

	5.2.7 Channel 4B	35
	5.2.8 Channel 5	35
	5.2.9 Hikkaduwa	35
5.3	Summary of Sand Reserves and Dredging Plan	36
5.4	Conclusions	37
6.0	ENVIRONMENTAL ISSUES	38
6.1	Ecological Survey Results	38
	6.1.1 Colombo	40
	6.1.2 Wadduwa – Inshore Basin 1	40
	6.1.3 Kalutara – Channel 1	41
	6.1.4 Kalutara – Channel 3	41
	6.1.5 Kalutara – Inshore Basin 2	42
	6.1.6 Bentota – Beruwala Channel 4A	42
	6.1.7 Bentota – Beruwala Channel 4B	43
	6.1.8 Bentota – Beruwala Channel 5A	43
	6.1.9 Bentota – Beruwala Channel 5B	44
	6.1.10 Hikkaduwa	44
6.2	Identification of Key Issues	45
6.3	Monitoring	45
7.0	CONCLUSIONS AND RECOMMENDATIONS	46
7.1	Data Acquisition and Analysis	46
7.2	Sand Reserves, Dredging Plan and Environmental Sensitivity	46
	7.2.1 Colombo	46
	7.2.2 Wadduwa – Inshore Basin 1	46
	7.2.3 Kalutara-Maggona and Bentota-Beruwala	46
	7.2.4 Hikkaduwa	47
7.3	Recommendations	47
8.0	AUDIT INFORMATION	48

List of Figures

Figure 1.1	Location Plan
Figure 4.1	Summary of grading from grab samples, Colombo
Figure 4.2	Colombo: Example of Seismic Interpretation
Figure 4.3	Summary of grading from grab samples, Wadduwa
Figure 4.4	Inshore Basin 1: Example of Seismic Interpretation
Figure 4.5	Summary of grading from grab samples, Channel 1
Figure 4.6	Channel 1: Example of Seismic Interpretation
Figure 4.7	Summary of grading from grab samples, Channel 3
Figure 4.8	Channel 3: Example of Seismic Interpretation
Figure 4.9	Summary of grading from grab samples, Inshore Basin 2
Figure 4.10	Inshore Basin 1: Example of Seismic Interpretation
Figure 4.11	Summary of grading from grab samples, Channel 4A
Figure 4.12	Channel 4A: Example of Seismic Interpretation
Figure 4.13	Summary of grading from grab samples, Channel 4A
Figure 4.14	Channel 4B: Example of Seismic Interpretation
Figure 4.15	Summary of grading from grab samples, Channel 5

Figure 4.16a Channel 5A: Example of Seismic Interpretation
Figure 4.16b Channel 5B: Example of Seismic Interpretation
Figure 4.17 Summary of grading from grab samples, Hikkaduwa
Figure 4.18 Hikkaduwa: Example of Seismic Interpretation

List of Tables

Table 1.1	Summary of Survey Objectives and Techniques Employed
Table 1.2	Summary of Sand Volume and Specification Requirements
Table 2.1	Summary of Survey Area Extents, Bathymetry and Seabed Character
Table 3.2	Summary of Geophysical Survey Line Spacing and Geotechnical Samples Taken
Table 4.1	Summary of Seismic Units Identified – Colombo
Table 4.2	Summary of Seismic Units Identified – Wadduwa, Inshore Basin 1
Table 4.3	Summary of Seismic Units Identified – Kalutara, Channel 1
Table 4.4	Summary of Seismic Units Identified – Kalutara, Channel 3
Table 4.5	Summary of Seismic Units Identified – Kalutara, Inshore Basin 2
Table 4.6	Summary of Seismic Units Identified – Bentota-Beruwala, Channel 4A
Table 4.7	Summary of Seismic Units Identified – Bentota-Beruwala, Channel 4B
Table 4.8	Summary of Seismic Units Identified – Bentota-Beruwala, Channel 5
Table 4.9	Summary of Seismic Units Identified – Hikkaduwa
Table 5.1	Summary of Sand Reserves and Dredging Plan
Table 6.1	Borrow Areas Ranked in Order of Sensitivity
Table 6.2	Summary of Ecological Sensitivity to Dredging – Colombo
Table 6.3	Summary of Ecological Sensitivity to Dredging – Wadduwa, Inshore Basin 1
Table 6.4	Summary of Ecological Sensitivity to Dredging – Kalutara, Channel 1
Table 6.5	Summary of Ecological Sensitivity to Dredging – Kalutara, Channel 3
Table 6.6	Summary of Ecological Sensitivity to Dredging – Kalutara, Inshore Basin 2
Table 6.7	Summary of Ecological Sensitivity to Dredging – Bentota-Beruwala, Channel 4A
Table 6.8	Summary of Ecological Sensitivity to Dredging – Bentota-Beruwala, Channel 4B
Table 6.9	Summary of Ecological Sensitivity to Dredging – Bentota-Beruwala, Channel 5A
Table 6.10	Summary of Ecological Sensitivity to Dredging – Bentota-Beruwala, Channel 5B
Table 6.11	Summary of Ecological Sensitivity to Dredging – Hikkaduwa

