

Appendix 1: Foraminiferal species identified in this study.

Ammobaculites agglutinans (d'Orbigny)=*Haplophragmium agglutinans* d'Orbigny, 1843; *Ammonia "beccarii"* (Linné)=*Ammonia* sp. (Nomura and Takayanagi, 2000)(Plate 1-11, 12); *Ammonia cf. parkinsoniana* (d'Orbigny)=*Cf. Rosalina parkinsoniana* d'Orbigny, 1839 (Nomura and Takayanagi, 2000) (Plate 1-13); *Ammonia japonica* (Hada)=*Rotalia japonica* Hada, 1931; *Ammonia tepida* (Cushman)=*Rotalia beccarii* (Linné) var. *tepida* Cushman, 1926; *Amphistegina* sp.; *Bolivina durrandi* Millett, 1900; *Bolivina robusta* Brady, 1881; *Brizalina seminuda* (Cushman)=*Bolivina seminuda* Cushman, 1911; *Brizalina striatula* (Cushman)=*Bolivina striatula* Cushman, 1922 (Plate 1-16); *Brizalina* sp.; *Buccella frigida* (Cushman)=*Pulvinulina frigida* Cushman, 1922; *Buccella inusitata* Andersen, 1952; *Bulimina cf. gibba* Fornasini, 1902; *Bulimina fijiensis* Cushman, 1933; *Bulimina marginata* d'Orbigny, 1826; *Buliminella elegantissima* (d'Orbigny)=*Bulimina elegantissima* d'Orbigny, 1839; *Cibicides refulgens* Montfort, 1808; *Cibicidoides* sp.; *Cornuspira* sp.; *Elphidium advena*(Cushman)=*Polystomella advena* Cushman, 1922 (Plate 1-8); *Elphidium excavatum* (Terquem)=*Polystomella excavata* Terquem, 1875 (Plate 1-7); *Cf. Elphidium excavatum* (Terquem); *Elphidium crispum* (Linné)=*Nautilus crispus* Linné, 1758; *Elphidium incertum* (Williamson)=*Polystomella umbilicatula* var. *incerta* Williamson, 1858 (Plate 1-17); *Elphidium jenseni* (Cushman)=*Polystomella jenseni* Cushman, 1924; *Elphidium kusiroense* Asano, 1938 (Plate 1-9); *Elphidium matsukawauraense* Takayanagi, 1955; *Elphidium reticulosum* Cushman, 1933 (Plate 1-6); *Elphidium somaense* Takayanagi, 1955 (Plate 1-5); *Epistominella naraensis* (Kuwano)=*Pseudoparrella naraensis* Kuwano, 1950; *Esosyrincus* sp.; *Fissurina circularis* Todd, 1954; *Fissurina* sp.; *Fursenkoina* sp.; *Gaudryina* sp.; *Glabratella* sp.; *Globocassidulina complanata* (Ujiié and Kusukawa)=*Cassidulina complanata* Ujiié and Kusukawa, 1969; *Heterillina* sp.; *Lagenammia arenulata* (Skinner)=*Reophax difflugiformis arenulata* Skinner, 1961 (Plate 1-20); *Massilina secans*

(d'Orbigny)=*Quinqueloculina secans* d'Orbigny, 1826; *Miliolinella subrotunda* (Montagu)=*Vermiculum subrotundum* Montagu, 1808 (Plate 1-3); *Miliolinella* sp.; *Murrayinella minuta* (Takayanagi)=*Rotalia? minuta* Takayanagi, 1955 (Plate 1-19); *Nonionella pulchella* Hada, 1931; *Nonionella auricula* Heron-Allen and Earland, 1930 (Plate 1-10); *Oolina melo* d'Orbigny, 1839; *Ozawaia* sp.; *Pararotalia nipponica* (Asano)=*Rotalia nipponica* Asano, 1936; *Polymorphina* sp.; *Procerolagena clavata* (d'Orbigny)=*Oolina clavata* d'Orbigny, 1846; *Pseudononion japonicum* Asano, 1936; *Pyrgo* sp.; *Quinqueloculina tubilocula* Zheng, 1979 (Plate 1-1); *Quinqueloculina fukushimaensis* Takayanagi, 1955; *Quinqueloculina lamarckiana* d'Orbigny, 1839 (Plate 1-2); *Quinqueloculina seminulum* (Linné)=*Serpula seminulum* Linné, 1758; *Quinqueloculina striatula* Cushman, 1932; *Quinqueloculina vulgaris* d'Orbigny, 1826 ; *Quinqueloculina* spp.; *Reussella spinulosa* (Reuss)=*Verneuilina spinulosa* Reuss, 1850 (Plate 1-15); *Rosalina globularis* d'Orbigny, 1826; *Rosalina vilardeboana* d'Orbigny, 1839; *Rosalina* sp.; *Sigmoilopsis schlumbergeri* (Silvestri)=*Sigmoilina schlumbergeri* Silvestri, 1904 (Plate 1-4); *Sigmomorphina ozawai* (Hada)=*Sigmomorpha ozawai* Hada, 1931; *Siphotextularia* sp.; *Spiroloculina acescata* Cushman=*S. grateloupi* d'Orbigny var. *acescata* Cushman, 1932; *Spiroloculina communis* Cushman and Todd, 1944; *Spiroloculina hadai* Thalmann, 1933 (Plate 1-14); *Spiroloculina* sp.; *Stainforthia* sp.; *Textularia pseudogramen* Chapman and Parr, 1937; *Textularia* sp.; *Triloculina trigonula* (Lamarck)=*Miliolites trigonula* Lamarck, 1804; *Triloculina* sp.; *Trimosina takayanagii* Oki=*Trimosina? takayanagii* Oki, 1989; *Trochammina hadai* Uchio, 1962; *Uvigerina* sp.; *Uvigerinella glabra* (Millett)=*Uvigerina auberiana* d'Orbigny var. *glabra* Millett, 1903 (Plate 1-8); *Valvulineria hamanakoensis* (Ishiwada)=*Anomalina hamanakoensis* Ishiwada, 1958; *Wiesnerella auriculata* (Egger)=*Planispirina auriculata* Egger, 1895.