



NEOGENE

OF THE

MEDITERRANEAN TETHYS AND PARATETHYS

STRATIGRAPHIC CORRELATION TABLES

AND

SEDIMENT DISTRIBUTION MAPS

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Volume 2

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CONTENTS

Preface	XIX
Legend of Stratigraphic Correlation Tables	XXI
Stratigraphic Correlation Tables	XXV
PORTUGAL (P)	
No.303	Lisbon region ANTUNES 1
304	Sado ANTUNES & PAIS 2
305	Algarve ANTUNES & PAIS 3
306	Littoral region S of Mondego river —
307	Littoral region N of Mondego river —
308	Moura ANTUNES & PAIS 4
SPAIN (E)	
301	Asturian depression HOYOS 5
302	Gallegas depression BRELL 6
1 a	Guadalquivir depression ZAZO 7
1 b	Betic ranges MEGIAS & al. 8
1 c	Betic depressions (Iberic-Betic basin) CALVO SORANDO & al. 9
1 c	Betic ranges MEGIAS & al. 10
2 a	Ronda basin SERRANO 11
2 b	Betic ranges MEGIAS & al. 12
2 b/1	Granada basin W GONZALES DONOSO 13
2 b/2	Granada basin central GONZALES DONOSO 14
2 b/3	Granada basin central GONZALES DONOSO 15
2 b/4	Granada basin NE and SE GONZALES DONOSO 16
2 c	Balearic depression BARON & POMAR 17
3 a	Malaga coastal area CARRSCO & RODRIGUEZ 18
3 b	Betic ranges MEGIAS & al. 19
3 b1	Betic depression, Almerian corridor DABRIO 20
4	Valencia depression USERA & al. 21
5 a	Valencia platform, N Balearic trough MARTINEZ & al. 22
5 b	Valencia platform, N Balearic trough MARTINEZ & al. 23
6 a	Valles SANTAFE & CASANOVAS 24
6 b	Penedes SANTAFE & CASANOVAS 25
7	Sarrion depression LOPEZ & HOYOS 26
8	Iberic depression HOYOS & LOPEZ 27
9 a	Ebro depression, Bureba-Rioja Alta RIBA 28
9 b	Ebro depression, Rioja-Baja, Navarra RIBA 29
9 c	Ebro depression, Aragon RIBA 30
9 d	Ebro depression, Jaga basin RIBA 31
9 e	Ebro depression, Miranda-Trevino basin RIBA 32
10 a1	Duero basin W, Valladolid, Zamora JIMENEZ FUENTES 33
10 a2	Duero basin SW, Zamora, Salamanca JIMENEZ FUENTES 34
10 a3	Duero basin S and central JIMENEZ FUENTES 35
10 b	Duero basin E GARDIA DEL CURA & ORDONEZ 36
10 c	Duero basin NW PEREZ GARCIA 37
11 a	Tajo-Guadiana basin, fosa de Madrid MARTIN ESCORZA & BUSTILLO 38
11 a1	Madrid basin MEGIAS & al. 39

No.11 b	Tajo-Guadiana basin, E Altomira DIAZ MOLINA & LOPEZ	40
11 c	Tajo-Guadiana basin, Jucar SANTOS & LOPEZ	41
11 d	Tajo-Guadiana basin, upper Guadiana valley MOLINA	42
12 a	Pyrenean depression, Cerdana JULIA	43
12 b	Pyrenean depression, Ampurdan JULIA & MARTINELL	44
FRANCE (F)		
13	Languedoc-Roussillon DEMARCQ	45
14 a	Provence, Carmaque-Golfe du Lion ANGLADA & al.	46
14 b	Provence, de la Basse Durance a la Mer ANGLADA & al.	47
14 c	Provence, Golfe Durancien ANGLADA & al.	48
15 a	Moyenne vallee du Rhone (Valreas-Faucon) DEMARCQ	49
15 b	Lyon – Bas Dauphine – Vercors DEMARCQ	50
15 c	Lyon – Dombes – Bresse DEMARCQ	51
16	Ligurian basin border IRR	52
300 a	Aquitaine S des Landes DEMARCQ	53
300 b	Aquitaine N, Bordelais DEMARCQ	54
309	Loire – Bretagne DEMARCQ	55
20 a	Corsica, Plaine Orientale ORSZAG-SPERBER	56
20 b	Corsica, Bonifacio basin ORSZAG-SPERBER	57
20 c	Corsica, Saint Florent basin ORSZAG-SPERBER	58
20 d	Corsica, Francardo–Ponte Leccia basin ORSZAG-SPERBER	59
20 e	Corsica, Ajaccio and Propriano ORSZAG-SPERBER	60
20	Corsica GELATI	61
ITALY (I)		
17 a1	Piemont basin central GELATI	62
17 a2	Piemont basin NE GELATI	63
17 b	Po basin GELATI	64
17 c	Veneto and Friuli IACCARINO	65
17 d1	Salsomaggiore area GELATI	66
17 d2	Emilia western Apennine IACCARINO	67
17 d3	Romagna Apennine IACCARINO	68
18 a1	Val d'Elsa basin LAZZAROTTO	69
18 a2	Siena basin LAZZAROTTO	70
18 a3	Radicofani basin LAZZAROTTO	71
18 a4	Val di Tevere LAZZAROTTO	72
18 b	Volterra basin LAZZAROTTO	73
19	Pontine depression CITA & GELATI	74
19 a	Pianosa island, Tyrrhenian Sea CITA	75
21	Sardinia, Sassari basin GELATI	76
22	Sardinia, Graben of Campidiano GELATI	77
23	Calabria, Crotone basin PAGGI & CITA	78
24	Calabria, Punta Stilo CITA & MALINVERNO	79
25	Sicily, Caltanissetta basin DI GRANDE	80
26 a	Sicily, Iblei mountains W DI GRANDE	81
26 b	Sicily, Iblei mountains E DI GRANDE	82
27 a	Sicily, Ciminna basin DI GRANDE	83
27 b	Sicily, Madonie – Nebrodi mountains DI GRANDE	84
27 c	Sicily, Sicani – Trapanese mountains DI GRANDE	85
27 d	Sicily, Castel Vetrano basin DI GRANDE	86

No.28	Marches Abruzzes basins GELATI	87
29 a	Bradonica foredeep W, Potenza GELATI	88
29 b	Bradonica foredeep GELATI	89
30 a	Intra Apenninic basins, Abrozzi, S Lazio, Caserta, Matese, Benejento GELATI	90
30 b	Intra Apenninic basins, Molise GELATI	91
31	Salento basins GELATI	92
32	Marnoso – Arenacea basin, Umbria GELATI	93
GREECE (GR)		
33 b	Internal Ionian zone BIZON & BIZON	94
33 c	Middle Ionian zone BIZON & BIZON	95
33 d	External Ionian zone BIZON & BIZON	96
37 a	Corfu BIZON & BIZON	97
37 b	Lefkas BIZON & BIZON	98
37 c	Kefallinia BIZON & BIZON	99
37 d1	Zakinthos BIZON & BIZON	100
37 d2	Ionian Basin, Zakynthos DERMITZAKIS & PAPANIKOLAOU	101
38 a1	Grevena basin BIZON & BIZON	102
38 a2	Mesohellenic basin, Grevena PAPANIKOLAOU & DERMITZAKIS	103
38 b	Thessalia basin BIZON & BIZON	104
39	Thessaloniki – Chalkidiki marginal basin DERMITZAKIS	105
40	Strimon basin DERMITZAKIS & LEKKAS	106
41	Thracian marginal basin DERMITZAKIS	107
42 a	SW Akarnania marginal basin DERMITZAKIS	108
42 b	Pyrgos MEULENKAMP	109
42 c	S Peloponnesian marginal basin DERMITZAKIS & LEKKAS	110
42 d	Kythira MEULENKAMP	111
43	Megalonolis (Peloponnisos) intermontane basin DERMITZAKIS & LEKKAS	112
44	Attica – Euboa – Lamia, N Euboa DERMITZAKIS & PAPANIKOLAOU	113
45 a	N Sporades, Skyros DERMITZAKIS & PAPANIKOLAOU	114
45 b	Milos MEULENKAMP	115
45 c	Cyclades, Paros PAPANIKOLAOU & DERMITZAKIS	116
46 a	Crete, Khania MEULENKAMP	117
46 b	Crete, Rethymnon MEULENKAMP	118
46 c	Crete, Iraklion MEULENKAMP	119
46 d	Crete, Ierapetra MEULENKAMP	120
47	E Aegean Islands, Chios DERMITZAKIS & PAPANIKOLAOU	121
48	Rhodos MEULENKAMP	122
CYPRUS (CY)		
49 a	Kithera area, N Mesaoria BAROZ & BIZON	123
49 b	Dhali area, S Mesaoria BAROZ & BIZON	124
49 c	Polemi basin BAROZ & BIZON	125
49 d	S shore	–
TURKEY (TR)		
50 a	W Thrace WRIGHT & BEER	126
50 b	N Thrace KESKIN	127
50 c	Central Ergene basin DOUST & ARIKAN	128
50 d1	SW Thrace TERNEK	129
50 d2	SW Thrace ÖRCEN	130

No. 50 e1	Gelibolu BENDA & al.	131
50 e2	Eceabat BENDA & al.	132
50 e3	Ilyas Burun BENDA & al.	133
50 e4	Gelibolu peninsula TANER	134
50 f1	Canakkale – Intepe BENDA & al.	135
50 f2	Canakkale – Ezine BENDA & al.	136
50 f3	Ezine – Gülpinar BENDA & al.	137
51 a	Istanbul – Ambarliköy BENDA & al.	138
51 b	Istanbul – Karamürsel BENDA & al.	139
52 a1	Sinop ÖZSAYAR	140
52 a2	Sinop GAYLE	141
52 b1	Carsamba – Bafra ÖZBEY	142
52 b2	Bafra YALCINLAR & ÖZSAYAR	143
52 c	Giresun ÖZSAYAR	144
52 d1	Trabzon ÖZSAYAR	145
52 d2	Trabzon – Pazar ÖZSAYAR	146
53 a	Can – Biga BINGÖL & al.	147
53 b	Balikesir IZDAR & KÖKTÜRK	148
54	Izmir – Urla ÖNGÜR	149
55	Harmancik GÜN & al.	150
56	Central Sakarya, Gölpazari ALTINLI & EROSKAY	151
57	Beypazari – Nallihan KALAFATCIOGLU & UYSALLI	152
58 a	Erzincan – Cayirli ARPAT	153
58 b	Erzincan – Tercan PISONI	154
58 c	Erzurum – Pasinler AKKUS	155
58 d	Erzurum – Askale ARPAT	156
59 a	Salihli – Alasehir (Manisa) ÜNAL & HAVUR	157
59 b	Turgutlu – Salihli (Manisa) KARAMANDERESI	158
59 c	Gördes (Manisa) YILMAZ	159
60 a	Muratdagi BINGÖL	160
60 b	Gediz GÜN	161
60 c	Kula – Esmе GÜN	162
60 d	N Simav AKDENIZ	163
61 a	S Polatli SIREL	164
61 b	S Haymana GÖKCEN	165
62	Cankiri – Kalecik TEKKAYA & al.	166
63	Ulukisla basin DEMIRTASLI	167
64 a	Datca OROMBELLI & al.	168
64 b	Teke peninsula GRACIANSKY	169
64 c1	SW Anatolia, intermontane Taurus basin BECKER-PLATEN	170
64 c2	SW Anatolia, zone of standard profile BECKER-PLATEN	171
64 c3	SW Anatolia, zone of Menderes massif BECKER-PLATEN	172
64 d	Denizli TANER	173
65 a	Ayranci basin DEMIRTASLI & al.	174
65 b	Karaman basin KOCYIGIT	175
66 a1	W of Antalya bay, Korkuteli POISSON & POIGNANT	176
66 a2	W of Antalya bay, Köekli Tepe KALAFATCIOGLU	177
66 b1	Antalya basin, Kizilagac ÖTZÜMER & al.	178
66 b2	antalya basin, Manavgat ÖTZÜMER & al.	179
66 b3	Antalya basin, Alarohan ÖTZÜMER & al.	180
67 a	Adana basin, Karaisali ÖTZÜMER & al.	181

No.67 b	Adana basin DORUK	182
68	Antakya basin DORUK	183
69 a1	Malatya – Gürün basin, W KURTMAN & AKKUS	184
69 a2	Malatya – Gürün basin, central KURTMANN & AKKUS	185
69 a3	Malatya – Gürün basin, E KURTMANN & AKKUS	186
69 b	Darende – Balaban basin AKKUS	187
70 a	Hinis basin SUNGURLU	188
70 b1	Erzurum – Karayazi area, W ERDOGAN	189
70 b2	Erzurum – Karayazi area, central ERDOGAN	190
70 b3	Erzurum – Karayazi area, E ERDOGAN	191
71	Agri basin	–
72 a1	Gaziantep – Adiyaman area TUNA	192
72 a2	Adiyaman – Urfa area TUNA	193
72 a3	Adiyaman – Gaziantep/Urfa TUNA	194
72 b	Burc – Kilis, Gaziantep ORAL & SENOL	195
LEBANON (RL)		
73	Beirut – Tripoli basin KRASHENINNIKOV	196
SYRIA (SYR)		
76 a	Qatana basin, Damascus KRASHENINNIKOV	197
76 b	Tudmor basin	–
150 a	Mediterranean coast, Nahr El-Kabir depression, Idlib foredeep, NW Syria KRASHENINNIKOV	198
150 b	Aleppo plateau, NW Syria KRASHENINNIKOV	199
151	Mesopotamian basin, Syria KRASHENINNIKOV (see also BASHA, p. 508)	200
ISRAEL (IL)		
74 a	Haifa marginal area	–
74 b	Emeq Yizreel area	–
75 a	Tel-Aviv – El Arish MARTINOTTI	201
77	Tiberias basin GVIRTZMAN	202
78	Jordan rift valley GVIRTZMAN	203
79 c	Yeroham basin GVIRTZMAN	204
79 a	Arad basin	–
79 b	Rotem basin	–
79 d	Boquer basin	–
79 e	Hazeva basin GVIRTZMAN	205
79 f	Paran basin	–
EGYPT (ET)		
75 b	Arish area (N Sinai) EL-HEINY	206
80 a1	N Red Sea basin EL-HEINY	207
80 a2	N Red Sea basin EL-HEINY	208
80 b1	N Red Sea basin, Egyptian coastal plain EL-HEINY	209
80 b2	N Red Sea basin EL-HEINY	210
81 a1	Gulf of Suez basin EL-HEINY	211
81 a2	Gulf of Suez basin EL-HEINY	212
81 a3	Gulf of Suez basin EL-HEINY	213
81 a4	Gulf of Suez basin EL-HEINY	214

No. 81 a5	Gulf of Suez basin EL-HEINY	215
81 a6	Gulf of Suez basin EL-HEINY	216
81 a7	Gulf of Suez basin EL-HEINY	217
81 a8	Gulf of Suez basin EL-HEINY	218
81 a9	Gulf of Suez basin EL-HEINY	219
81 b1	Gulf of Suez basin EL-HEINY	220
81 b2	Gulf of Suez basin EL-HEINY	221
81 b3	Gulf of Suez basin EL-HEINY	222
81 c	Gulf of Suez basin EL-HEINY	223
82 a1	Nile delta basin EL-HEINY	224
82 a2	Nile delta basin EL-HEINY	225
82 a3	Nile delta basin EL-HEINY	226
82 a4	Nile delta basin EL-HEINY	227
82 a5	Nile delta basin EL-HEINY	228
82 a6	Nile delta basin EL-HEINY	229
82 b1	Nile delta basin EL-HEINY	230
82 b2	Nile delta basin EL-HEINY	231
82 c	Nile delta basin EL-HEINY	232
83 a1	Libyan plateau, W desert of Egypt EL-HEINY	233
83 a2	Libyan plateau, W desert of Egypt EL-HEINY	234
83 b	Libyan plateau, W desert of Egypt EL-HEINY	235
83 c	Libyan plateau, W desert of Egypt EL-HEINY	236
83 d1	Libyan plateau, W desert of Egypt EL-HEINY	237
83 d2	Libyan plateau, W desert of Egypt EL-HEINY	238
 LIBYA (LAR)		
84 a	Cyrenaique platform EL-HEINY	239
84 b	Cyrenaique platform EL-HEINY	240
85	Augila depression EL-HEINY	241
86	Sirte basin EL-HEINY	242
87	Misurata corridor EL-HEINY	243
88	Djefara plateau EL-HEINY	244
 MOROCCO (MA)		
89 a	Nappes palerozoiques (d'Akaili) (=Ghomarides) SUTER	245
89b/97d	Chaines calcaires / Oued Lau WILDI	246
90 a	Zones des flyschs predorsaliens SUTER	247
90 b	Nappes des gres numidiens SUTER	248
91 a	Nappes du Habt, de quezzane (couverture decollée des zones intrarifaines SUTER & LEBLANC	249
92a/94a	Zones mesorifaines / Synclinaux post-nappes SUTER & LEBLANC	250
92b/94a	Prerif interne / Synclinaux post-nappes SUTER & LEBLANC	251
92 c	Prerif externe SUTER & LEBLANC	252
92 d	Rides prerifaines SUTER	253
94 a	Synclinaux internes post-nappes (Taouate) WERNLI	254
94 b	Charf el Akab WERNLI	255
95 a	Gharb (centre) SUTER	256
95 b	Gharb (Rabat) WERNLI	257
95 c	Detroit sud-rifain (Saiss) SUTER	258
96 a	Guercif centre (sondage GRF 1) GENDROT	259
96 b	Guercif S GUILLEMIN	260

No. 97a/93a	Melilla – N Kebdana / Avant-pays oriental GUILLEMIN & SUTER	261
97b/93a	Kert / Avant-pays oriental HOUZAY	262
97 c	Boudinar HOUZAY	263
ALGERIA (DZ)		
98	Nappe des gres numidiens SUTER	264
99 a	NE de la grande Kabylie SUTER	265
105 d	NE de la grande Kabylie SUTER	265
99 b	Petite Kabylie (Collo, El Milia) SUTER	266
105 f	Petite Kabylie (Collo, El Milia) SUTER	266
100 a	Nappes Telliennes (unite Oligo-Miocene) SUTER	267
100 b	Nappes Telliennes (nappe sous-numide du Bou Maiz) SUTER	268
101 a	Bordure S des Tessala SUTER	269
102 c	Bordure S des Tessala SUTER	269
101 b	Bordure N des Tessala SUTER	270
106 a	Bordure N des Tessala SUTER	270
101 c	Bordure SE de l'Ouarsenis (Letourneux) SUTER	271
102 a	M'Sirde (Bab el Assa) SUTER	272
104 a	M'Sirda (Bab el Assa) SUTER	272
102 b	Bordures E et SE des Traras-Basse et moyenne Tafna – Sebaa Chioukh SUTER	273
102 d	Bordure S des Beni Chougrane SUTER	274
102 e	Bordure S de l'Ouarsenis (N de Tiaret) SUTER	275
102 f	S du Titteri (Draa el Asnam et sondage GRN 1) SUTER	276
102 g	SE du Titteri (sondage RL 1) SUTER	277
103 a	Bassin du Hodna, regions W et NW SUTER	278
103 b	Bassin du Hodna, region E SUTER	279
103 c	Hodna oriental (Col de Tifelouine) SUTER	280
103 d	Bassin du Timgad SUTER	281
104 b	S du Cap Sigale SUTER	282
104 c	Bassin littoral, les Andalbuses Oued Hammadi SUTER	283
104 d	Bassins littoraux de mers el Kebir, du Murdjadjo SUTER	284
104 e	Bassin littoral a l'Est d'Oran SUTER	285
104 f	Dahra SUTER	286
104 g	Bassin littoral de Tenes SUTER	287
104 h	Bassin littoral de Cherchel SUTER	288
105 a	Mitidja occidentale (Menacer, ex. Marceau) SUTER	289
105 b	Region d'Alger SUTER	290
105 c	Bassin littoral de Dellys SUTER	291
105 e	Bassin littoral de Djidjelli SUTER	292
105 g	Bassin littoral du Cap de Fer SUTER	293
106 b	Plateau de St. Louis SUTER	294
106 c	Bordure N des Beni Chougrane (J. Touaka) SUTER	295
106 d	Coupe synthetique du bassin du Bas Cheliff SUTER	296
106 e	Bas Cheliff (J. Meni) SUTER	297
106 f	Bordure S du Dahra (Oued Djelloul et sondage AZ 6) SUTER	298
106 g	Zone axiale de Bas Cheliff (sondage BD 3) SUTER	299
106 h	Bordure NW de l'Ouarsenis (entre le Chabet Teffoune et l'Oued Riou) SUTER	300
106 i	Oued Allalia SUTER	301
106 j	El Abadia (ex. Carniot) SUTER	302
107 a	Moyen Cheliff (J. Gontas) SUTER	303
107 b	Nelsonbourg SUTER	304

No.107 c	Soummam (M'Chedillah, ex. Maillot) SUTER	305
107 d	Bassin de Constantine SUTER	306
108 a	Tafna-Sud SUTER	307
108 b	Bordure W et SW de l'Aures SUTER	308
TUNISIA (TN)		
109	Khoumirie – Mogods BUROLLET	309
110	Bizerte BUROLLET	310
111	Cap Bon BUROLLET	311
112	Tunisie orientale BUROLLET	312
113	Plateau sous-marin de Kerkennah, Golfe de Gabes BUROLLET	313
114	SW Tunisia, Chott Jerid BUROLLET	314
MALTA (M)		
136	Maltese islands ROSE	315
MEDITERRANEAN SEA		
126	Alboran basin (DSDP site 121) BIZON & CITA	316
127	Valencia trough (DSDP sites 122 and 123) CITA	317
128	Balearic basin (DSDP site 372) BIZON	318
128	Balearic basin (DSDP site 372) CITA	319
129	Ligurian trough	—
130 a	Tyrrhenian basin (DSDP site 132) CITA	320
130 b	Tyrrhenian basin (DSDP site 373 A) CITA	321
131	Paola basin	—
132	Gioia basin	—
133	Cefalu basin	—
134	Sardinia basin	—
135	Corsica basin	—
136	Pantelleria basin	—
137	Dugi Otok basin (see Yugoslavia)	425
138	Adriatic – Ionian basin	—
139	Messina abyssal plain (DSDP site 374) CITA	322
140	Syrte abyssal plain – Ionian Sea (DSDP site 125) STEININGER	323
141	Ionian abyssal plain	—
142	Hellenic trough	—
140to142	Mediterranean ridge (DSDP site 126) STEININGER	324
143to142	Strabo trench and mountains (DSDP site 129) STEININGER	325
143	Levantine basin (DSDP sites 375 and 376) CITA	326
144	Antalya basin	—
145	Rhodos basin	—
146	Cretan basin (DSDP sites 378 and 378 A) CITA	327
WEST GERMANY (D)		
200 a	Subalpine Molasse E HAGN & MARTINI	328
200 b	Subalpine Molasse W HAGN & al.	329
201 a	Niederbayrische und Naab Molasse FAHLBUSCH & al.	330
201 b	Subjurassische Molasse GALL	331
290 a	Rheingraben S MARTINI	332
290 b	Rheingraben N MARTINI	333
290 c	Mainz basin MARTINI	334
290 d	Hanau basin, Wetterau MARTINI	335

SWITZERLAND (CH)

No. 200 c1	Subalpine Molasse – Westschweiz BÜCHI & SCHLANKE (resived)	336
200 c2	Subalpine Molasse – Zentralschweiz BREITSCHMID (resived)	337
200 b	Subalpine Molasse – Ostschweiz BÜCHI & SCHLANKE (resived)	338
201 c1	Mittelländische Molasse – Westschweiz BÜCHI & SCHLANKE (revised)	339
201 c2	Mittelländische Molasse – Zentralschweiz MATTER (revised)	340
201 b	Mittelländische Molasse – Ostschweiz SCHLANKE (revised)	341
201 d1	Intrajurassic basins, Laufen basin and plateau Jura MATTER (revised)	342
201 d2	Intrajurassic basins, Delemont basin MATTER (revised)	343
201 d3	Intrajurassic basins, Tavennes, St. Imier MATTER (resived)	344

AUSTRIA (A)

200 b	Allgäuer Molassezone einschließlich Vorarlberg STEININGER	345
202 a	Molassezone vom Inn bis zum Süd-Sporn der Böhmisches Masse STEININGER	346
202 b	Molassezone vom Süd-Sporn der Böhmisches Masse und S der Donau STEININGER	347
202 c	Molassezone nördlich der Donau STEININGER	348
203 a	Waschbergzone in Österreich PAPP	349
208 a2	N Wiener Becken PAPP	350
208 b	Zentrales Wiener Becken (Spannberger Rücken) PAPP	351
208 c	S Wiener Becken PAPP	352
209 b	Eisenstädter- bis Landseer Bucht PAPP	353
221 a1	West-Steirisches Becken PAPP	354
221 a2	Ost-Steirisches Becken PAPP	355
221 b1	Lavanttal, Kärnten PAPP	356
221 b2	Klagenfurter Becken PAPP	357

POLAND (PL)

204 a1	Upper Silesia S part KUCINSKI	358
205 c1	Upper Silesia S part KUCINSKI	—
204 a3	Eastern Carpathian foredeep KUCINSKI	359
205 c3-c5	Eastern Carpathian foredeep KUCINSKI	—
207 a1-a2	Upper Silesia N part KRACH	360
207 a3	Marginal zone, Holy Cross mountains KRACH	361
207 a4	Marginal zone, Roztocze KRACH	362

CSSR (CS)

203 b	Pouzdrany unit CICHA	363
203 c	Zdanice – subsilesian unit CICHA	364
205 a	Subcarpathian Miocene foredeep S CICHA & KRYSTEK	365
205 b	Subcarpathian Miocene foredeep N CICHA & KRYSTEK	366
208 a	Vienna basin N JIRICEK & CICHA	367
210 a	S Slovakian Danube basin central JIRICEK	368
210 b	S Slovakian Danube basin W JIRICEK	369
211	Nitra and Vah valley basins, megasynclinal of Brezov, middle Slovakia GASPARIK & al.	370
212	S Slovakian Danube basin E SENES	371
213 a	S Slovakian Ipel basin VASS	372
213 b	S Slovakian Rimava and Lucenec basin VASS	373
214	Central and N Slovakian freshwater basins GASPARIK & BRESTENSKA	374
215	E Slovakian basin CVERCKO & al.	375

HUNGARY (H)

No. 209 a	Sopron mountains HAMOR & JAMBOR	376
209 c	W Hungarian basin JAMBOR	377
213 c	N Hungary, incl. Budapest, Börzsöny and Tokaj mountains HAMOR & JAMBOR	378
219 a	Transdanubian central mountains SW JAMBOR	379
219 b	Transdanubian central mountains NE JAMBOR	380
219 c	Transdanubian central mountains SE JAMBOR	381
220	Great plain basin SOMFAI & SZENTGYÖRGYI	382
222	Mecsek mountains HAMOR & JAMBOR	383
224 a	Hungarian part of Zala-Drava basin HAMOR & JAMBOR	384

RUMANIA (R)

204 c	E Carpathian Flysh zone – marginal folds, Suceava – Buzau SANDULESCU ...	385
204 d	E Carpathian Flysh zone – Tarcau nappe, Buzau – Dimbovita SANDULESCU ..	386
205 e	Subcarpathian folded Neogene foredeep, Suceava – Bistrita valleys SANDU- LESCU	387
205 f	Subcarpathian folded Neogene foredeep, Bistrita – Buzau valleys SANDULESCU & PAPAIANOPOL	388
205 g	Subcarpathian folded Neogene foredeep, Dimbovite – Buzau region PAPAIANO- POL & SANDULESCU	389
206 a	S subcarpathian foredeep, Getic depression E, Dimbovita – Jiu MARINESCU & al.	390
206 b	S subcarpathian foredeep, Getic depression W, Dunare – Jiu MARINESCU & al.	391
216 b	Maramures basin MARINESCU & GHEORGHIAN	392
217 a	Transylvanian basin and NW MARINESCU & POPESCU	393
217 b1	Transylvanian basin W and SW, Cluj-Alba-Sadu MARINESCU & GHEORGHIAN ..	394
217 b2	Transylvanian basin S, Sadu – Sercaia MARINESCU & GHEORGHIAN	395
217 b3	Transylvanian basin SE, Sercaia – Persani – Racos GHEORGHIAN	396
217 b4	Transylvanian basin E, Racos – Lueta – Sovata GHEORGHIAN	397
217 c	Transylvanian basin, Strei – Brad – Sacarimb MARINESCU & POPESCU	398
217 d	Transylvanian basin, Petrosani – Hateg POPESCU & MOISESCU	399
218 a1	E intracarpathian depression, Banat MARINESCU & POPESCU	400
218 a2	E intracarpathian depression, Mehadia – Bozovici MARINESCU & POPESCU ..	401
218 a3	E intracarpathian depression, Bega basin MARINESCU & POPESCU	402
218 b1	E intracarpathian depression, Monts Apuseni region – Zarand & Beius MARINESCU & al.	403
218 b2	E intracarpathian depression, Monts Apuseni region – Borod – Sylvania MARINESCU & RUSU	404
218 c	E intracarpathian depression, Baia Mare – Oas region MARINESCU & GHEOR- GHIAN	405
230 b	Danubian corridor, Pescari-Moldova Noua-Pojejena GHEORGHIAN	406
230 c	Danubian corridor, Sichevita – Liubcova GHEORGHIAN	407
230 d	Danubian corridor, Selschi – Iuta – Dubova GHEORGHIAN	408
230 e	Danubian corridor, Bahna – Orsova MARINESCU & POPESCU	409
238	Dacic basin MARINESCU & al.	410
239	W part of E European plateau and Birland depression MOTAS & PAPAIANOPOL ..	411
240 a	S Dobrogea and Varna gulf MARINESCU & GHEORGHIAN	412
242 b	Danubian delta MARINESCU & GHEORGHIAN	413

BULGARIA (BG)

231 b	Border of Lom gulf KOJUMDGIEVA	414
-------	--------------------------------------	-----

No. 231 c	Preorogene depression of Lom gulf KOJUMDGIEVA	415
231 d	Vidin area of Lom gulf KOJUMDGIEVA	416
231 e	Lom depression KOJUMDGIEVA	417
235 a	Sofia basin, Hrabarsko area KOJUMDGIEVA	418
235 b	Cukurovo basin KOJUMDGIEVA	419
236 a	Blagevgrad Graben KOJUMDGIEVA	420
236 b	Sandanski Graben KOJUMDGIEVA	421
237 a	Plovdiv basin KOJUMDGIEVA	422
237 b	Zagore basin KOJUMDGIEVA	423
237 c	Tundza basin KOJUMDGIEVA	424
240 b	S central Dobrogea basin KOJUMDGIEVA	425
240 c	E Dobrogea area, Varna – Balcik KOJUMDGIEVA	426
240 d	Balcik area of Varna – Balcik KOJUMDGIEVA	427
240 e	Varna area KOJUMDGIEVA	428
240 f	Burgas area KOJUMDGIEVA	429
YUGOSLAVIA (YU)		
17 d4	N Apennine foredeep, Po basin BISTRICIC & JENKO	430
33 a	Tethys area of Albania and Montenegro SPAJIC	431
34	Kosovo and Methodia basins ATANACKOVIC	432
35 a	Skopje basin, Nerezi TEMKOVA	433
35 b	Skopje basin, Bulacani TEMKOVA	434
36 a	Ovce Pole basin TEMKOVA	435
36 b	Tikves basin TEMKOVA	436
137	Dugi Otok basin BISTRICIC & JENKO	437
206 b1	S subcarpathian foredeep, Getic depression W, Kladovski Kljuc MARINOVIC & al.	438
223 a	Backa basin MARINOVIC	439
223 b	N Banat basin MARINOVIC	440
223 c	S Banat basin MARINOVIC	441
224 a1	Drava basin VELIC & SOKAC	442
224 b1	Transtethyan trench "corridor" BISTRICIC & JENKO	443
224 b2	Transtethyan trench "corridor" RIJAVAC	444
224 b3	Transtethyan trench "corridor" SIKIC	445
224 c	Mura basin RIJAVAC & al.	446
225	Slavonia – Sarmian basin MARINOVIC & JANKOVIC	447
226	Sava basin SIKIC & al.	448
227 a	intradinarian marginal zone, Tuzla basin, E Bosnia ATANACKOVIC	449
227 b	Intradinarian marginal zone, Majevisa mountain, NE Bosnia ATANACKOVIC	450
227 c	Intradinarian marginal zone, NW Bosnia ATANACKOVIC	451
227 d	Intradinarian marginal zone W SIKIC & SIKIC	452
227 e	Intradinarian marginal zone, W Serbia PETROVIC & EREMIJA	453
228	Kolubara basin KRSTIC & DOLIC	454
229 a	Morava basin around Belgrade SPAJIC & al.	455
229 b	Morava basin, Smederevsko – Pozarevacko Podunavlje MARINOVIC & SPAJIC	456
230 a	Danubian trench "corridor" KRSTIC & al.	457
231 a	Timok Graben and border area (Negotin) MARINOVIC & DZODZO	458
232	S Moravian freshwater and intracarpethian basins (Nis) PAVLOVIC	459
233 a	W Moravian freshwater basins, Cacak – Kraljevo MARINOVIC & KEMENCI	460
233 b	W Moravian freshwater and intracarpethian basins (Dragacevo and Kosjeric) PAVLOVIC	461

No.234 a	Freshwater basins, Sarajevo basin, Bosnia ATANACKOVIC	462
234 b	Freshwater basins, Livno and Duvno basins, Bosnia ATANACKOVIC	463
234 c	Freshwater basins, Gacko basin, Herzegovina ATANACKOVIC	464
234 d	Freshwater basins, Plevlje area, Montenegro ATANACKOVIC	465
USSR (SU)		
204 b	Flysh zone in the USSR DOSIN & GRUZMAN	466
205 d	Subcarpathian Miocene foredeep BUROV & al.	467
207 b	Miocene of the Podolian massif BUROV & al.	468
216 a	Zakarpatia basin PETRASHKEVICH	469
241 a	Moldavian platform W of Badenian barrier reefs ROSHKA	470
241 b	Moldavian platform E of Badenian barrier reefs ROSHKA	471
242 a	Danubian region of the Scythian platform ROSHKA	472
243	Near-Black Sea depression W, Danube – Dniestr interfluve ROSHKA	473
244	Near-Black Sea depression W, Dniestr – Dnepr interfluve NOSOVSKY & SEMENENKO	474
245	Near-Black Sea depression E NOSOVSKY & SEMENENKO	475
246	The Steppe Crimea NOSOVSKY & SEMENENKO	476
247	Kerch peninsula NOSOVSKY & SEMENENKO	477
248	Taman peninsula BOGDANOVICH & BURJAK	478
249	W part of S Ciscaucasia BOGDANOVICH & BURJAK	479
250	Central part of S Ciscaucasia BOGDANOVICH & BURJAK	480
251	Rioni depression, W Gerogia BULEJSHVILI	481
252	Upper part of Kura depression, E Gerogia BULEJSHVILI	482
253	Sevan, Shirak and middle Araks depressions and Erevan synclinorium GABRIEL-JAN	483
254	Nachitchevan depression AZIZBEKOVA	484
255	E part of S Ciscaucasia BOGDANOVICH & BURJAK	485
256 a	Middle part of Kura depression W ALI-ZADE & al.	486
256 b	Middle part of Kura depression E ALI-ZADE & al.	487
257	Kussaro – Divichin synclinorium ALI-ZADE & al.	488
258	Shemakho – Kobistan synclinorium ALI-ZADE & al.	489
259	Lower Kura depression ALI-ZADE & al.	490
260	Talysh ALI-ZADE & al.	491
261	Apsheron trough ALI-ZADE & al.	492
262	W part of N Ciscaucasia BOGDANOVICH & BURJAK	493
263	Central part of N Ciscaucasia BOGDANOVICH & BURJAK	494
264	E part of N Ciscaucasia BOGDANOVICH & BURJAK	495
265	S part of Ukrajnian shield NOSOVSKY & SEMENENKO	496
266	The Donbas MOLJAVKO & al.	497
267	NE part near Sea of Azov and the lower Don RODZJANKO	498
268	The Manychs RODZJANKO	499
269	Ergeni RODZJANKO	500
270	Oka – Don lowland JOSIPHOVA	501
271	Volga – Khoper interfluve RODZJANKO	502
272	Middle Povolzhje, S of Samarskaya Luka YAKHEEMOVICH & ZHIDOVINOV ..	503
273	Middle Povolzhje, N of Samarskaya Luka YAKHEEMOVICH & GORETZKYI ..	504
274	S Cisuralia YAKHEEMOVICH	505
275	Near Caspian Sea lowland W ZHIDOVINOV & BERTELJC-USPENSKAYA	506
276	Near Caspian Sea lowland E BERTELJC-USPENSKAYA	507
277	Mangyshlak TCHELJCOV	508

No. 278 a	Southern Ustjurt TCHELJCOV	509
278 b	Northern Ustjurt THELJCOV & HONDKARIAN	510
279	Area NE of the Aral Sea HONDKARIAN	511
280 a	W Turkmenistan, N part ROZYJEVA & TCHELJCOV	512
280 b	W Turkmenistan, S part ROZYJEVA & TCHELJCOV	513
281	Area S of the Aral Sea BELENKAJY & KORSAKOV	514
282	Central Kizil – Kum BELENKAJA	515
283 a	E Turkmenistan, N part ROZYJEVA	516
283 b	E Turkmenistan, S part ROZYJEVA	517
JORDAN (HKJ)		
350 (78)	Taiyiba, E of rift BASHA	518
351 (80)	Aqaba Gulf, raised beaches BASHA	519
SYRIA (see also p. 197–200)		
151	Syria BASHA	520
IRAQ (IRQ)		
353	Mesopotamian basin CICHA & PRAZAK	521
354	Persian Gulf basin CICHA & PRAZAK	522
355	NE Iraq basin CICHA & PRAZAK	523
IRAN (IR)		
356	Qum basins central Iran CHAHIDA	524
357	Pentacaspian and Gorgan-Rasht basin CHAHIDA	525
358	Central Albourz CHAHIDA	526
359	Zagros basin (Fars Group) CHAHIDA	527
360	Zagros basin (Ahwas basin) CHAHIDA	528
361	Zagros basin in general CHAHIDA	529
PAKISTAN (PAK)		
362	Baluchistan basin KURESHY	530
363	Lower Indus basin KURESHY	531
364	Upper Indus basin KURESHY	532
INDIA (IND)		
365	Karewa Group, Kashmir RAY	533
BLACK SEA		
366	Black Sea basin (DSDP site 380) STEININGER (HSÜ)	534
366	Black Sea basin (DSDP site 380) STEININGER (KOJUMDGIEVA)	535
366	Black Sea basin (DSDP site 381) STEININGER (HSÜ)	536

P R E F A C E

The second volume of the "Neogene of the Mediterranean Tethys and Paratethys" is the backbone of the edition "Stratigraphic Correlation Tables". 524 graphical Correlation Tables are presented in this second volume for the 250 Neogene Circum-Mediterranean sedimentation areas, the Atlantic entrance to the Mediterranean, some crucial North European areas and for the Near – and Middle East – the Indo-Pacific connection to the Mediterranean. The Stratigraphic Correlation Tables therefore cover an area from the Iberian Peninsula in the West to the southern Ural–Kazakhstan–Uzbekistan–Turkmeniya in the East, and from Kazan (UdSSR) approximately 56° North latitude to the northern Red Sea in the South. The Correlation Tables contain information on all the European Neogene sedimentation areas as well as those from Asia Minor, the Near and the Middle East and those from northern Africa. The distribution of these Neogene sedimentation areas is shown on Map 1 in the first volume.

As mentioned earlier in this edition, the Stratigraphic Correlation Tables have been one of the aims of Project No. 25: "Stratigraphic Correlation Tethys – Paratethys Neogene" of the International Correlation Program, which was endorsed in 1974.

The first goal of the IGCP-Project No. 25 was to establish a succession of well-defined Chronostratigraphic Stages for the Mediterranean Tethys and the Central and the Eastern Paratethys; the correlation of these Chronostrati-

graphic Units to each other and to the planktonic biochronologies, the magnetostratigraphy and the radiometric time scale.

The second goal of this project were the Stratigraphic Correlation Tables. Discussion on scientific and technical problems was initiated by the participants of the project in 1975 a preliminary version of the tables was presented in 1979 and the revision of this version was completed in 1982.

In general each Correlation Table may be understood as a composite section through the Neogene sequence of the sedimentation area concerned. The lithostratigraphic record of this basin is shown in correlation to the standard or local chronostratigraphic units. The most difficult aspect of this program was the continuous progress made in the correlation of litho-, bio- and chronostratigraphy in these different realms and the subsequent revision of the tables. For this reason three different correlation schemes have been recommended to the authors between 1975 and 1980 – for a better understanding they are included in volume one. Some authors followed these stratigraphic recommendations, others have provided a different opinion. The editorial board did not interfere or correct the Correlation Tables in this respect.

The Editors

Legend of Stratigraphic Correlation Tables

INTRODUCTION

In general each Correlation Table represents a composite section of the Neogene of the sedimentation area concerned. The sedimentation area is indicated at the top of the table by the area number, the name of the area and the country by its international abbreviation. Each sedimentation area figures by its number on Map 1: "Neogene of the Mediterranean Tethys and Paratethys Sedimentation areas" located in the back of volume one. Subnumbers of sedimentation areas (e. g. Duero basin, E: 10 a 1; 10 a 2; 10 a 3; 10 b etc.) refer to parts of an area; these are generally indicated on a special map located at the beginning or in the text for the correlation table of the country concerned in volume one.

Numbers 1–114, 126–146, 150–151 and 350 refer to Mediterranean Tethys tables; 200–239 to Western and Central-Paratethys tables; 240–283 and 366 to Eastern Paratethys tables; 290 and 300–309 to Atlantic and Northern Neogene tables, 351–365 to Indo-Pacific (Near and Middle East) tables.

The main numbering in the contents of the first and second volumes is arranged by countries – on Map 1 it more or less follows the geological units. In the index in the back of the first volume they are arranged first by number and second by geological units.

Each table is divided into twelve columns; certain columns are self-explanatory, others require additional remarks:

Lithology column: in general the lithological signs follow those recommended and used by the DSDP-Program. They were completed for epicontinental

and continental deposits, and additional signs added by the authors for special reasons. In general all authors followed the recommendations pertaining to the lithological signs.

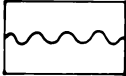



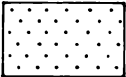
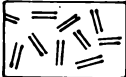

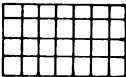
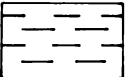
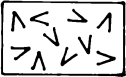
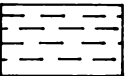
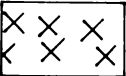
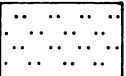
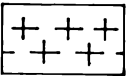
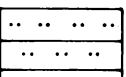

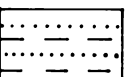
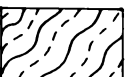
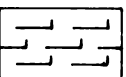
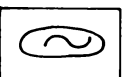
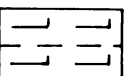

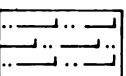
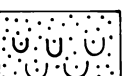

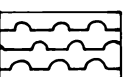
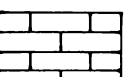
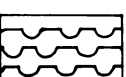
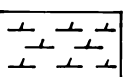

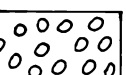
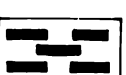
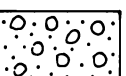
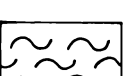
Facies column: the signs indicating general facies conditions were used individually and cannot be related to any international schema (e. g. Paratethys: Middle to Late Miocene endemic Congerid-Melanopsid facies in the Pannonian Basin – since no signs for endemic facies belts were provided, the authors used the various signs for brackish facies).

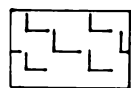
Lithostratigraphic, Biostratigraphic column: this wide column was provided for names of lithostratigraphic units, their extent in time and space, their boundary conditions and tectonic implications, their fossil content and for indication of biostratigraphic markers or zones, as well as radiometric ages and pelemagnetic units measured directly within the lithostratigraphic unit.

Reference column: within the reference column, numbers shown correspond directly to the lithostratigraphic units, biostratigraphy etc. These numbers refer to the references listed under this number in the first text-volume. Here the reader can find under the Area-number and the reference-number the author(s) who are the cited in the chapter "References" at the end of the first volume. Only the most important references have been compiled on the Correlation Table in the reference column.

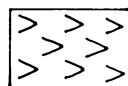
For further explanation of signs consult the following legend.

LITHOLOGY

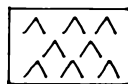
	erosional contact		Breccia
	lack of sediments		Volcanic Breccia (Agglomerates)
	Sand		Volcanic Ash (Tuffs and Tuffites)
	Sandstone		Travertine
	Sandy Clay and Clayey Sand		Igneous rock (basic)
	Clay		Igneous rock intermediate
	Silt		Igneous rock (acid)
	"Schlier"		Flysch
	Shale		Turbidites (also chaotic)
	Marl		Olistolithe
	Clayey Marl		Olistostrom Subbetic tectonic unit
	Marly Silt Silty Marl		Coquina and Bioherms
	Calcareous Marl, Marly limestone		Radiolarite
	Limestone		Diatomite
	Dolomite		Chert
	Gravel		Coal (lignite) seams and Formations
	Conglomerate		Evaporite



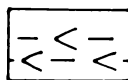
Halite



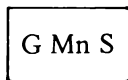
Anhydrite



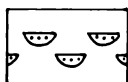
Gypsum



Marls with Gypsum intercalations



Glauconite, Manganese Siderite



Molasse, with troughs

THICKNESS

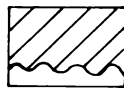
If not stated otherwise the thickness of Formation is given in meters

FACIES

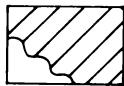
B	brackish
Bo	brackish oligohaline
Bm	brackish mesohaline
F	fluvial
Ff	alluvial fan
Fr	fluvial molasse, red coloured
Fy	fluvial molasse, yellow coloured
H	hypersaline
L	limnic
Lb	limnic basinal facies
Lc	limnic calcareous
Le	limnic evaporitic
Ll	limnic littoral
M	marine
Ma	marine abyssal
Mb	marine bathyal
Mc	marine circalittoral
Ml	marine littoral and infralittoral
T	terrestrial

LITHOSTRATIGRAPHIC-, BIOSTRATIGRAPHIC-, RADIOMETRIC- AND PALEOMAGNETIC UNITS AND INDICATIONS

.....	Gr.	Group
.....	Fm.	Formation
.....	Mb.	Member
.....	Bd.	Bed



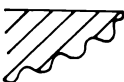
lack of sediments (hiatus)



angular discordance



overthrust



erosional contact between formations



transgressive phase



regressive phase



positive megasequence or "continental transgression"



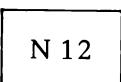
negative megasequence or "continental regression"



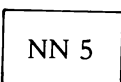
onlap



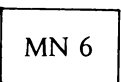
offlap



Planktonic Foraminifera Zone (BLOW, 1969) of the respective Formation
l = lower part of biozone
u = upper part of biozone



Calcareous Nannoplankton Zone (MARTINI, 1971) of the respective Formation



Mammalian Zone (MEIN, 1979) of the respective Formation



foraminifera



ostracods



calcareous nannoplankton








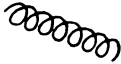






sporomorpha


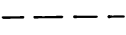

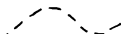


radiolaria



silicoflagellata

	diatoms		uplift
	molluscs and other invertebrata		syntectonic angular unconformity
	vertebrata		progressive unconformity
	otoliths		angular discordance
	plants		overthrust
	characea		
	Radiometric Age of the Formation		

	Paleomagnetic Epochs of the Formation
	Formation horizontal or nearly horizontal bedded
	Formation with inclined bedding
	Formation folded

REFERENCES

For complete references see text volume.

The Regional Stages in usage have been decided during the VIth Congress of the Regional Committee on Mediterranean Neogene Stratigraphy, 1975 in Bratislava (see Congress Proceedings, vol. 2). The "European Mammalian Ages" are not been defined in the sense of Chronostratigraphic units. Current correlations are given in the text volume.

REGIONAL BIOZONES

In some of the tables locally used biozones are given

VOLCANISM

+ Rh	Rhyolite
+ Rd	Rhyodacite
+ D	Dacite
+ DA	Dacite – Andesite
+ A	Andesite
+ AB	Andesite – Basalt
+	Basalt
+	Ash only

MOVEMENTS

	subsidence
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MEDITERRANEAN NEOGENE
STRATIGRAPHIC CORRELATION TABLES

MEDITERRANEAN TETHYS
Area No.: 1–114, 126–146, 150–151, 350

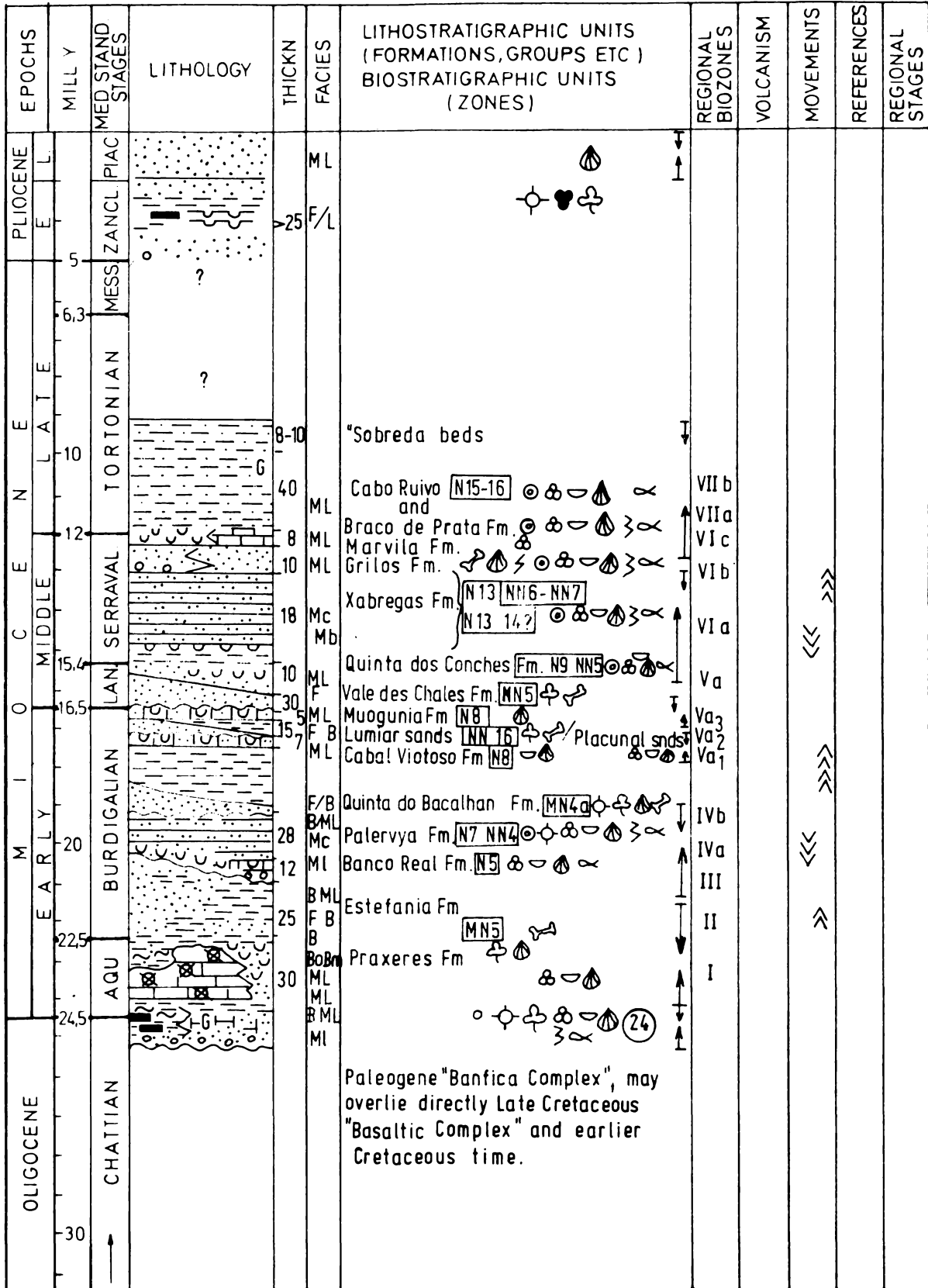
PARATETHYS
Area No. 200–239; 240–283, 366

ATLANTIC
Area No.: 300–309

NORTHERN NEOGENE
Area No.: 290

INDO–PACIFIC
Area No.: 351, 353–365

Area No. 303: LISBON REGION, P



Author: M. T. ANTUNES

Area No. 304: SADO, P

EPOCHS	MILL. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	PLIOCENE	MED. STAND. STAGES									
E	5	PIAC			ML	MN 15					
L	6.3	TORTONIAN		Ld	"MP complex"						
										E	10
M	12	LAN		ML	MN 8						
										C	15.4
M	16.5	AQU.									
										O	20
E	22.5										
										O	24.5
O	30										

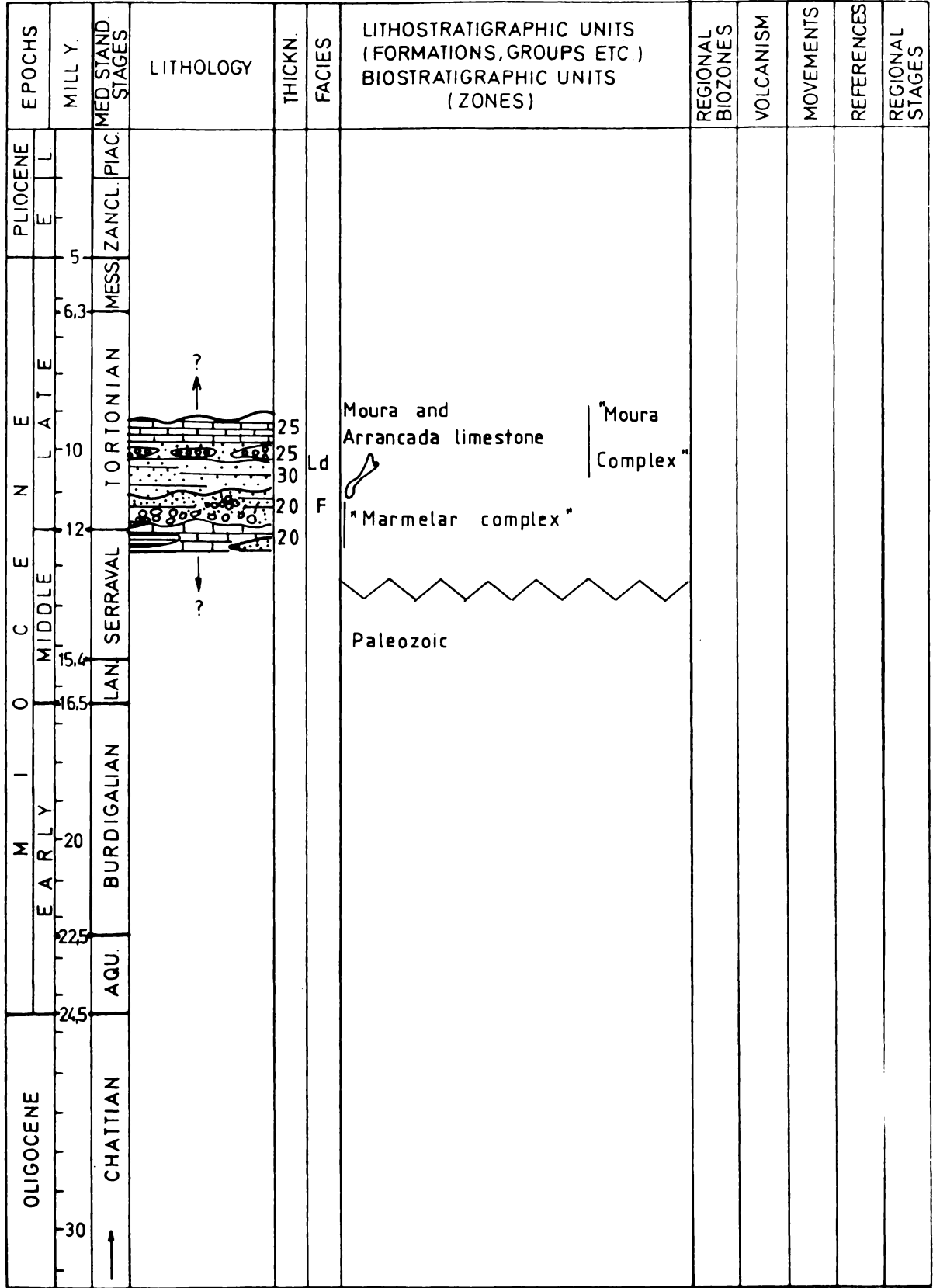
Authors: M. T. ANTUNES & J. PAIS

Area No. 305: ALGARVE, P

EPOCHS	MILL Y	MED STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	5	MESS ZANCL PIAC				Y Cacela ML 					
	6.3			30							
	10	TORTONIAN									
	12				F	Olhos de Agua ML 					
	15.4	SERRAVAL		50							
	16.5				F						
	20	BURDIGALIAN									
	22.5			50							
	24.5	AQU			ML						
						Lagos Albufeira 					
OLIGOCENE	30	CHATTIAN				Cretaceous / or Triassic / or Carboniferous					

Authors: M. T. ANTUNES & J. PAIS

Area No. 308: MOURA, P



Authors: M. T. ANTUNES & J. PAIS

Area No. 301: ASTURIAN DEPRESSION, E

EPOCHS	PLIOCENE		MILL Y	MED STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
			5	MESS ZANCL PIAC		15	F L F	Arcillas de Sestiello Llantrale			<<	1	
			6.3										
			10	TORTONIAN									
			12										
			15.4	SERRAVAL									
			16.5										
			20	BURDIGALIAN									
			22.5										
			24.5	AQU.									
			30	CHATTIAN									

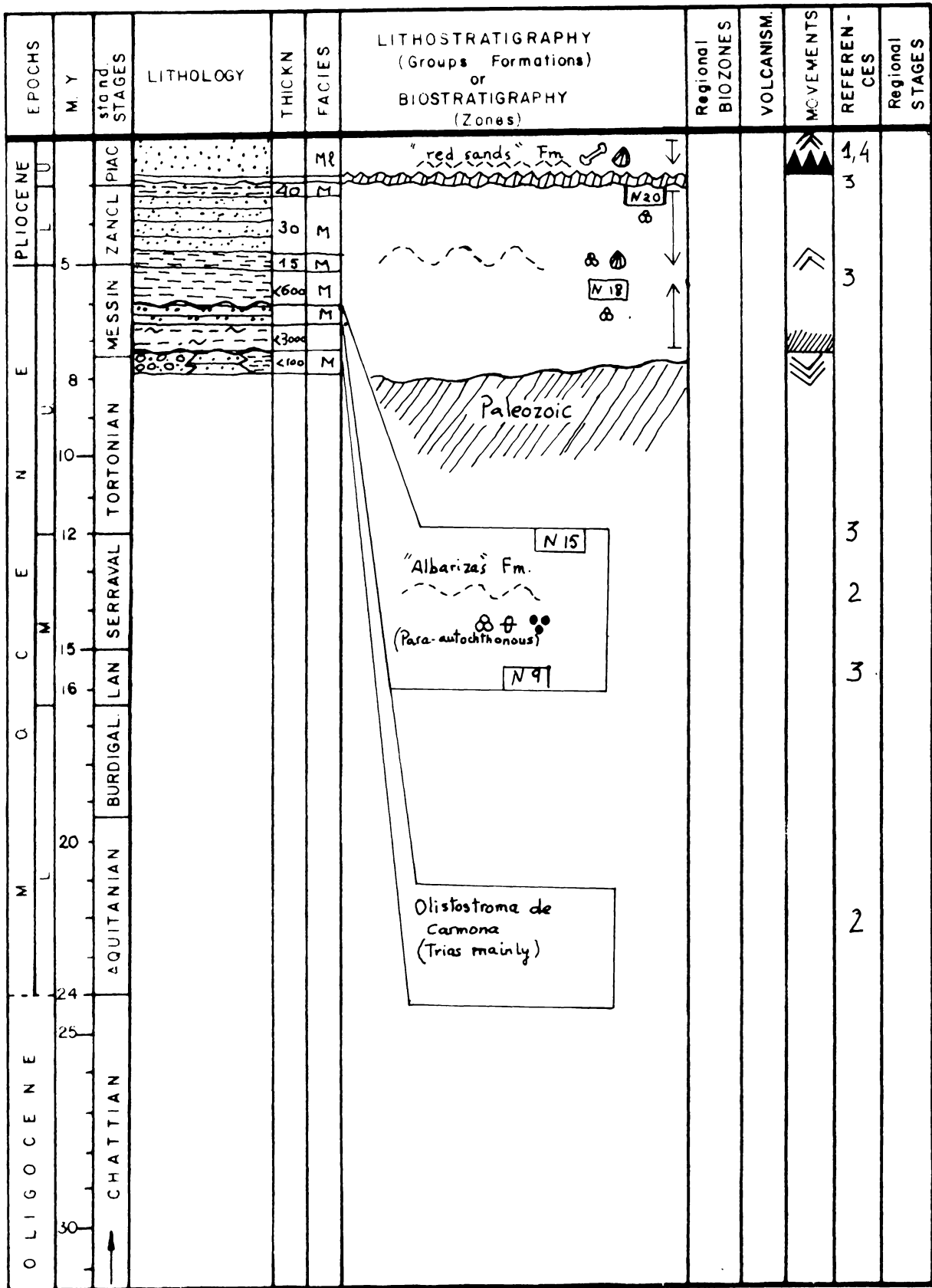
Author: M. HOYOS

Area No. 302: GALLEGAS DEPRESSIONS (NW SPAIN), E

EPOCHS	MILL. Y.		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	PLIOCENE	MED. STAND. STAGES										
OLIGOCENE	E	5		300	F	Fm. PONFERRADA			>>>	1,6 7		
		L	6,3		L							
	MIDDLE	TORTONIAN	10		40	L	Fm. VILLALBA				2,3	
			12		100	Ld	Fm. MONTFORTE			>	1	
			15,4		30	Ld	Fm. LARACHA				4	
	EARLY	BURDIGALIAN	16,5			Ld	Fm. PUENTES G. RODRIGUEZ				4,5	
			20									
	CHATTIAN	AQU.	22,5			Ld	Fm. ROUPAR				5,2	
			24,5									
			30	P=Palygorskite			Paleozoic met.					

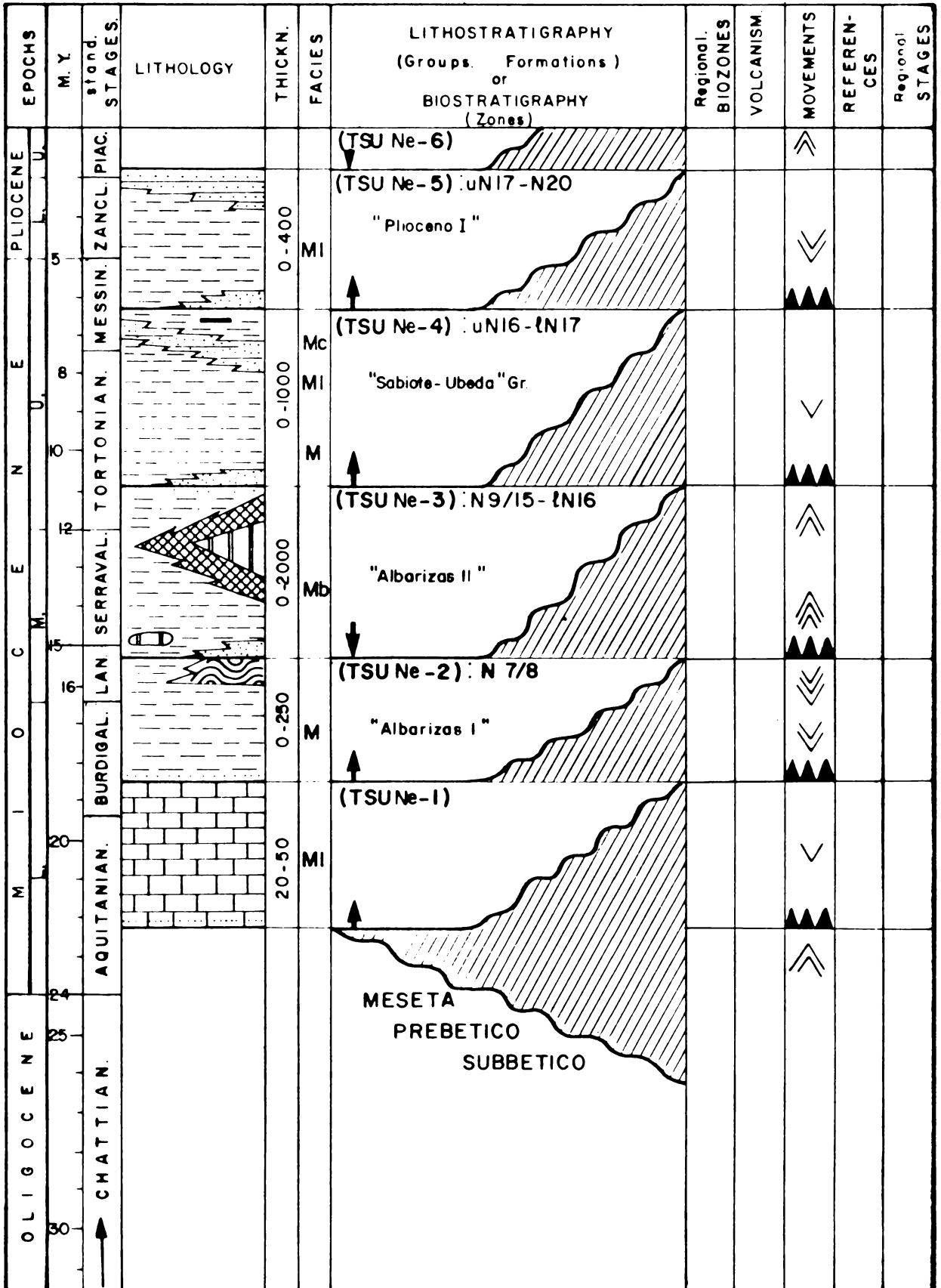
Author: J. M. BRELL

Area No. 1 a: GUADALQUIVIR DEPRESSION, E



Author: C. ZAZO

Area No. 1 b: BETIC RANGES, E



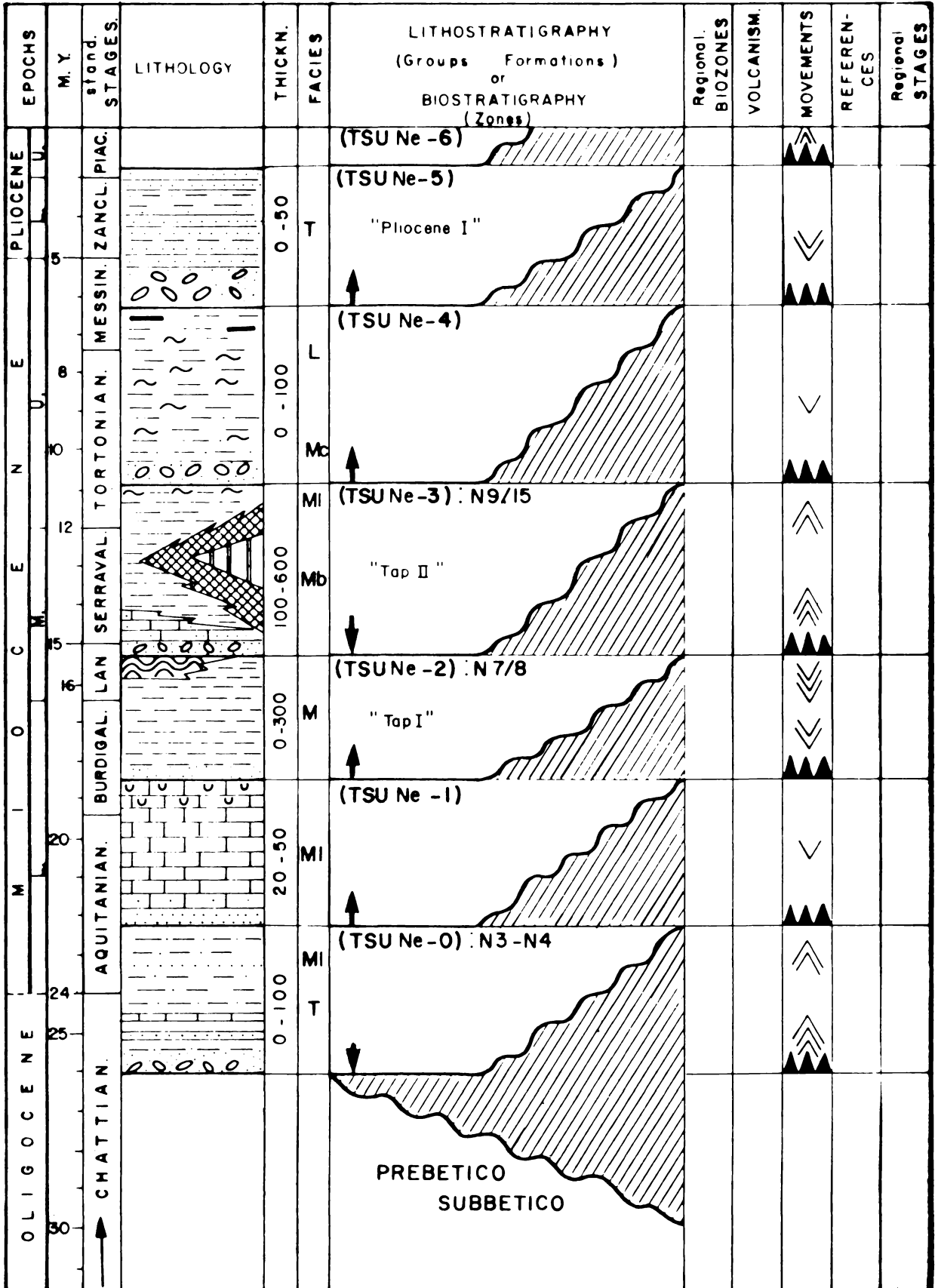
Authors: A. G. MEGIAS, W. MARTINEZ & R. SOLER

Area No. 1 c: BETIC DEPRESSIONS (IBERIC-BETIC BASIN), E

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN- CES	Regional STAGES
O L I G O C E N E	M I O C E N E											
			PIAC		40	T	Fm. SIMA GRANDE				9	
		5	ZANCL		50	F					5	
		8	MESSIN		300	L4	MN 13 (5,4)				4	TUROLIAN
		10	TORTONIAN		300	L2	MN 10					
		12	SERRAVAL		300	Mc	N 15				2	VALESIAN
		15	LAN.		40	M4					1	
		16	BURDIGAL.		100	M2					3	
		20	AQUITANIAN		20	M1					8	
		24	CHATTIAN			T					7	
		25					PALEOGENE - MESOZOIC					

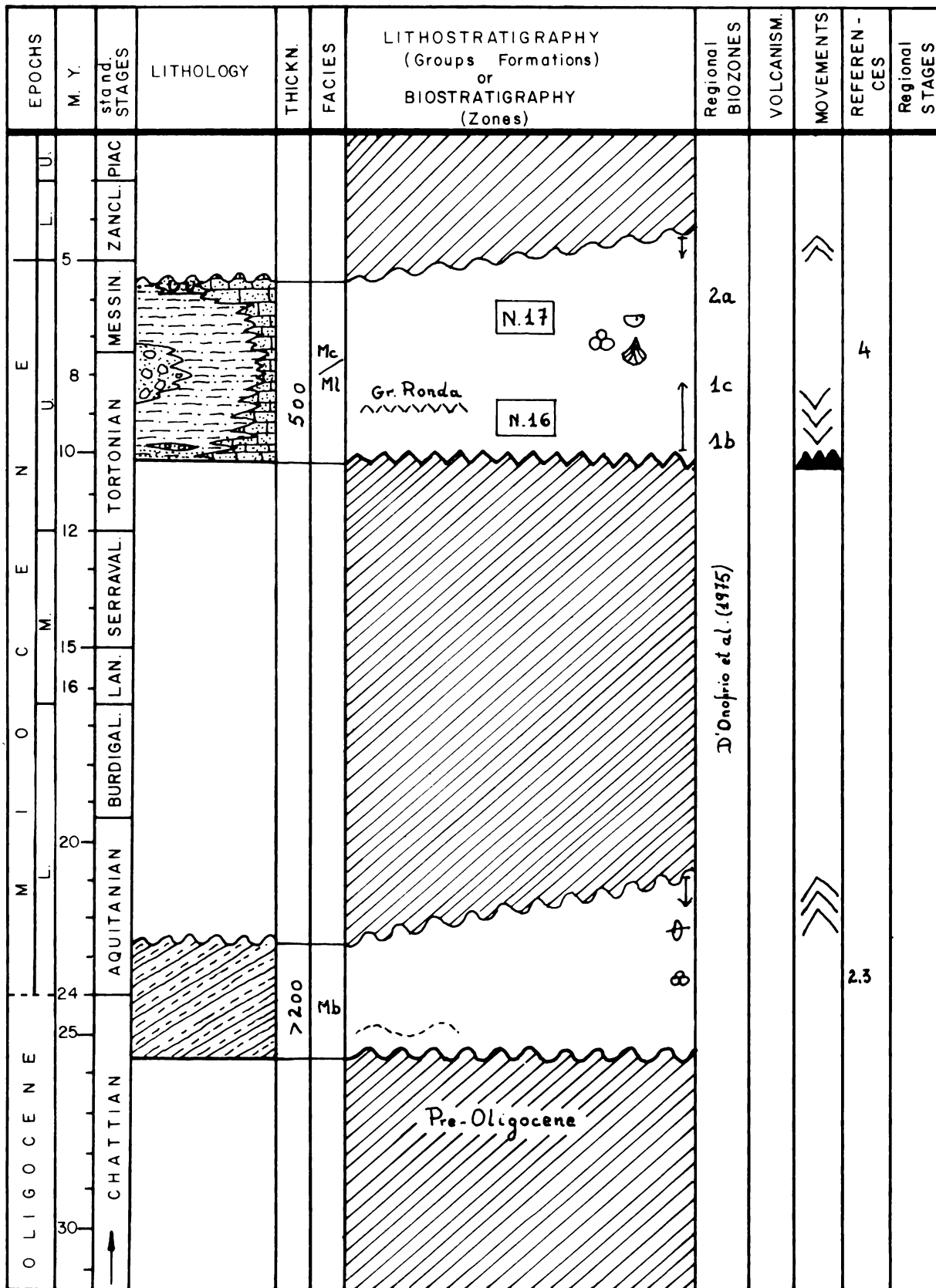
Authors: J. P. CALVO SORANDO, J. USERA, N. LOPEZ & E. ELIZAGA

Area No. 1 c: BETIC RANGES, E



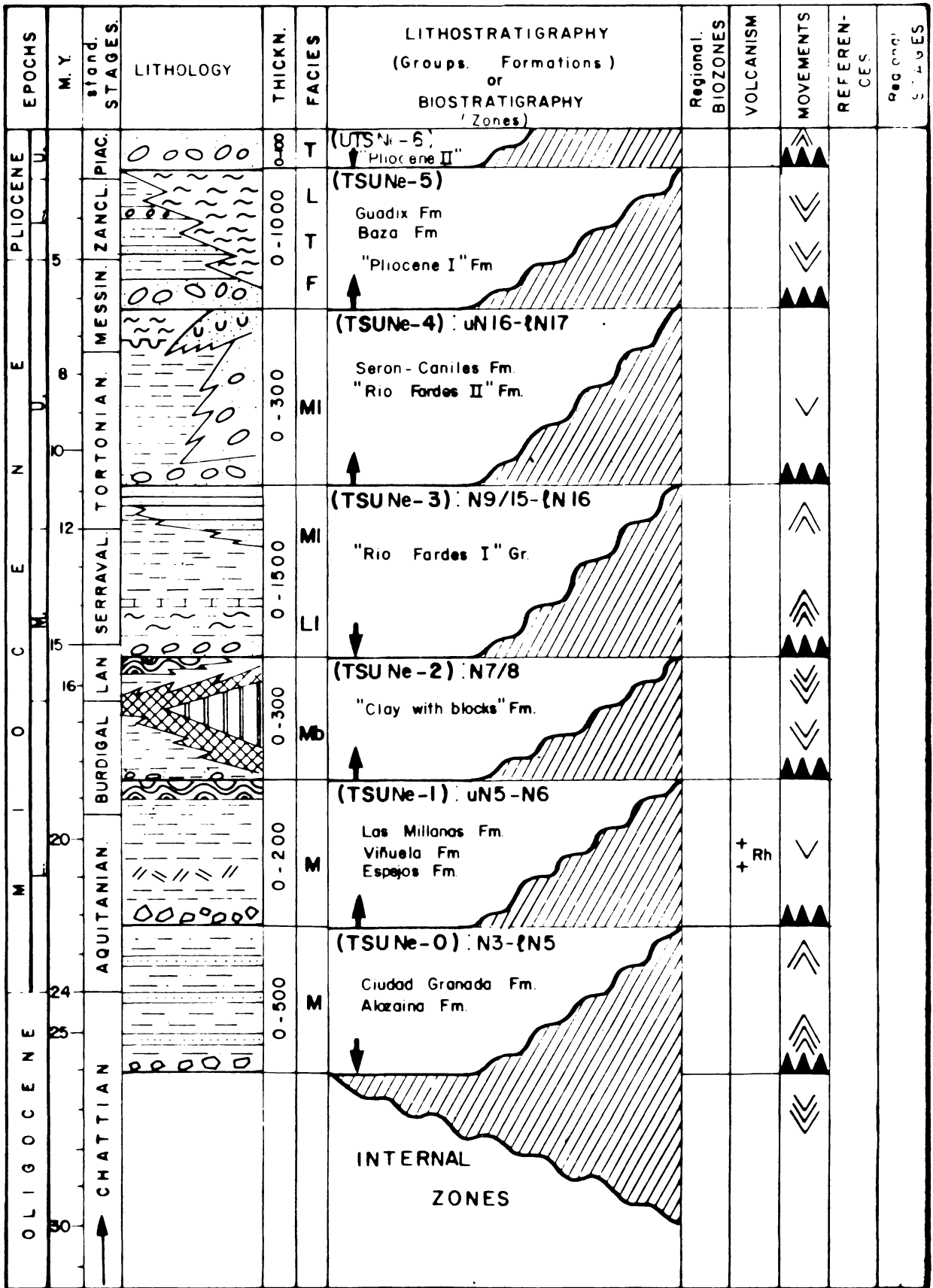
Authors: A. G. MEGIAS, W. MARTINEZ & R. SOLER

Area No. 2 a: RONDA BASIN, E



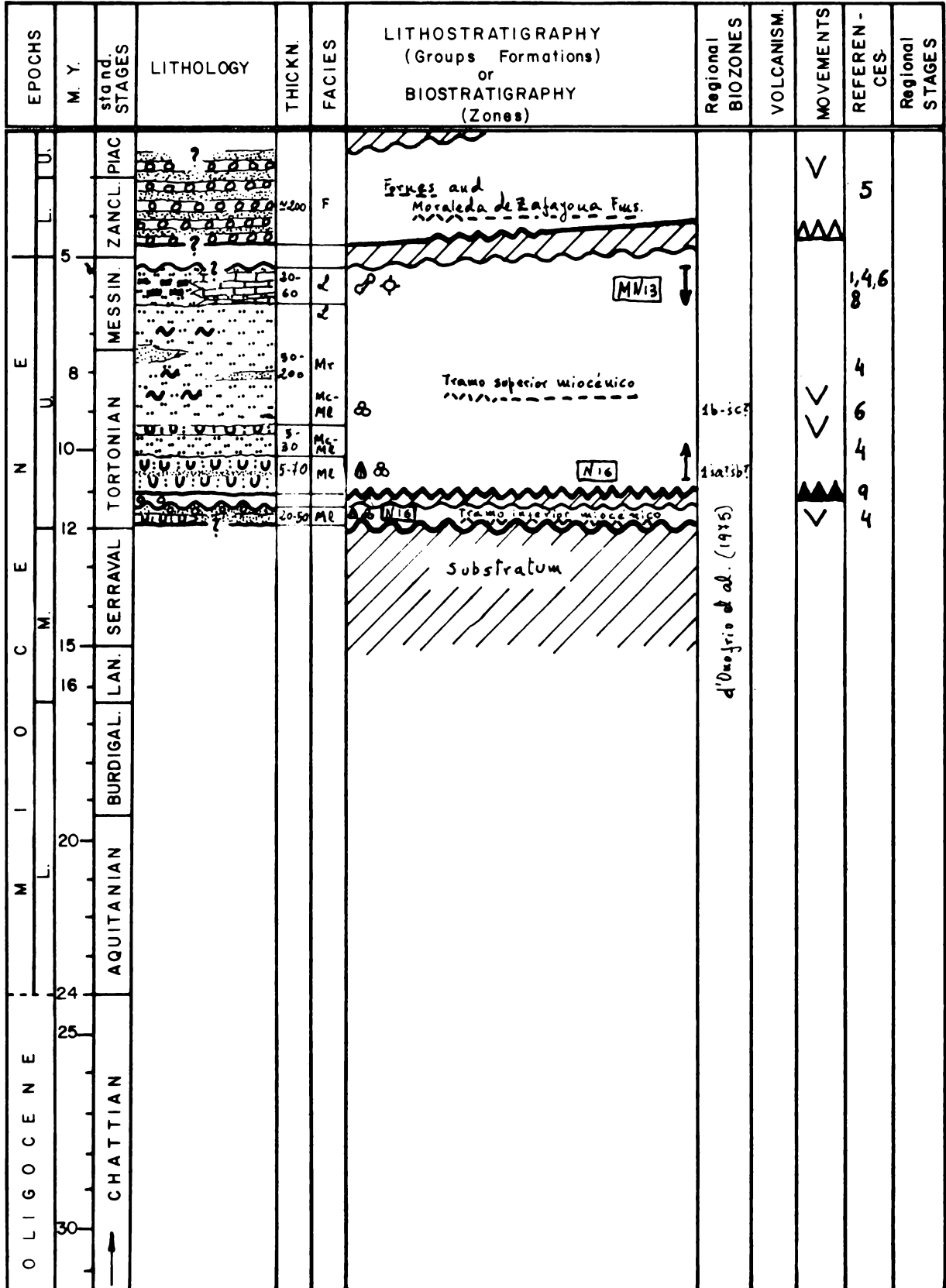
Author: E. SERRANO

Area No. 2 b: BETIC RANGES, E



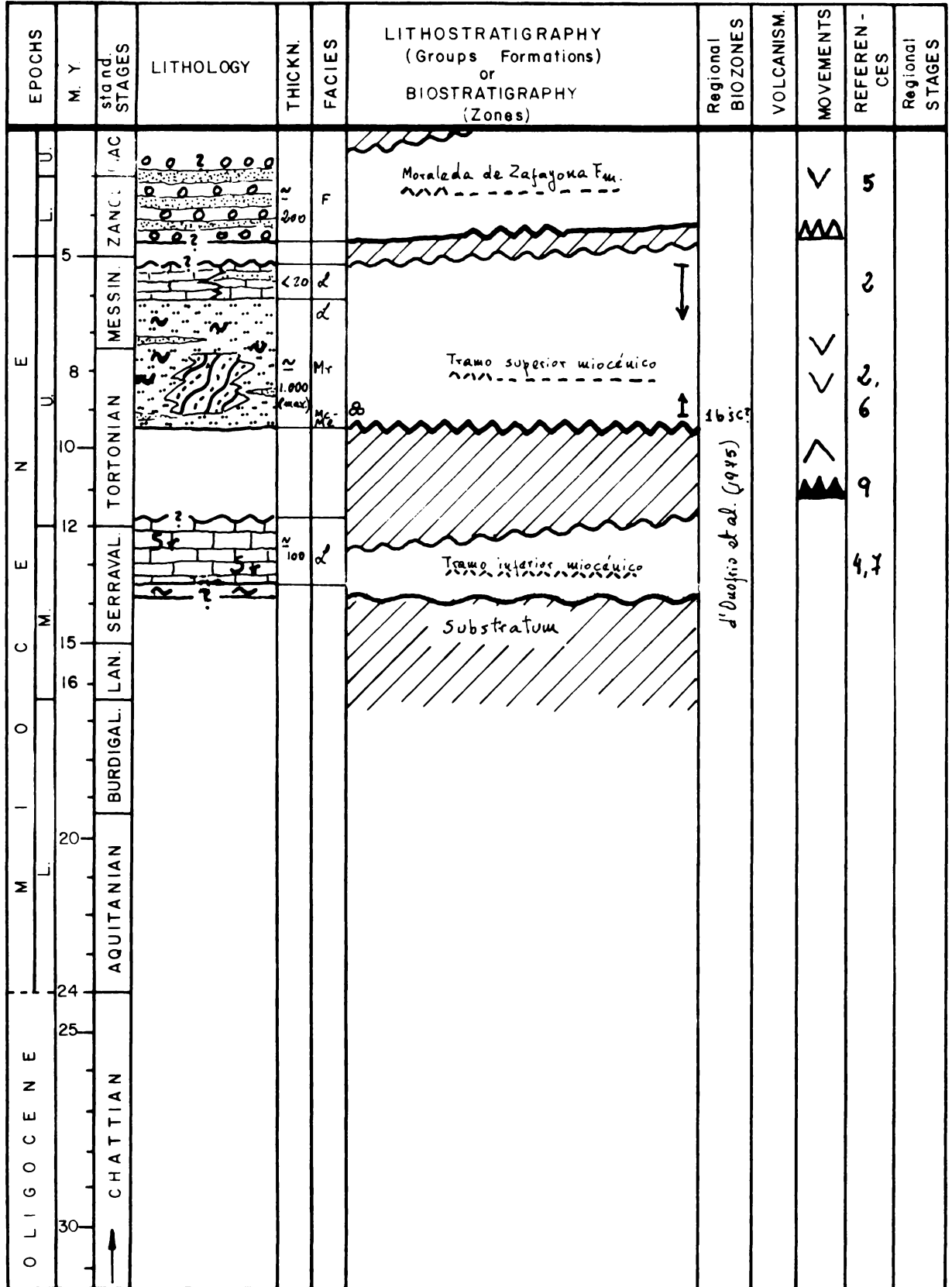
Authors: A. G. MEGIAS, W. MARTINEZ & R. SOLER

Area No. 2 b/1: GRANADA BASIN W, E



Author: J. M. GONZALES DONOSO

Area No. 2 b/2: GRANADA BASIN CENTRAL, E



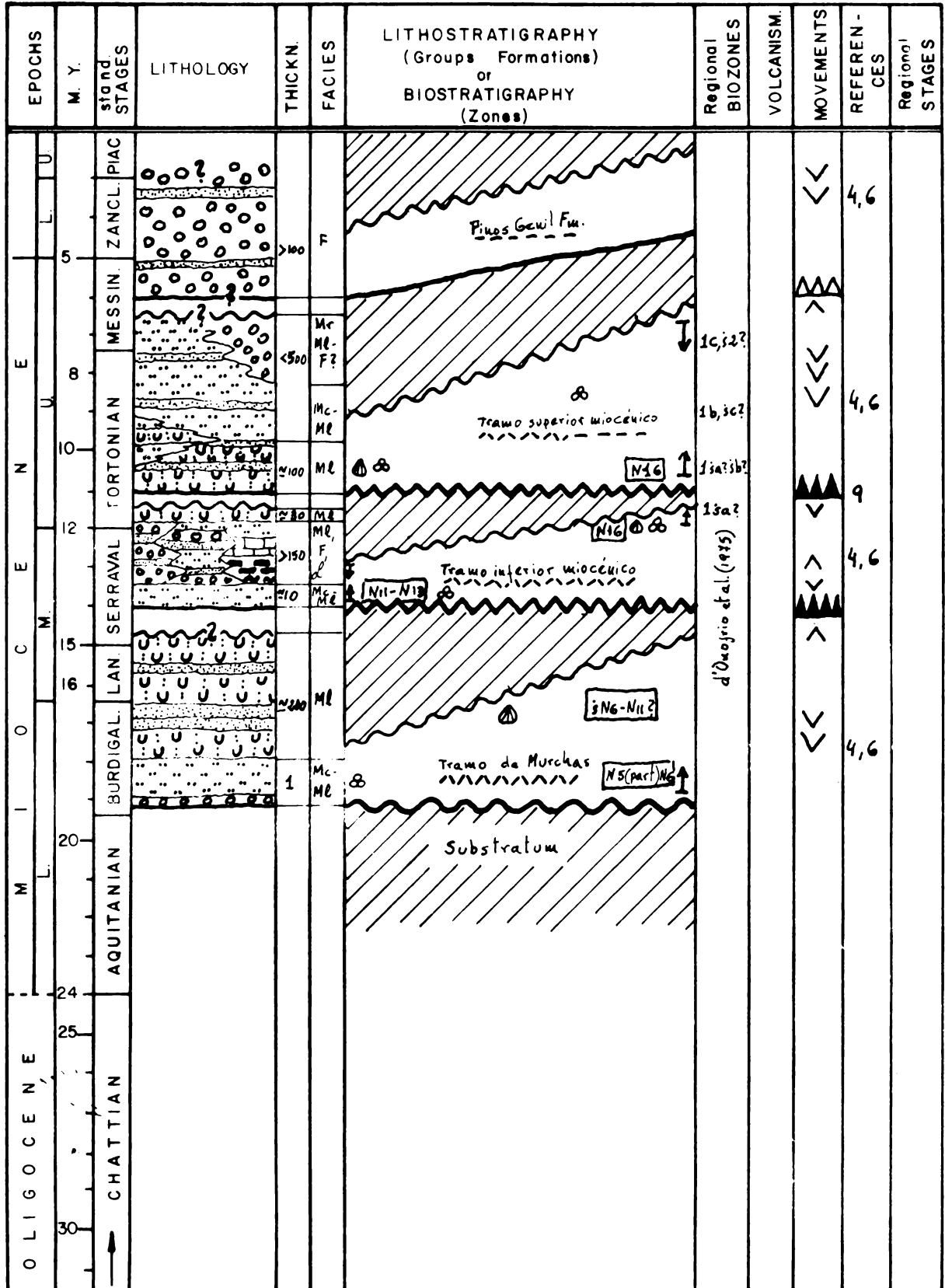
Author: J. M. GONZALEZ DONOSO

Area No. 2 b/3: GRANADA BASIN CENTRAL, E

EPOCHS	M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN- CES	Regional STAGES
O L I G O C E N E	24	AQUITANIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	10	TORTONIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	12	SERRAVAL.	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	16	BURDIGAL.	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	20	AQUITANIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
O L I G O C E N E	25	CHATTIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
O L I G O C E N E	30	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
M I O C E N E	12	SERRAVAL.	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	15	SERRAVAL.	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	16	BURDIGAL.	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
M I O C E N E	20	AQUITANIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
O L I G O C E N E	24	AQUITANIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]
O L I G O C E N E	25	CHATTIAN	[Lithology symbols]	[Thickn symbols]	[Facies symbols]	[Lithostratigraphy symbols]	[Biozones symbols]	[Volcanism symbols]	[Movements symbols]	[References symbols]	[Regional Stages symbols]

Author: J. M. GONZALEZ DONOSO

Area No. 2 b/4: GRANADA BASIN NE AND SE, E



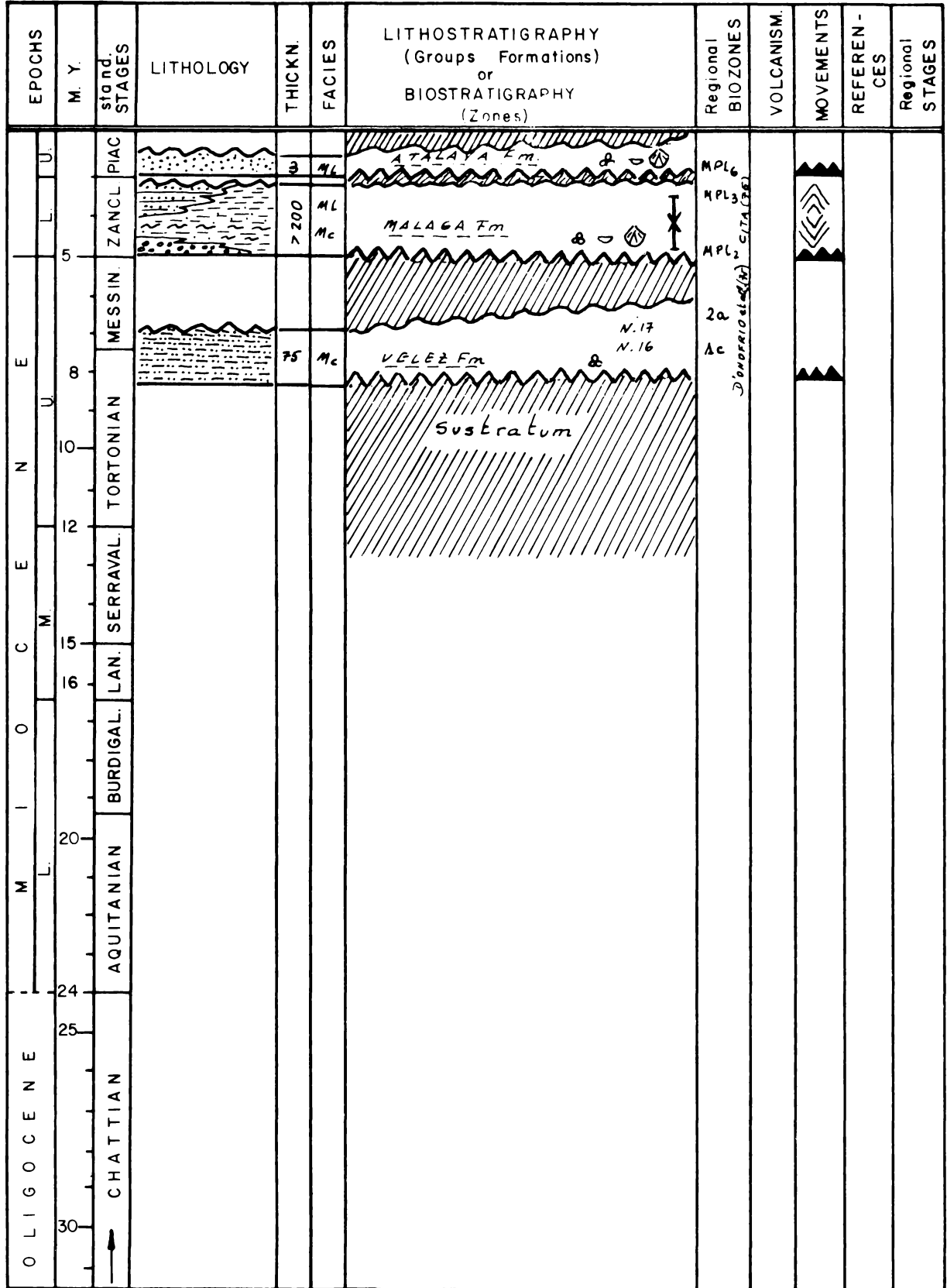
Author: J. M. GONZALEZ DONOSO

Area No. 2 c: BALEARIC DEPRESSION, E

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN- CES	Regional STAGES																	
PLIOCENE	OLIGOCENE																												
PLIOCENE	L U	5	ZANCL. PIAC.		< 400	TL MB Mc B	"Son Mir Calcisilts" (1) 				1,3 5																		
													MESSIN		B M	"Terrestrial Complex" "Reef Complex"	B M		1,4,5										
																				E	U	8	TORTONIAN		< 200	M	"Heterostegina calcisilts" 		1,4,5
													SERRAVAL		Bz Mc	"Son Verdera Limestones" "Son Talent Limestones" 	Bz Mc		1,2										
													BURDIGAL.		M			?											
																			AQUITANIAN										
													CHATTIAN		T			?											

