 7-7: Concentration of K <sub>2</sub> O plotted againest depth
Figure 7-8: Concentration of major elements other than Silica plotted for each
samples111
Figure 7-9: Variation diagram of major oxides with respect to SiO <sub>2</sub> 112
Figure 7-10: Bivariant plot capturing relative variation between major oxides 113
Figure 7-11: Plots of CaO+Na <sub>2</sub> O vs Fe <sub>2</sub> O <sub>3</sub> +TiO <sub>2</sub>
Figure 8-1: Bivarient plot of Mean grain Size verses Ferrimagnetic mineral weight
percentage
Figure 8-2: Bivarient plots of Mean grains size verses $\chi_{\text{If.}}$
Figure 8-3: Bivarient plot of Ferrimannetic mineral concentration and SIRM 120
Figure 8-4: Bivarient plots of $\chi_{If}$ vs Fe <sub>2</sub> O <sub>3</sub> + TiO <sub>2</sub>
Figure 8-5: Bivarient plots of $\chi$ lf vs CaO + Na <sub>2</sub> O
Figure 8-6: Stabilisation of channel bar preserves CMS_CU deposit within CD 127 $$
Figure 8-7: Northward shifting of thalweg line and aggradation of bar. CMD & $TrD$
accreated along River bank
Figure 8-8: Aggradetion of OBD, stabilisation of Uchediya through periodic
flooding
Figure 8-9: Major flood events and their multi-proxy records from Over Bank
Deposit