Index

[Italic page numbers indicate major references]

Acanthoceras Zone, 4
accretion, 70
Alisporites bilateralis, 80
Allen Creek, 43
Alococeras, 125, 131
annulatum, 91
aluminosilicate minerals, 146
Amite River, sediments, 70
Ammobaculites, 157
Ammobaculoides, 157
Ammomarginulina, 157
ammonites, 49, 55, 87, 92, 160, 165
Ammunial, 91, 92, 97, 101, 105,
116, 122, 125, 130, 135, 149, 158
Ancyra, 105
andesite flow, 38
angiosperms, 76, 80
Anisoceras coloradoense, 80
ankylosaur, tail vertebrae, 29
Aphrodina, 94
Appendixisporites, 80
Aquilapolllennes, 57, 59, 80
delicatus, 57
pyriformis, 57
senonicus, 55
trilatatus, 58, 59
turbidus, 57, 59
sp., 58
Aquilapolllennes province, 80
Araucariaceae, 80
Araucariacites, 80
sp., 77
Araucariacites, 59
sp., 59
Archocelida dartoni, 123
Arenicolites, 202
arenite
feldspathic, 104, 105
lithic, 15
quartz, 14, 21, 95
Arizona, 139, 153, 167
northeastern, 85
northern, 4, 4
ash, volcanic, 146
Astarte, 125, 130
Azolla
cretacea, 57, 58, 59
sp., 59
Aztec Sandstone, 21, 24
backswamp, 179, 183, 186
deposits, 183, 185
Baculites
asper, 52
asperiformis ammonite zone, 55
calamus, 93
yokoyami, 92, 93
sp., 55
Bald Knoll Coal Zone, 78
Balitisphaeridium, 78
Baseline Sandstone, 12, 21
bays, interdistributary, 181
Beaver Dam Mountains, 23
beds
bentonite, 10, 114
calcarenite, 123, 134
calcisiltite, 123, 134
calcareous, 49, 70, 94, 202, 206, 208
limestone, 115, 117, 124, 131, 134
marker, 87, 95, 98, 99, 103, 106, 123, 130
marlstone, 115
sandstone, 94
shell, 95, 97, 99, 105, 122, 123,
125, 126, 131, 135
tuff, 12
bentonites, 163
bentonite, 10, 66, 87, 95, 97, 101,
103, 114, 130, 140, 146, 155
swarm, 146, 163
Big Water, 66
biostratigraphy, 47, 85, 90
foraminiferal, 153, 157
planktonic foraminiferal, 143
biotic patterns, 124
biotite, 12, 21, 88
bioturbation, 14, 101, 103, 104, 185
biozone boundaries, 120
bivalves, 48, 91, 124, 125, 126, 131, 136
Black Hills region, 94
Black Mesa, Arizona, 2, 78, 85
biostratigraphy, 90
foraminifera, 140
marker beds, 87
northeastern, 167
southwestern, 153
Black Mesa Basin, 4, 5, 6, 51, 86,
120, 139
Black Mountain, 106
Blue Hill Shale, 93, 104, 149
Blue Mountain thrust, 18, 20, 23, 41
Blue Point section, Mancos Shale, 87,
93, 95, 99, 101, 103, 106, 123,
140, 150, 153, 155, 158, 160,
163, 165
Blue Point Tongue, 103, 104, 106,
157
bolide impacts, 113
Bonanza King Formation, 22
Book Cliffs region, 55
Borrego Pass Lentic, 76
Brachidontes filisculpus, 75
brachiopods, 21
braidplain, fluvial, 13, 14, 23
breccia, 38
Bridge Creek Limestone Member, 91,
93, 97, 98, 145, 157, 165
Bryozoa, 79
bryozoa, 20, 99
Buliminella, 157
Burro Canyon Formation, 48
Burroceras, 92
clydene, 92
irreguläre, 126
transitorium, 92
burrows, 102
calcarenite, 88, 99, 123, 134
calcisilt, 87, 88, 97, 99, 101, 140,
146, 149
calcisiltite, 88, 123, 134
calcite, 40, 94, 102, 104, 150
calcite cement, 40
Calico bed, 2, 30
Calico conglomerate, 2
California borderland, 144
California OMZ, central, 144
Calycoceras
naviculari, 91
oberi, 91
Camarozonospirorites, 80
Camptonectes, 94, 125
Canaan Peak, Utah, 28, 43
Canaan Peak Formation, 27, 60
conglomerate petrography, 38
lithofacies, 29, 32
paleocurrents, 36
sandstone petrography, 40
Capping Sandstone Member, 55
carbonate, 14, 40, 41, 101, 115, 149
cement, 123
clasts, 15, 18, 21, 38, 116
fragments, 20
grains, 21
Carilile Shale, 93, 98, 99, 157, 160
Carmel Formation, 10, 15, 21, 23
carnivores, benthic, 97
carpet transport, 14
Castelegate Sandstone, 55, 58
Cedar Mountain Formation, 48
Cenomanian, 78, 113
late, 85
Cerithiapisis, 125, 131
Chaetetes sp., 17, 21
channel deposits
crevasse, 177
distributary, 170, 177, 181
fluvial, 170, 177, 183, 184, 185
channel sandstones, 95
channel scars, 30, 31
channels
abandoned, 181
distributary, 106
fluvial, 183
migration, 13, 75
tidal, 208
chert, 20, 38, 40, 52, 55, 56, 68
clasts, 15, 17, 21, 38, 41, 60
grains, 21
granules, 50
pebbles, 41, 49
chertarenite, 40
Chilouquemelina, 144
Choffaticeras, 92
chromium, 113, 134
Cibaloites, 92
Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/957648/spe260-bm.pdf by guest
Index