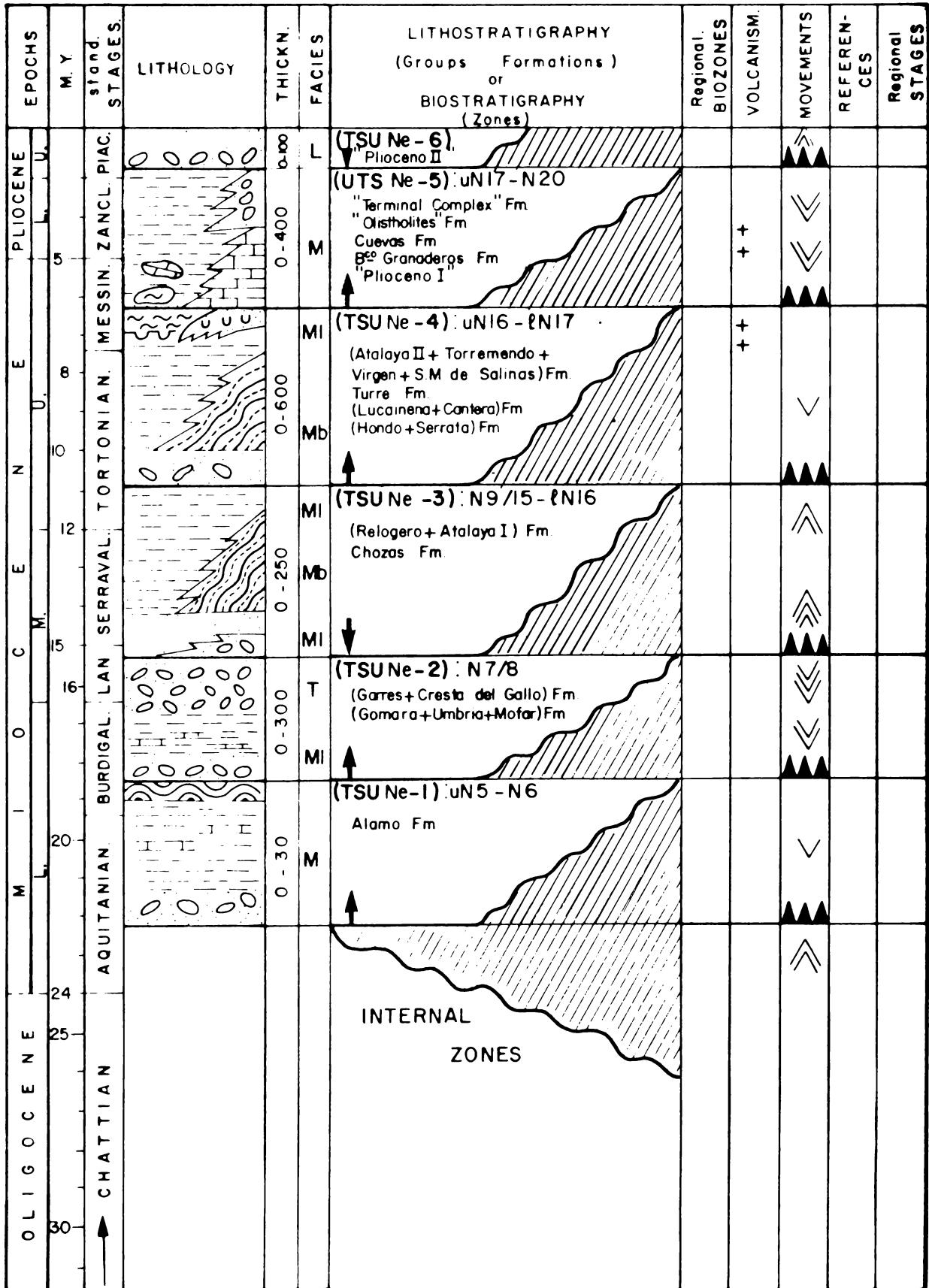
Authors: A. BARON & L. POMAR

Area No. 3 a: MALAGA COASTAL AREA, E



Authors: F. CARRASCO & P. RODRIGUEZ

Area No. 3 b: BETIC RANGES, E



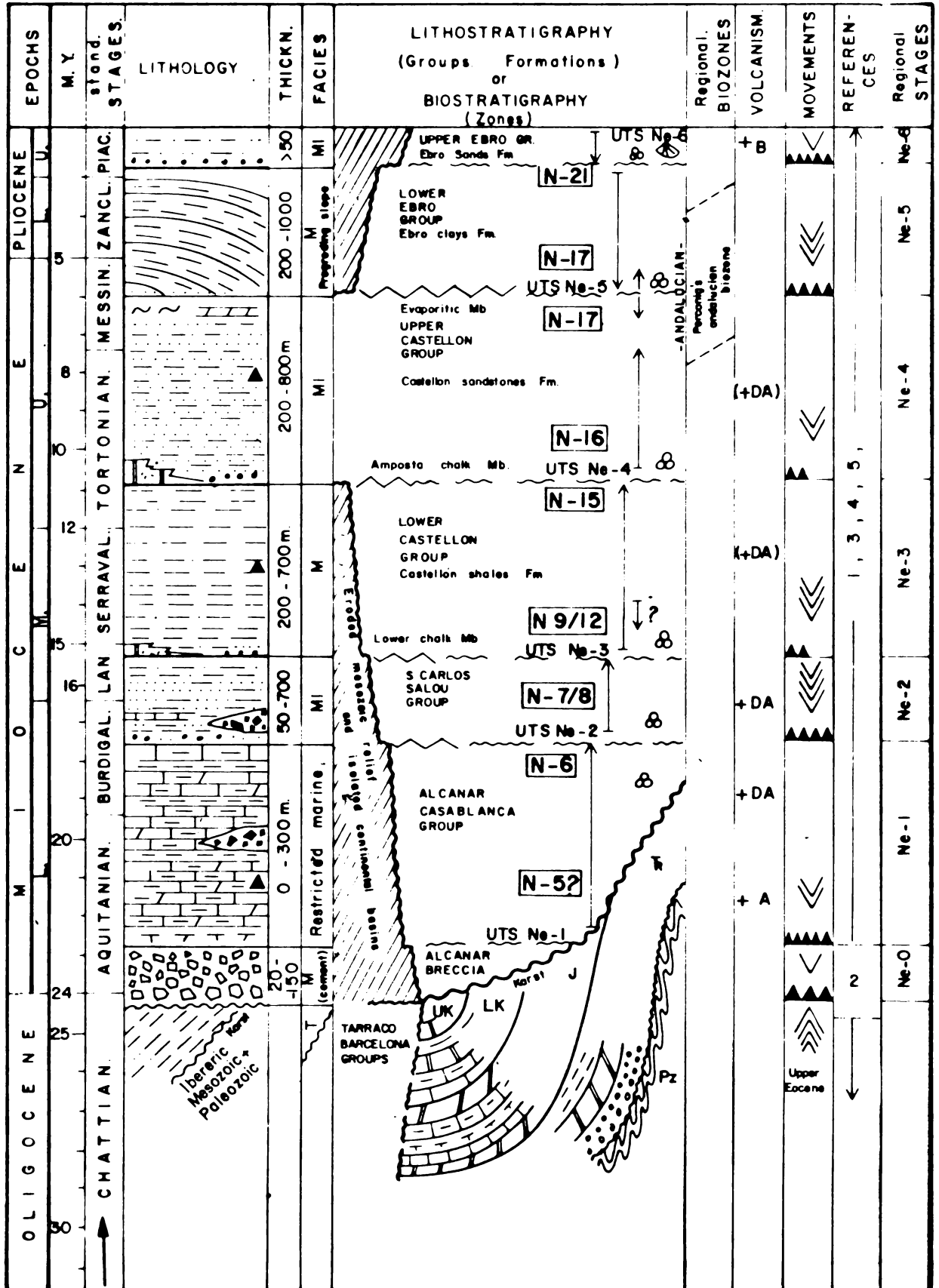
Authors: A. G. MEGIAS, W. MARTINEZ & R. SOLER

Area No. 3 b 1: BETIC DEPRESSION, ALMERIAN CORRIDOR, E

EPOCHS		STAND. STAGES	LITHOLOGY	THICKN. (m)	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN- CES	Regional STAGES		
M. Y.													
O L I G O C E N E	P L I O C E N E	U	PIAC		50	ML	ESPIRITU SANTO Fm				Plioc. II		
			L	ZANCL.		150	M	CUEVAS Fm				Plioc. I	
		5	M	MESSIN.		200-250	M	Cantera Mb Santiago Mb Abad Mb Azagador Mb	TURRE Fm	A.A.A			Terminal Miocene
		8	M	TORTONIAN		>250	M	Gatar Mb	CHOZAS Fm				
		10	T	SERRAVAL		<100	ML	Loma Colorada Mb					
		12	T	SERRAVAL		<250	T	Sarlador Mb and MUFAR Fm					
		15	M	LAN.		<150	M	Lomas Mb	UMBRIA Fm				
		16	M	BURDIGAL.		50	M	Romario Mb					
		20	M	AQUITANIAN		<25	M	GOMARA Fm					
24	M	AQUITANIAN		>20	M	ALAMO Fm							
												M	
25	M	AQUITANIAN		>20	M	ALAMO Fm							
												M	
30	M	AQUITANIAN		>20	M	ALAMO Fm							
												M	
						substratum							

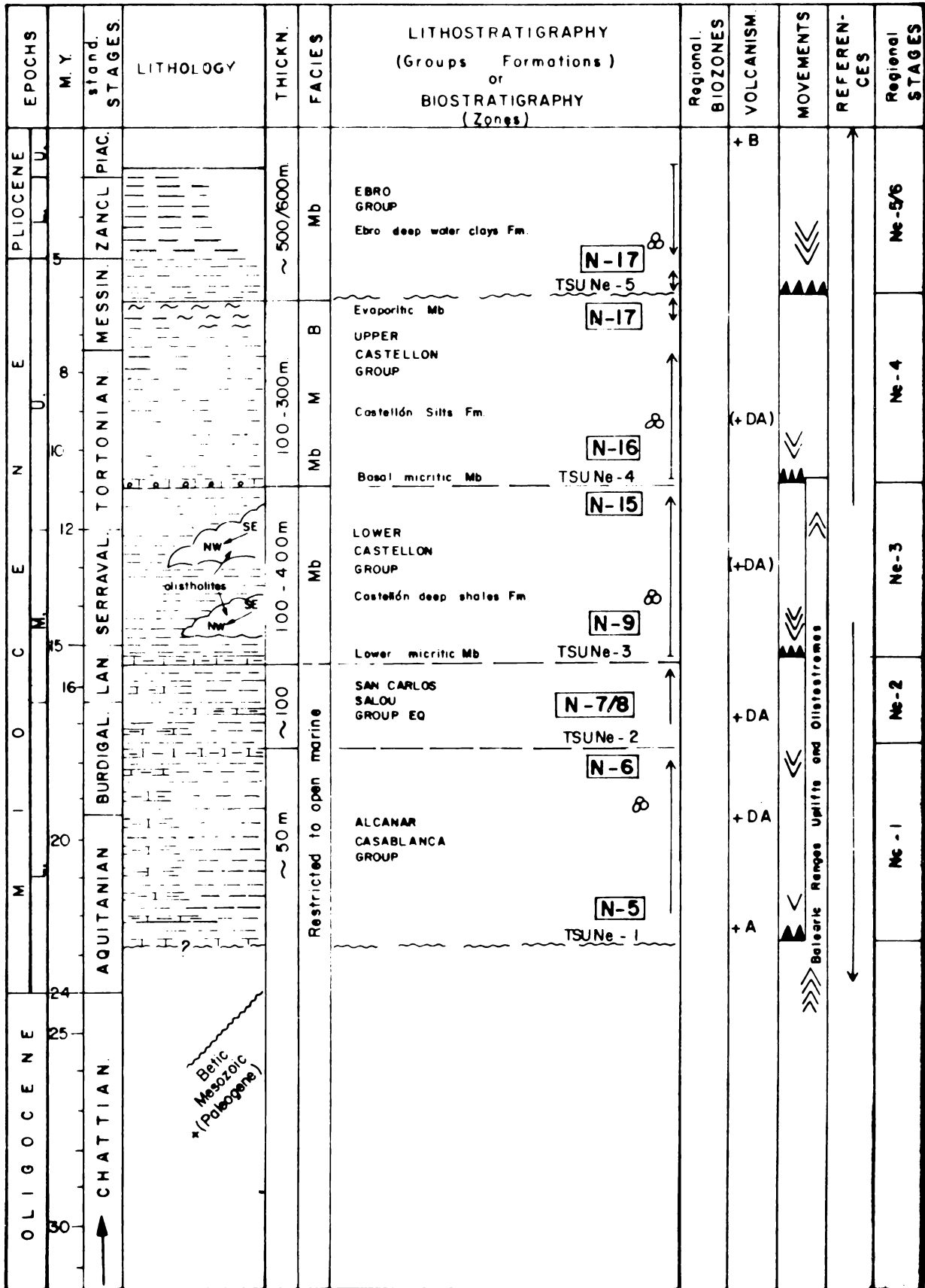
Author: C. J. DABRIO

Area No. 5 a: VALENCIA PLATFORM, N BALEARIC TROUGH, E



Authors: W. MARTINEZ, R. SOLER & A. G. MEGIAS

Area No. 5 b: VALENCIA PLATFORM, N BALEARIC TROUGH, E



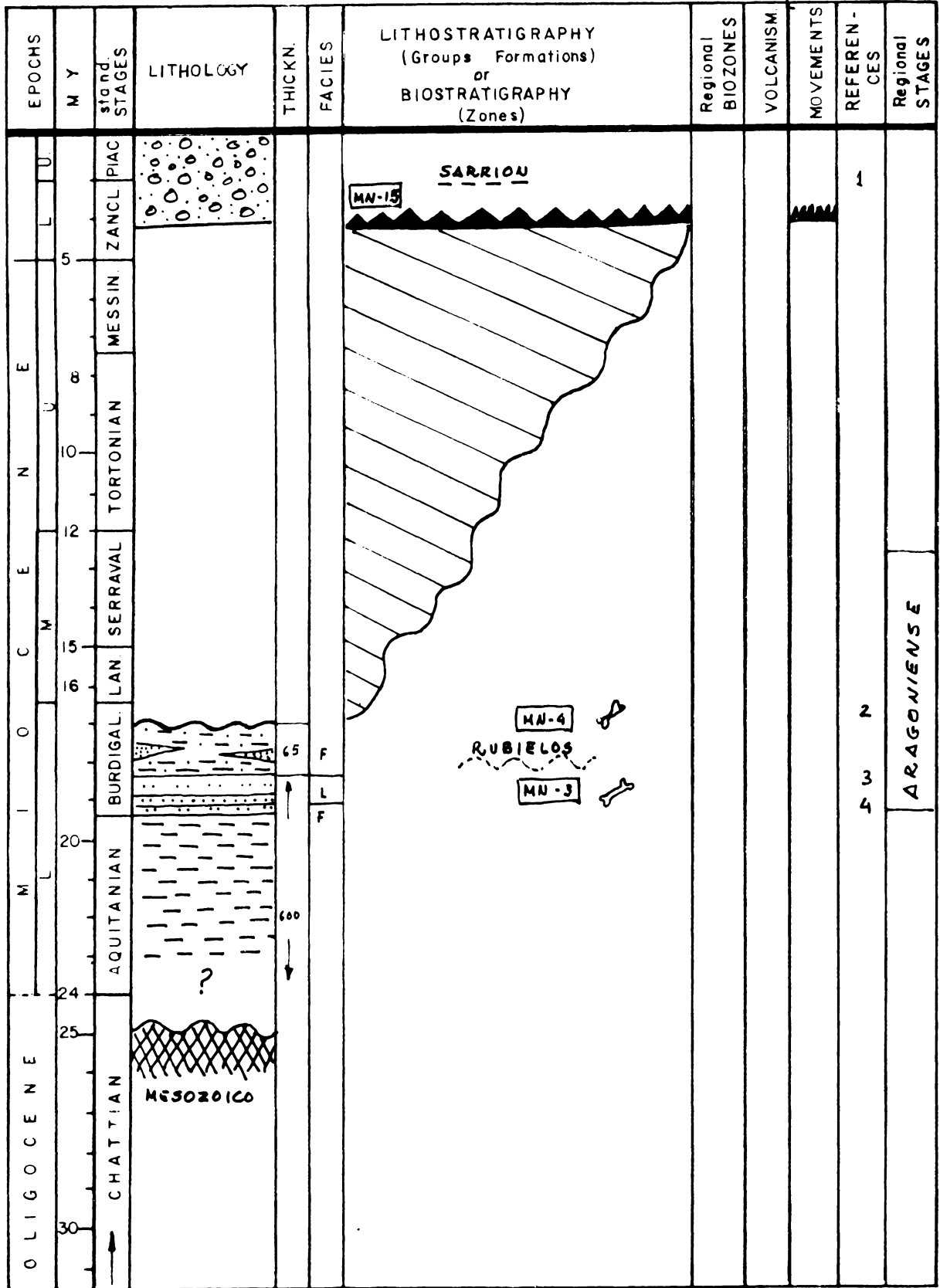
Authors: W. MARTINEZ, R. SOLER & A. G. MEGIAS

Area No. 6 b: PENEDES, E

EPOCHS		M. Y.	STAND STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	PLIOCENE											
		5	MESSIN. ZANCL. PIAC.		250	T	MN 11					TUROLIUM
		6	TORTONIAN		500	T	MN 10				10	VALLESIIUM
		10			450	T	MN 9				3	ASTARACIUM
		12			450	T	MN 8					
		15	LAN. SERRAVAL.		300	MI B	MN 7				13	ASTARACIUM
		16	LAN. SERRAVAL.		300	MI	MN 5				2	
		16	BURDIGAL.		150	MI	MN 4				1	
		20	AQUITANIAN									
		24										
		25	CHATTIAN									
		30										

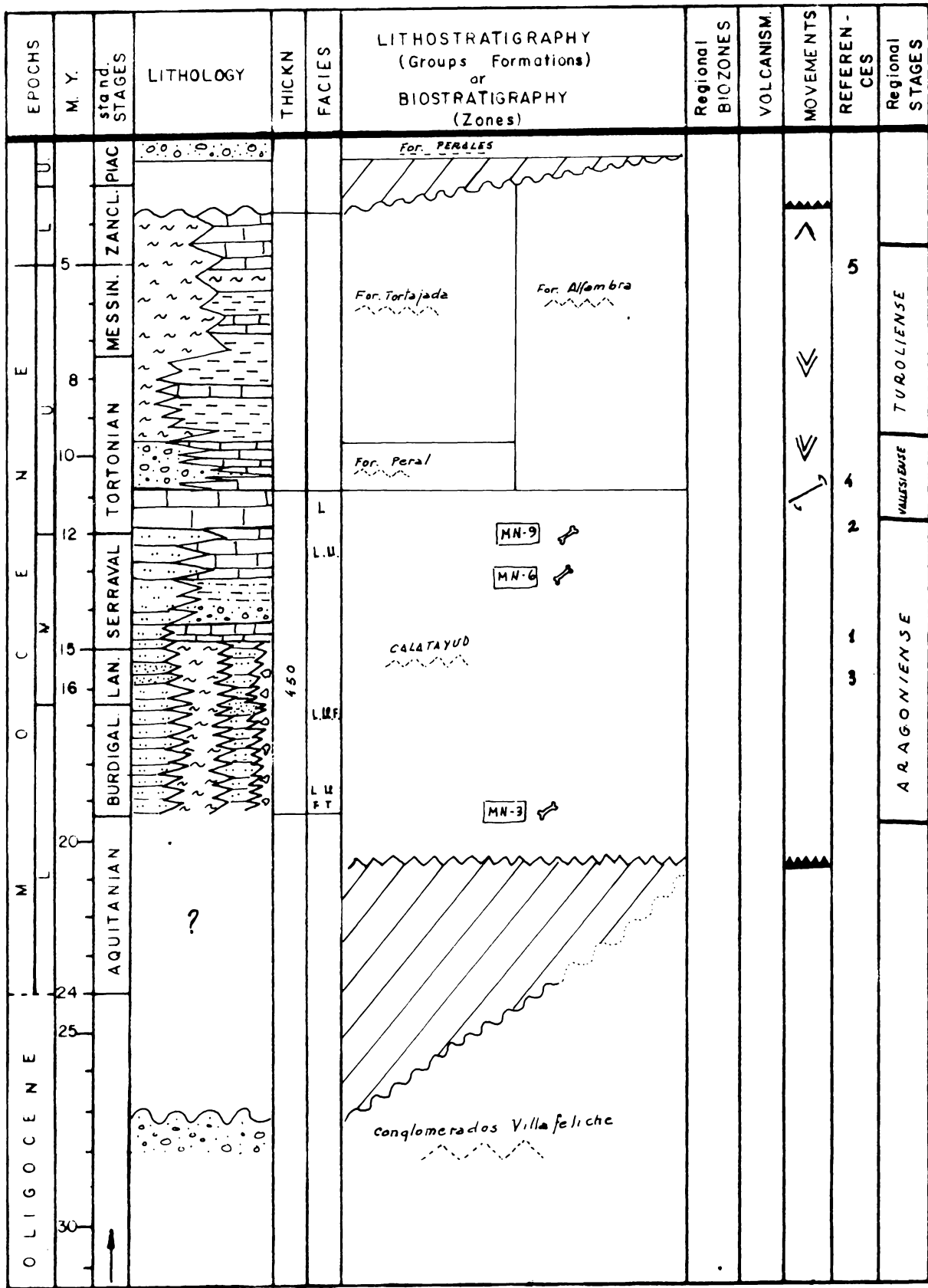
Authors: J. V. SANTAFE & M. L. CASANOVAS

Area No. 7: SARRION DEPRESSIONS, E



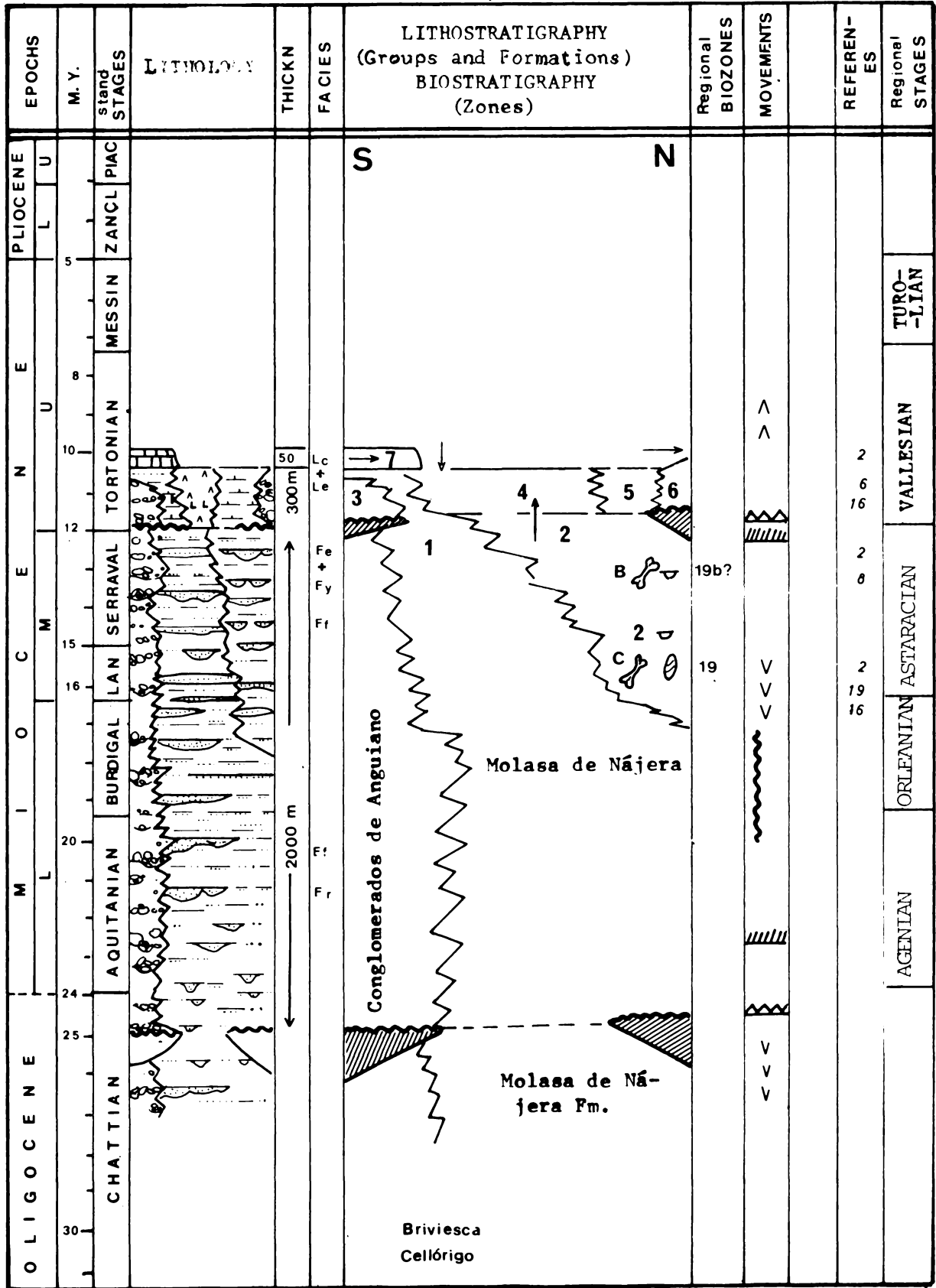
Authors: N. LOPEZ & M. HOYOS

Area No. 8: IBERIC DEPRESSION, E



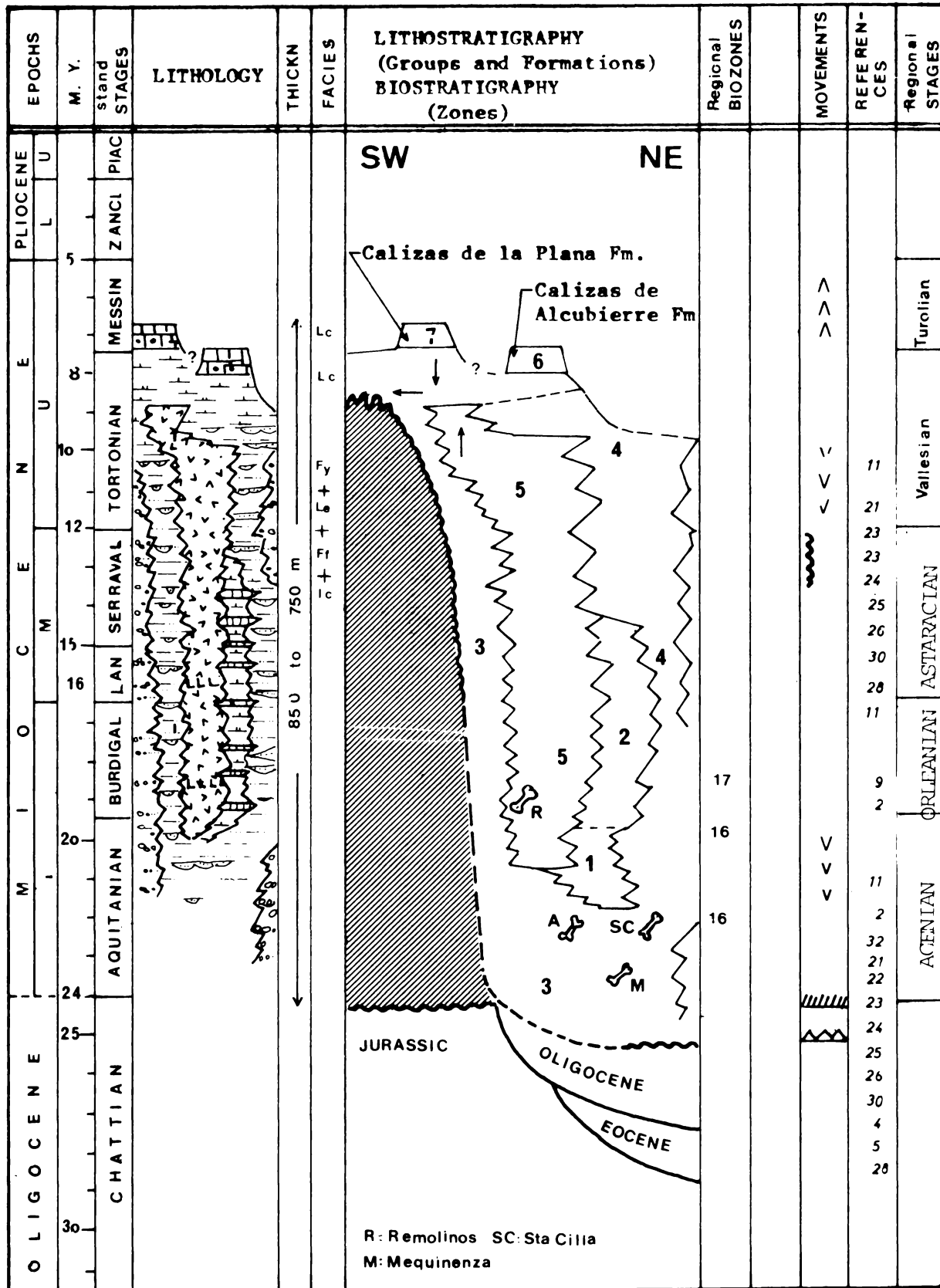
Authors: M. HOYOS & N. LOPEZ

Area No. 9 a: EBRO DEPRESSION, BUREBA-RIOJA ALTA, E



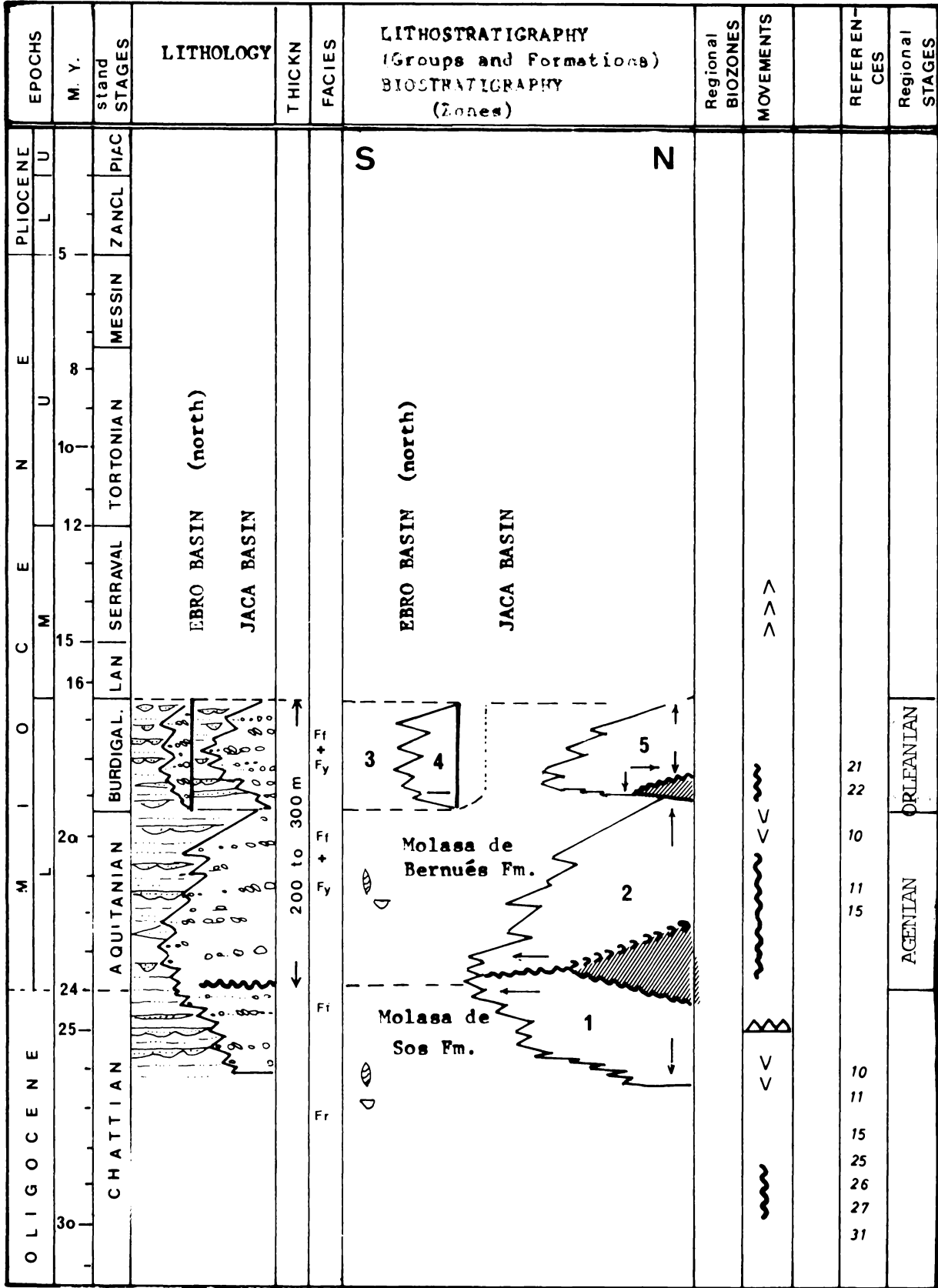
Author: O. RIBA

Area No. 9 c: EBRO DEPRESSION, ARAGON, E



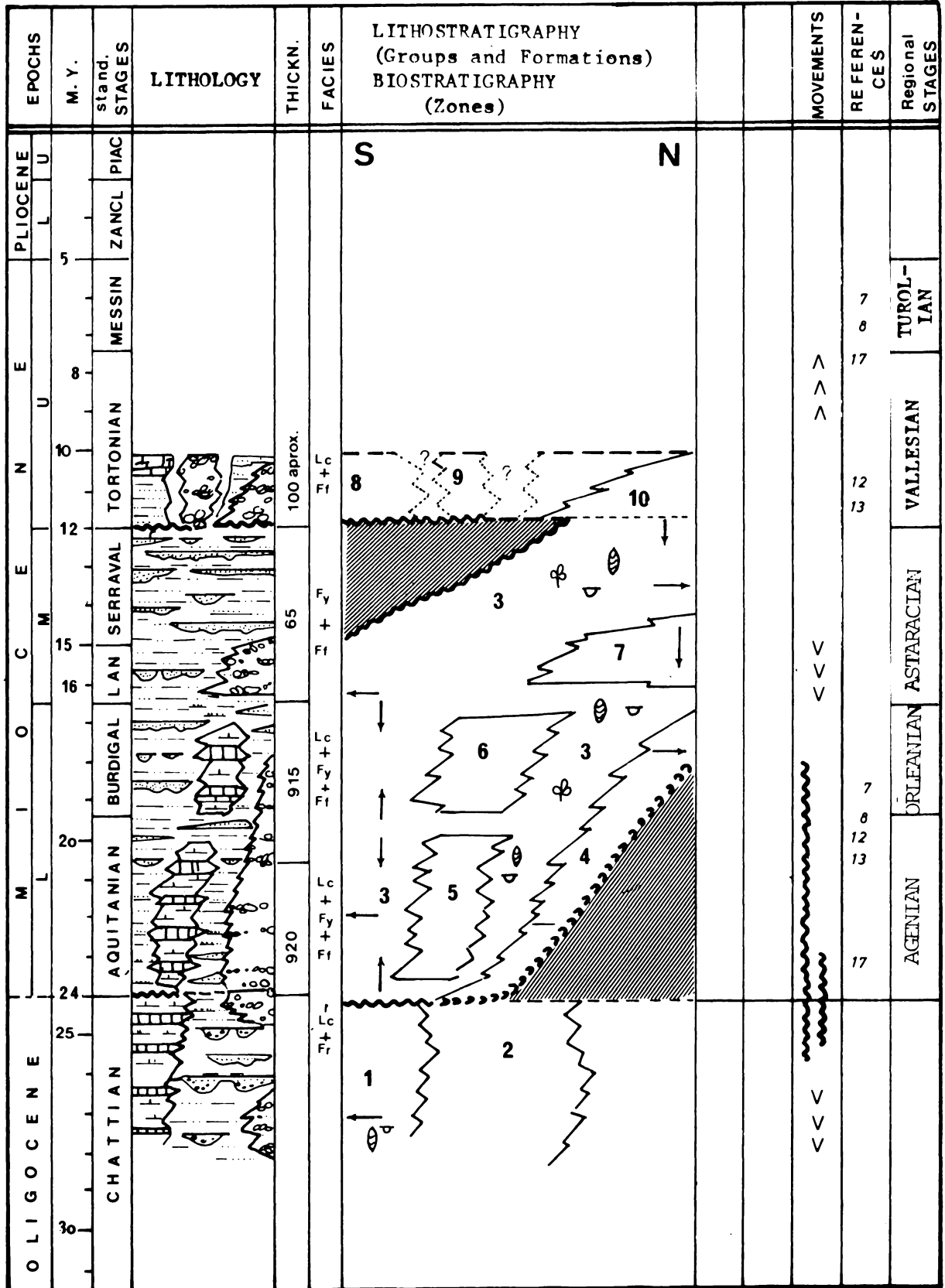
Author: O. RIBA

Area No. 9 d: EBRO DEPRESSION, JAGA BASIN, E




Author: O. RIBA

Area No. 9 e: EBRO DEPRESSION, MIRANDA-TREVINO BASIN, E



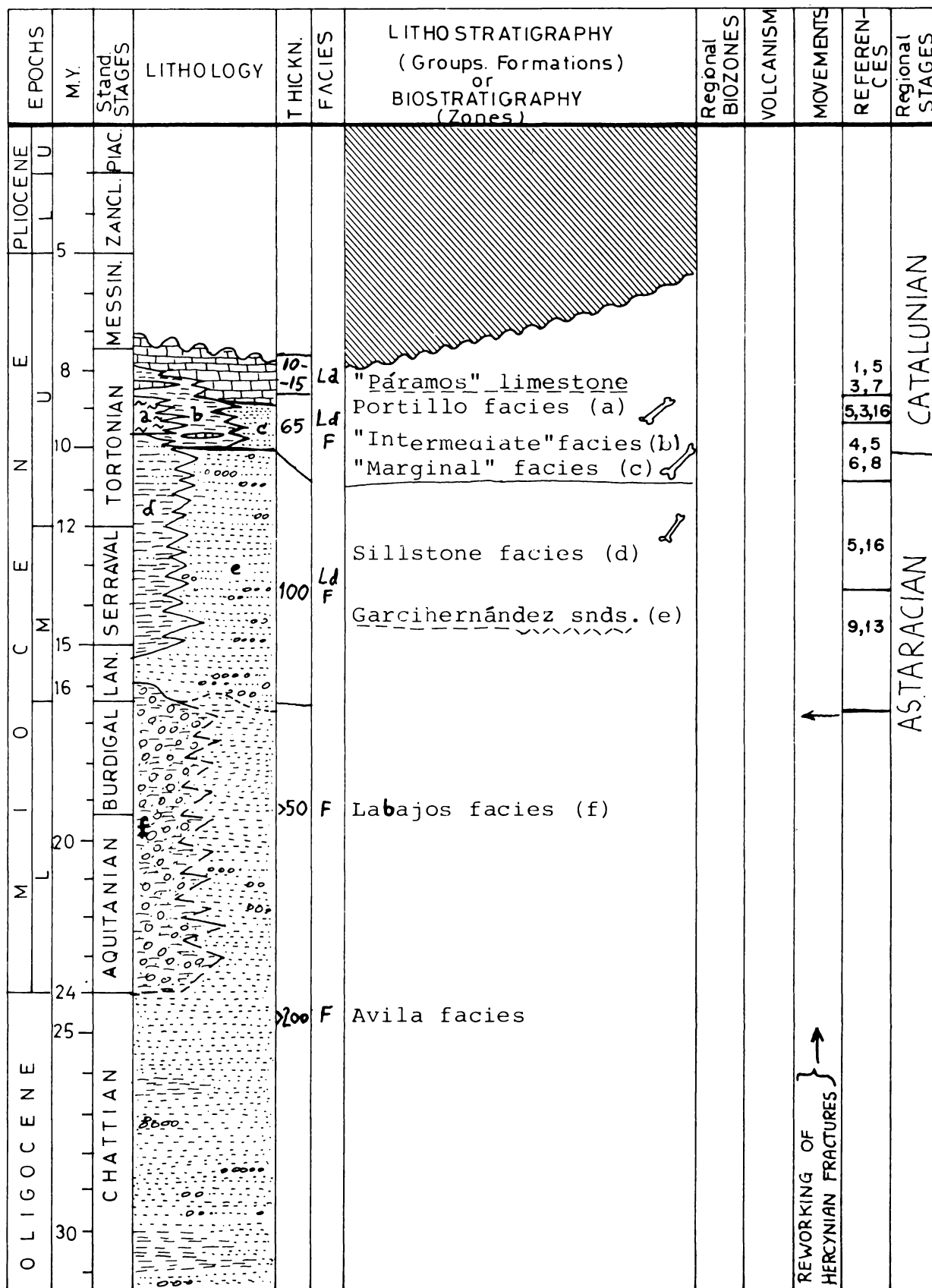
Author: O. RIBA

Area No. 10 a 2: DUERO BASIN SW, ZAMORA, SALAMANCA, E

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN CES	Regional STAGES
PLIOCENE	MY.									
PLIOCENE	5	ZANCL. PIAC.								
Eocene	8	MESSIN.								
	10	TORTONIAN								
Eocene	12	SERRAVAL	30 to 100	F	Garcihernández Snus. Fm.			↑	9	10, 11
	15	LAN. SERRAVAL	70	F	"Castillejo Red facies"				10, 11	
Oligocene	20	BURDIGALAN	35 to 75	F	"Toro Red facies"			↑	11, 12	2
	24	AQUITANIAN								
Oligocene	25	CHATTIAN	25	Ld F	"Valuefinjas Series" 			↑		
	30			F-L	"Paleogene Upper Group"			↑	10, 11	12, 2
								↑	REWORKING OF HERCYNIAN FRACTURES	

Author: E. JIMENEZ FUENTES

Area No. 10 a 3: DUERO BASIN S AND CENTRAL, E



Author: E. JIMENEZ FUENTES

Area No. 10 b: DUERO BASIN, E

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN - CES	Regional STAGES				
O L I G O C E N E	M L	30	CHATTIAN													
M I O C E N E	M L	15	SERRAVAL		>80 m		Fm. "Arcilla de la tierra de Campos"				3					
P L I O C E N E	L U	5	MESSIN		90 m	L, F	Fm. Caliza de los Páramos			(?)	4,5,6,7					
P L I O C E N E	L U	5	ZANCL. PIAC.		≤30 m	F	Fm. Calizas Terminales				4,5					

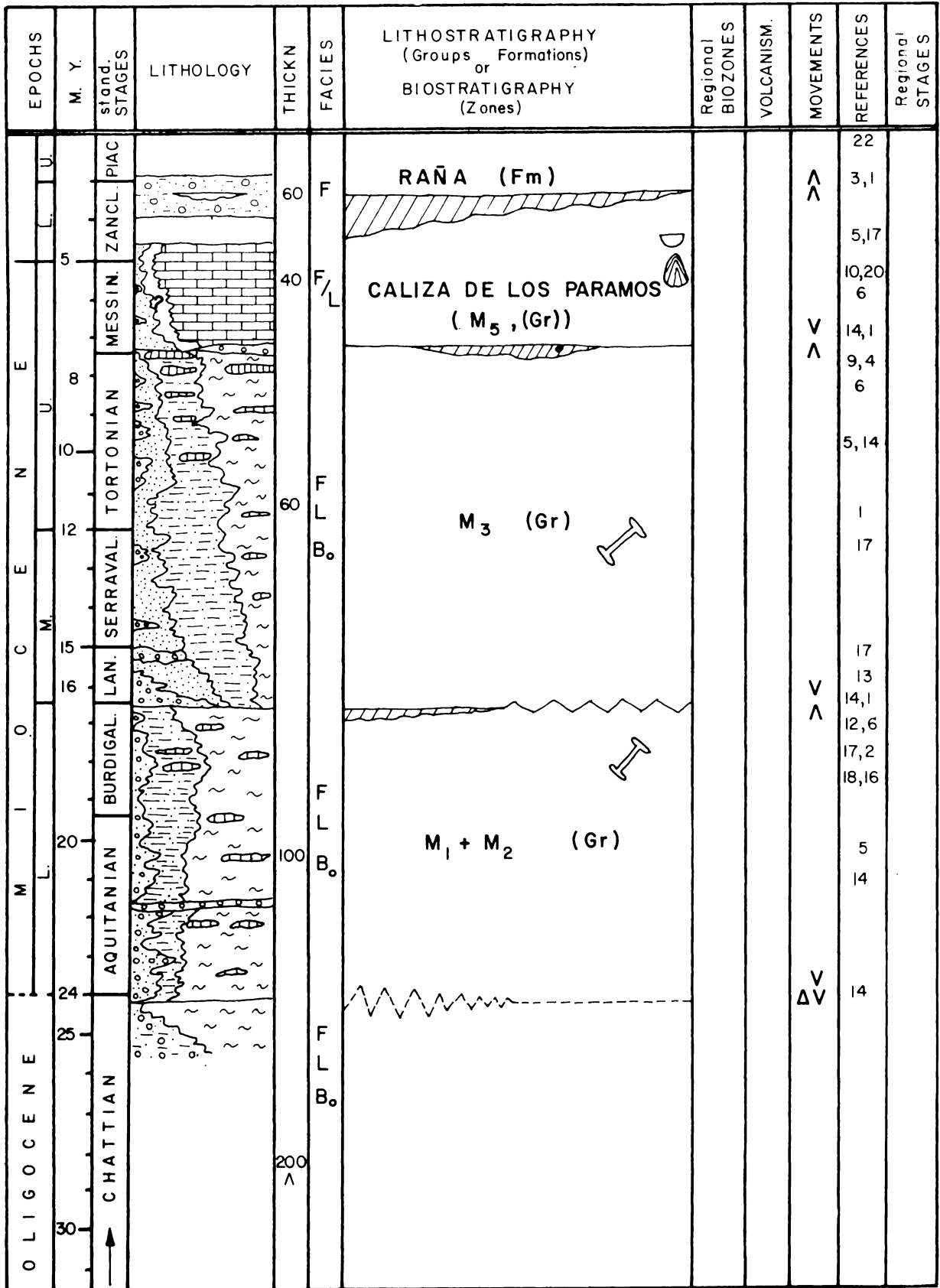
Authors: A. GARDIA DEL CURA & S. ORDONEZ

Area No. 10 c: DUERO BASIN, E

EPOCHS		M. Y.	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	PLIOCENE										
	U.										
	L										
	5					Raña Fm			↗↗↗		
	8					Ferreras-Velilla Fm. (3)				1	
	10					Las Omañas-Villarroquel Fm. (2)				1	
	12					Cimanes Fm. (1)				1	
	15										
	16										
	20								▲▲▲		
	24					Paladín Fm (3)			↗↗↗	1	
	25					Tapia de la Ribera Fm (2)			↗↗↗	1	
	30					Ordas Fm. (1)			↗↗↗	1	
						Paleozoic					

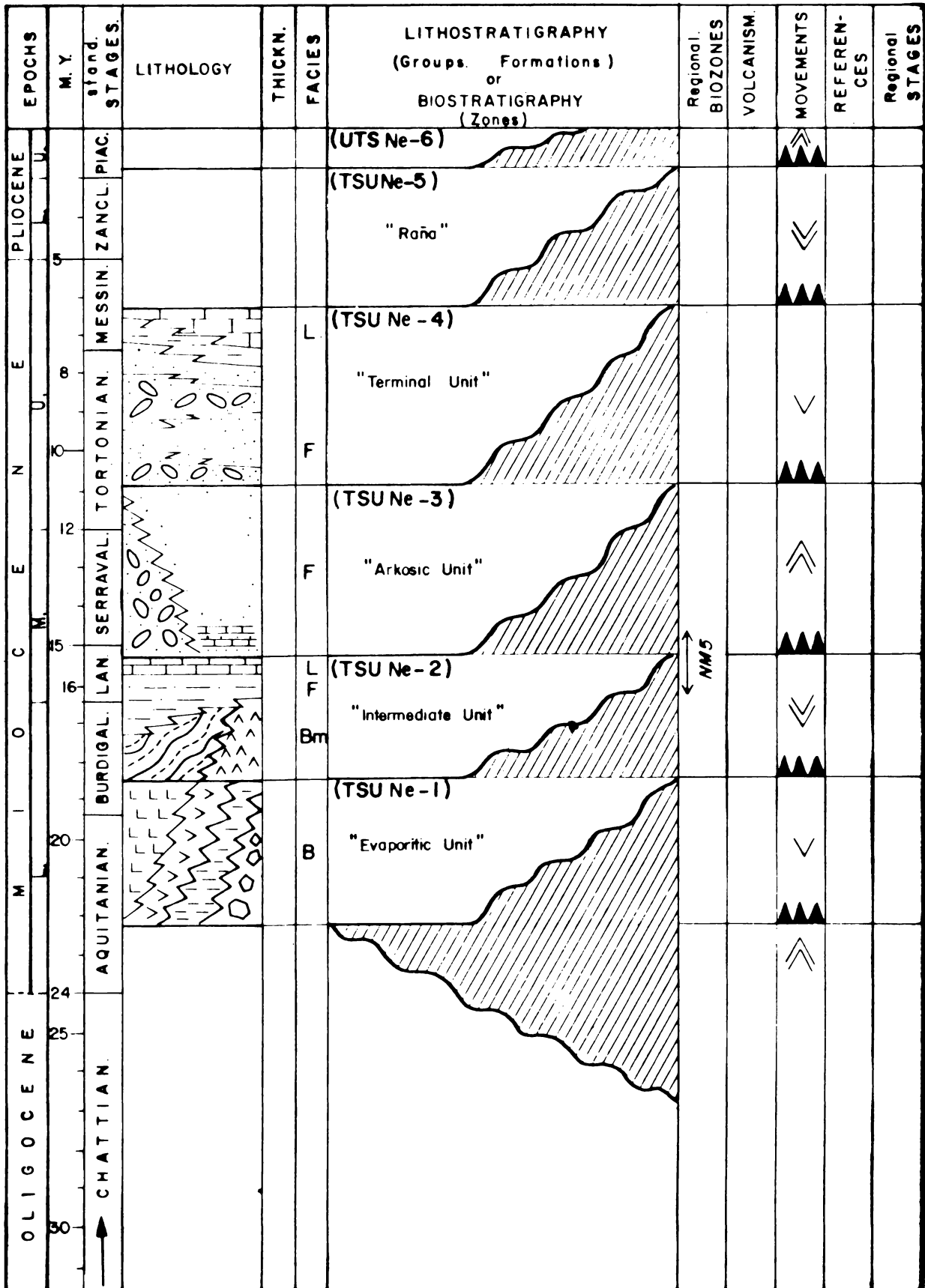
Author: L. C. PEREZ GARCIA

Area No. 11 a: TAJO-GUADIANA BASIN, FOSA DE MARDID, E



Authors: C. MARTIN ESCORZA & M. A. BUSTILLO

Area No. 11 a 1: MADRID BASIN, E



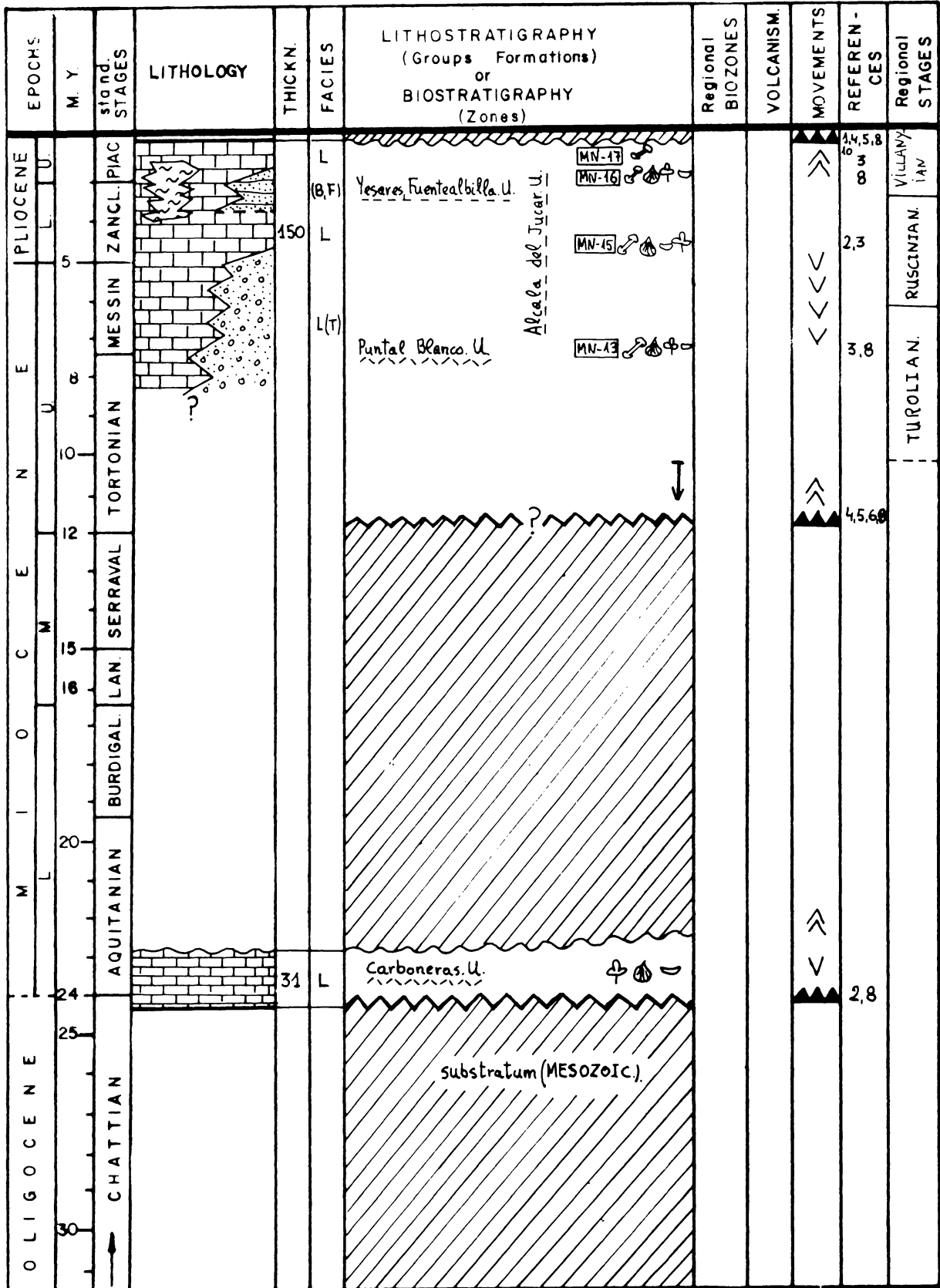
Authors: A. G. MEGIAS, S. ORDONEZ & J. P. CALVO

Area No. 11 b: TAJO-GUADIANA BASIN, E ALTOMIRA, E

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM.	MOVEMENTS	REFEREN- CES	Regional STAGES									
M. Y.	STAND. STAGES																		
O L I G O C E N E	30	CHATTIAN	600 m.	170 m.	Castilian phase "LOWER DETRITICAL UNIT"	"An-toing"		<<	4 2 3	ARVERNIEN - AGENIEN									
											25	AQUITANIAN	140 m.	Neocastilian phase "UPPER DETRITICAL UNIT"	MN 2		<<	1 3	ARAGONIEN
	15	SERRAVAL	140 m.					<<	3	TUROLIEN P.P.									
											12	TORTONIAN	140 m.	"TERMINAL UNIT" ≈ 180 m.		3	TUROLIEN P.P.		
	8	MESSIN	≈ 50 m.		"Páramos" Limestone	MN 13		>>>	3	UPPER TUROLIEN - ?									
											5	ZANCL. PIAC.	≈ 50 m.			3	UPPER TUROLIEN - ?		
	P L I O C E N E	L U																	

Authors: M. DIAZ MOLINA & N. LOPEZ

Area No. 11 c: TAJO-GUADIANA BASIN, JUCAR, E



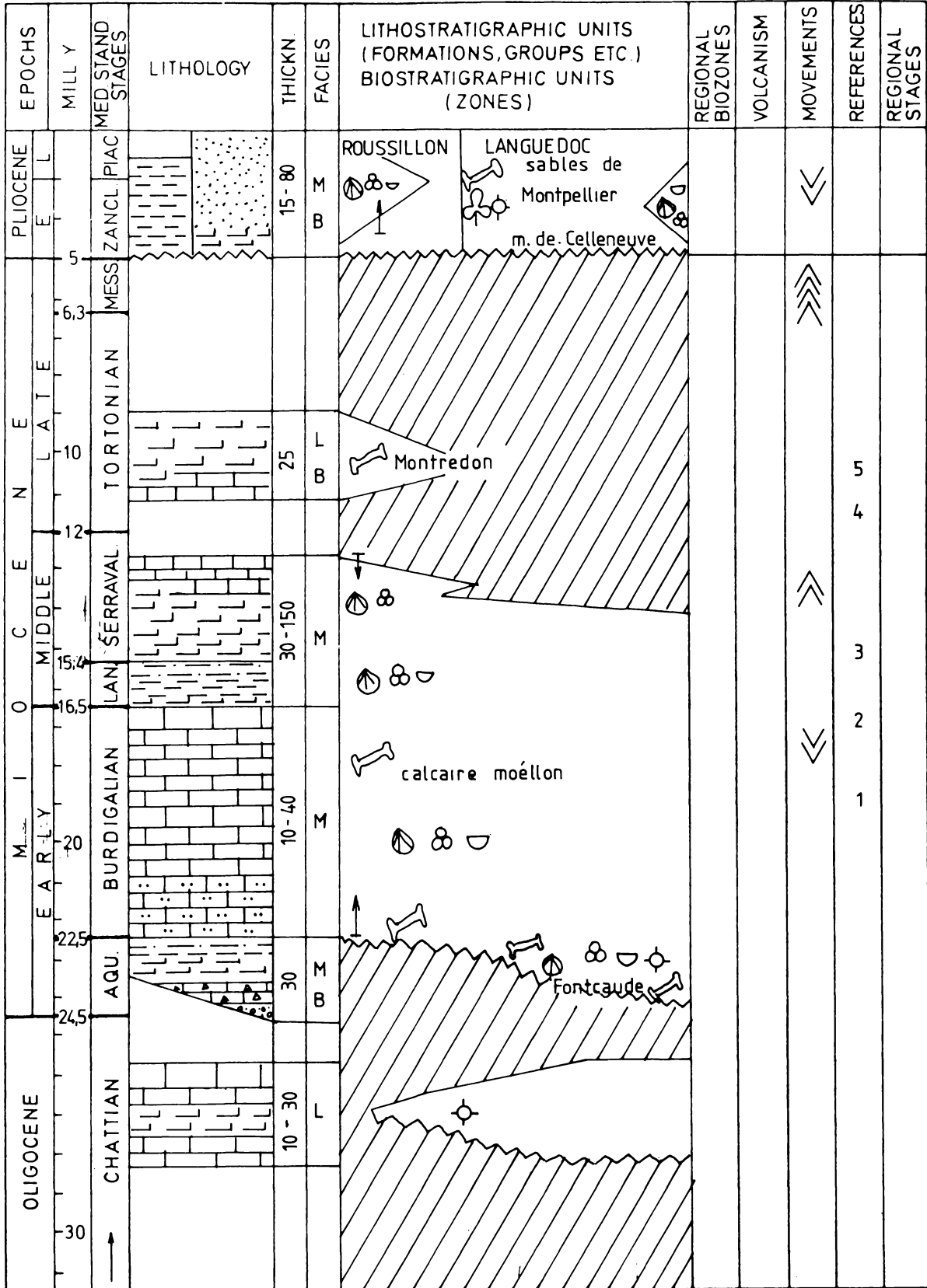
Authors: J. A. SANTOS & N. LOPEZ

Area No. 11 d: TAJO-GUADIANA BASIN, UPPER GUADIANA VALLEY, E

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional MN BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.			PIAC.		1	F	Terraces Calcareous crusts	MN17 MN16	+ B		5	Vilafr.
L.			ZANCL.		4		Rana Fm.	MN15 MN14			7	Rusc.
	5		MESSIN.		25 33	Ld	Paramo (s.l.)		+ B		8	
					10 30 33		Paramo (s.s.) Fm.	MN13 MN12 MN11			6	TUROLI- AN
	8				?						8	
	10		TORTONIAN			F						
	12											
	15		SERRAVAL.									
	16		LAN.									
	20		BURDIGAL.									
	24		AQUITAÑIAN									
	25											
	30		CHATTIAN									

Author: E. MOLINA

Area No. 13: LANGUEDOC – ROUSSILLON, F



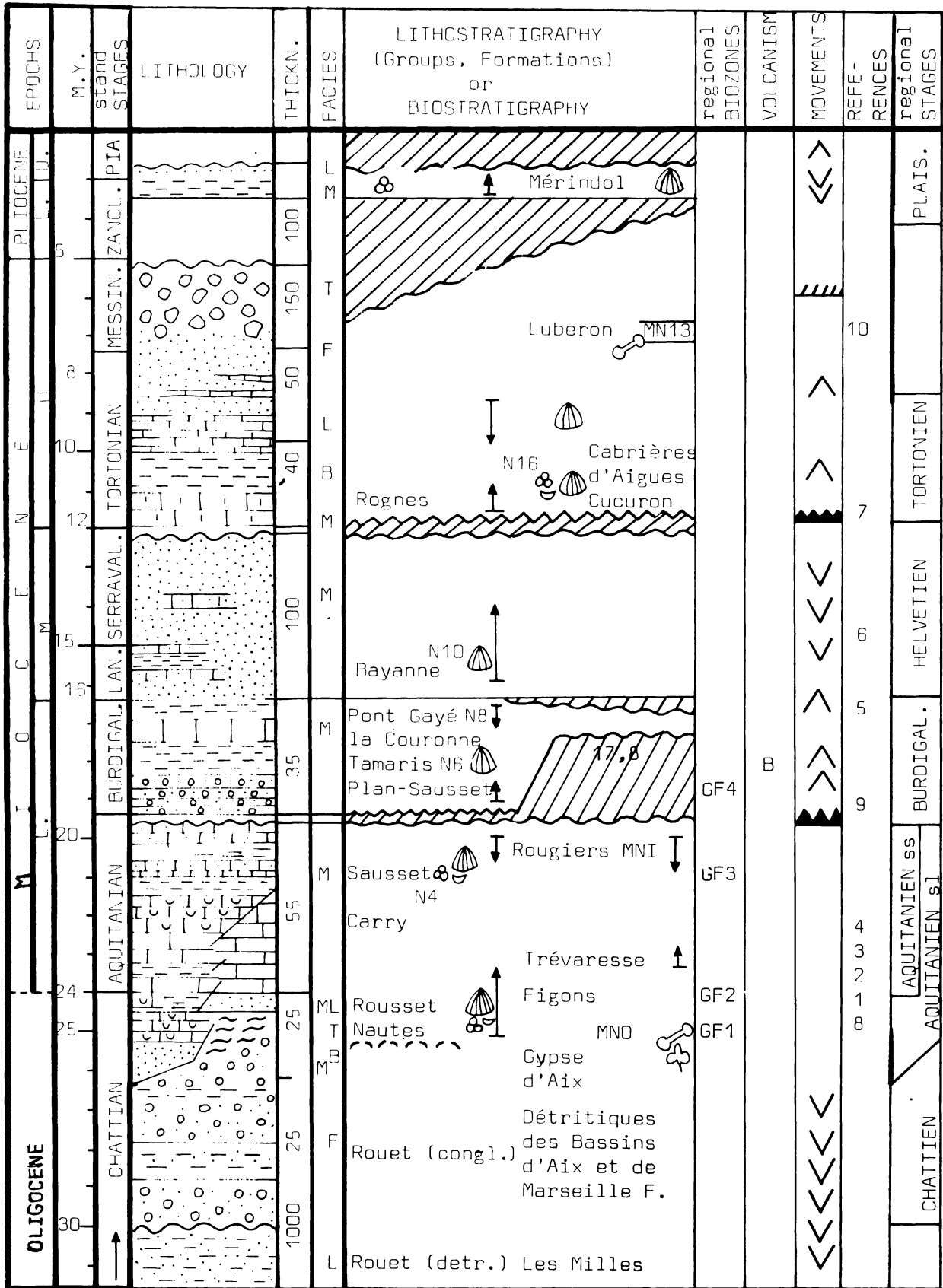
Author: G. DEMARCQ

Area No. 14 a: PROVENCE, CAMARQUE – GOLFE DU LION, F

EPOCHS		M. Y. stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	regional BIOZONES	VOLCANISM	MOVEMENTS	REFE- RENCES	regional STAGES
PLIOCENE	OLIGOCENE										
L.	U.	5		0-1000	L ML	Costières Fournes N21 N18				5 4	Pliocène
U.	8	MESSIN. ZANCL. PIA		200	T	Camargue Mistral					
E	10	TORTONIAN		300-1000	ML M	N10 N8					Miocène moyen à sup.?
M	16	BURDIGAL. LAN. SERRAVAL.		50-600	M	N4				2	Burdig.
L	20	AQUITANIAN		60-300	ML	G.F.				3	Aquitaniens
L	25	CHATTIAN		0-4000 ?	L	Complexe oligocène de Camargue				5	Oligocène supérieur

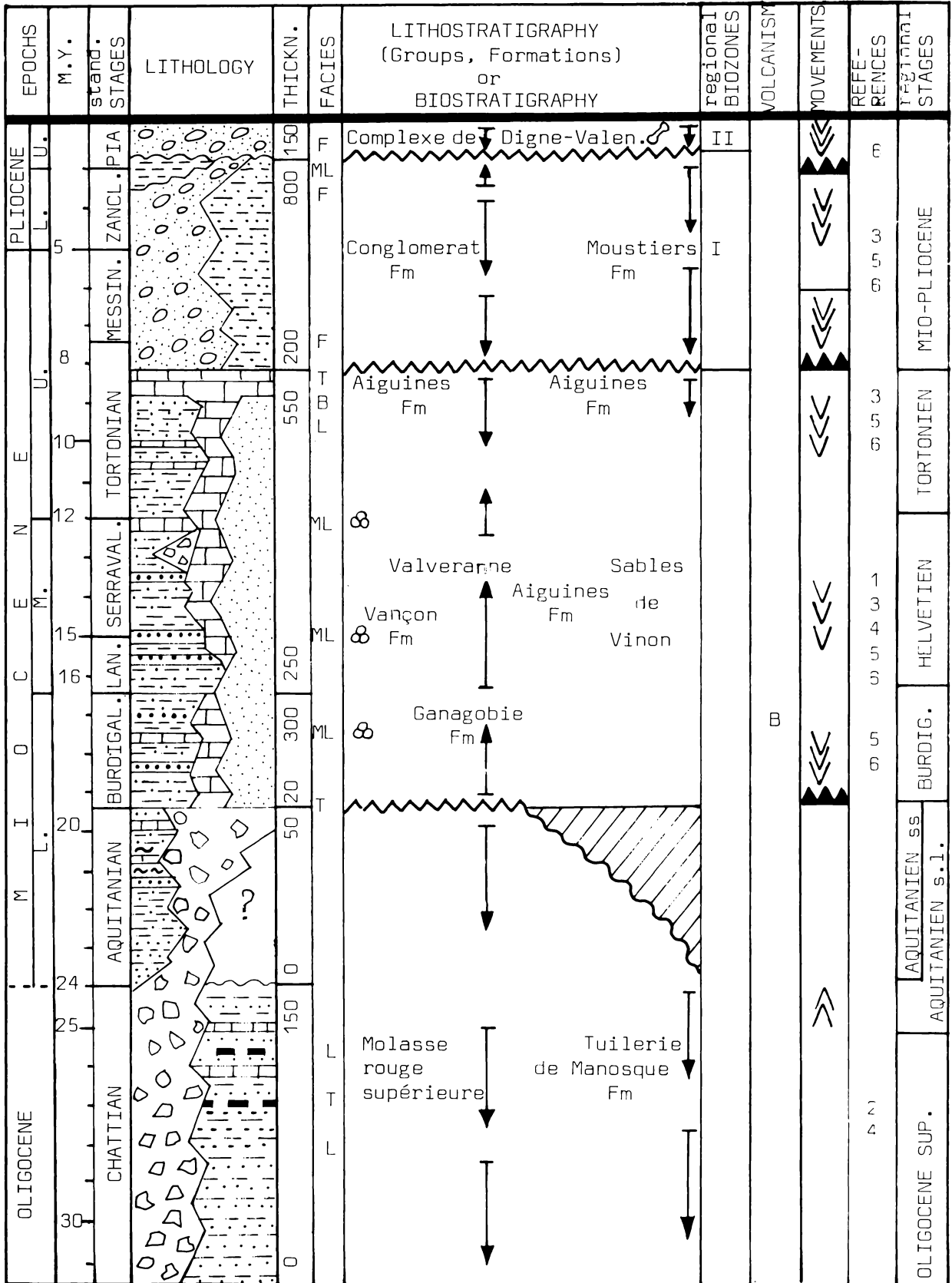
Authors: R. NAGLADA, F. CATZIGRAS, E. COLOMB & H. MERCIER

Area No. 14 b: PROVENCE, DE LA BASSE DURANCE A LA MER, F



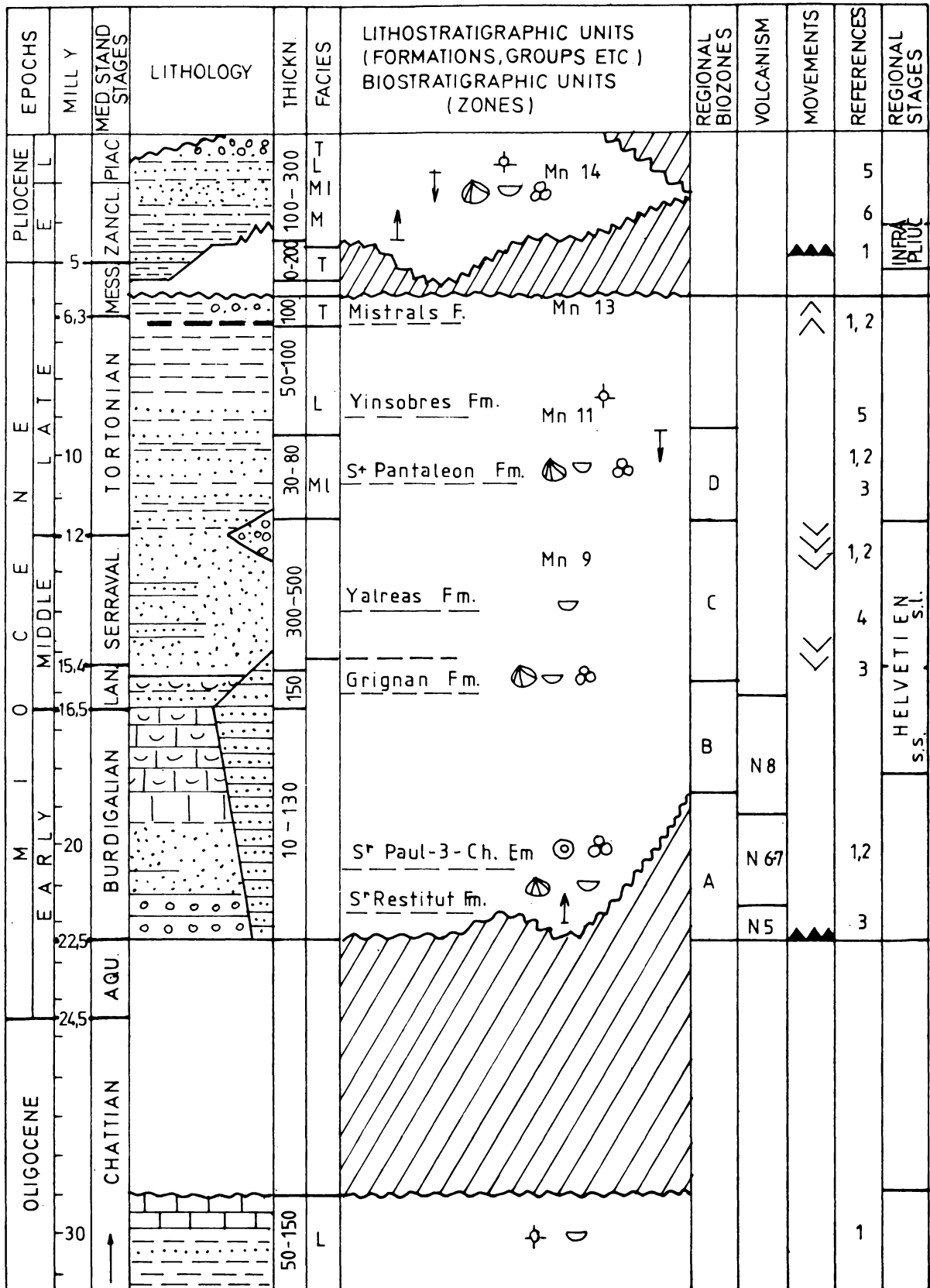
Authors: R. ANGLADA, F. CATZIGRAS, E. COLOMB & H. MERCIER

Area No. 14 c: PROVENCE, GOLFE DURANCIEN, F



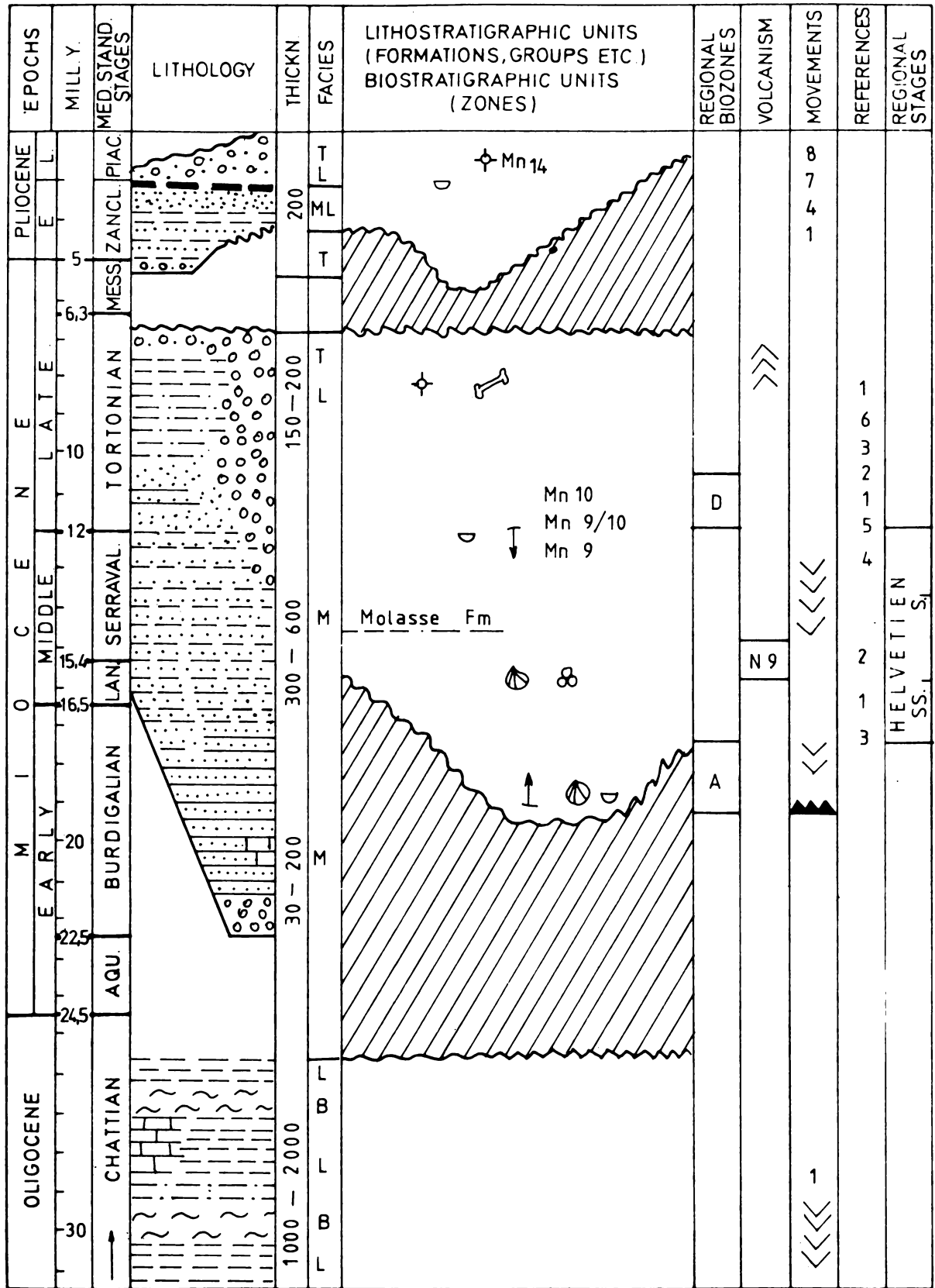
Authors: R. ANGLADA, F. CATZIGRAS, E. COLOMB & H. MERCIER

Area No. 15 a: MOYENNE VALLEE DU RHONE (VALREAS-FAUCON), F



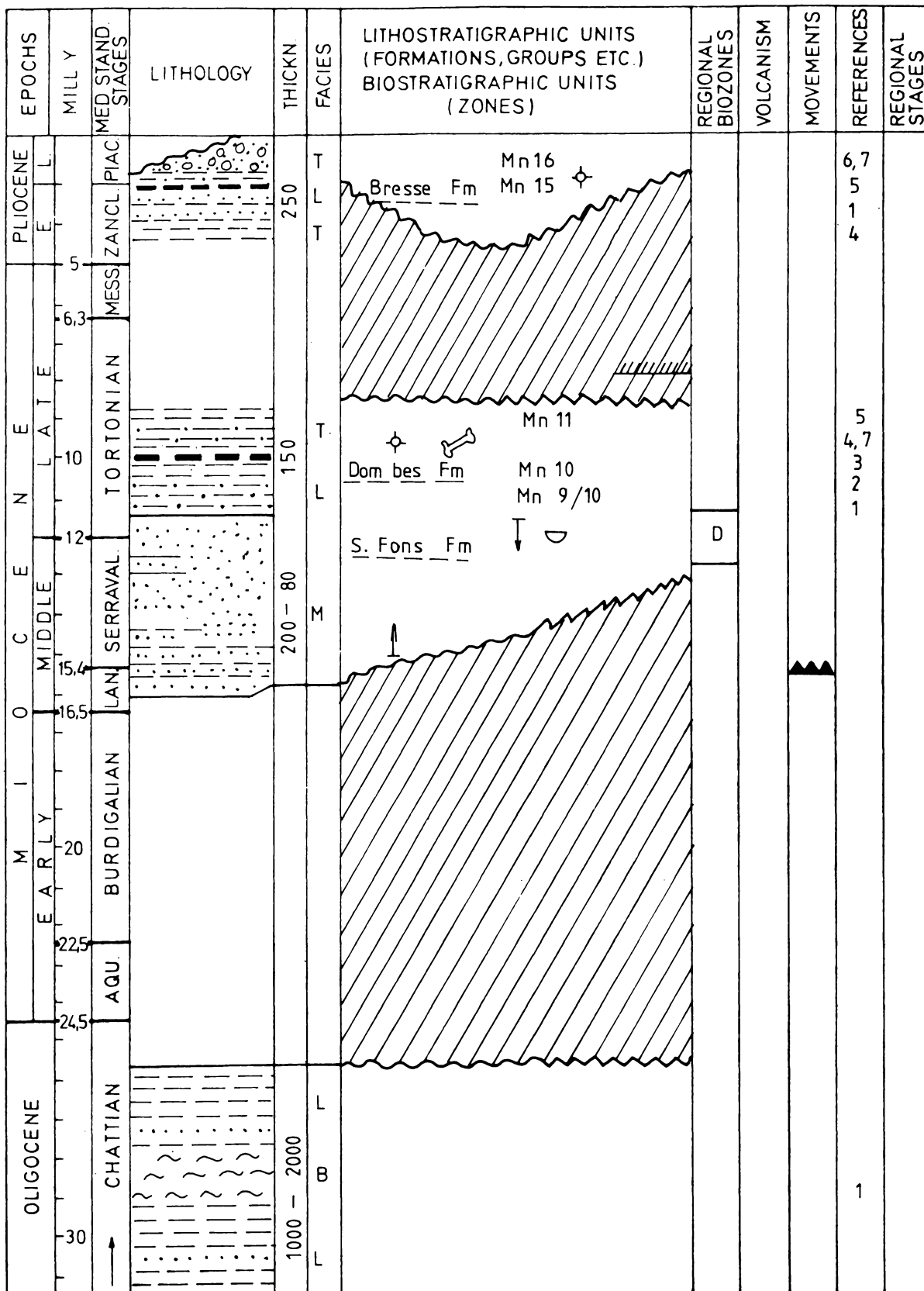
Author: G. DEMARCQ

Area No. 15 b: LYON – BAS DAUPHINE – VERCORS, F



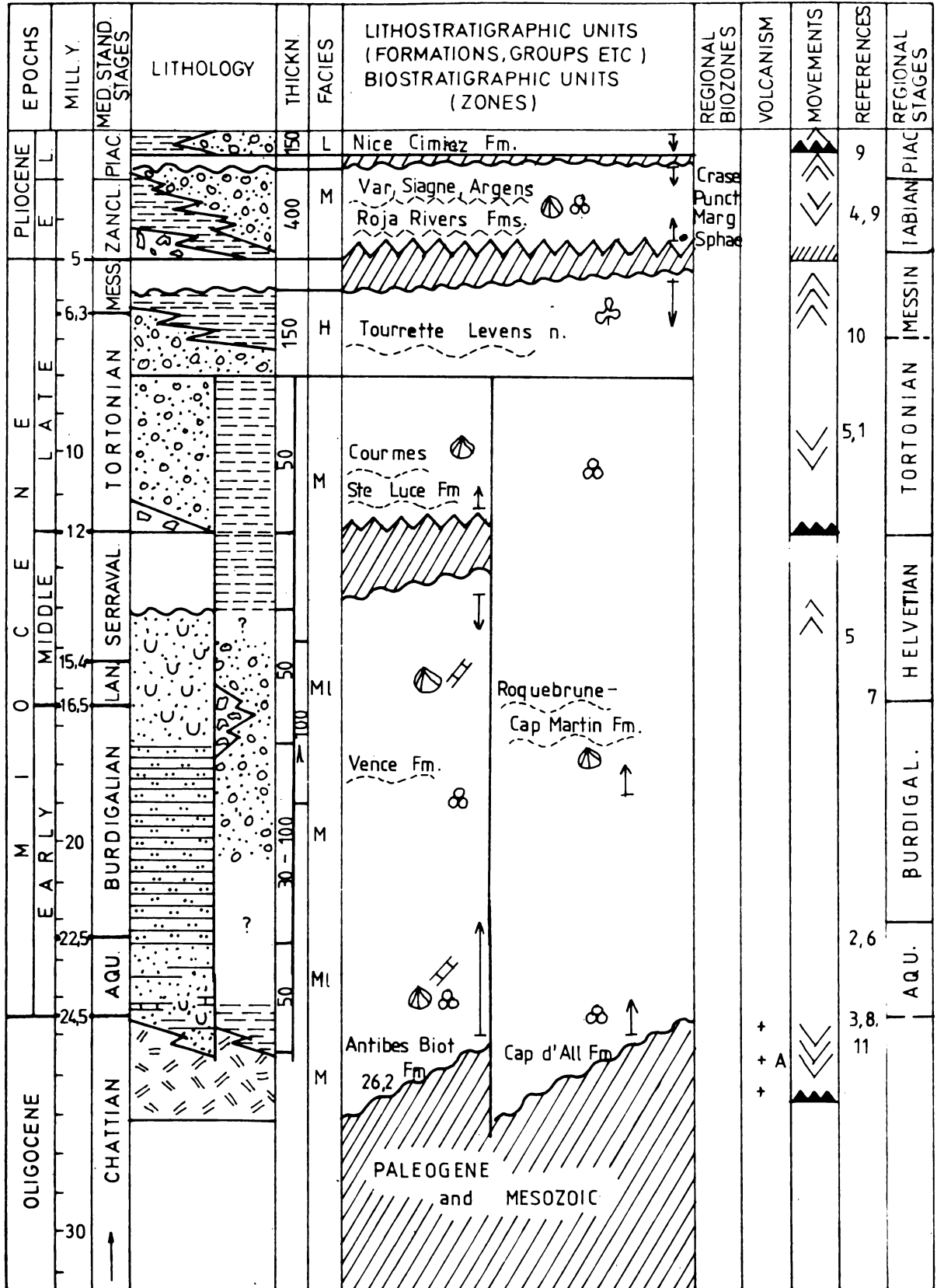
Author: G. DEMARCQ

Area No. 15 c: LYON – DOMBES – BRESSE, F



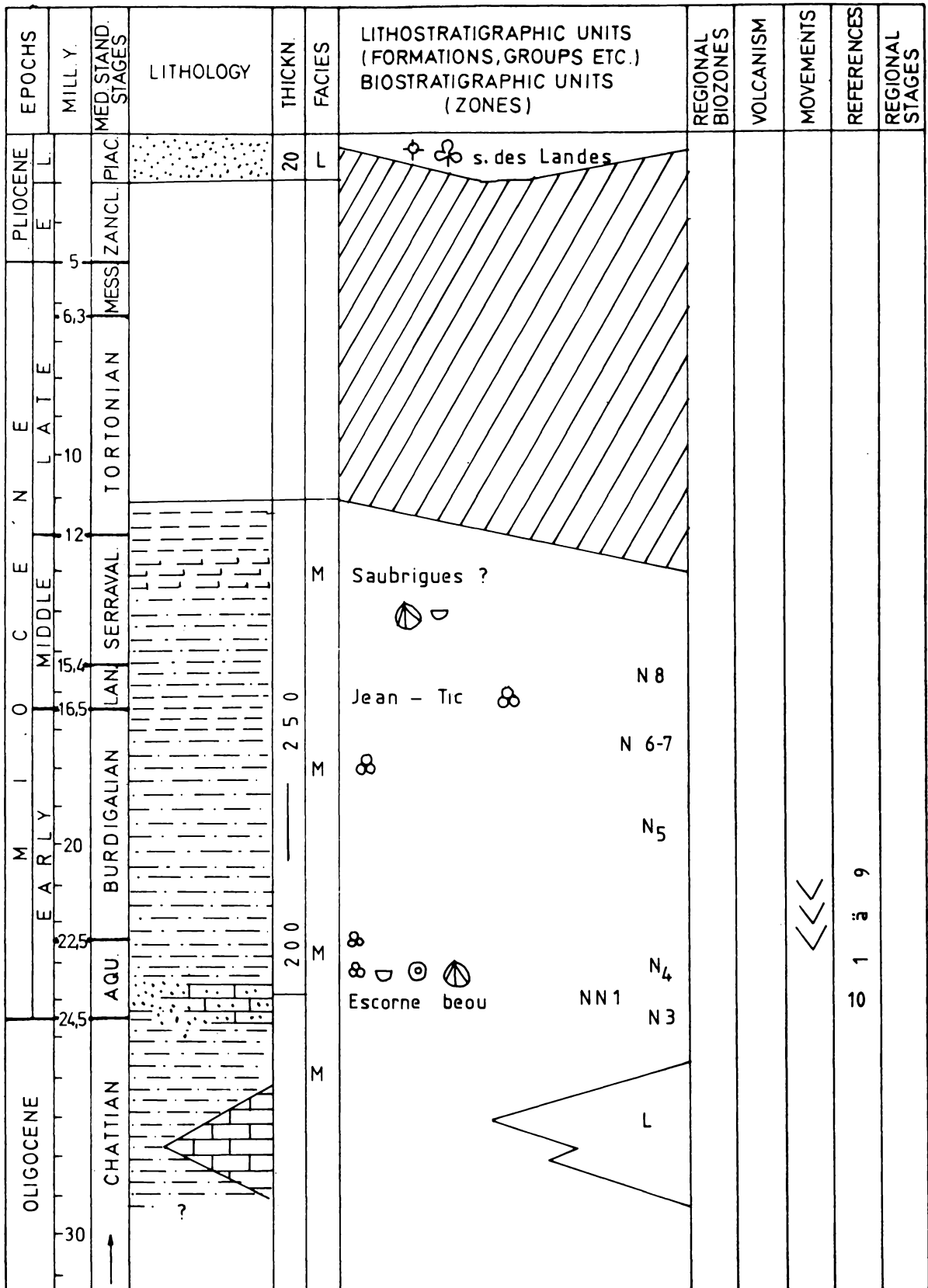
Author: G. DEMARCQ

Area No. 16: LIGURIAN BASIN BORDER, F



Author: F. IRR

Area No. 300 a: AQUITAINE S DES LANDES, F



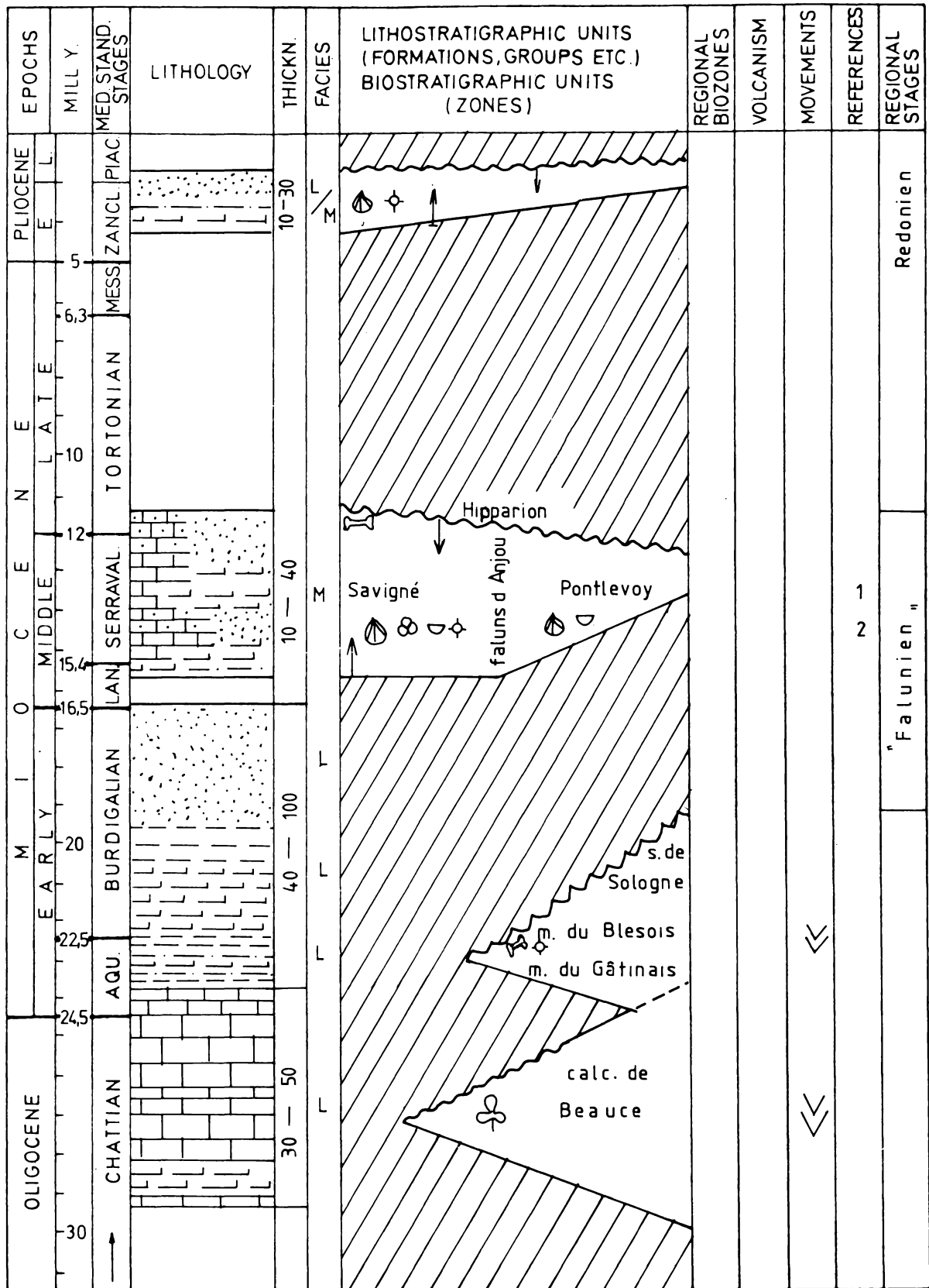
Author: G. DEMARCQ

Area No. 300 b: AQUITAINE N, BORDELAIS, F

EPOCHS	MILL. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES						
	PLIOCENE	MIOCENE										MED. STAND. STAGES					
OLIGOCENE	30			30 — 50	L												
													CHATTIAN				
													AQU.	15 — 30	PROB	Moulin de l' Eglise Moulin Bernachon	
													EARLY MIOCENE	20 — 40	M	Saucats Leognan	
													MIDDLE MIOCENE	15,4 — 16,5	M	Salles	
Eocene	10			25	M				V	1	SALOMIA - CIEN						
													SERRAVAL				
													TORTONIAN				
													LAN				
Pliocene	5			10	L				V								
													MESSINIAN				
													ZANCL				
PILOCENE																	
MIOCENE																	
Eocene																	
Pliocene																	
MED. STAND. STAGES																	
LITHOLOGY																	
THICKN.																	
FACIES																	
LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)																	
REGIONAL BIOZONES																	
VOLCANISM																	
MOVEMENTS																	
REFERENCES																	
REGIONAL STAGES																	

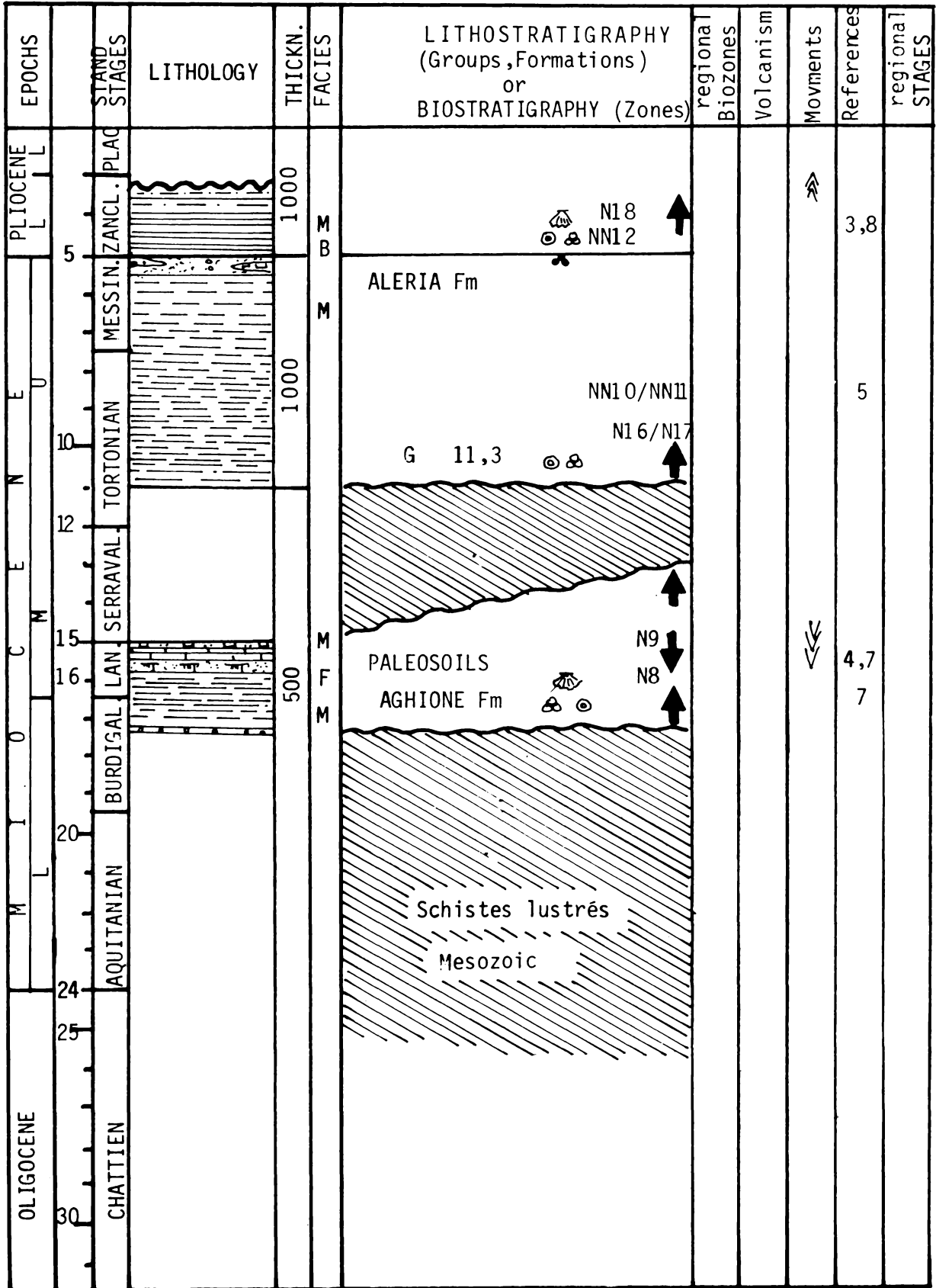
Author: G. DEMARCQ

Area No. 309: LOIRE – BRETAGNE, F



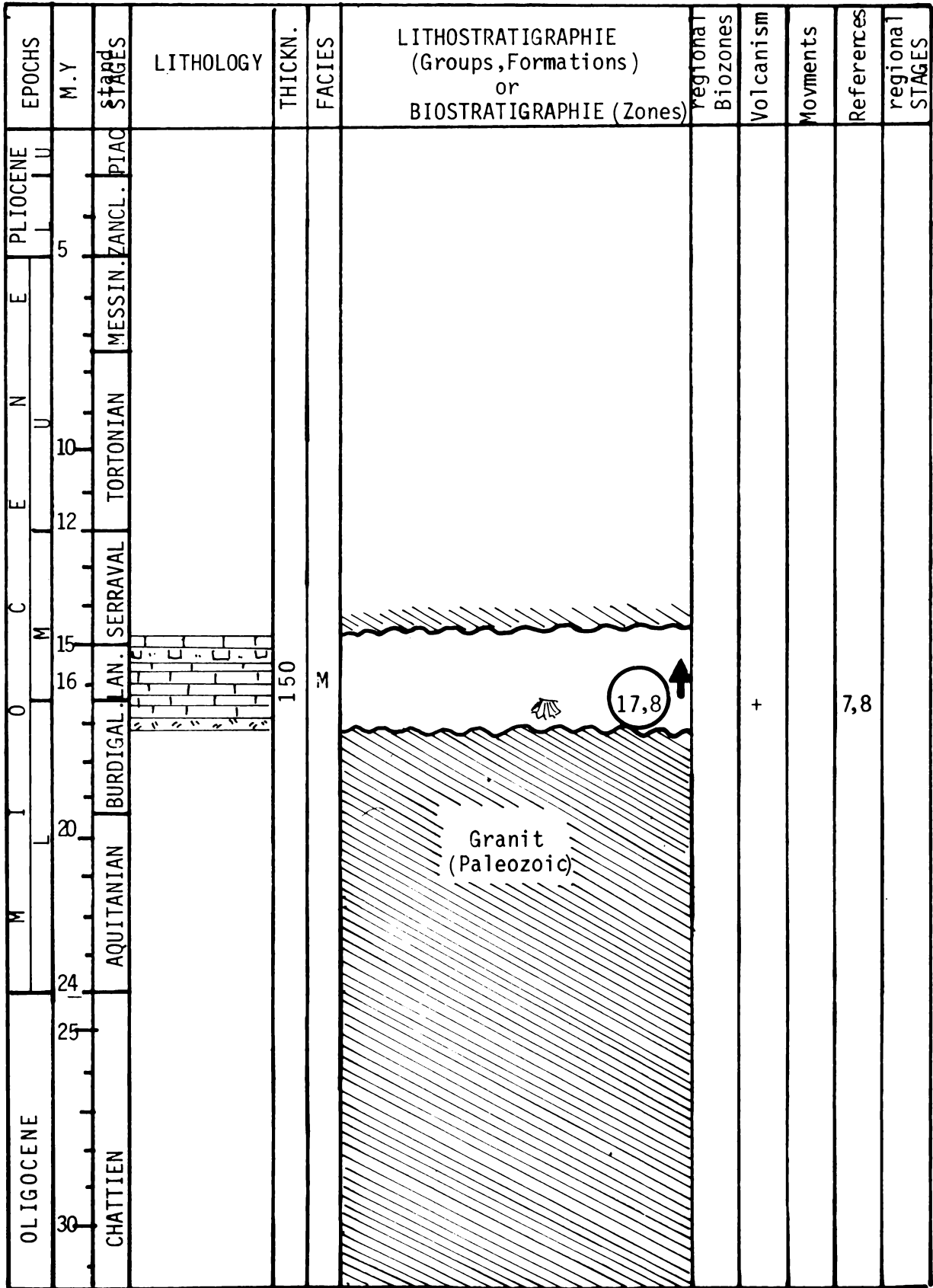
Author: G. DEMARCQ

Area No. 20 a: CORSICA, PLAINE ORIENTALE, F



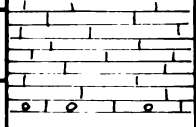
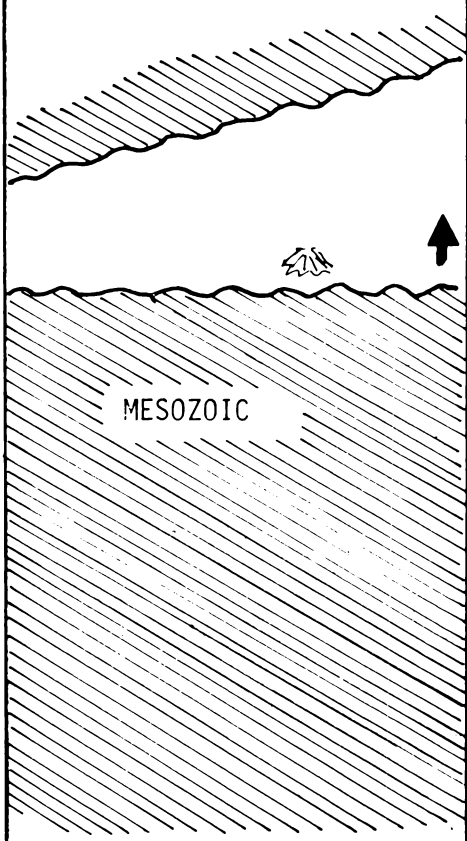
Author: F. ORSZAG-SPERBER

Area No. 20 b: CORSICA, BONIFACIO BASIN, F



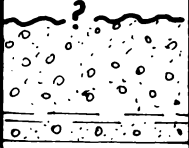
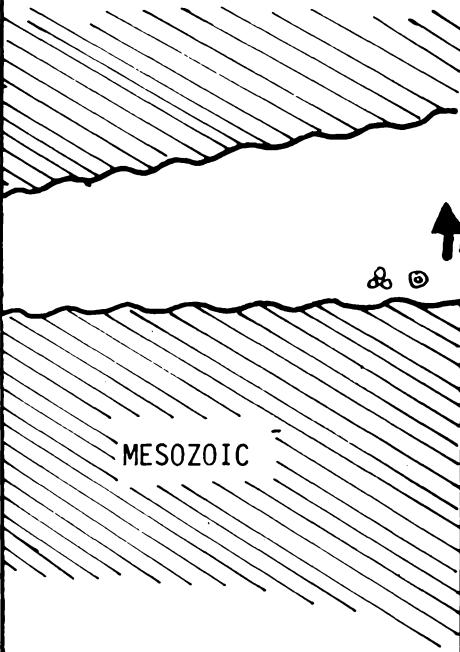
Author: F. ORSZAG-SPERBER

Area No. 20 c: CORSICA, SAINT FLORENT BASIN, F

EPOCHS	STANDARD STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	regional Biozones	Volcanism	Movements	References	regional STAGES
PLIOCENE	5									
	ZANCL. PIAC.									
Eocene	10									
	TORTONIAN									
Miocene	12									
	SERRAVAL.									
Oligocene	15									
	LAN. SERRAVAL.		150	M					7,8	
	16									
	BURDIGAL.									
MIOCENE	20									
	AQUITANIAN									
	24									
	CHATTIEN									
OLIGOCENE	25									
	30									

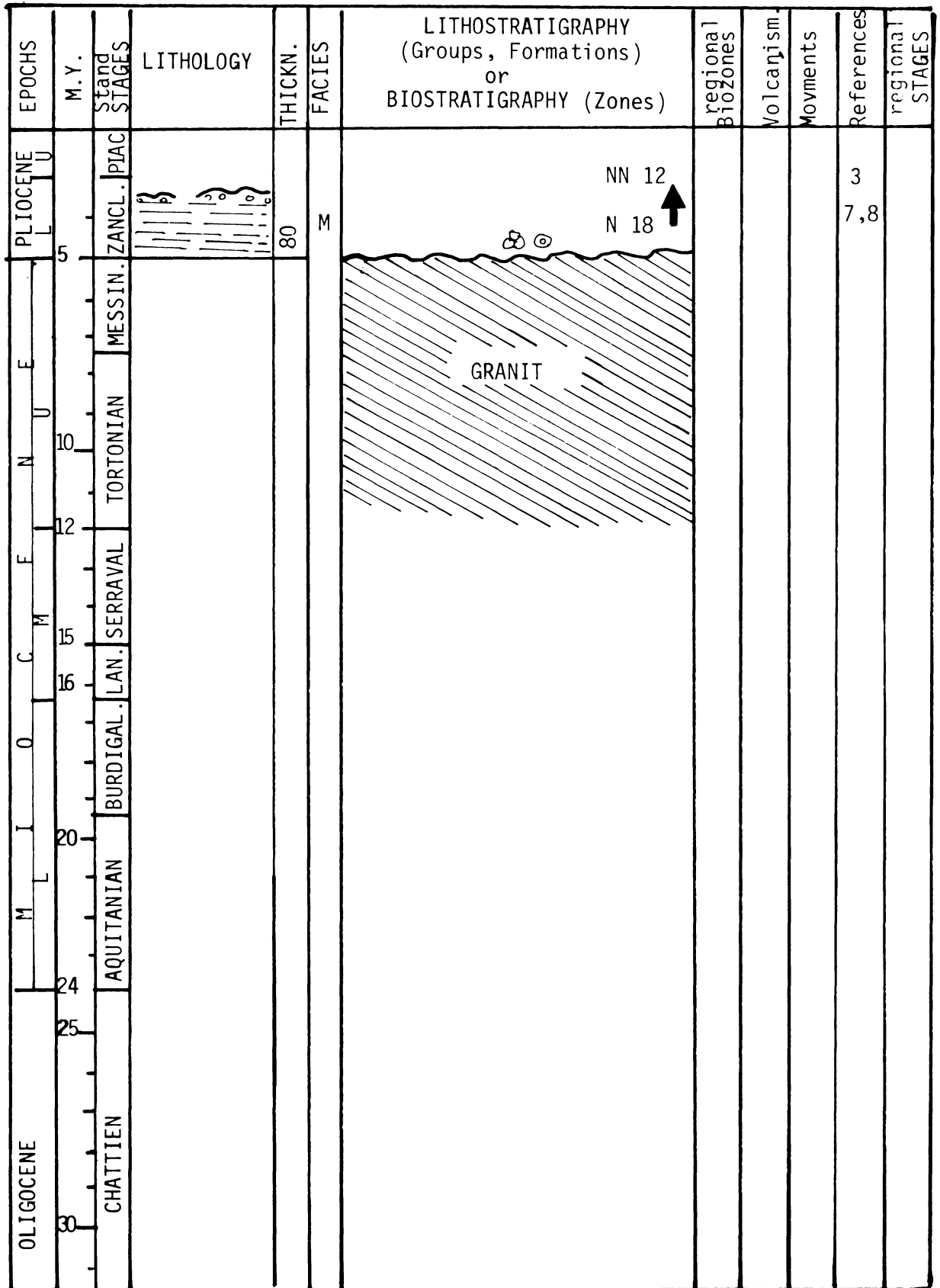
Author: F. ORSZAG-SPERBER

Area No. 20 d: CORSICA, FRANCARDO – PONTE LECCIA BASIN, F

EPOCHS	M. Y	STAGE	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	regional Biozones	Volcanism	Movments	References	regional STAGES
	5										
	10										
	12										
	15										
	16			200	F						
	20					MESOZOIC				1,8	
	24										
	25										
OLIGOCENE	30										

Author: F. ORSZAG-SPERBER

Area No. 20 e: CORSICA, AJACCIO AND PROPRIANO, F



Author: F. ORSZAG-SPERBER

Area No. 20: CORSICA, F

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES											
PLIOCENE	MILL Y																					
OLIGOCENE	EARLY	MIDDLE	<p>CHATIAN</p> <p>AQU.</p> <p>BURDIGALIAN</p> <p>LANJ SERRAVAL</p> <p>TORTONIAN</p> <p>MESS ZANCL PIAC</p>	<p>30</p> <p>M1</p> <p>T</p> <p>M</p> <p>F</p>	<p>MZ</p>	<p>?</p> <p>CALCARI RECIFALI</p> <p>- PALAEO SOL</p> <p>MARNE DIANGHIONE</p>	<p>- GM</p> <p>- GS</p>			<p>13</p> <p>14</p> <p>15</p> <p>8</p>												
												30										
												24.5										
												22.5										
												20										
												16.5										
												15.4										
												12										
												10										
												6.3										
5																						

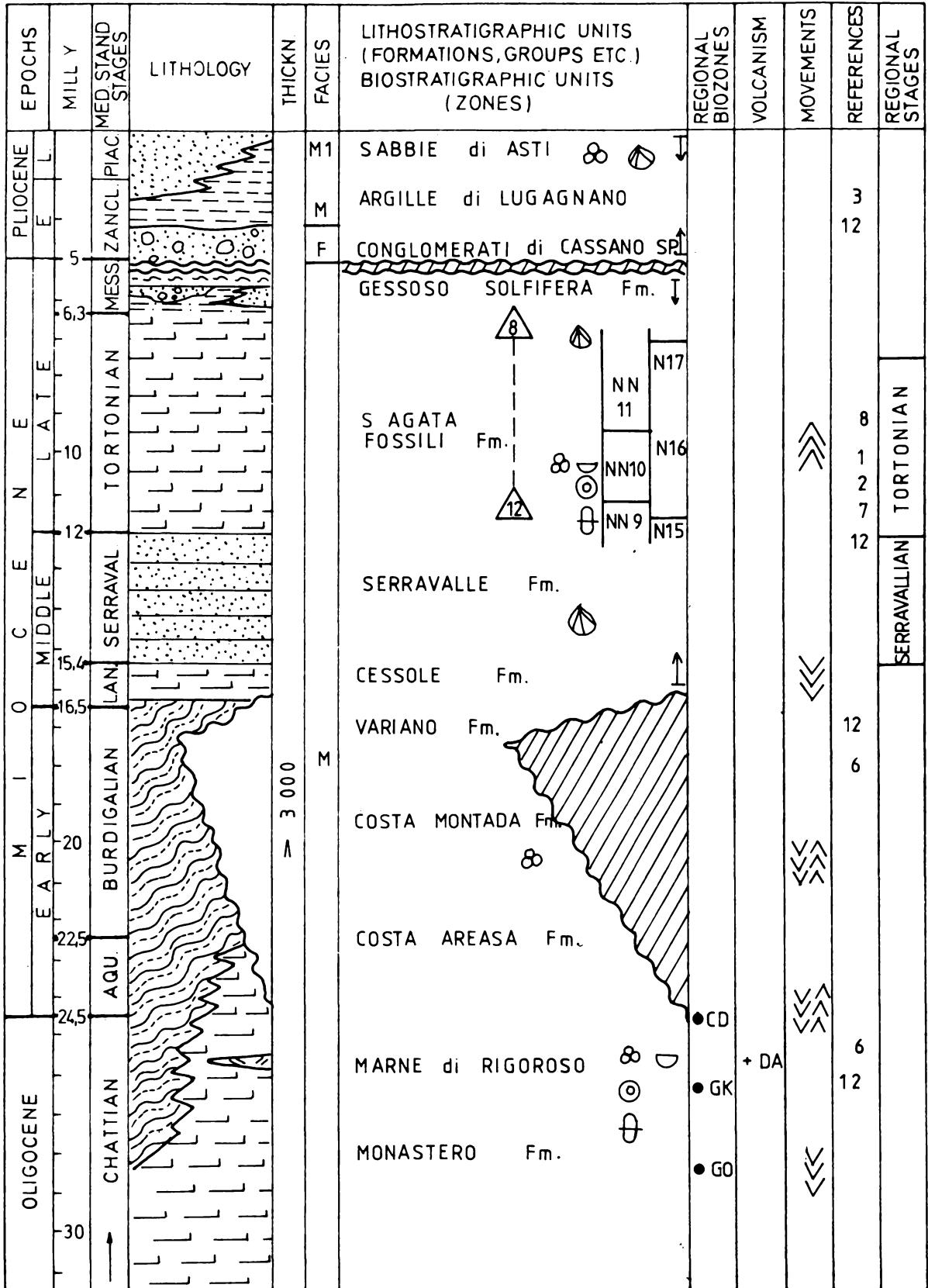
Author: R. GELATI

Area No. 17 a 1: PIEMONTE BASIN CENTRAL, I

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
MILL. Y.	MED. STAND. STAGES									
PLIOCENE	L.	MESS. ZANCL. PIAC.	200	M1	SABBIE di ASTI				3	
	E			M	ARGILLE di LUGAGNANO					
MIOCENE	5	TORTONIAN	100	F	CONGLOMERATI di CASSANO SP.				11	
	6.3				S. AGATA FOSSILI Fm.					
MIOCENE	10	LAN. SERRAVAL.	> 4000 Mb		CASSINA SLO MURAZZANO LEQUIO	-GM				
	12					CESSOLE Fm.	-GN			
MIOCENE	15.4	BURDIGALIAN	> 4000 Mb		Fms. 13 14 15	-GP			2	LANGHIANA
	16.5					CORTEMILIA Fm.	-OU			
MIOCENE	20	AQU.	> 4000 Mb		16 17	-PG			4	
	22.5					MONESIGLIO Fm.	-GL			
OLIGOCENE	24.5	CHATTIAN	> 4000 Mb		18 19				4	BORMIDIAN
	30					ROCCHETTA Fm.				