Part 2		Pages
APPENDICES AND SUPPORTING DATA		
APPENDIX A	Work Programme Amendments	A1-4
APPENDIX B	Survey Methods Summary	B1-10
APPENDIX C	Sidescan Sonar Data Interpretation	C1-7
APPENDIX D	Seismic Interpretation	D1-24
APPENDIX E	Geotechnical Sample Locations	E1-4
APPENDIX F	Geotechnical Sample Descriptions and Photographs	F1-18
APPENDIX G	Ecological Survey Results	G1-27
APPENDIX H	Ecological Sample Locations	H1-5
APPENDIX I	Survey Logs	I1-73

PART 3 DRAWINGS

J.2.02.0016.0.01	Map of Surveyed Areas
J.2.02.0016.1.01	Colombo Bathymetry
J.2.02.0016.1.02	Colombo Sidescan Mosaic and Interpretation
J.2.02.0016.1.03	Colombo Sea Level to Base Horizon 1
J.2.02.0016.1.04	Colombo Thickness of Unit 1
J.2.02.0016.1.05	Colombo Sea Level to Base Horizon 2
J.2.02.0016.1.06	Colombo Thickness of Unit 2
J.2.02.0016.1.07	Colombo Horizon 4: Sea Level to 2m Elevation Above Rockhead
J.2.02.0016.1.08	Colombo Thickness of Units 3 and 4
J.2.02.0016.1.09	Colombo Trackplot, Seismic and Sample Locations
J.2.02.0016.2.01	Inshore Basin 1 Bathymetry
J.2.02.0016.2.02	Inshore Basin 1 Sidescan Mosaic and Interpretation
J.2.02.0016.2.03	Inshore Basin 1 Sea Level to 2m Elevation Above Rockhead
J.2.02.0016.2.04	Inshore Basin 1 Total Sand Thickness
J.2.02.0016.2.05	Inshore Basin 1 Trackplot, Seismic and Sample Locations
J.2.02.0016.3.01	Kalutara – Channels 1, 3 and Inshore Basin 2 Bathymetry
J.2.02.0016.3.02	Kalutara – Channels 1, 3 and Inshore Basin 2 Sidescan Mosaic and Interpretation
J.2.02.0016.3.03	Kalutara – Channels 1, 3 and Inshore Basin 2 Sea Level to Base Overburden
J.2.02.0016.3.04	Kalutara – Channels 1, 3 and Inshore Basin 2 Thickness Overburden
J.2.02.0016.3.05	Kalutara – Channels 1, 3 and Inshore Basin 2 Sea Level to 2m Elevation Above Rockhead
J.2.02.0016.3.06	Kalutara – Channels 1, 3 and Inshore Basin 2 Sand Thickness
J.2.02.0016.3.07	Kalutara – Channels 1, 3 and Inshore Basin 2 Trackplot, Seismic and Sample Locations
J.2.02.0016.4.01	Bentota-Beruwala – Channels 4 and 5 Bathymetry
J.2.02.0016.4.02	Bentota-Beruwala – Channels 4 and 5 Sidescan Mosaic and Interpretation
J.2.02.0016.4.03	Bentota-Beruwala – Channels 4 and 5 Sea Level to Base Overburden
J.2.02.0016.4.04	Bentota-Beruwala – Channels 4A, 4B and 5 Thickness Overburden
J.2.02.0016.4.05	Bentota-Beruwala – Channels 4A, 4B and 5 Sea Level to 2m Above Rockhead
J.2.02.0016.4.06	Bentota-Beruwala – Channels 4A, 4B and 5 Sand Thickness
J.2.02.0016.4.07	Bentota-Beruwala – Channels 4A, 4B and 5 Trackplot, Seismic and Sample Locations
J.2.02.0016.5.01	Hikkaduwa Bathymetry
J.2.02.0016.5.02	Hikkaduwa Sidescan Mosaic and Interpretation
J.2.02.0016.5.03	Hikkaduwa Sea Level to Base Unit 1
J.2.02.0016.5.04	Hikkaduwa Unit 1 Thickness
J.2.02.0016.5.05	Hikkaduwa Sea Level to Base Unit 3
J.2.02.0016.5.06	Hikkaduwa Units 2 and 3 Thickness
J.2.02.0016.5.07	Hikkaduwa Sea Level to 2m Elevation Above Rockhead
J.2.02.0016.5.08	Hikkaduwa Unit 4 Thickness
J.2.02.0016.5.09	Hikkaduwa Trackplot, Seismic and Sample Locations