Cicatricosisportes, 80
Cinexomyx
antigus, 55, 59
sp., 55, 59
Cimolodon
electus, 55
similis, 55, 59
sp., 59
Claron Formation, 10, 12
clastics, 2, 4, 6
clasts, 12, 15
carbonate, 15, 18, 21, 38, 116
chert, 15, 17, 21, 38, 41, 60
conglomerate, 20
counts, 38
Delfonte Volcanic, 41
dolostone, 38
elongate, 13
imbricate, 36, 37
limestone, 38
quartzite, 15, 17, 20, 38
sandstone, 38
volcanic, 38, 41
Clavihedbergella, 145, 148
subdigitata, 143, 160
Clay Mesa Shale Member, 4
clay minerals, 140
assemblages, 149
clay skins, 70, 71
clays, 40, 94, 106, 116, 124, 131, 134, 136
deposition, 104
suspended, 186
clayshale, 88
claystone, 28, 61, 103, 116, 140, 149, 155, 179, 180
Cliff House Sandstone, 191
coal, 50, 65, 68, 71, 76, 78, 81, 94, 167, 180, 192
bituminous, 168
geometry, 186
occurrence, 186
coal beds, 49, 70, 94, 202, 206, 208
Coal Chute section, Mancos Shale, 87, 94, 95, 102, 103, 106
Coal Mine West, Arizona, 122
Coconino County, 153
Collignoniceras, 93, 145, 146, 150
regulare, 106
woollgari, 93, 101, 103, 105, 109, 160, 163, 165
woollgari regulare, 106
woollgari woollgari, 93, 99, 106
Colorado Front Range, 145
Colorado Plateau, 94, 153
Colorado Plateau (southern), 113, 139, 155
biotic patterns, 124
Cretaceous/Tertiary boundary, 113, 114, 116, 117, 134
lithofacies, 116, 124, 131
sedimentation patterns, 117
stratigraphy, 114
Colorado Plateau physiographic province, 167
Colorado River, sediments, 70
compaction, differential, 68
Complexopollis-Atlantopollis Zone, 80
Complexopollis exigua Zone, 80
concretion horizons, 140, 155
concretional marker, 89
conglomerates, 1, 6, 10, 12, 17, 20, 28, 30, 38, 48, 52, 65, 68
basal, 21
clasts, 20
development, 2
fluvial, 15
migration, 2
petrography, 38
corals, 20
horn, 17
thickets, 123
Corbula, 97, 101, 103, 104, 125, 130, 131
corbulids, 73
Cordiceramus cordiformis, 52
mulleri, 52
Coyote Creek, 66
crab claws, 55, 61
Crassostrea, 73, 81, 106
soleniscus, 106
Crennoceramus doeneini, 52
Cretaceous, 1
Late, 47
Upper, 9, 27, 139, 153, 167, 189
Cretaceous/Tertiary boundary, 113, 114, 116, 117, 134
Crevasse Canyon Formation, 191, 192
cri nordicolumnals, 20
crocodilians, 48, 50, 55
crustal shortening, 6
Cunningtoniceras novimexicanum, 90
currents
bottom, 149
goethic, 95
Cuspidaria alaeformis, 75
Cysathaceae, 77, 79
Cyathidites minor, 80
Cycadales, 79
cycles
limestone-shale, 98
transgressive, 155, 185
Cyclorisma, 94, 97, 101
Cylindrotorocutatum, 125
Cymbophora, 105, 195
Cythereis, 143
Dakota conglom erate, 1
Dakota Formation, 3, 4, 10, 12, 20, 48, 60, 65, 78, 86, 93, 98, 123, 139, 153, 165
age, 65, 80
depositional environments, 65
geology, 81
lithofacies, 68
lithologic units, 155
members, 48, 68, 94, 155
palynology, 65, 76, 78
stratigraphy, 66
Dakota Group, 65
Dakon Sandstone Member, 191
debris flow, 15, 170
Deer Creek area, 95
Defiance uplift, 116, 122, 123
deforation, 6, 18, 20
Delfonte Volcanic clasts, 41
deposition, 20, 32, 65
alluvial plain, 182, 184
astomosed stream channels, 72
braided stream, 27
braided stream/braidplain, 68
clay, 104
coastal sand body, 75
deltaic plain, 181
estuarine/lower shoreface, 73
foreshore, 74
marine, 106
overbank flood-plain, 71
sediments, 113
terrestrial, 106
deposits
alluvial-plain, 208
back-barrier, 206
backswamp, 183, 185
braidedplain, 14
coastal-plain, 206
crevase splay, 179
delta-plain, 206
gavel, 2
interfluvial, 184
lacustrine, 185
lag, 122
lake, 181
levee, 177
marsh, 179
peat, 208
splay, 71
transgressive ravinement, 76
Desmoscaphites, 52
detritus, 41, 42
Dicarinella, 145
hagni, 143
dinosaurs, 29, 48, 50, 55
Diplococanium, 74, 194, 202
discharge fluctuation, 70
disconformities, 122, 136
dispersal systems, 5
dolomite, ferroan, 40
dolostone, 38
Donjek type, 33
Drepanochilus, 97, 99, 125, 126, 130, 131
rueldii, 97
Drip Tank member, 2, 52, 60, 62
dune migration, 14
Dunveganoceras altitense, 80
conditum, 80
pondi ammonite zone, 49
pondii zone, 80
Dystichlis-Salicornia, 149
echinoids, 99, 124
Egg Nog, Utah, 122
Endocastea
balticus, 52
flexibalticus, 52
Entrada Sandstone, 50, 66
environments
braidedplain, 10
cold-forming, 206
depositional, 65
Epicontinental Sea Fauna, 148
epiphana, sessile, 97
erosion, 6, 10, 42, 51, 68, 86, 157
Index 213