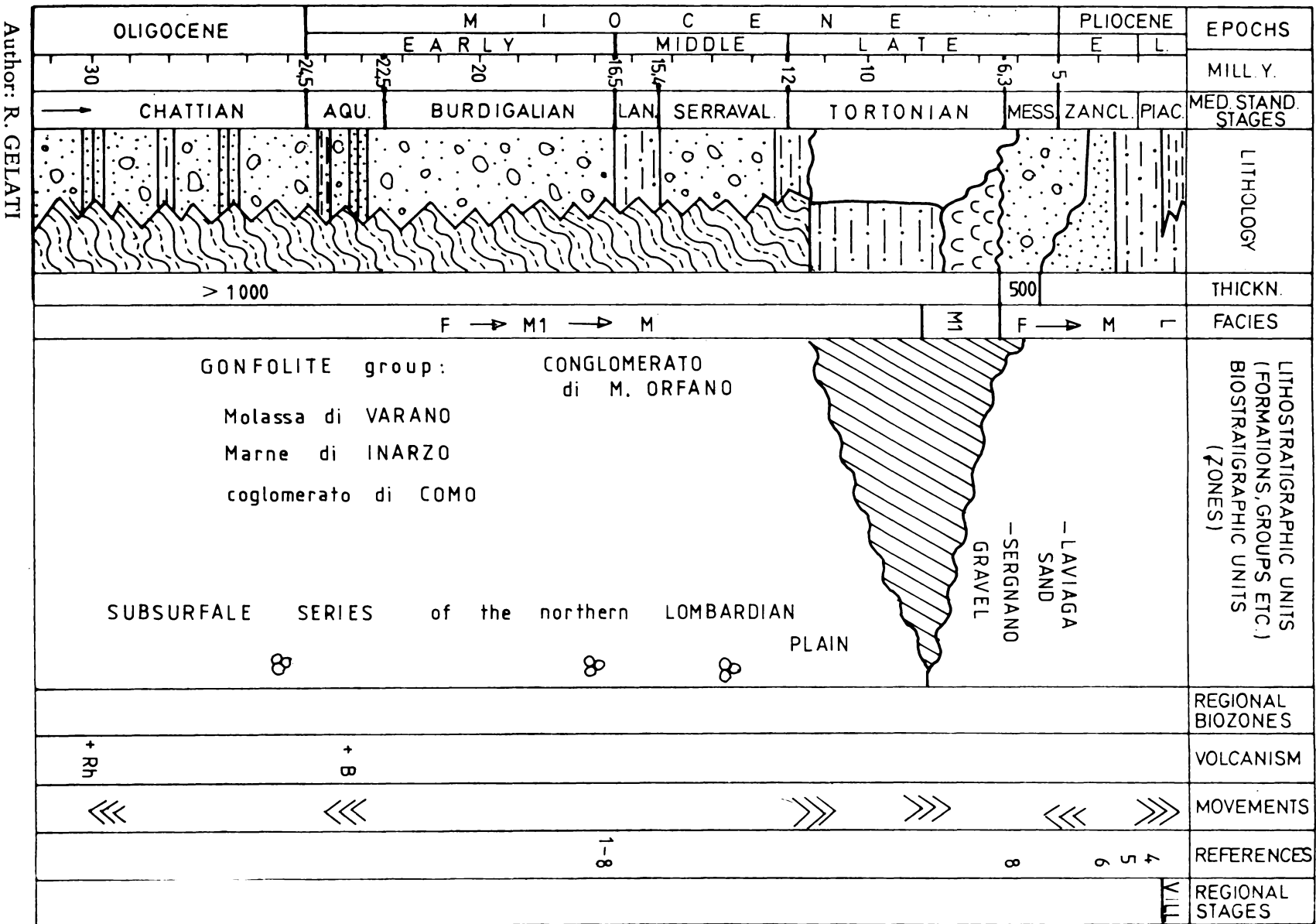
Author: R. GELATI

Area No. 17 a 2: PIEMONTE BASIN NE, I

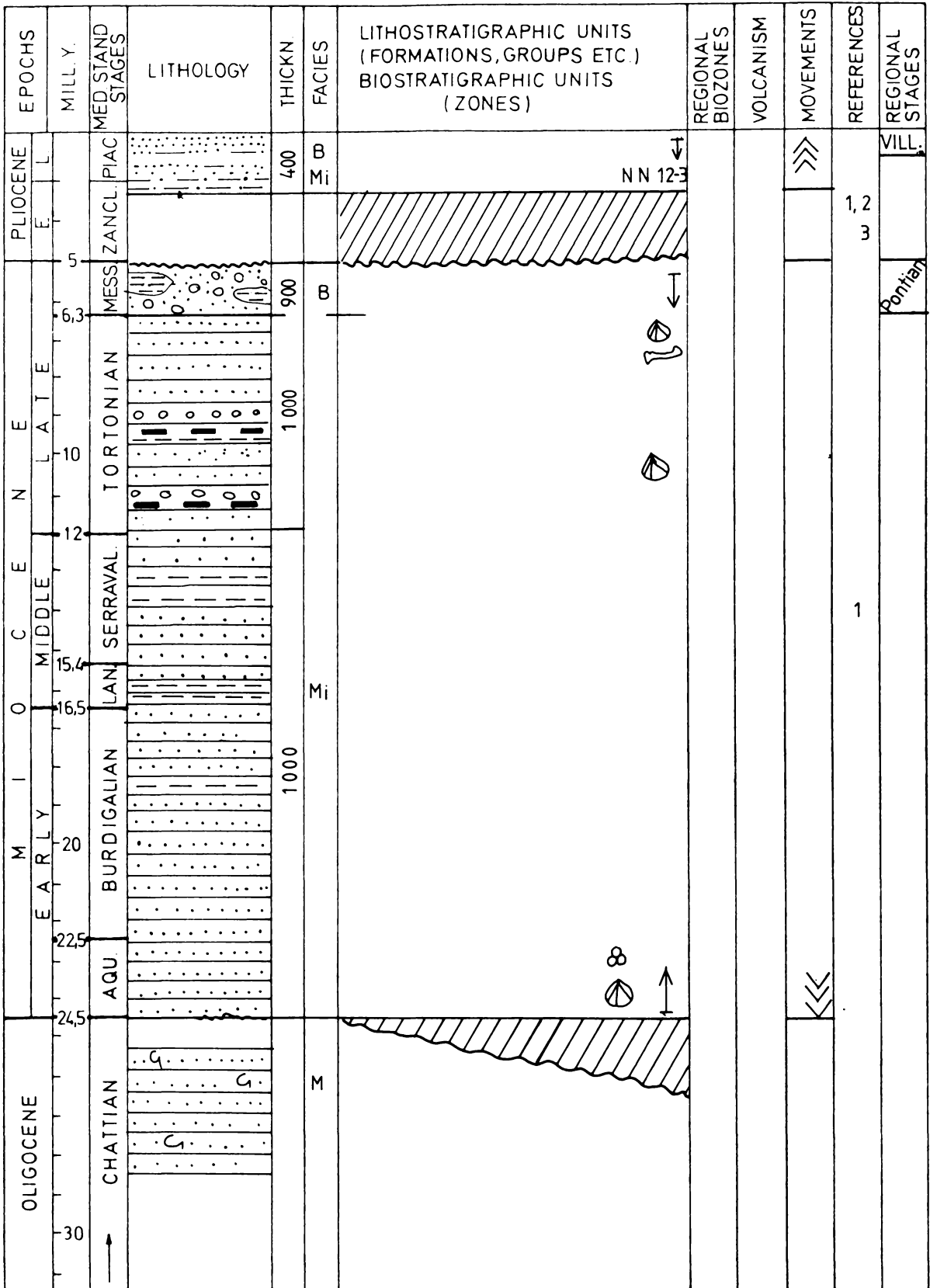


Author: R. GELATI

Area No. 17 b: PO BASIN N, I

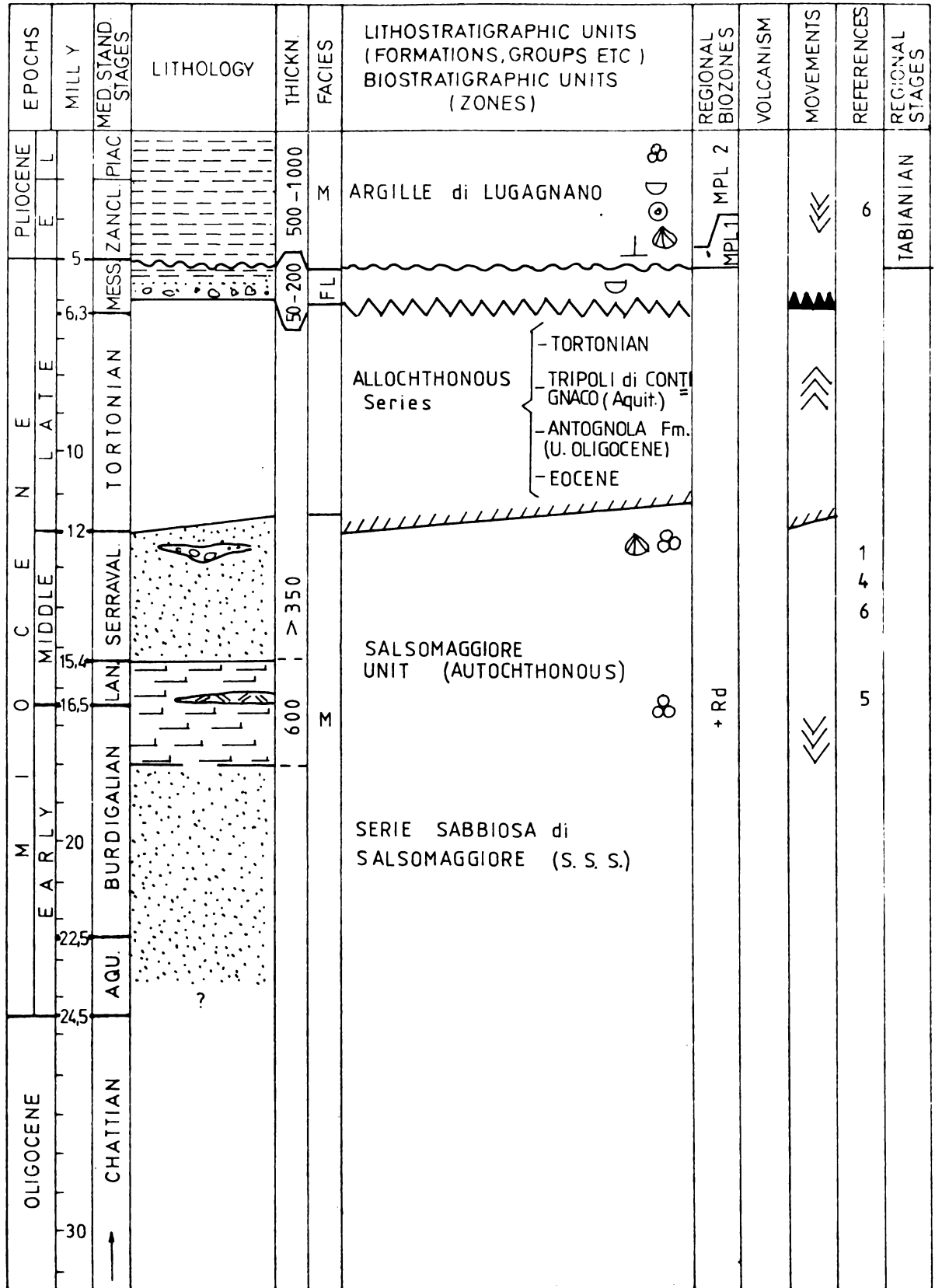


Area No. 17 c: VENETO AND FRIULI, I



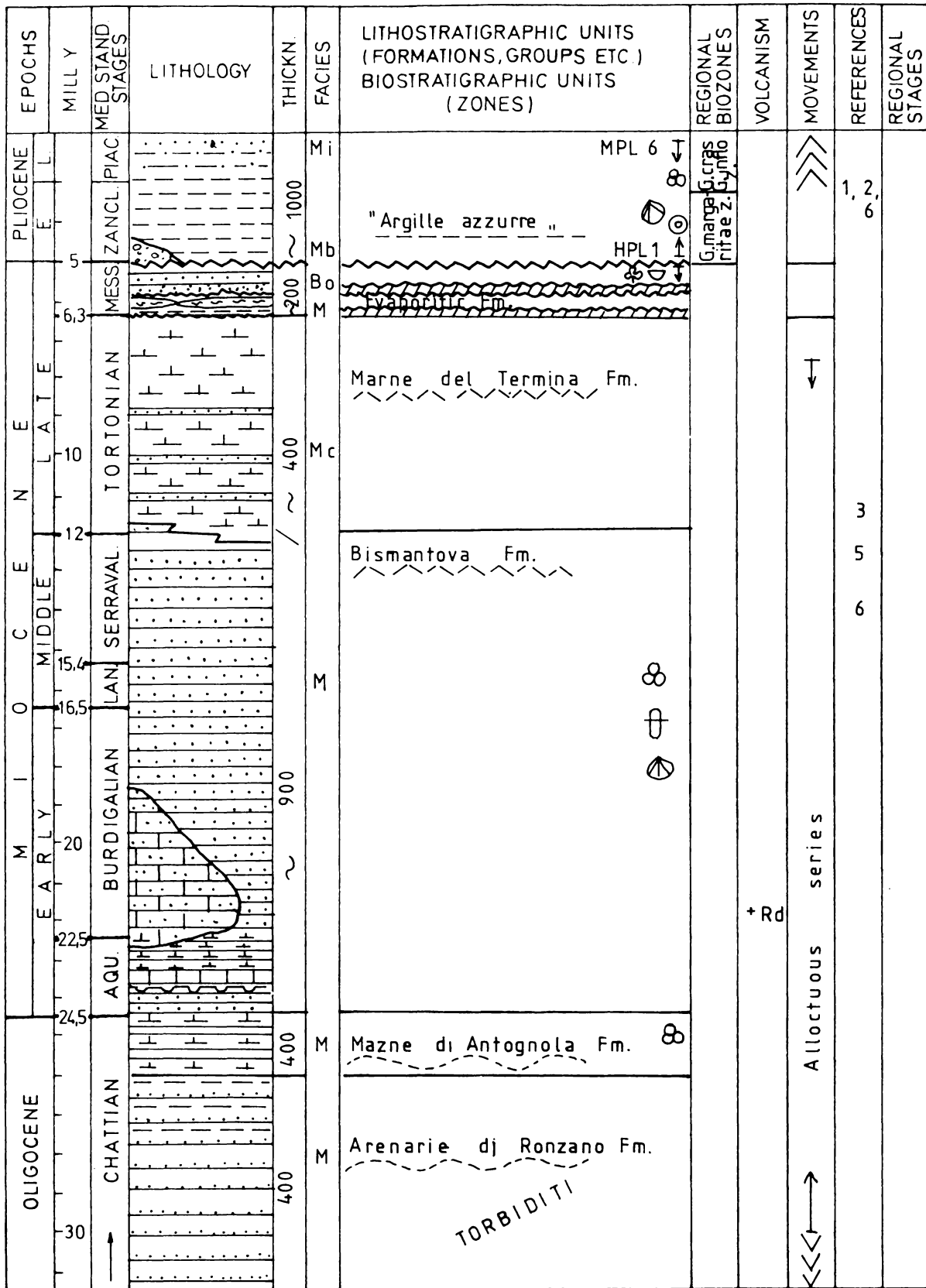
Author: S. IACCARINO

Area No. 17 d 1: SALSOMAGGIORE AREA, I



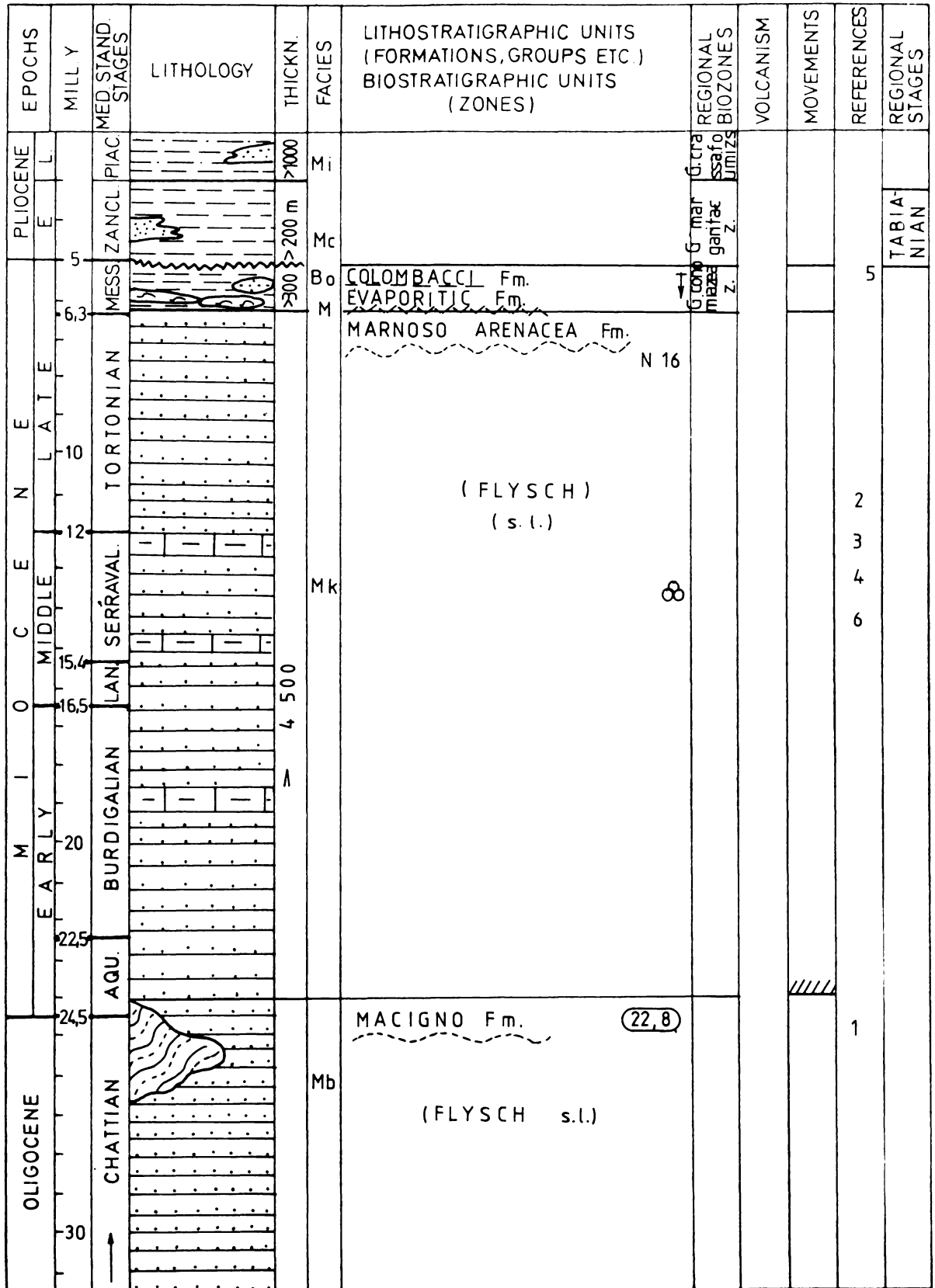
Author: R. GELATI

Area No. 17 d 2: EMILIA WESTERN APENNINE, I



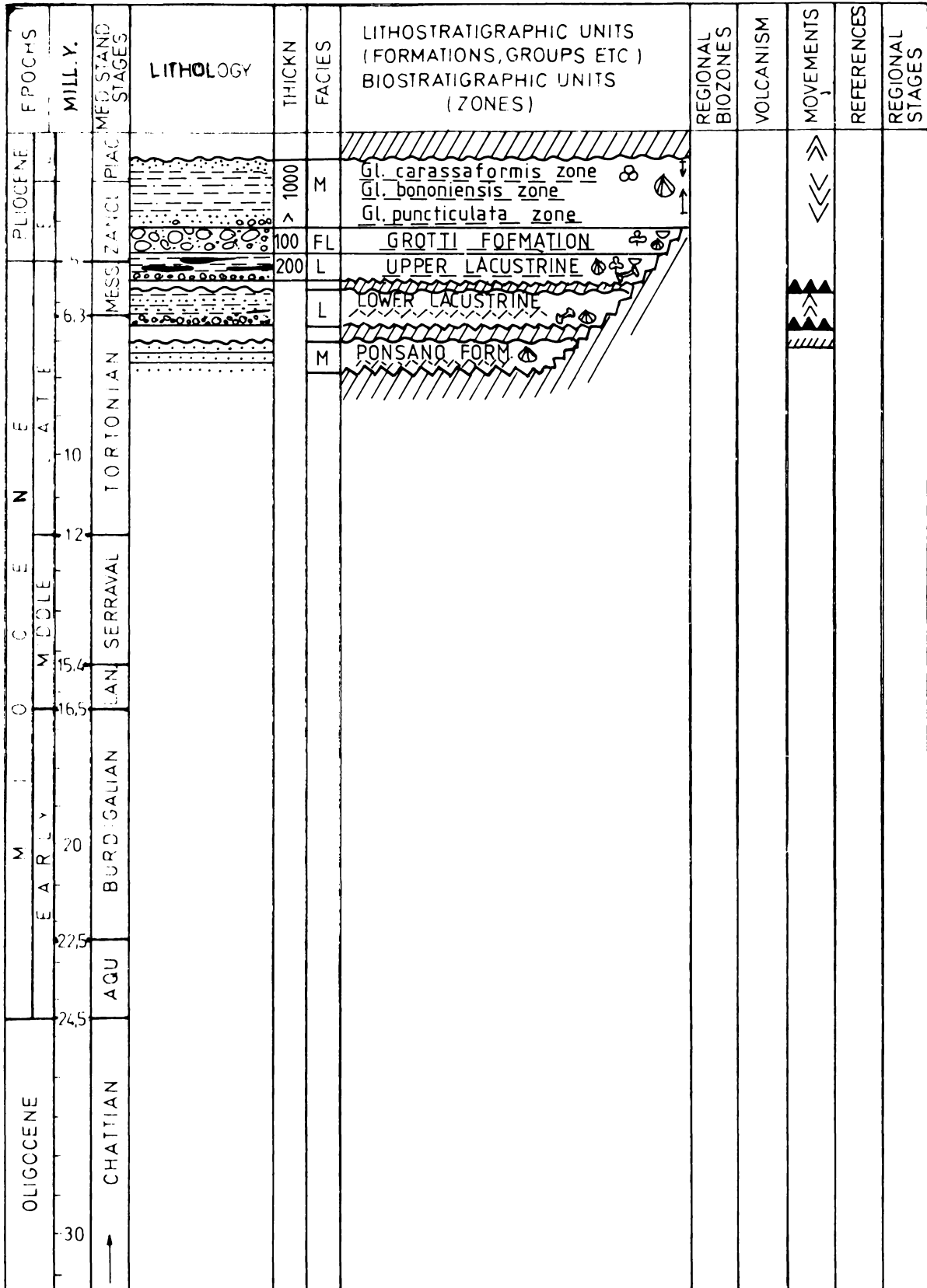
Author: S. IACCARINO

Area No. 17 d 3: ROMAGNA APENNINE, I



Author: S. IACCARINO

Area No. 18 a 1: VAL D'ELSA BASIN, I



Author: A. LAZZAROTTO

Area No. 18 a 2: SIENA BASIN, I

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE											
L	E	5	PIAC.		500	M	Gl. crassaformis zone Gl. bononiensis zone Gl. punctivulata zone					
E	6.3	TORTONIAN	100	L	UPPER LACU & STRINE							
										E	10	SERRAVAL.
E	12	LAN.										
										E	15.4	BURDIGALIAN
E	16.5	AQU.										
										E	20	CHATTIAN
E	22.5											
										E	24.5	
E	30											

Author: A. LAZZAROTTO

Area No. 18 a 3: RADICOFANI BASIN, I

EPOCHS		Pliocene		MIDDLE		EARLY		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
MILL. Y.	MED STAND STAGES	E	L	MESS	TORTONIAN	LAN	BURDIGALIAN										AQU.
		5		6.3		10											
				12		15.4											
				16.5		20											
				22.5		24.5											
				30													
									1500	M							
											Gl. puncticulata zone Gl. margaritae zone						

Author: A. LAZZAROTTO

Area No. 18 a 4: VAL DI TEVERE, I

EPOCHS		MILL Y		MED STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	MIOCENE	PLIOCENE											
30	24,5	22,5	20	16,5	15,4	12	10	5					
CHATTIAN	AGU.	BURDIGALIAN	LAN.	SERRAVAL	TORTONIAN			Gl. margaritae zone					
								Gl. punctulata zone					
								Gl. Crassaformis zone					

Author: A. LAZZAROTTO

Area No. 18 b: VOLTERRA BASIN, I

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
5		ZANCL. PIAC.		> 1500	M						
5.3		MESS.		~ 200	L	EVAPORITES ROSIGNANO F. LACUSTRIN F.		S			
10		TORTONIAN									
12		SERRAVAL									
15.4		LAN.									
16.5		BURDIGALIAN									
20		AQU.									
22.5		CHATTIAN									
24.5											
30											

Author: A. LAZZAROTTO

Area No. 19: PONTINE DEPRESSION, I

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
MILL. Y.	PLIOCENE										
	PLIOCENE	PIAC.		250	M	G. puncticulata G. margaritae	8			(1)	
		MESS.		200	H T	Melonopsis					
	NEOGENE	TORTONIAN		30	Mc	? AREVARIE a o STREA CRASSISSIMA					
		SERRAVAL.			Mc	? ?					
		LAN.		50	Mc	? ARENARIE a SCUTELLA					
		BURDIGALIAN				Cretaceous - Paleogene Flysch					
		AQU.									
		CHATTIAN									

Authors: M. B. CITA & R. GELATI

Area No. 19 a: PIANOSA ISLAND, TYRRHENIAN SEA, I

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	5	MESS. ZANCL. PIAC.		?	M	Bryozoa Lithothamnium					(1)
PLIOCENE	6,3										(2)
PLIOCENE	10	TORTONIAN									
PLIOCENE	12										
PLIOCENE	15,4	LAN. SERRAVAL.									
PLIOCENE	16,5					G. bisphaericus &					
PLIOCENE	20	BURDIGALIAN		?	Mb	G. altiapertura &					
PLIOCENE	22,5										
PLIOCENE	24,5	AQU.	oldest outcropping formation								
OLIGOCENE	30	CHATTIAN									

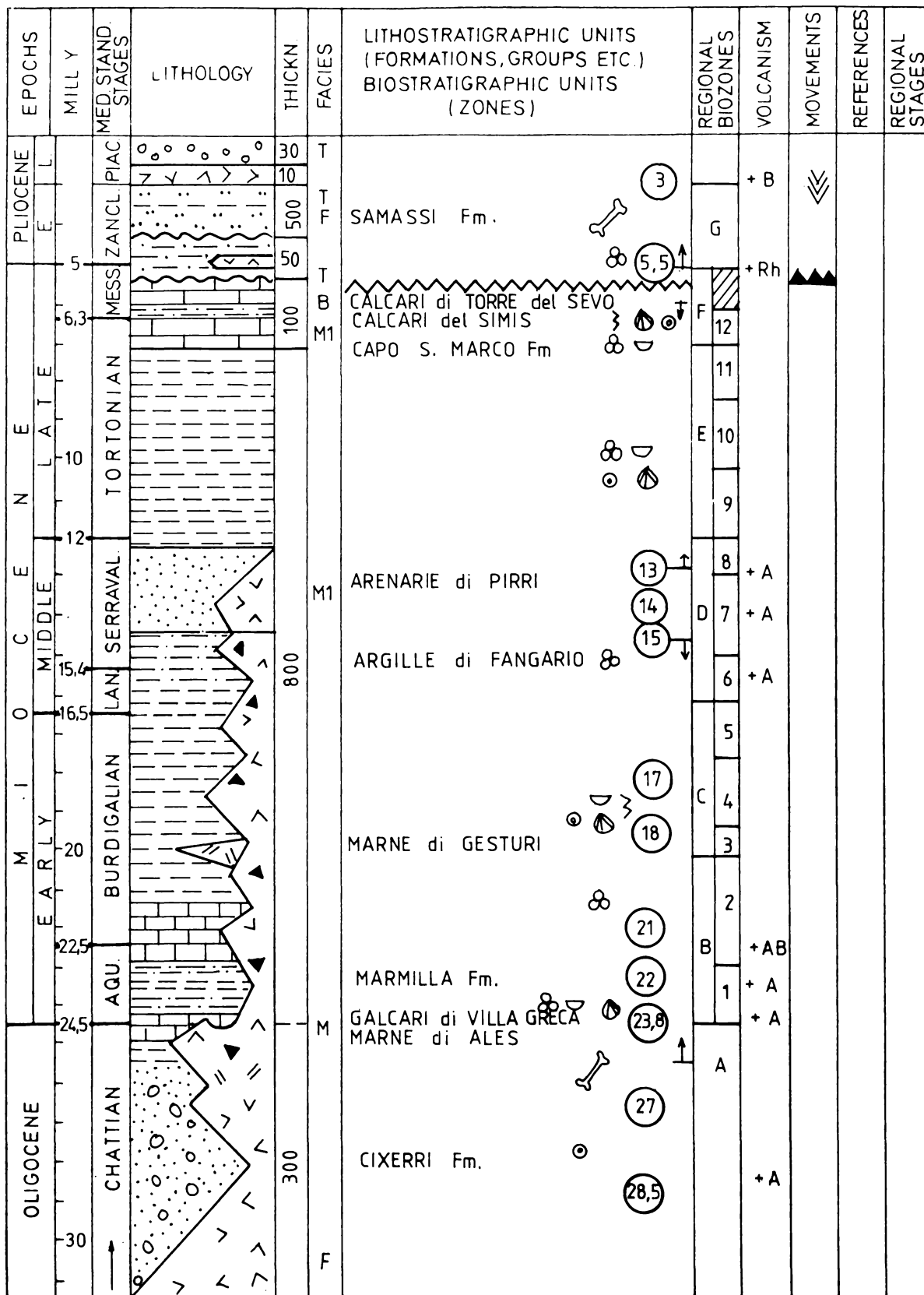
Author: M. B. CITA

Area No. 21: SARDINIA, SASSARI BASIN, I

EPOCHS	PLIOCENE		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL Y	MED STAND STAGES									
	5	MESS ZANCL PIAC		10	M1						
	6.3	MESS									
	10	TORTONIAN									
	12	SERRAVAL									
	15.4	LAN									
	16.5	BURDIGALIAN									
	20	AQU									
	22.5										
	24.5										
OLIGOCENE	30	CHATTIAN									

Author: R. GELATI

Area No. 22: SARDINIA, GRABEN OF CAMPIDANO, I



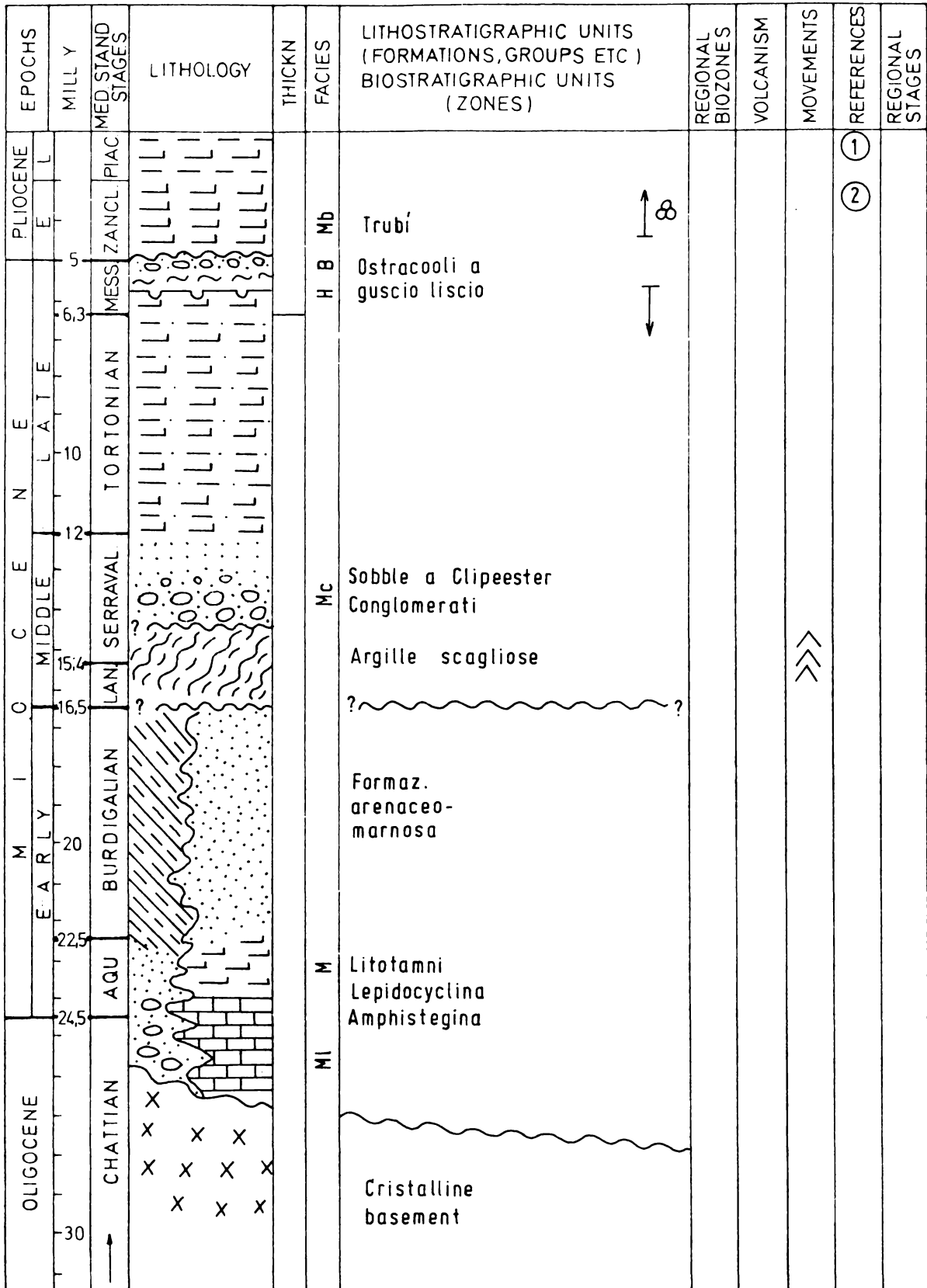
Author: R. GELATI

Area No. 23: CALABRIA, CROTONE BASIN, I

EPOCHS		MED STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL Y.										
OLIGOCENE	E	L	PIAC	400	Mb	Argilla di Cutro		+		①	
						Argilla di Spartizzo					
	E	5	ZANCL	600	Mb	Marne dei Cavalieri	8 ↑			②	
						Conglomerato delle Carvane					
	E	6.3	MESS	150	HT	Form. evaporitica sup.	D ↓		? >>>	③	
						Form. evaporitica inf. „Tripoli”					
	E	10	TORTONIAN	150		Argilla marnosa del Ponda	8 ↑			④	
	E	12	SERRAVAL	0-30		S. Nicola Formation	N 17		? >>>	⑤	
E	15.4	LAN	0-30			N 13		<<<			
O	16.5	BURDIGALIAN			crystalline basement (Paleozoic)						
O	20	AQU									
O	22.5										
O	24.5										
O	30										

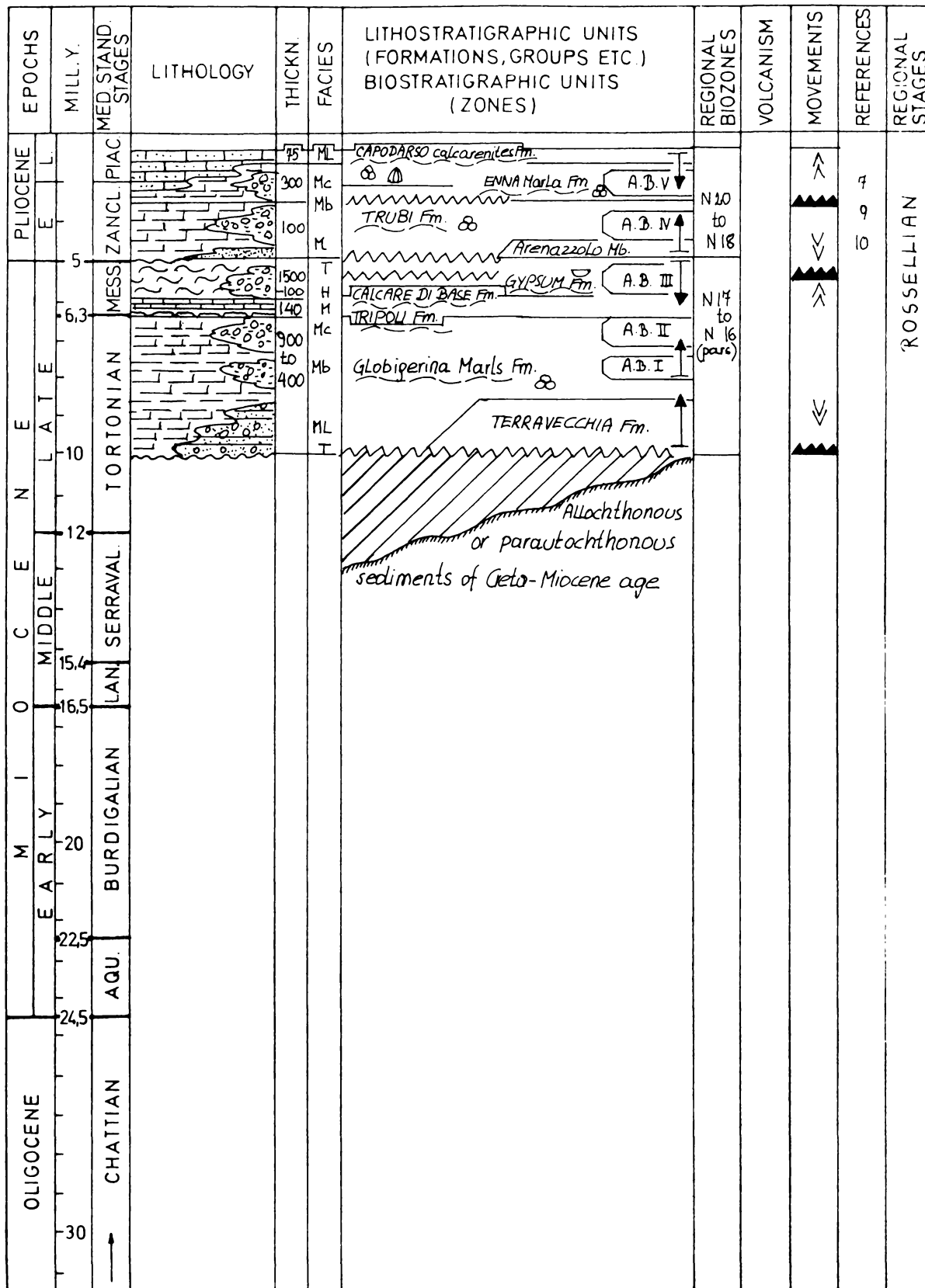
Authors: L. PAGGI & M. B. CITA

Area No. 24: CALABRIA, PUNTA STILO, I



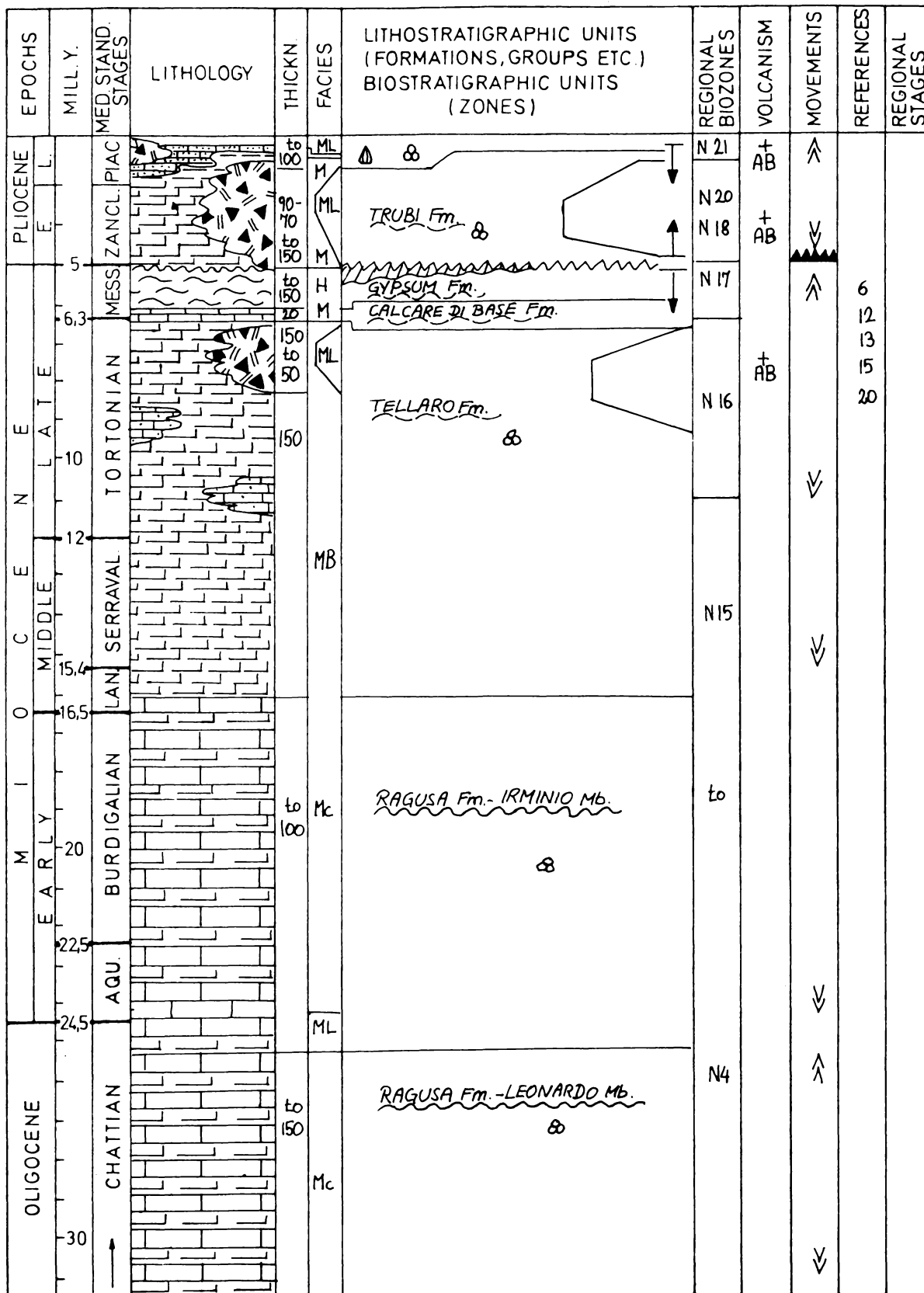
Authors: M. B. CITA & MALINVERNO

Area No. 25: SICILY, CALTANISSETTA BASIN, I



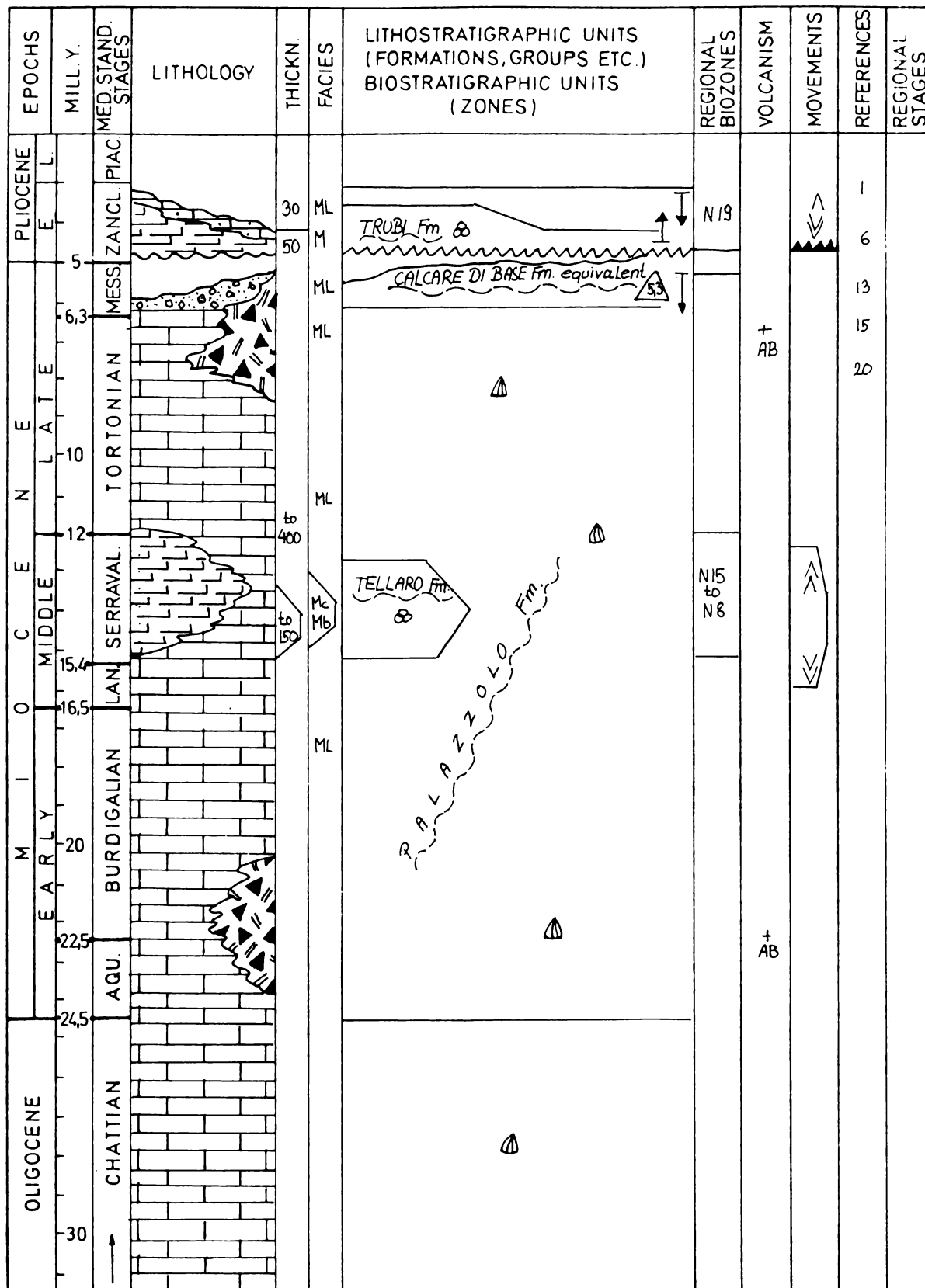
Author: A. DI GRANDE

Area No. 26 a: SICILY, IBLEI MOUNTAINS W, I



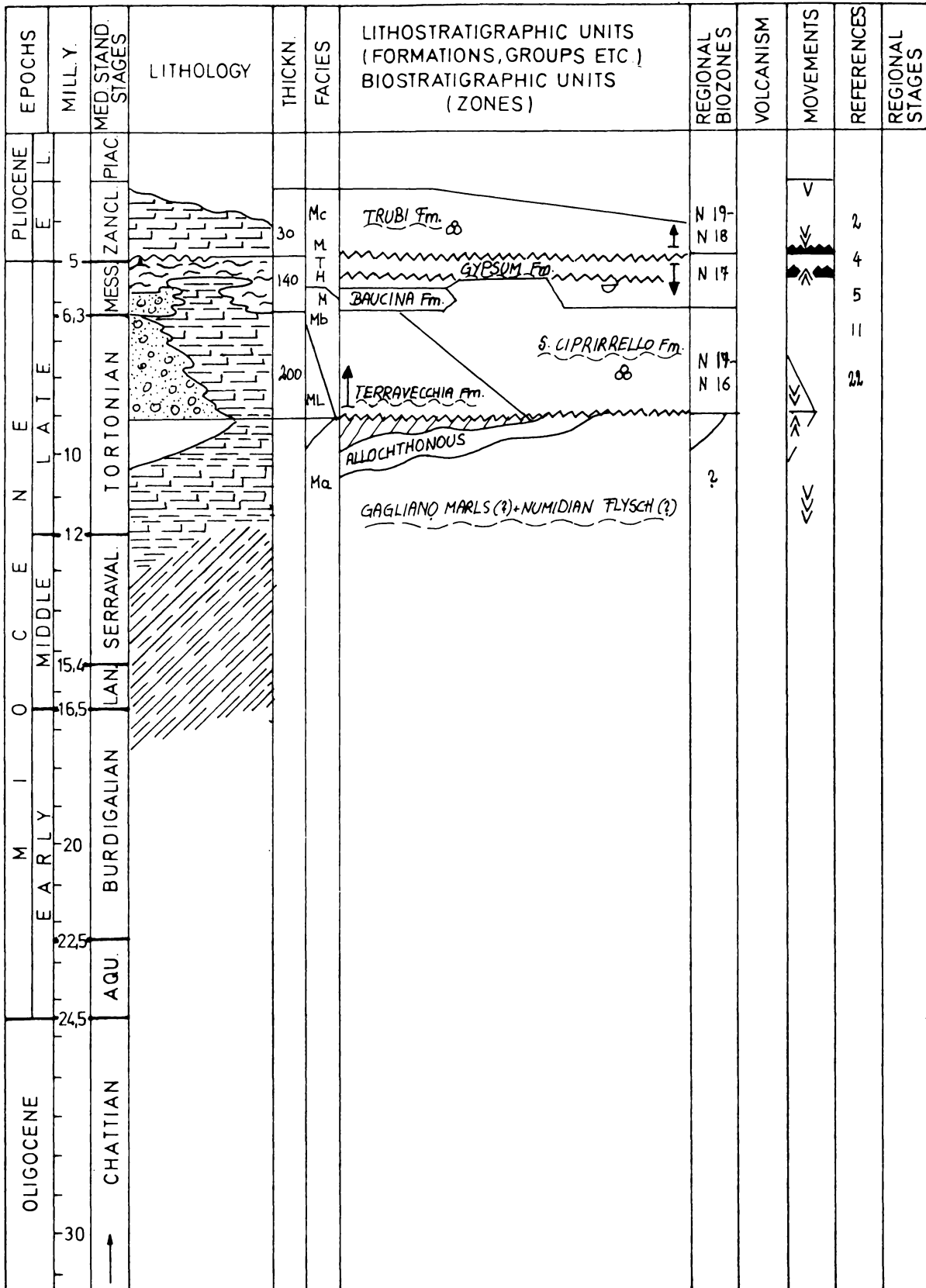
Author: A. DI GRANDE

Area No. 26 b: SICILY, IBLEI MOUNTAINS E, I



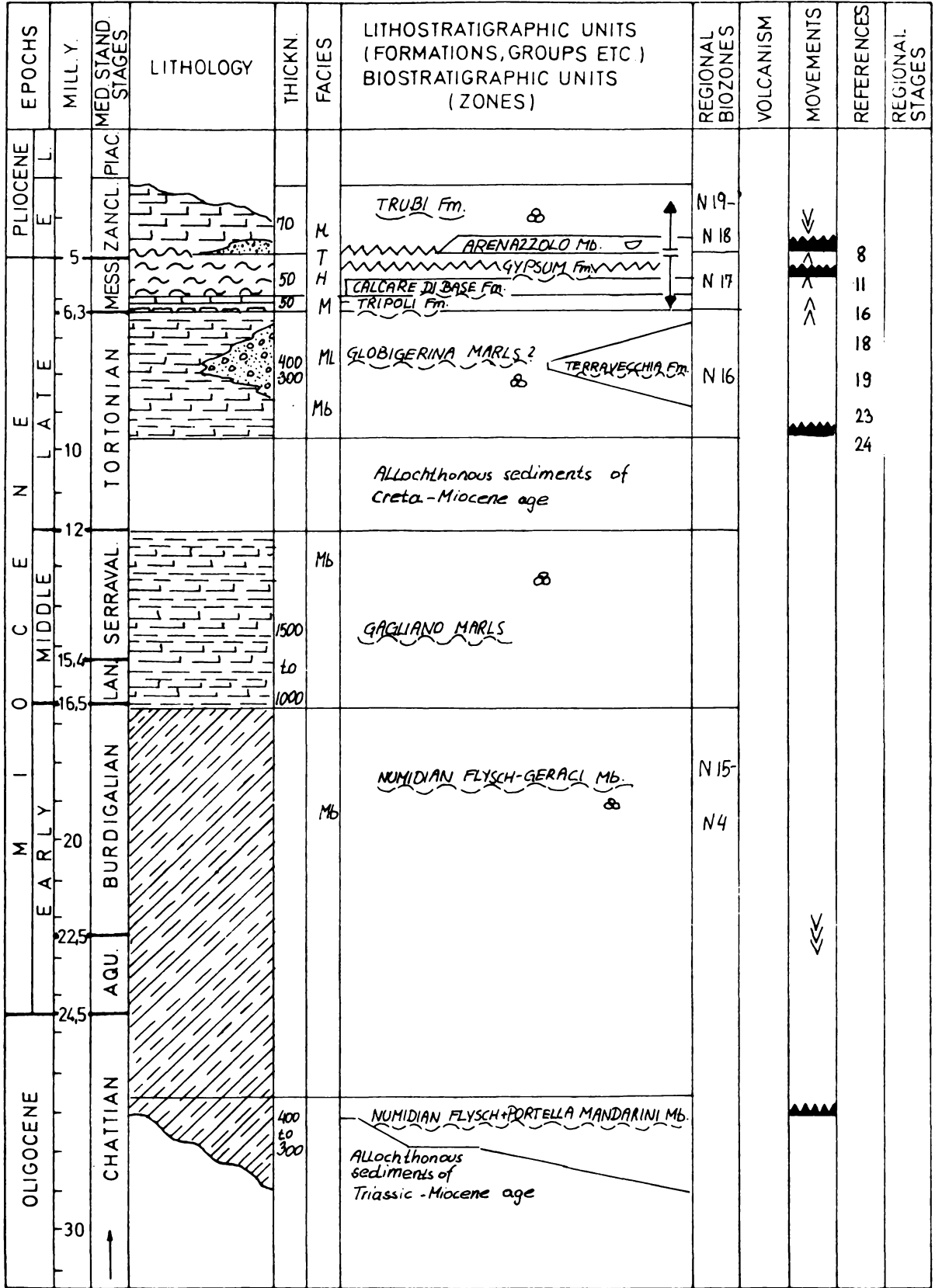
Author: A. DI GRANDE

Area No. 27 a: SICILY, CIMINNA BASIN, I



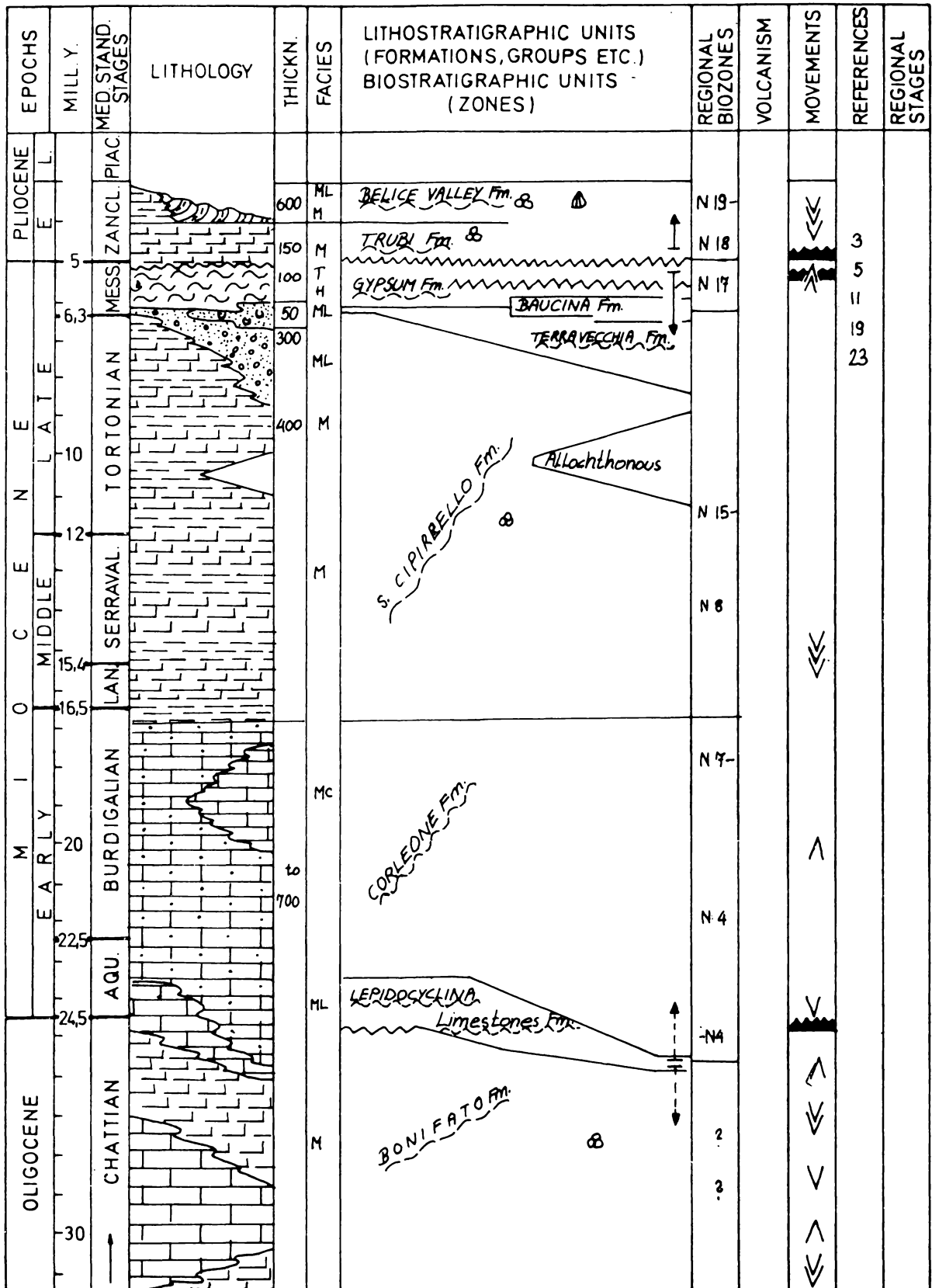
Author: A. DI GRANDE

Area No. 27 b: SICILY, MADONIE-NEBRODI MOUNTAINS, I



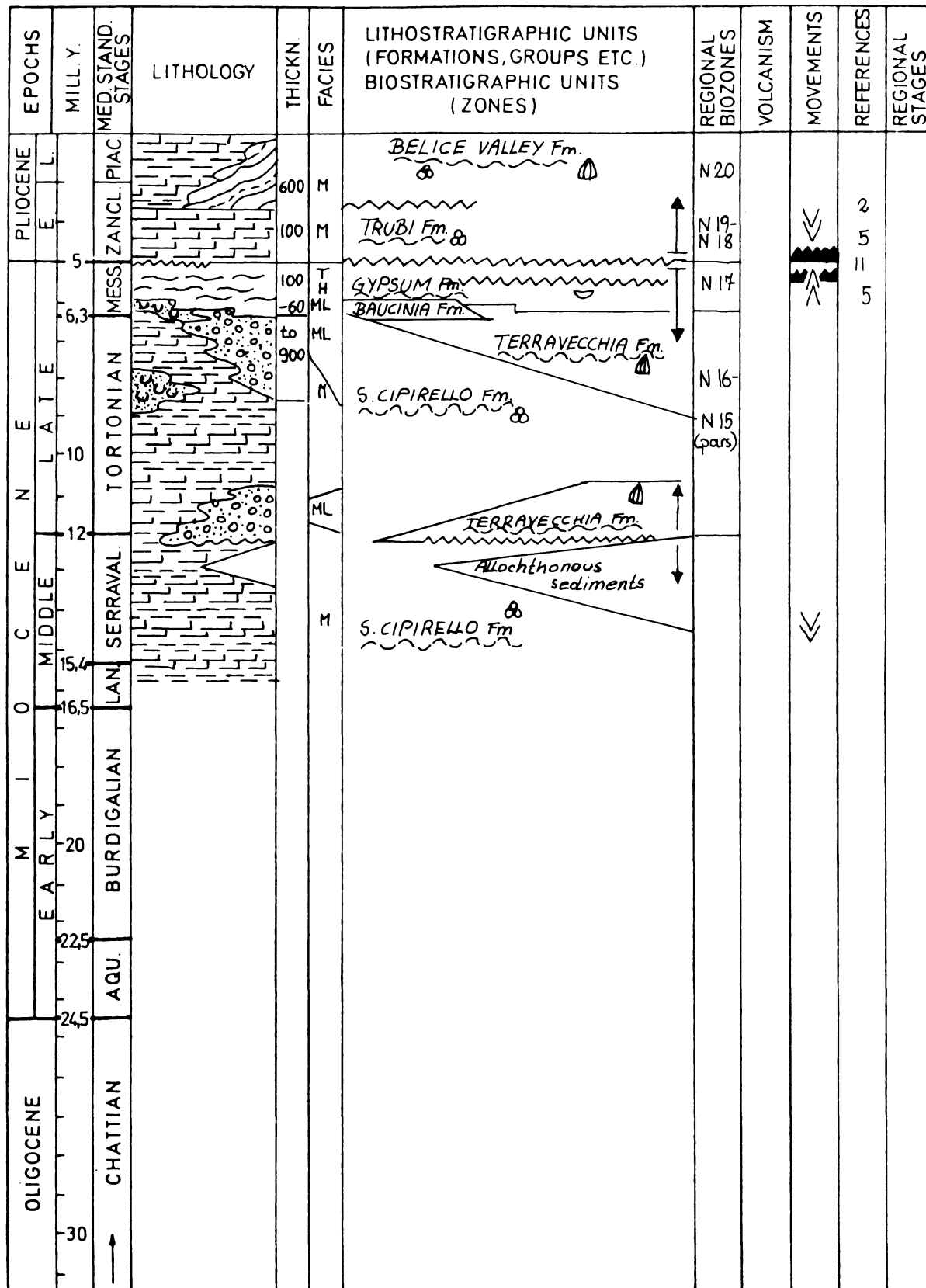
Author: A. DI GRANDE

Area No. 27 c: SICILY, SICANI-TRAPANESE MOUNTAINS, I



Author: A. DI GRANDE

Area No. 27 d: SICILY, CASTELVETRANO BASIN, I

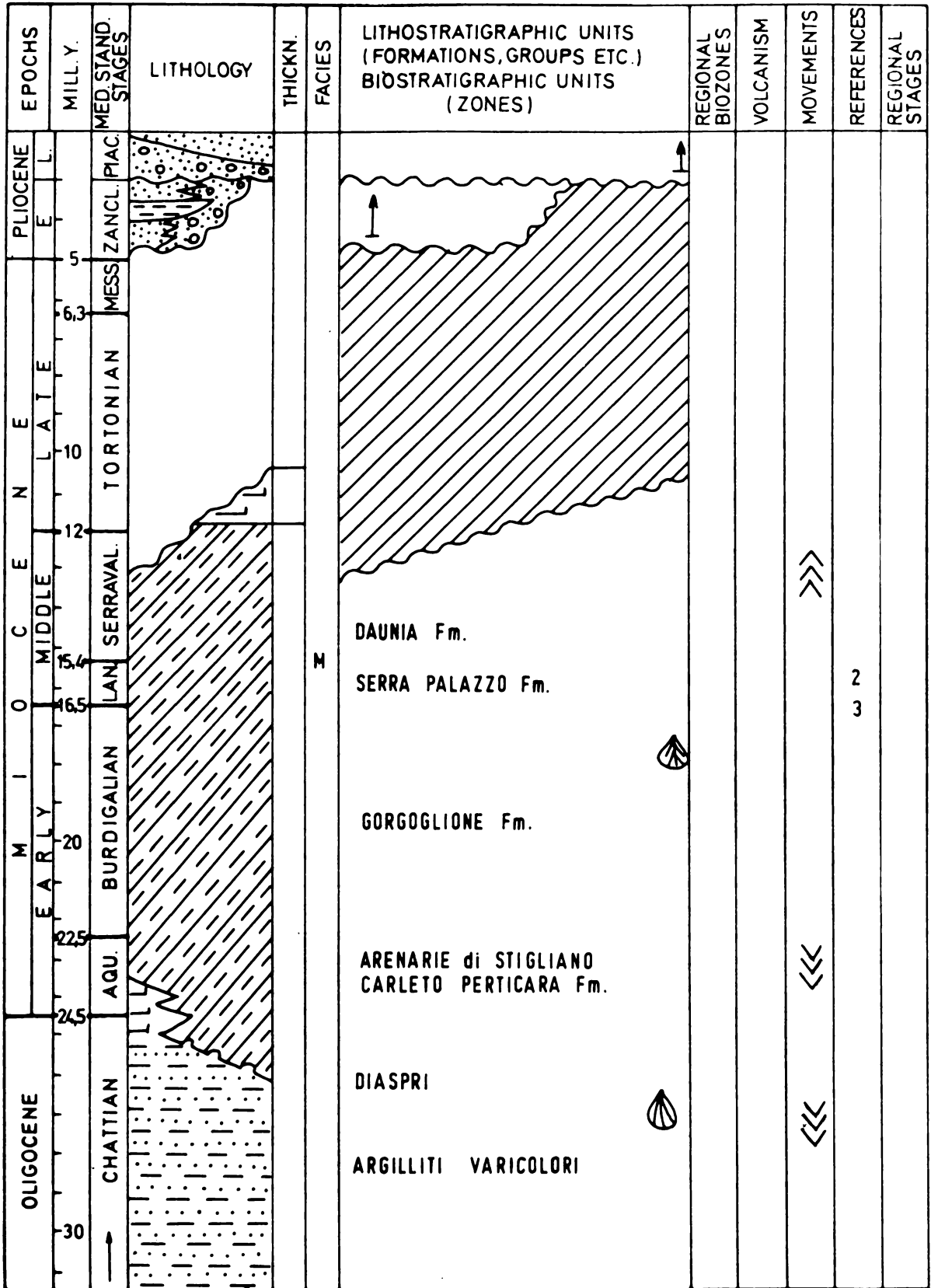


Author: A. DI GRANDE

OLIGOCENE	M I O C E N E			PLIOCENE		EPOCHS						
	EARLY	MIDDLE	LATE	E	L	MILL. Y.						
30	27.5	22.5	20	15.4	12	10	6.3	5	5	0	MED. STAND. STAGES	
← CHATTIAN	AQU.	BURDIGALIAN	LAN.	SERRAVAL.	TORTONIAN	MESS.	ZANCL.	PIAC.				
												LITHOLOGY
200 - 250		100 - 300			> 300			> 500				THICKN.
M												FACIES
S. SPIRITO - BOLOGNANO Fms (SHELF: carbonate / detrital, carbonate / skeleral)						"LAGA FLYSCH"						LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)
"SCAGLIA CINEREA"		"BISCIARO"		"SCHLIER"								
			GLOBIGERINITA DISSIMILIS		GLOB. TRI- LOBUS	ORBULINA UNIVERSA	GLOBOROTALIA MENARDII					REGIONAL BIOZONES
+Rd/D												VOLCANISM
												MOVEMENTS
1 4 6 7												REFERENCES
												REGIONAL STAGES

Author: R. GELATI

Area No. 29 a: BRADANICA FOREDEEP W, POTENZA, I



Author: R. GELATI

Area No. 29 b: BRADANICA FOREDEEP, I

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
<p>OLIGOCENE</p> <p>CHATTIAN</p> <p>EARLY</p> <p>MIDDLE</p> <p>LATE</p>	<p>30</p> <p>24.5</p> <p>22.5</p> <p>20</p> <p>16.5</p> <p>15.4</p> <p>12</p> <p>10</p> <p>6.3</p> <p>5</p>	<p>AQU.</p> <p>BURDIGALIAN</p> <p>LAN. SERRAVAL.</p> <p>TORTONIAN</p> <p>MESS. ZANCL. PIAC.</p>		<p>500</p> <p>MI → M</p>	<p>Cretaceous Limestones</p> <p>„Argille subappennine sabbione di Garaguso“</p> <p>Calcarenite di gravina</p>				<p>1</p> <p>3</p> <p>4</p>		

Author: R. GELATI

Area No. 30 a: INTRA APENNINIC BASINS, ABROZZI, S LAZIO, CASERTA, MATESE, BENEJENTO, I

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES												
	MILL. Y.	MED STAND. STAGES																					
OLIGOCENE	PLIOCENE	E				<p>CRETACEOUS LIMESTONES</p> <p>LONGANO and PIETRAROLA Fms.</p> <p>.. ALLOCHTHONOUS ..</p>				1 3													
		L																					
	MIOCENE	EARLY										24,5	CHATTIAN	<p>30 - 50</p> <p>200 - 250</p>	<p>M</p>	<p>CRETACEOUS LIMESTONES</p> <p>LONGANO and PIETRAROLA Fms.</p> <p>.. ALLOCHTHONOUS ..</p>				1 3			
												22,5	AQU.										
		MIDDLE										BURDIGALIAN	16,5									LAN. SERRAVAL.	
													15,4									LAN. SERRAVAL.	
												LATE	TORTONIAN									12	TORTONIAN
																						10	TORTONIAN
													PIACENTINE									6,3	MESS. ZANCL. PIAC.
																						5	MESS. ZANCL. PIAC.

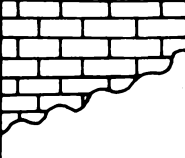

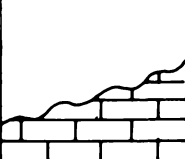

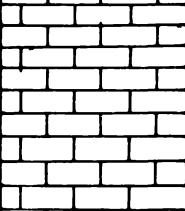
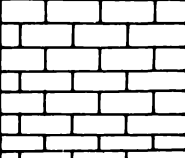







Author: R. GELATI

Area No. 30 b: INTRA APENNINIC BASINS, MOLISE, I

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL Y									
PLIOCENE	5				.. ALLOCHTHONOUS "					
PLIOCENE	6.3									
PLIOCENE	10	TORTONIAN	700		FROSOLONE Fm.					
PLIOCENE	12									
PLIOCENE	15.4	SERRAVAL			CUSANO Fm.				1 2 3	
PLIOCENE	16.5									
PLIOCENE	20	BURDIGALIAN								
PLIOCENE	22.5									
PLIOCENE	24.5	AQU.			ARGILLE VARICOLORI MONTAGNOLA Fm.					
PLIOCENE	30	CHATTIAN	200							

Author: R. GELATI

Area No. 31: SALENTO BASINS, I

EPOCHS		MILL. Y.		MED. STAND. STAGES		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES						
OLIGOCENE	MIDDLE	PLIOCENE	E	L	PIAC.		100	M	CALCARENITI di ANDRANO				2							
															5	ZANCL.		M	CALCARENITI di ANDRANO	
															6.3	MESS.				
MIDDLE	EARLY	MIDDLE	E	L	TORTONIAN		> 100	M	CALCARENITI di ANDRANO				2							
															10	LAN. SERRAVAL.		M	PIETRA LECCESE	
															12					
															15.4	LAN.		M	CRETACEOUS, PALEOCENE -EOCENE	
															16.5					
20	BURDIGALIAN		M	CRETACEOUS, PALEOCENE -EOCENE																
22.5	AQU.																			
24.5	CHATTIAN		M	CRETACEOUS, PALEOCENE -EOCENE																
30																				

Author: R. GELATI

Area No. 32: MARNOSO-ARENACEA BASIN, UMBRIA, I

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	5	ZANCL. PIAC.			F-L-B-MI					2	
MIDDLE CENE	6.3	MESS.		> 1000	M	MARNOSO-ARENACEA Fm.				1 2 3 4 5	
	10	TORTONIAN									
	12	SERRAVAL.									
	15.6	LAN.									
	16.5	BURDIGALIAN									
EARLY MIDDLE CENE	20	AQU.				"BISCIARO,"		+ Rd/D		5	
	22.5										
	24.5										
OLIGOCENE	30	CHATIAN				"SCAGLIA CINEREA,"					

Author: R. GELATI

Area No. 33 b: INTERNAL IONIAN ZONE, GR

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
MILL. Y.	MED. STAND. STAGES									
PLIOCENE	PLIAC.									
5	MESS.									
6.3	ZANCL.									
10	TORTONIAN									
12	SERRAVAL.									
15.4	LAN.									
16.5										
20	BURDIGALIAN									
22.5	AQU.									
24.5										
30	CHATTIAN		1800 m	Ma	Potamia formation P22 	B				
					Distraton formation P22 	B			5 8 9	

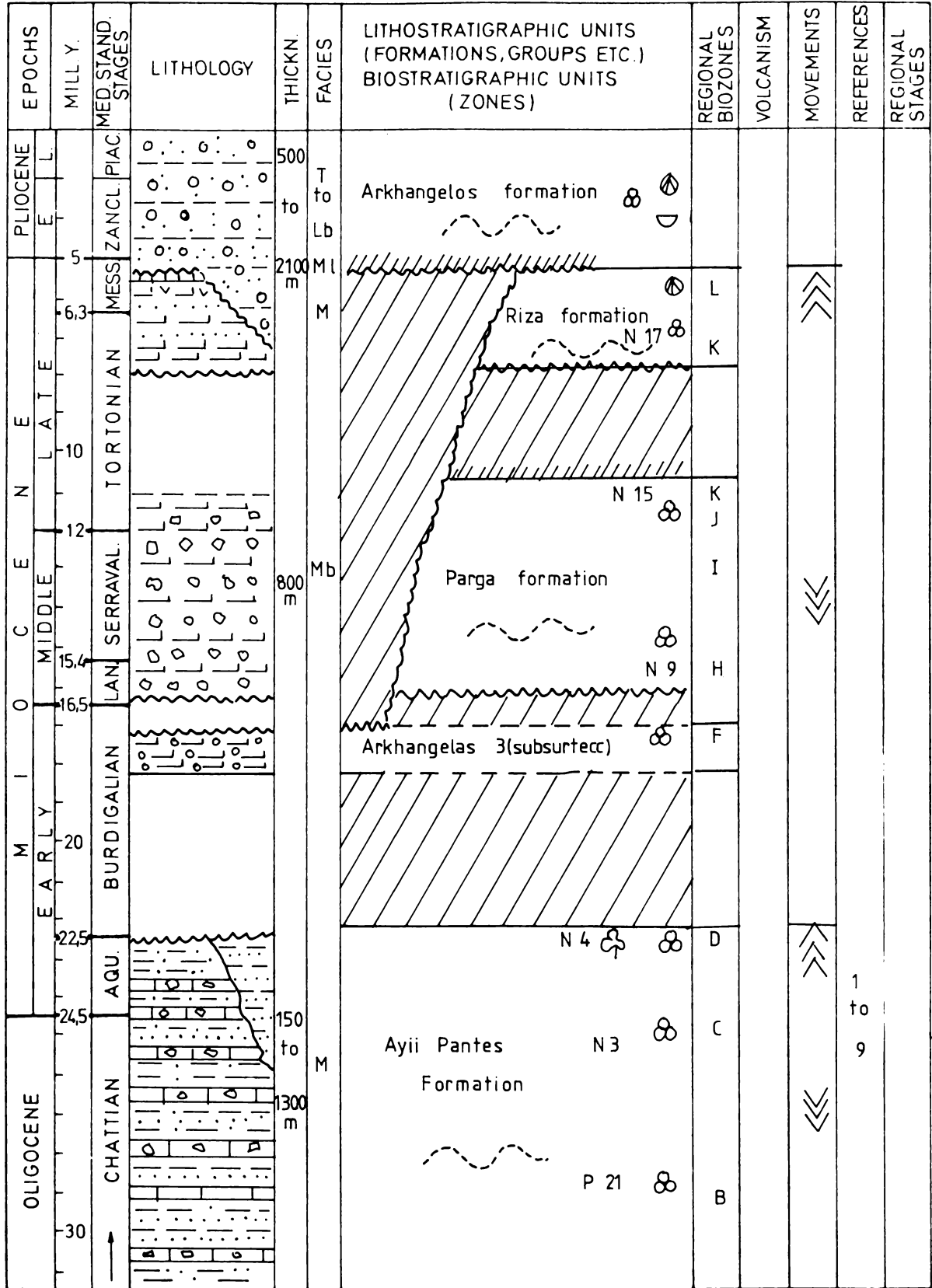
Authors: J. J. BIZON & G. BIZON

Area No. 33 c: MIDDLE IONIAN ZONE, GR

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	L	PIAC			Lb	Ioannina formation					
	E	ZANCL.									
MIDDLE CENE	5	MESS.									
	6.3	TORTONIAN									
EARLY MIOCENE	10										
	12	SERRAVAL.									
EARLY MIOCENE	15.4	LAN.									
	16.5	BURDIGALIAN		400	Mc		N8p.p.	F			
EARLY MIOCENE	20			to	Mb	"Molasse"	N7				
	22.5	AQU.		1500	Mc		N5/6	E			
OLIGOCENE	24.5	CHATTIAN		200	Mb		N3/4	D		1	
	30			to		Radhovi formation	P22/N3	C		to	
				400			P21	B		9	
				400	Ma	Ionian Flysch	P18 - P20	A-B			

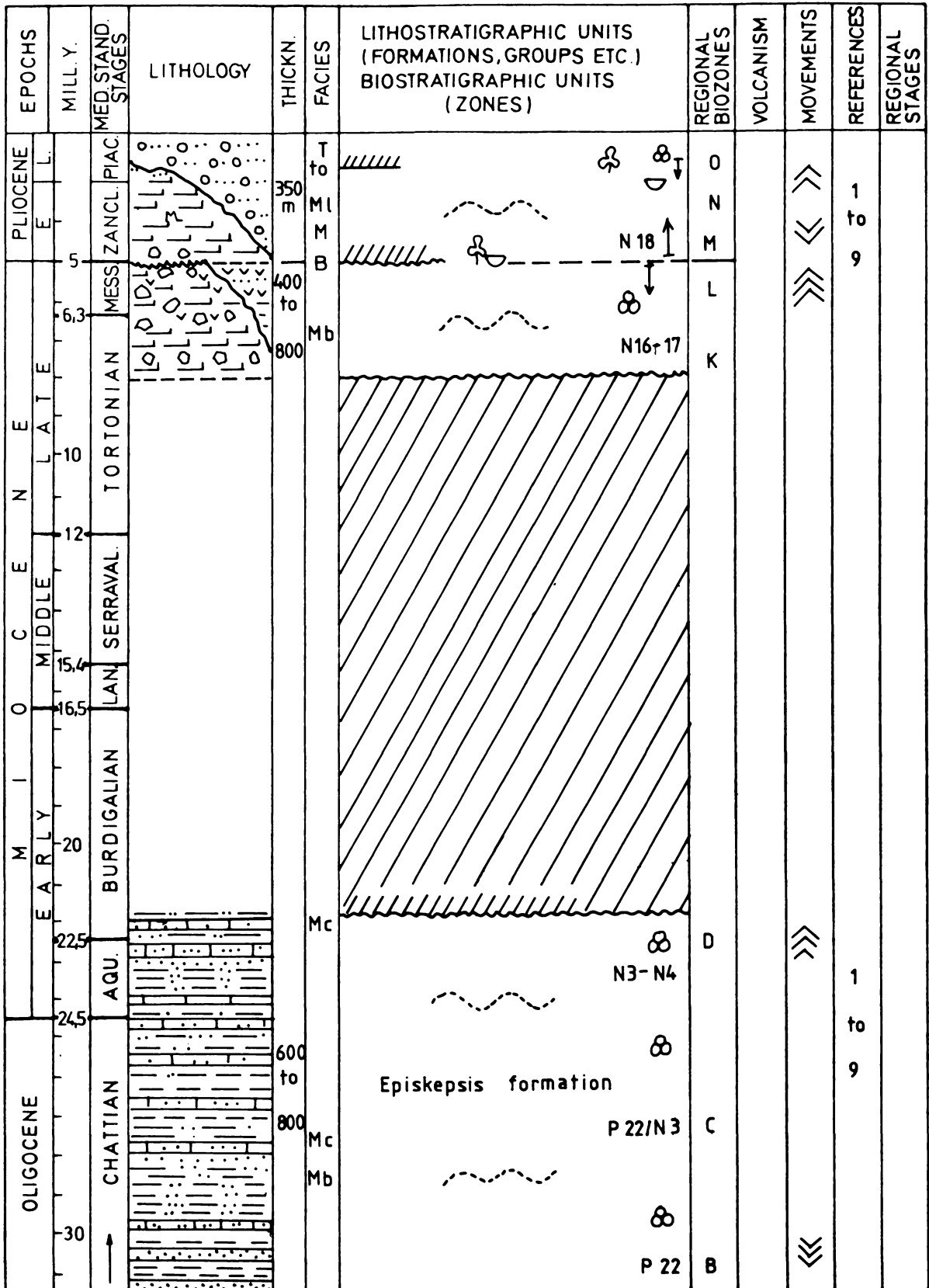
Authors: J. J. BIZON & G. BIZON

Area No. 33 d: EXTERNAL IONIAN ZONE, GR



Authors: J. J. BIZON & G. BIZON

Area No. 37 a: CORFU, GR



Authors: G. BIZON & J. J. BIZON

Area No. 37 b: LEFKAS, GR

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE											
							Trias - early Lias					
		5										
		6.3	MESS. ZANCL. PIAC.			MI	Ayios Petros formation	L		⇧⇧⇧		
		10	TORTONIAN		600 m		N 17					
							N 16	K				
		12					N 15	J				
							N 10-14	I		⇩⇩		
		15.4	SERRAVAL			Mb	Lefkos West					
							Lefkos Est Lazarata formation	H G				
		16.5	LAN.		500 m	Mb	N 9					
							N 8	F			1	
		20	BURDIGALIAN				Eocene				2	
											3	
		22.5										
			AQU.		400 to		Lefkos East (Katokhori Poros) formation	D C		⇩⇩		
		24.5				M						
					800 m							
			CHATTIAN				P 21	B				
							Eocene					
		30										

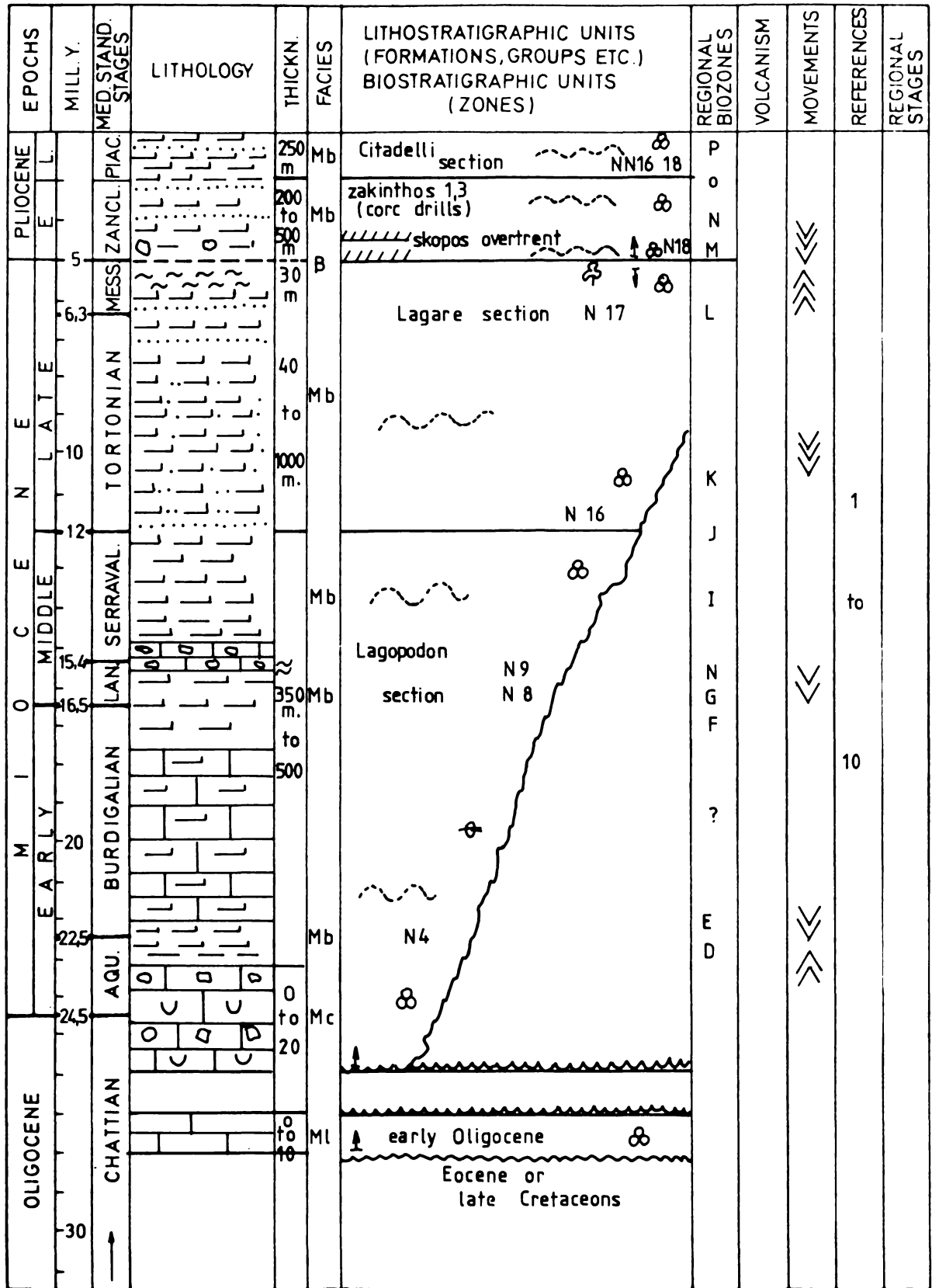
AUTHOR :

Area No. 37 c: KEFALLINIA, GR

EPOCHS		MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
OLIGOCENE	EARLY	CHATTIAN				Early Eocene					
		AGU.									
OLIGOCENE	MIDDLE	BURDIGALIAN				Ano Angon Section					
		LAN. SERRAVAL.				Eocene limestone					
		LAN.									
		LAN.									
OLIGOCENE	LATE	TORTONIAN				Cape Liakas Section					
		MESS. ZANCL. PIAC.				Lixourion marls					
OLIGOCENE	PLIOCENE										

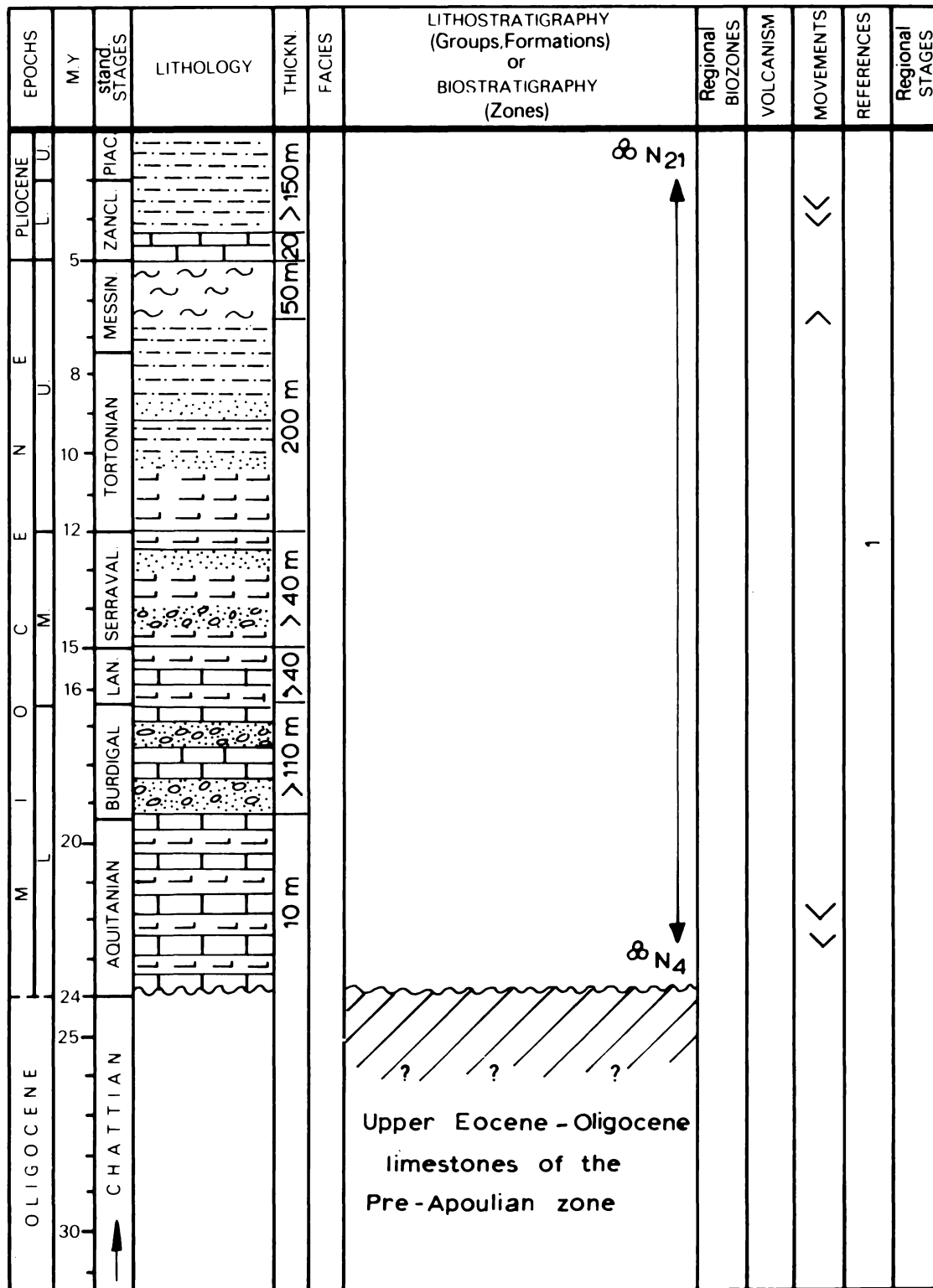
Authors: G. BIZON & J. J. BIZON

Area No. 37 d 1: ZAKINTHOS, GR



Authors: G. BIZON & J. J. BIZON

Area No. 37 d 2: IONIAN BASIN, ZAKYNTHOS, GR



Authors: M. DERMITZAKIS & D. PAPANIKOLAOU

Area No. 38 a 1: GREVENA BASIN, GR

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	5	MESS. ZANCL. PIAC.									
MIDDLE	6.3	TORTONIAN									
	10										
EARLY	12	LAN. SERRAVAL.									
	15.4										
BURDIGALIAN	16.5	LAN. SERRAVAL.									
	20										
AQU.	22.5	AQU.									
	24.5										
CHATTIAN	24.5	AQU.									
	30										
OLIGOCENE	30	CHATTIAN									
	30										
BURDIGALIAN	130 to 750 m	BURDIGALIAN		Mc	Orlias Formation Zevgostasi Formation	F					
	750 to 500 m		F to Ml	Omorphoklissia F.							
AQU.	500 to 2000 m	AQU.		Ml	Ondria limestone Tsotilion Formation	E				1	
	2000 to 4000 m		F to Ml	Pendalofon Formation						2	
CHATTIAN	4000 to 800 m	CHATTIAN		Mc	Heptakhorion F.	C				3	
	800 to 1500 m			Late Eocene							

Authors: G. BIZON & J. J. BIZON

Area No. 38 a 2: MESOHELLENIC BASIN, GREVENA, GR

EPOCHS		M Y	STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
PLIOCENE	OLIGOCENE											
		5	PIAC		70m	T	Terraces , lakes			<		
		8	ZANCL							>>>		
		10	MESSIN							>>>		
		12	TORTONIAN		40m	Mi	Ondrias Formation			<<<		
		15	SERRAVAL							>>>	5	
		16	LAN		> 2000 m	M	Tsotylion Formation			<<<	1	
		20	BURDIGAL							>>>		
		24	AQUITANIAN		> 400 m	M	Pentalofon Formation					
		25	CHATTIAN		> 500 m	M	Eptachorion Formation			<<<		
		30										

Authors: D. PAPANIKOLAOU & M. DERMITZAKIS

Area No. 38 b: THESSALIA BASIN, GR

EPOCHS		MILL. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	E	L.	MED. STAND. STAGES									
MIOCENE		10		BURDIGALIAN	400 m	MI	Trikala section	E				
EARLY		20										
OLIGOCENE		30		CHATTIAN	1000 m	F	Eocene Cretaccans or ophiolites	C				
MIDDLE		15.4										
LATE		6.3										
PLIOCENE		5										
				AQU.		Mc	Asproklissia marls	D ?				
						F	Upper Meteora				1	
						Mc	Kalambaka marls	G			2	
						F	lower Meteora					
						MI	Heptakhorion marls	C				

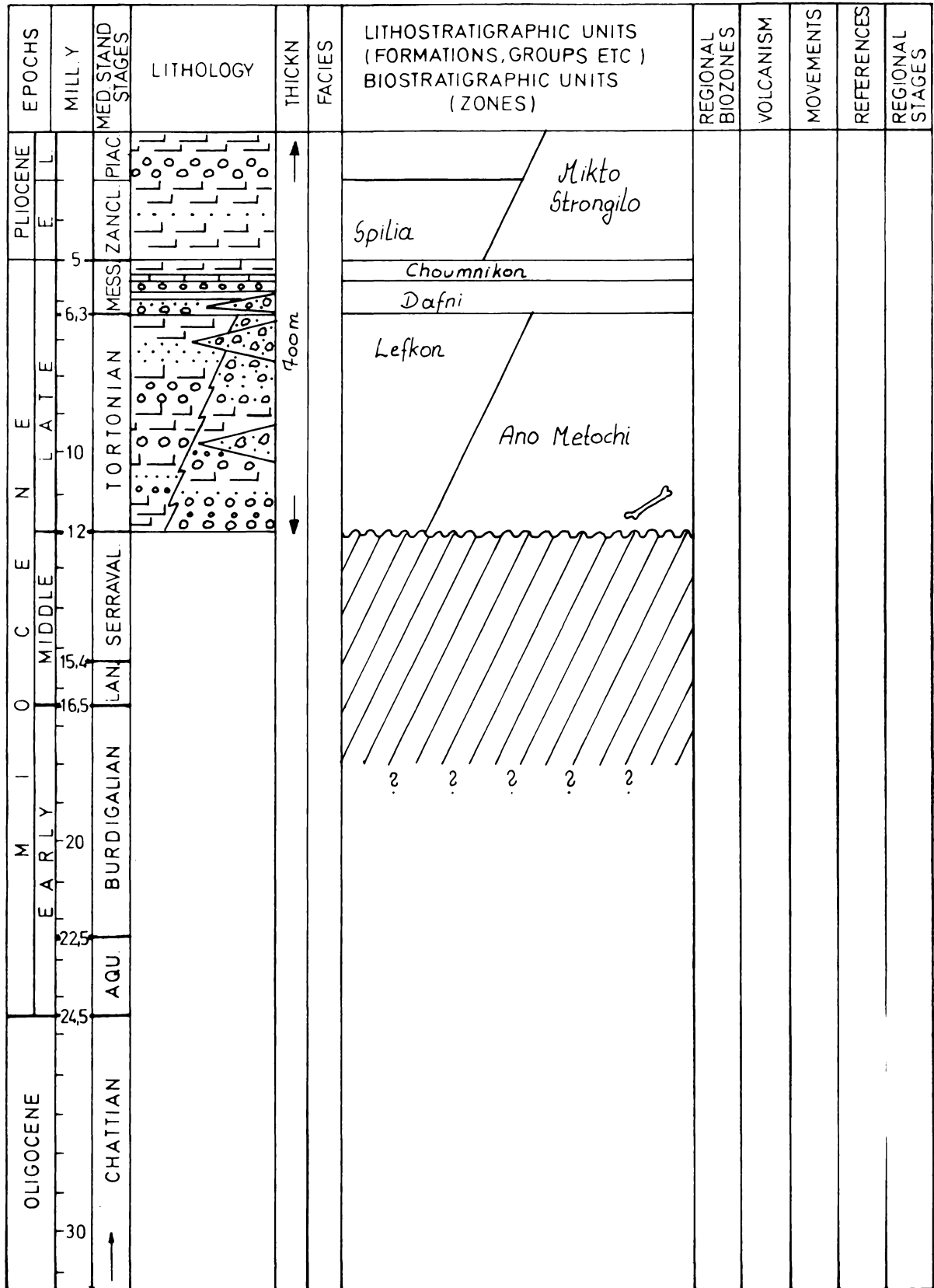
Authors: G. BIZON & J. J. BIZON

Area No. 39: THESSALONIKI CHALKIDIKI MARGINAL BASIN, GR

EPOCHS		MILL Y	MED STAND STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	OLIGOCENE												
PLIOCENE		5	MESSIZANCL PIAC		300-600m	T	<i>Molasse</i>						
PLIOCENE		6.3	TORTONIAN										
MIDDLE		12	SERRAVAL										
MIDDLE		15.4	LAN										
MIDDLE		16.5	LAN										
EARLY		20	BURD.GALIAN										
EARLY		22.5	AQU.										
EARLY		24.5	CHATTIAN										
OLIGOCENE		30											

Author: M. DERMITZAKIS

Area No. 40: STRIMON BASIN, GR



Authors: M. DERMITZAKIS & E. LEKKAS

Area No. 41: THRACIAN MARGINAL BASIN, GR

EPOCHS		MILL Y	MED STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	PLIOCENE											
OLIGOCENE	MIDDLE EARLY	30			500 - 1250 m	Lb						
		24.5	CHATTIAN									
		22.5	AGU									
		20	BURDIGALIAN									
		16.5	LAN									
		15.4	SERRAVAL									
		12	TORTONIAN									
		10										
		6.3	MESS									
		5	ZANCL PIAC									
	PLIOCENE											

Author: M. DERMITZAKIS

Area No. 42 a: SW AKARNANIA MARGINAL BASIN, GR

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.	MED STAND STAGES									
OLIGOCENE	EARLY	CHATTIAN									
OLIGOCENE	MIDDLE	AQU.									
		BURDIGALIAN		400 m	M	Lazarta					
		LAN SERRAVAL		800 m	M	Parca					
		TORTONIAN		200 m	M	Rizza					
OLIGOCENE	LATE	MESS ZANCL. PIAC.		1000 m	M	Yannates					
						Sparteron					

Author: M. DERMITZAKIS

Area No. 42 b: PYRGOS, GR

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES		
OLIGOCENE	U.		PLIOCENE											
	L.													
MIOCENE	U.													
		5	PIAC.		5 > 1000	ML	Vounargon Fm.	<i>D. surcu-lus</i> Z.						
			ZANCL.		50	LZB	Platana Fm.					1,2		
		8	MESSIN.											
		10	TORTONIAN	?										
		12												
		15	SERRAVAL.											
		16	LAN.											
		20	BURDIGAL											
		24	AQUITANIAN											
	25	CHATTIAN												
	30													

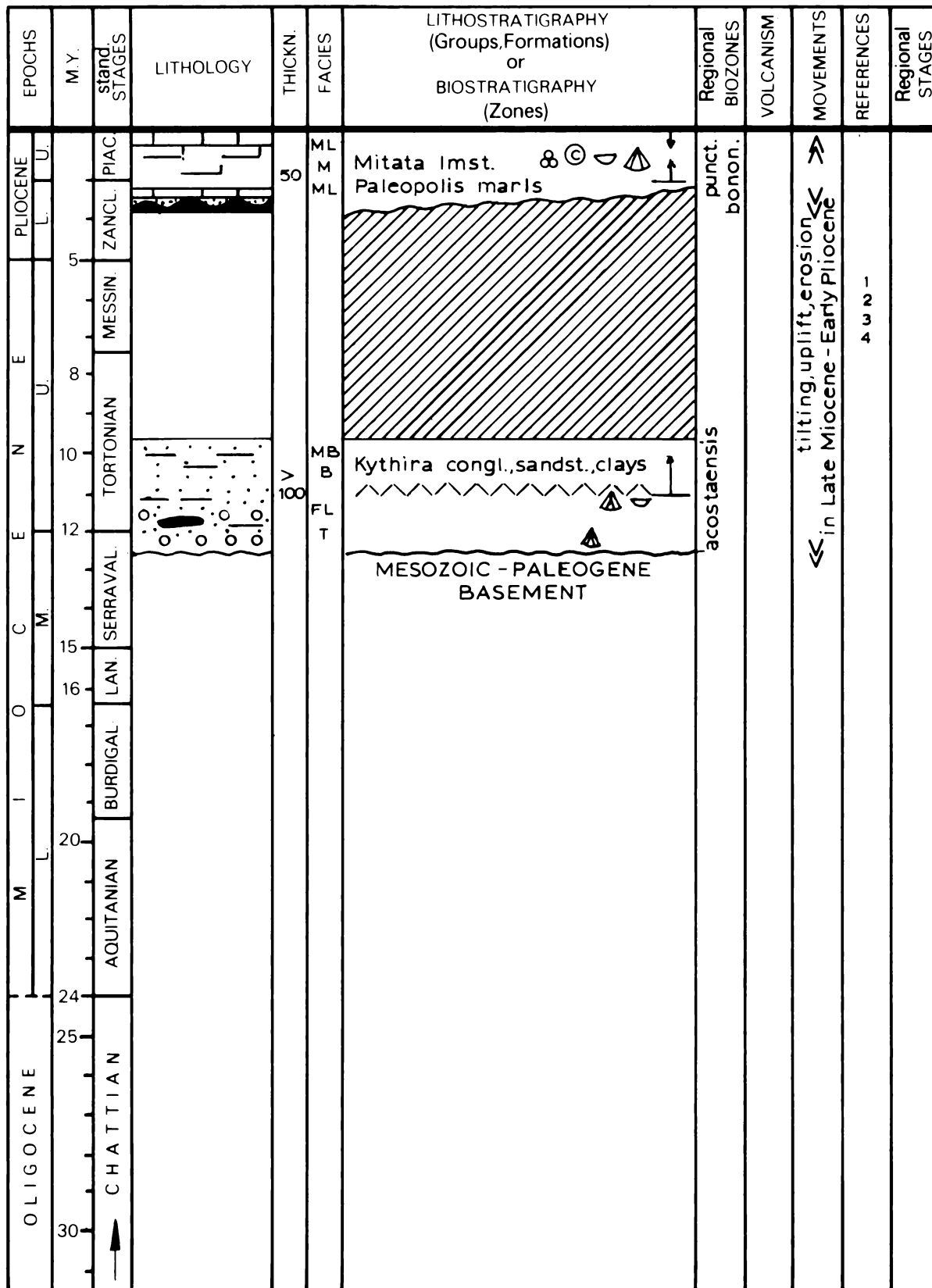
Author: J. E. MEULENKAMP

Area No. 42 c: S PELOPONNESIAN MARGINAL BASIN, GR

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
OLIGOCENE	MIDDLE	LATE	5	ZANCL. PIAC.	?	200m							
			6.3	MESS.									
	EARLY	TORTONIAN	10										
			12										
	MIDDLE	SERRAVAL	15.4										
			16.5										
	EARLY	BURDIGALIAN	20										
			22.5										
	MIDDLE	LAN.	24.5										
			24.5										
		CHATTIAN	30										

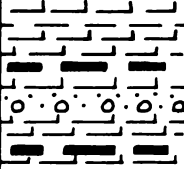
Authors: M. DERMITZAKIS & E. LEKKAS

Area No. 42 d: KYTHIRA, GR



Author: J. E. MEULENKAMP

Area No. 43: MEGALONOLIS (PELOPONNISOS) INTERMONTANE BASIN, GR

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	5			> 200 m	L T T L	Trilofon Stage Makrision Stage					
	6.3					Alpine Flysch					
	10										
	12										
	15.4										
	16.5										
	20										
	22.5										
	24.5										
	30										

Authors: M. DERMITZAKIS & E. LEKKAS

Area No. 44: ATTICA – EUBOA – LAMIA, N EUBOA, GR

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
OLIGOCENE	PLIOCENE											
30			CHATTIAN									
24			AQUITANIAN									
20			BURDIGAL									
16			LAN									
15			SERRAVAL									
12							Mesozoic Limestones					
10			TORTONIAN		> 200 m	T				<<<	3	
8			MESSIN			Lb				>	5	
5			ZANCL			Mi				<	6	
			PIAC		> 100 m					>>>		

Authors: M. DERMITZAKIS & D. PAPANIKOLAOU

Area No. 45 a: N SPORADES, SKYROS, GR

EPOCHS		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
M Y	stand. STAGES									
O L I G O C E N E C H A T T I A N 30 25 24			>150 m M	Metamorphic rocks 				<< >	1 2	
M I O C E N E U 20 16 15 SERRAVAL LAN. BURDIGAL AQUITANIAN 12 10 TORTONIAN 8 MESSIN ZANCL PIAC P L I O C E N E L U										

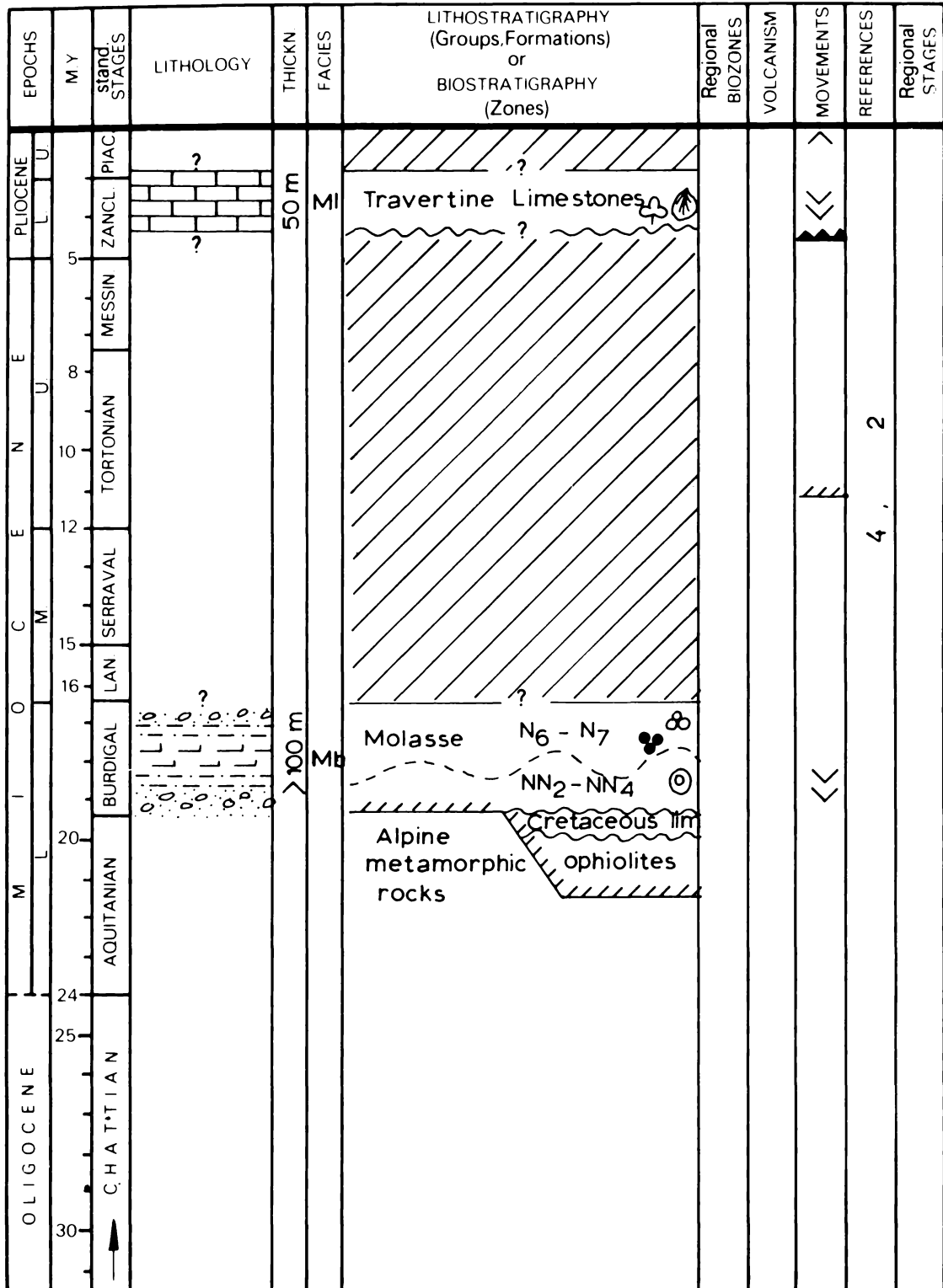
Authors: M. DERMITZAKIS & D. PAPANIKOLAOU

Area No. 45 b: MILOS, GR

EPOCHS		M.Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
OLIGOCENE	PLIOCENE	M.L.	U.									
30				<p>Marine Late Oligocene - Early Miocene deposits on Naxos & Paros</p>	150	BM H ML	METAMORPHIC BASEMENT				1 2	
25		CHATTIAN										
24		AQUITANIAN										
20		BURDIGAL										
16		LAN.										
15		SERRAVAL.										
12		TORTONIAN										
8		MESSIN.										
5		ZANCL.										
		PIAC.										

Author: J. E. MEULENKAMP

Area No. 45 c: CYCLADES, PAROS, GR



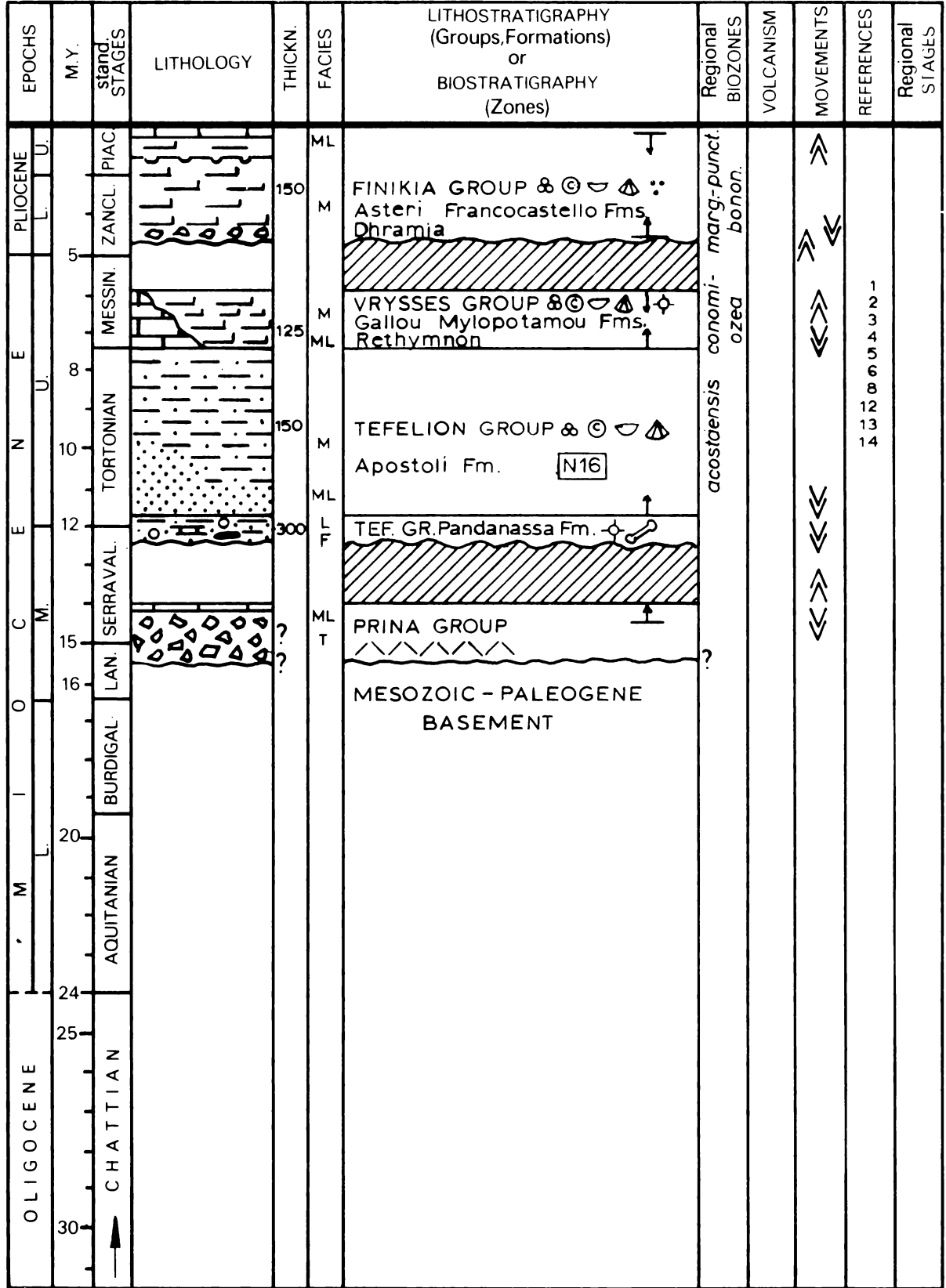
Authors: D. PAPANIKOLAOU & M. DERMITZAKIS

Area No. 46 a: CRETE, KHANIA, GR

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES	
OLIGOCENE	M.L.	30	CHATTIAN										
		25											
		24	AQUITANIAN										
		20											
			BURDIGALIAN										
		16											
			LANCIGNAN										
		15											
			SERRAVALIAN										
Eocene	U.	12											
			TORTONIAN										
		10											
		8											
			MESSINIAN										
		5											
			ZANCLIAN										
Pliocene	L.												

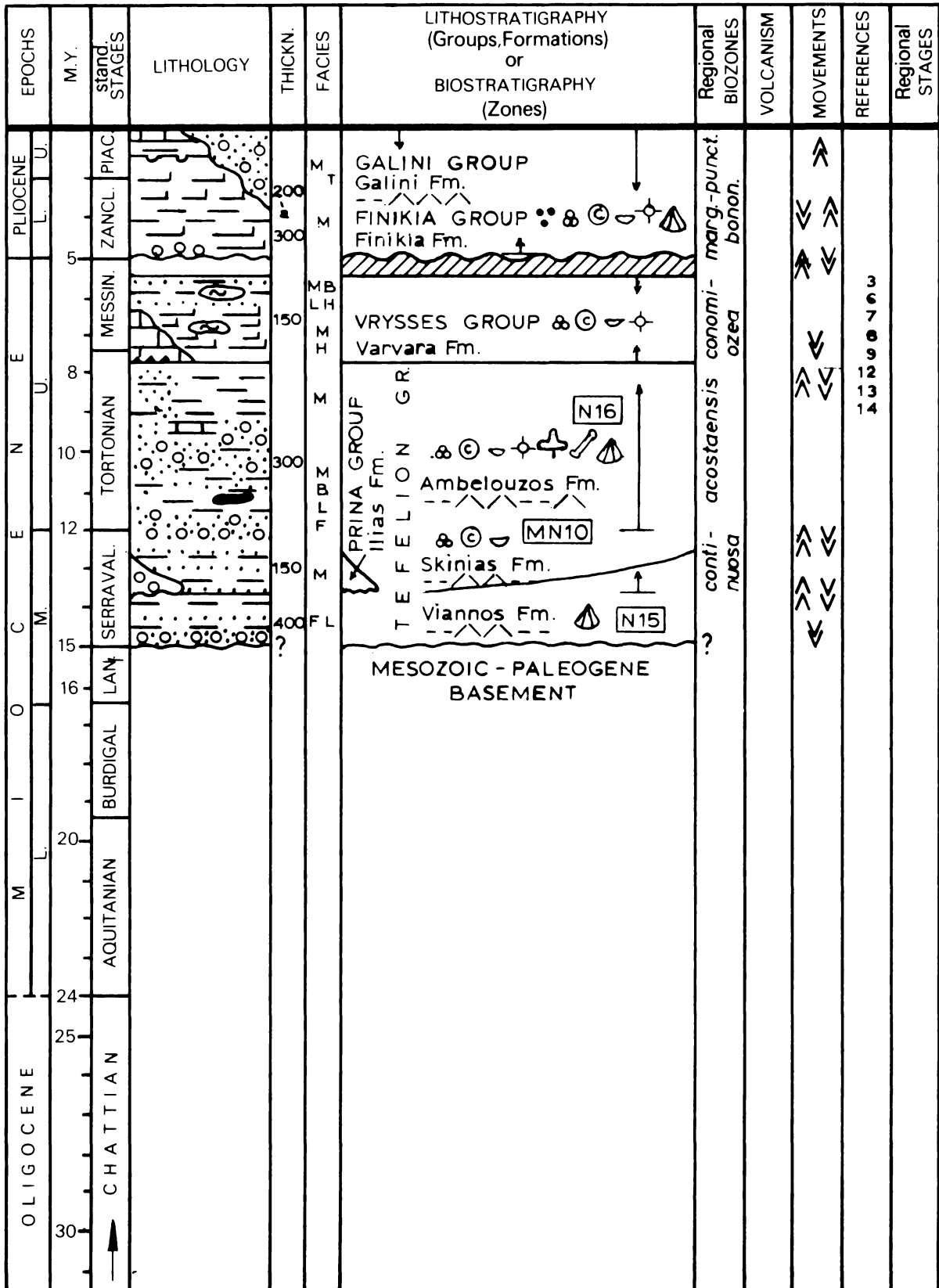
Author: J. E. MEULENKAMP

Area No. 46 b: CRETE, RETHYMNON, GR



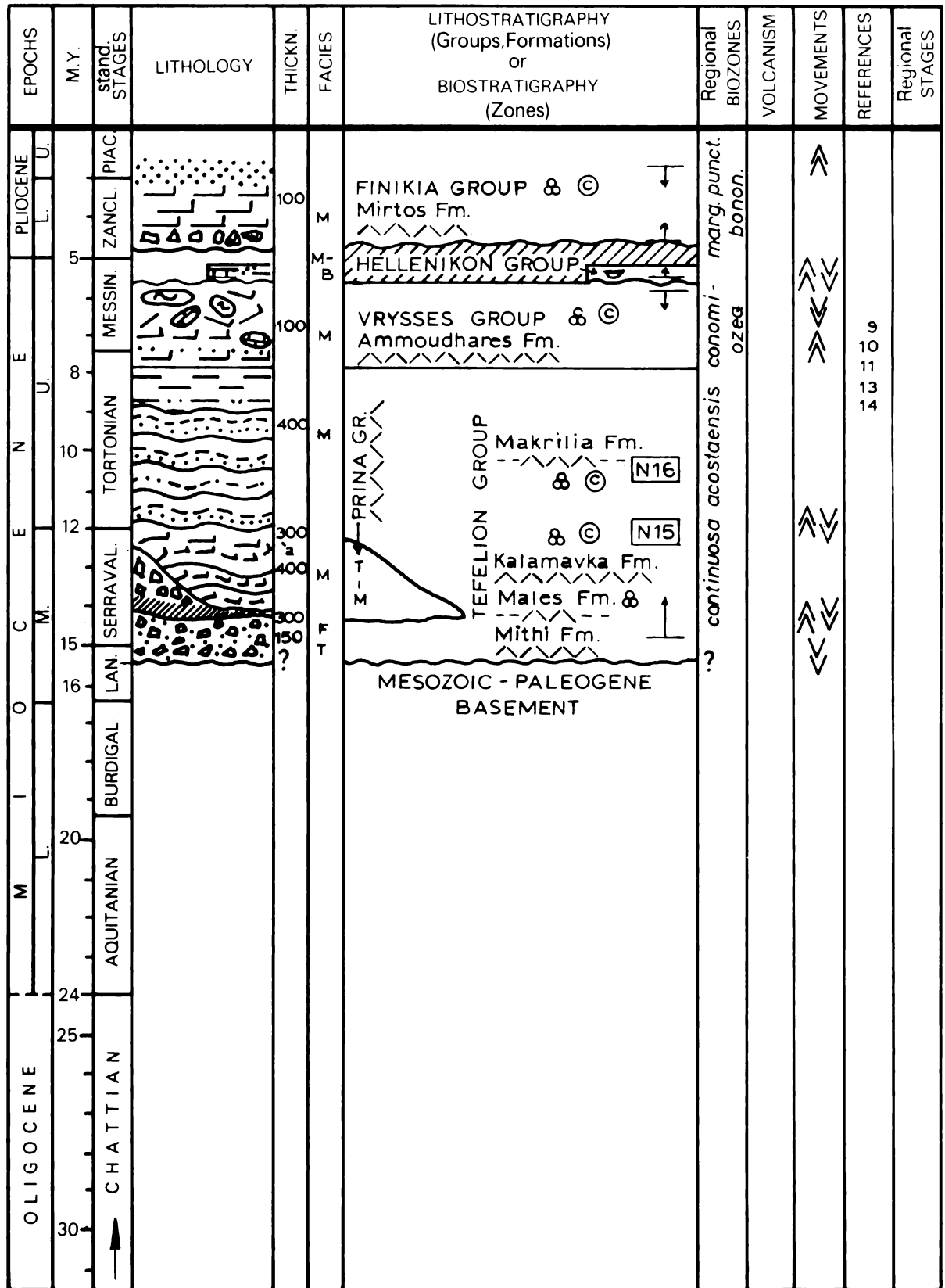
Author: J. E. MEULENKAMP

Area No. 46 c: CRETE, IRAKLION, GR



Author: J. E. MEULENKAMP

Area No. 46 d: CRETE, IERAPETRA, GR



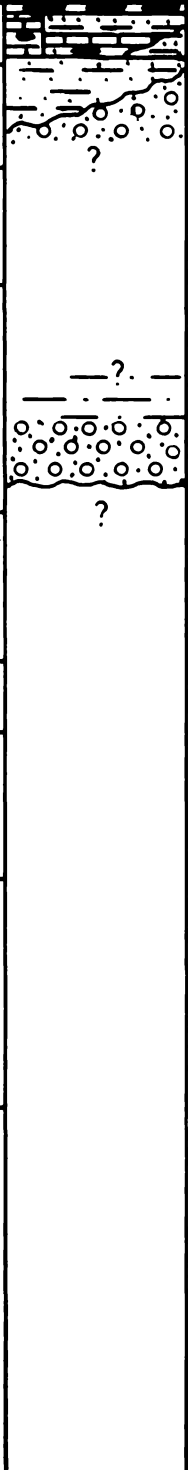
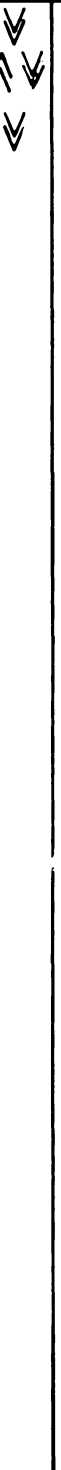
Author: J. E. MEULENKAMP

Area No. 47: E AEGEAN ISLANDS, CHIOS, GR

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
PLIOCENE	OLIGOCENE											
		5	PIAC									
		8	MESSIN		300 m	L	Nenita Fm 		(+)	>>		
		10	TORTONIAN		130 m	L	Keramaria Fm 	+Rh	(+)		1	
		12	SERRAVAL		75	F	Zyfia Fm 					
		15	LAN		150 m	L	Thymiana Fm 			<<		
		16	BURDIGAL			F	Mesozoic limestones					
		20	AQUITANIAN									
		24	CHATTIAN									
		25										
		30										

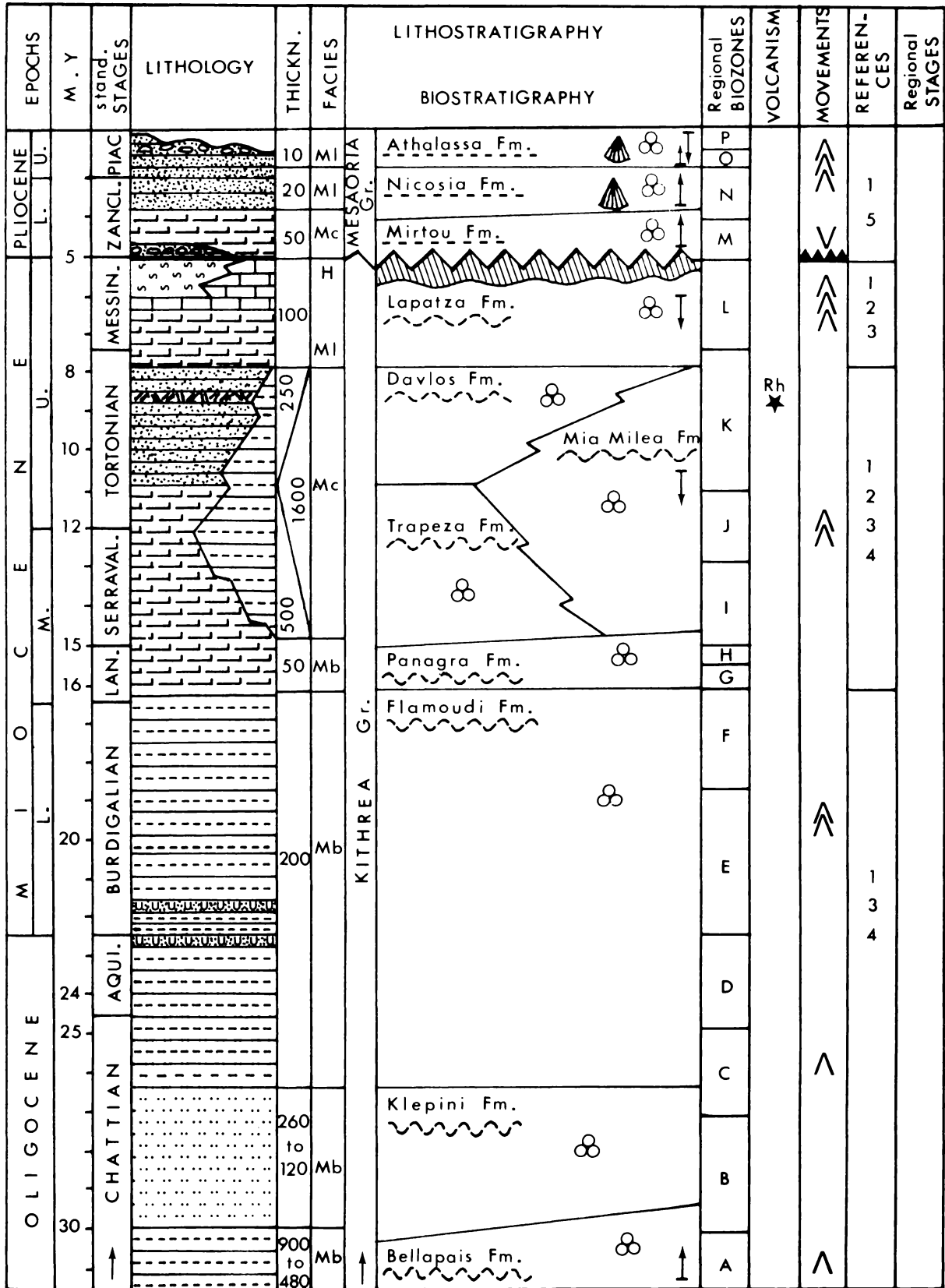
Authors: M. DERMITZAKIS & D. PAPANIKOLAOU

Area No. 48: RHODOS, GR

EPOCHS			LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
M.Y.	stand. STAGES	PLIOCENE									
30 25 24 20 16 15 12 10 8 5	G H A T T I A N AQUITANIAN BURDIGALIAN LANZANOIS SERRAVALLO TORTONIAN MESSINIAN ZANCLADIAN PIACENTINIAN	OLIGOCENE E M O C E N E P L I O C E N E		> 600 50? 100	M L F T F L	Vasfi Fm. NN18 Monolithos Kritika Fm. MN Fm. Damatria Fm. Istrios (p.p.) Apolakkia NN15,16 Maritsa Salakos Fms. MESOZOIC - PALEOGENE (Early Miocene?) BASEMENT Istrios Fm. (p.p.)	infiziata			1 2 3 4 5 6	

Author: J. E. MEULENKAMP

Area No. 49 a: KITHERA AREA, N MESAORIA, CY



Authors: F. BAROZ & G. BIZON

Area No. 49 b: DHALI AREA, S MESAORIA, CY

EPOCHS	PLIOCENE		MIOCENE										OLIGOCENE		
	U.	L.	5	8	10	12	15	16	20	24	25	30			
M. Y.															
stand. STAGES	PIAC.	ZANCL.	MESSIN.	TORTONIAN	SERRAVAL.	LAN.	BURDIGALIAN	AQUI.	CHAT TIAN						
LITHOLOGY															
THICKN.	20	750	400 to 25			220 to 50		550 to 15 Mb							
FACIES	Ml	Ml	H Ml Bo M		Ml		Mc								
LITHOSTRATIGRAPHY	MESAORIA Ahalassa Fm. Potami Fm.		Koronio Mb Kalavassos Fm. Pakhna Fm.					Lefkara Fm.	LAPITHOS Gr.						
Regional BIOZONES	P O N M		L	K	J	I H G	F E	D	C B A						
VOLCANISM															
MOVEMENTS															
REFEREN- CES	6	7	6 8 9				6 7								
Regional STAGES															

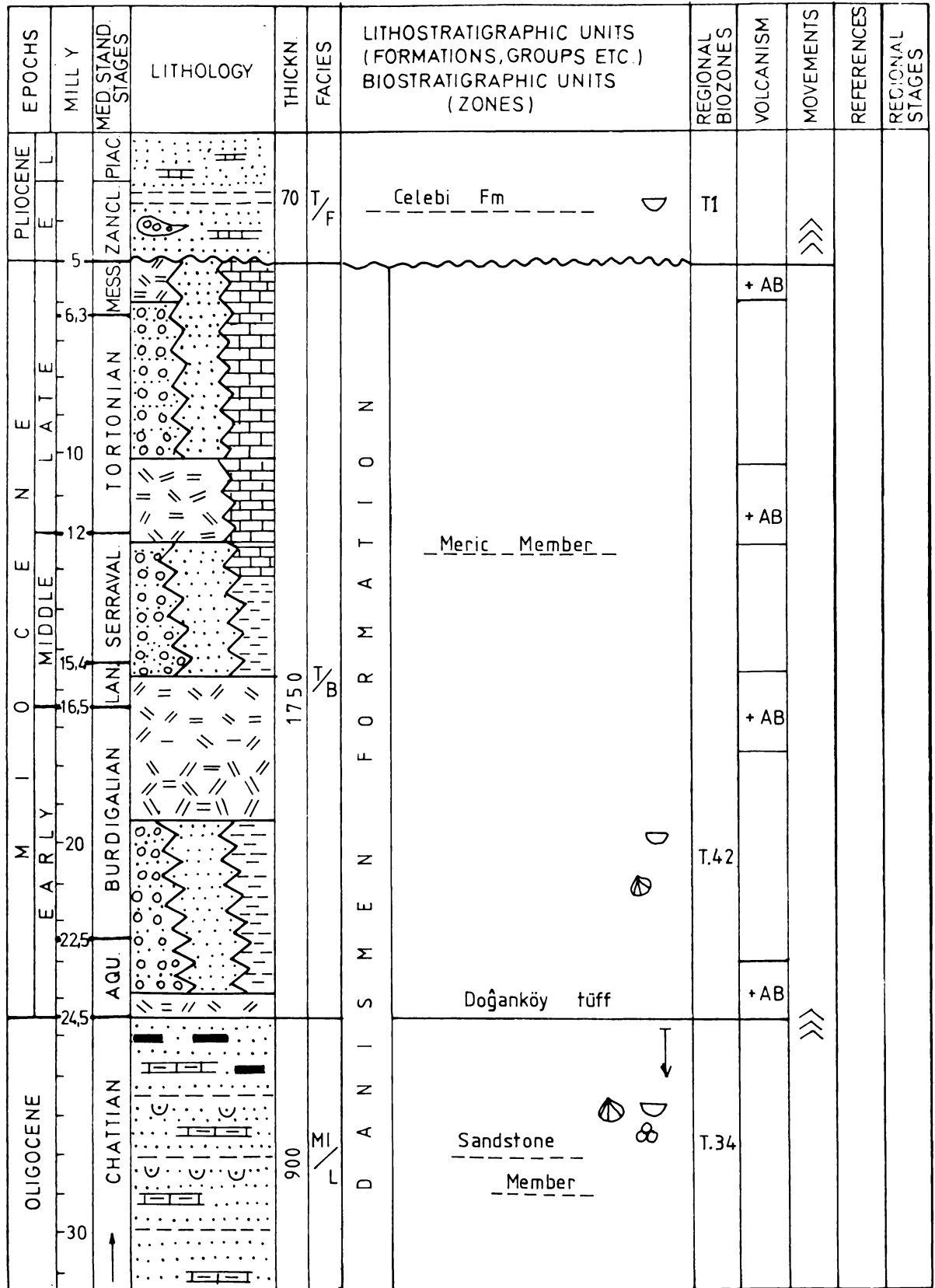
Authors: F. BAROZ & G. BIZON

Area No. 49 c: POLEMI BASIN, W CY

EPOCHS	PLIOCENE		MIOCENE					OLIGOCENE	
	U.	L.	U.	M.	L.				
M. Y			12	15	16	20	24	25	30
stand. STAGES	PIAC.	ZANCL.	TORTONIAN	SERRAVAL.	LAN.	BURDIGALIAN	AQUI.	CHATTIAN	
LITHOLOGY									
THICKN.	130		200		100				
FACIES	Bo	MI	MI	Bo	MI	MI	Mc		
LITHOSTRATIGRAPHY	MESAORIA Gr. Pissouri Fm. N 18 NN 12		DHALI Gr. Pakhna Fm. Yiolou Fm. N 17 NN 11				LAPITHOS Gr. Terra Mb. Lefkara Fm.		
Regional BIOZONES	P O N	M	L	K	J	I H G F	E	D	
VOLCANISM		★ Rh							
MOVEMENTS	↘	↘	↘	↘	↘	↘	↘	↘	
REFEREN- CES		10	11				10		
Regional STAGES									

Authors: F. BAROZ & G. BIZON

Area No. 50 a: W THRACE, TR



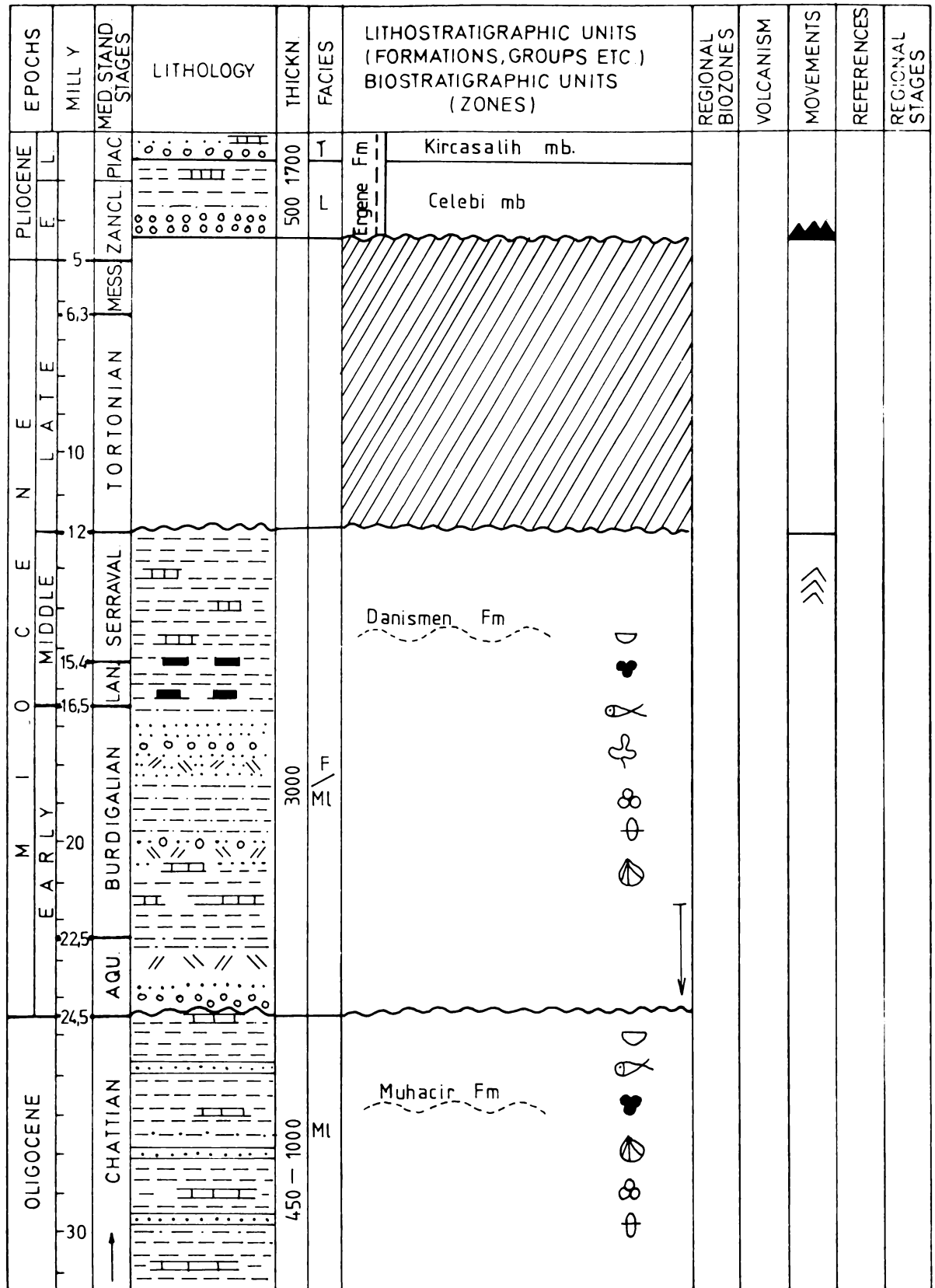
Authors: J. A. WRIGHT & H. BEER

Area No. 50 b: N THRACE, TR

EPOCHS	PLIOCENE		MILL Y	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
OLIGOCENE	EARLY	MIDDLE	24.5	AQU.		0 / 350	B	Danismen Shale					
			22.5	BURDIGALIAN									
OLIGOCENE	LATE	MIDDLE	16.5	LAN. SERRAVAL				Cöpköy Fm					
			15.4	LAN. SERRAVAL									
OLIGOCENE	LATE	MIDDLE	6.3	MESS. ZANCL. PIAC.		20 / 600	T	Kircasalih Fm Celebi Fm					
			5	MESS. ZANCL. PIAC.									

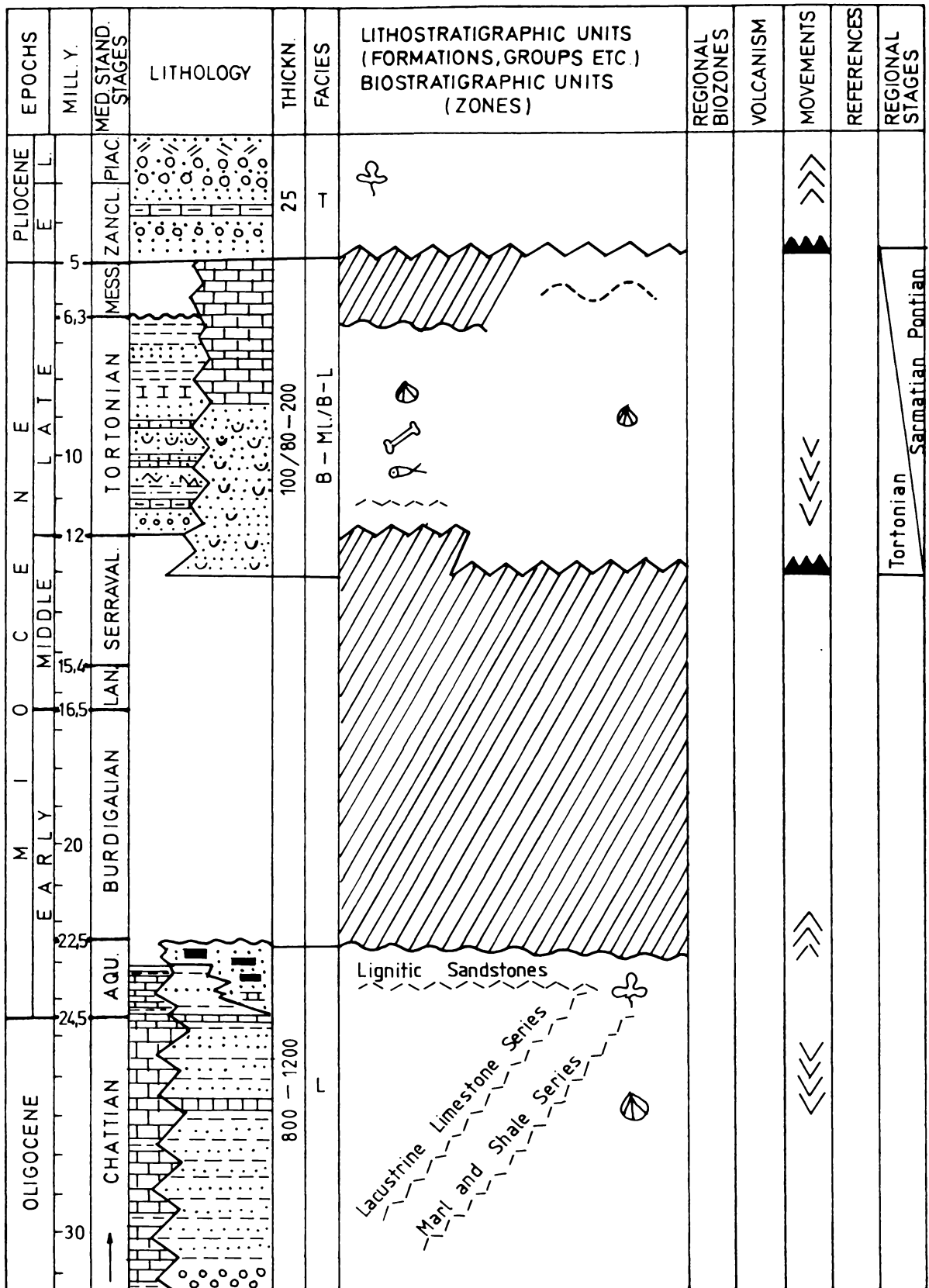
Authors: C. KESKIN

Area No. 50 c: CENTRAL ERGENE BASIN, TR



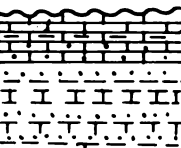
Authors: H. DOUST & Y. ARIKAN

Area No. 50 d 1: SW THRACE, TR




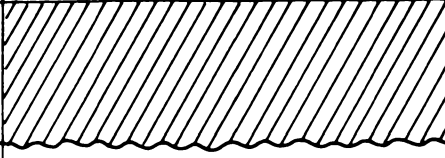

Author: Z. TERNEK

Area No. 50 d 2: SW THRACE, TR

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.	MED. STAND. STAGES									
	5	MESS. ZANCL. PIAC.									
	6.3										
	10	TORTONIAN									
	12	SERRAVAL.		1100-1400	M B						
	15.4										
	16.5	LAN.									
	20	BURDIGALIAN									
	22.5										
	24.5	AQU.									
OLIGOCENE	30	CHATTIAN									
											SARMATIAN I

Author: S. ÖRCEN

Area No. 50 e 1: GELIBOLU, TR

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
			5	MESS. ZANCL. PIAC.		50	B	 	Paradacna Cyprideis				
			6.3										
			10	TORTONIAN									
			12										
			15.4	SERRAVAL									
			16.5										
			20	BURDIGALIAN									
			22.5										
			24.5	AQU.									
OLIGOCENE			30	CHATTIAN									

Authors: L. BENDA & al.

Area No. 50 e 2: ECEABAT, TR

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.	MED. STAND. STAGES									
	5	MESS. ZANCL. PIAC.					Cyprideis				
	6.3										
	10	TORTONIAN		140	B		Macra				
	12										
	15.4	LAN. SERRAVAL.									
	16.5										
	20	BURDIGALIAN									
	22.5										
	24.5	AQU.									
OLIGOCENE	30	CHATTIAN									

Authors: L. BENDA & al.

Area No. 50 e 3: ILYAS BURUN, TR

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
OLIGOCENE	MIDDLE	LATE	5	MESS. ZANCL. PIAC.		27	B		Cyprideis				
			6.3	TORTONIAN									
	EARLY		10										
			12										
			15.4										
			16.5										
			20										
			22.5										
			24.5										
			30										

Authors: L. BENDA & al.

Area No. 50 e 4: GELIBOLU PENINSULA, TR

EPOCHS	MILL. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	PLIOCENE	MESSENIAN										
OLIGOCENE	MIDDLE	30		300	B	Kilitbahir Fm. ?						
		24.5										AQU.
		22.5										BURDIGALIAN
MIOCENE	EARLY	20										
		16.5										LAN.
		15.4										SERRAVAL.
MIOCENE	MIDDLE	12										
		10										TORTONIAN
		6.3										MESSENIAN
PLIOCENE	LATE	5		300	B	Kilitbahir Fm. ?						
		135		B	Eceabat Fm.							
		410		L	Gelibolu Fm.							

Author: G. TANER

Area No. 50 f 1: CANAKKALE – INTEPE, TR

EPOCHS	PLIOCENE		MILL. Y.	MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	E	L											MESS ZANCL. PIAC.	CHER-SONIAN
OLIGOCENE														
EARLY			245						Kizilirmas macro					
	CHATTIAN													
	AQU.		225											
	BURDIGALIAN		20											
	LANI		16.5											
MIDDLE			15.4											
	SERRAVAL.													
			12											
LATE			10			105								
	TORTONIAN													
PLIOCENE			6.3											
			5											

Authors: L. BENDA & al.

Area No. 50 f 3: EZINE - GÜLPINAR, TR

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	E	L											Vallesian	Turolian
			5	MESSANCL. PIAC.		60	B							
			6.3											
	N E L A T E		10	TORTONIAN		200	T/F		NM12 NM11 NM10 NM9		<<<			
			12											
	C E N T R A L		15.4	SERRAVAL										
			16.5											
	O M I D D L E		20	BURDIGALIAN				BASIC EFFUSIVE						
			22.5											
	E A R L Y		24.5	AGU										
OLIGOCENE			30	CHATTIAN										

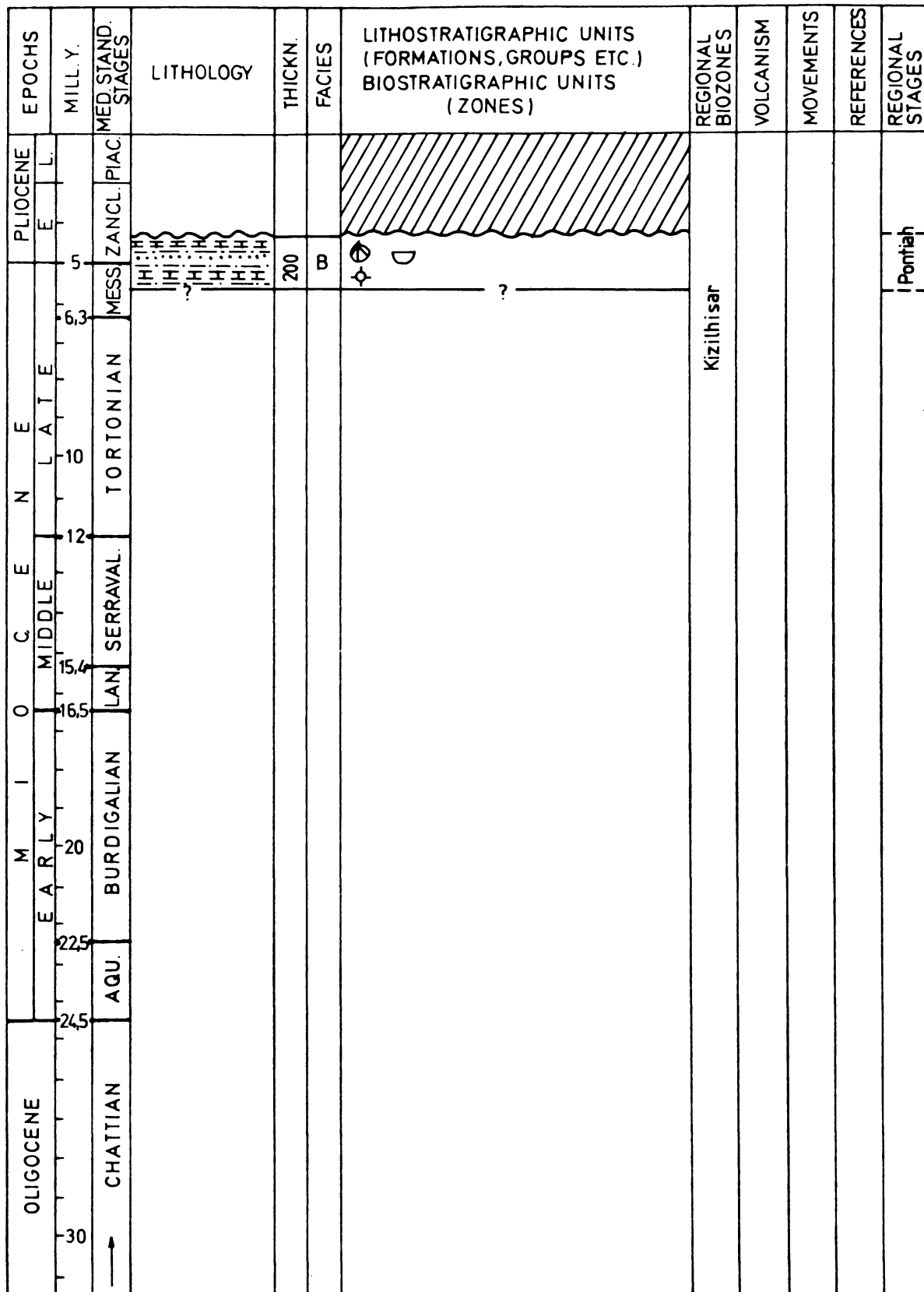
Authors: L. BENDA & al.

Area No. 51 a: ISTANBUL - AMBARLIKÖY, TR

EPOCHS		MILL. Y.		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.)	BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	MIOCENE	PLIOCENE												
30	24.5	24.5	22.5											
	EARLY													
	CHATTIAN													
	20													
	BURDIGALIAN													
	16.5													
	LAN													
	SERRAVAL													
	15.4													
	MIDDLE													
	12													
	10													
	LATE													
	6.3													
	TORTONIAN													
	5													
	MESS													
	ZANCL.													
	PIAC.													
	20 - 35													
	B/T													
	Kizilhisar													
	Mactra													
	Cypridels													
	CHERSO-													
	INIAN													

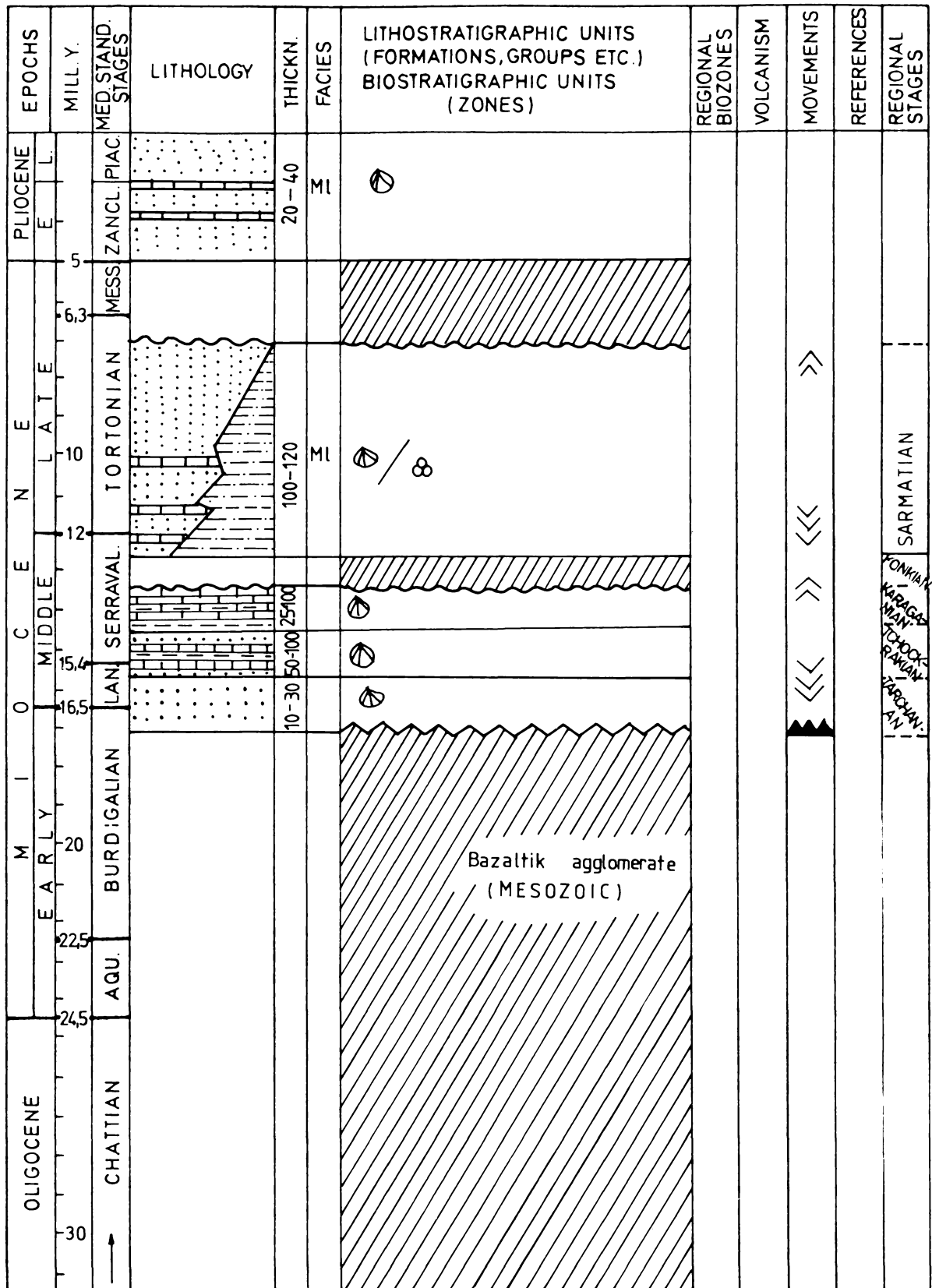
Authors: L. BENDA & al.

Area No. 51 b: ISTANBUL – KARAMÜRSEL, TR



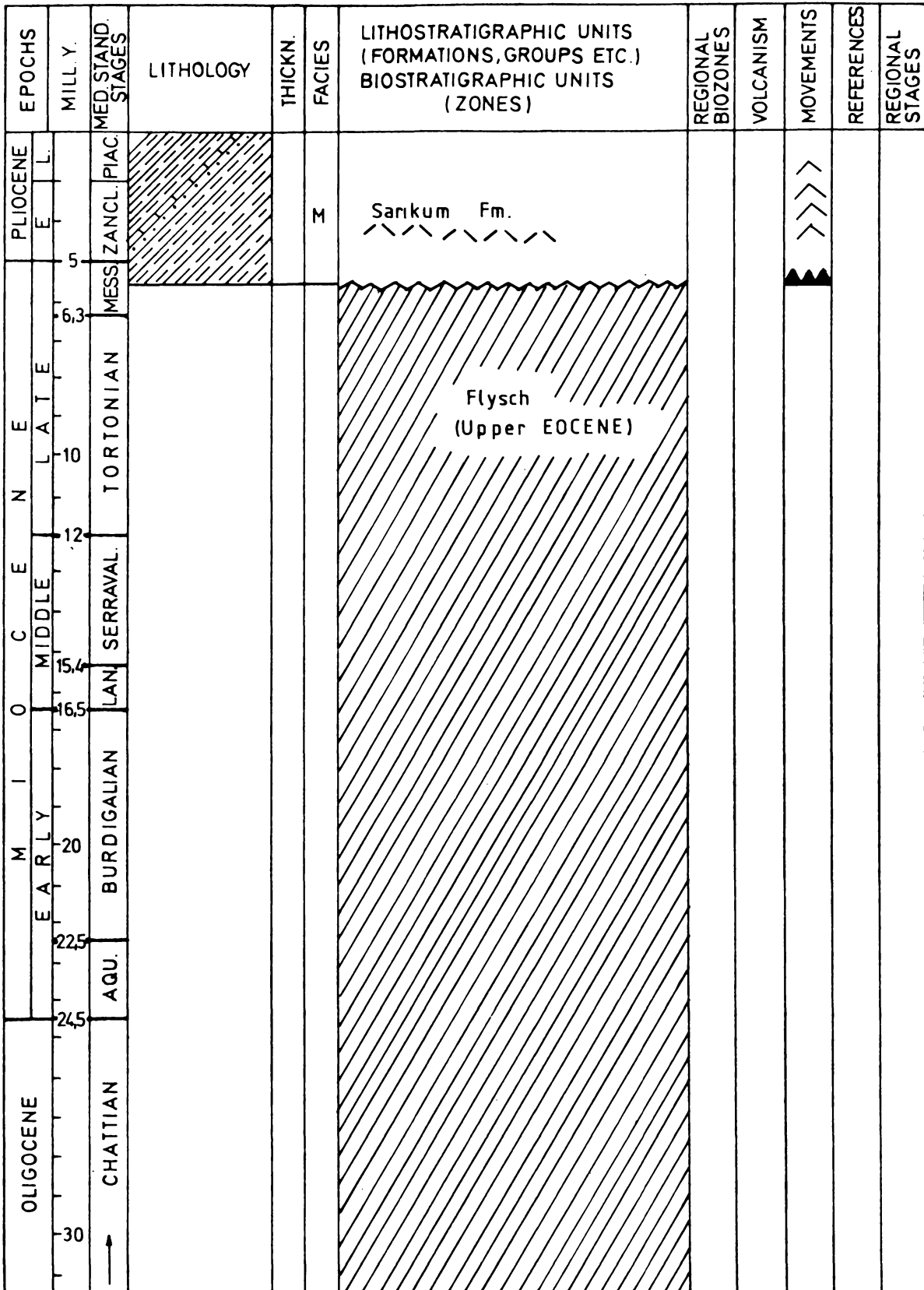
Authors: L. BENDA & al.

Area No. 52 a 1: SINOP, TR



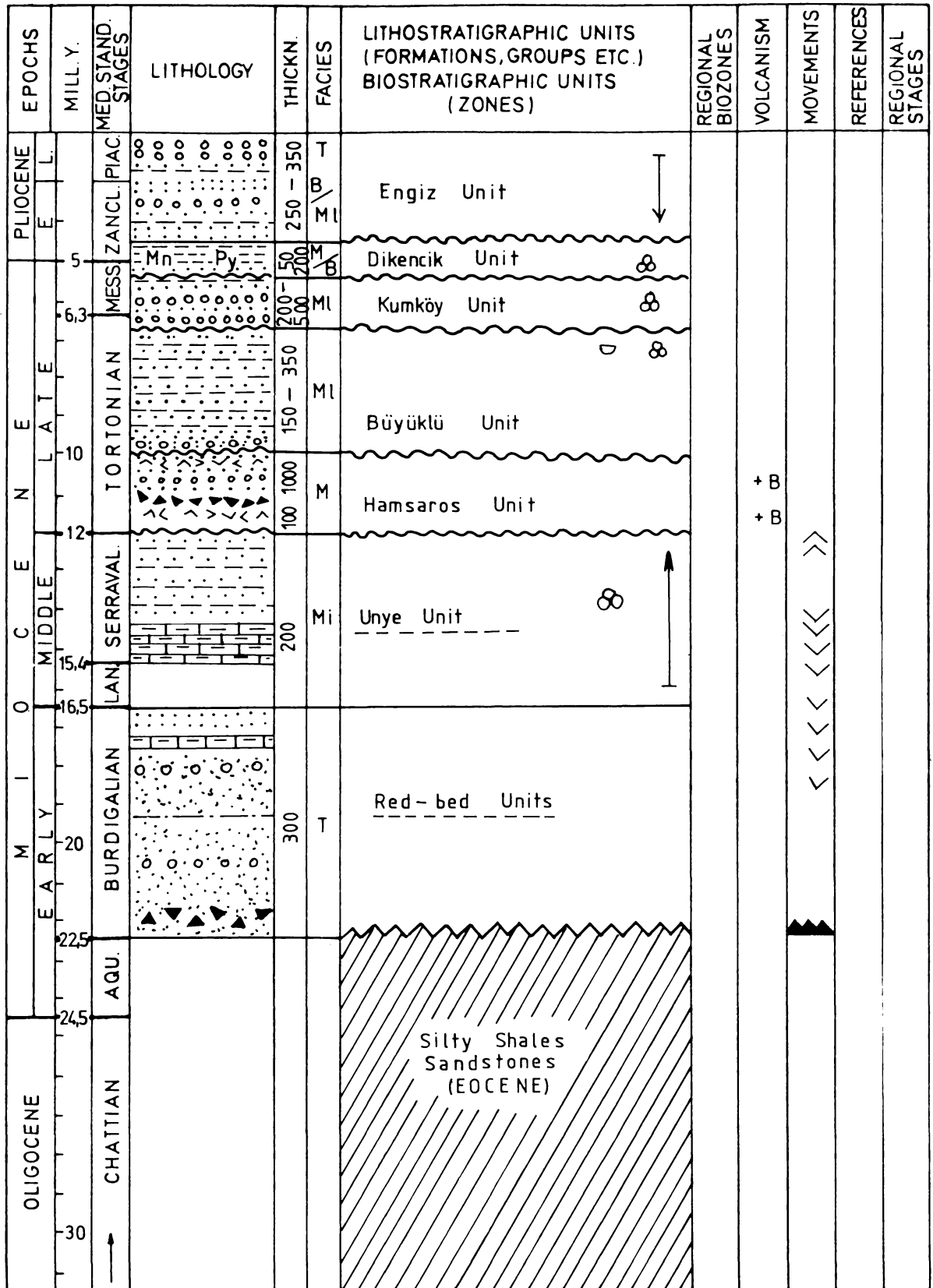
Author: T. Y. ÖZSAYAR

Area No. 52 a 2: SINOP, TR



Author: R. B. GAYLE

Area No. 52 b 1: CARSAMBA – BAFRA, TR



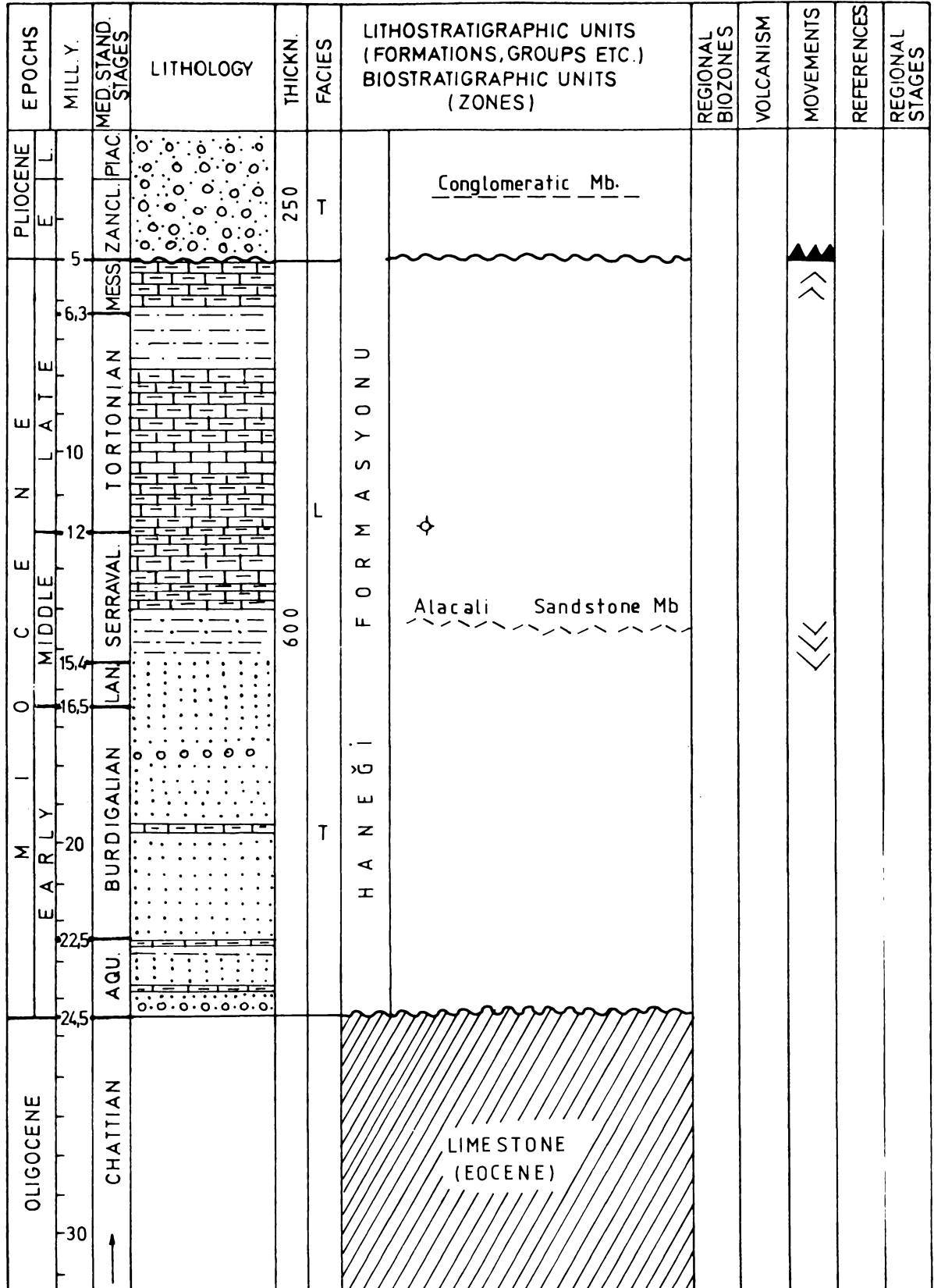
Author: S. ÖZBEY

Area No. 52 b 2: BAFRA, TR.

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.)	BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	5	MESSANCIAN	?	20-30	B		?					PONTIAN
	6,3	TORTONIAN	?									
	10											
	12	SERRAVAL										
	15,4											
	16,5	LANCIGALIAN										
	20	BURDIGALIAN										
	22,5	AQU.										
	24,5											
	30	CHATTIAN										

Authors: I. YALCINLAR & T. Y. ÖZSAYAR

Area No. 52 c: GİRESUN, TR



Author: T. Y. ÖZSAYAR

Area No. 52 d 1: TRABZON, TR

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
OLIGOCENE	MIDDLE	LATE	5	MESS. ZANCL. PIAC.		30-100	M						IPON-TIAN
			6.3										
			10										
			12										
			15.4										
MIDDLE	EARLY	BURDIGALIAN	16.5	LAN. SERRAVAL.		10-20	M					KON-KIAN	
			20										
			22.5										
			24.5										
EARLY	CHATTIAN	AQU.	30										

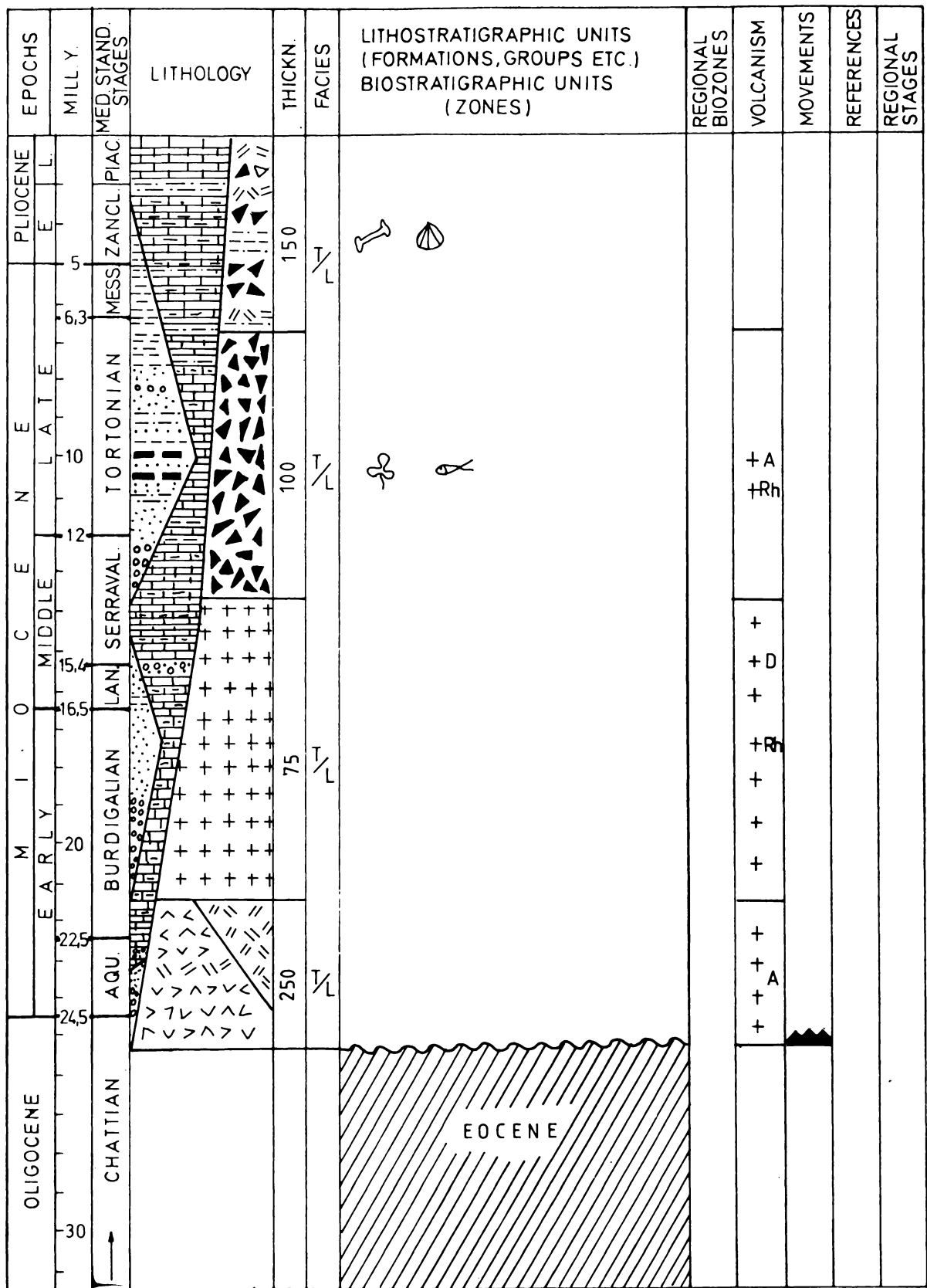
Author: T. Y. ÖZSAYAR

Area No. 52 d 2: TRABZON – PAZAR, TR

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.	MED. STAND. STAGES									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.		15	M	Dacite (UPPER CRETACEOUS)					VOLHY- NIAN
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									
OLIGOCENE	E	L.									

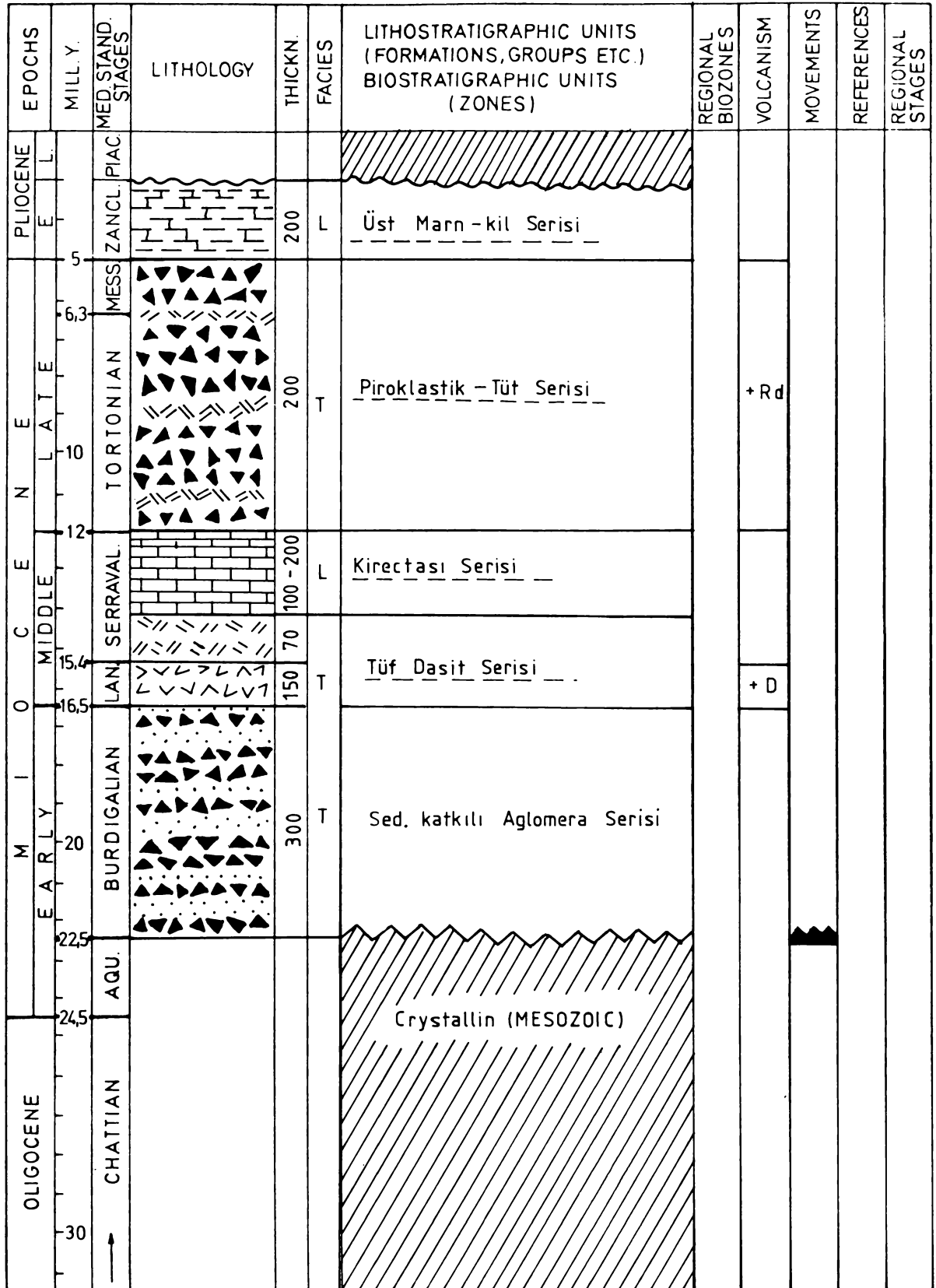
Author: T. Y. ÖZSAYAR

Area No. 53 a: CAN-BIGA, TR



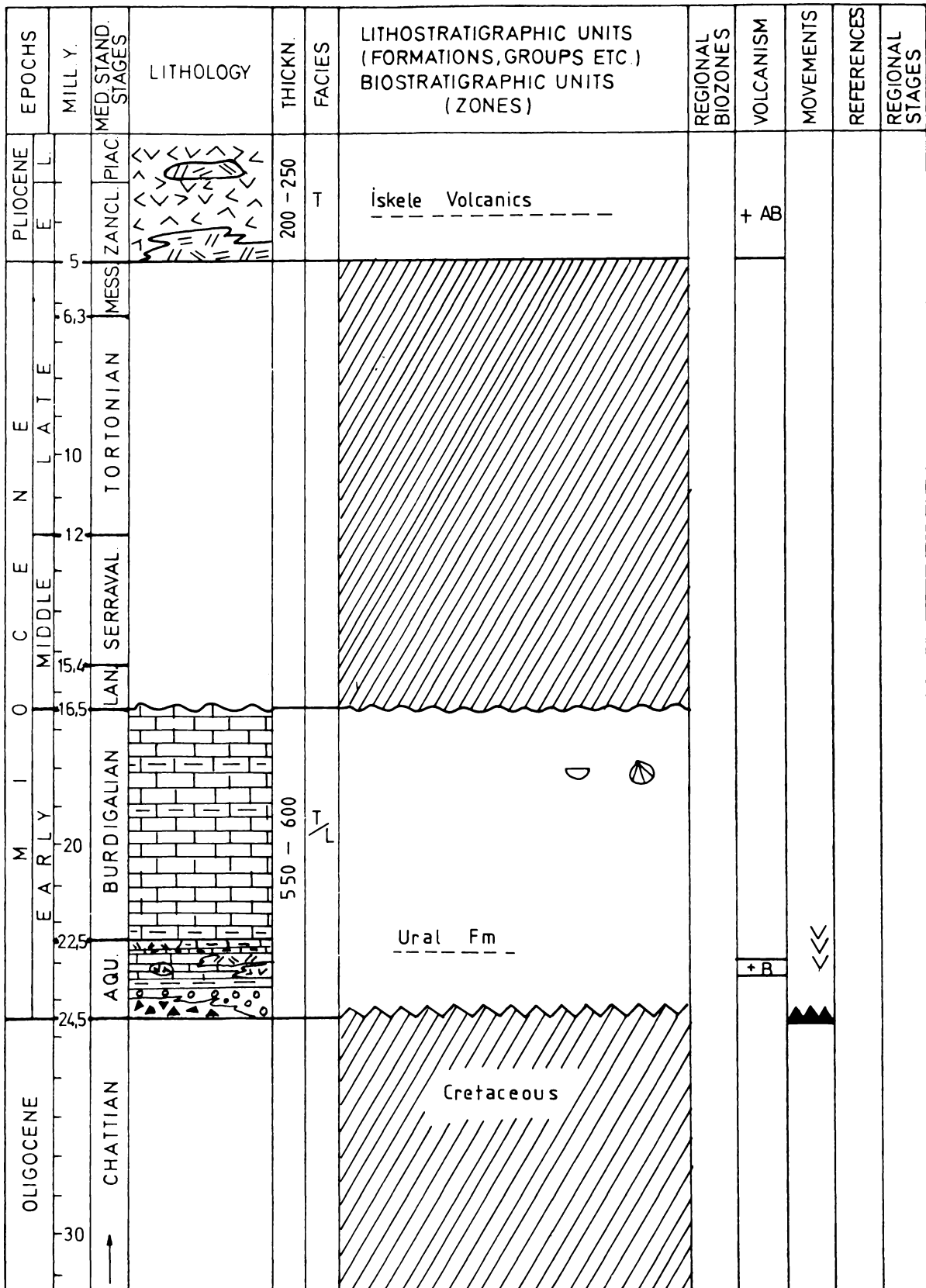
Authors: E. BINGÖL & al.

Area No. 53 b: BALIKESIR, TR



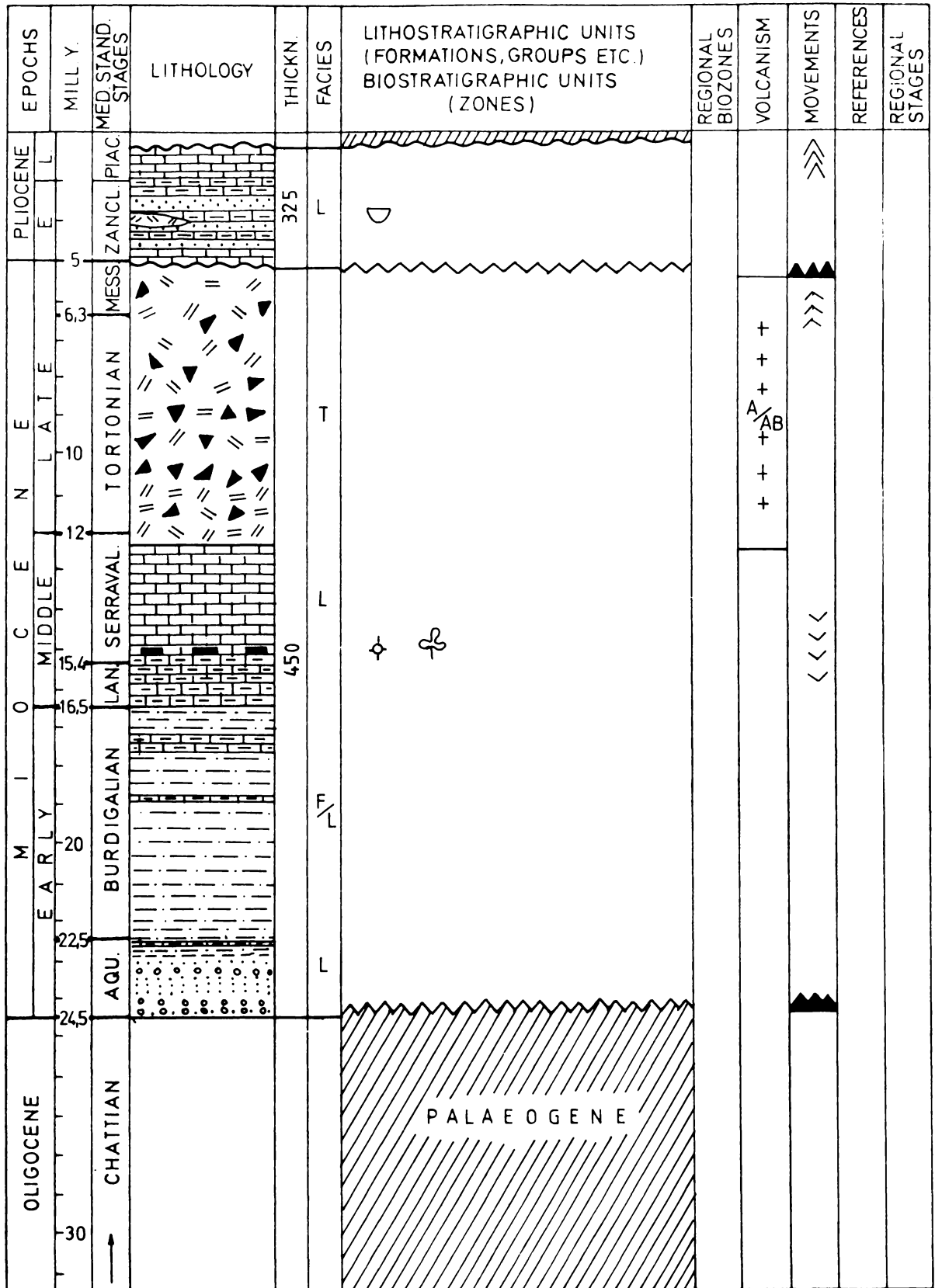
Authors: E. IZDAR & U. KÖKTÜRK

Area No. 54: IZMIR -- URLA, TR



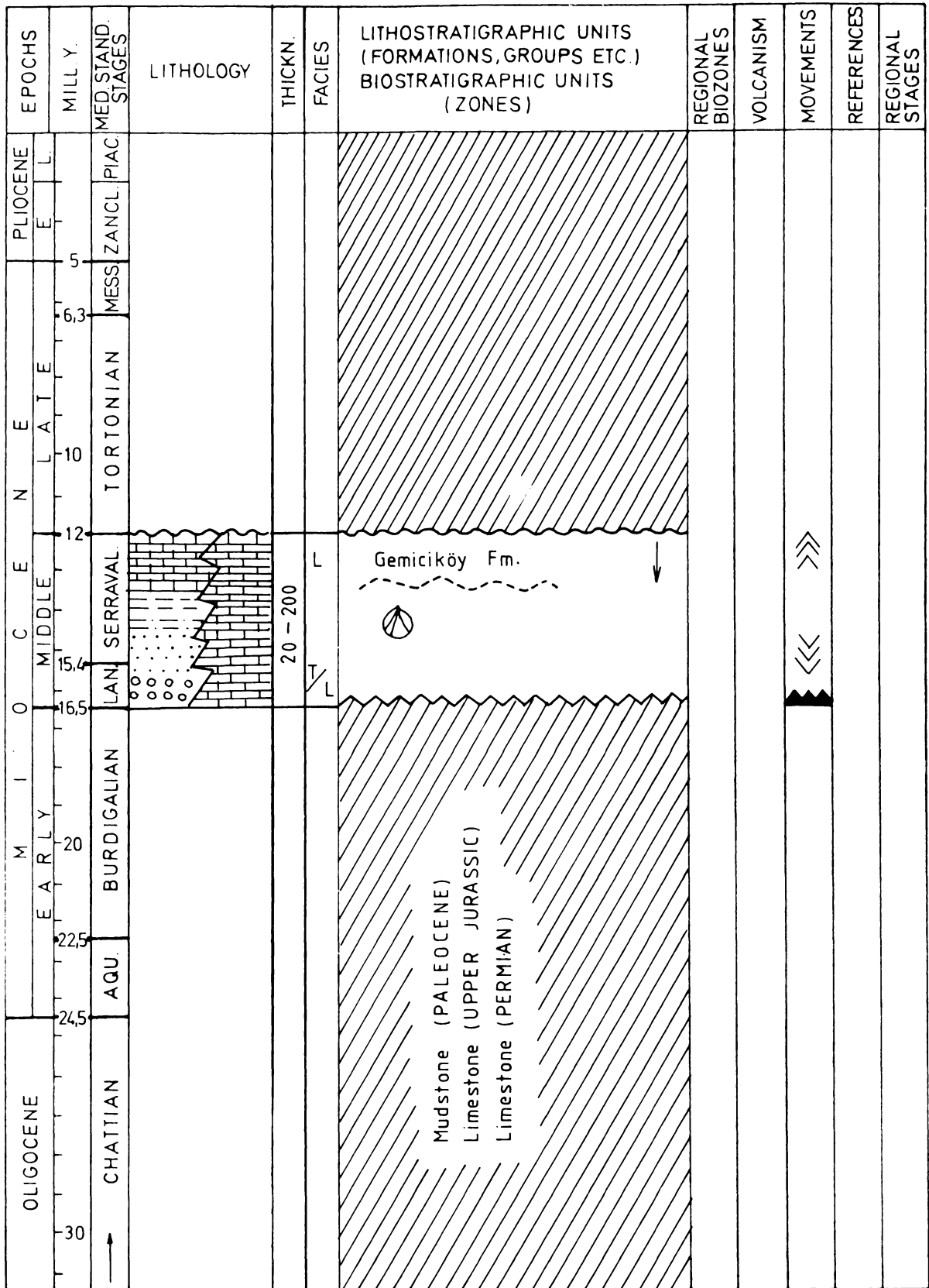
Author: T. ÖNGÜR

Area No. 55: HARMANCIK, TR



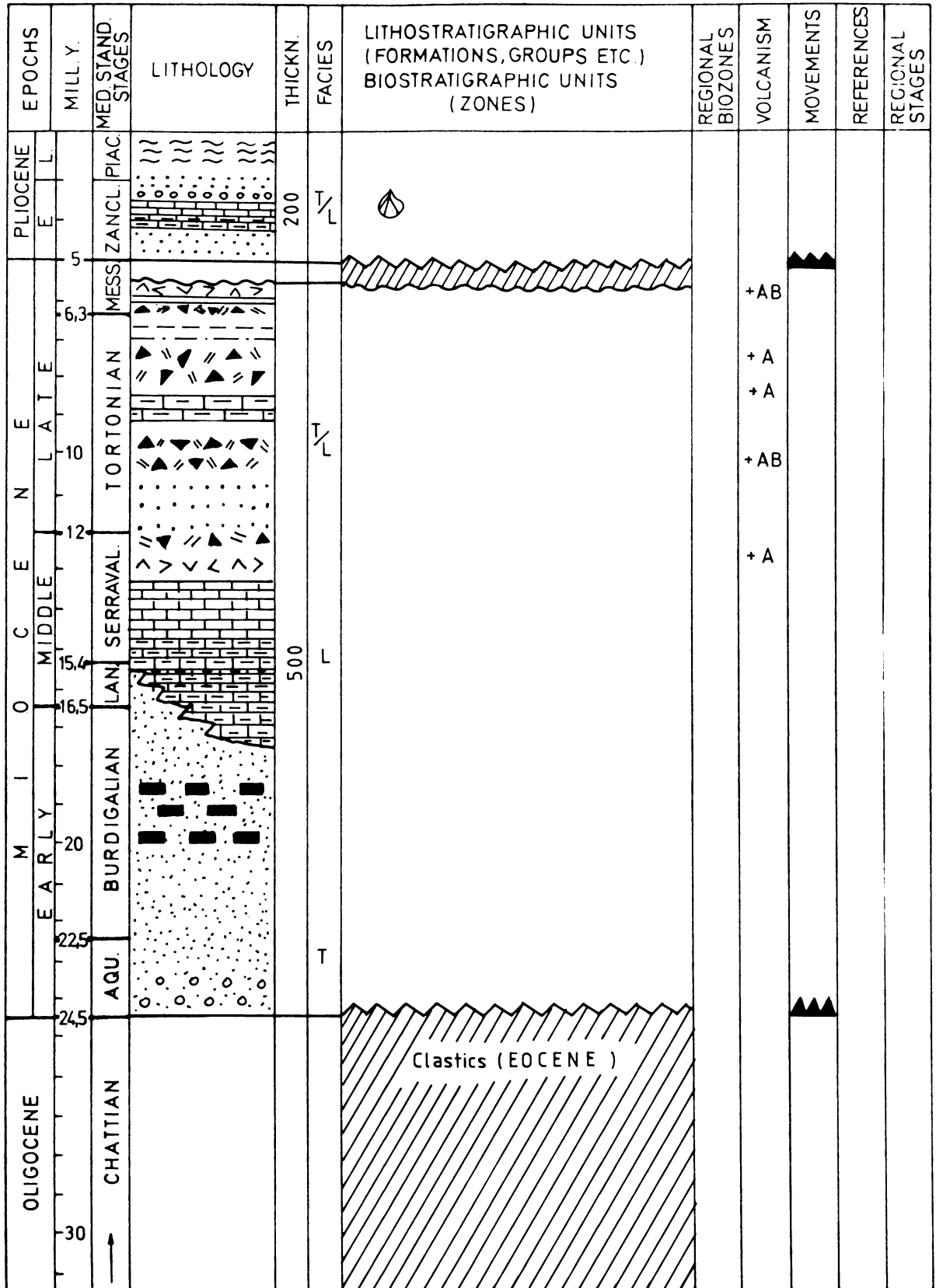
Authors: H. GÜN & al.