Grand Canyon Bight, 1
Granocardioides, 12
Grapevine Wash Formation, 12, 23
granites, 4

Eucalycoceras pentagonum, 91
Euomphaloceras, 92
Euspira, 60
Exogyra olisponensis, 76
Escalante thrust, 18, 20, 23
Fairport Chalk Member, 93, 98, 99
Fairport Shale Member, 157
Fairport Chalky Shale Member, 93
Farrar Formation, 58, 59
fasters, 105
facies
clastic, 10
sandstone regressive, 189
Facies, 92
Fairport Chalk Member, 93, 98, 99
Fairport Chalky Shale Member, 93
Fairport Shale Member, 157
Farrar Formation, 58, 59
fascicularis, 105
feeders
deposit, 97, 103, 109
suspension, 97, 101, 103, 105, 109
feldspars, 6, 15, 40, 94, 95
Fire Island Inlet, New York, 75
fish, 50, 55
fishbone, 61, 123
flooding, overbank, 181
floodplains, 71, 208
flows
andesite, 38
debris, 15
rhylolite, 38
fluvial system, braided, 33
foraminifera
arenaceous, 104, 150, 157
benthic, 141, 144, 148
benthonic, 157, 163
planktonic, 120, 141, 143, 148, 150, 157
foreland basin, 1, 10, 28, 42, 86
Four Corners area, 78
freshwater influx, 165
Gallup facies, 189
Gallup Sag, 189, 208
Gallup Sandstone, 189, 195, 202, 203, 204, 206, 208
lithofacies, 192, 208
stratigraphy, 191
gar scales, 53
Gaspé, eastern, 33
gastropods, 97, 105, 124, 125, 130, 131
Gaudryina bentonensis Zone, 141
Gavelinella, 157
Gervillia, 125
glass, volcanic, 38
Gleicheniaceae, 77, 79
Gleicheniidae, 80
Globigerinellidoides bentonensis, 143, 144
Grand Canyon Bight, 1
Grand Canyon embayment, 139
Grapevine Wash Formation, 12, 23
bars, 31
deposit, 2
dispersal, 42
feldspathic, 95
sheets, 30, 42, 69
Greenhorn cycle, 165
Greenhorn Cyclothem, 4
Greenhorn Formation, 145, 157, 160
Greenhorn Limestone Member, 91, 93, 97, 98
Greenhorn Marine Cycle, 86
Greenhorn Sea, 116, 134, 139, 144, 146, 148, 150
Greenhorn Seaway, 155, 165
Greenland Sea, 60
Gryphaeostrea, 125, 126, 131
Guembelitria, 144, 157
Gunlock locality, 6, 10, 12, 20, 23
gutter casts, 123
gypsum crystals, 150
Gyroidea, 105
Ha Ho No Geh Canyon, 101
Haplophragmoides, 157
Hartland Shale Member, 91, 98
Helbbergella, 144, 145, 148, 157