Area No. 56: CENTRAL SAKARYA, GÖLPAZARI, TR



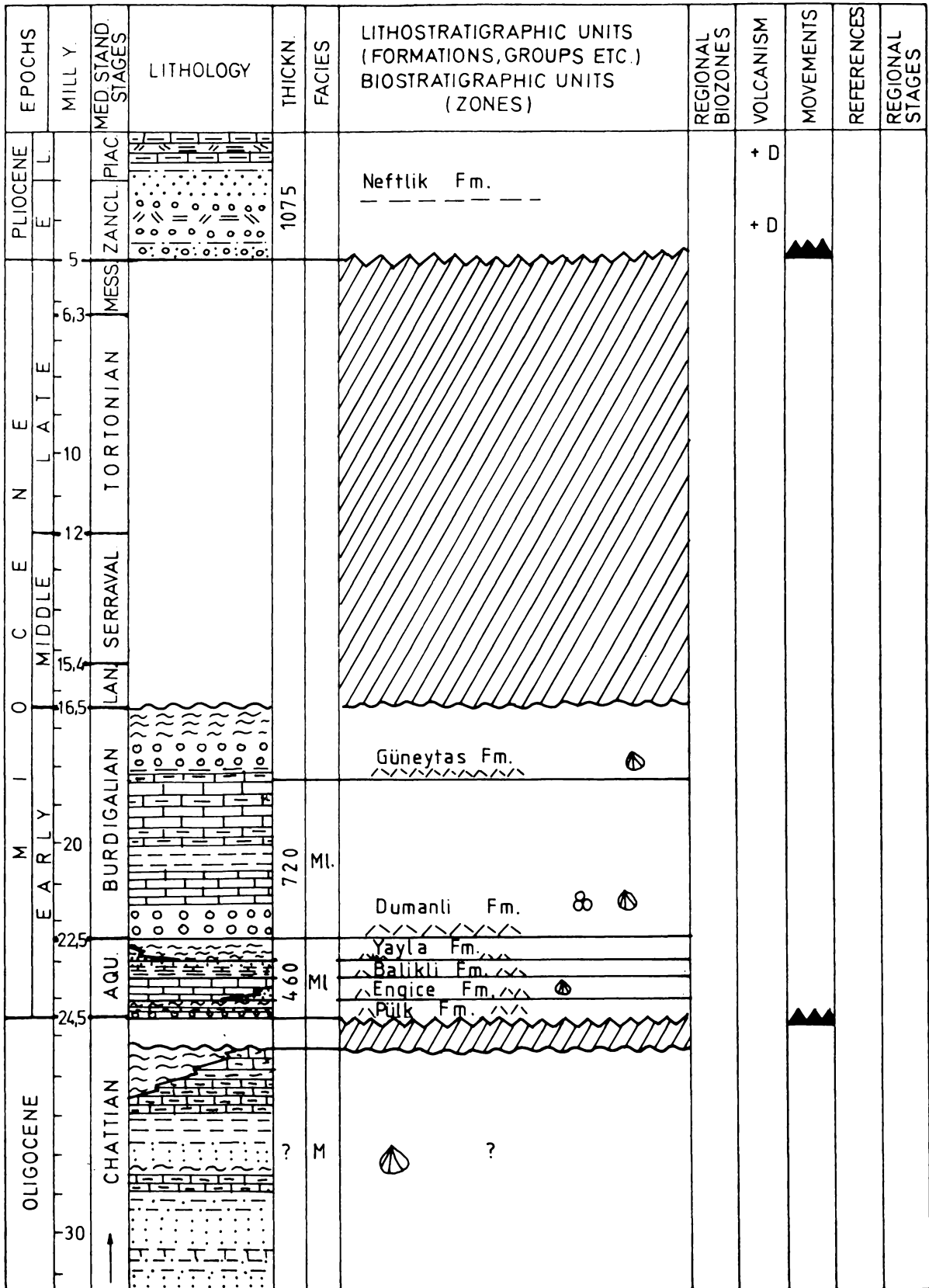
Authors: E. ALTINLI & S. O. EROSKAY

Area No. 57: BEYPAZARI – NALLIHAN, TR



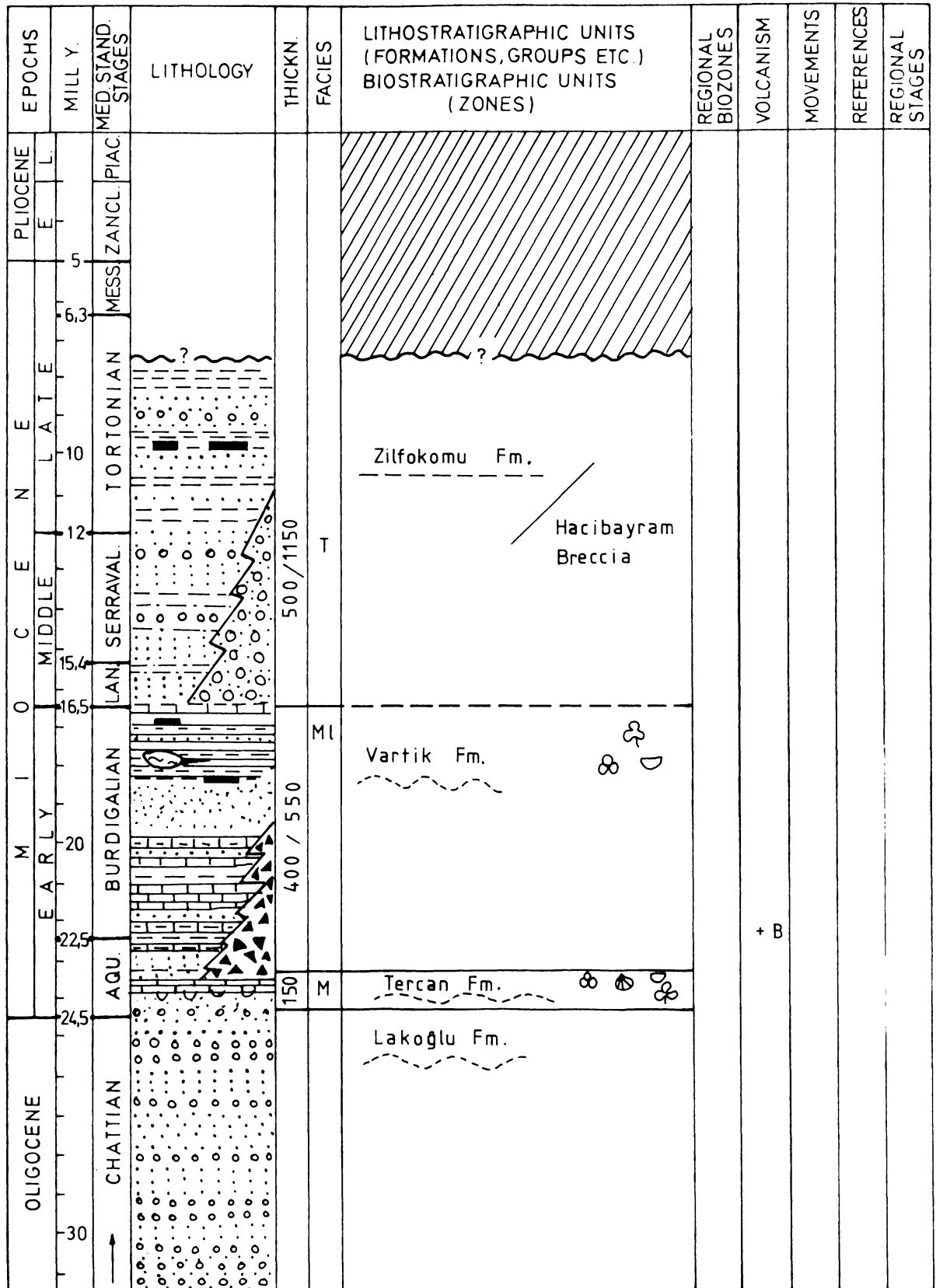
Authors: A. KALAFATCIOGLU & H. UYSALLI

Area No. 58 a: ERZINCAN – CAYIRLI, TR



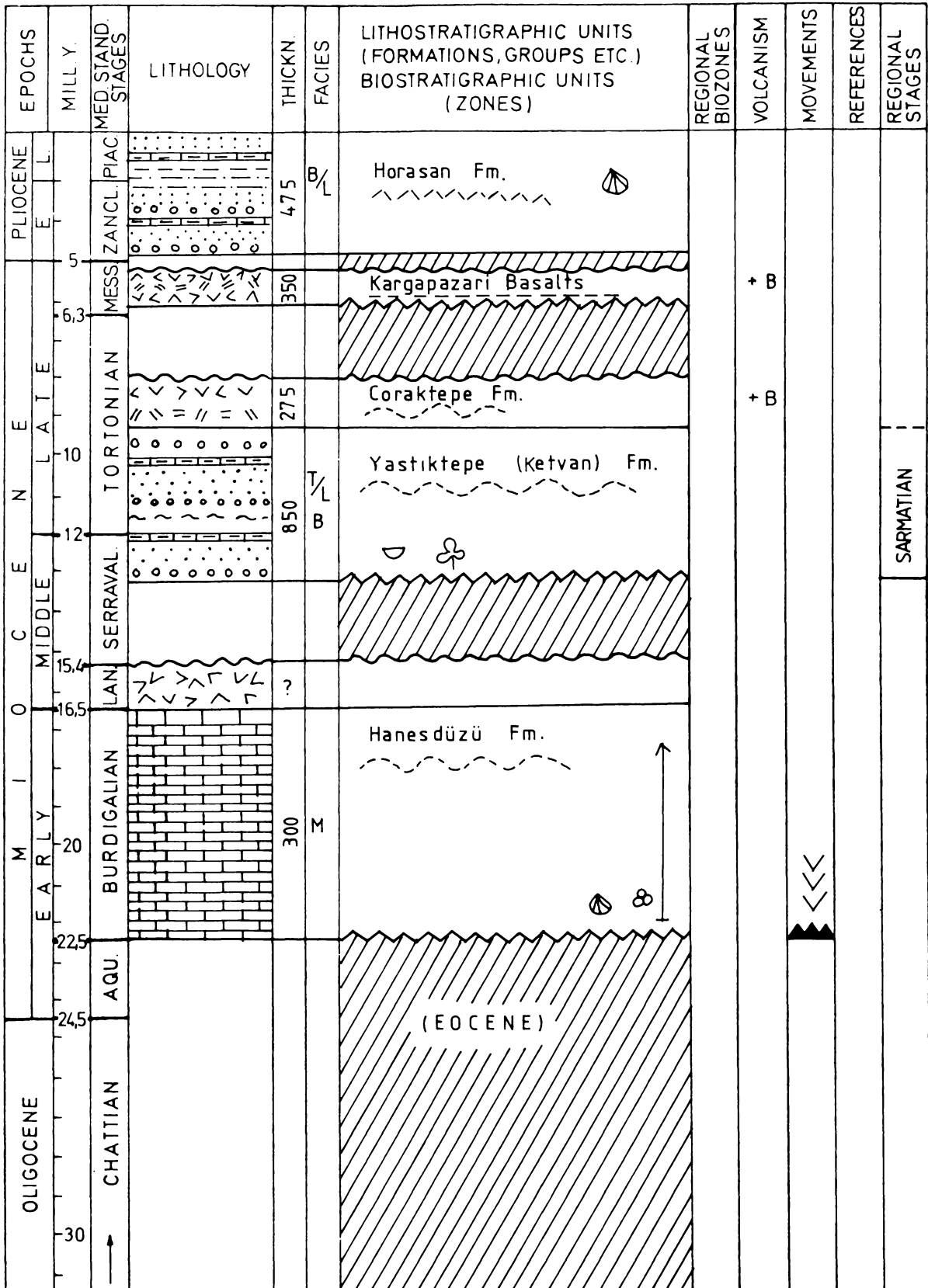
Author: E. ARPAT

Area No. 58 b: ERZINCAN – TERCAN, TR



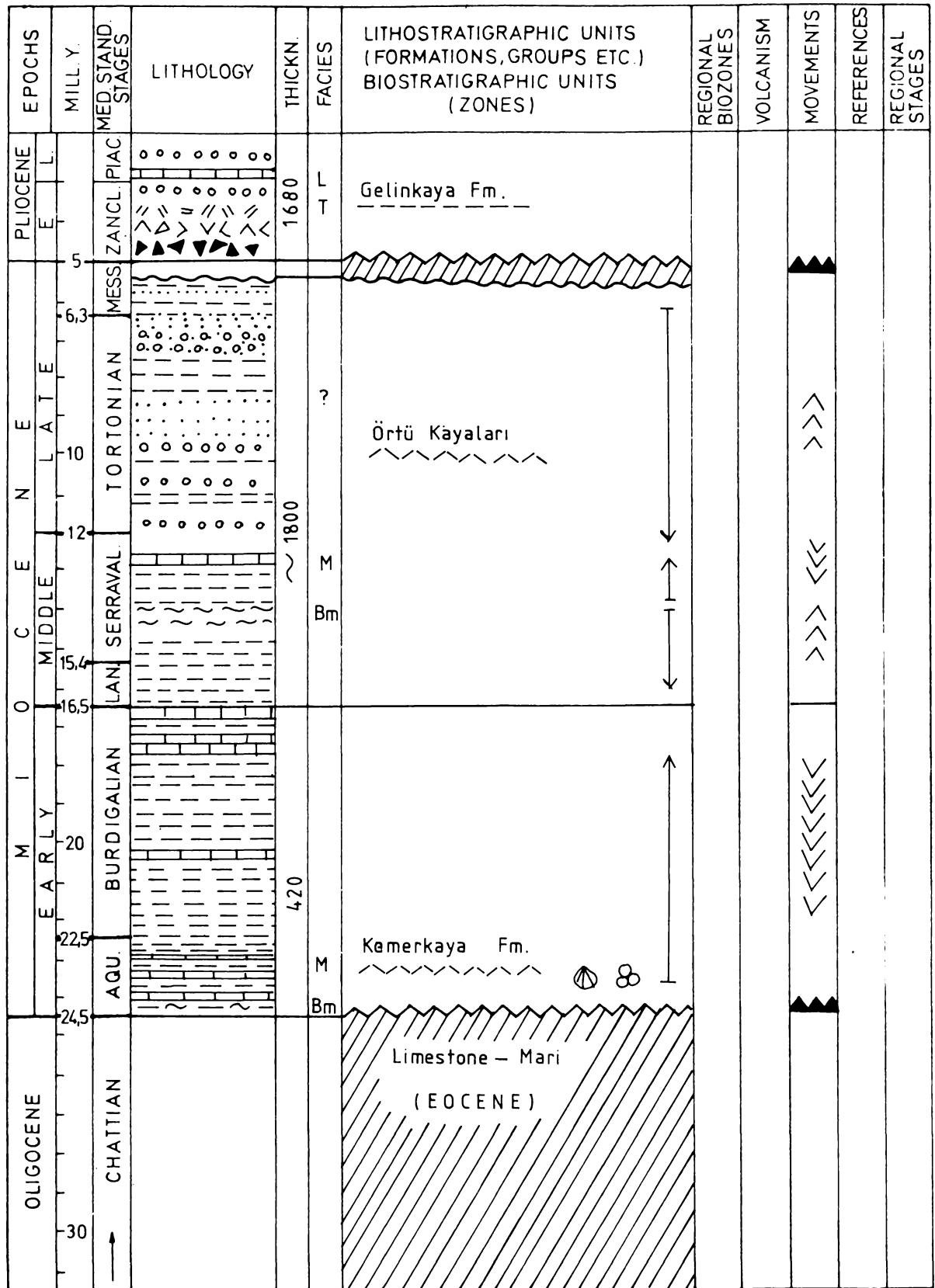
Author: C. PISONI

Area No. 58 c: ERZURUM – PASINLER, TR



Author: M. F. AKKUS

Area No. 58 d: ERZURUM - ASKALE, TR



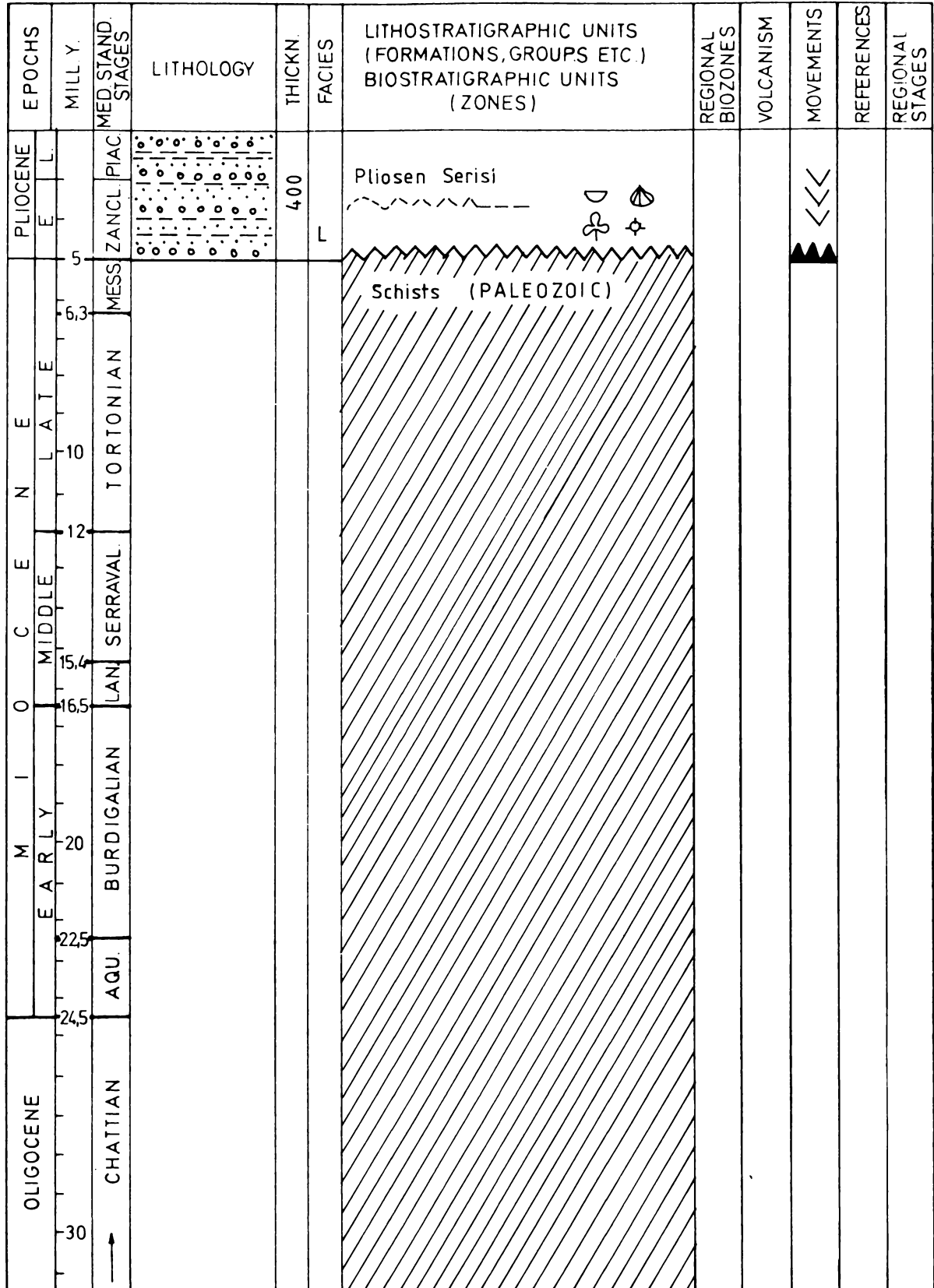
Author: E. ARPAT

Area No. 59 a: SALIHLI - ALASEHIR (MANISA), TR

EPOCHS		MILL. Y.		MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	E	L											
OLIGOCENE	MIDDLE	EARLY	24,5	AQU.									
	MIDDLE	EARLY	15,4	LAN. SERRAVAL.									
	LATE	5	6,3	MESS. ZANCL. PIAC.		860	L	Pliosen Serisi					
								Schists (PALEOZOIC)					

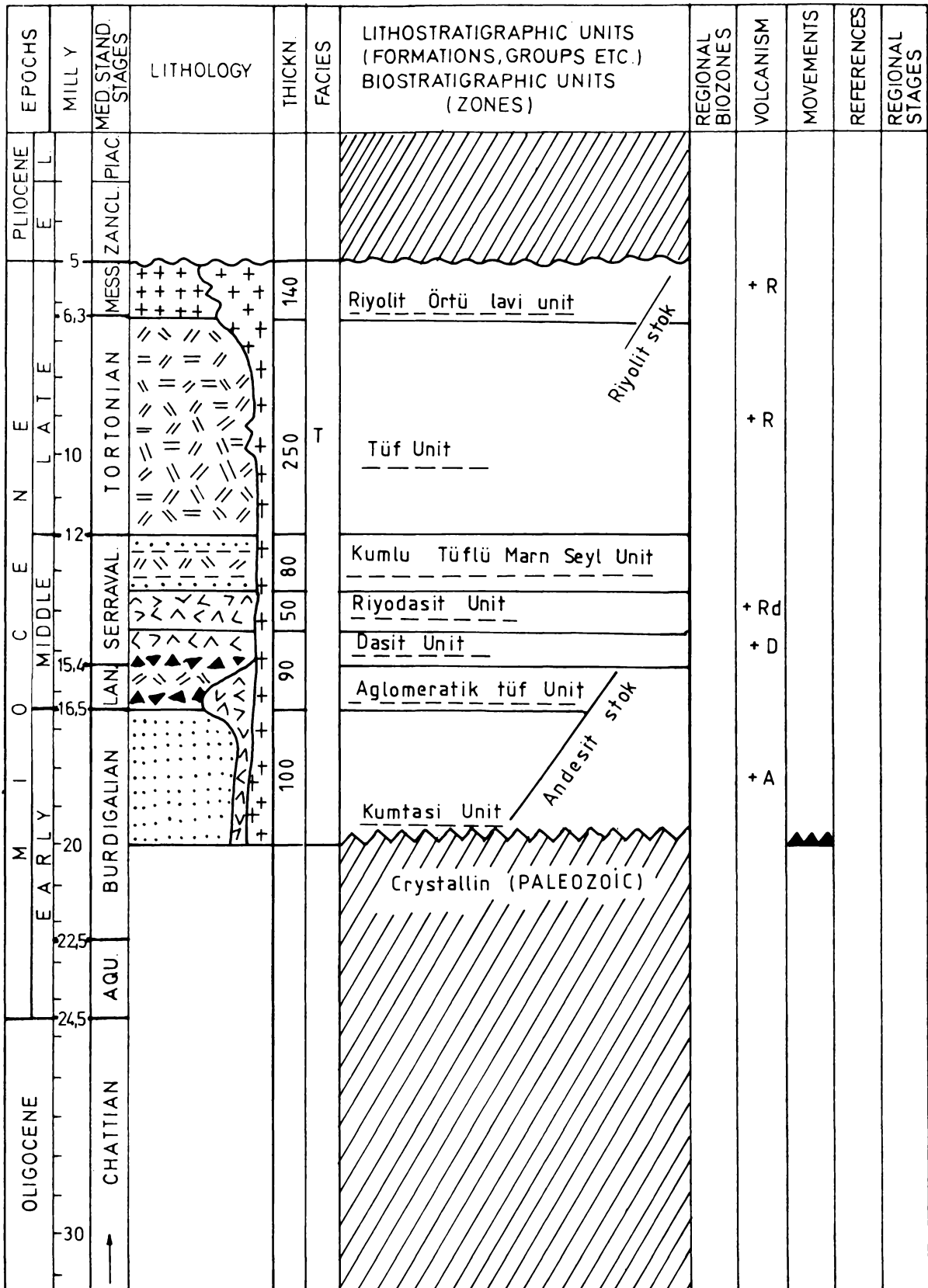
Authors: A. ÜNAL & E. HAVUR

Area No. 59 b: TURGUTLU – SALIHLI (MANISA), TR



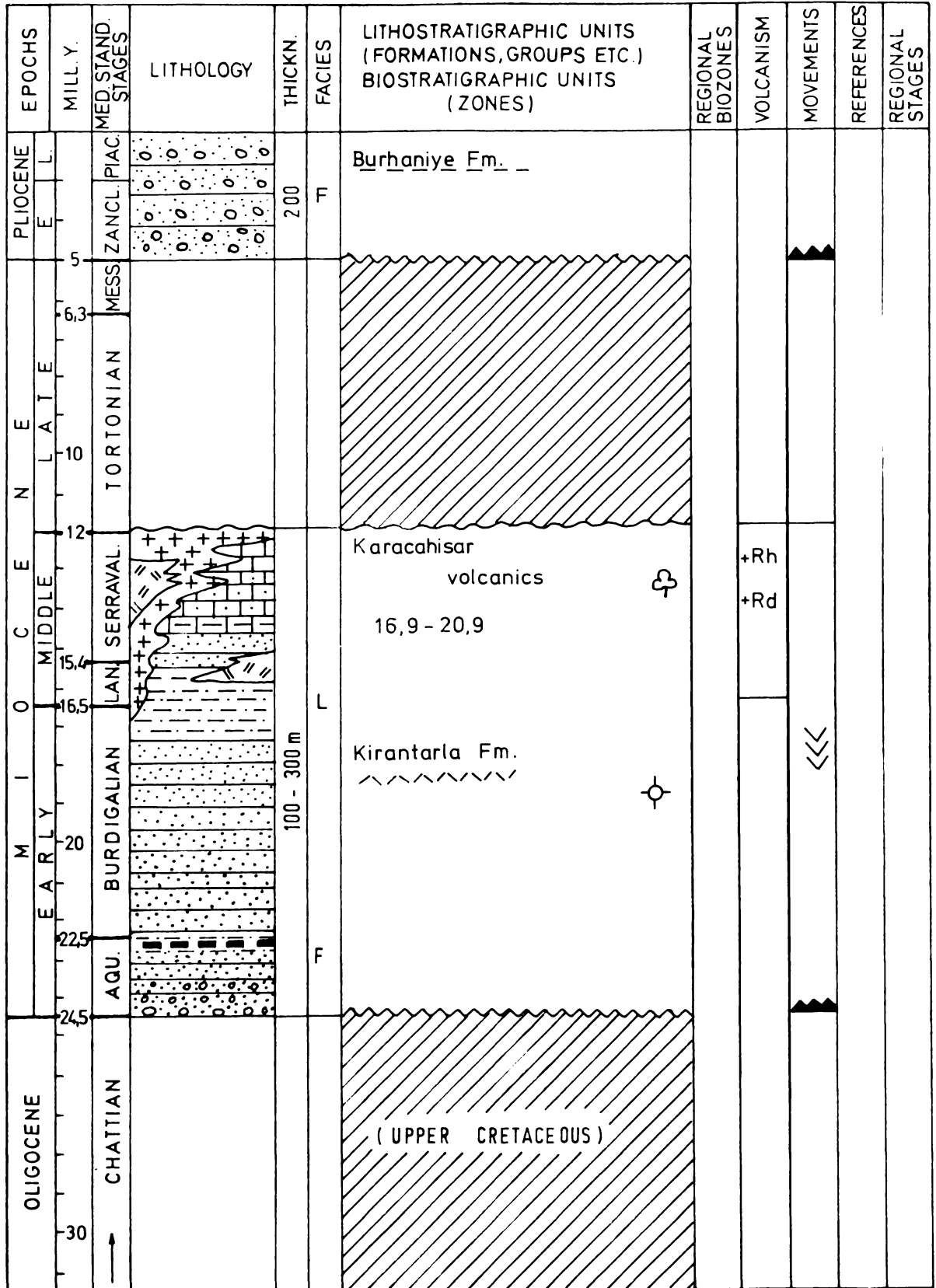
Author: I. H. KARAMANDERESI

Area No. 59 c: GÖRDES (MANISA), TR



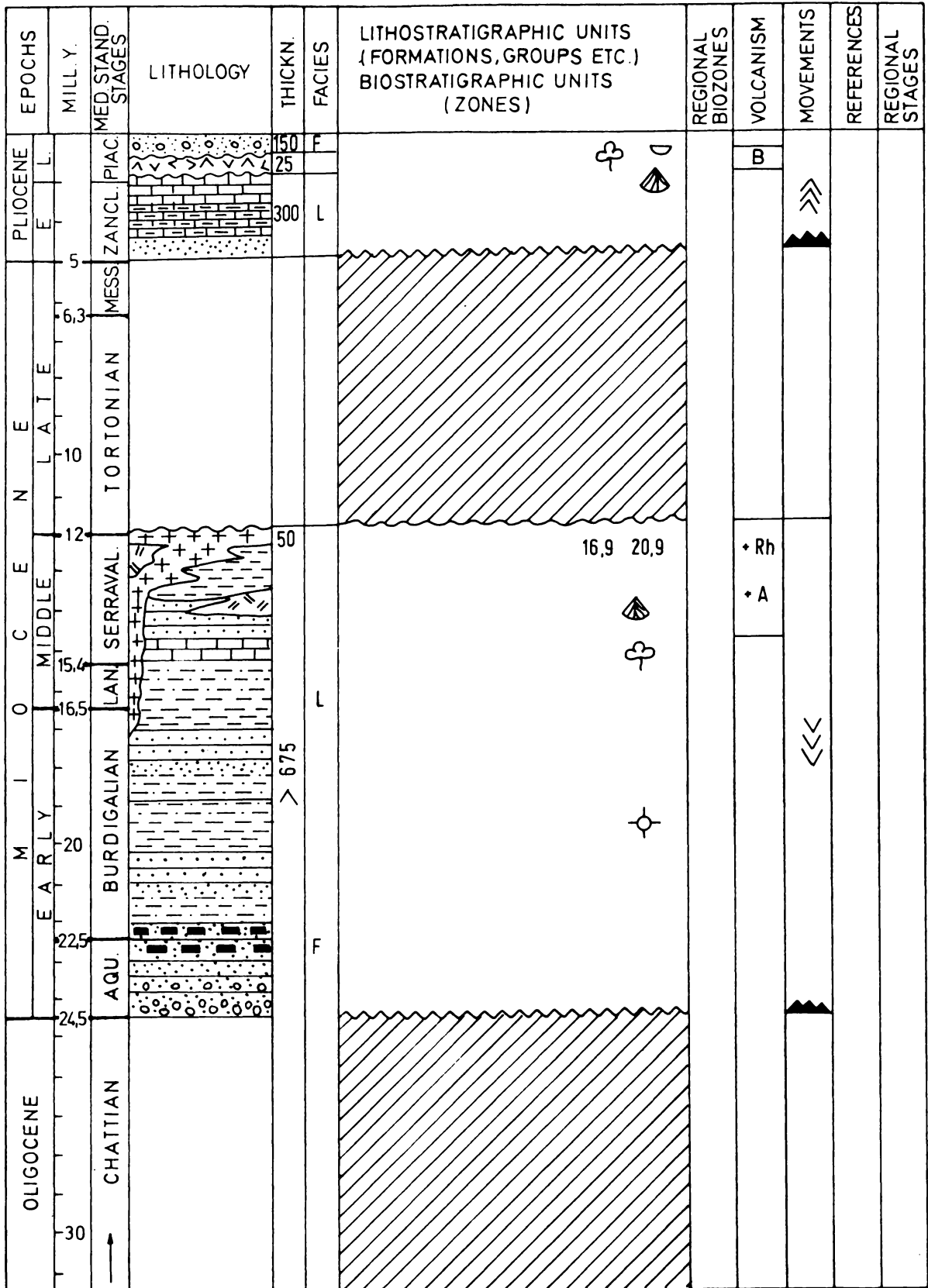
Author: H. YILMAZ

Area No. 60 a: MURATDAGI, TR



Author: E. BINGÖL

Area No. 60 b: GEDIZ, TR



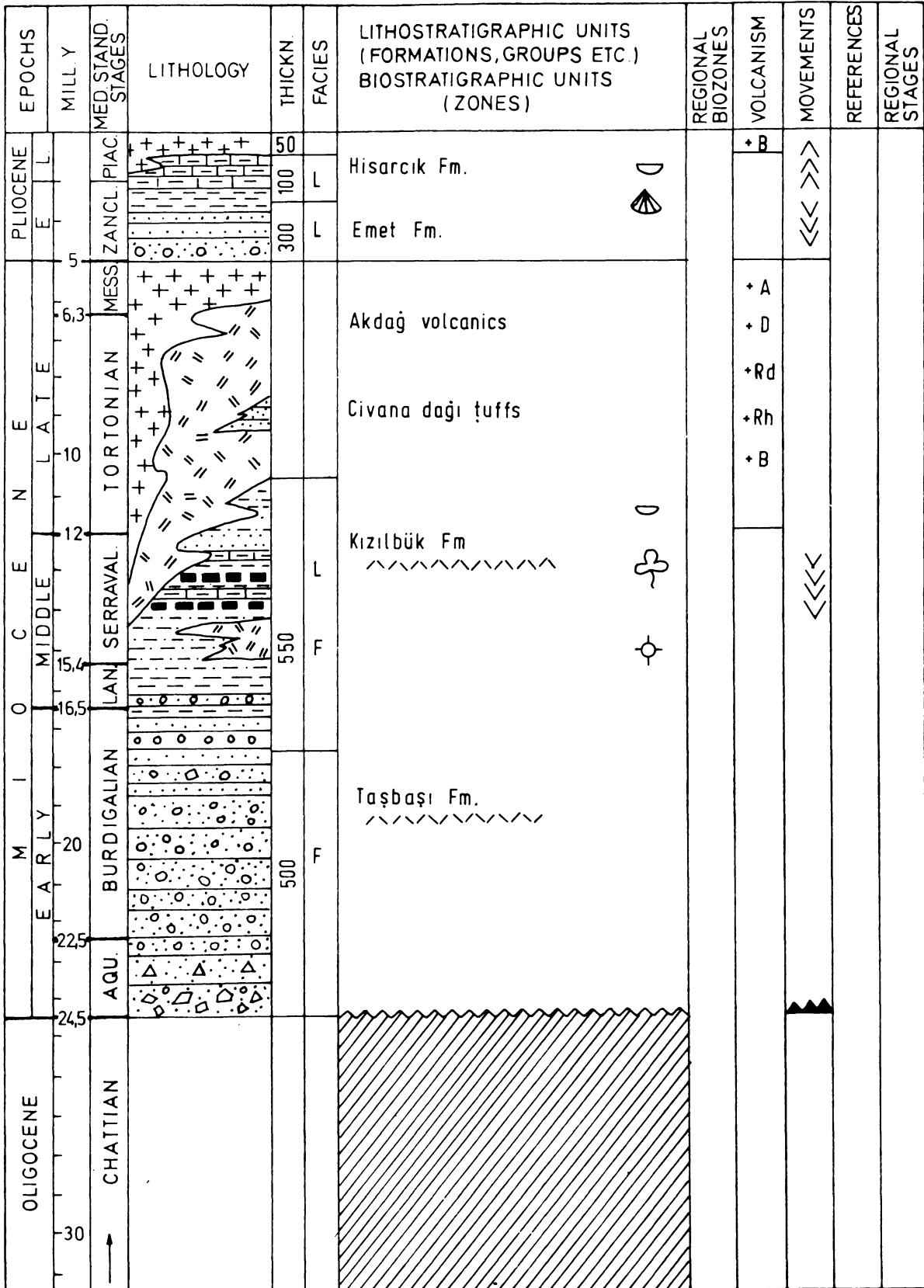
Author: H. GÜN

Area No. 60 c: KULA-ESME, TR

EPOCHS	PLIOCENE		MED. STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.											
	5		ZANCL. PIAC.		> 300	F						
	6,3		MESS.									
	10		TORTONIAN									
	12		SERRAVAL.									
	15,4		LAN.									
	16,5		BURDIGALIAN									
	20		AQU.									
	22,5											
	24,5											
OLIGOCENE	30		CHATTIAN									

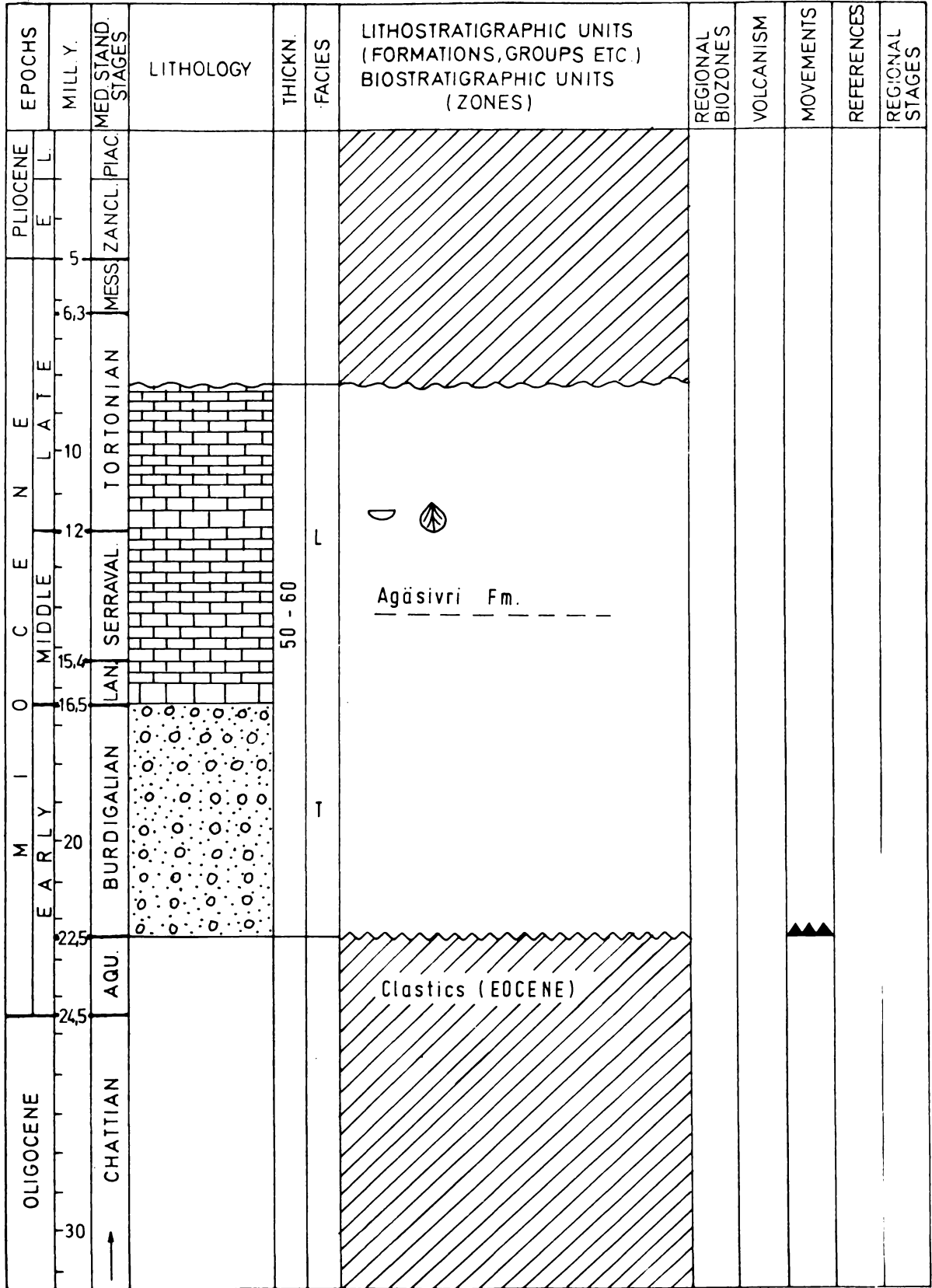
Author: H. GÜN

Area No. 60 d: N SIMAV, TR



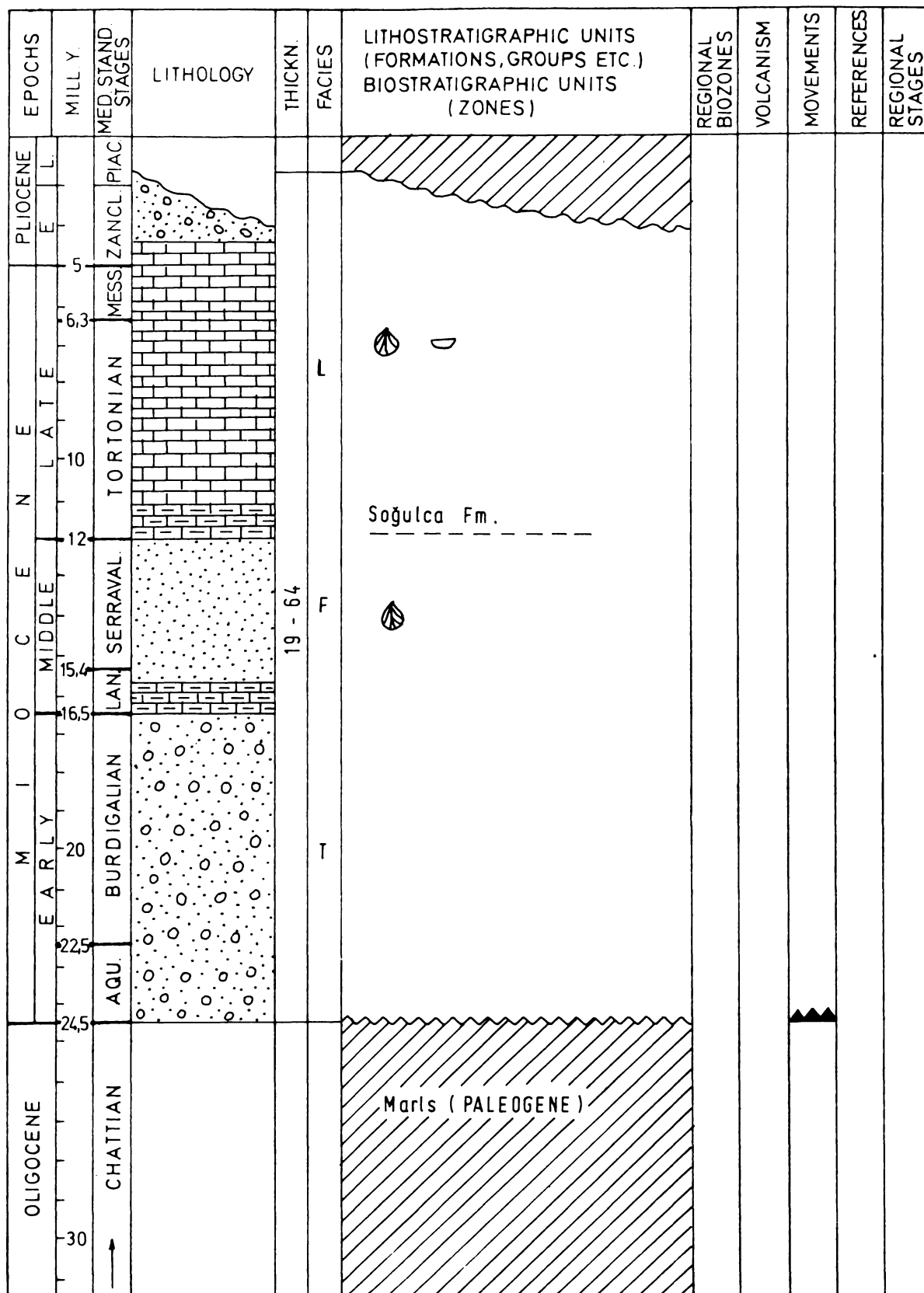
Authors: N. AKDENİZ & al.

Area No. 61 a: S POLATLI, TR



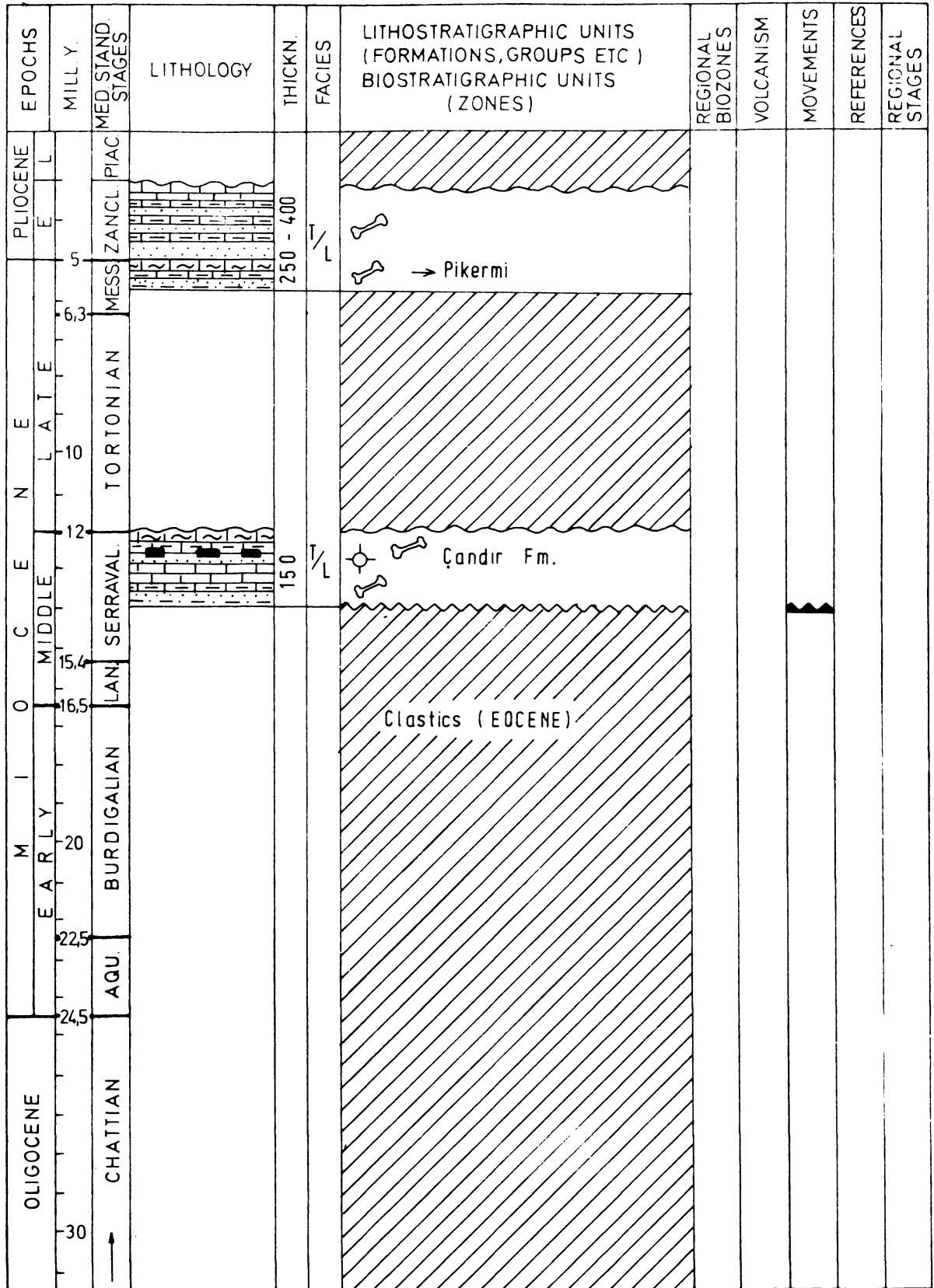
Author: E. SIREL

Area No. 61 b: S HAYMANA, TR



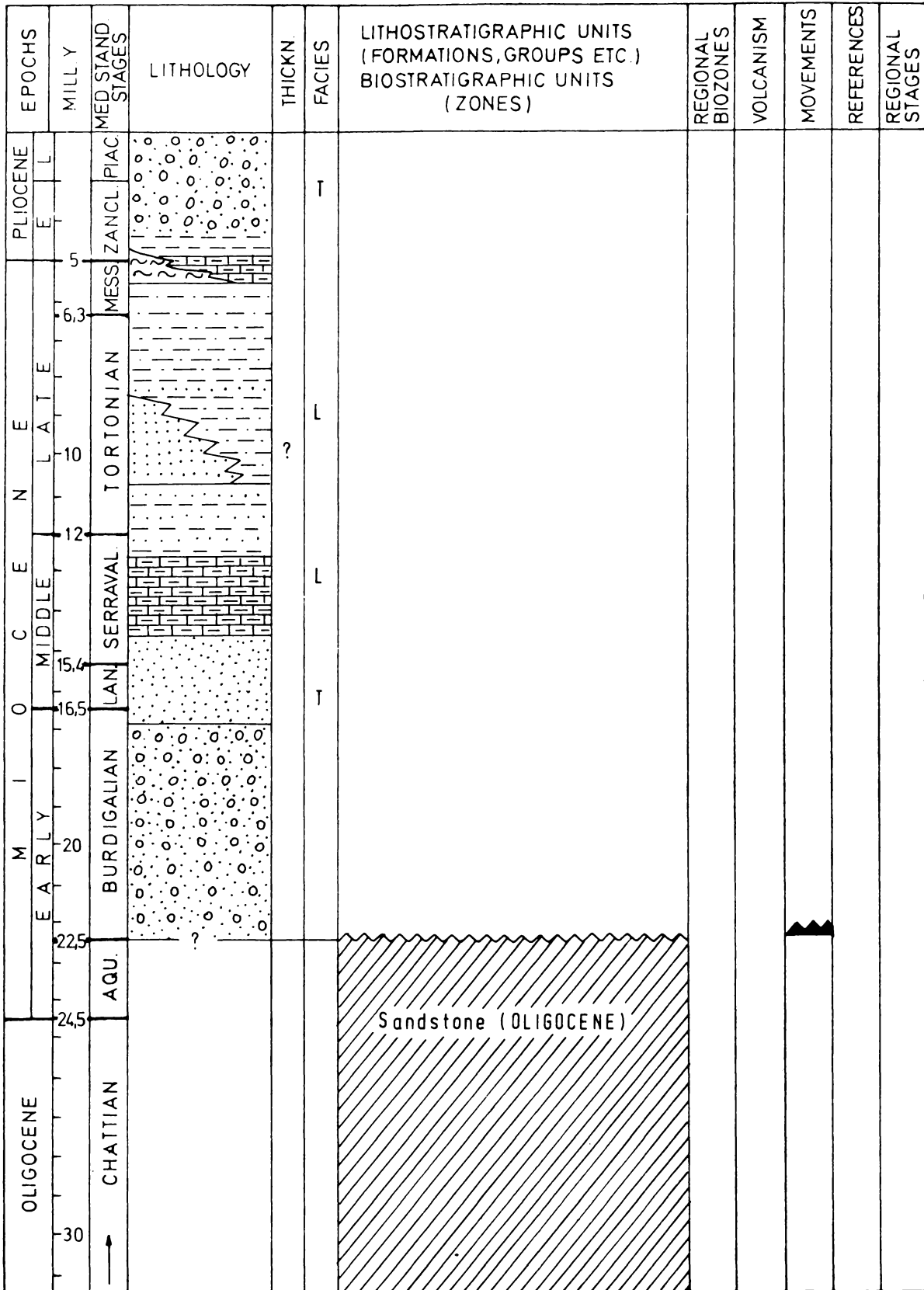
Author: S. L. GÖKCEN

Area No. 62: CANKIRI -- KALECIK, TR



Authors: I. TEKKAYA & al.

Area No. 63: ULUKISLA BASIN, TR



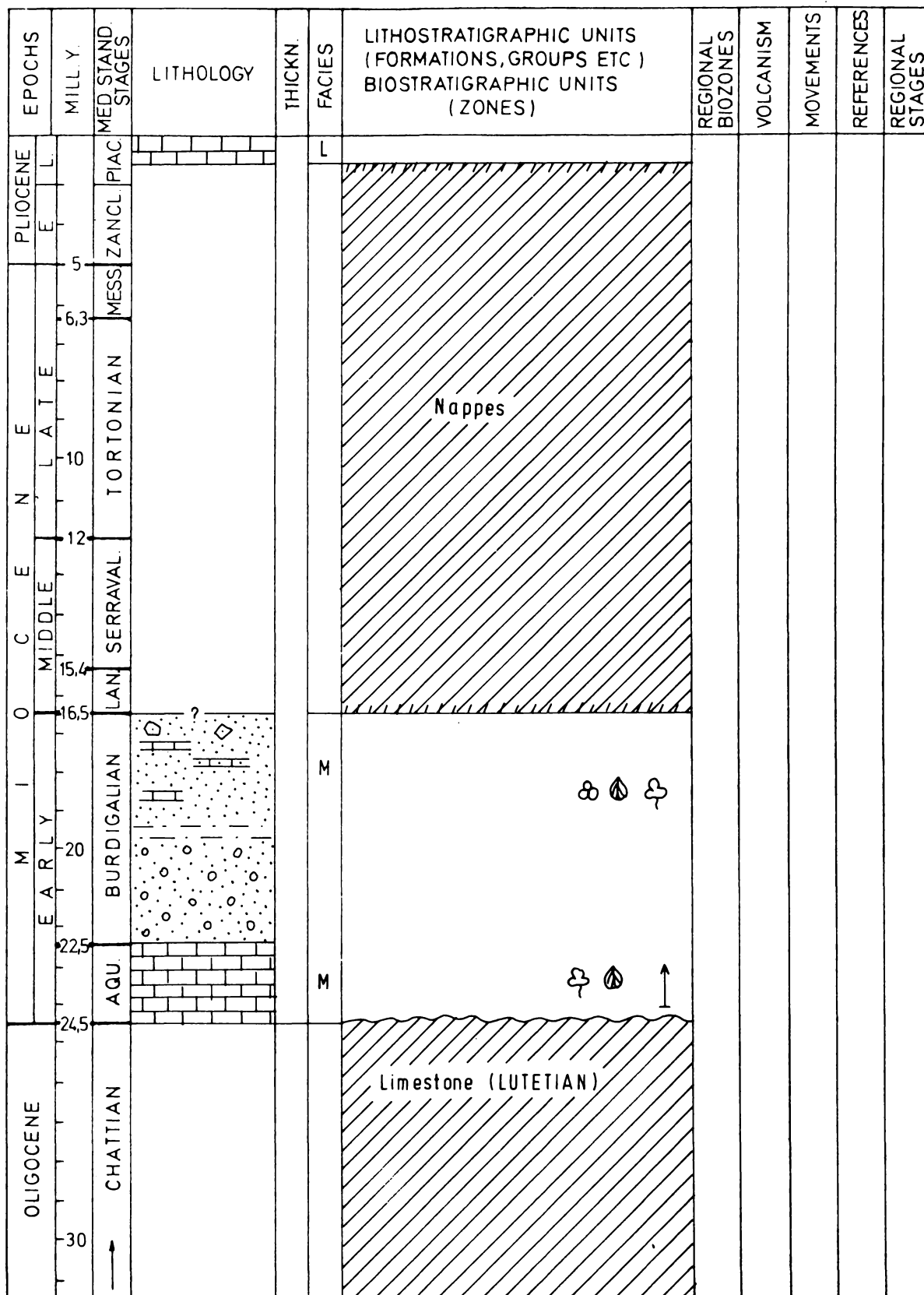
Authors: E. DEMIRTASLI & al.

Area No. 64 a: DATCA, TR

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES					
MILL. Y.	MED. STAND. STAGES														
OLIGOCENE	PLIOCENE		250-370	F L	Datça Flysch (PALEOCENE to EOCENE)										
	E L										PIAC	F L			
	5										MESS. ZANCL.				
	6.3														
	10										TORTONIAN				
	12														
	15.4										SERRAVAL.				
	16.5														
	20										BURDIGALIAN				
	22.5														
24.5	AQU.														
30	CHATTIAN														

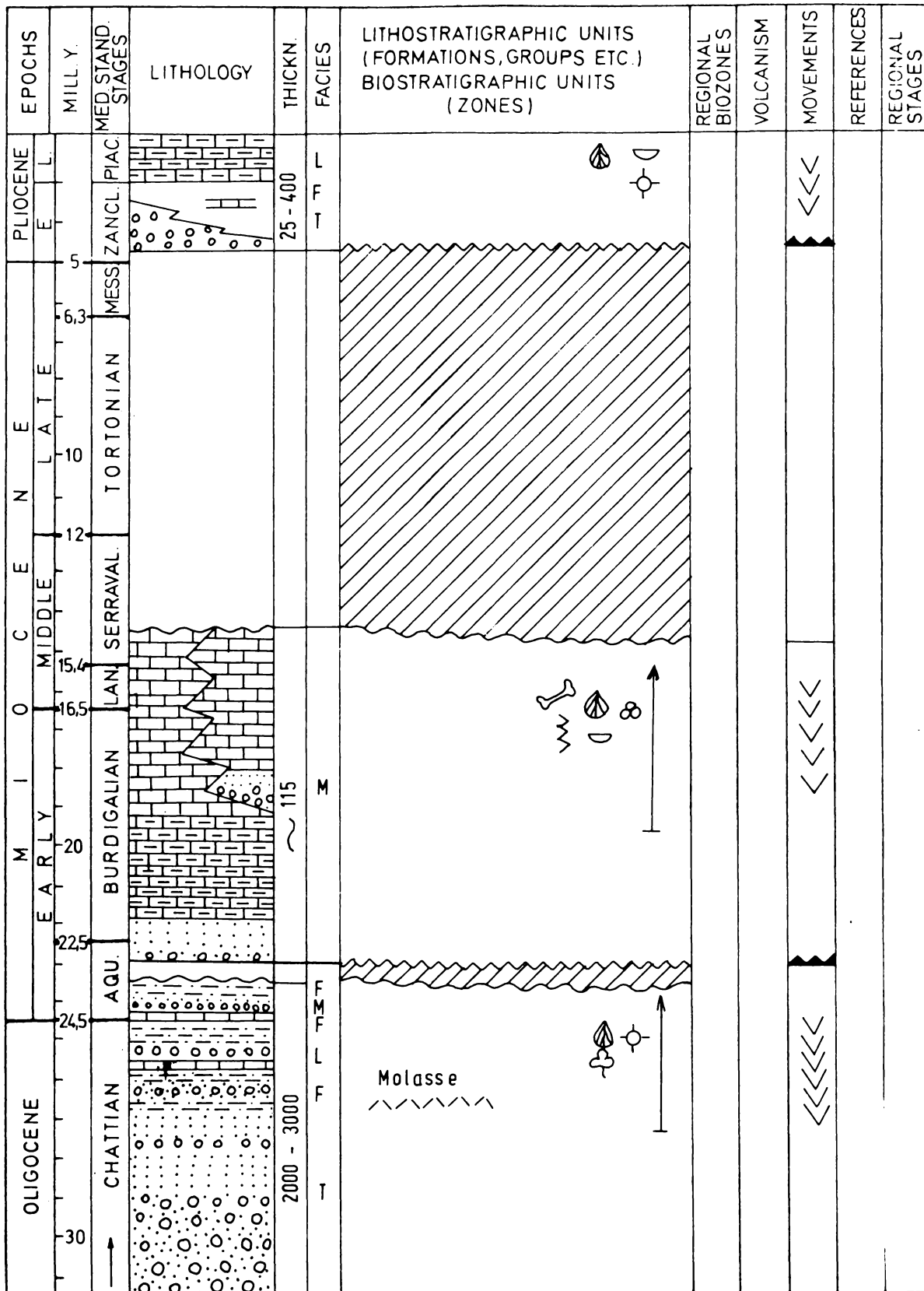
Authors: G. OROMBELLI & al.

Area No. 64 b: TEKE PENINSULA, TR



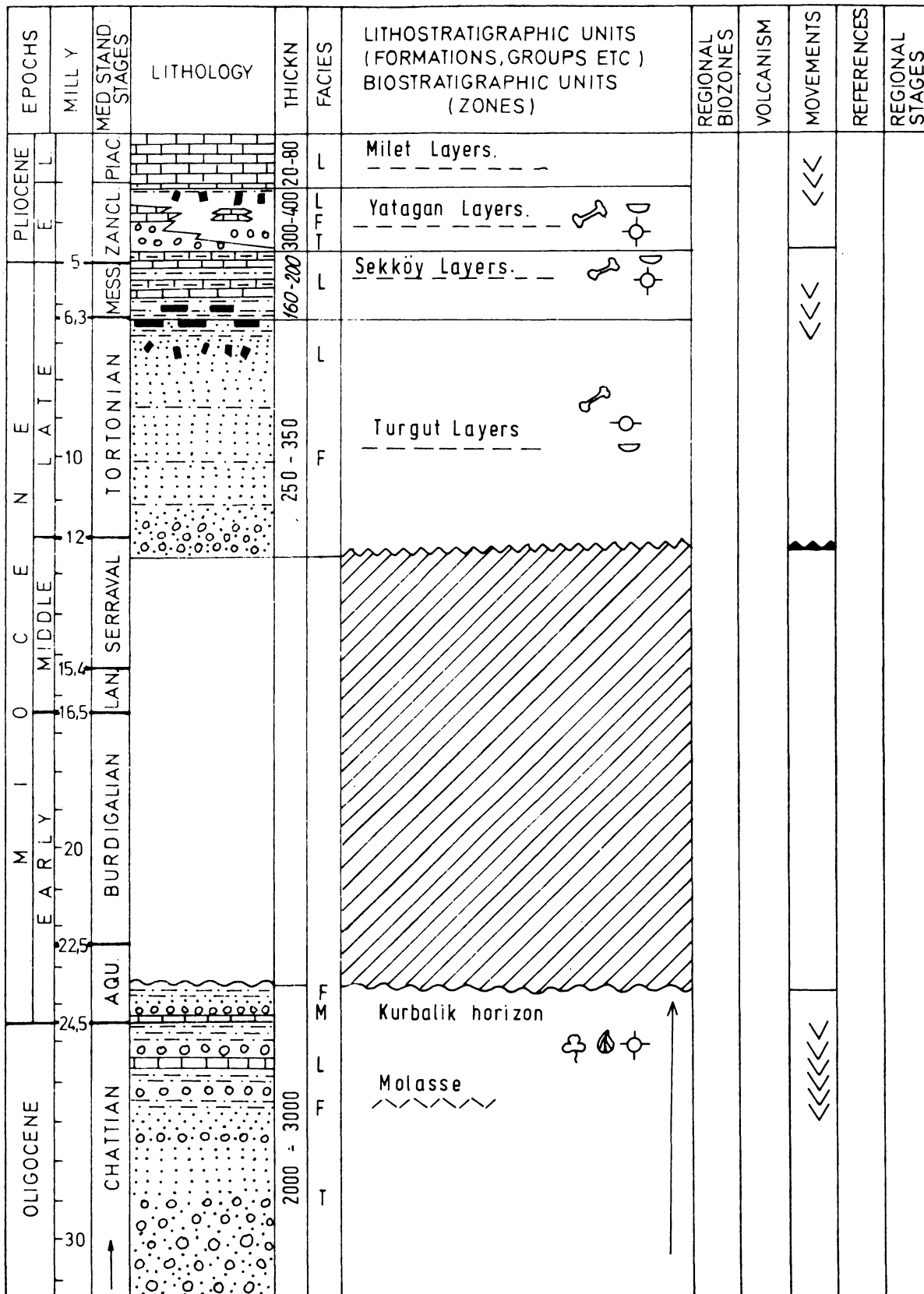
Author: P. C. GRACIANSKY

Area No. 64 c 1: SW ANATOLIA, INTERMONTANE TAURUS BASIN, TR



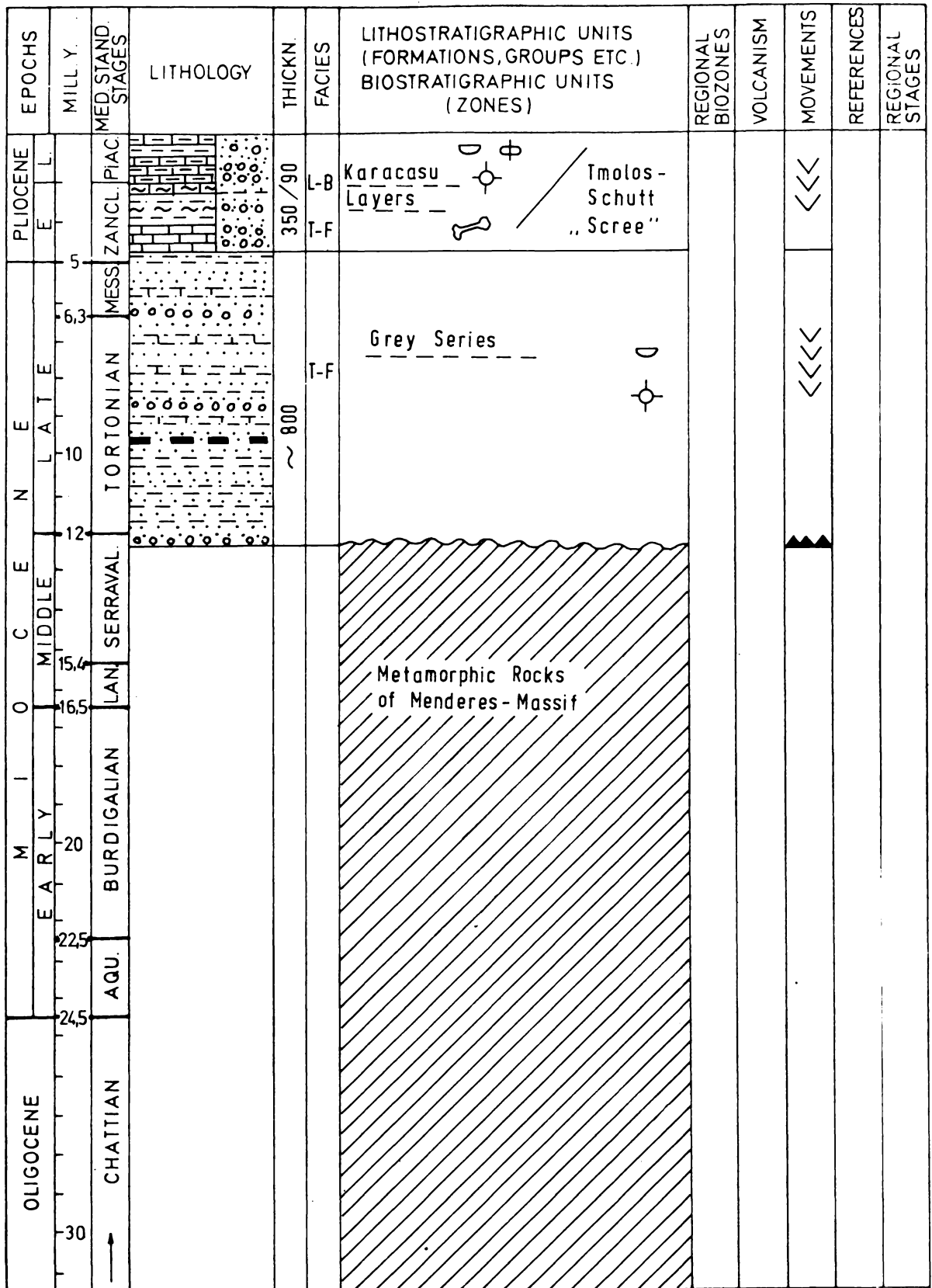
Author: J. D. BECKER-PLATEN

Area No. 64 c 2: SW ANATOLIA, ZONE OF STANDARD PROFILE, TR



Author: J. D. BECKER-PLATEN

Area No. 64 c 3: SW ANATOLIA, ZONE OF MENDERES MASSIF, TR



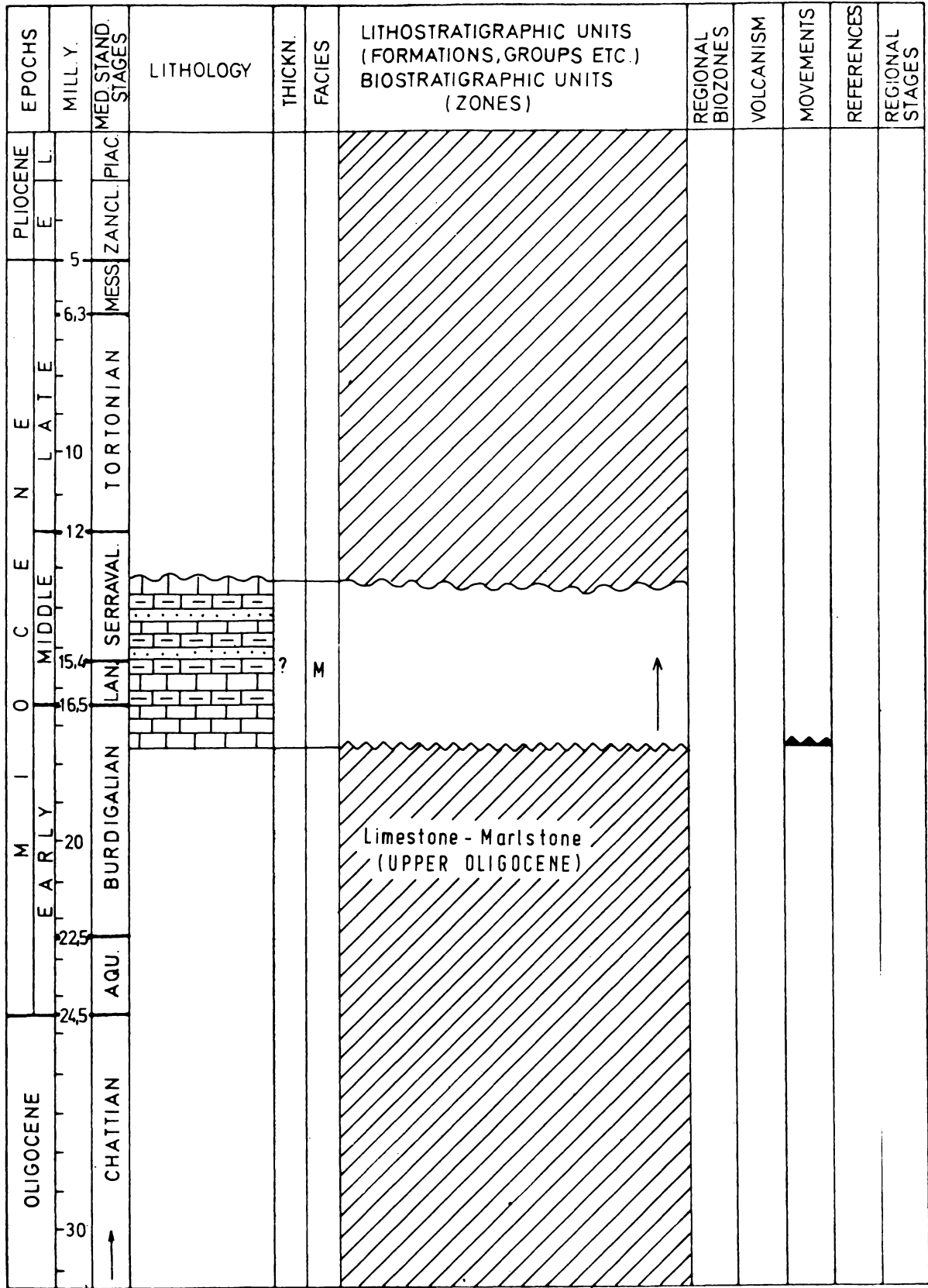
Author: J. D. BECKER-PLATEN

Area No. 64 d: DENIZLI, TR

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL Y	MED STAND. STAGES									
OLIGOCENE	E	L		1585	F/L	Marbles (PALEOZOIC)					PANNONIAN MIOCENE TERTIARY

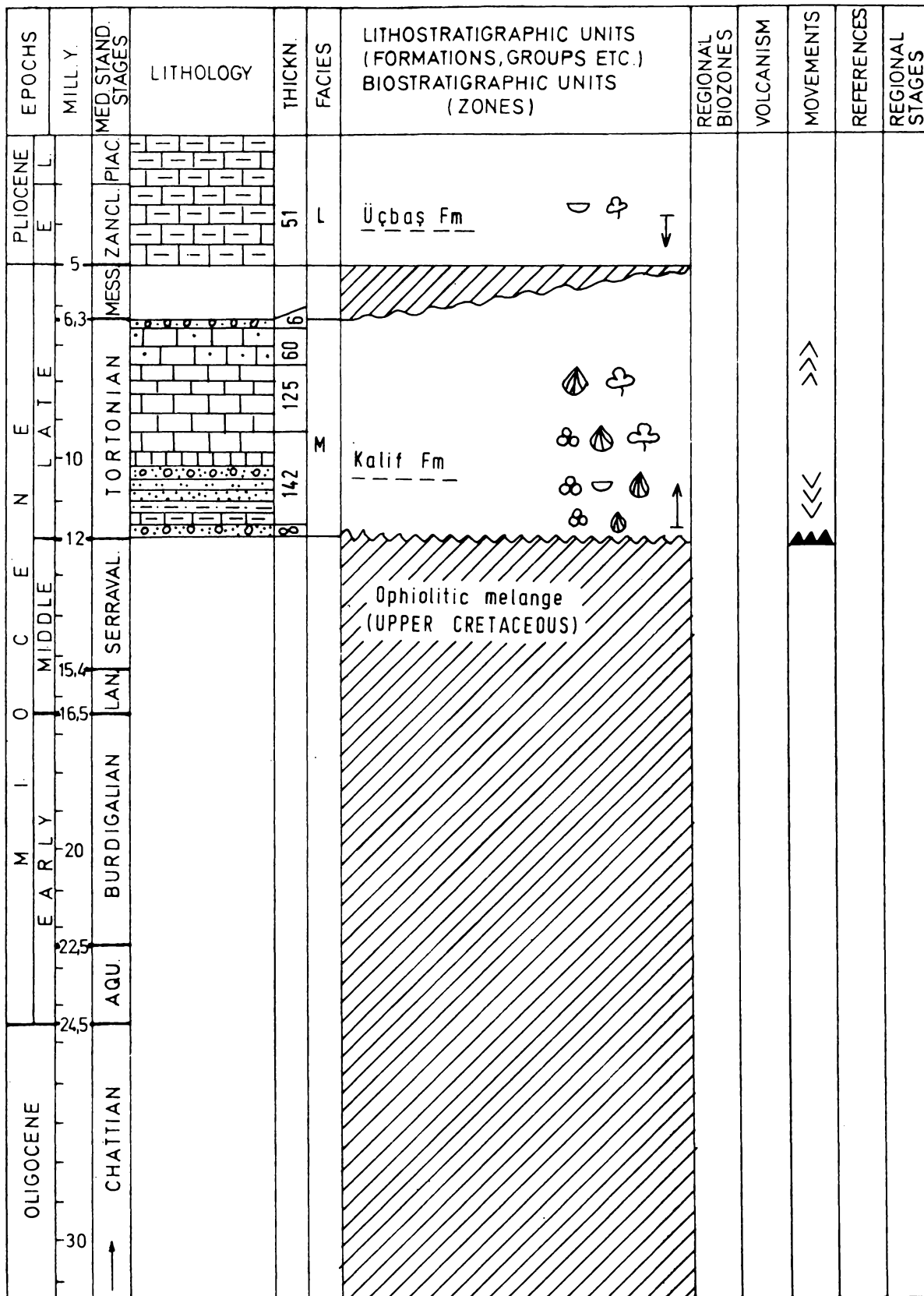
Author: G. TANER

Area No. 65 a: AYRANCI BASIN, TR



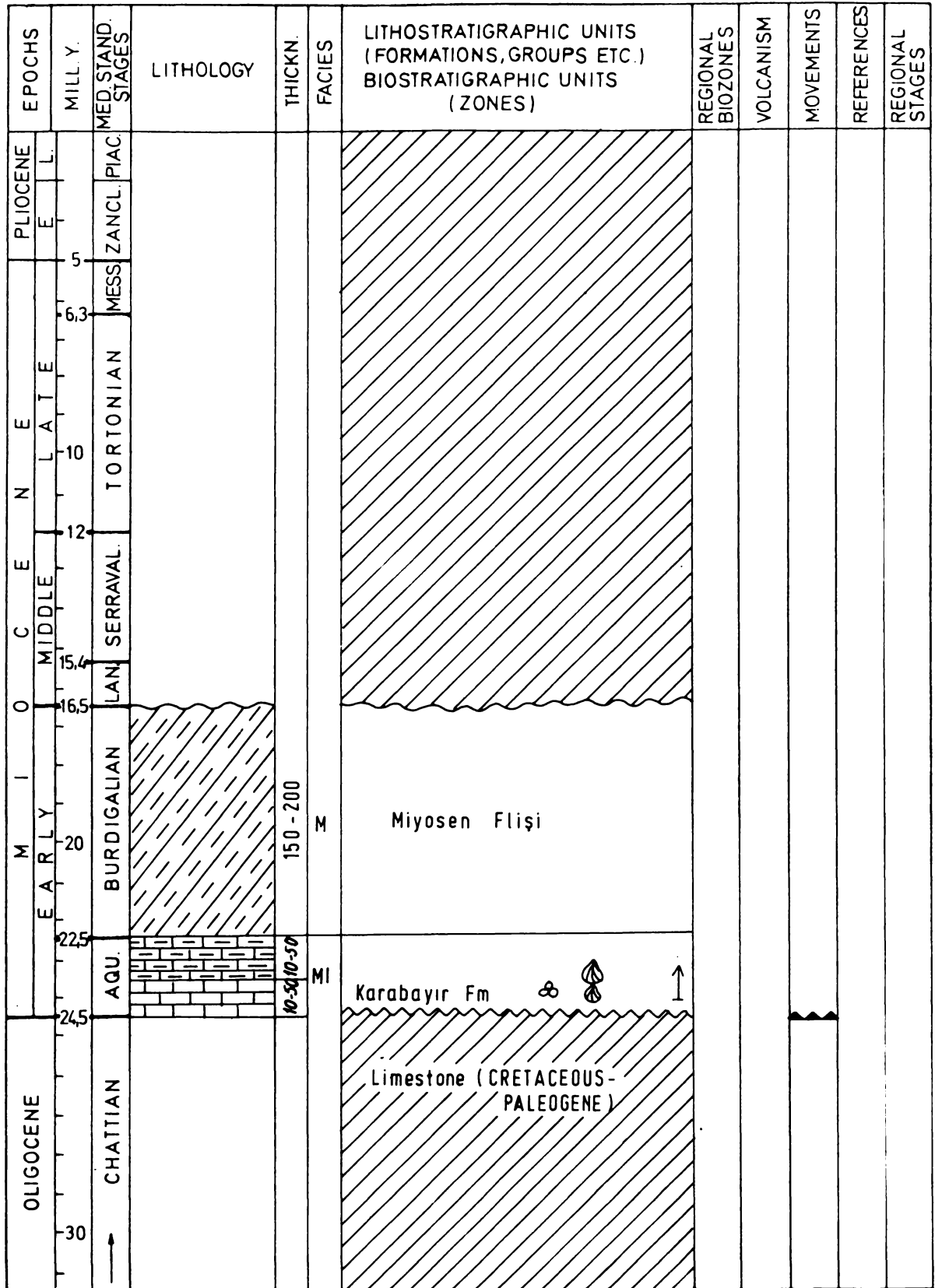
Authors: E. DEMIRTASLI & al.

Area No. 65 b: KARAMAN BASIN, TR



Author: A. KOCYIGIT

Area No. 66 a 1: W OF ANTALYA BAY, KORKUTELI, TR



Authors: A. POISSON & A. POIGNANT

Area No. 66 a 2: W OF ANTALYA BAY, KÖTEKLI TEPE, TR

EPOCHS		PLIOCENE E L	MILL Y	MED STAND STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	PLIOCENE												
30	24,5												
	22,5												
	20												
	16,5												
	15,4												
	12												
	10												
	6,3												
	5												
						150	T	Kötekli Fm					
								Limestone (UPPER CRETACEOUS)					

Author: A. KALAFATCIOGLU

Area No. 66 b 2: ANTALYA BAŞIN, MANAVGAT, TR

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
OLIGOCENE	PLIOCENE		5	MESS. ZANCL. PIAC.									
	E		6,3										
	L												
	MIDDLE												
	EARLY												
	CHATTIAN												
	AQU.												
	BURDIGALIAN												
	SERRAVAL.												
	TORTONIAN												
MIDDLE						75		<i>G. menardii</i>	⊗				N 15
EARLY						145		<i>G. mayeri</i>	⊗				N 14
MIDDLE								<i>G. peripheroronda</i>	⊗				N 9
EARLY								<i>praeorbulina?</i>	⊗				N 8
MIDDLE						255		<i>G. acostaensis</i>	⊗				N 16
EARLY													N 17

Authors: E. ÖTZÜMER & al.

Area No. 66 b 3: ANTALYA BASIN, ALAROHAN, TR

EPOCHS		MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONÉS)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES																
PLIOCENE	MILL Y																										
OLIGOCENE	EARLY	BURDIGALIAN		175																							
												20	?	?													
												MIDDLE	SERRAVAL		23	M											
																							12		<i>G. Menardii</i>	⊗	N 15
																							10		<i>G. Mayeri</i>	⊗	N 14
												LATE	TORTONIAN		46												
																							6,3		<i>G. acostaensis</i>	⊗	N 16
																							5	?	<i>G. dutertrei - humerosa</i>	⊗	N 17
												PLIOCENE	E	MESS. ZANCL. PIAC.		143											

Authors: E. ÖTZÜMER & al.

Area No. 67 a: ADANA BASIN, KARAISALI, TR

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	MILL Y	MED STAND STAGES										
OLIGOCENE	EARLY	5	?	38		G. dutertrei ♂	N 17					
		6,3										
	MIDDLE	TORTONIAN	10		184		G. acostaensis ♂	N 16	↓			
			12		M		G. menardii ♂ G. mayeri ♂	N 15 N 14				
			15,4		157							
	LATE	SERRAVAL	16,5		38		G. peripheroronda ♂	N 9				
			20				G. trilobus ♂	N 7				
	BURDIGALIAN	LAN	22,5				Limestone (MESOZOIC)					
			24,5									
	CHATTIAN	AQU.	30									

Authors: E. ÖTZÜMER & al.

Area No. 67 b: ADANA BASIN, TR

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
OLIGOCENE	PLIOCENE												
OLIGOCENE	MIDDLE	24.5	CHATTIAN										
		22.5	EARLY	AQU.									
		20		BURDIGALIAN									
	15.4	LATE	LAN. SERRAVAL.		15	Mb	H. Howella Ruggierii + Kr. Cital	A					
	12		TORTONIAN	78	Mc	Cytheridea acuminata	C						
	6.3		MESS. ZANCL. PIAC.	12	T/m	Mutilus skalae + mutilus brochotus Mutilus albicans Cyprideis ruggierii + C. tuberculata Cnestocythere lamellicosta + C. truncata	B						
	5	PLIOCENE											

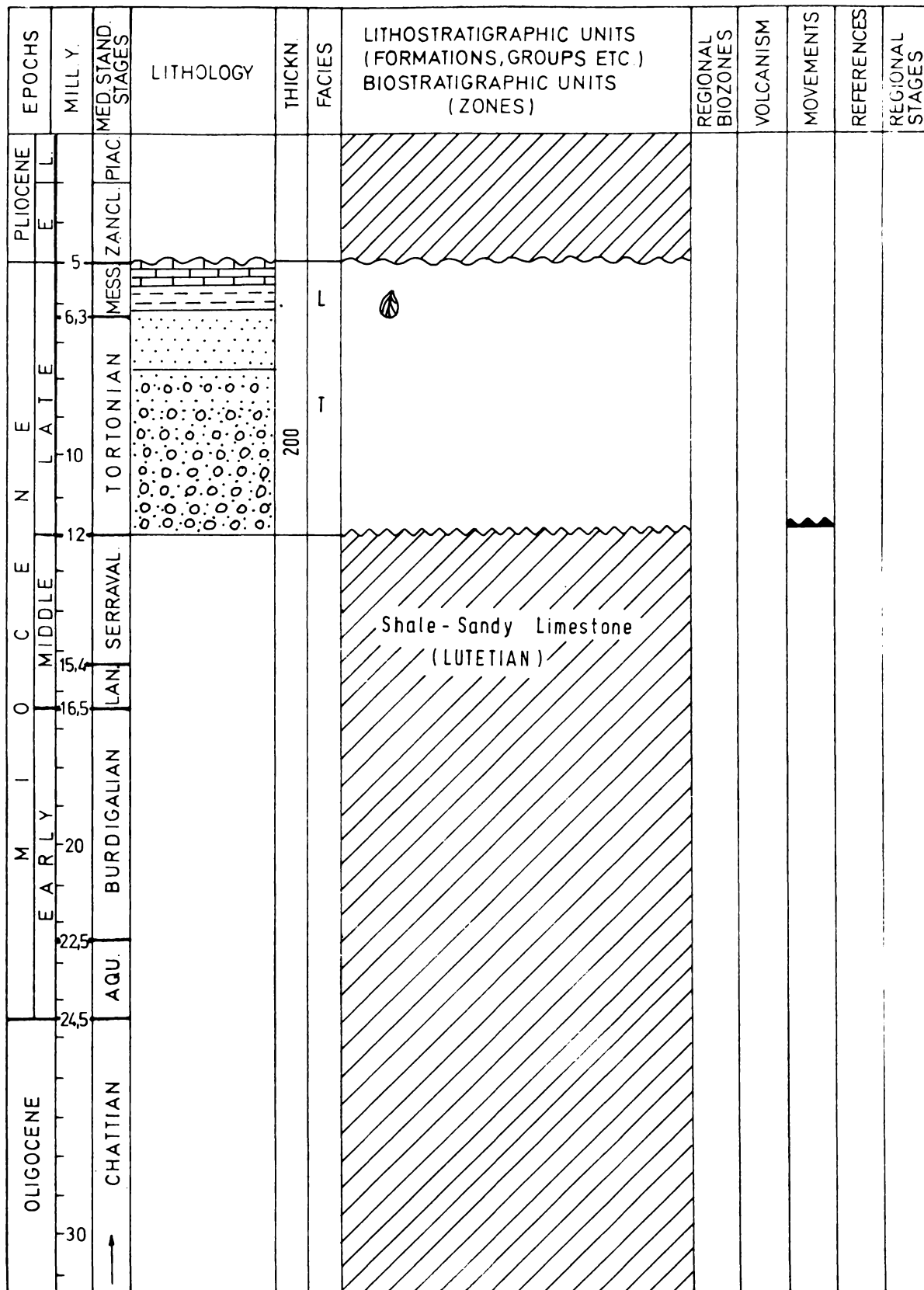
Author: N. DORUK

Area No. 68: ANTAKYA BASIN, TR

EPOCHS		MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
MILL Y	PLIOCENE										
	E			63	Mb	Bythocypris lacida B. bosguetina, cytherella vulgata cytheridea varaginosa Mutilus oncotus, M. bullopunctata	I H		<<< <<<		
5											
6.3				42	B MI	Mutilus albicans Cyprideis ruggieri C. tuberculata	F E		>>> >>>		
10				30	Mc	Cytheridea acuminata	C		>>>		
12				15	Mb	Bairdia Subdeltoidea Macrocypris Cylindracea	B				
15.4											
16.5											
20											
22.5											
24.5											
30											

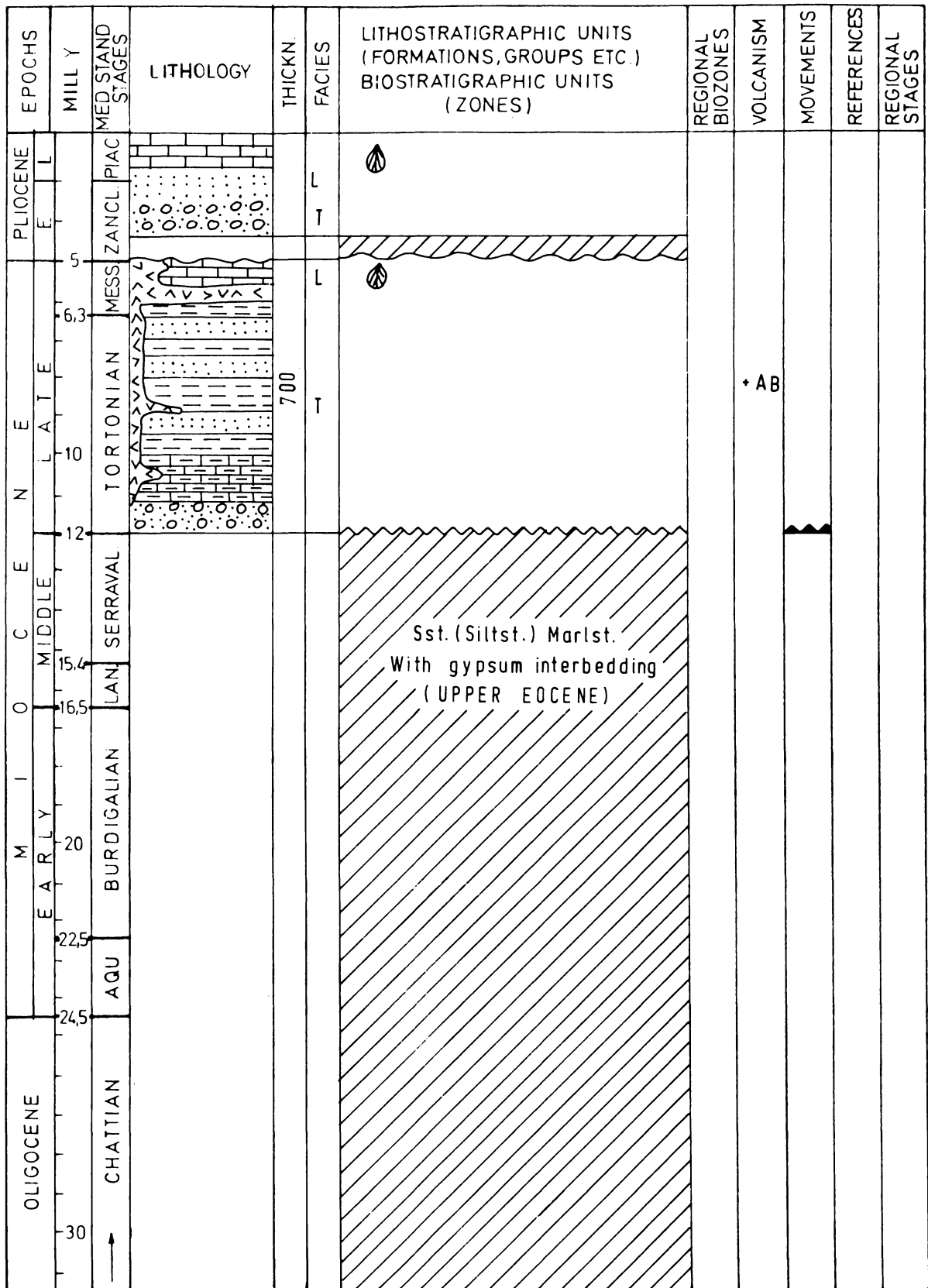
Author: N. DORUK

Area No. 69 a 1: MALATYA – GÜRÜN BASIN, W, TR



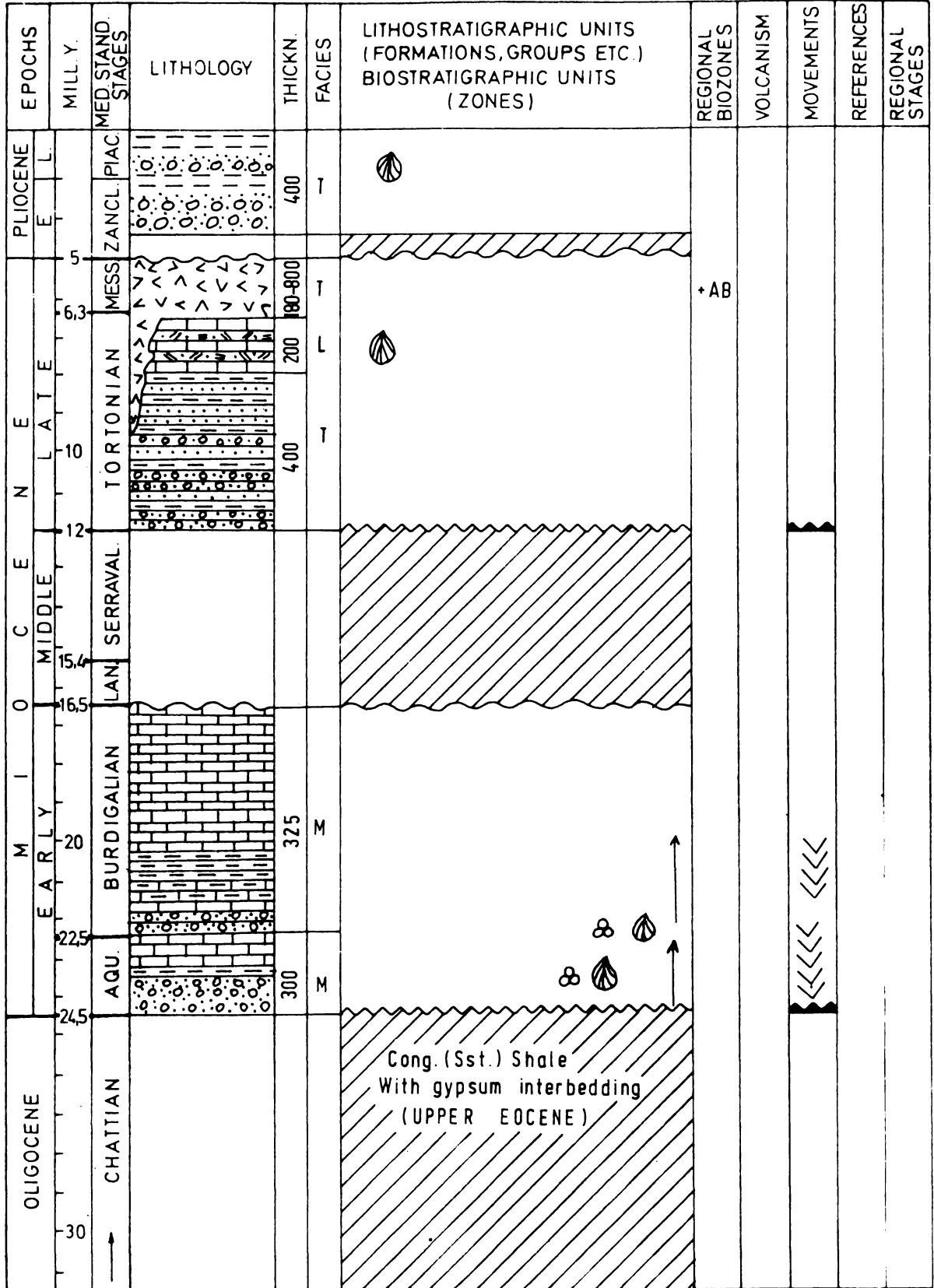
Authors: F. KURTMAN & M. F. AKKUS

Area No. 69 a 2: MALATYA – GÜRÜN BASIN, CENTRAL, TR



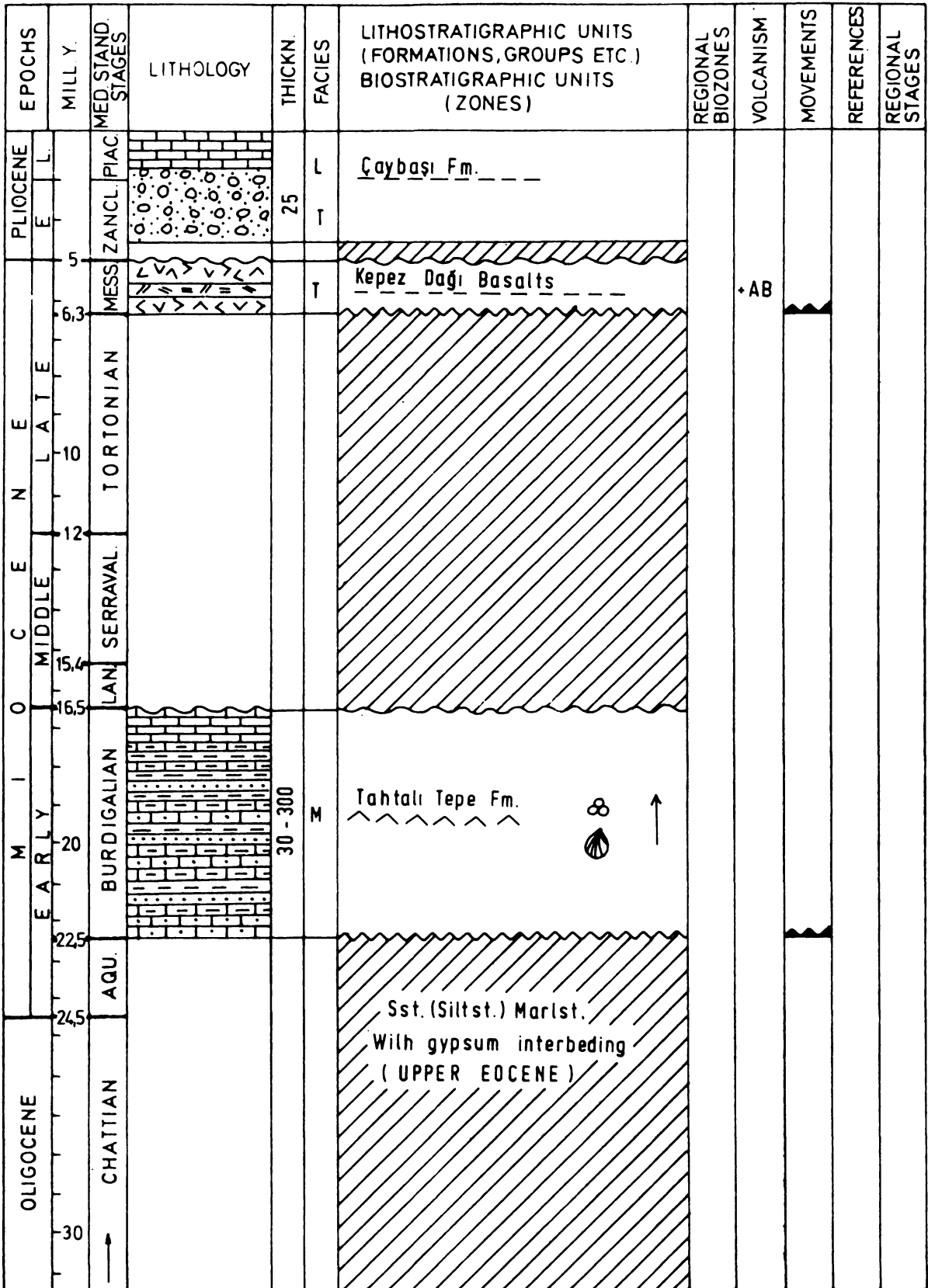
Authors: F. KURTMAN & M. F. AKKUS

Area No. 69 a 3: MALATYA – GÜRÜN BASIN, E, TR



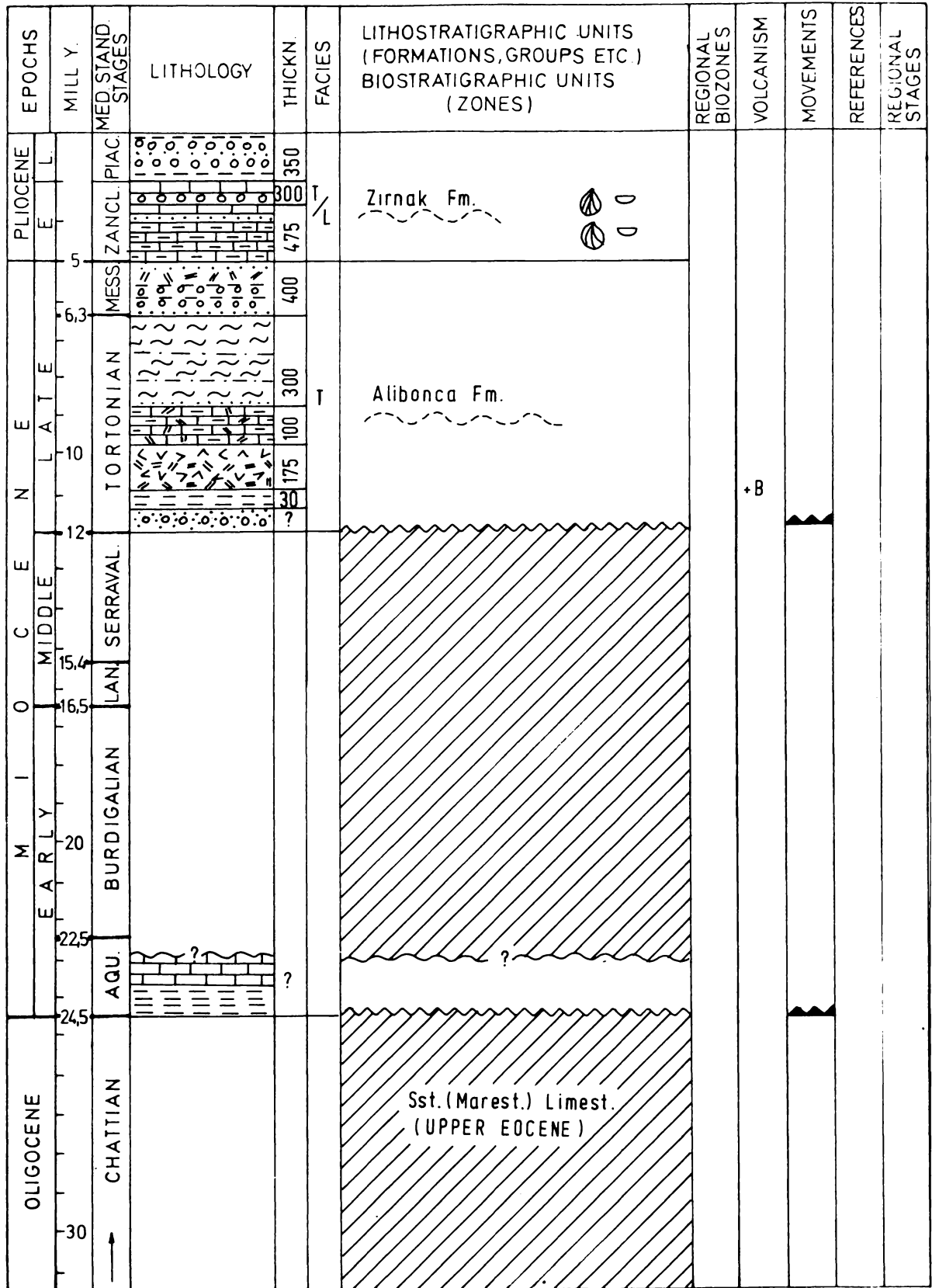
Authors: F. KURTMAN & M. F. AKKUS

Area No. 69 b: DARENDE – BALABAN BASIN, TR



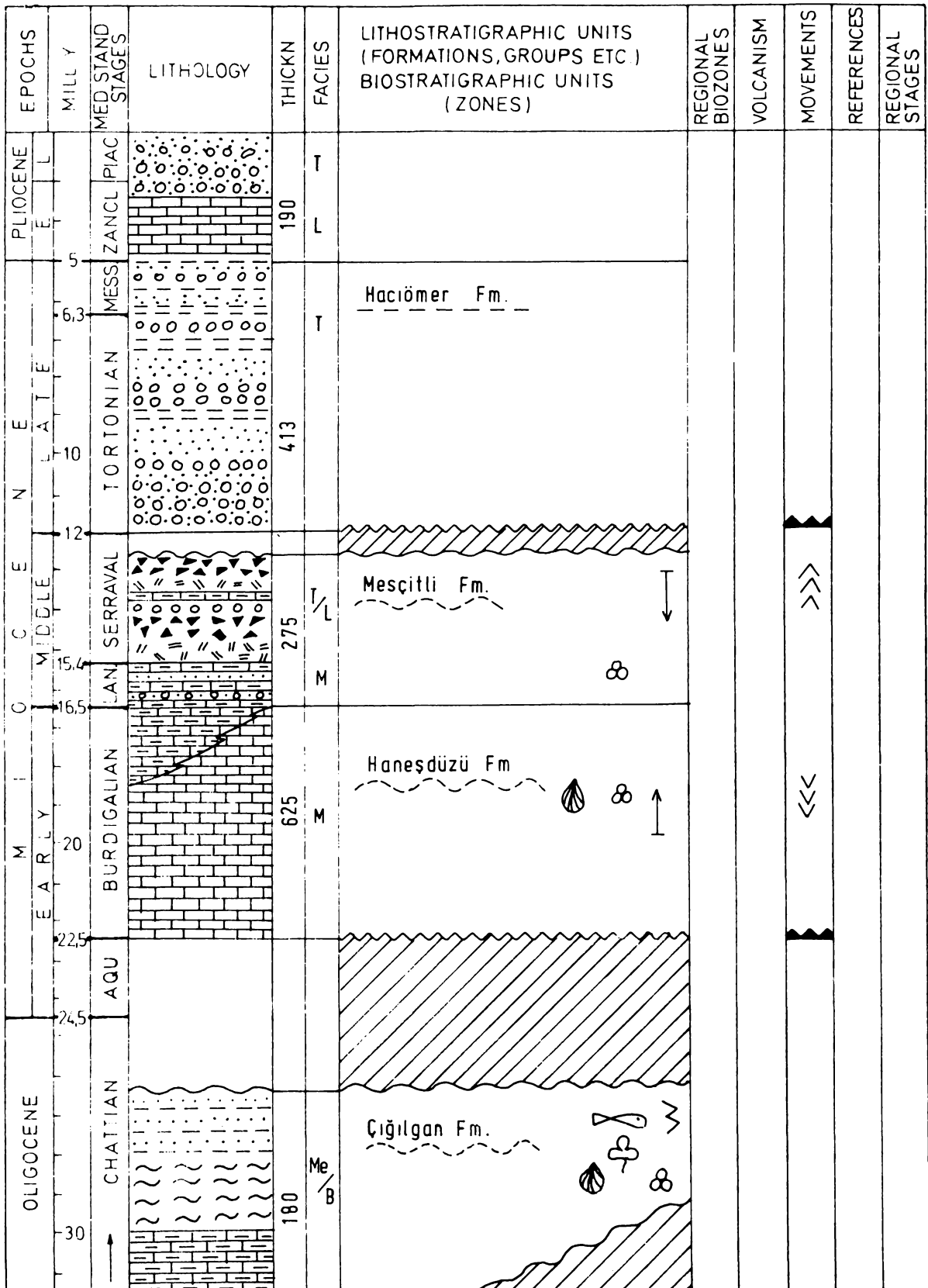
Author: M. F. AKKUS

Area No. 70 a: HINIS BASIN, TR



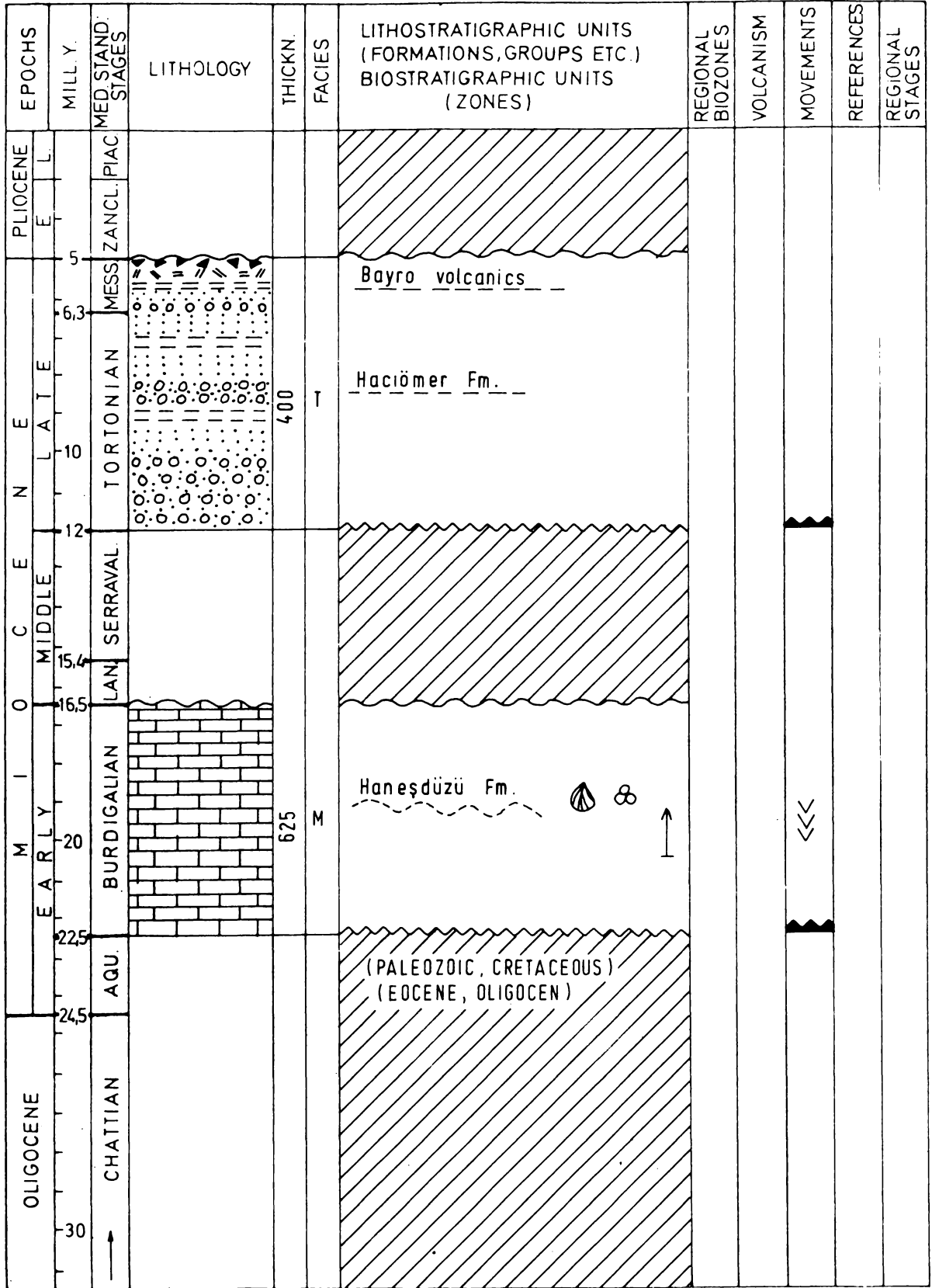
Author: D. SUNGURLU

Area No. 70 b 1: ERZURUM – KARAYAZI AREA, W, TR



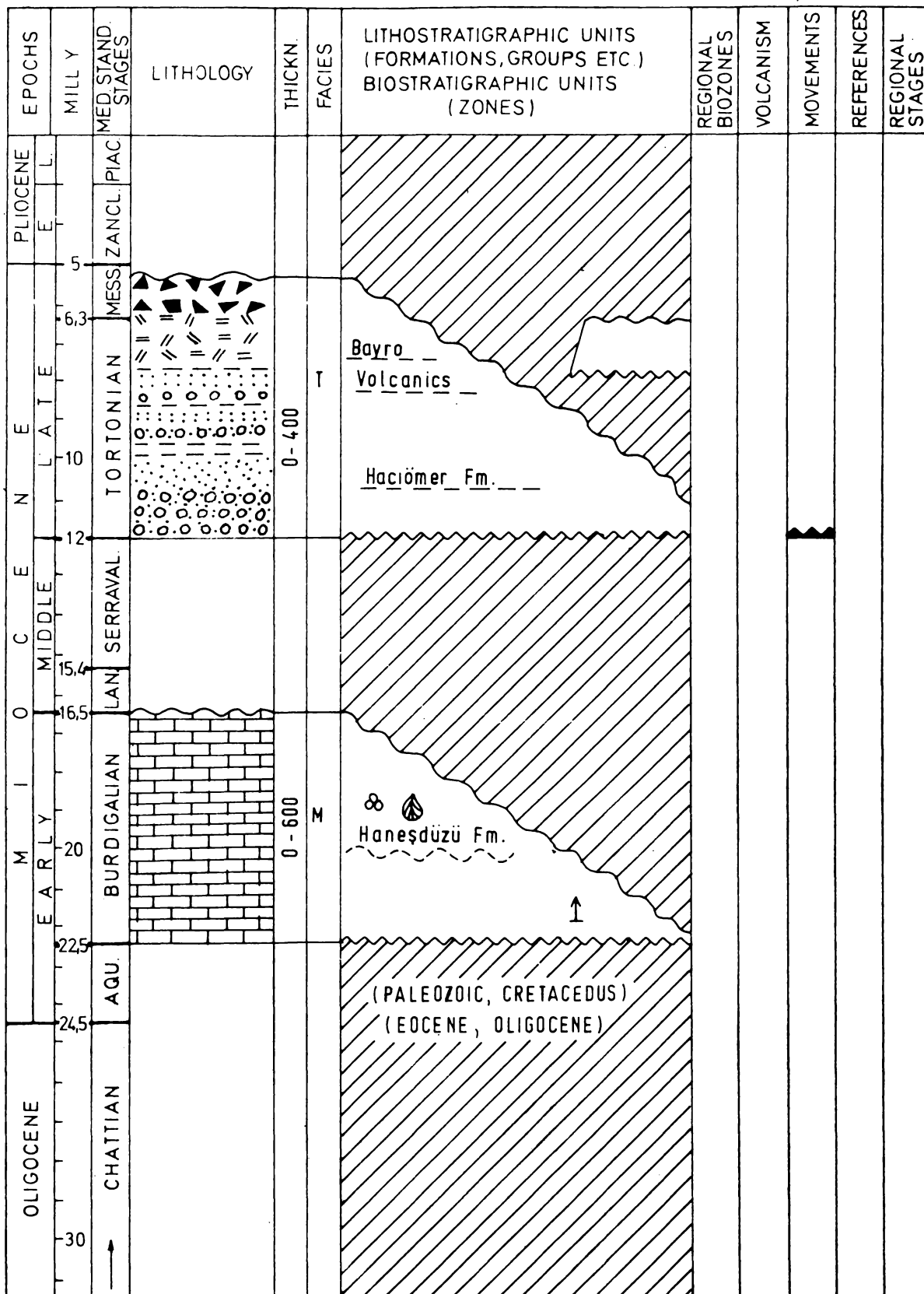
Author: T. ERDOGAN

Area No. 70 b 2: ERZURUM – KARAYAZI AREA, CENTRAL, TR



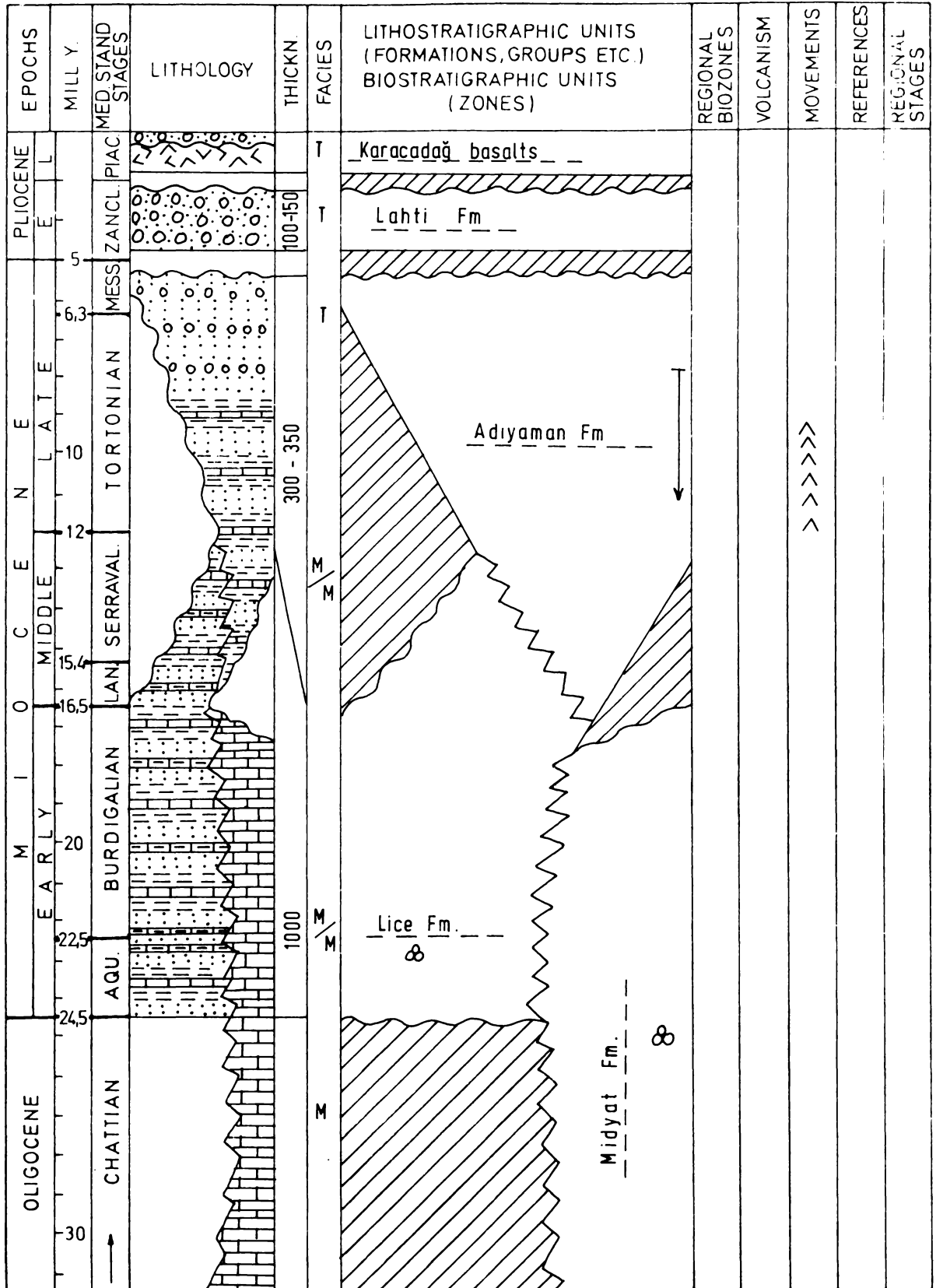
Author: T. ERDOGAN

Area No. 70 b 3: ERZURUM -- KARAYAZI AREA, E, TR



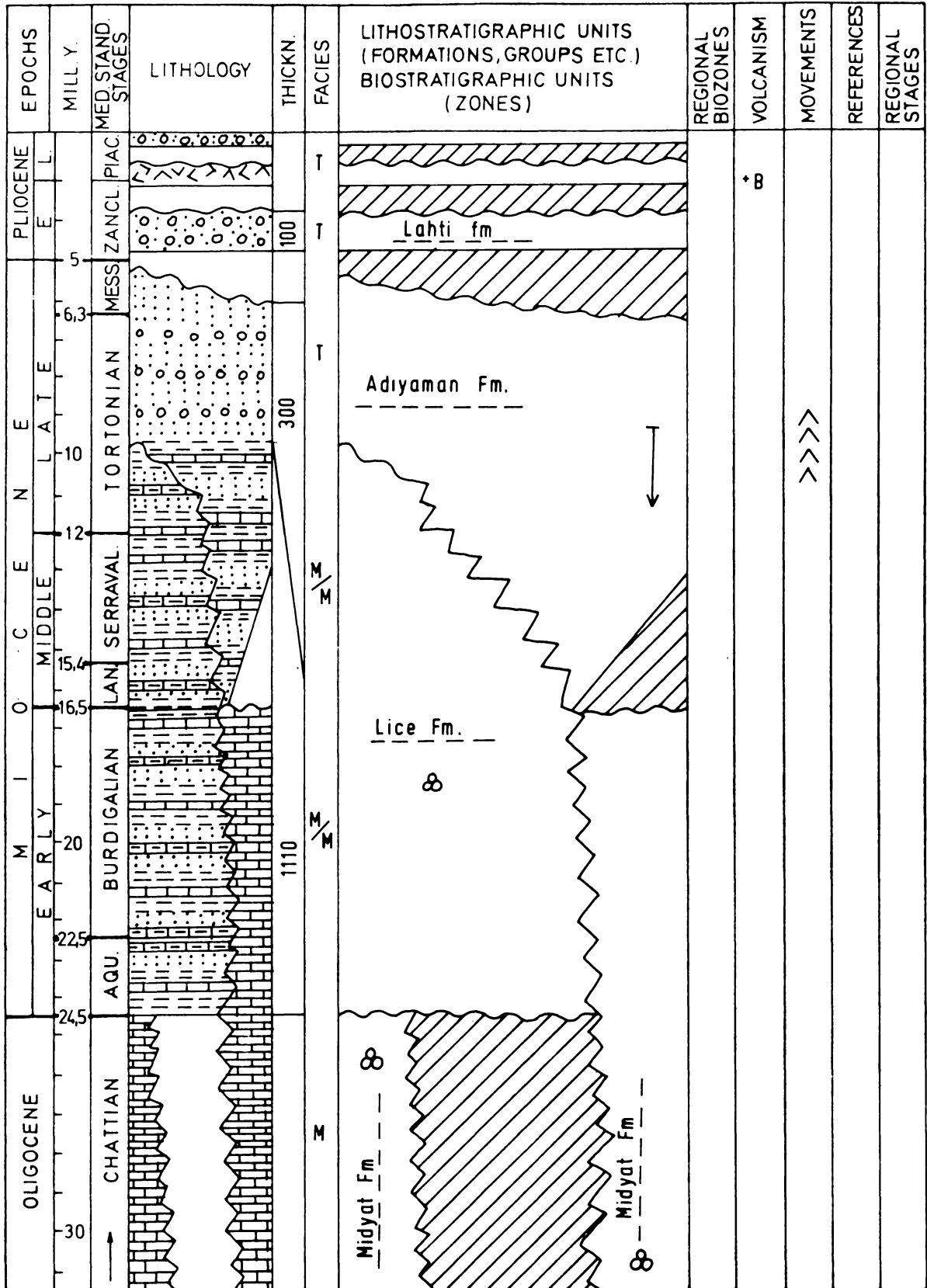
Author: T. ERDOGAN

Area No. 72 a 1: GAZIANTEP – ADIYAMAN AREA, TR



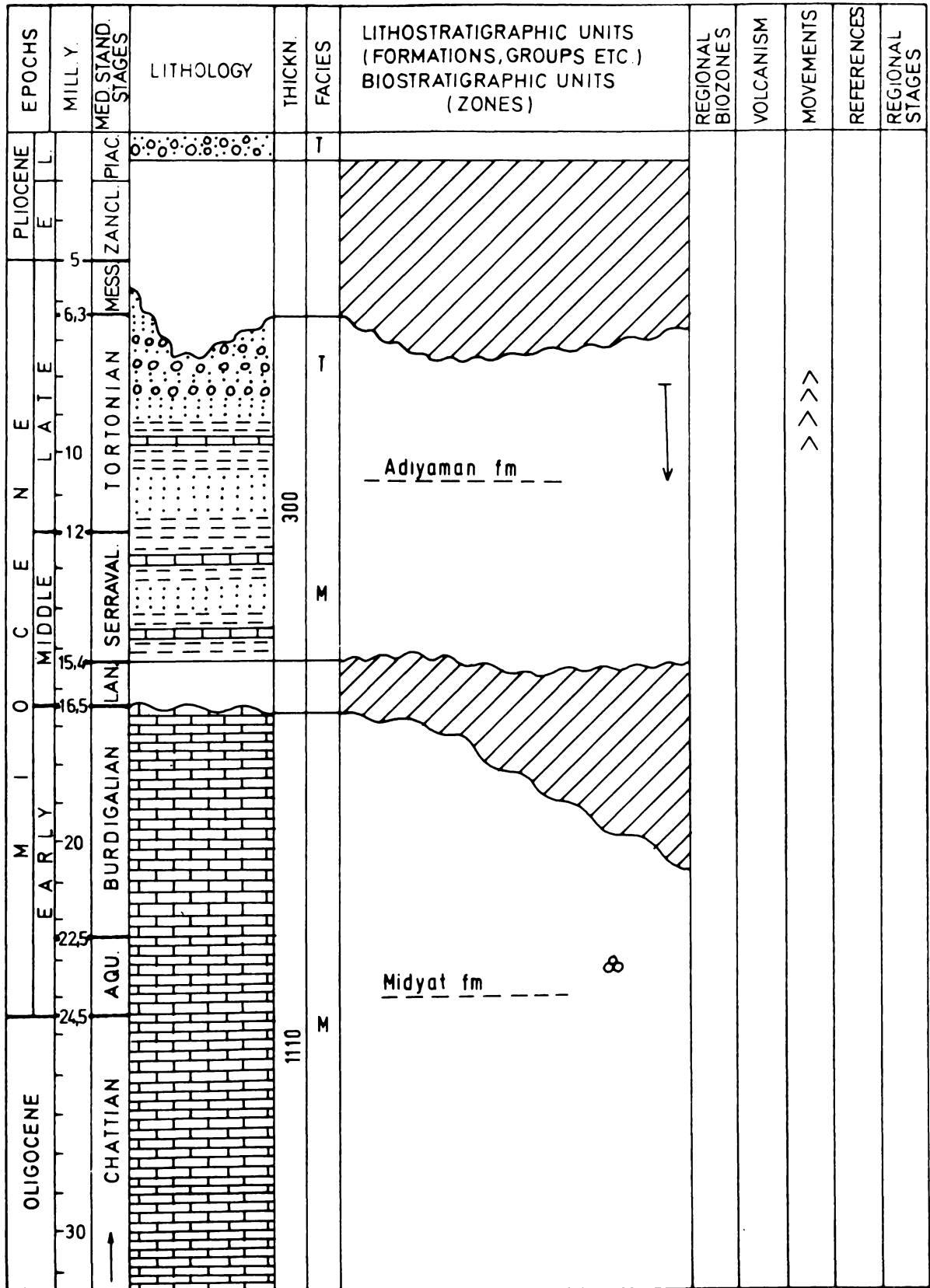
Author: D. TUNA

Area No. 72 a 2: ADIYAMAN – URFA AREA, TR




Author: D. TUNA

Area No. 72 a 3: ADIYAMAN – GAZIANTEP / URFA, TR



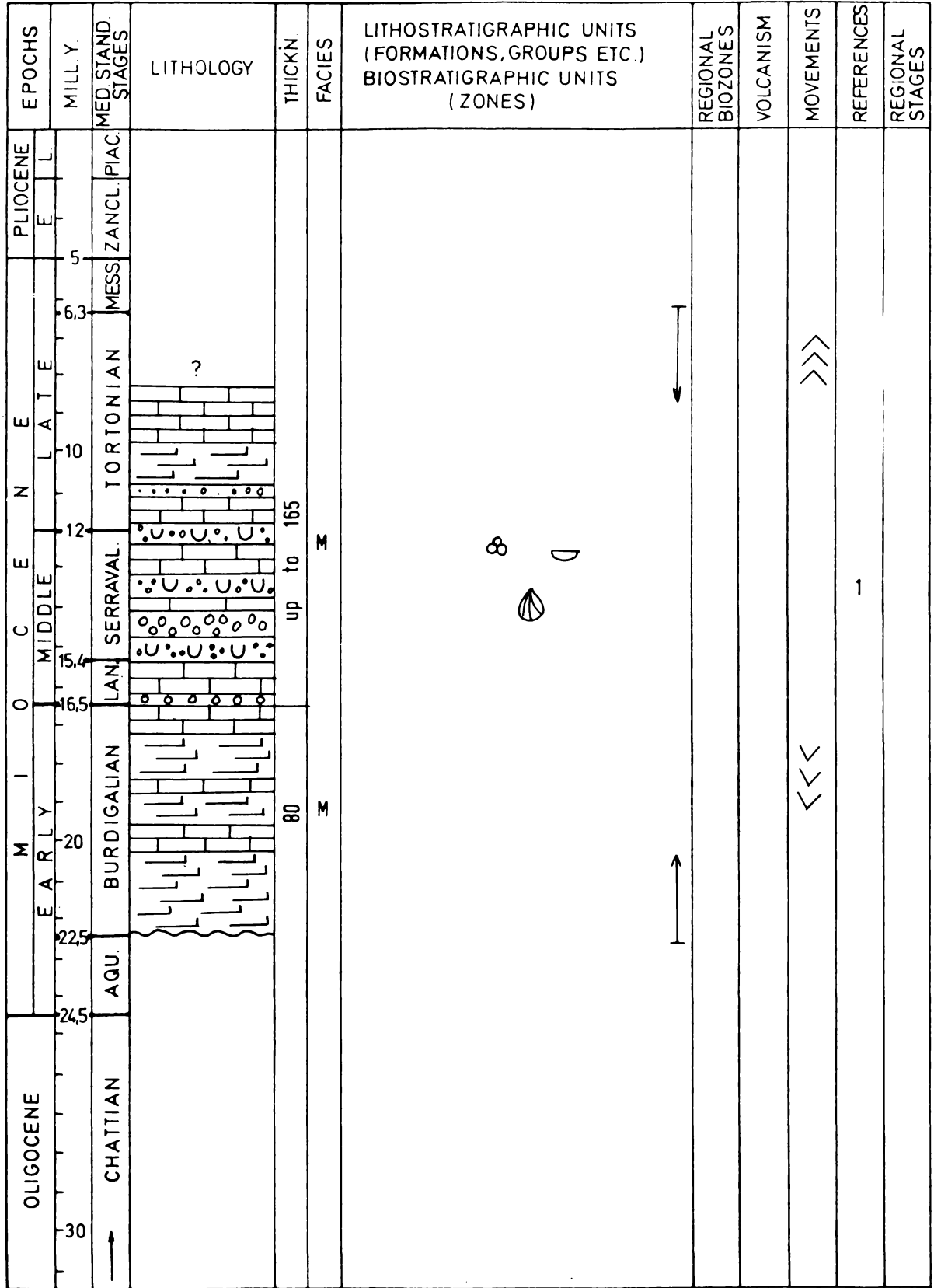
Author: D. TUNA

Area No. 72 b: BURC – KILIS, GAZIANTEP, TR

EPOCHS MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
5	MESS. ZANCL. PIAC.									
6.3										
10	TORTONIAN									
12										
15.4	LAN. SERRAVAL.									
16.5										
20	BURDIGALIAN									
22.5	AQU.		50-400	M	Gaziantep Fm.					
24.5										
30	CHATTIAN				Limestone (MIDDLE EOCENE)					

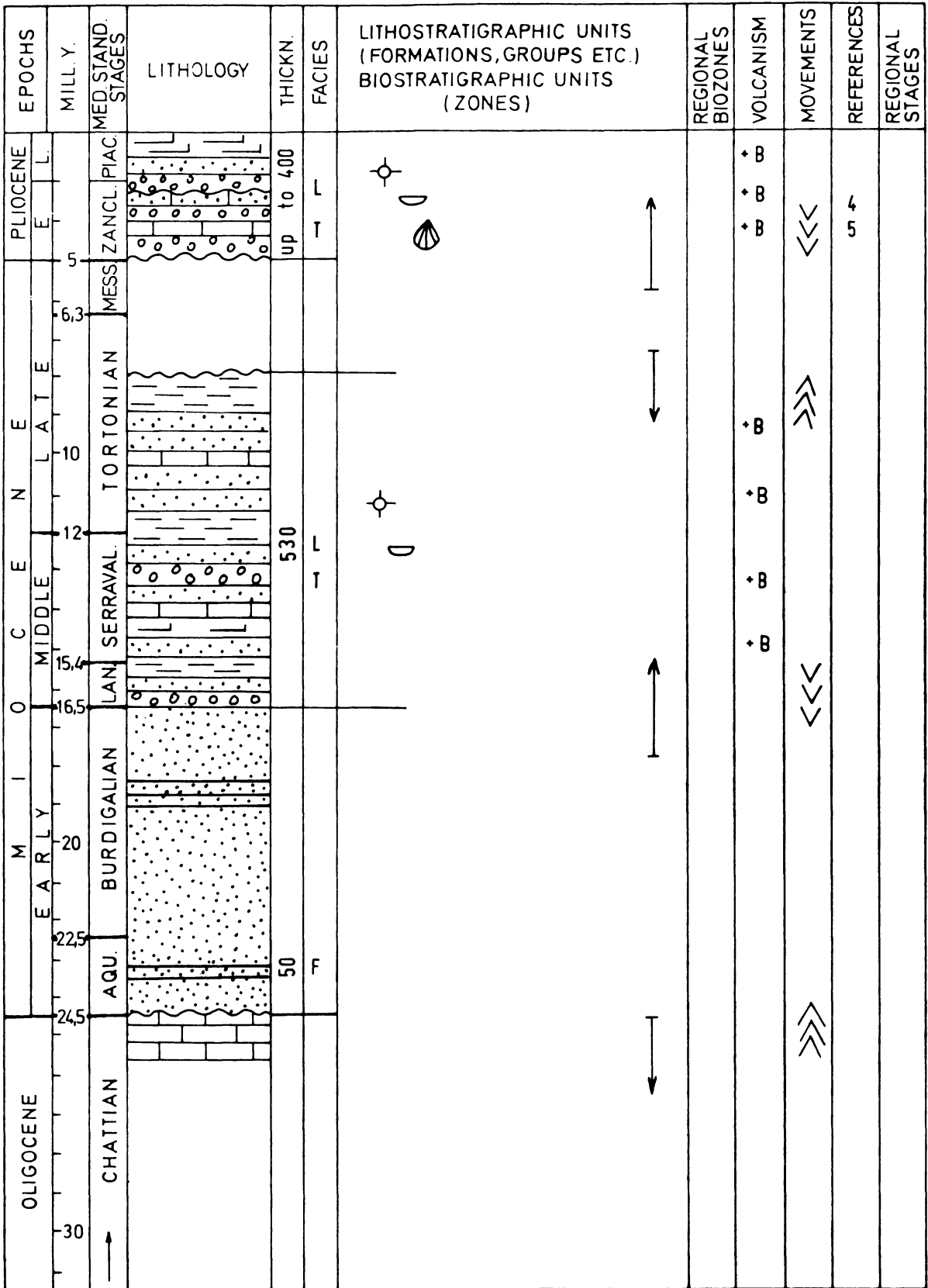
Authors: A. ORAL & M. SENOL

Area No. 73: BEIRUT – TRIPOLI BASIN, RL



Author: V. A. KRASHENINNIKOV

Area No. 76 a: QATANA BASIN, DAMASCUS, SYR



Author: V. A. KRASHENINNIKOV

Area No. 150 a: MEDITERRANEAN COAST, NAHR EL-KABIR DEPRESSION, IDLIB FOREDEEP, NW SYR

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	NEOGENE											
	PLIOCENE		PIAC		500	M	N 20 - ?21		+B			
	E	5	ZANCL.				N 19		*	<<<		
	L	6.3	MESS.		50	M	N 17		+B	>>>		
	LATE	10	TORTONIAN		225	M	N 16			>>>	2	
		12					N 15			>>>	3	
	MIDDLE	15.4	SERRAVAL		160		N 11 - N 14		+B	<<<	4	
		16.5	LAN.				N 10		*	<<<	5	
		20	BURDIGALIAN		330		N 8		*			
	EARLY	22.5					N 7		*			
		24.5	AQU.		340		N 5 - ?N 6			>>>		
			CHATTIAN			M	?N 4; N 5			>>>		
		30										

Author: V. A. KRASHENINNIKOV

Area No. 150 b: ALEPPO PLATEAU, NW SYR

EPOCHS		MILL. Y.		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	MIOCENE	PLIOCENE	PLIOCENE										
30	24.5	24.5	5	CHATTIAN									
	20	16.5	6.3	EARLY MIDDLE									
	15.4	12	10	BURDIGALIAN	up to 220 M								
				LAN SERRAVAL				Jeribe formation		*B		2	
				TORTONIAN								3	
				MESS ZANCL. PIAC.								4	
												5	

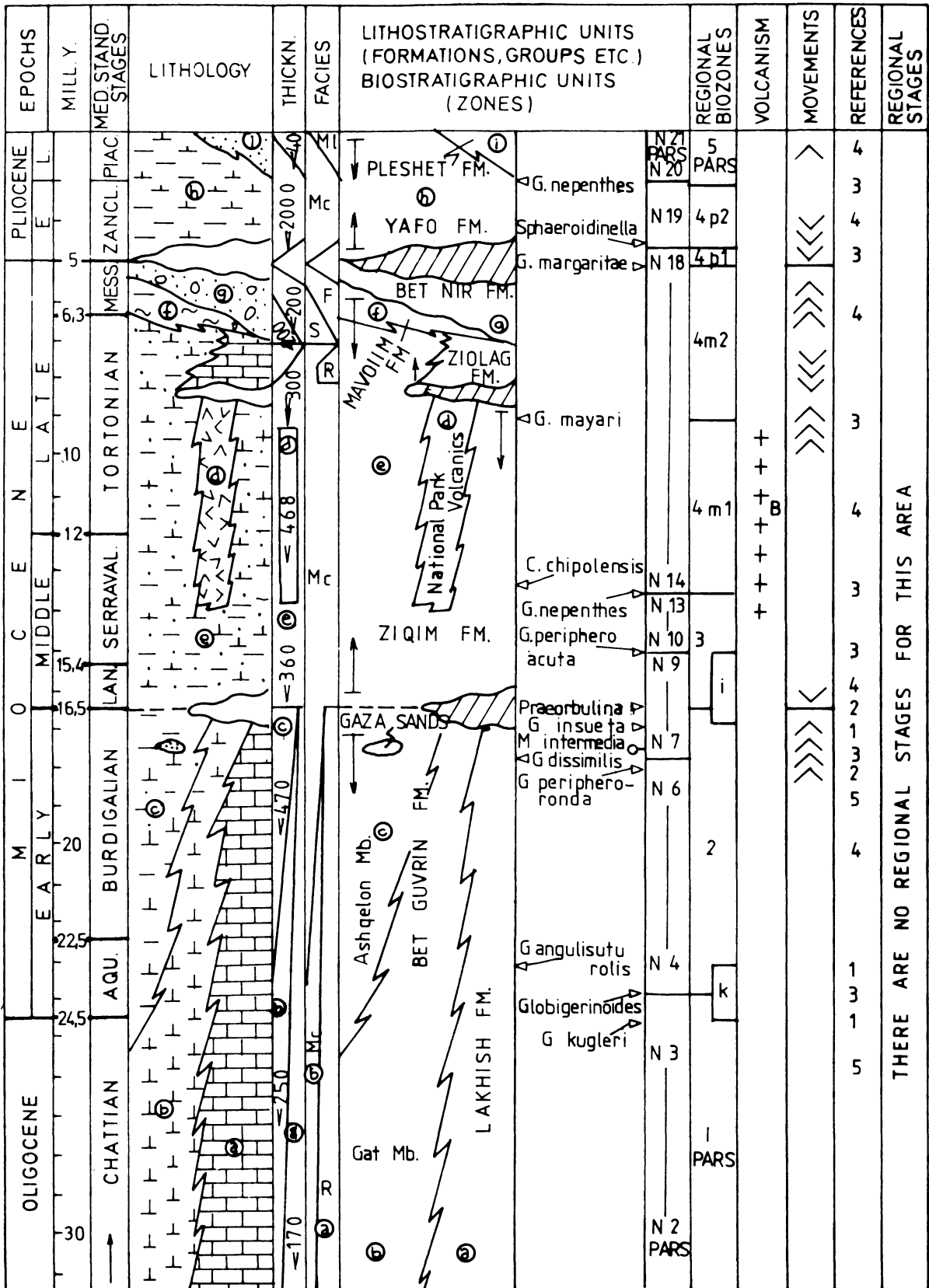
Author: V. A. KRASHENINNIKOV

Area No. 151: MESOPOTAMIAN BASIN, SYR

EPOCHS		MILL. Y.		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	PLIOCENE	E	L										
PLIOCENE		5	5	ZANCL. PIAC.		1500	L	Bakhtiari Fm. 			>>>		
MIOCENE LATE		6.3	350	MESS.		350	L	Upper Fars Fm. 			>>>		
MIOCENE LATE		10	700	TORTONIAN		700	H	Lower Fars Fm. 			>>>		
MIOCENE MIDDLE		12	80	LAN. SERRAVAL.		80	M	Jeribe Fm. 			<<<		2 3 4 5
MIOCENE EARLY		15.4	350	LAN.		350	H	Dibbane Fm. N 4 			<<<		
MIOCENE EARLY		20	350	BURDIGALIAN		350	H	Dibbane Fm. N 4 			<<<		
MIOCENE EARLY		22.5	350	AQU.		350	H	Dibbane Fm. N 4 			<<<		
OLIGOCENE		24.5	72	CHATTIAN		72	M	P 22 			>>>		
OLIGOCENE		30									>>>		

Author: V. A. KRASHENINNIKOV

Area No. 75 a: TEL AVIV – EL ARISH, IL & ET



Author: G. M. MARTINOTTI

Area No. 77: TIBERIAS BASIN, IL

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
OLIGOCENE	PLIOCENE											
	E L.		PIAC.		150	F	COVER BASALT (2.0)		+ B		2,3,6	
	E		ZANCL.		150	F	GESHER FM FEJJAS TOFF		+ T		1,2	
	5		MESS.		200	B	BIRA FM				1,2,5	
	6.3		TORTONIAN				INTERMEDIATE BASALT (4.8)		+ B		7	
	10		MESS.		100	T	UM SABUNE CONGLOMERATE			⇓	2,3,4	
	12		TORTONIAN		400	T	HEROD FM.		+ + + + +		2,5	
	15.4		SERRAVAL.			L	LOWER BASALT (13.1, 14.5)		+ + + + +	⇓	6	
	16.5		SERRAVAL.			L	LOWER BASALT		+ + + + +	⇓	1,2	
	20		BURDIGALIAN								4	
	22.5		AQU.								3	
	24.5		CHATTIAN								5	

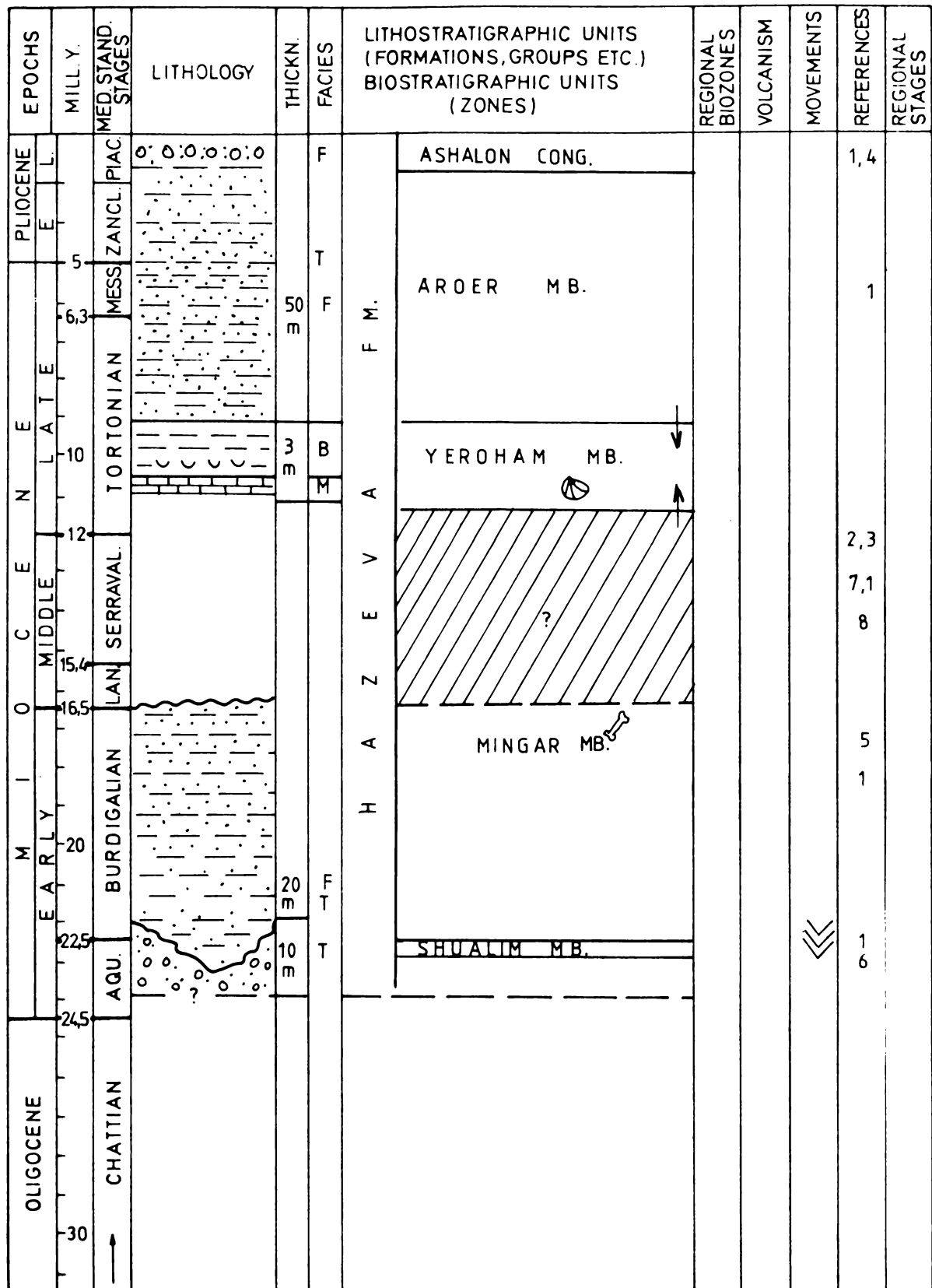
Author: G. GVIRTZMAN

Area No. 78: JORDAN RIFT VALLEY, IL

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
			5					SEDOM FM.			↙↙	1,2	
			6.3					BIRA FM.			↙↙	1,3	
			10										
			12										
			15.4										
			16.5										
			20										
			22.5										
			24.5										
OLIGOCENE			30										

Author: G. GVIRTZMAN

Area No. 79 c: YEROHAM BASIN, IL



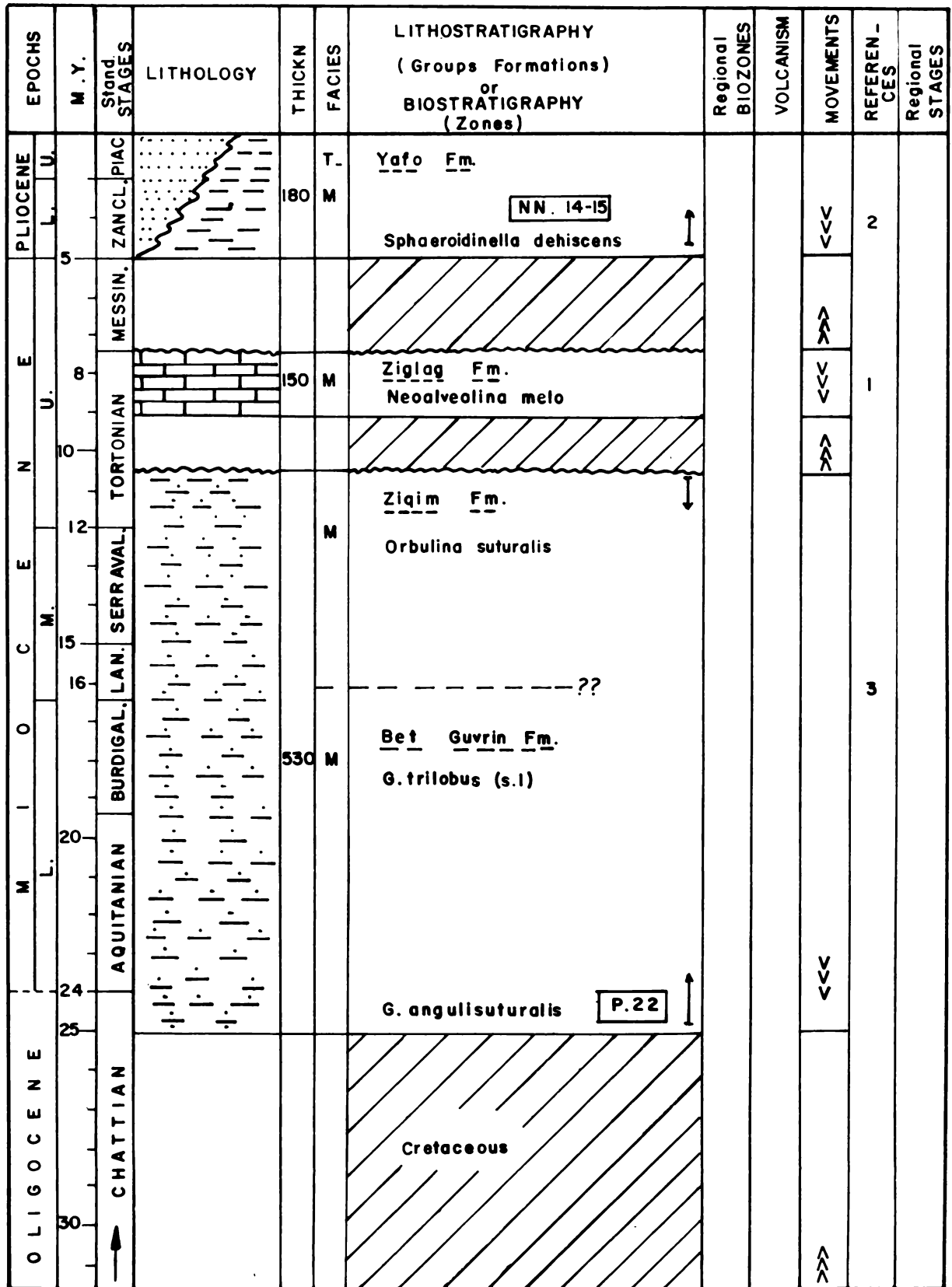
Author: G. GVIRTZMAN

Area No. 79 e: HAZEVA BASIN, IL

EPOCHS	PLIOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L											
OLIGOCENE	MIDDLE	LATE	5	MESS. ZANCL. PIAC.		80	TERT	HAZVA F. M.				1, 2, 3, 4, 5	
			6.3										
OLIGOCENE	EARLY		10	TORTONIAN		50	L				⇓⇓⇓		
			12										
OLIGOCENE	MIDDLE	LATE	15.4	LAN. SERRAVAL.		30	T						
			16.5										
OLIGOCENE	EARLY		20	BURDIGALIAN		50	L						
			22.5										
OLIGOCENE	EARLY		24.5	AQU.		30	T						
			24.5										
OLIGOCENE	EARLY		30	CHATTIAN		30	T						
			30										

Author: G. GVIRTZMAN

Area No. 75 b: ARISH AREA (N SINAI), ET



Author: I. EL-HEINY

Area No. 80 a 1: N RED SEA BASIN

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES			
PLIOCENE	U.														
O L I G O C E N E	M	L.	AQUITANIAN				Pre - Cambrian (Granite)								
													24		
	E	N	U.	TORTONIAN	Zigzag pattern	1350	H	Zeit & South Gharib Fms. Unfossiliferous	Ras Malaab Gr.		>>>				
														8	
														10	
														12	
		C	M.		SERRAVAL	Zigzag pattern			Belayim Fm	Gharandag Gr.	E		1		
															15
															16
															16
I	O		BURDIGALAN	Zigzag pattern			Kareem Fm N.9		C		2				
													180 M		
O				Zigzag pattern			Rudeis Fm. N. 7-8		B		3				
													1200 M		
L.			CHATTIAN	Dotted pattern			Nukhul Fm.		A	<<<					
													50 M		
P	L.		MESSINIAN	Zigzag pattern			Unnamed Fm. Undiagnostic fossils			<<<					
													250 M		
P	L.		ZANCLERIAN	Zigzag pattern						<<<					
													5		

Author: I. EL-HEINY

Area No. 80 a 2: N RED SEA BASIN

EPOCHS		M. Y.		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES												
OLIGOCENE	MIOCENE	PLIOCENE	Stand STAGES																					
30 25 24 20 16 15	M L. CHATTIAN	U. 25	AQUITANIAN	[Diagonal hatching]	3250	H	Pre - Cambrian (Granite)			^^														
													16 15	BURDIGAL, LAN. SERRAVAL	[Diagonal hatching]	3250	H	Zeit & South Gharib Fms	[Diagonal hatching]			^^		

Author: I. EL-HEINY

Area No. 80 b 1: N RED SEA BASIN, EGYPTIAN COASTAL PLAIN

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES	
OLIGOCENE	PLIOCENE												
M I O C E N E	L. U.	5	ZANCL. PIAC.		100	M	Shagara Fm. Neoalveolina pygmaeus	↑		↔↔↔			
					44	M	Gabir Fm Archias aduncus						
	U.	8	MESSIN.		36	M	Samh Fm. Balanus Concavus Tellina sp	↔		↗↗↗		7	
													10
	M.	12	SERRAVAL.		29	H	Abu Dabbab Fm Unfossiliferous	↔					
	L.	16	LAN.		36	M. T.	Gebel El-Rusas Fm. Upper non-clastic member Lower clastic member	↑	A	↘↘↘		6	
													20
	E	24	BURDIGAL.		120	T. L.	Nakhell Fm				↗↗↗	5	
													25
O	30	AQUITANIAN				Pre-Cambrian (Granite)							
												30	
L.	30	CHATTIAN				A : Nealveolina melo				↗↗↗			
												30	

Author: I. EL-HEINY

Area No. 80 b 2: N RED SEA BASIN

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
L.	U.	5	ZANCL. PIAC		580 M	M	Shagara Fm.	A		↕		
							Gabir Fm.					
E	U.	8	MESSIN.		280 M	M	Samh Fm			^^^	7	
							Abu Dabbab Fm					
E	M.	12	SERRAVAL		210 H	H	Abu Dabbab Fm			↕		
							Gebel El-Rusas Fm. Non-clastic beds					
C	M.	15	LAN.		72 M	M	Red arkosic sand	A		↕	6	
							Zug El-Bahar Gr.					
O	M.	16	BURDIGAL.		240 T	T	Nakheil Fm. Weathered andesitic and granitic rocks			↕	5	
							Pre - Cambrian (Granite)					
M	L.	20	AQUITANIAN				Pre - Cambrian (Granite)			^^^		
							A' Neolueolina melo					
O	L.	24	CHATTIAN				A' Neolueolina melo			^^^		
							A' Neolueolina melo					
E	L.	25	CHATTIAN				A' Neolueolina melo			^^^		
							A' Neolueolina melo					
O	L.	30	CHATTIAN				A' Neolueolina melo			^^^		
							A' Neolueolina melo					

Author: I. EL-HEINY

Area No. 81 a 1: GULF OF SUEZ BASIN

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	U.		PIAC				Unnamed Fm					
L.	L.		ZANCL		500 M		Ostracodes			<<<	2	
	5		MESSIN.									
	8		TORTONIAN									
	10											
	12		SERRAVAL.									
	15		LAN.									
	16		BURDIGAL.		500 M		Rudeis Fm			>>>	1	
					80 M		Nukhul Fm			<<<	2	
	20		AQUITANIAN									
	24						Jurassic					
	25		CHAT TIAN									
	30									>>>		

Author: I. EL-HEINY

Area No. 81 a 2: GULF OF SUEZ BASIN

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES						
PLIOCENE	U.																	
MIOCENE	U.	5	ZANCLIPAC		500 M		Unnamed Fm. Unfossiliferous			V V V								
		E	8	MESSIN.							^ ^ ^							
			N	10	TORTONIAN			H M	Zeit Fm. Unfossiliferous									
				E	12	SERRAVAL		400										
					M.	15	LAN.		260 M	H.	Belayim Fm.							
	O	16	BURDIGAL.			200 M		Kareem Fm.	N. 9-10	E			3					
		M	20	AQUITANIAN		840 M		Rudeis Fm.	N. 7, 8	D C B	V V V	1						
														60 M	Nukhul Fm.	A		
	OLIGOCENE	L.	24	CHATTIAN				Eocene			^ ^ ^							
			25															
25																		
25																		
30																		

Author: I. EL-HEINY

Area No. 81 a 3: GULF OF SUEZ BASIN

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES										
O L I G O C E N E	P L I O C E N E	5	U.		930	L	Unnamed Fm. Unfossiliferous															
			L.			T																
	E	U.	8	MESSIN. ZANCL. PIAC.				Zeit Fm. Unfossiliferous			^ ^ ^											
				TORTONIAN										H								
				930 M																		
	M.	SERRAVAL.	12	TORTONIAN		70	H	South Gharib Fm. Unfossiliferous														
														15	520	H	Belayim Fm	E				
														16	230	M	Kareem Fm		N.9-10			
	M.	BURDIGAL.	20	LAN.				Rudeis Fm	N.8	↑	D	C	3									
														180	M							
M.	AQUITANIAN	24	BURDIGAL.				Pre - Cambrian (Granite)															
													25	CHATTIAN								^ ^ ^

C : G. sicanus
 D : P. glomerata
 E : Orb. suturalis - G. fohsi Peripheroronda

Author: I. EL-HEINY

Area No. 81 a 4: GULF OF SUEZ BASIN

EPOCHS	PLIOCENE		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
	M. Y.	Stand STAGES									
MIOCENE	U.	PLIAC.		215	M	Unnamed Fm Unfossiliferous			↔		
	L.	ZANCL.									
Eocene	5	MESSIN.		380	H- M	Zeit Fm Unfossiliferous			↔		
	8	TORTONIAN									
	10	SERRAVAL.									
	12	BURDIGAL.									
OLIGOCENE	15	LAN.				Eocene			↔		
	16	BURDIGAL.									
	20	AQUITANIAN									
	24	CHATTIAN									
	25										
	30										

Author: I. EL-HEINY

Area No. 81 a 5: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	L.		PIAC		1000	T	Unnamed Fm.					
	5		MESSIN.									
	8		TORTONIAN		300 H	H	Zeit Fm. Unfossiliferous					
	10											
	12		SERRAVAL.		300 H	H	South Gharib Fm. Unfossiliferous					3
	15		LAN.		130	H-M	Belayim Fm.					4
	16		BURDIGAL.		80	M	Kareem Fm.					
					740	M	Rudeis Fm.					
							N. 7, 8					
					110	M	Nukhul Fm.					
	20		AQUITANIAN				A: G. altiapertura B: G. trilobus trilobus C: G. sicanus D: P. glomerosa E: Orb. suturalis - G. f. peripheroronda					
	24											
	25		CHATTIAN		100	T	Abu Zenima Fm (Red beds) Reworked upper Lutetian Nummulites		+ B			
	30						Eocene					

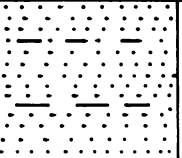
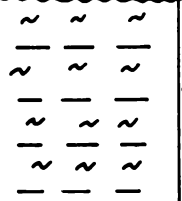
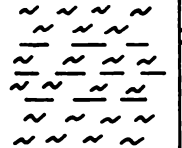
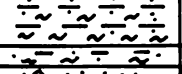


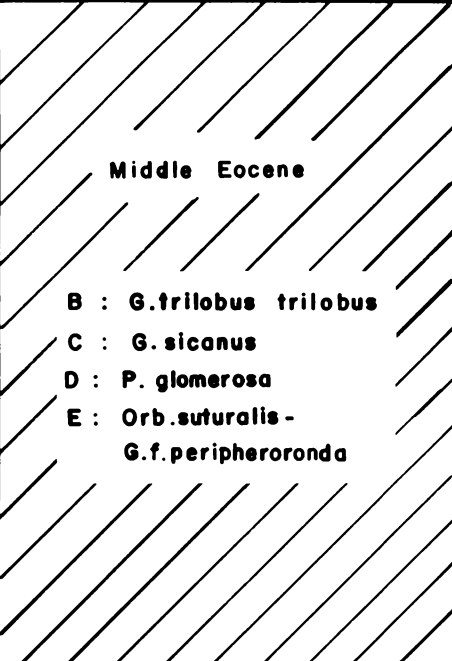
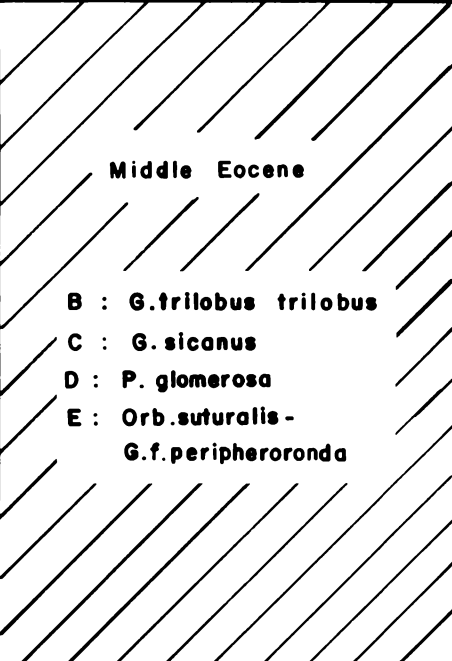
Author: I. EL-HEINY

Area No. 81 a 6: GULF OF SUEZ BASIN, ET

EPOCHS	PLIOCENE		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
	L.	U.											
O L I G O C E N E	M	L.	5	MESSIN.		130 M	M	Unnamed Fm. Undiagnostic forams			 		
	E	M.	12	SERRAVAL		76 H	H	South Gharib Fm. Unfossiliferous					
													C
	O	M.	16	BURDIGAL.		84 M	M	Kareem Fm.	D		4		
												I	L.
	E	U.	24	CHATTIAN				Middle Eocene	B	B : G trilobus trilobus C : G sicanus D : P. glomerosa C : Orb. suturalis G. f. peripheroronda			
												O	L.
	L.	U.	30										

Author: I. EL-HEINY

Area No. 81 a 7: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES	
PLIOCENE	L. U.	5	ZANCL. PIAC.		1335	T	Unnamed Fm. Unfossiliferous						
			MESSIN.										
Eocene	U.	8-10	TORTONIAN		460	H	Zeit Fm. Unfossiliferous			^^			
			SERRAVAL.		300	H	South Gharib Fm. Unfossiliferous						
			SERRAVAL.		300	H	Belayim Fm.		E				3
			LAN.		150	M	Kareem Fm.						
Oligocene	M.	15-16	BURDIGAL.		580	M	Rudeis Fm. N. 7, 8			∩		4	
			BURDIGAL.										
MIOCENE	L.	20-24	AQUITANIAN				Middle Eocene						
OLIGOCENE	L.	25-30	CHATTIAN				B : G. trilobus trilobus C : G. sicanus D : P. glomerosa E : Orb. suturalis - G.f. peripheroronda			∩			

Author: I. EL-HEINY

Area No. 81 a 8: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	U.											
E	U.	5	MESSIN. ZANCL. PIAC		700 M		Unnamed Fm Undiagnostic forams			<<<		
		8	TORTONIAN		980 M	H-	Zeit Fm Unfossiliferous			>>>		
E	M.	12	SERRAVAL		330 M	H-	South Gharib Fm Unfossiliferous			<<<	1	
		15	LAN. ?									
O	L.	16	BURDIGAL.				Pre-Cambrian (Granite)					
		20	AQUITANIAN									
O	L.	24	CHATTIAN							>>>		
		25										
		30										

Author: I. EL-HEINY

Area No. 81 a 9: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
OLIGOCENE	PLIOCENE												
OLIGOCENE	M. L.	30	CHATTIAN				Pre-Cambrian (Granite)			^^^			
		25	AQUITANIAN										
		24											
		20	BURDIGALIAN										
		16	LANCENIAN										
MIOCENE	M.	15	SERRAVALIAN		65 M	H ₁	Belayim Fm. N.9-10			<<<			
		12	TORTONIAN		230 M	H ₁	Zeit Fm. Unfossiliferous			>>>			
		8	MESSINIAN							>>>			
		5	ZANCLADIAN		260 M		Unnamed Fm. Undiagnostic fossils			<<<			
			PIACENTIAN							<<<			
PLIOCENE													

Author: I. EL-HEINY

Area No. 81 b 1: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES	
PLIOCENE	U.												
E N E C E N O M I M O L I G O C E N E	5	L.	ZANCL. PIAC.		350 M	M	Unnamed Fm. Undiagnostic megafossils			∨ ∨ ∨			
			MESSIN.							∧ ∧ ∧			
	8	U.	TORTONIAN		490 M	H-	Zeit Fm. Unfossiliferous						
			SERRAVAL.		730 H	H	South Gharib Fm. Unfossiliferous						
	15	M.	LAN. SERRAVAL.		200	H-M	Belayim Fm. N. 9-10	E					
			BURDIGAL.		1260	M	Kareem - Rudeis Fm. N. 7, 8, 9	D C B		∨ ∨ ∨	3		
	20	L.			90 M	M _h	Nukhul Fm	A			∨ ∨ ∨		
			AQUITANIAN				Eocene to Pre - Cambrian						
	25	E		CHATTIAN									
30													

Author: I. EL-HEINY

Area No. 81 b 2: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	OLIGOCENE											
L.	U.	5		130		Unnamed Fm. Undiagnostic forams			↔↔			
												MESSIN.
U.	N.	8		390 H		Zeit Fm.			↕			
												TORTONIAN
												SERRAVAL
12		395 H		South Gharib Fm			↕					
M.	C.	15		37	H-M	Belayim Fm. N.9-10		↑	↕↕↕	I		
												BURDIGAL.
L.	M.	20				Pre-Cambrian (Granite)			↕↕↕			
												AQUITANIAN
												24
CHATTIAN												

Author: I. EL-HEINY

Area No. 81 b 3: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
L.	U.		PIAC		40 M	M	Unnamed Fm			↔↔↔		
		5	ZANCL.									
	E		MESSIN							↗↗↗		
	U.	8	TORTONIAN		240 H-M	H-M	Zeit Fm Ammonia beccarii					
		10										
	E	12	SERRAVAL		150 H	H	South Gharib Fm					
		15	LAN.		90 H	H	Belayim Fm Reworked Nummulites					1
	M.	16	BURDIGAL		150 M	M	Kareem Fm					2
					50 M	M	Rudeis Fm	N. 8		↘↘↘		
	L.	20	AQUITANIAN				Pre-Cambrian (Granite)					
		24										
	E	25	CHATTIAN				C: G. sicanus			↗↗↗		
		30										

Author: I. EL-HEINY

Area No. 81 c: GULF OF SUEZ BASIN, ET

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES			
O L I G O C E N E	M L.	20	BURDIGAL. LAN.		20	L.T.	Abu Girfan Em.	Gharandal Fm.			↕				
							Gharamul Fm.						Ros Malaab Fm.		
							Gemsa Fm.							365 M. H.	
							Sarbut EL-Gamal Fm.								380 H.
							Unfossiliferous								
E O C E N E	U.	5-8	MESSIN. ZANCL. PIAC.		117	M.	Shukheir Fm.			↕					
							Megafossils								
							Unfossiliferous								
P L I O C E N E	L. U.	5								↕					
O L I G O C E N E	M L.	24-25	AQUITANIAN				Eocene			↕					
O L I G O C E N E	M L.	25-30	CHATTIAN							↕					

Author: I. EL-HEINY

Area No. 82 a 1: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES	
PLIOCENE	OLIGOCENE												
L.	U.	5	PIAC		180	B-M	El Wastani Fm.						
			ZANCL.		740	M	Kafr El-Sheikh Fm.						
					60	M	Abu Madi Fm. N.18						
E	U.	8	MESSIN.				Sidi Salem Fm.						
			TORTONIAN		230	M	G. cf. menardii / Gypsina, Amphistegina					1 2	
			SERRAVAL.				Orbulina suturalis						
			LAN.				N.9-14						
			BURDIGAL.		940	M B F	G. sicanus N.8 Moghra Fm. ? N.5-7					8	
E	U.	24	AQUITANIAN				Agglutinating forams						
			CHATTIAN		25	M	Ghoroud Fm. G. opima opima P.21						
							Cretaceous						

Author: I. EL-HEINY

Area No. 82 a 2: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	U.		PIAC		500	B M	El - Wastani Fm	A B C D E			4	
	L.		ZANCL		1400	M	Kafr El - Sheikh Fm					
		5			460	M	Abu Madi Fm					
E			MESSIN.		600	F B M	Qawasim Fm Ostracode, A. beccarii - Reworked Nummulites					
		8				M	Sidi Salem Fm Undiagnostic forams				1	
		10		TORTONIAN							2	
		12		SERRAVAL.		1000		G. plexus mayeri				
C	M.	15	LAN.				Orb. suturalis - G.f. peripheroronda					
		16	BURDIGAL.	??			??					
M	L.	20	AQUITANIAN				A : Sphaeroidinellopsis acme } B : G. margaritae } N. 18					
		24					C : G. puncticulata } D : G. aemiliana } E : G. crassaformis } N. 19 - 20					
		25	CHATTIAN									
O		30										

Author: I. EL-HEINY

Area No. 82 a 3: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES	
PLIOCENE	U.												
P L I O C E N E	U.		PIAC		30 M		EL- Wastani Fm.			↕			
	L.		ZANCL		300 M		Kafr El-Sheikh Fm.	BCD		↕	4		
	5				30 M		Abu Madi Fm.	A		↕			
M I O C E N E	U.	8	MESSIN.		310 M		Sidi Salem Fm. G. extremus			↕			
			TORTONIAN								↕	1	
			SERRAVAL.		430 M		G. plexus mayeri Orb. suturalis - G.f. peripheroronda P. glomerata - G. sicanus			↕	2		
O L I G O C E N E	L.	20	BURDIGAL.		730 M		Rudeis Fm. G. trilobus (s.l)				2		
			AQUITANIAN				G. primordius						
			CHATTIAN		880 M		Lepidocyclina sp G. angulicentralis Ghoroud Fm. G. opima opima G. increbescens						
		25											
		30								↕			

Author: I. EL-HEINY

Area No. 82 a 4: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regiond BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES						
O L I G O C E N E	M I O C E N E	L. U.	PIAC		180	B-M	EL- Wastani Fm.	B C D E F G H A			4							
			ZANCL.		1750	M	Kafr El-Sheikh Fm.											
	MESSIN.		470	M	Abu Madi Fm.													
	E O C E N E	U. M.	TORTONIAN	ROSETTA		50	HM	Rosetta Anhydrite Fm.										
				SERRAVAL.	LAN.	BURDIGAL.	AQUITANIAN	CHATTIAN						800	M	Ammonia beccarii Undiagnostic forams Sidi Salem Fm G. plexus mayeri Orbulina suturalis - G.f peripheroronda N.9-10		
																	??	??

Author: I. EL-HEINY

Area No. 82 a 5: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	U.											
P	L.	5	ZANCLIPAC		180	B-M	EL - Wastani Fm	C B A		<<<	2	
					170	M	Kafr EL-Sheikh Fm					
	360	M	Abu Maadi Fm									
E	U.	8	MESSIN.		120	H-M	Sidi Salem Fm Undiagnostic + reworked fossils			<<	1	
											>>>	
E	M.	15	SERRAVAL		450	M	Sidi Salem Fm G. plexus mayeri Orbulina suturalis - G. f. peripheroronda			<<<	2	
M	L.	20	BURDIGAL.	??			??					
O	L.	24	AQUITANIAN									
O	L.	25	CHATTIAN									
O	L.	30										

Author: I. EL-HEINY

Area No. 82 a 6: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	U.		PIAC		260	B-M	El- Wastani Fm.			∇		
L.	L.		ZANCL		1300	M	Kafr El-Sheikh Fm.	D		∇		
		5			280		Abu Madi Fm.	C		∇		
			MESSIN.		40	H-M	Rosetta Anhydrite Fm.	B		∇		
		8					G. extremus N.16-17	A		∇	1	
		10	TORTONIAN		1100	M	Sidi Salem Fm.			∇		
		12					G. menardii group N. 15			∇		
		15	SERRAVAL.				G. plexus mayeri N. 11 - 14			∇	2	
		16	LAN.				Orbulina suturalis - G.f. peripheroronda N. 9-10			∇		
			BURDIGAL.		180	M	G. sicanus N. 8			∇		
		20					Rudeis Fm. G. trilobus (s.l) N.6-7			∇		
		24	AQUITANIAN	??			??			∇		
		25										
		30	CHATTIAN									

Author: I. EL-HEINY

Area No. 82 b 1: NILE DELTA BASIN, ET

EPOCHS		M. Y.	STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
OLIGOCENE	PLIOCENE											
30												
25			CHATTIAN		330	F B E	Qatrani Fm Agglutinating forams			<<<		6
24			AQUITANIAN						+B			5
20												
12			BURDIGAL, LAN. SERRAVAL, TORTONIAN				A : G . puncticulata B : G . aemiliana C : G . crassaformis					
6												
5			MESSIN. ZANCL. PIAC				Kafr El-Sheikh Fm N. 19-20	abc		>>>		
					365	M					6	

Author: I. EL-HEINY

Area No. 82 b 2: NILE DELTA BASIN, ET

EPOCHS		M. Y.	STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES	
PLIOCENE	U.		PIAC		20	F B	Helwan Fm Melanopsis sp						
	L.		ZANCL		25	B M	Kom EL-Shelu Fm Ostracode			∇	5		
MIOCENE		5	MESSIN.										
		8	TORTONIAN										
		10											
		12	SERRAVAL.										
		15	LAN.										
		16	BURDIGAL.										
		20	AQUITANIAN										
		24			?	T		Abu Zabaal Fm (22.9)		+B		3	
		25											
		30			?	T		Abu Zabaal Fm (28)		+B		3	
OLIGOCENE							Eocene			∧			

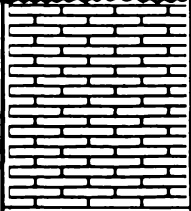
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Area No. 82 c: NILE DELTA BASIN, ET

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	5	MESSIN. ZANCL. PIAC.	L. L.	[Diagonal hatching]	25	B M	Hamzi Fm. <i>Perinella conica</i>			V	5	
U.	8	TORTONIAN	L.	[Diagonal hatching]	20	B L	Hagui Fm.			^	8	
M.	12	SERRAVAL	L.	[Brick pattern]	68	M	Geneve Fm. <i>Neovalveolina melo</i>			^	7,8	
M.	15	LAN.	L.	[Brick pattern]	50	M	Hommath Fm. <i>Miogyssina cushmani</i>					
M.	16	BURDIGAL.	L.	[Brick pattern]	52	M	Sadat Fm. <i>Miogyp - globulina - intermedia</i>			V		
L.	20	AQUITANIAN	L.	[Diagonal hatching]								
L.	24	CHATTIAN	L.	[Diagonal hatching]	25	T	Abu Zabaal Fm. (23.8)		+ B		3	
L.	25	CHATTIAN	L.	[Diagonal hatching]	50	T	Gebel Ahmar Fm Silicified tree trunks & fresh water snails			^	5	
L.	30	CHATTIAN	L.	[Diagonal hatching]								

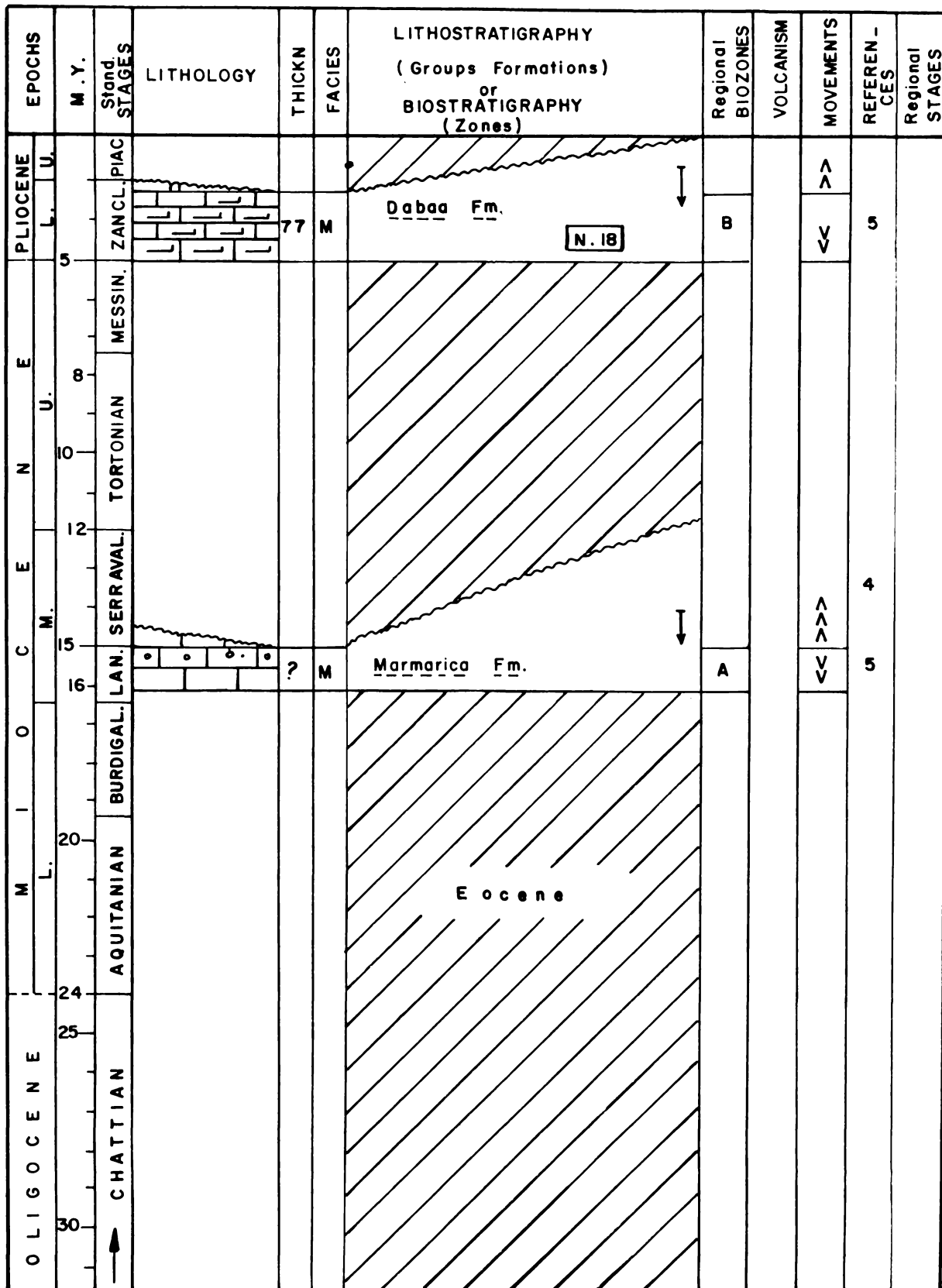
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Area No. 83 a 1: LIBYAN PLATEAU, W DESERT OF EGYPT

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
OLIGOCENE	PLIOCENE											
30			CHATTIAN									
25			AQUITANIAN									
24												
20			BURDIGALIAN									
16			LAN. SERRAVAL		214	M	Marmarica Fm Neoalveolina melo N.9 and younger				2	
15												
12			TORTONIAN								4	
10												
8												
5			MESSIN. ZANCL. PIAC									

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Area No. 83 a 2: LIBYAN PLATEAU, W DESERT OF EGYPT



Author: I. EL-HEINY

Area No. 83 b; LIBYAN PLATEAU, W DESERT OF EGYPT

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
OLIGOCENE	MIOCENE											
25	8	5	ZANCLIAN									
24	10	8	TORTONIAN							>>>	4	
23	12	12	SERRAVAL		80 M		<u>Marmarica Fm</u> Neoalveolina melo N. 9 and younger				8	
22	15	15	LAN. SERRAVAL									
21	16	16	BURDIGALAN		240 M		G. sicanus N. 8 <u>Mamura Fm</u> G. trilobus (s.l.) N. 5, 6, 7				1	
20	20	20	AQUITANIAN								2	
19	24	24	CHATTIAN		140 M		G. primordius - Miogypsinoides Complanatus N. 4 G. angulicaturalis - <u>Lepidocyclina radiata</u> P. 21 <u>Ghoroud Fm</u> G. opima P. 21				3	
18	25	25					G. sellii P. 19-20			<<<		

Author: I. EL-HEINY

Area No. 83 c: LIBYAN PLATEAU, W DESERT OF EGYPT

EPOCHS		M. Y.	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	U.										
E	N	5				[Diagonal hatching]					
		8									
E	C	10				[Diagonal hatching]					
		12									
M	O	140	[Brick pattern]	140 M	Marmarica Fm Neoalveolina melo [N.9] and younger	[Diagonal hatching]			^ ^ ^	4	
		15	[Brick pattern]							2	
M	I	16	[Dotted pattern]	190 M	Mamura Fm [N.8]	[Diagonal hatching]			v v v	3	
		20									
O	L	24			Middle Eocene	[Diagonal hatching]					
		25									
O	L	30				[Diagonal hatching]					

Author: I. EL-HEINY

Area No. 83 d 1: LIBYAN PLATEAU, W DESERT OF EGYPT

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	U.		PIAC		86	M	Dabaa Fm. G. puncticulata			↕	6	
	5		MESSIN.									
	8		TORTONIAN							↗↗		
	10											
	12		SERRAVAL.		350	M	Sidi Salem Fm. Neoalveolina melo- Orbulina suturalis			↕	2	
	15		LAN. SERRAVAL.							↕↕	3	
	16		BURDIGAL.									
	20		AQUITANIAN		760	B M	Moghra Fm. Unfossiliferous or with undiagnostic forams				6	
	24											
	25		CHATIAN		530	M	Unfossiliferous Ghoroud Fm. G. opima opima G. sellii			↕		
	30									↕		

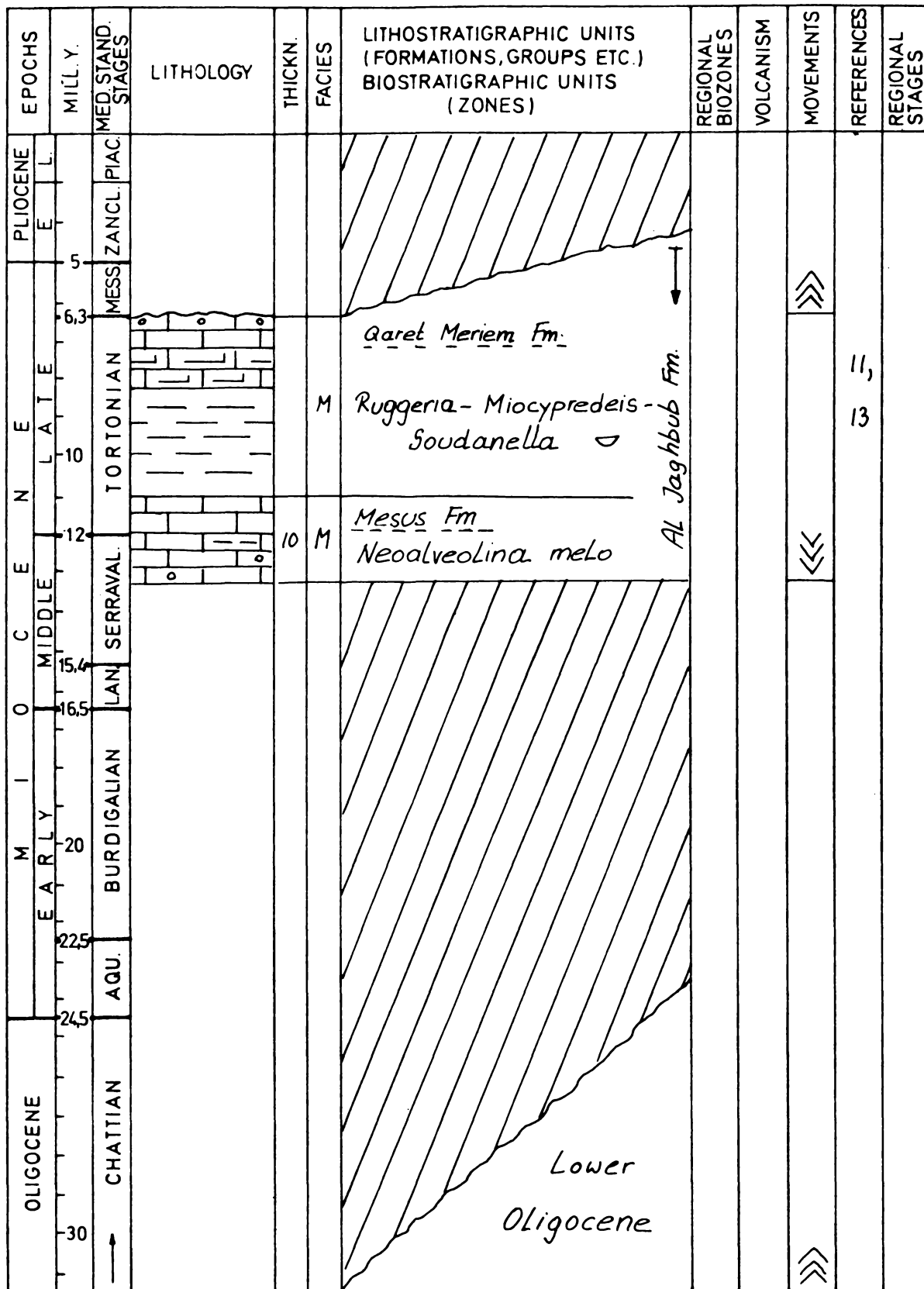
Author: I. EL-HEINY

Area No. 83 d 2: LIBYAN PLATEAU, W DESERT OF EGYPT

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	U.	5	ZANCLIPAC		100	F B M	Gar EL- Muluk Fm Ostrea cucullata Vertebrate remains			<<<	7	
	E	8	MESSIN.									
	N	10	TORTONIAN									
	E	12	SERRAVAL.							>>>		
	M.	15										
	O	16	BURDIGAL. LAN.			F B M	Moghra Fm Unfossiliferous or with undiagnostic forams					
	L.	20	AQUITANIAN		258							
		24			42	T	Abu Zabaal Fm		+B			
	E	25	CHATTIAN		394	F M	No fauna Ghoroud Fm					
		30					G. sellii			<<<		

Author: I. EL-HEINY

Area No. 84 a: CYRENAIQUE PLATFORM, LAR



Author: I. EL-HEINY

Area No. 84 b: CYRENAIQUE PLATFORM, LAR

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE											
E	L											
		5	MESS. ZANCL. PIAC.									
		6.3					AL Jaahbub Fm.			↗↗↗		
	L A T E	10	TORTONIAN		93 M						2, 6, 12	
		12					<i>Pecten cristato costatus,</i> <i>Scutella ammonis</i> ⊕			∨		
	M I D D L E	15.4	SERRAVAL				<i>Neovalveolina melo-</i> <i>Orbulina suturalis</i> ⊗			∨		
		16.5					<i>Faidia Fm.</i>					
	E A R L Y	20	BURDIGALIAN				<i>Miogypsina, Operculina</i>					
		22.5			60 M		<i>Miogypsinoides</i>			∨	2, 6, 12	
		24.5	AQU.							∨		
		30	CHATTIAN				<i>Operculina complanata</i> <i>L(Eulepidina) formosa</i>				2, 6, 12	








Author: I. EL-HEINY

Area No. 85: AUGILA DEPRESSION, LAR

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES													
PLIOCENE	OLIGOCENE																								
P	L	5	ZANCLIPAC			T	<i>Sahabi Fm.</i> Crocodiles, Hippopotami, Rhinoceros				4,10														
													E												
C	M	6.3	MESS																						
													E	LATE	TORTONIAN	37	M	<i>Mesus Fm.</i> <i>Neovalveolina melo</i>	Ar Rajmah Gr	2,7					
																					M	H	40	M	<i>Sceleidina Fm.</i> <i>Lucina ornata</i>
																					O	MIDDLE	LAN	20	B
E	EARLY	BURDIGALIAN	24.5	AQU.																					
									O	MIDDLE	LAN	30	CHATTIAN												
O	EARLY	BURDIGALIAN	30	CHATTIAN																					

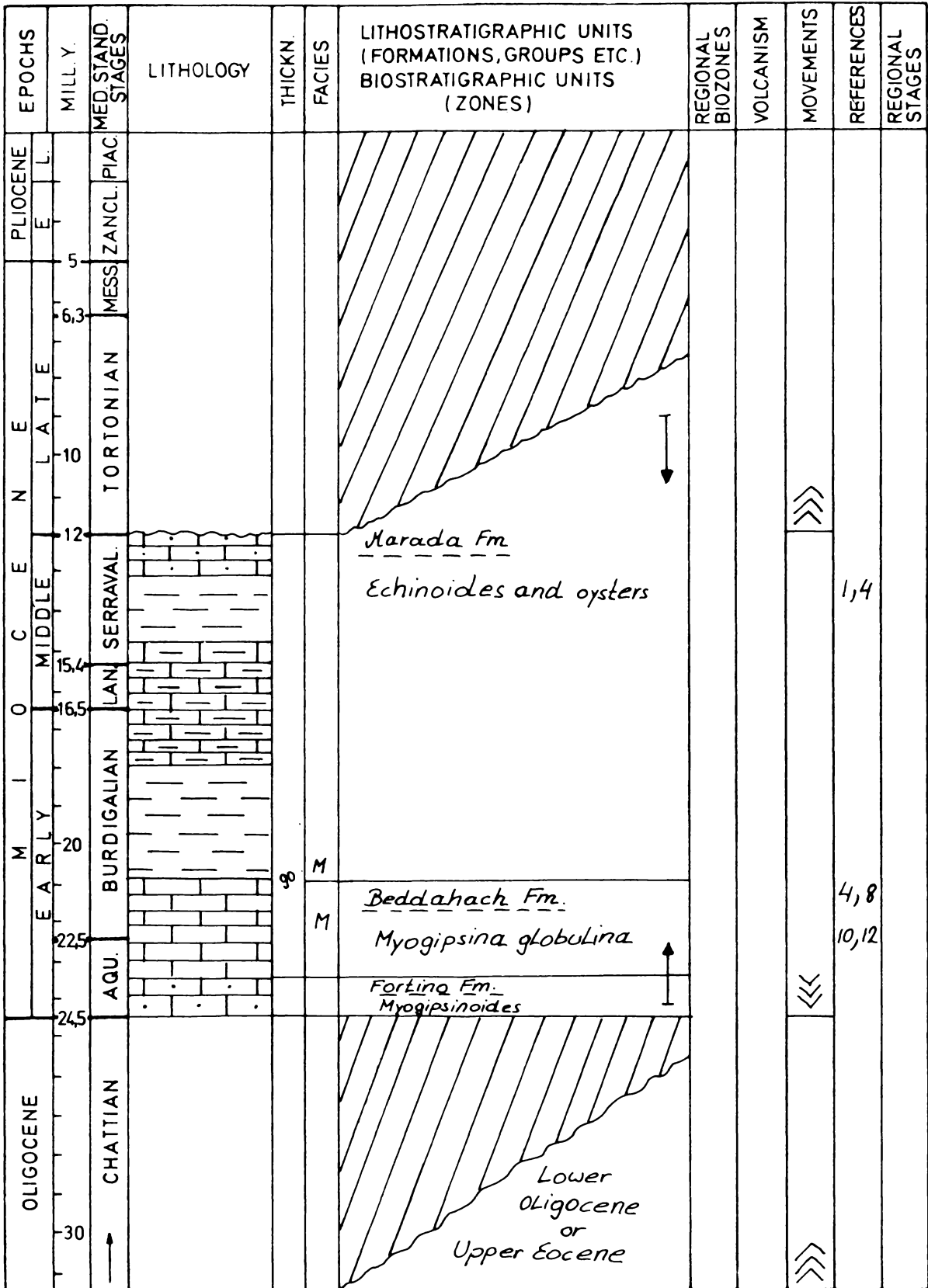
Author: I. EL-HEINY

Area No. 86: SIRTE BASIN, LAR

EPOCHS		MED. STAND. STAGES		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.	PLIAC.	ZANCL.									
MIOCENE	LATE	5	MESS.		160	T.	Marada Fm. Scutella, Clypeaster 			 	3	2
		6.3	TORTONIAN									
MIOCENE	EARLY	15.4	LAN.		180	M	Diba Fm. No Fauna			 	2	
		16.5	BURDIGALIAN									
OLIGOCENE	CHATTIAN	22.5	AQU.		180	M				 		
		24.5										

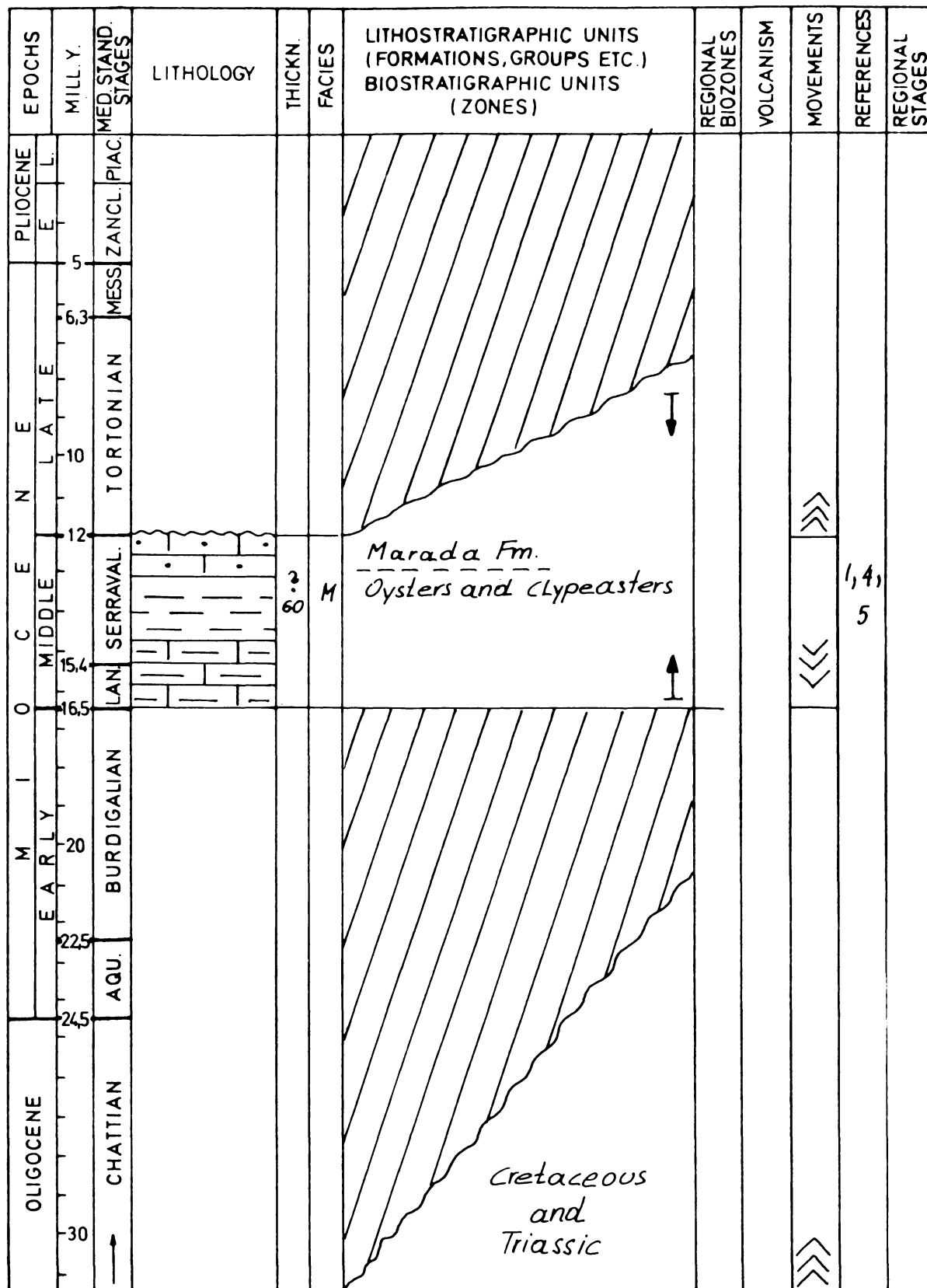
Author: I. EL-HEINY

Area No. 87: MISURATA CORRIDOR, LAR



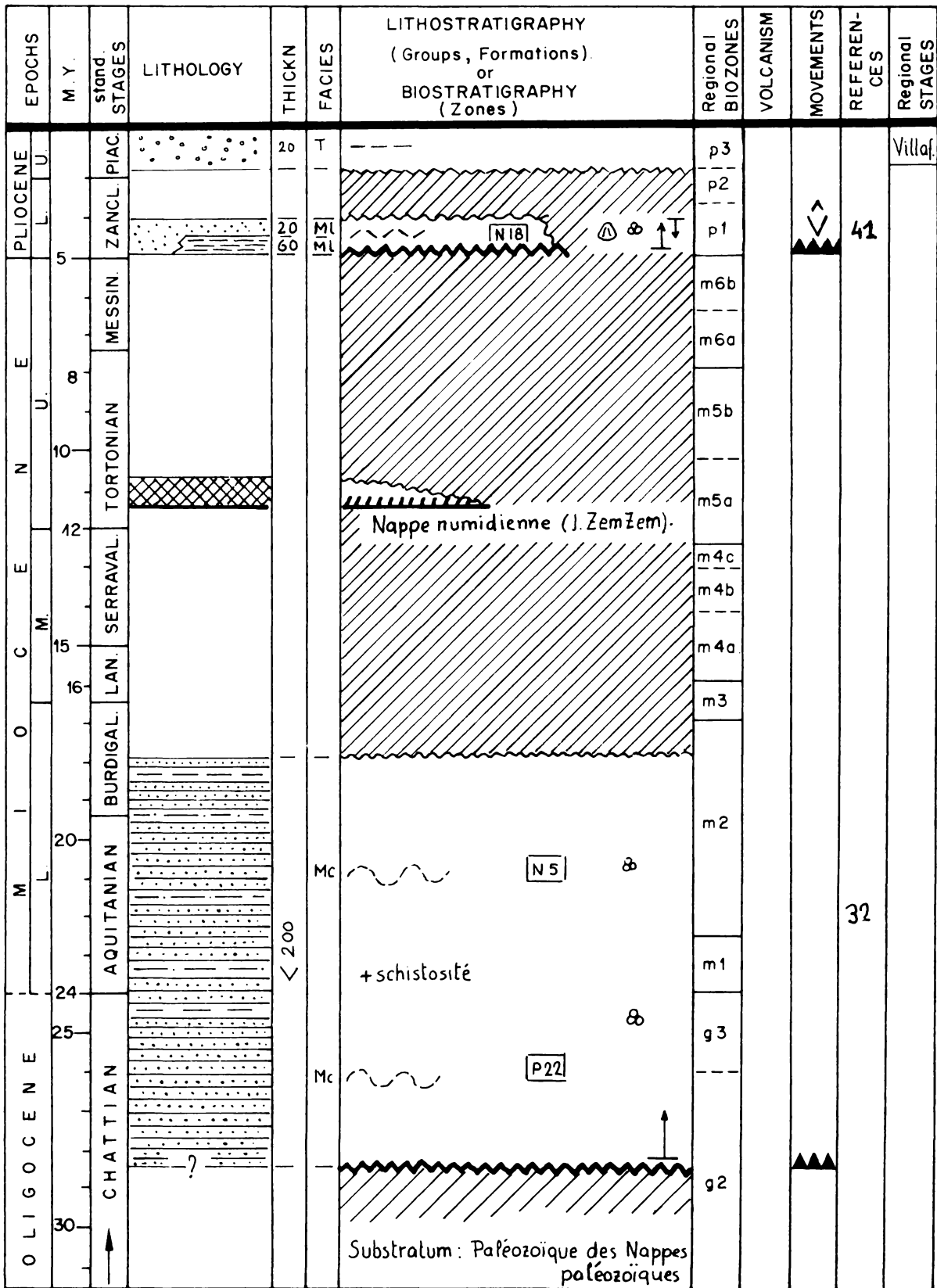
Author: I. EL-HEINY

Area No. 88: DJEFARA PLATEAU, LAR



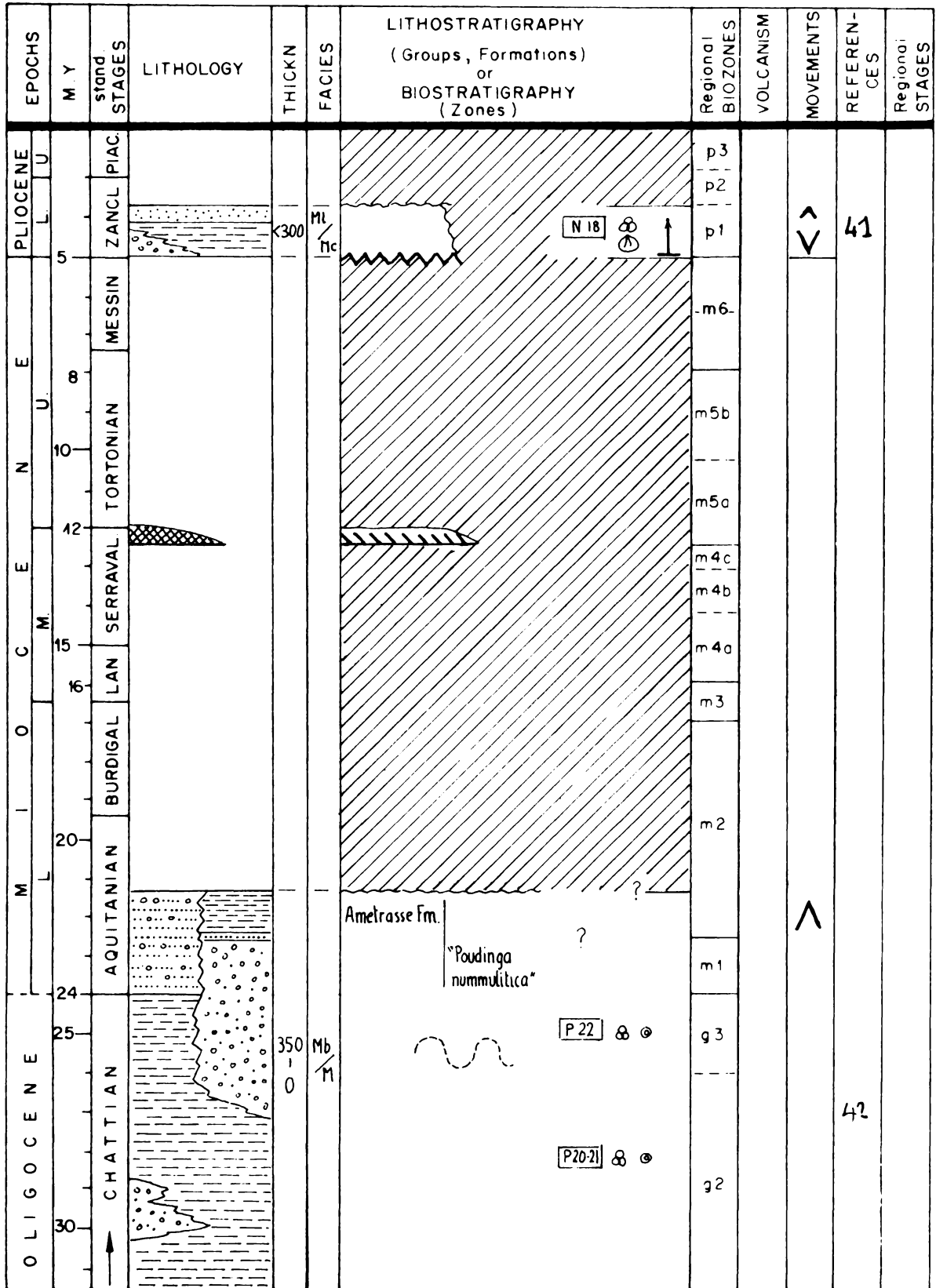
Author: I. EL-HEINY

Area No. 89 a: NAPPES PALEOZOIQUES (D'AKAILI) (=GHOMARIDES), MA



Author: G. SUTER

Area No. 89 b / 97 d: CHAINES CALCAIRES / OUED LAU, MA



Author: W. WILDI

Area No. 90 a: ZONES DES FLYSCHS PREDORSALIENS, MA

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U			PIAC					p3				
L			ZANCL					p2				
		5	MESSIN.					p1				
E		8						m6				
		10	TORTONIAN					m5b				
		12						m5a				
		15	SERRAVAL.					m4c				
		16	LAN.					m4b				
								m4a				
			BURDIGAL.					m3				
		20	AQUITANIAN					m2				
		24						m1				
		25						g3				
		30	CHATTIAN		100 m			g2				