delrioensis, 141
Hell Creek Formation, 57
hematite, 40
Henderson Canyon, 40, 43
Henry Basin, 51
Heterohelix, 144, 145, 148, 150, 157
Hoeglundina, 157
Homestake Limestone Member, 15, 18, 23
Hopí Indian Reservation, 86, 104, 153, 167
Hopí Sandy Member, 93, 99, 101, 103, 106, 140, 149, 155, 156, 163
Hosta Tongue, 191
Howell Mesa, 101, 104
Hymenophyllaceae, 77
Idonea, 94
illite, 146
Incapsulipollenites, 80
dubius, 77
inlets, tidal, 75
Inoceramis, 94, 103
Inoceramus, 93, 105, 130, 131, 134
cuvier, 93, 101
dimiidus, 93
flaccidus, 93
flavus, 91
heini, 92
howelli, 49, 93
nodai, 91, 92
pictus, 91, 92, 135
pictus pictus, 74, 75
tenuistriatus, 135
sp., 92
iridium, 113, 134
Iron Springs Formation, 6, 9, 10, 12, 20, 23
age, 12
lithofacies, 12, 23
members, 15
Newcastle locality, 10, 20
Red Hills locality, 10, 20, 23
stratigraphy, 10
Three Peaks locality, 10, 13, 15, 18, 23
Iron Springs thrust, 18, 23
Jackson Mountain–Square Top thrustsheet, 23
jarosite, 103, 104, 150
jasper, red, 17
Jetmore Member, 145
John Henry Member, 2, 51, 60
Judith River faunas, 60
Judith River Formation, 58, 60
Kaibito saddle, 6
Kaiparowits Basin, 4, 120
Kaiparowits Formation, 29, 55
age, 57
stratigraphy, 47, 55
Kaiparowits Plateau, 2, 3, 28, 29, 41, 47, 60, 66, 78
Canasau Peak Formation, 60
Dakota Formation, 48
Straight Cliffs Formation, 49
Tropic Shale, 49
Wahweap Formation, 53
Kameruniceras, 92
Puebloense, 92
Turoniensis, 92
kaolinite, 146, 149, 150
Kicking Horse River, 69
Klukisperites, 77
Kukisperrites, 59
Scutatus, 59
sp., 59
La Ventana Tongue, 191
lag deposits, 122
lakes, interfluvial, 184
Laramie Formation, 71
Laramie orogeny, 6
Leviscerithium, 101, 103
Lewis Shale, 191
Liliaceae, 80
Lima, 125
limestone, 13, 38, 55, 66, 90, 98, 116, 155
beds, 115, 117, 124, 131, 134
clasts, 38
cycles, 123
limonite, 88, 103, 104, 150
Lingula, 103, 104, 149, 150, 202
Lingulogavelinella, 157
limonite, 40
lithic fragments, 40
lithofacies, interval
cal-bear, 202, 206
sandstone-dominated, 192, 203, 205, 208
lithostratigraphy, 85
Contents

Preface ................................................................. v

1. Introduction; Tectonic setting along the margin of the Cretaceous Western Interior 
Seaway, southwestern Utah and northern Arizona ............................... 1 
Jeffrey G. Eaton and J. Dale Nations

2. Tectonic influence on sedimentation in the southern Sevier foreland, Iron Springs 
Formation (Upper Cretaceous), southwestern Utah ............................... 9 
Robert P. Fillmore

3. Braided stream deposition and provenance of the Upper Cretaceous–Paleocene(?) 
Canaan Peak Formation, Sevier foreland basin, southwestern Utah .......... 27 
James G. Schmitt, David A. Jones, and Patrick M. Goldstrand

4. Biostratigraphic framework for the Upper Cretaceous rocks of the Kaiparowits Plateau, 
southern Utah .................................................................................. 47 
Jeffrey G. Eaton

5. Depositional environments, palynology, and age of the Dakota Formation, 
south-central Utah ........................................................................... 65 
Barbara A. am Ende

6. Lithostratigraphic and biostratigraphic framework for the Mancos Shale (Late 
Cenomanian to Middle Turonian) at Black Mesa, northeastern Arizona .... 85 
James Ian Kirkland

7. Molluscan paleoecology and sedimentation patterns of the Cenomanian-Turonian 
extinction interval in the southern Colorado Plateau region .................... 113 
William P. Elder

8. Paleoceanographic and paleoclimatic interpretations of the Mancos Shale (Upper 
Cretaceous), Black Mesa Basin, Arizona ............................................ 139 
R. Mark Leckie, Maxine G. Schmidt, David Finkelstein, and Richard Yuretich

9. Foraminiferal biostratigraphy and paleoecology of the Mancos Shale (Upper Cretaceous), 
southwestern Black Mesa, Arizona .................................................... 153 
James Olesen

10. Facies and depositional environments of the coal-bearing upper carbonaceous member 
of the Wepo Formation (Upper Cretaceous), northeastern Black Mesa, Arizona .... 167 
David A. Carr

11. Heterogeneity of Upper Cretaceous Gallup sandstone regressive facies, Gallup Sag, 
New Mexico ...................................................................................... 189 
Romeo M. Flores, John C. Hohman, and Frank G. Ethridge

Index ......................................................................................... 211

ISBN 0-8137-2260-8