Author: G. SUTER

Area No. 90 b: NAPPES DES GRES NUMIDIENS, MA

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
			PIAC.					p3				
			ZANCL.					p2				
		5						p1				
			MESSIN.					m6b				
								m6a				
		8						m5b				
			TORTONIAN					m5a				
		10						m4c				
			SERRAVAL.					m4b				
		12						m4a				
								m3				
		15						m2				
			BURDIGAL.					m1				
		16										
			LAN.									
		20										
			AQUITANIAN									
		24										
		25										
			CHAT TIAN		300 M		"Grès numidiens"	g3				
		30			50 M		"Argiles sous-numidiennes" (à Tubolomaculum)	g2				

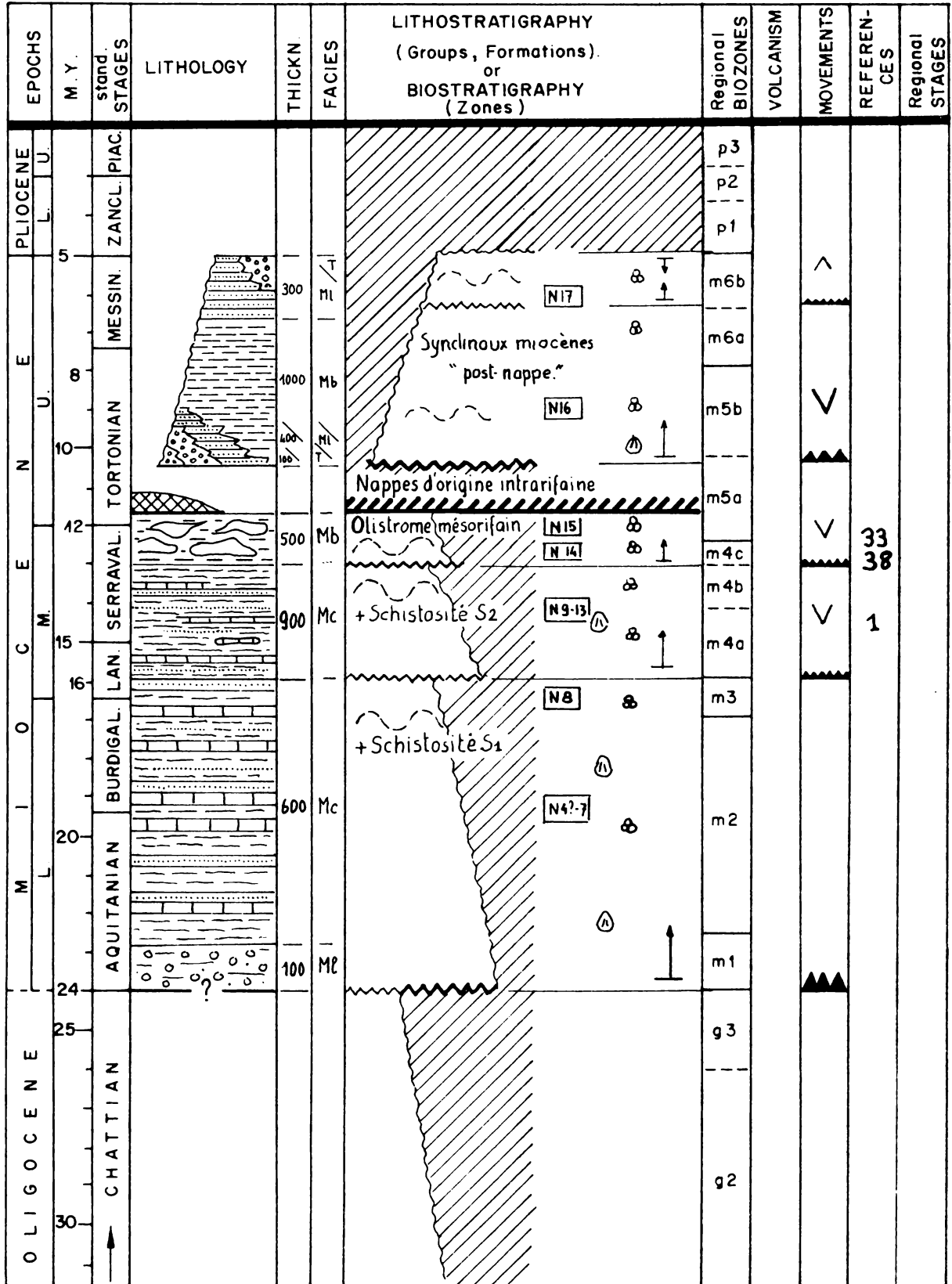
Author: G. SUTER

Area No. 91 a: NAPPES DU HABT, DE QUEZZANE (COUVERTURE DECOLLEE DES ZONES INTRARIFAINES), MA

EPOCHS		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES				
M. Y.	stand. STAGES													
M I O C E N E	P L I O C E N E													
											U	PIAC	p3	
											L	ZANCL	p2	
											L		p1	
											5	MESSIN	m6b	
	M I O C E N E	M I O C E N E												
												8	TORTONIAN	m6a
												10		m5b
												12	SERRAVAL	m5a
												15	LAN. SERRAVAL	N15 N14
M I O C E N E	M I O C E N E													
											15	LAN. SERRAVAL	N9-13	m4b
											16	BURDIGAL	N8	m4a
											20	AQUITANIAN	N4-7	m3
											24	CHATTIAN	P22	m2
O L I G O C E N E	O L I G O C E N E													
											25	CHATTIAN	P21	m1
O L I G O C E N E	O L I G O C E N E													
											30	CHATTIAN	P21	g3
									33 37 38					

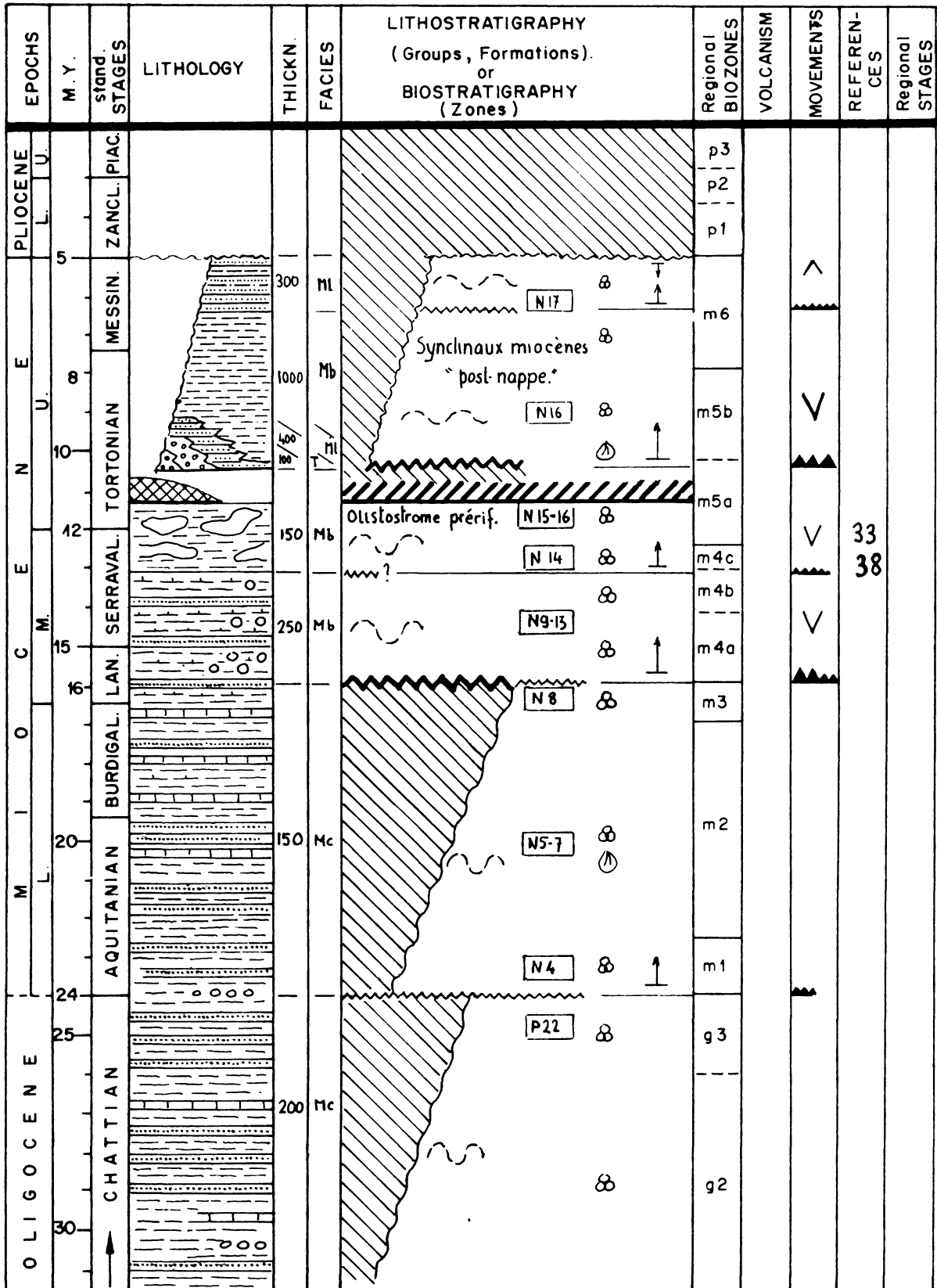
Authors: G. SUTER & D. LEBLANC

Area No. 92 a / 94 a: ZONES MESORIFAINES / SYNCLINAUX POST-NAPPES, MA



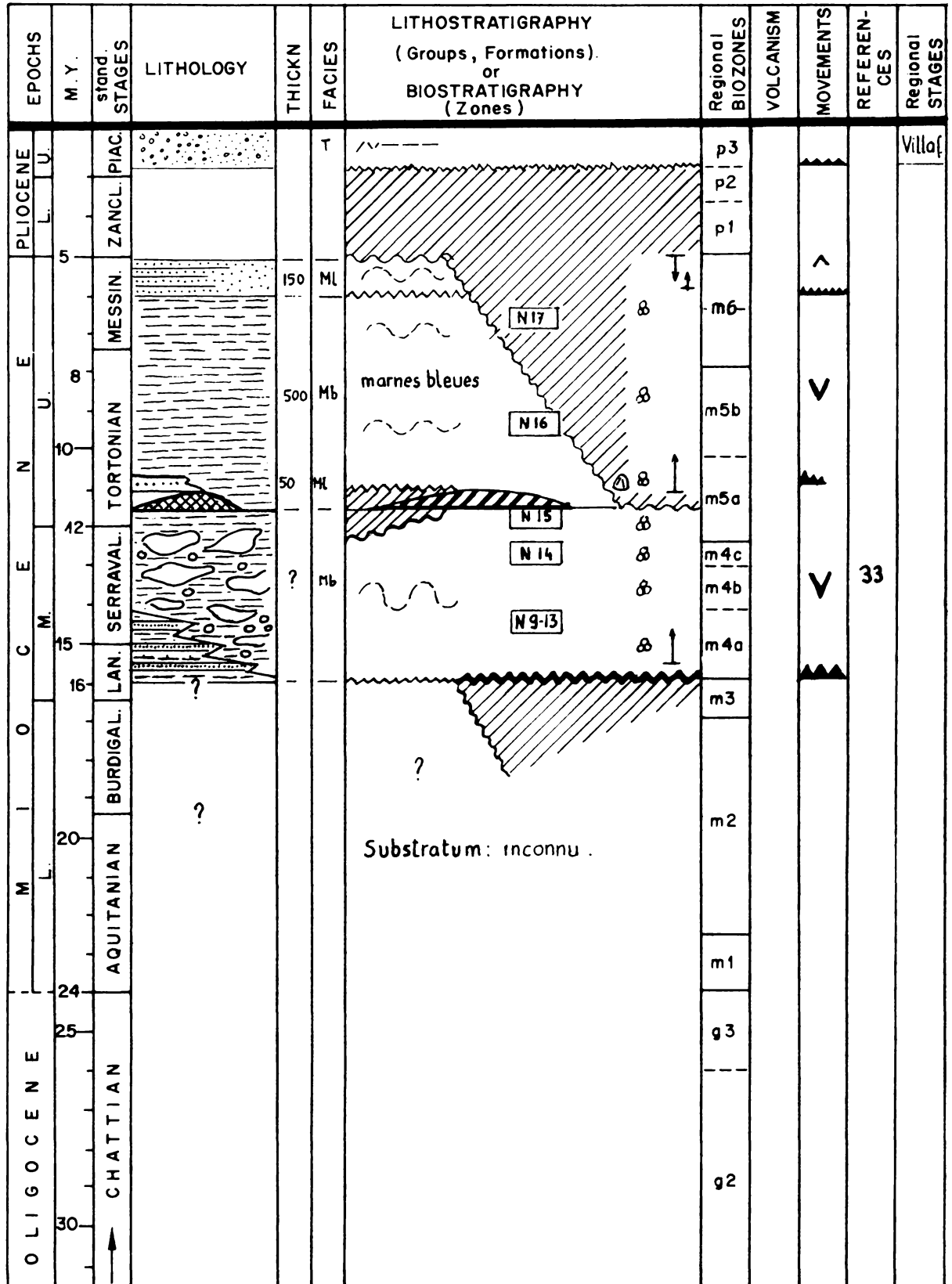
Authors: G. SUTER & D. LEBLANC

Area No. 92 b / 94 a: PRERIF INTERNE / SYNCLINAUX POST-NAPPES, MA



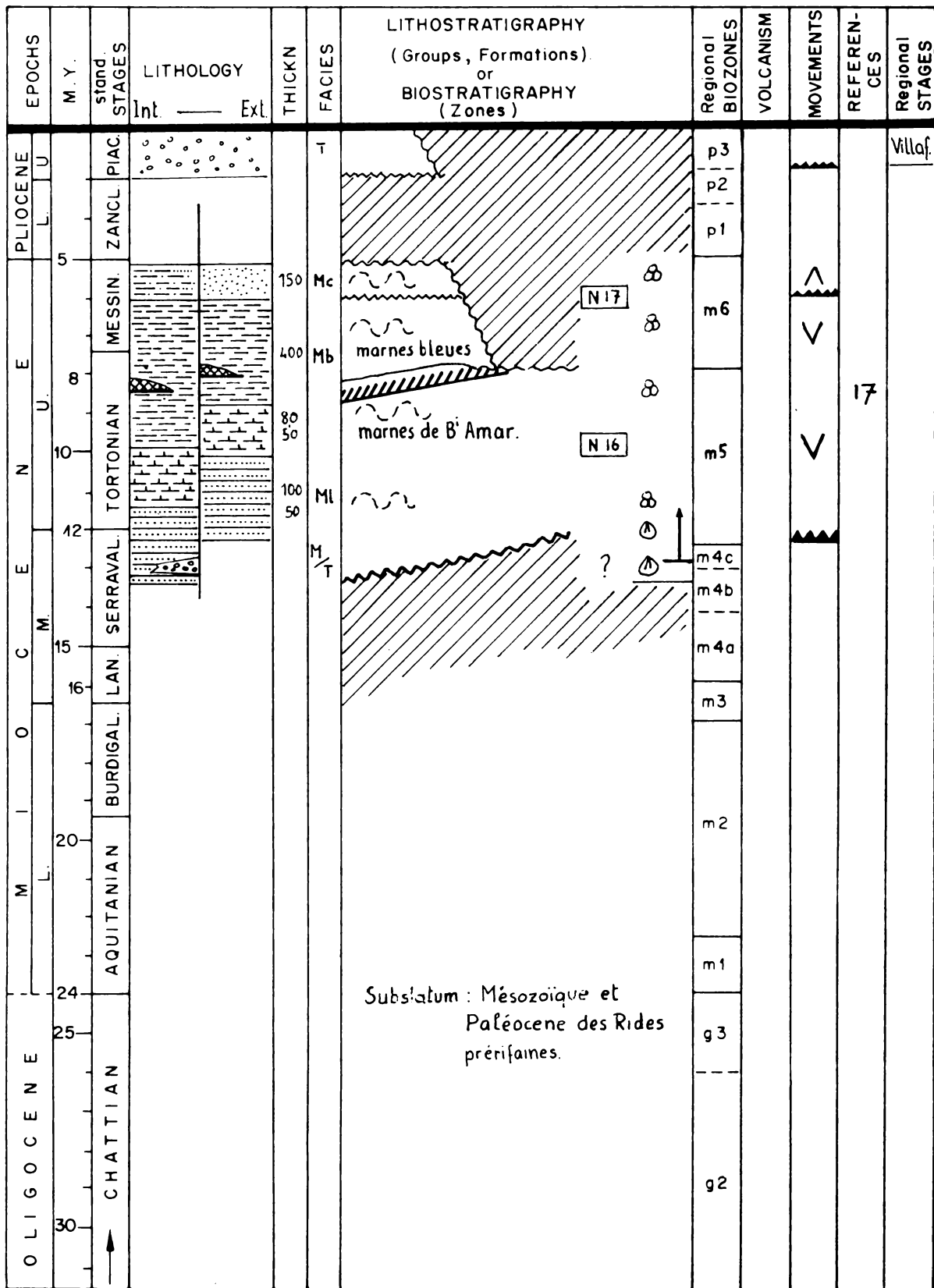
Authors: G. SUTER & D. LEBLANC

Area No. 92 c: PRERIF EXTERNE, MA



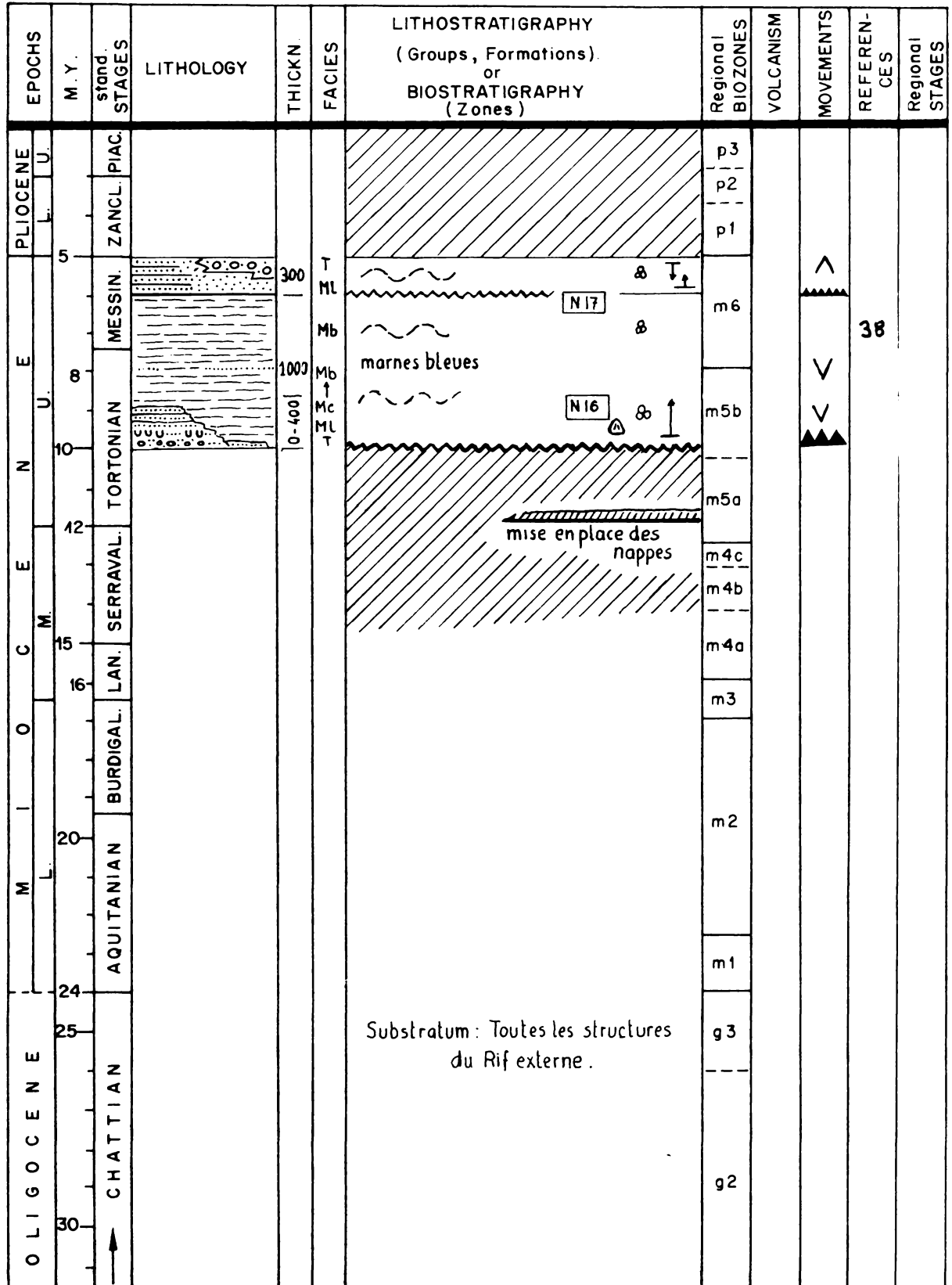
Authors: G. SUTER & D. LEBLANC

Area No. 92 d: RIDES PRERIFAINES, MA



Author: G. SUTER

Area No. 94 a: SYNCLINAUX INTERNES POST-NAPPES (TAOUNATE), MA



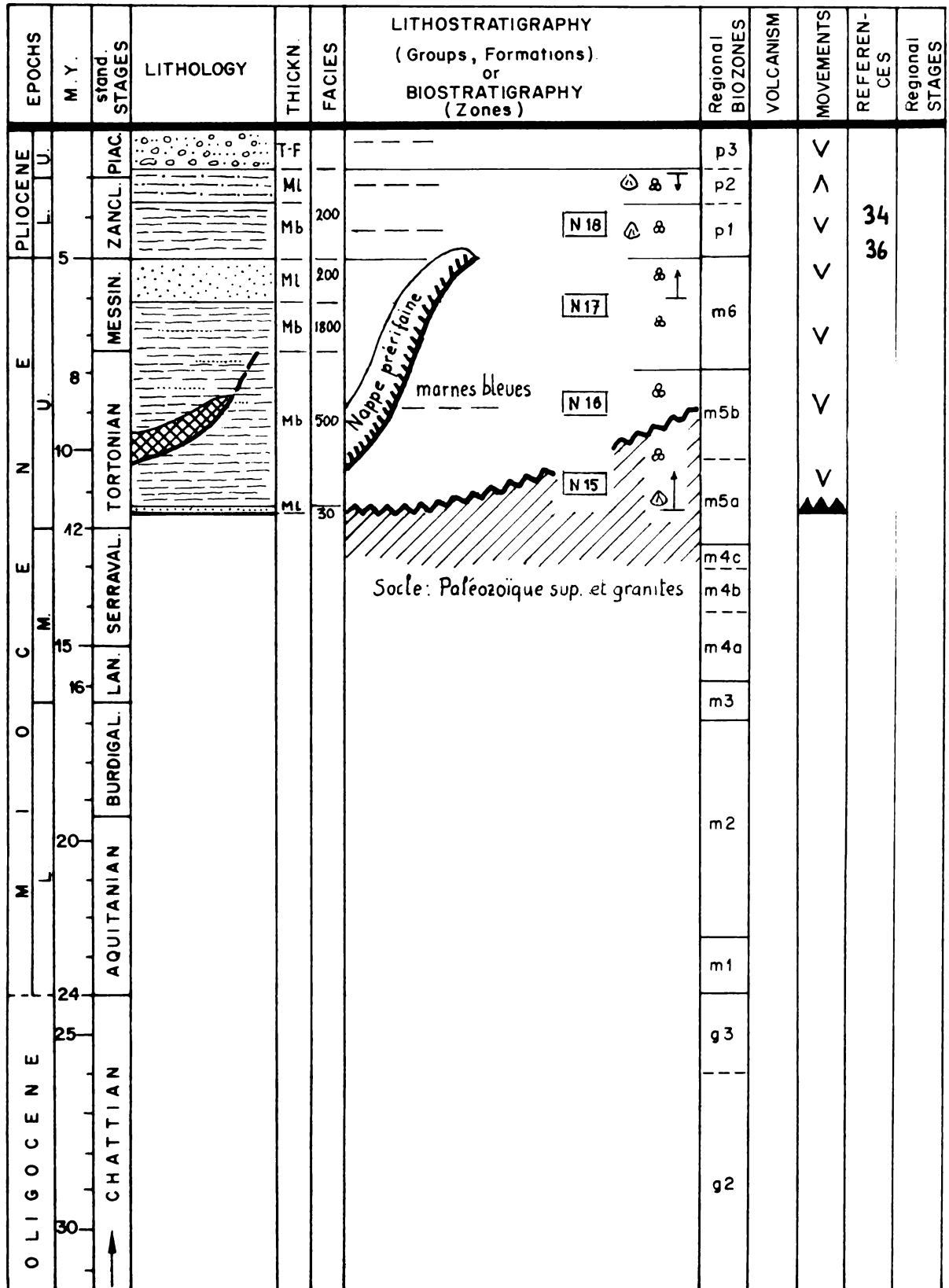
Author: R. WERNLI

Area No. 94 b: CHARF EL AKAB, MA

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	MIOCENE											
U			PIAC.					p3				
L			ZANCL.					p2				
		5			150	Ml	N18	p1	^		35	
			MESSIN.		150	Mc	N17	m6				
		8			300	Mc	N16	m5b	V			
		10	TORTONIAN					m5a				
		12						m4c				
		15	SERRAVAL.					m4b				
		16	LAN.					m4a				
			BURDIGAL.					m3				
		20	AQUITANIAN					m2				
		24						m1				
		25	CHATTIAN					g3				
		30						g2				
							Substratum: Unité de Tanger (Crétacé sup. et Tertiaire)					

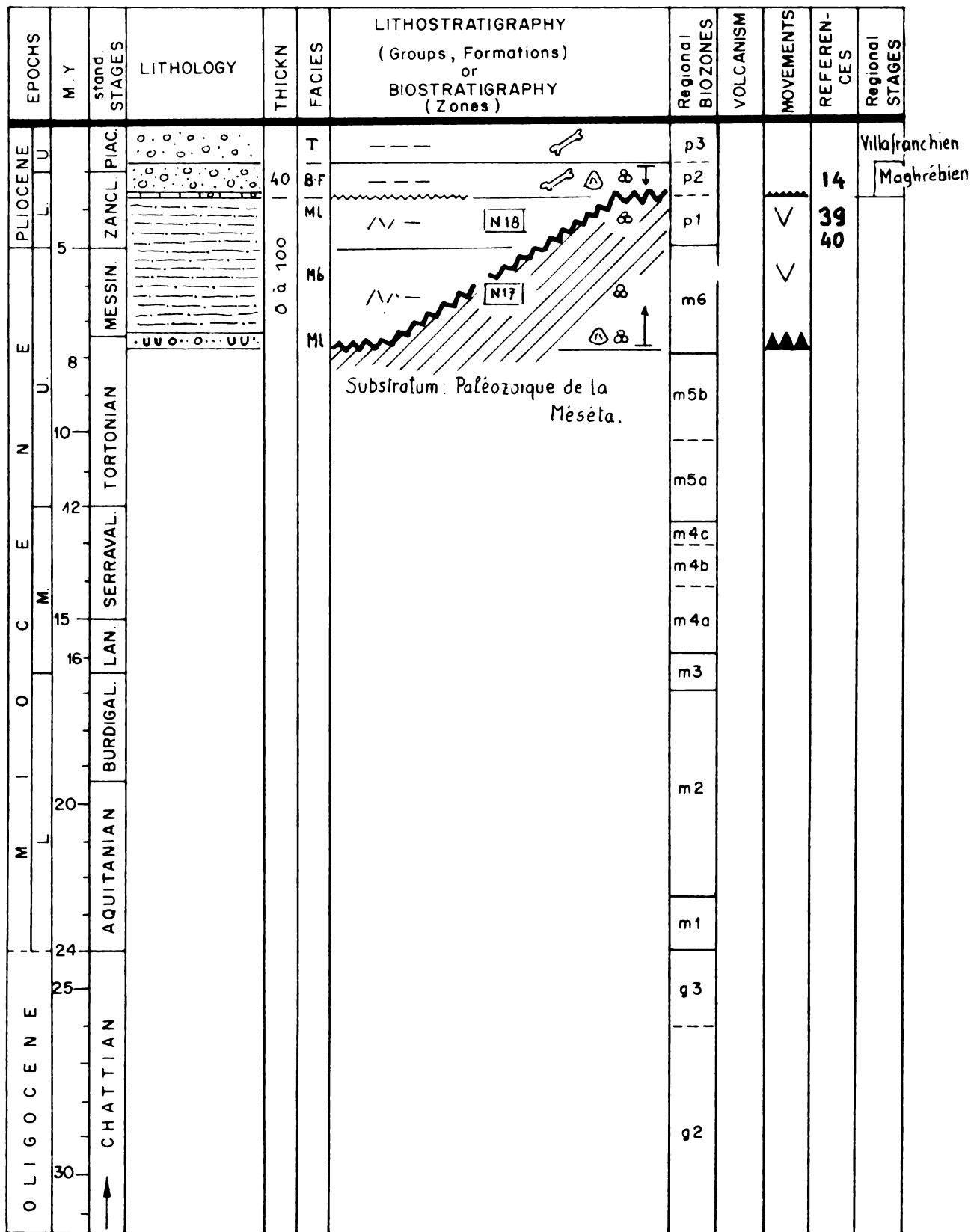
Author: R. WERNLI

Area No. 95 a: GHARB (CENTRE), MA



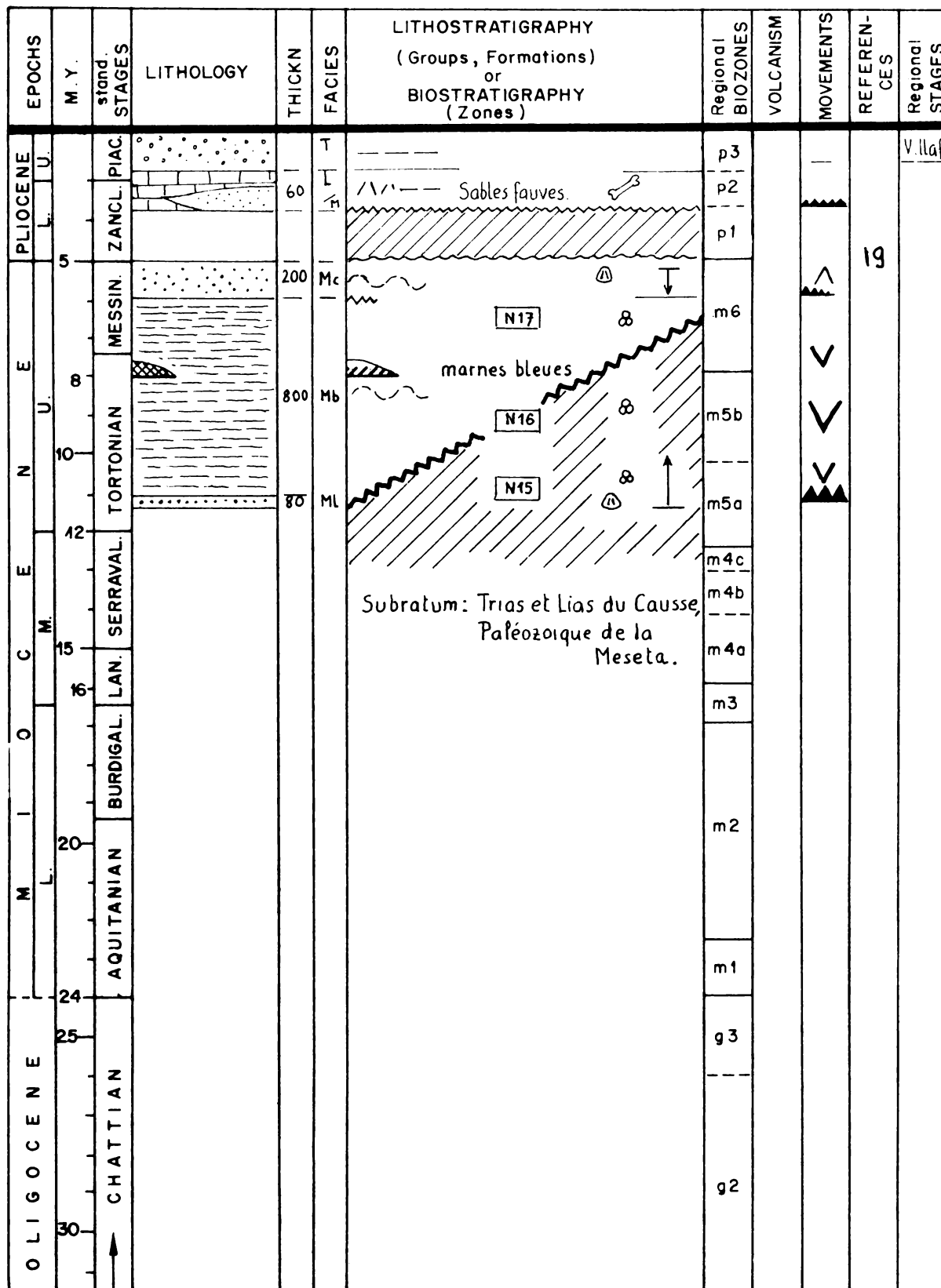
Author: G. SUTER

Area No. 95 b: GHARB S (RABAT), MA



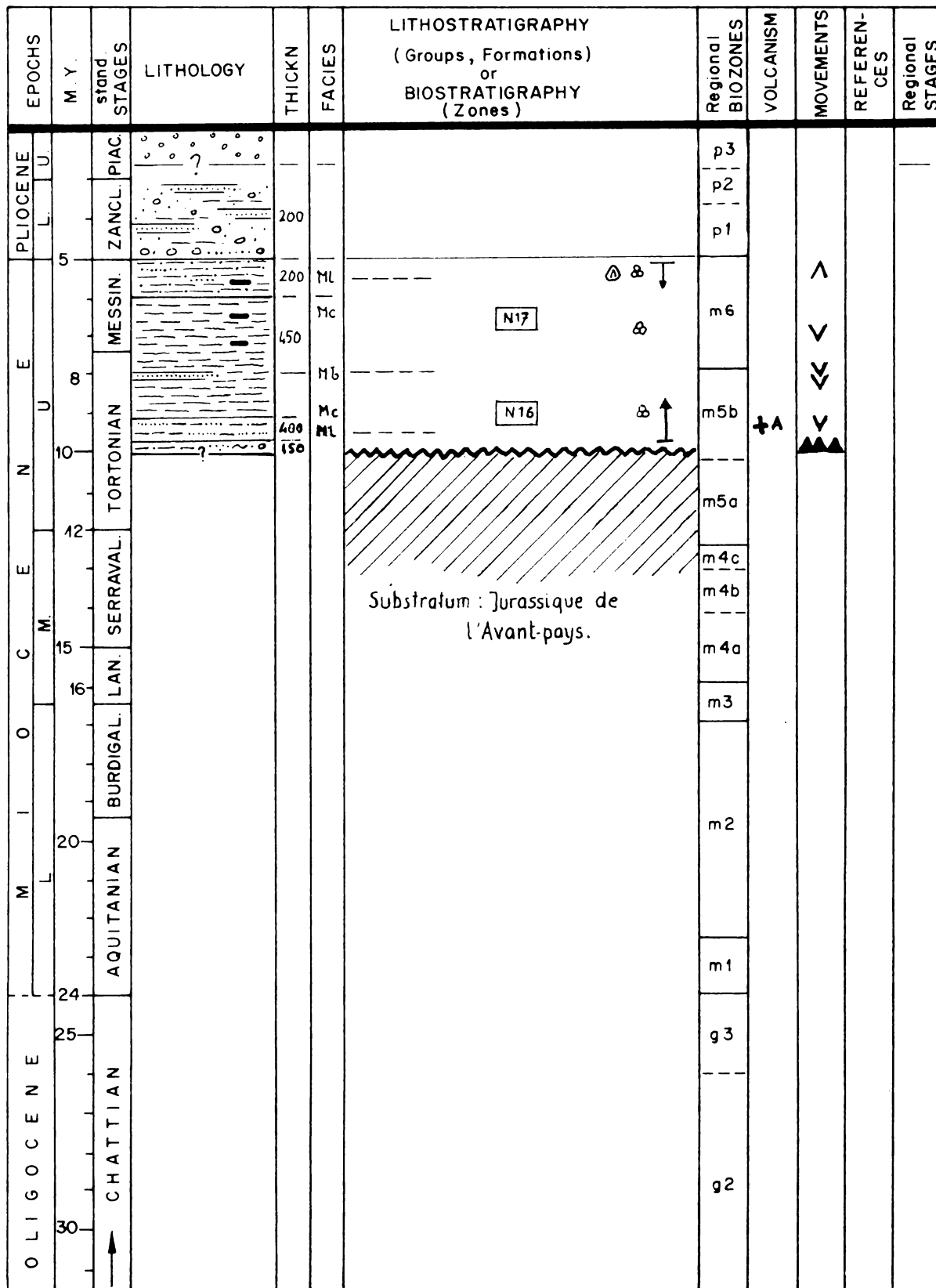
Author: R. WERNLI

Area No. 95 c: DETROIT SUD-RIFAIN (SAISS), MA



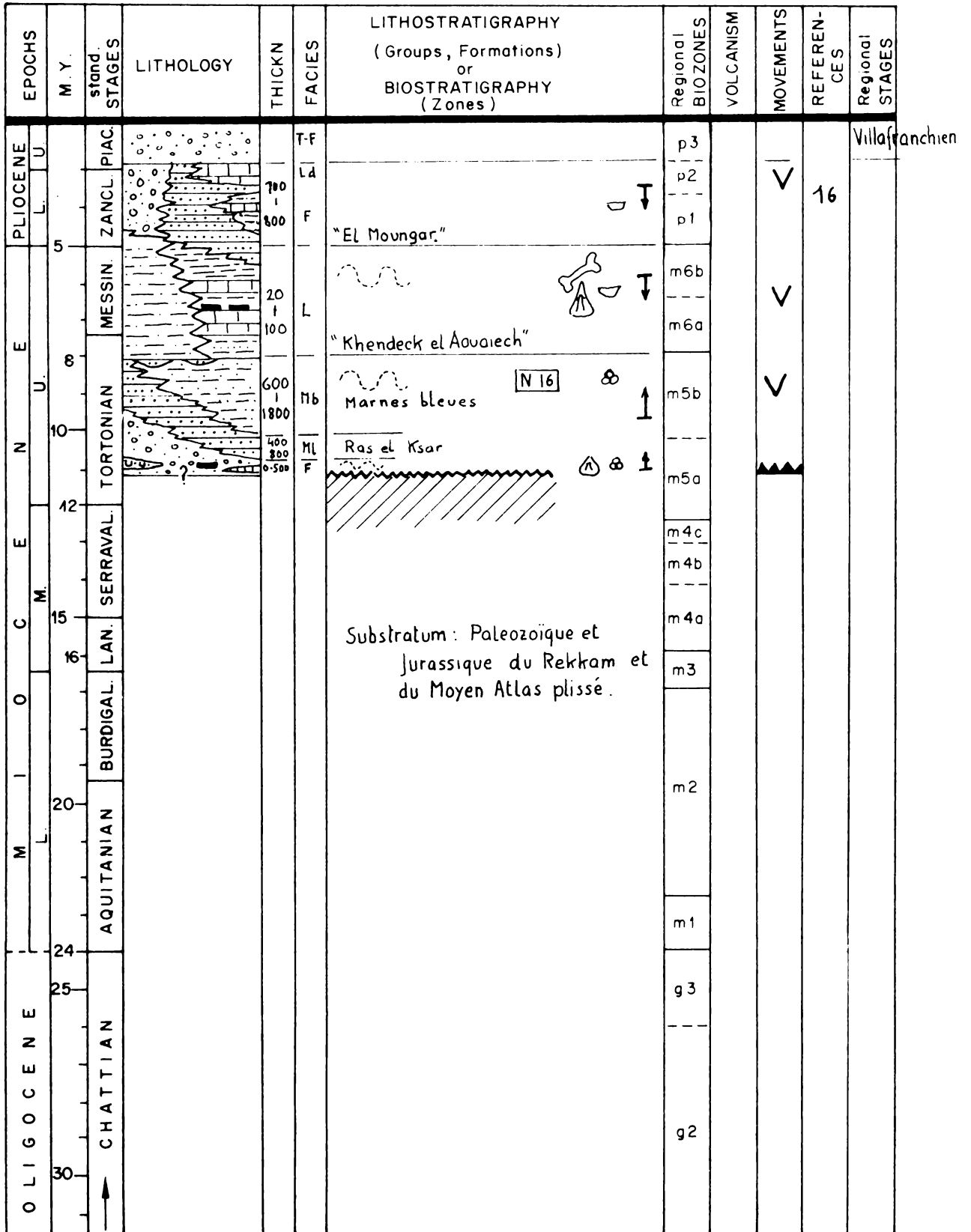
Author: G. SUTER

Area No. 96 a: GUERCIF CENTRE (SONDAGE GRF 1), MA



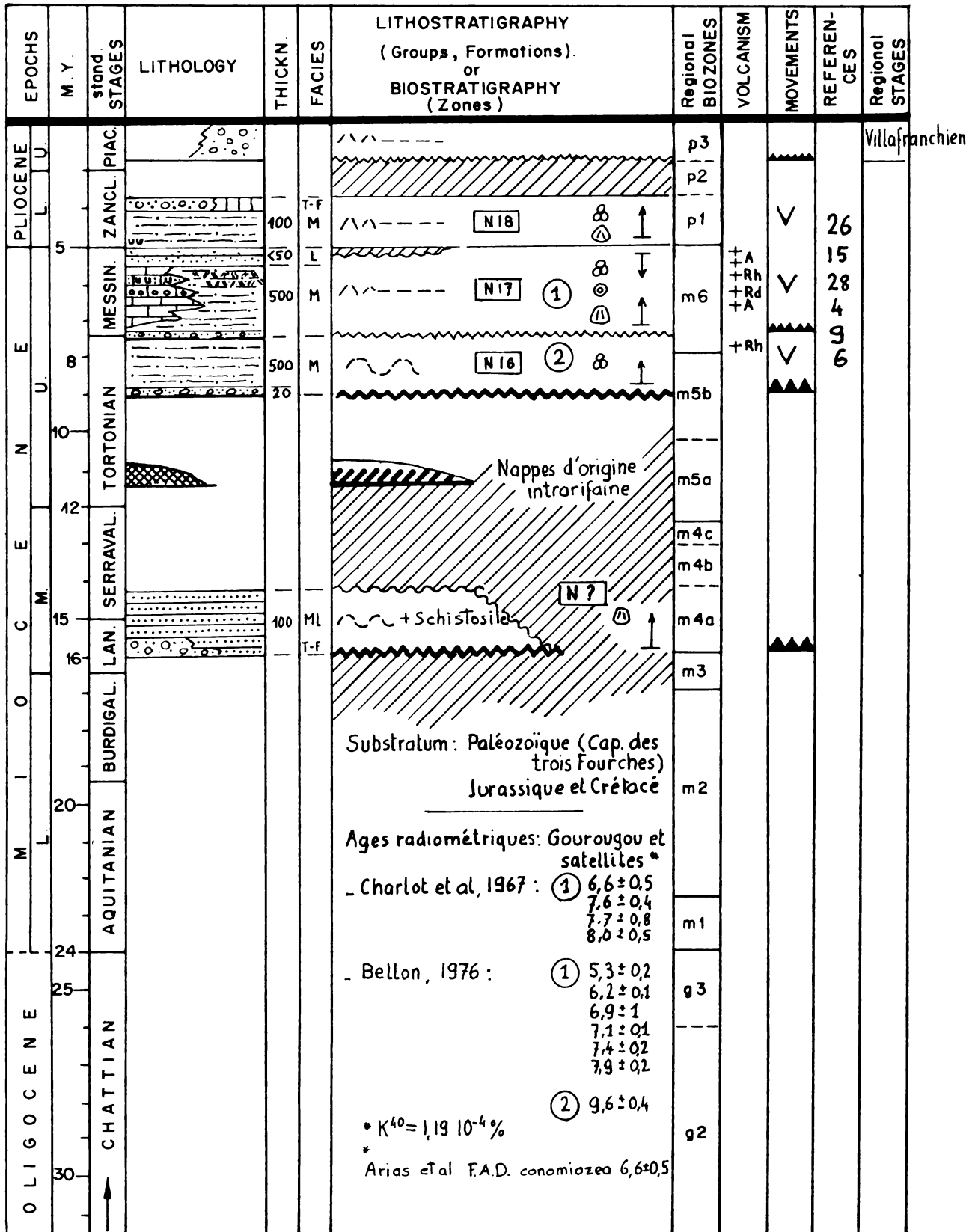
Author: C. GENDROT

Area No. 96 b: GUERCIF S, MA



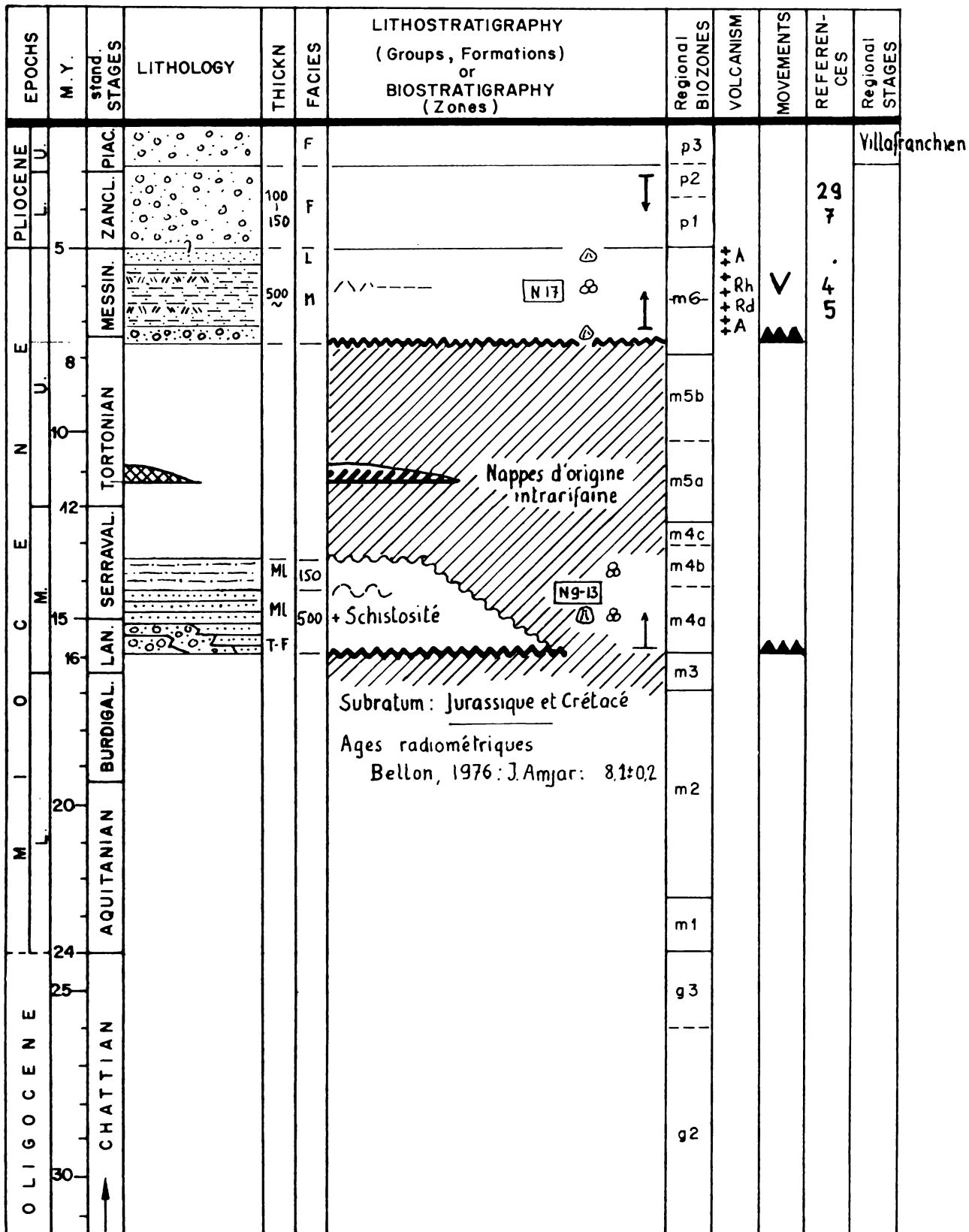
Author: M. GUILLEMIN

Area No. 97 a / 93 a: MELILIA – N KEBDANA / AVANT-PAYS ORIENTAL, MA



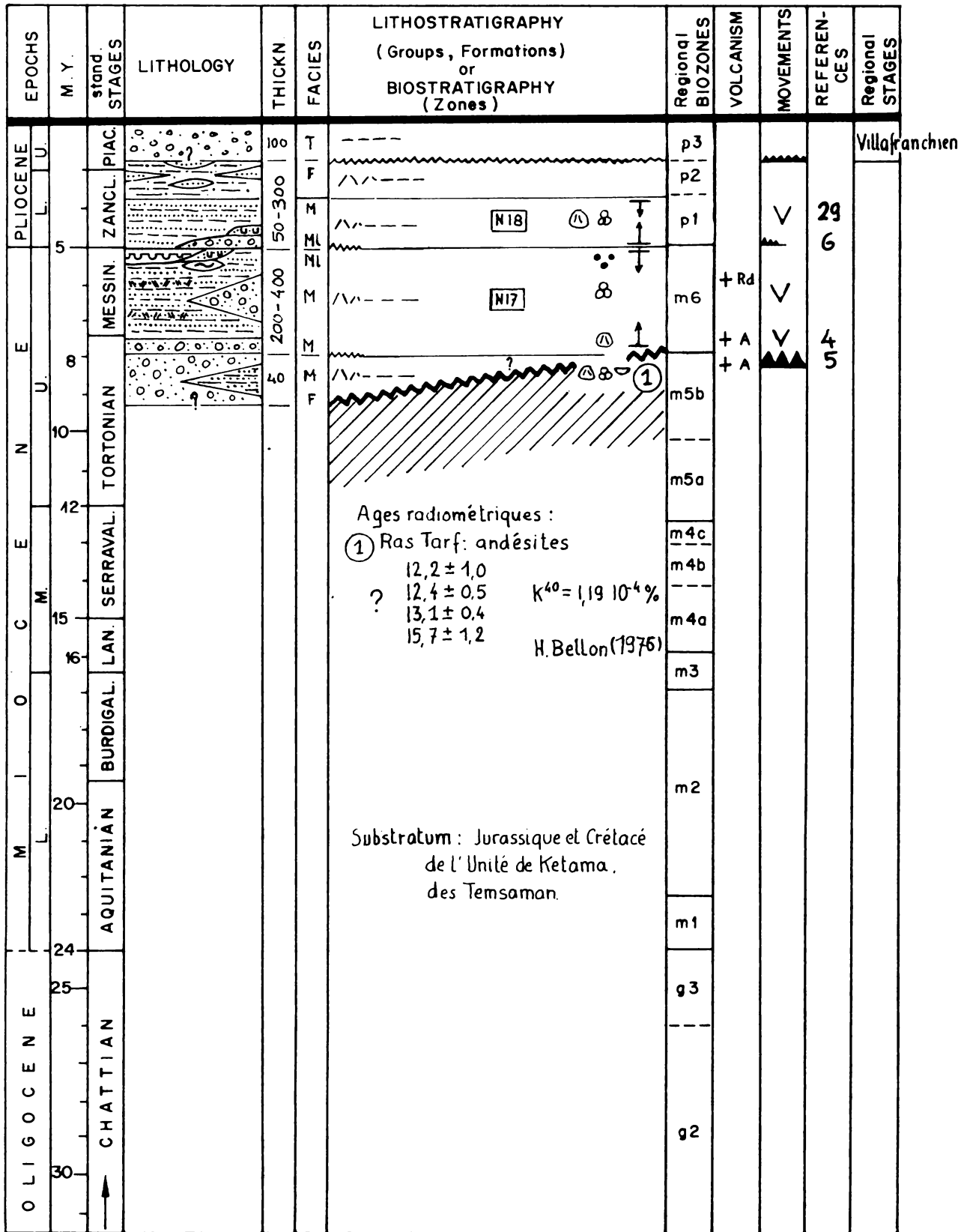
Authors: M. GUILLEMIN & G. SUTER

Area No. 97 b / 93 a: KERT / AVANT-PAYS ORIENTAL, MA



Author: J. P. HOUZAY

Area No. 97 c: BOUDINAR, MA



Author: J. P. HOUZAY

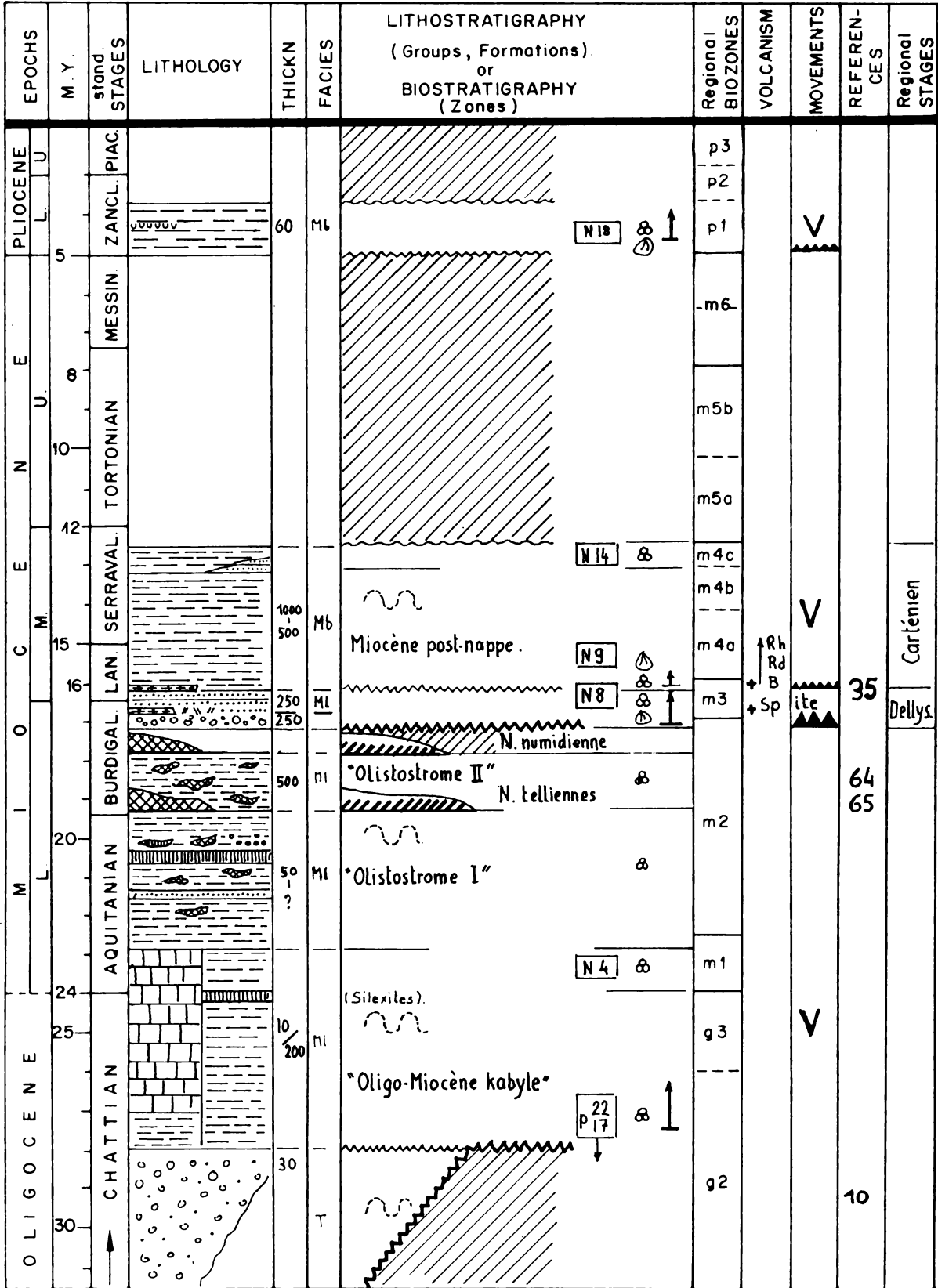
Area No. 98: NAPPE DES GRES NUMIDIENS, DZ

EPOCHS	M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	5	PIAC.					p3					
		ZANCL.					p2					
		MESSIN.					p1					
	8	10	TORTONIAN					m6				
							m5b					
							m5a					
		12	SERRAVAL.					m4c				
								m4b				
								m4a				
	15	LAN.					m3					
		BURDIGAL.										
MIOCENE	20	AQUITANIAN		<50 ML		<p>N6?</p> <p>* Formation supra-numidienne</p> <p>▪ Silexites</p>	m2					
OLIGOCENE	24	CHATTIAN		400 ML		* Grès numidiens *	m1					
				100								
30				50 ML		* Argiles sous numidiennes" (à Tubotomaculum)	g3					
							g2					

64
65

Author: G. SUTER

Area No. 99 a / 105 d: NE DE LA GRANDE KABYLIE, DZ



Author: G. SUTER

Area No. 99 b / 105 f: PETITE KABYLIE (COLLO, EL MILIA), DZ

EPOCHS	M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES																																																																																																															
O L I G O C E N E	30	CHATTIAN		506 200	Ml	Ages radiométriques : ♂ Granites du Cap Bougaroun : ? m♂ Microgranites monzonitiques 16,2 ± 0,8 H. Bellon 1975	g2	V																																																																																																																		
												O L I G O C E N E	24	AQUITANIAN		500 260	M	Olistostrome kabyle silexites	m1																																																																																																							
																								O L I G O C E N E	20	BURDIGALIAN		500 260	M	Olistostrome kabyle	m2			16 17																																																																																								
																																			O L I G O C E N E	16	LANCENSIAN		500 260	M	non datées	m3	+ m♂ ♂	V	10																																																																													
																																														O L I G O C E N E	15	SERRAVALIAN		500 260	M	non datées	m4a	+ Rh																																																																				
																																																									O L I G O C E N E	12	TORTONIAN		500 260	M	non datées	m4b																																																										
																																																																				O L I G O C E N E	8	MESSINIAN		500 260	M	non datées	m4c																																															
																																																																															P L I O C E N E	5	ZANCLERIAN		500 260	M	non datées	m5a																																				
																																																																																										P L I O C E N E	L	PIACENTIAN		500 260	M	non datées	m5b																									
																																																																																																					P L I O C E N E	U	PIACENTIAN		500 260	M	non datées	m6														
																																																																																																																P L I O C E N E	U	PIACENTIAN		500 260	M	non datées	p1	V		
P L I O C E N E	U	PIACENTIAN		500 260	M	non datées	p3																																																																																																																			



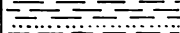
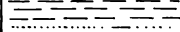
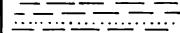
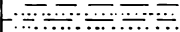
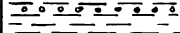
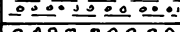
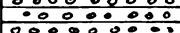
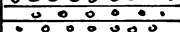
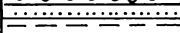

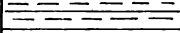
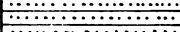
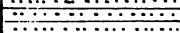

Author: G. SUTER

Area No. 100 a: NAPPES TELLIENNES (UNITE OLIGO-MIOCENE), DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
			PIAC.					p3				
			ZANCL.					p2				
		5	MESSIN					p1				
								m6				
		8	TORTONIAN					m5b				
		10						m5a				
		12	SERRAVAL					m4c				
								m4b				
		15	SERRAVAL					m4a				
		16	LAN					m3			32	
			BURDIGAL.				N 8	m2				
		20	AQUITANIAN					m1				
					400 300	me		?				
		24						g3				
		25	CHATTIAN					g2				
		30										

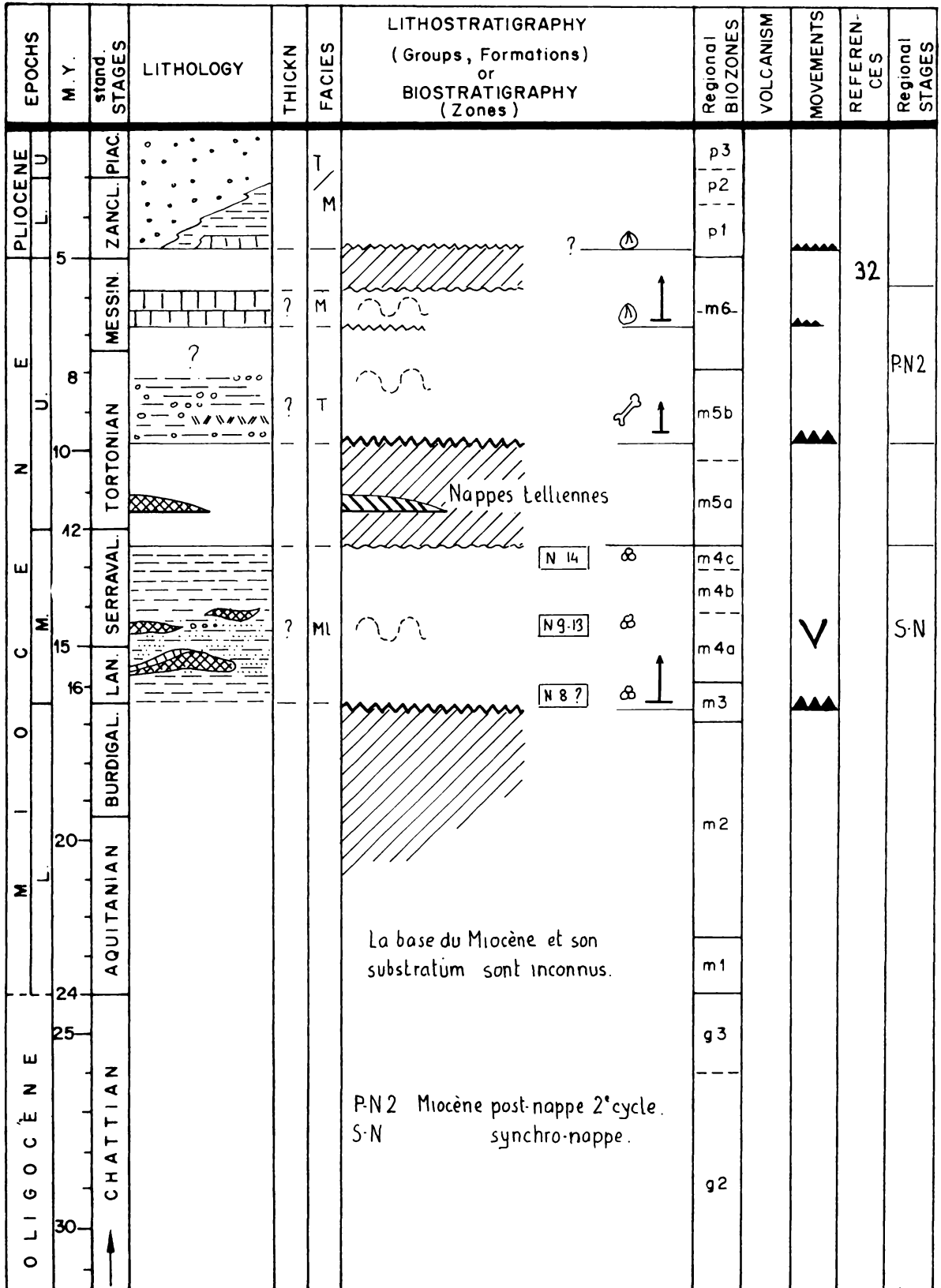
Author: G. SUTER

Area No. 100 b: NAPPES TELLIENNES (NAPPE SOUS-NUMIDE DU BOU MAIZ), DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U								p3				
L								p2				
		5	ZANCL. PIAC.					p1				
	E		MESSIN.					m6				
	U	8						m5b				
	N	10	TORTONIAN					m5a				
	E	12	SERRAVAL.					m4c				
	M	15	LAN.					m4b				
	O	16	BURDIGAL.					m4a				
								m3				
	M	20	AQUITANIAN		>3000	M		?				
	L							?	8			47
								?				
		24			500	T		?				
		25						?				
								?				
								?				
								?				
								?				
								?				
								?				
								?				
					1000	M	"facies Boghari"	?				
								?				
		30						g2				
								g3				
								m1				
								m2				

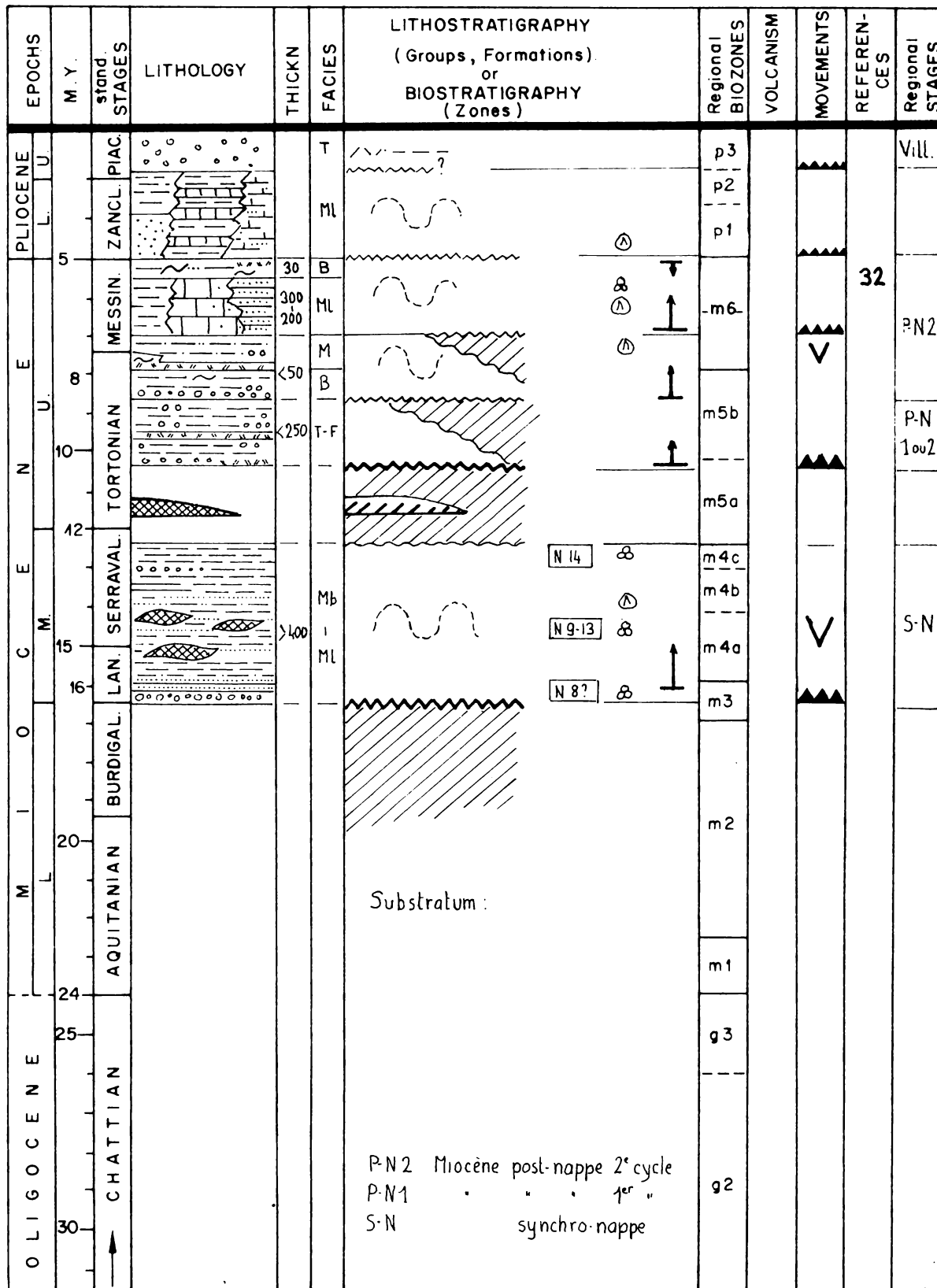
Author: G. SUTER

Area No. 101 a / 102 c: BORDURE S DES TESSALA, DZ



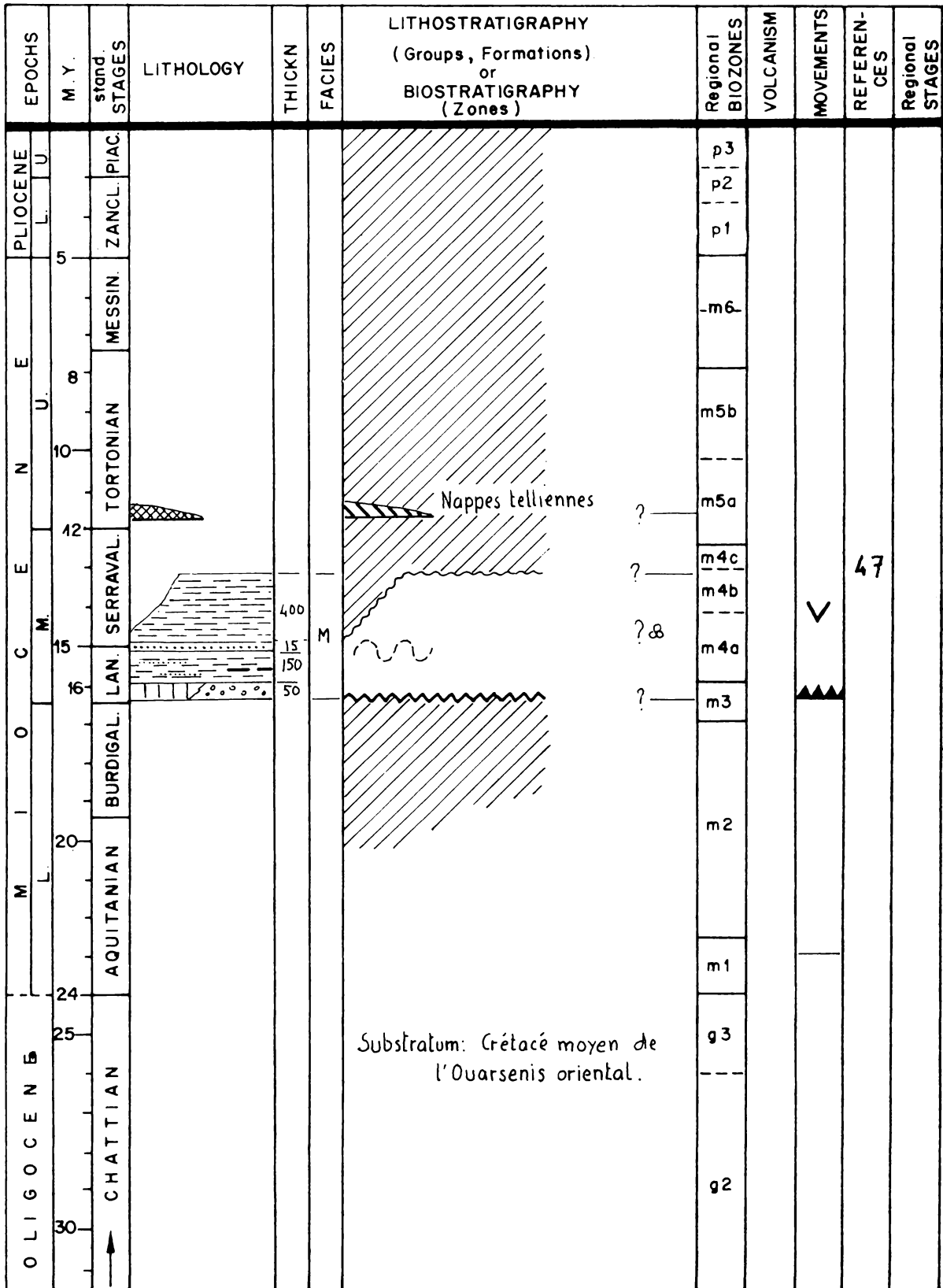
Author: G. SUTER

Area No. 101 b / 106 a: BORDURE N DES TESSALA, DZ



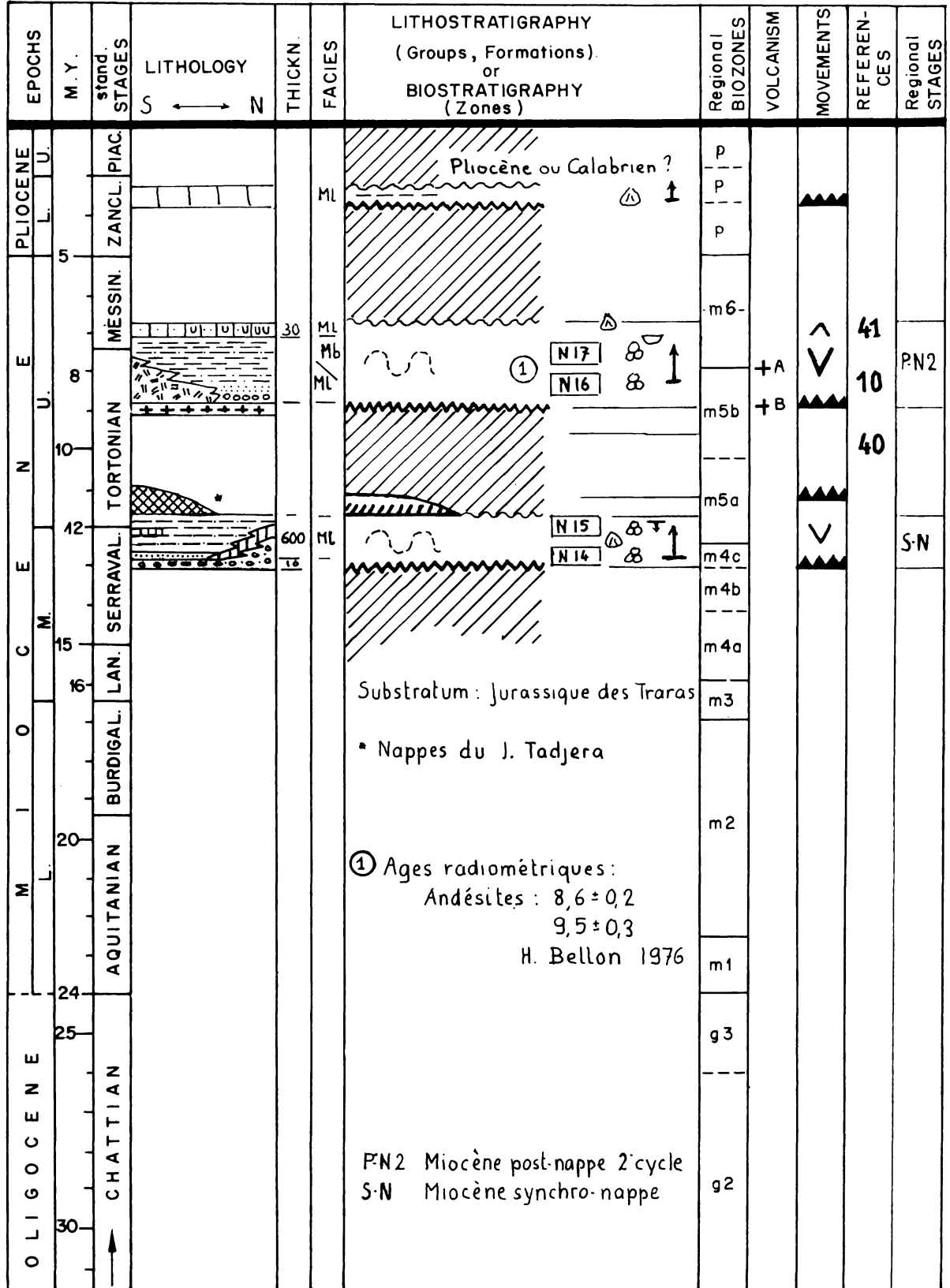
Author: G. SUTER

Area No. 101 c: BORDURE SE DE L'OUARSENIS (LETOURNEUX), DZ



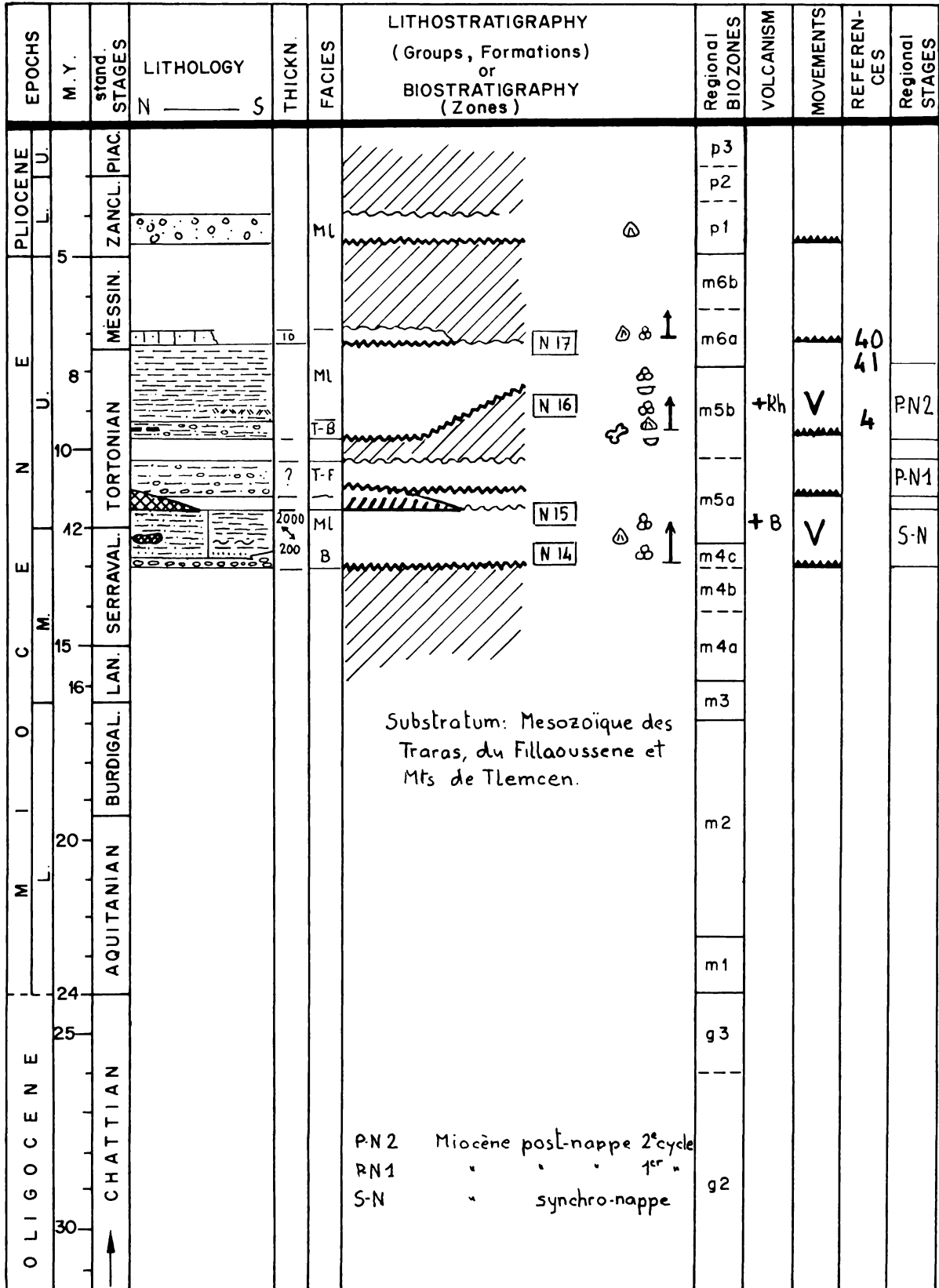
Author: G. SUTER

Area No. 102 a / 104 a: M'SIRDA (BAB EL ASSA), DZ



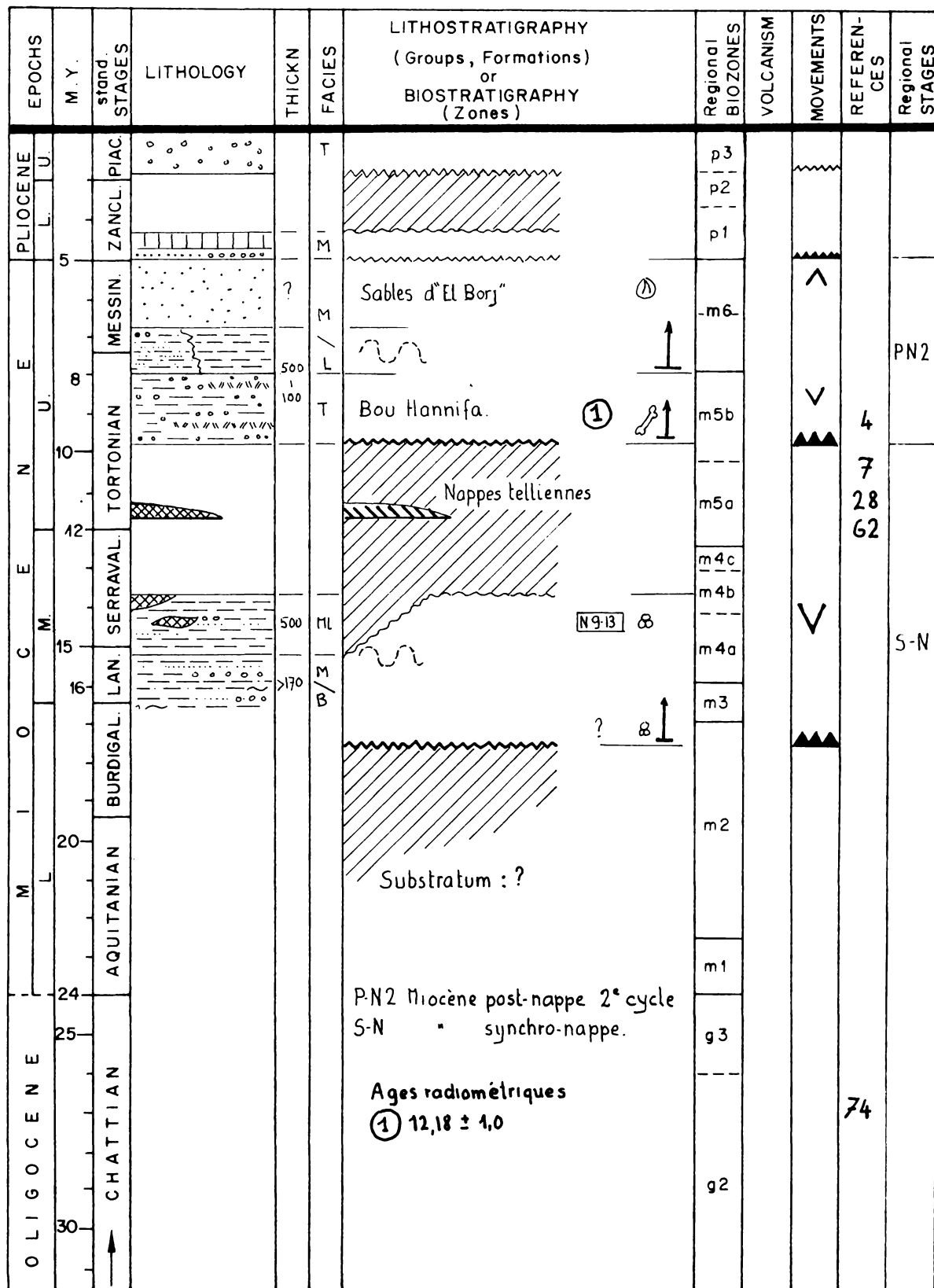
Author: G. SUTER

Area No. 102 b: BORDURES E ET SE DES TRARAS-BASSE ET MOYENNE TAFNA – SEBAA CHIOUKH, DZ



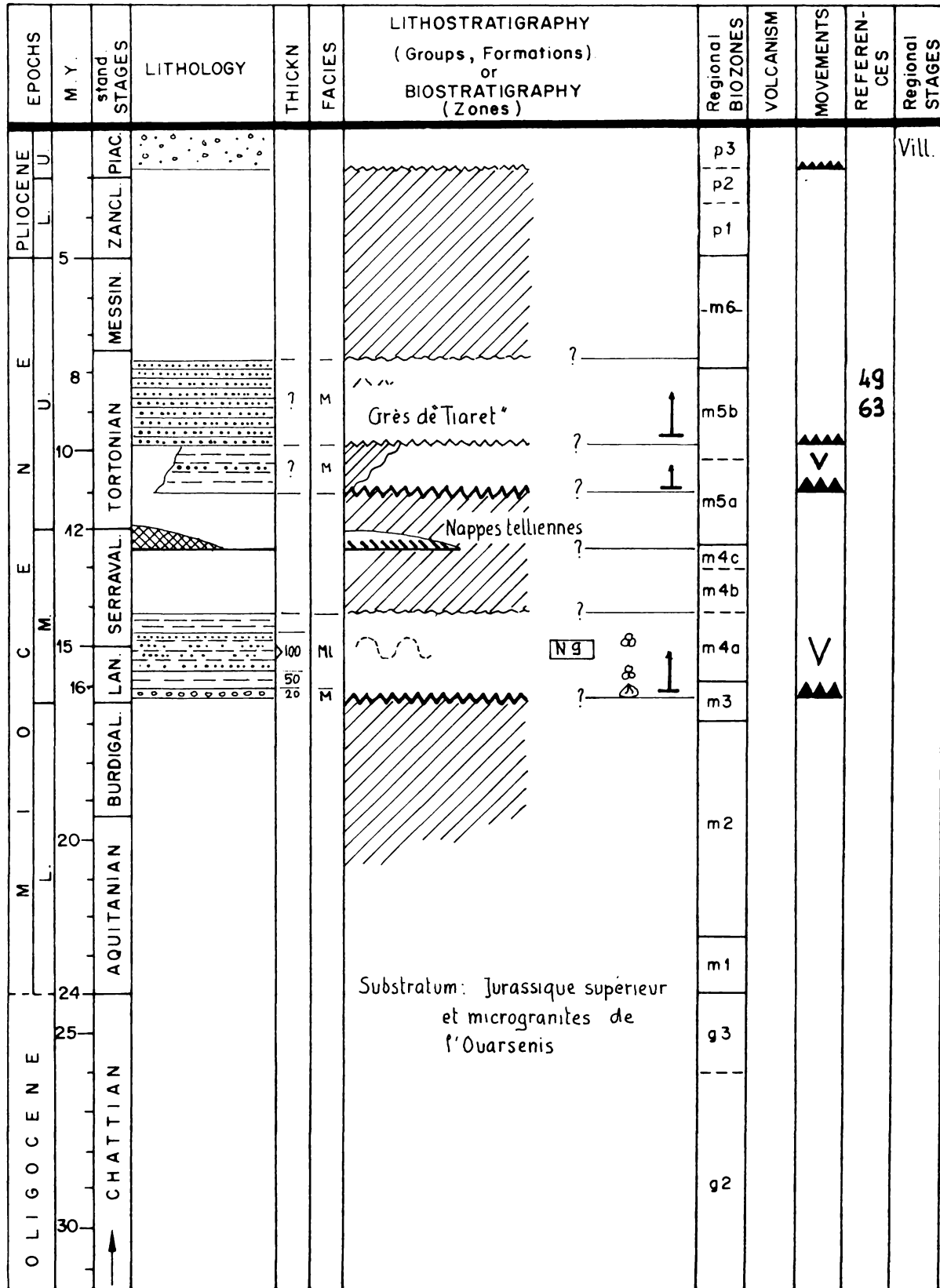
Author: G. SUTER

Area No. 102 d: BORDURE S DES BENI CHOUGRANE, DZ



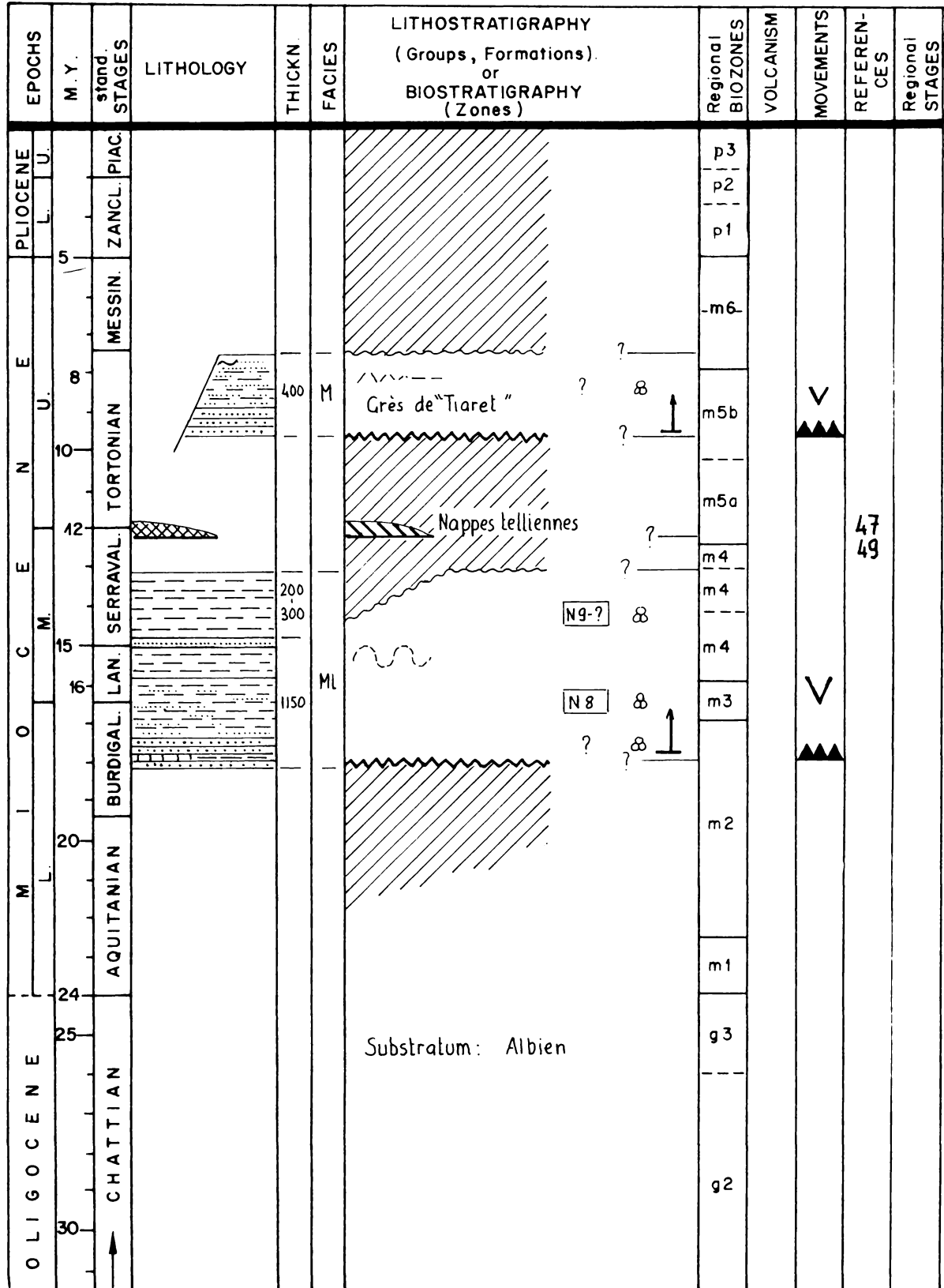
Author: G. SUTER

Area No. 102 e: BORDURE S DE L'OUARSENIS (N DE TIARET), DZ



Author: G. SUTER

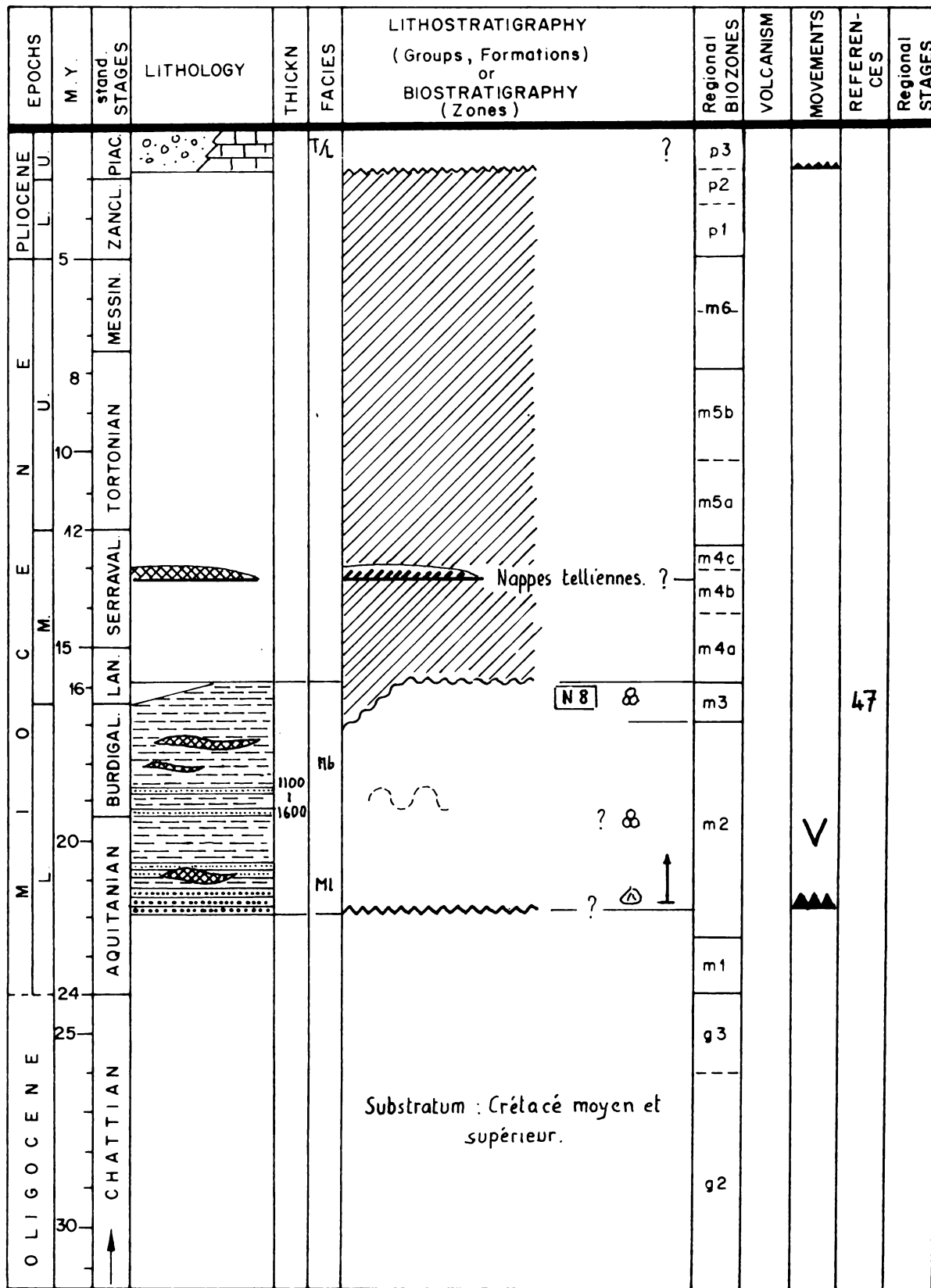
Area No. 102 f: S DU TITTERI (DRAA EL ASNAM ET SONDAGE GRN 1), DZ



47
49

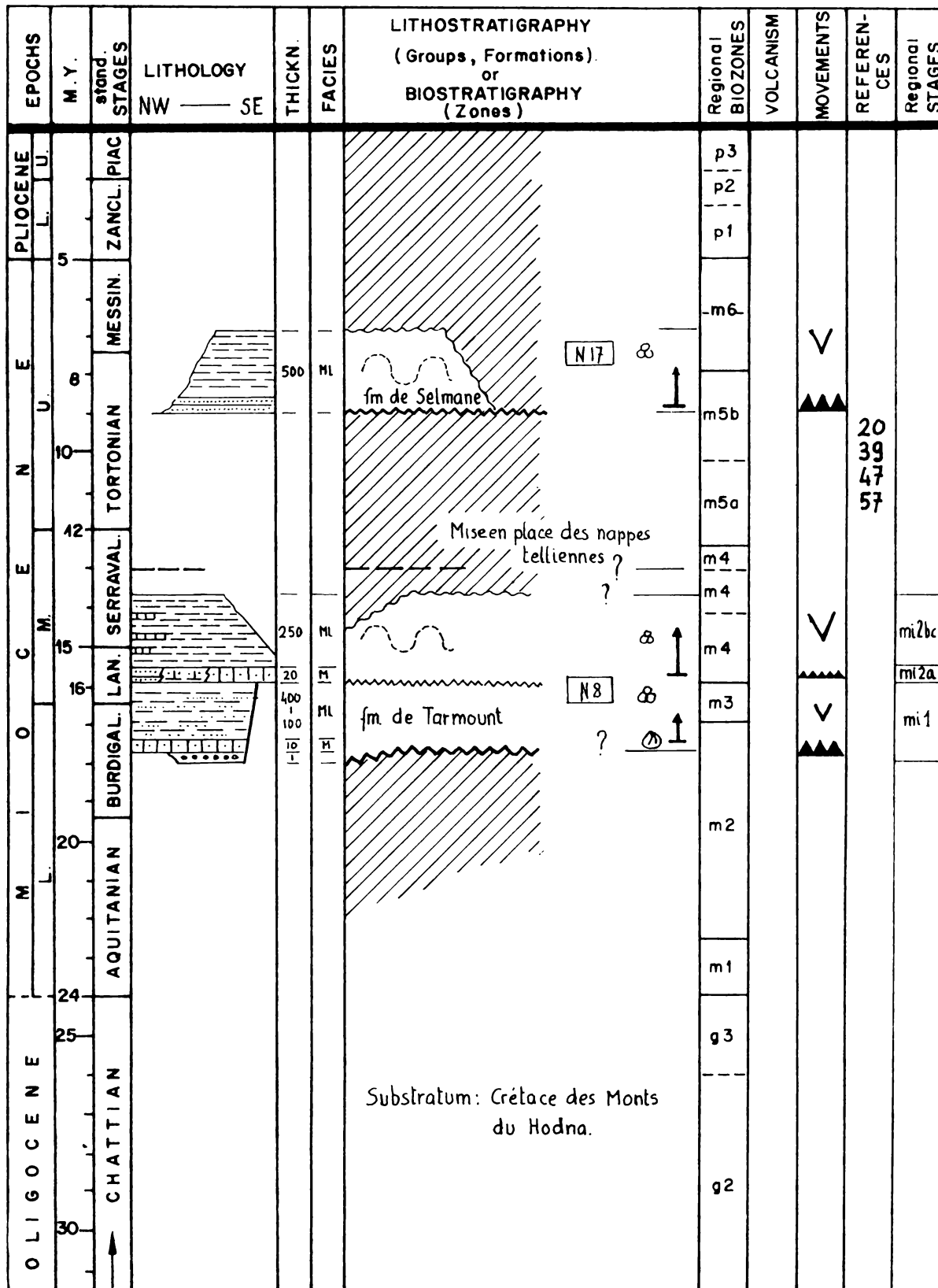
Author: G. SUTER

Area No. 102 g: SE DU TITTERI (SONDAGE RL 1), DZ



Author: G. SUTER

Area No. 103 a: BASSIN DU HODNA, REGIONS W ET NW, DZ



Author: G. SUTER

Area No. 103 b: BASSIN DU HODNA, REGION E, DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES																																																																																																																																															
O L I G O C E N E	M L	25	CHATTIAN	?	300	B M	1. Nappes du Hodna	?																																																																																																																																																			
													O L I G O C E N E	M L	24	AQUITANIAN	300	B M	?	N 4	m 1																																																																																																																																						
																										O L I G O C E N E	M L	20	AQUITANIAN	300	B M	?	m 2																																																																																																																										
																																							O L I G O C E N E	M L	16	BURDIGALIAN	60-5	B /T	?	N 8	m 3																																																																																																												
																																																				O L I G O C E N E	M L	15	LANCÔMEAN	700-1450	Ml	?	N 9	m 4	V																																																																																														
																																																																	O L I G O C E N E	M L	12	SERRAVALLOAN	150	Mb	?		m 4	V																																																																																	
																																																																														O L I G O C E N E	M L	10	TORTONIAN	300-1000	B	?		m 5																																																																					
																																																																																											O L I G O C E N E	M L	8	TORTONIAN	500-1100	Ml	?	N 16?	m 5	V		11 20 24 38 39 47 57	mi 3a mi 3b																																																				
																																																																																																								O L I G O C E N E	M L	5	MESSINIAN	100	T	?		-m 6-				mi 3c																																							
																																																																																																																					P L I O C E N E	L	5	ZANCLERIAN	200	M			p 1	V																													
																																																																																																																																		P L I O C E N E	L		ZANCLERIAN					p 2																	
																																																																																																																																															P L I O C E N E	L		ZANCLERIAN					p 3				

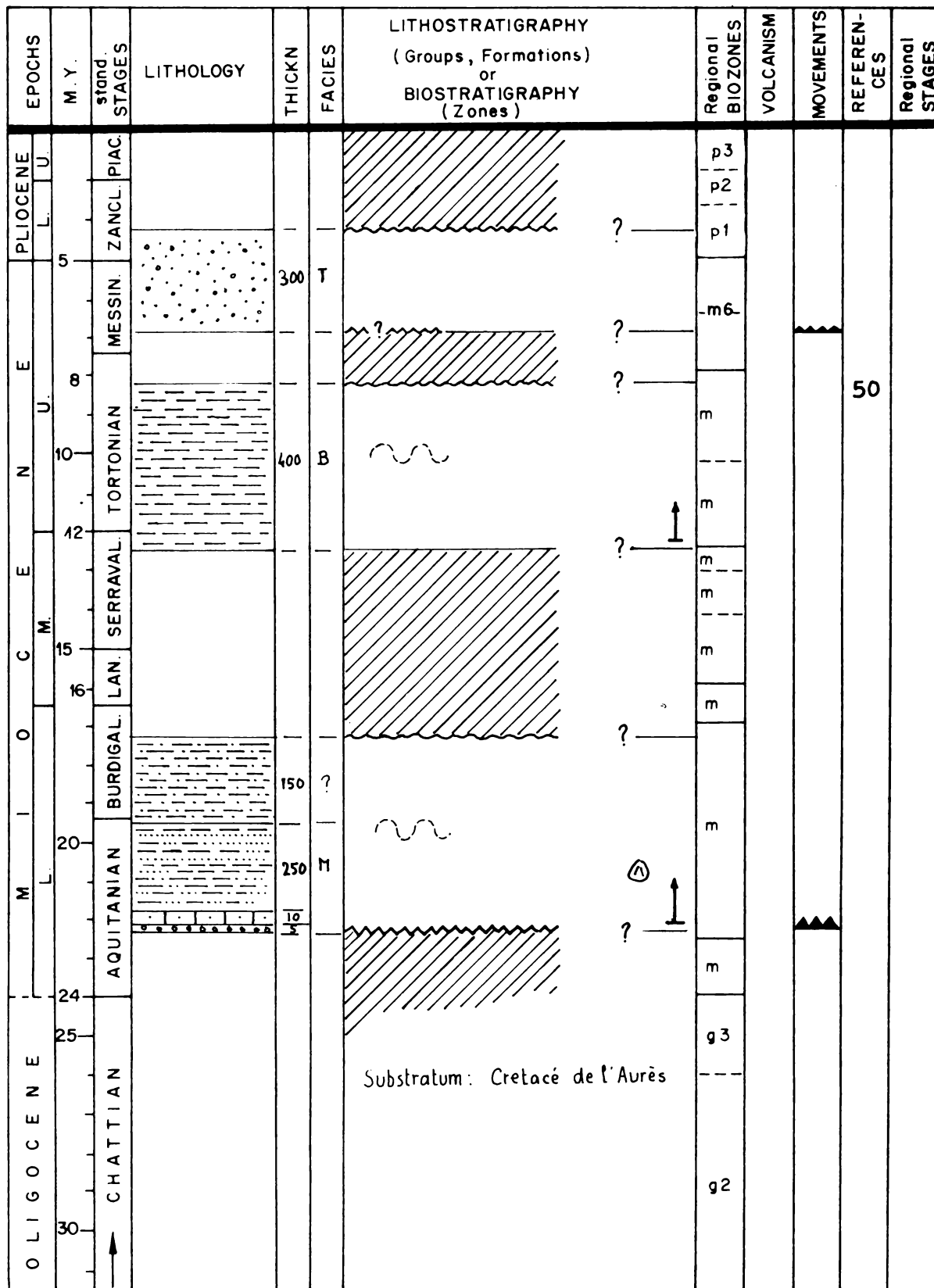
Author: G. SUTER

Area No. 103 c: HODNA ORIENTAL (COL DE TIFELOUINE), DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
O L I G O C E N E	C H A T T I A N	25				T		g3					
		24				T		m					
		20	AQUITANIAN			40 18 30	MB T		E E			mi 2a?	
	M I O C E N E	S E R R A V A L	16	BURDIGAL. LAN.			M		E E				
			15				M		E E E				
			12					M		E E			
	P L I O C E N E	Z A N C L. P I A C.	5				T		p3 p2 p1				Villafranche
			8	MESSIN.			T		m				
			10	TORTONIAN			?	?		E E			39

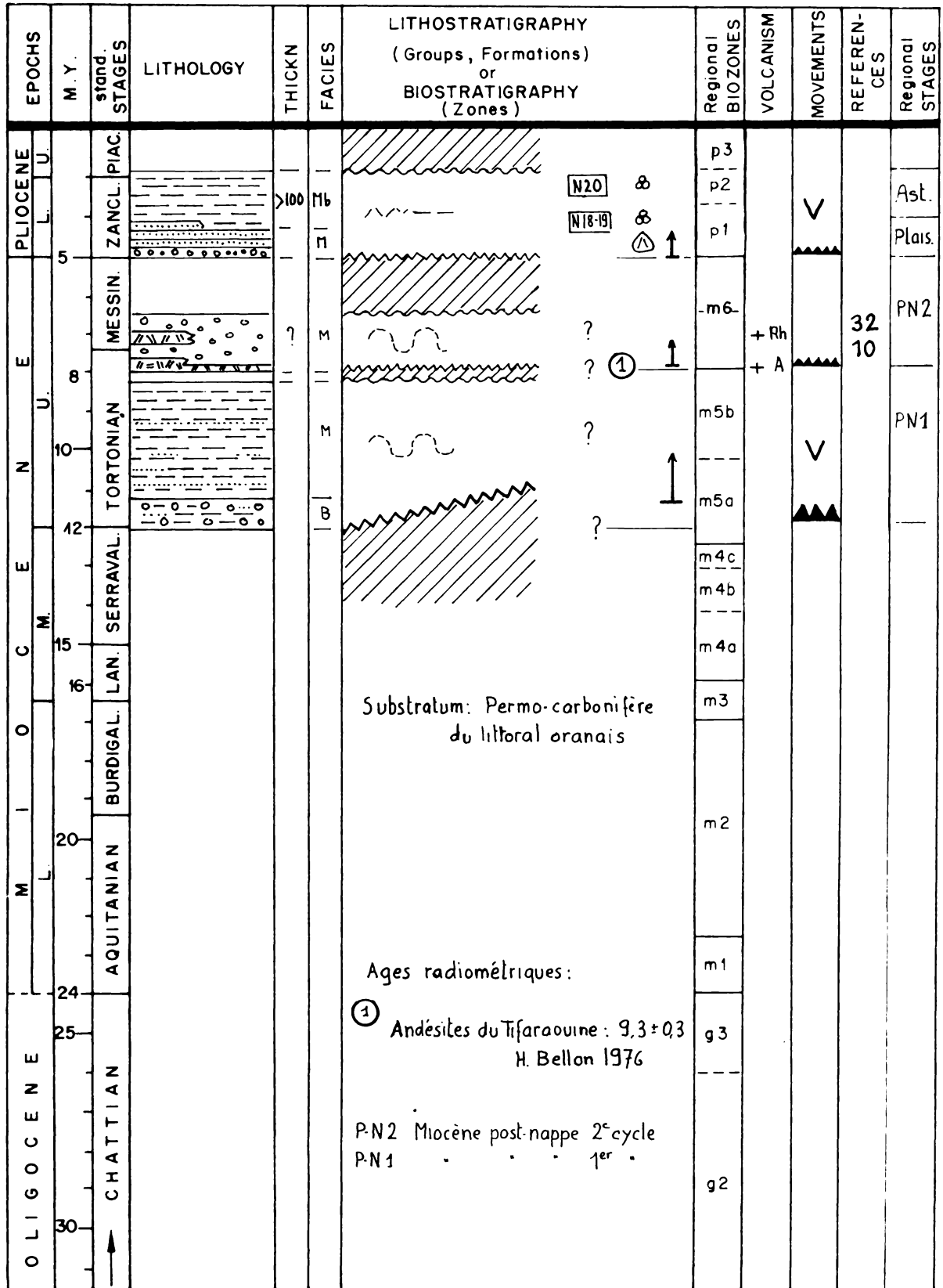
Author: G. SUTER

Area No. 103 d: BASSIN DU TIMGAD, DZ



Author: G. SUTER

Area No. 104 b: S DU CAP SIGALE, DZ



Author: G. SUTER

Area No. 104 c: BASSIN LITTORAL, LES ANDALOUSES OUED HAMMADI, DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	OLIGOCENE												
PLIOCENE	L. U.	5	PIAC.			Dunes		p3 p2 p1				Villafranchien	
			ZANCL.										
			MESSIN.										
Eocene	U.	8	TORTONIAN		>200	Mt		m5 m5	+Rh	V	32	PN2	
			SERRAVAL.										
			LAN.										
MIOCENE	M.	15	BURDIGALIAN					m4c m4b m4a					
			AQUITANIAN										
			CHATTIAN										
OLIGOCENE	L.	20	AQUITANIAN					m2					
			CHATTIAN										
			CHATTIAN										
OLIGOCENE	M.	24	AQUITANIAN					m1					
			CHATTIAN										
			CHATTIAN										
OLIGOCENE	L.	25	AQUITANIAN					g3					
			CHATTIAN										
			CHATTIAN										
OLIGOCENE	M.	30	AQUITANIAN					g2					
			CHATTIAN										
			CHATTIAN										

Substratum: Mésozoïque schisteux
du para-autochtone oranais.

PN2 Miocène post-nappe 2^e cycle
PN1 " " " " 1^{er} "

Area No. 104 d: BASSINS LITTORAUX DE MERS EL KEBIR, DU MURDJADJO, DZ

EPOCHS	M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
O L I G O C E N E	25 24 20 16 15	C H A T T I A N					g3					
			A Q U I T A N I A N				m1					
		M I O C E N E	12 8 5	A Q U I T A N I A N				m2				
				B U R D I G A L				m3				
				S E R R A V A L				m4a m4b m4c				
		P L I O C E N E	5	T O R T O N I A N				m5a m5b		▲	32	PN1
				M E S S I N				m6		∇	6	PN2
				Z A N C L				p1				
				P I A C				p2 p3				

Substratum : Mésozoïque schisteux
du para-autochtone
oranaïs.

PN2 Miocène post-nappe 2^e cycle
PN1 " " " 1^{er} "

Author: G. SUTER

Area No. 104 e: BASSIN LITTORAL A L'EST D'ORAN, DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFER-ENCES	Regional STAGES																									
O L I G O C E N E	M L	24-30	CHATTIAN		?	T	PN2 Miocène post-nappe 2 ^e cycle PN1 " " " " 1 ^{er} "	g2																													
													E	U	TORTONIAN	?	M		?	M		m5b m5a		32 69	PN1												
																										E	U	SERRAVAL	?	M		?	M		m4c m4b m4a		
													P L I O C E N E	U	ZANCL. PIAC.	?	M-L		?	M-L		p3 p2 p1		5	Astien Villof.												

Author: G. SUTER

Area No. 104 f: DAHRA, DZ

EPOCHS		M Y	stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	OLIGOCENE												
L.	U.		ZANCL. PIAC.					p3 p2 p1					
		5	MESSIN		400	ML		-m6			28	PN 2	
		8	TORTONIAN					m5b					
		10	TORTONIAN					m5a					
		12	SERRAVAL.					m4c m4b					
		15	SERRAVAL.		250	ML		m4a					
		16	LAN.		200	MB		m3				PN1	
		20	BURDIGAL.		300	T		m2					
		24	AQUITANIAN					m1					
		25	CHATTIAN					g3					
		30	CHATTIAN					g2					
Substratum: Nappes numidiennes " de Flyschs.													
PN 2 Miocène post-nappe 2° cycle													
PN 1 " " " 1er "													

Author: G. SUTER

Area No. 104 g: BASSIN LITTORAL DE TENES, DZ

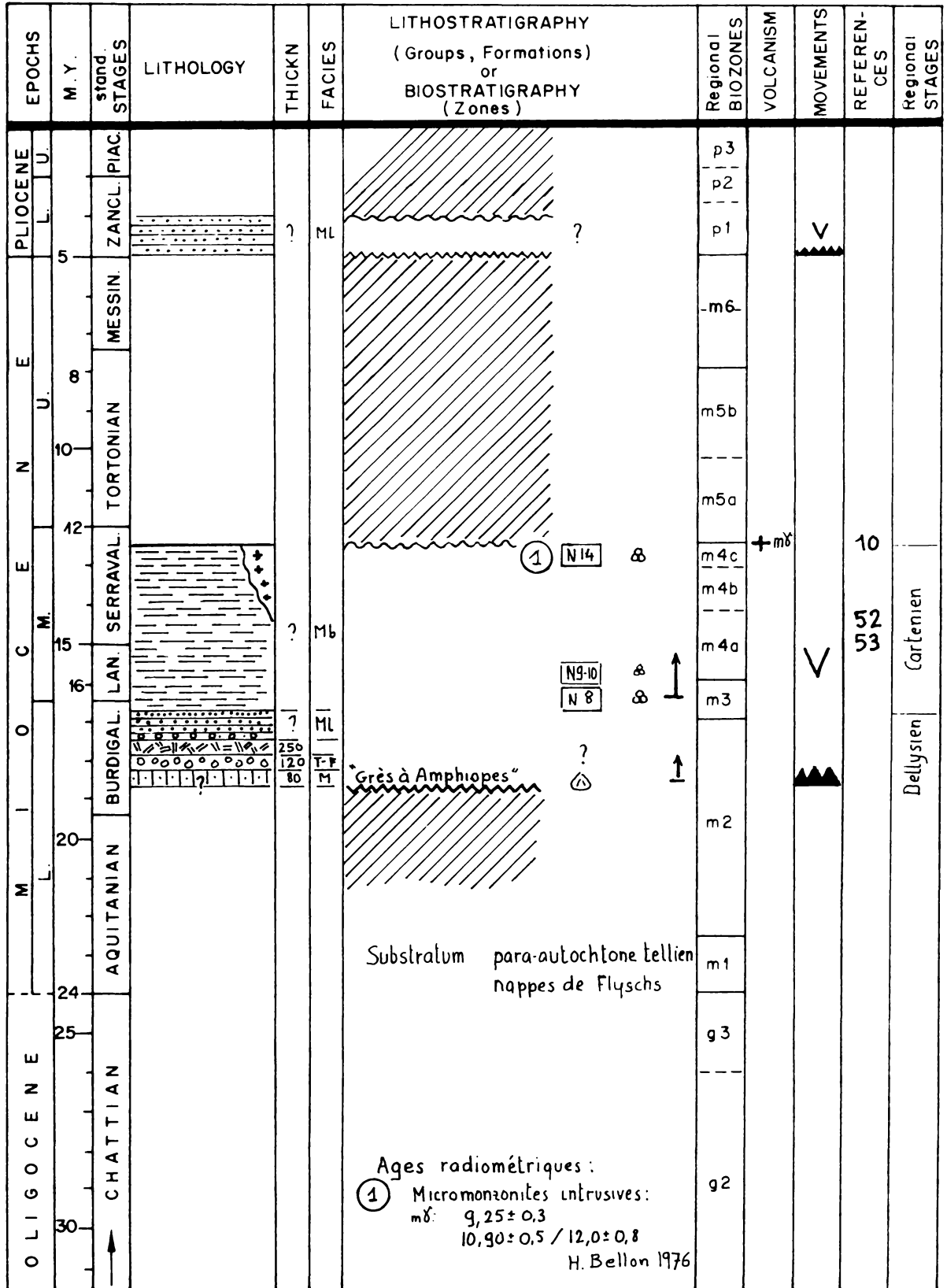
EPOCHS	M. Y.	stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	5	ZANCL. PIAC.					p3					
							p2					
							p1					
	8	MESSIN.						m6				
		10	TORTONIAN		250	Mb	N 16 ♂	m5b			21 52	
								m5a				
		12	SERRAVAL.				N 14 ♂	m4c		V		PN2
								m4b				
		15	LAN.		250	ML	N 9-10 ♂	m4a		▲▲▲		
			BURDIGAL.			T-F	? ♂	m3		▲▲▲		PN1
20	AQUITANIAN					m2						
	24						m1					
25	CHATTIAN						g3					
30							g2					

Substratum: Structures kabyles
Nappes telliennes.

PN2 Miocène post-nappe 2^e cycle
PN1 " " " 1^{er} "

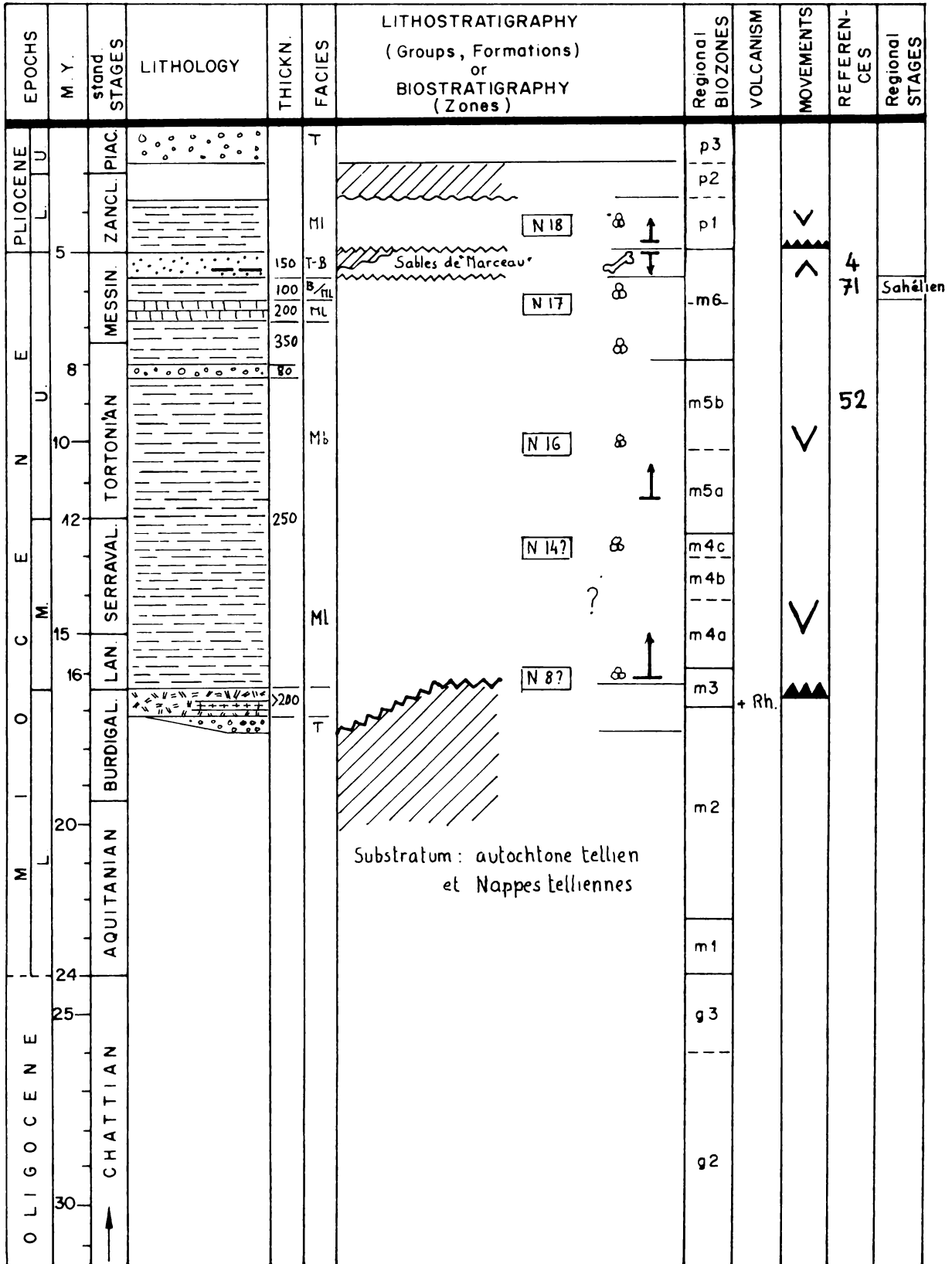
Author: G. SUTER

Area No. 104 h: BASSIN LITTORAL DE CHERCHEL, DZ



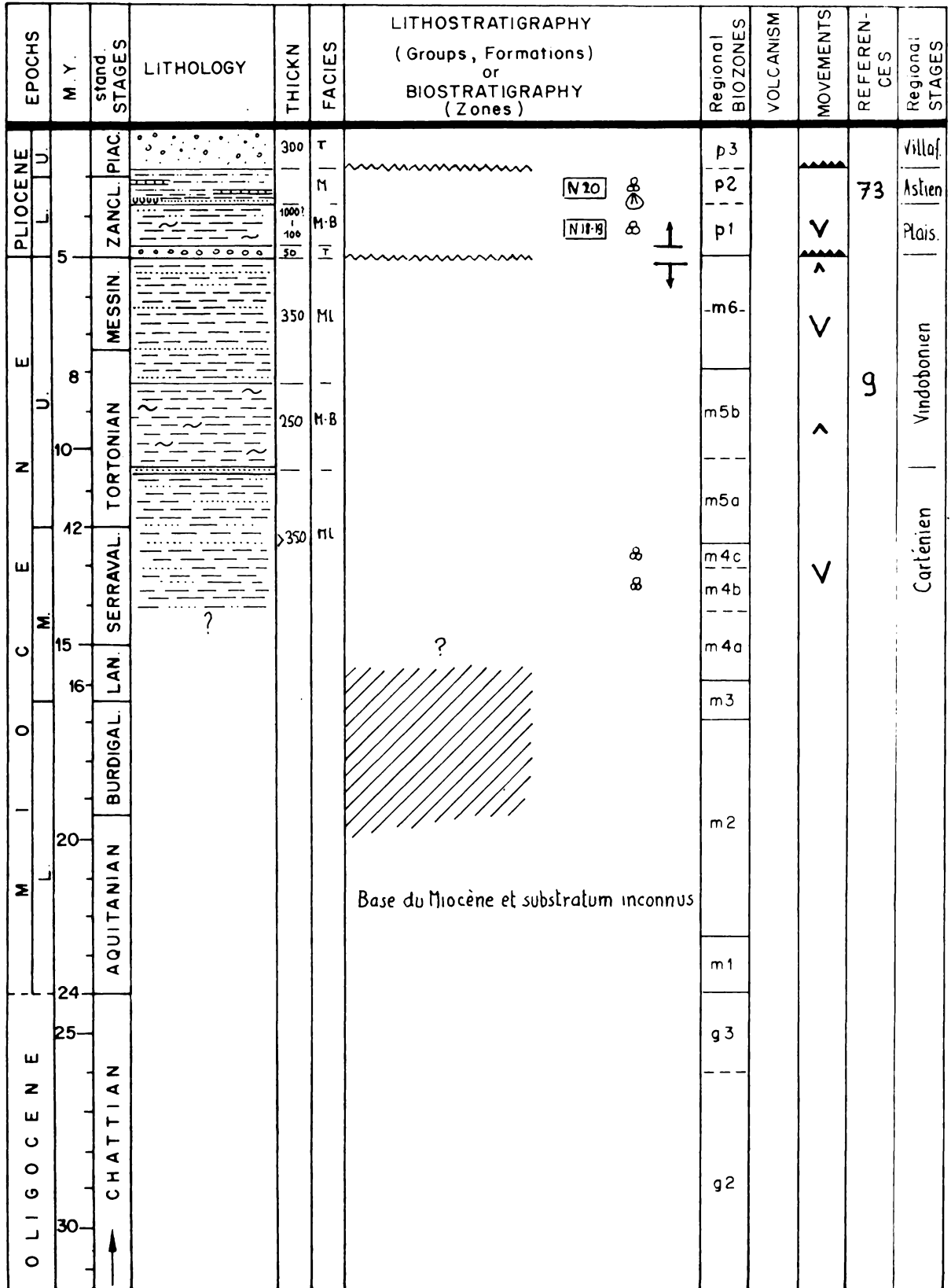
Author: G. SUTER

Area No. 105 a: MITIDJA OCCIDENTALE (MENACER, EX. MARCEAU), DZ



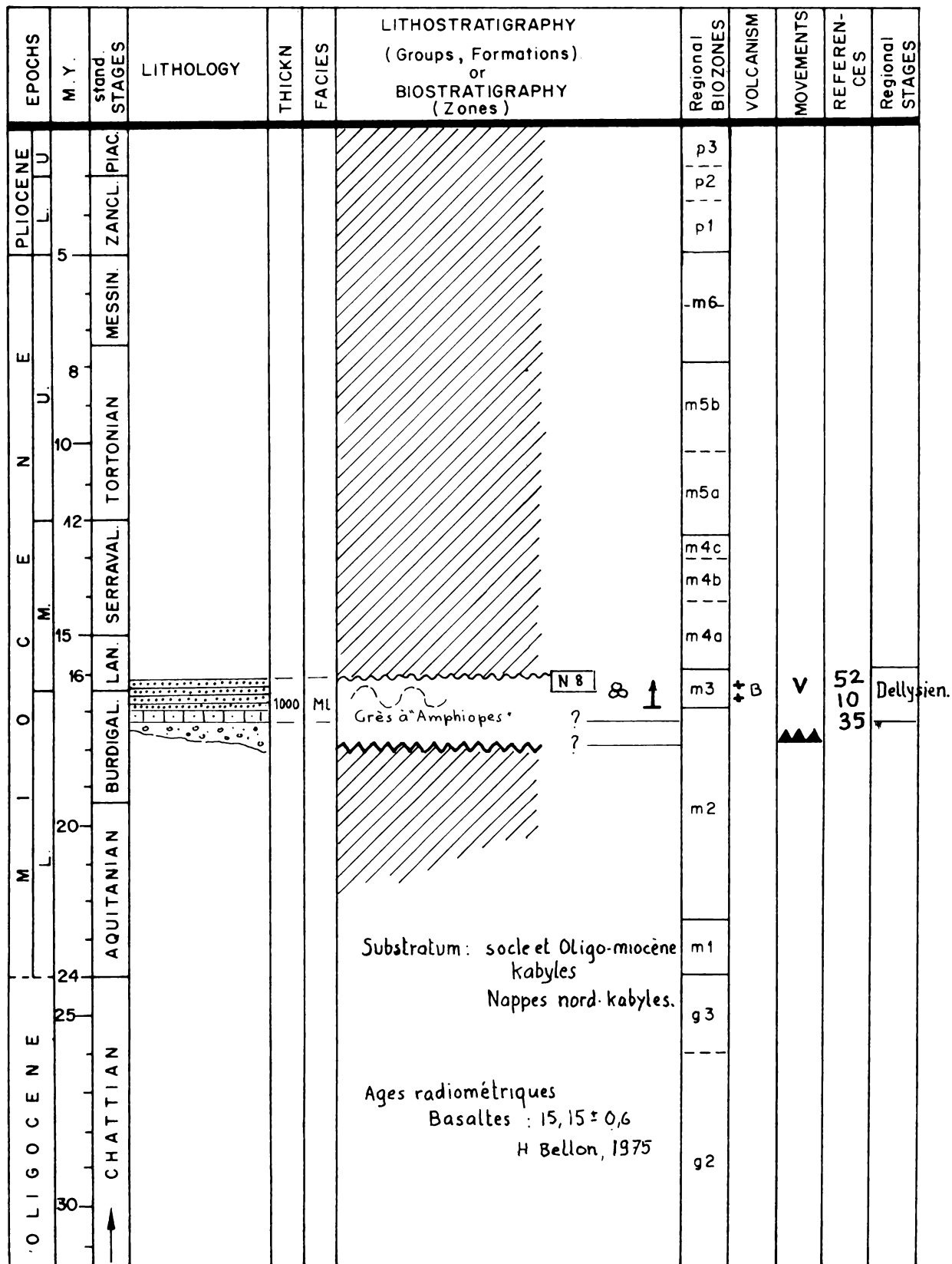
Author: G. SUTER

Area No. 105 b: REGION D'ALGER, DZ



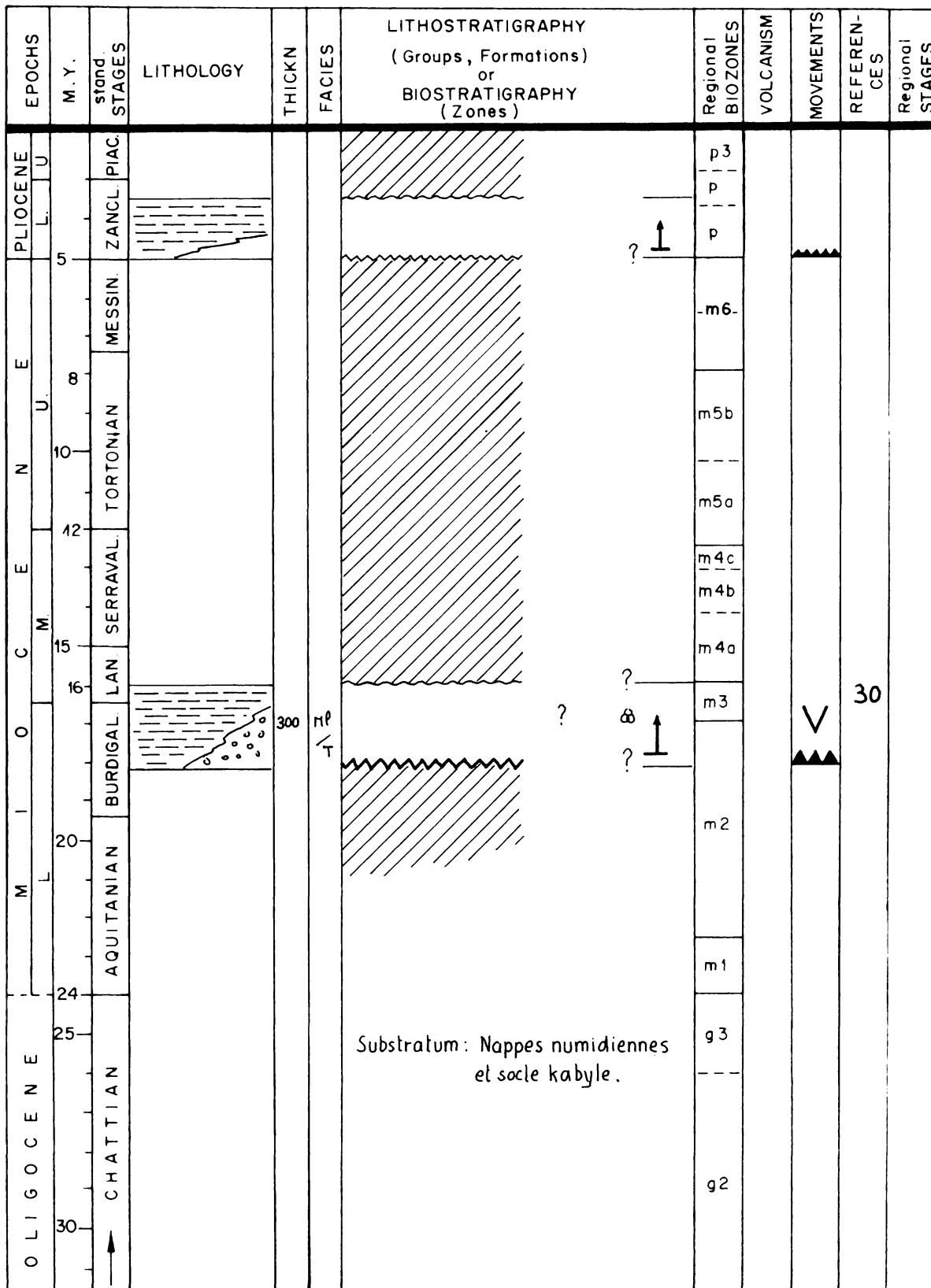
Author: G. SUTER

Area No. 105 c: BASSIN LITTORAL DE DELLYS, DZ



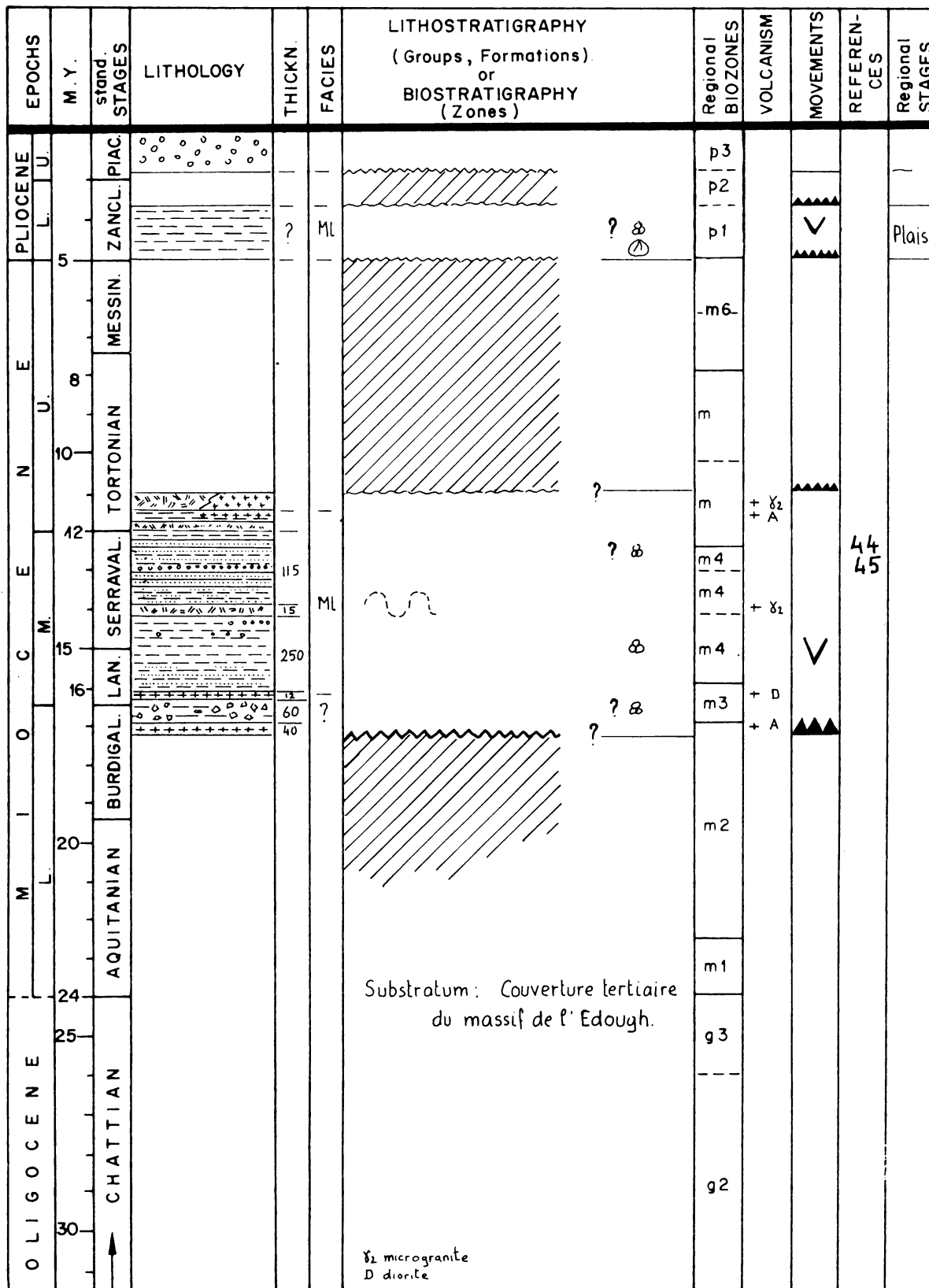
Author: G. SUTER

Area No. 105 e: BASSIN LITTORAL DE DJIDJELLI, DZ



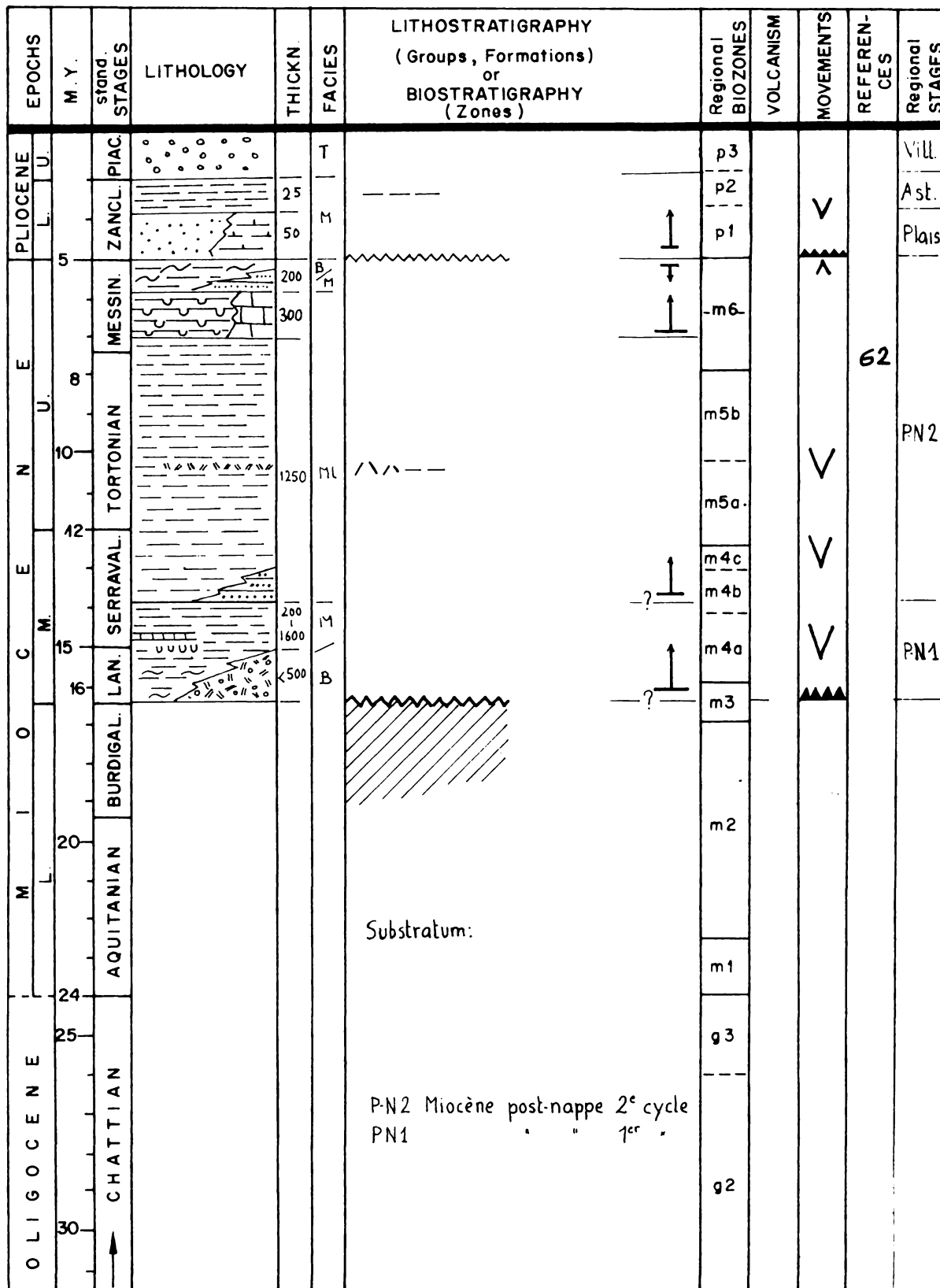
Author: G. SUTER

Area No. 105 g: BASSIN LITTORAL DU CAP DE FER, DZ



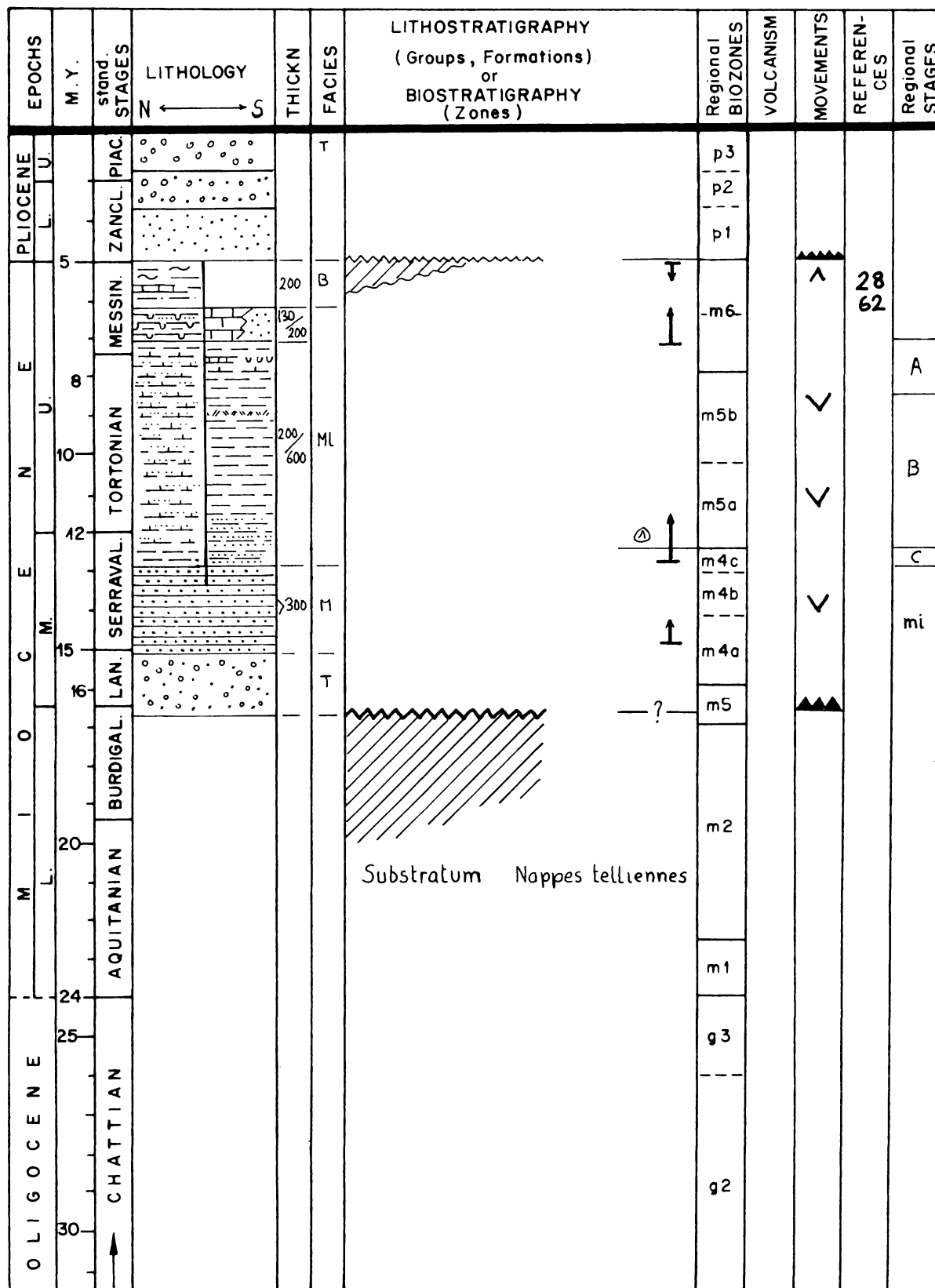
Author: g. SUTER

Area No. 106 b: PLATEAU DE ST LOUIS, DZ



Author: G. SUTER

Area No. 106 c: BORDURE N DES BENI CHOUGRANE (J. TOUAKA), DZ



Author: G. SUTER

Area No. 106 d: COUPE SYNTHETIQUE DU BASSIN DU BAS CHELIFF, DZ

EPOCHS	M. Y.	STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES			
PLIOCENE	5	ZANCL. PIAC.		400	ML		p3							
				450	Mb	Marnes bleues	N20, N19, N18, &, &	p2						
				500				p1		✓				
		MESSIN	8	MESSIN		200		Tripolis				60		
						350	ML	Marnes bleues	N17, &	-m6-		✓		
						600								
						600								
		TORTONIAN	10	TORTONIAN		300	ML							
									N16, &	m5		✓		PN2
SERRAVAL	12	SERRAVAL												
								m4c						
								m4b						
								m4a						
LAN	15	LAN												
							m3							
BURDIGAL	16	BURDIGAL												
AQUITANIAN	20	AQUITANIAN												
SUBSTRATUM	24	SUBSTRATUM				PN2 Miocène post-nappe 2 ^e cycle								
AQUITANIAN	24	AQUITANIAN												
CHATTIAN	25	CHATTIAN												
O L I G O C E N E	30	O L I G O C E N E												

Author: G. SUTER

Area No. 106 e: BAS CHELIFF (J. MENI), DZ

EPOCHS	M. Y.	STANDARD STAGES	LITHOLOGY		THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES									
			N	S																	
PLIOCENE	5	ZANCL. PIAC.	[Lithology symbols]		320	T M Ml	[Lithology symbols]	p3 p2 p1		^ V	62	Villafr. Ast. Plais.									
			8	MESSIN.									[Lithology symbols]		50 80	B Ml	[Lithology symbols]	-m6			
													10	TORTONIAN							
	12	SERRAVAL.			[Lithology symbols]		60	M/B	[Lithology symbols]	m4c m4b	V	PN1									
			15	LAN.	[Lithology symbols]								20 60	[Lithology symbols]	[Lithology symbols]	m4a	V				
	16	BURDIGAL.			[Lithology symbols]		60	[Lithology symbols]	[Lithology symbols]	m3											
			20	AQUITANIAN	[Lithology symbols]								[Lithology symbols]	[Lithology symbols]	m2						
	24	CHATTIAN			[Lithology symbols]		[Lithology symbols]	[Lithology symbols]	m1												
			25	[Lithology symbols]	[Lithology symbols]								[Lithology symbols]	[Lithology symbols]	g3						
	30	[Lithology symbols]			[Lithology symbols]		[Lithology symbols]	[Lithology symbols]	g2												

Substratum :

PN2 Miocene post-nappe 2^{ème} cycle
 PN1 " " " 1^{er} "

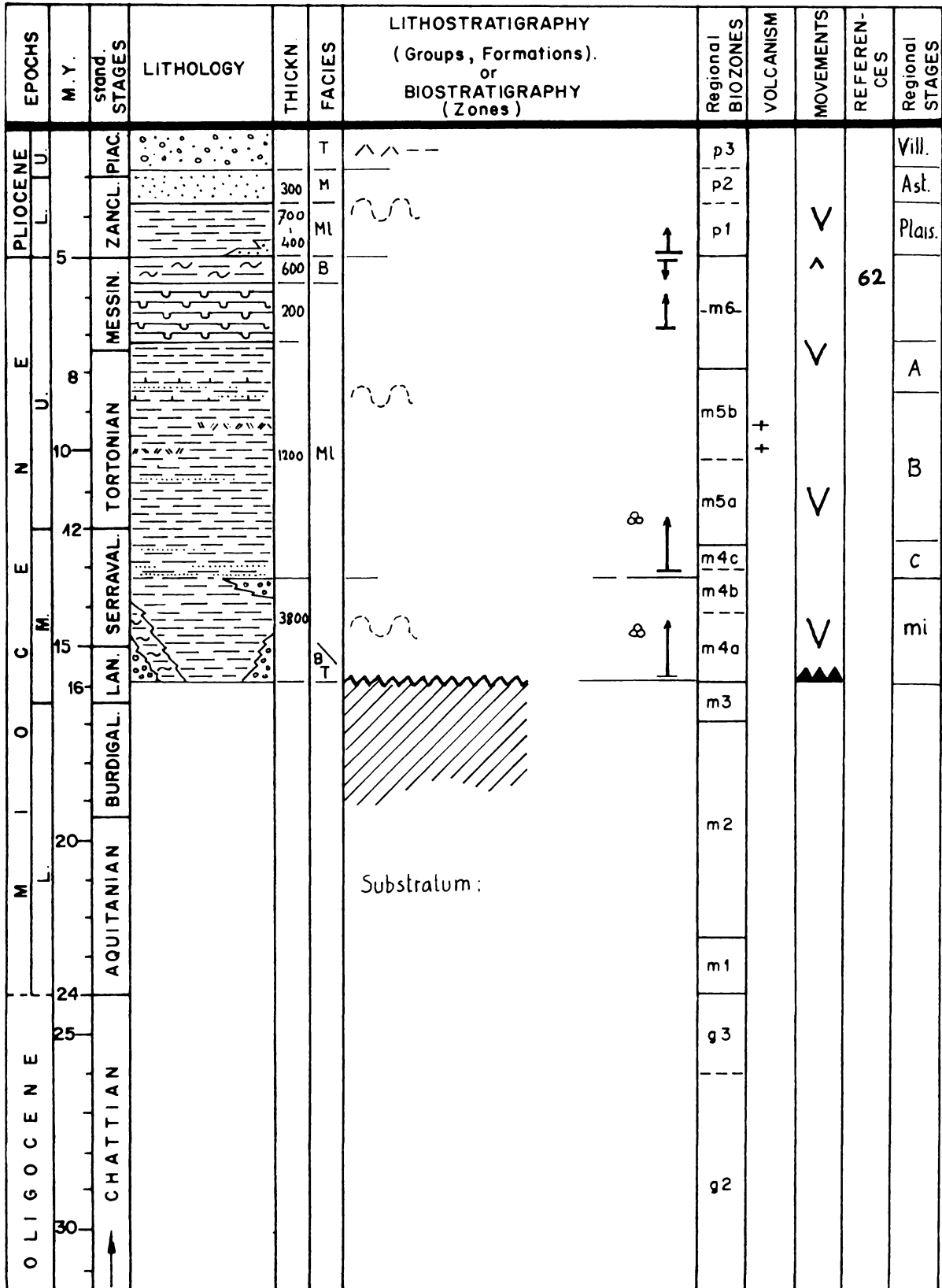
Author: G. SUTER

Area No. 106 f: BORDURE S DU DAHRA (OUED DJELLOUL ET SONDRAGE AZ 6), DZ

EPOCHS	M. Y.	Stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations). or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
O L I G O C E N E	P L I O C E N E	U			T		p3				Villaf-	
		L		120			p2				Ast.	
		5	ZANCL. PIAC.		150	Ml		p1		∇		Plais
	E	M E S S I N			100	B			↑			
					250	Ml		-m6-		∇	28 62	
					100					∇		
		8	TORTONIAN		100	B				∇		A
		10			450	Ml		m5		∇		B
	C	S E R R A V A L			100			m5				
					75			m4		∇		C
					150			m4		∇		
		15	LAN. SERRAVAL.		550	B/M	facies "Anasseur" facies "Sahrli"	m4		∇		mi
		6			300	T		m4		∇		
			BURDIGAL.					m3				
								m2				
M	A Q U I T A N I A N						m1					
E	C H A T T I A N						g3					
							g2					

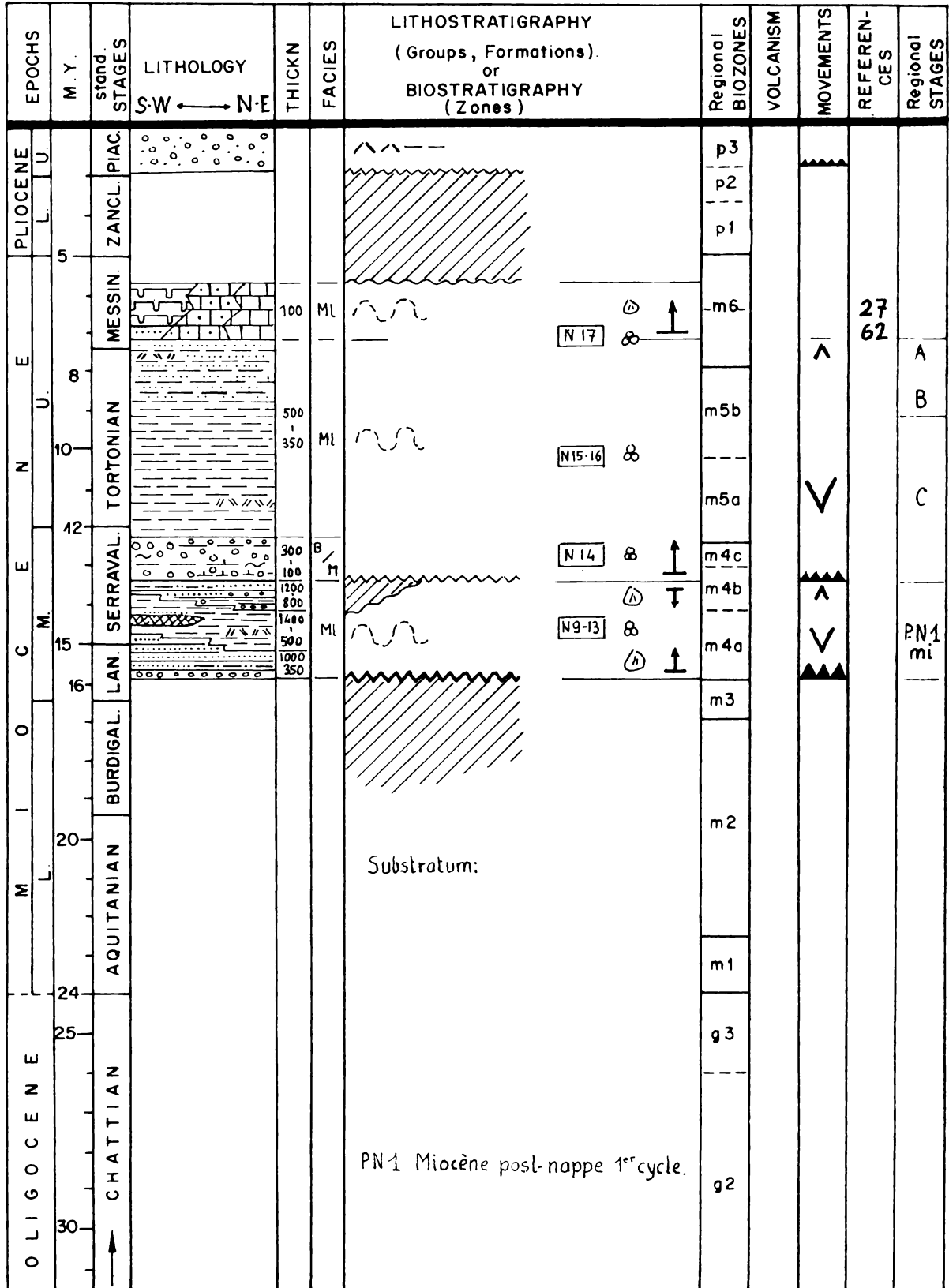
Author: G. SUTER

Area No. 106 g: ZONE AXIALE DU BAS-CHELIFF (SONDAGE BD 3), DZ



Author: G. SUTER

Area No. 106 h: BORDURE NW DE L'OUARSENIS (ENTRE LE CHABET TEFFOUNE ET L'OUED RIOU), DZ



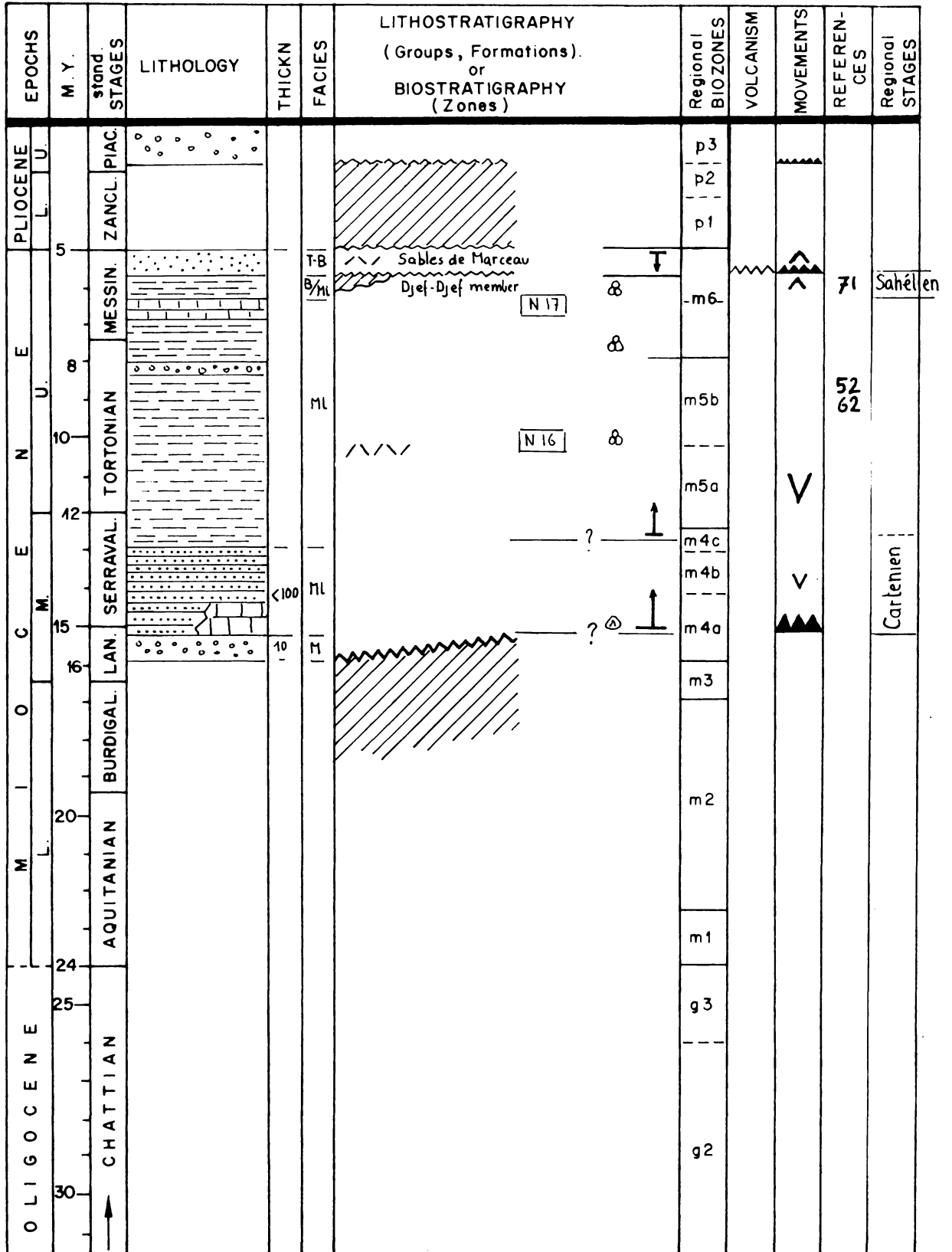
Author: G. SUTER

Area No. 106 i: OUED ALLALIA, DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations). or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U			PIAC					p3				
L			ZANCL					p2				
		5	MESSIN.					p1				
E		8	TORTONIAN					m6				
		10	SERRAVAL.					m5b				
		12	LAN.		700	ML		m5a				
		15	BURDIGAL.		100	H		m4c				
		16	AQUITANIAN		30	H		m4b				
			CHATTIAN					m4a				Cartésien.
								m3				Dellysien.
		20						m2				
		24						m1				
		25						g3				
		30						g2				
Substratum:												

Author: G. SUTER

Area No. 106 j: EL ABADIA (EX. CARNOT), DZ



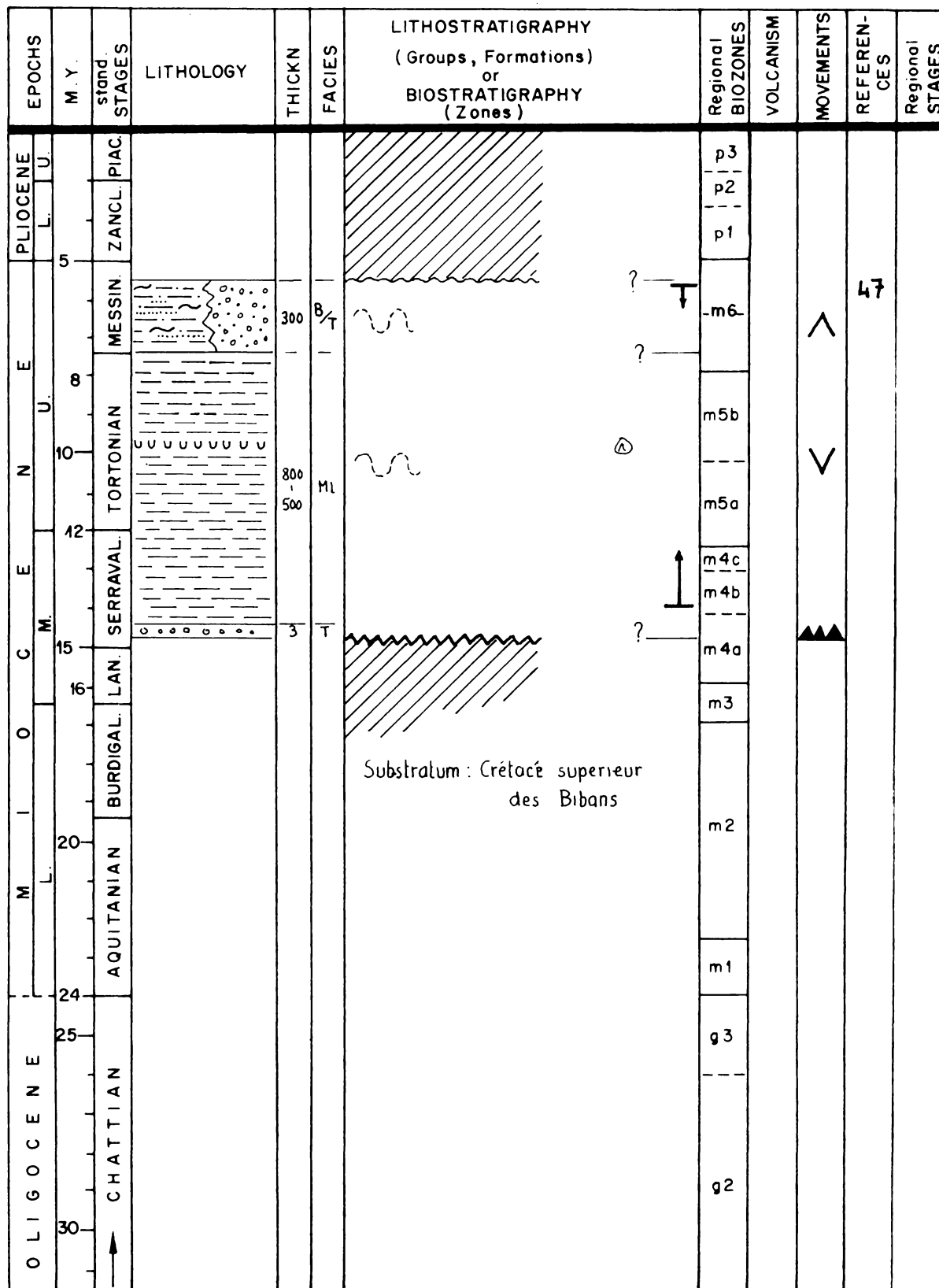
Author: G. SUTER

Area No. 107 a: MOYEN CHELIFF (J. GONTAS), DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY N ← S	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations). or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
	U.		PIAC.					p3				
	L.		ZANCL.					p2				
		5						p1				
	E		MESSIN.					-m		^	62	
	U.	8						m				
	N	10	TORTONIAN		?	MI		m		V		PN2
		12						m				
	E		SERRAVAL.					m				
	M.	15			?	MI		m				
	C	16	LAN.			T-H		m		V		PN1
			BURDIGAL.					m				
	O							m				
	M	20	AQUITANIAN				Substratum:	m				
	L.	24						m1				
		25	CHATTIAN				PN2 Miocène post-nappe 2 ^e cycle	g3				
		30					PN1 " " " 1 ^{er} "	g2				

Author: G. SUTER

Area No. 107 b: NELSONBOURG, DZ



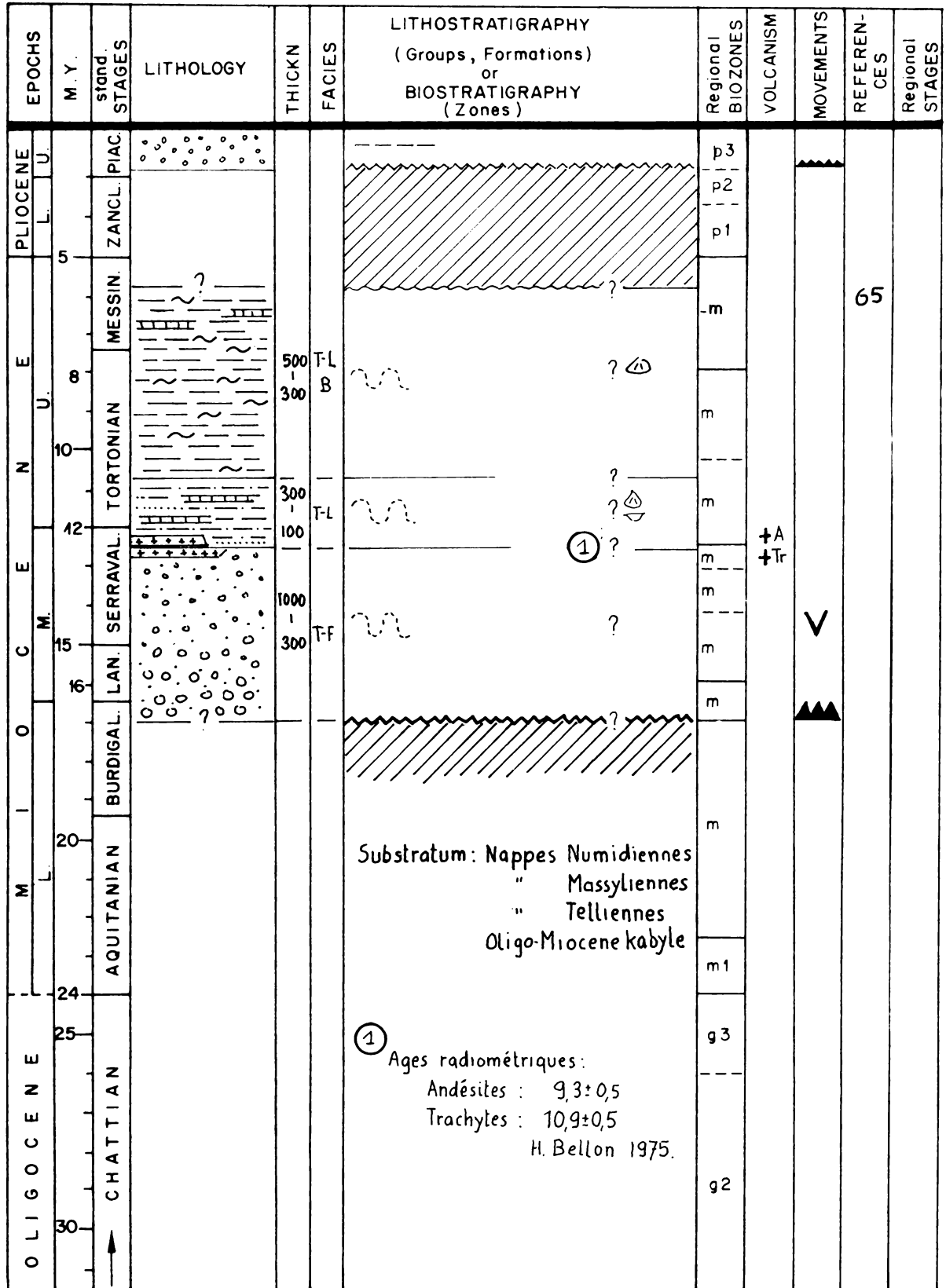
Author: G. SUTER

Area No. 107 c: SOUMMAM (M'CHEDILLAH, EX. MAILLOT), DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations). or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	L.							p3				
		5	ZANCL. PIAC.					p2				
			MESSIN.					p1				
E	U.	8	TORTONIAN					m				
		10						e				
		12	SERRAVAL.					e				
		14						e				
		15	SERRAVAL.					e				
		16	LAN.		20	B.		e				
		20	BURDIGAL.					e				
		24	AQUITANIAN					e				
		25	CHATTIAN					g3				
		30						g2				
							Substratum: Crétacé des Bibans Nappes de flyschs.	m1				
25												

Author: G. SUTER

Area No. 107 d: BASSIN DE CONSTANTINE, DZ



Author: G. SUTER

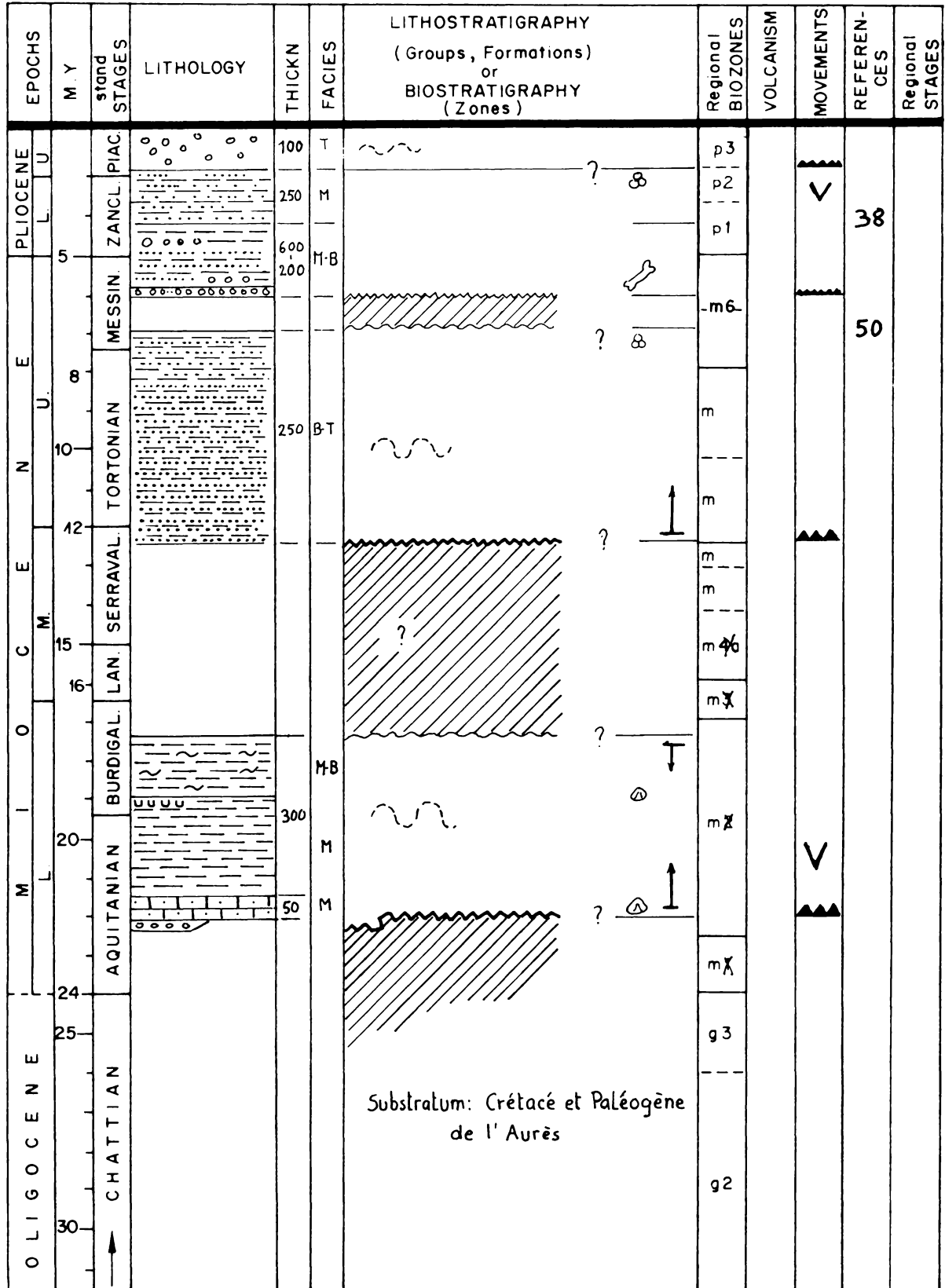
Area No. 108 a: TAFNA-SUD, DZ

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.			PIAC.			F	?	p3				
L.			ZANCL.		?	T-F	?	p2				
		5	MESSIN.			T-F	"Formation rouge de la Tafna"	p1			40	
		8	TORTONIAN		?	T-F		-m6				
		10						m5b	+ Rh + B		10	
		12	SERRAVAL.					m5a				
		15	BURDIGALAN					m4c				
		16	AQUITANIAN					m4b				
		20						m4a				
		24						m3				
		25	CHATTIAN					m2				
		30						m1				
								g3				
								g2				

① Ages radiométriques
Basaltes : $8,9 \pm 0,3$
Rhyolites : $11,9 \pm 0,2$
H. Bellon 1976

Author: G. SUTER

Area No. 108 b: BORDURE W ET SW DE L'AURES, DZ



Author: G. SUTER

Area No. 109: KHOUMIRIE – MOGODS, TN

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES			
PLIOCENE	MILL. Y.													
PLIOCENE	E	MESS. ZANCL. PIAC.		35	M	Raf. Raf.			↗↗					
	L													
MIOCENE LATE	5	TORTONIAN		70	LI				↗↗					
	6.3													
	10													
	12													
MIOCENE MIDDLE	15.4	LAN. SERRAVAL.		80 m.	M				↗↗↗					
	16.5													
	20													
	22.5													
MIOCENE EARLY	24.5	BURDIGALIAN		50	Mb				↗↗↗					
	24.5													
OLIGOCENE	30	AQU.		400 m.	Mb				↗↗↗					
	30													
		CHATTIAN		300 m.	Mb	Gres Numidiens			↗↗↗					

Author: P. F. BUROLLET

Area No. 110: BIZERTE, TN

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	L.		PIAC.		0 to 500 m	C	Porto Farina sstones	NL 9				
	E.		ZANCL.		300 to 500 m	MI	Raf Raf shale	NL 8			2	
Eocene	LATE	5	TORTONIAN		100 to 600 m	L	SEGI FORM.					
		6.3			600 to 800 m	LH	Oued del Khedim Formation					
					0 to 2000 m	B	Kechabta Formation				2	
	MIDDLE	10	SERRAVAL		500 to 800 m	MI	Oued el Melah shale.					
		12				L	Hakima Form.					
		15.4				BH	Mellaha Evaporites					
EARLY	16.5	BURDIGALIAN		0 to 50 m		Sandstone, clay and sandy limestone with glauconite	N9				3	
	20											
	22.5											
OLIGOCENE			CHATTIAN				NUMIDIAN FLYSCH (Allochthonous)				3	
	30											

Author: P. F. BUROLLET

Area No. 111: CAP BON, TN

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	L		ZANCLIPAC		20 to 600 m	Ml	PORTO FARINA sstone	Nl 9					
	E		ZANCLIPAC		to 400 m	Ml to Mb	RAF-RAF shale	Nl 8		↘↘↘	4 5 6		
MIOCENE	LATE	5	MESSINIAN		500 to 2500 m	F, B, LI, B, Mb	SAOUAF FORM. Gray shale interbedded with Sandstone gypsum oyster beds and brown coal seams.	DOUIL GROUP		↗↗↗			
		6.3			20 to 50 m	F	BGLIA SANDSTONE crossbedded coarse grained sandstone				↗↗↗	5	
		10			10 to 100 m	Mb to Ml	MAHMOUD SHALE		N 9 N 8		↗↗↗	7 8	
		12			10 to 100 m	Ml	AIN GRAB FORM. Bioclastic limestone, conglomerata, Pectinidae, Echinids		N 8				5 9 10
MIOCENE	EARLY	15.4	BURDIGALIAN		100 m	Mb		CAP BON GROUP					
		16.5			500 m	F	Ggs. primordius Zone → offshore of Cap Bon Marine shale facies		N 4		↗↗↗	5	
OLIGOCENE		22.5	CHATTIAN		to 2000 m	F, B	GRES DE FORTUNA FORTUNA SANDSTONE Coarsely grained stone in the upper part Interbedded sstone and shale in the lower part			↗↗↗			
		24.5				F	Ggs. angusturalis Zone		N 3 P 21			11	

Author: P. F. BUROLLET

Area No. 112: TUNISIE ORIENTALE – SAHEL, TN

EPOCHS		MILL. Y.	MED STAND STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	OLIGOCENE												
L.			PLAC		to 200	ML	PORTO FARINA SSTONE	Nl 9		>	5		
E.			ZANCL.		to 100	T F	RAF-RAF shale	Nl 8					
		5					SEGUI CONTINENT. BEDS						
		6.3	MESS.		1000 to 3000	B	SAOUAF FORM. shale, brown coal, sandstone, gypsum, oyster beds	OUM DOUIL GROUP		>>	5		
		10	TORTONIAN			LI				>>	8		
		12	SERRAVAL.		to 200 m.	F	BEGLIA SANDSTONE			>>	11		
		15.4	LAN.		to 100 m.	Mb	MAHMOUD SHALE			>	12	5	7
		16.5	LAN.		to 100 m.	Ml	AIN GRAB FORMATION bioclastic limestone conglomeratic in places	N9 N8			9	5	13
		20	BURDIGALIAN							>			
		22.5	AQU.				MESSIOUTA RED BEDS			>>>			
		24.5	CHATTIAN				FORTUNA Sandstone			>>>	5	13	7
		30					Ggs angulisuturalis Zone	P 21					

Author: P. F. BUROLLET

Area No. 113: PLATEAU SOUS-MARIN DE KERKENNAH, GOLFE DE GABES, TN

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES								
PLIOCENE	5	ZANCL. PIAC.				Calcareous sstone and sany marl	N19		>>>										
						May be verythick in the Linosa and Malta througs	N18	>>>											
MIOCENE LATE	6.3	MESS.		100 to 200 m	B ML	? OUED DEL KHEDIM			>>>	2	14								
						AQUAF MELQART FORM. shale and bioclastic limestone with Corals. Few gypsum and sand		>>>	14										
						BEGLIA FORMATION. Sandstone some inter bedded shale			14										
						MAHMOUD SHALE			14										
						MIOCENE MIDDLE	15.4	LAN. SERRAVAL.		100 to 400 m	Mb to ML	GROUP CAP BON FORMATION	Praeorbulina, Gl. sicanus	N 8	>>>	13	14		
																		UPPER MEMBER	15
																		UP KETATNA FORM	Ggs. trilobus
						MIOCENE EARLY	22.5	BURDIGALIAN		200 m	ML	GROUP CAP BON FORMATION	Ggs primordius Lepidocyclines	N 4	>>>	14	15		
																		MIDLE KETATNA FORM	
						OLIGOCENE	24.5	CHATIAN		80 to 150 m	ML	KETATNA	Nemmulites		>>>	14	15		
LOWER KETATNA FORM (including Lower Oligocene)																			

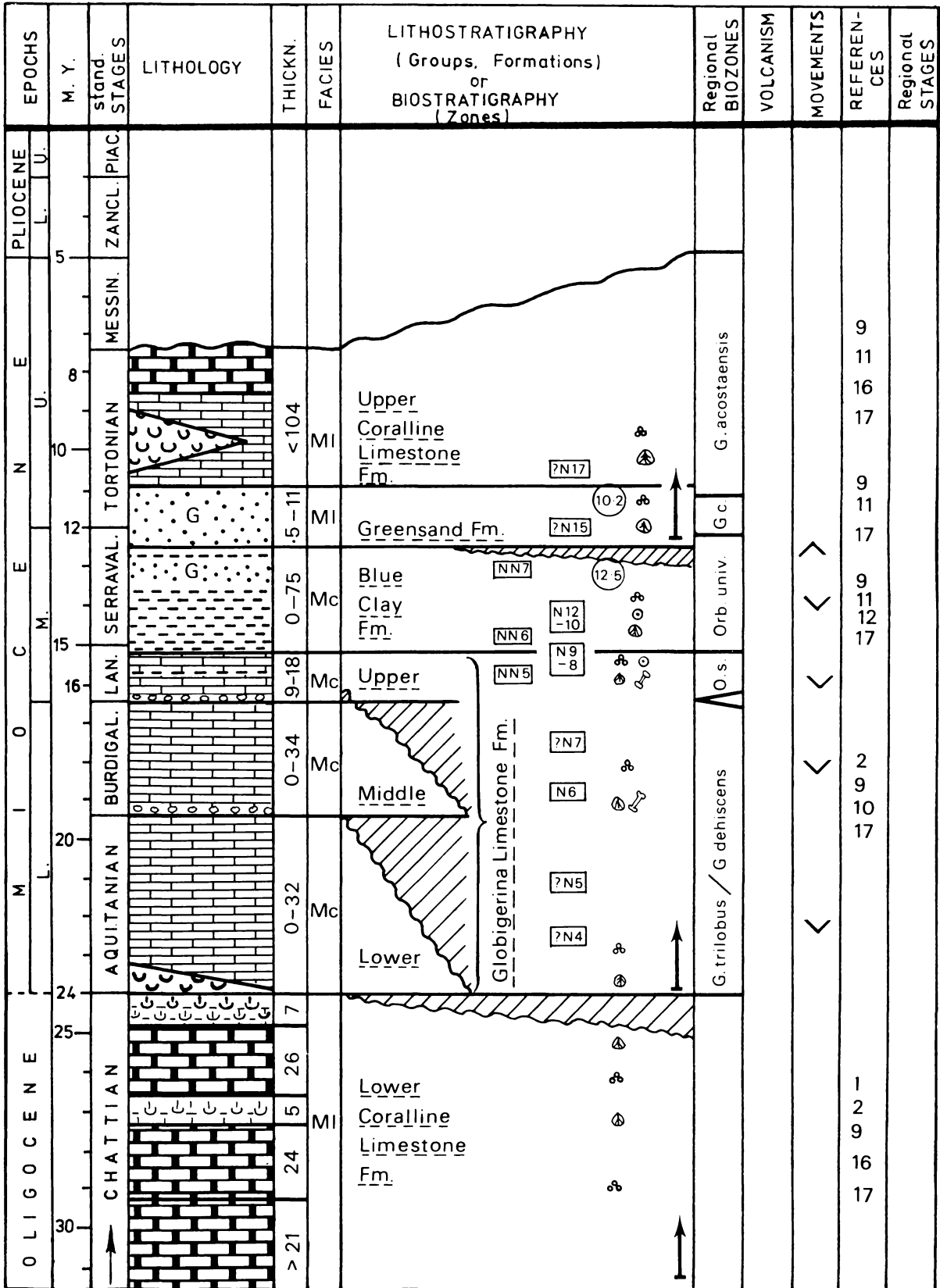
Author: P. F. BUROLLET

Area No. 114: SW TUNISIA, CHOTT JERID, TN

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	5	ZANCL. PIAC.		200 to 1000 m	F	SEGUI FORMATION brownish to yellow sands, conglomerates, some sandy clay				5	
	6.3	MESS.			F ML B	Saouaf form. Shale, Oystro Gypsum				7	
	10	TORTONIAN		50 to 200 m	F	BELGIA SANDSTONE Crossbedded Vertebrates with Hipparion				7	
	12	SERRAVAL									
	15.4	LAN.									
	16.5	BURDIGALIAN									
	20										
	22.5	AQU.		0 to 20m	C	SEHIDI Form. Red beds				5-7 16	
	24.5	CHATTIAN									
OLIGOCENE	30										

Author: P. F. BUROLLET

Area No. 136: MALTESE ISLANDS, M



Author: E. P. F. ROSE

Area No. 126: ALBORAN BASIN (DSDP SITE 121)

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	5	MESS. ZANCL. PIAC.	not cored	~ 335	Mb	maris sands and sandstones	NN18 NN12 MPL3			(1) (2)	
NEOGENE LATE	6.3	TORTONIAN	not cored	178 m	Mb	maris sands 2 sandstones G. acostaensis	NN10-11	G mediterania			
OLIGOCENE EARLY	24.5	CHATTIAN				crystalline basement age unknown					
	22.5	AQU.									
	20	BURDIGALIAN									
	16.5	LAN. SERRAVAL.									
	15.4										
	12										
	10										
	5										

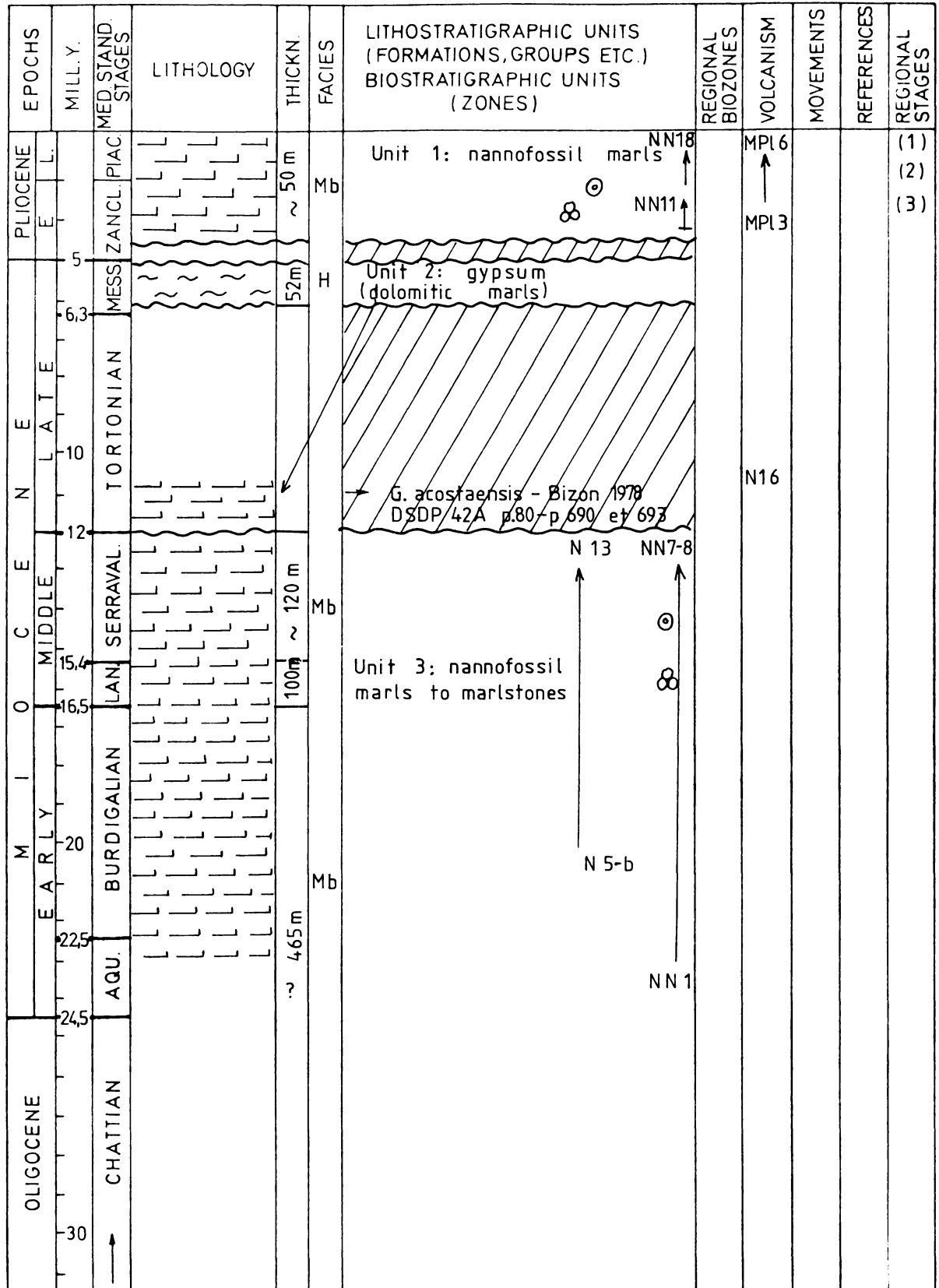
Authors: G. BIZON & M. B. CITA

Area No. 127: VALENCIA TROUGH (DSDP SITES 122 AND 123)

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	5	ZANCL. PIAC.		7b-15b	Mb	marl oozes with turbiditic sands and silts				1	
MIDDLE	6.3	MESS.		2	H	dolomitic marls with saccharoidal gypsum (at DSDP Site 122)					
	10	TORTONIAN									
EARLY	12	LAN. SERRAVAL.									
	15.4	LAN. SERRAVAL.									
BURDIGALIAN	16.5	LAN. SERRAVAL.									
	20	BURDIGALIAN									
AQU.	22.5	AQU.									
	24.5	AQU.				volcanic ash (21) (at DSDP Site 123) 125m thick at least		⊕ R			
OLIGOCENE	30	CHATTIAN									

Author: M. B. CITA

Area No. 128: BALEARIC BASIN (DSDP SITE 372)



Author: G. BIZON

Area No. 128: BALEARIC BASIN (DSDP SITE 372)

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	E	PIAC	[Lithology: marls]	~50 m	Mb	Unit 1: nannofossil marls	MPL 6 MPL 3			(1) (2) (3)	
		ZANCL.									
MIOCENE	E	5	[Lithology: marls]	32 m	H	Unit 2: gypsum and dolomitic marls	N 17				
		6,3									
MIOCENE	L	TORTONIAN	[Lithology: marls]	120 m	Mb	Unit 3: nannofossil marls to marlstones	N 13 NN 7-8				
		10									
MIOCENE	M	SERRAVAL	[Lithology: marls]	100 m	Mb	Unit 3: nannofossil marls to marlstones	N 5-6 NN 1				
		12									
MIOCENE	O	LAN	[Lithology: marls]	465 m	Mb	Unit 3: nannofossil marls to marlstones	N 13 NN 7-8				
		15,4									
MIOCENE	E	BURDIGALIAN	[Lithology: marls]	465 m	Mb	Unit 3: nannofossil marls to marlstones	N 5-6 NN 1				
		16,5									
MIOCENE	E	AQU.	[Lithology: marls]	?	Mb	Unit 3: nannofossil marls to marlstones	N 5-6 NN 1				
		22,5									
OLIGOCENE	E	CHATTIAN	[Lithology: marls]	?	Mb	Unit 3: nannofossil marls to marlstones	N 5-6 NN 1				
		24,5									
OLIGOCENE	L		[Lithology: marls]	?	Mb	Unit 3: nannofossil marls to marlstones	N 5-6 NN 1				
		30									

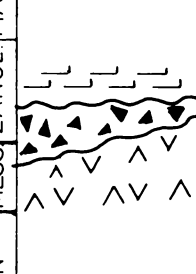
Author: M. B. CITA

Area No. 130 a: TYRRHENIAN BASIN (DSDP SITE 132)

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
<p>OLIGOCENE</p> <p>CHATTIAN</p> <p>30</p>	<p>24,5</p>										
<p>MIDDLE</p> <p>EARLY</p> <p>16,5</p> <p>20</p> <p>22,5</p>	<p>15,4</p> <p>20</p> <p>22,5</p>	<p>LAN. SERRAVAL.</p> <p>BURDIGALIAN</p> <p>AQU.</p>									
<p>PLIOCENE</p> <p>5</p>	<p>6,3</p> <p>5</p>	<p>MESS. ZANCL. PIAC.</p> <p>TORTONIAN</p>		<p>>30 m</p> <p>H</p>		<p>evaporites including pyritic marls, gypsiferous and dolomitic sands, dolomitic marls, terrestrial soils, recrystallized gypsum, stromatolitic anhydrite</p>					
				<p>117 m</p> <p>Mb</p>		<p>foraminiferal oozes</p> <p>N 18</p> <p>N 21</p>	<p>MPI 6</p> <p>MPI 5</p> <p>MPI 4</p> <p>MPI 3</p> <p>MPI 2</p> <p>MPI 1</p>			<p>(1)</p> <p>(2)</p>	

Author: M. B. CITA

Area No. 130 b: TYRRHENIAN BASIN (DSDP SITE 373 A)

EPOCHS		PILOCENE		MIDDLE CENE		EARLY CENE		OLIGOCENE		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES				
		E	L																					
													83 m ?										(1) (2)	
										5	MESS ZANCL. PIAC.		135		basaltic breccia and basalt	MPL6 MPL8	+B +B							
										6.3			52		basalt									
										10	TORTONIAN													
										12														
										15.4	LAN SERRAVAL.													
										16.5														
										20	BURDIGALIAN				ATTENTION! Only two cores were cut in the first 268m in this drillsite, consequently the lithologic make up and thickness of Pliocene sediments are poorly known									
										22.5														
										24.5	AQU.													
										30	CHATTIAN													

Author: M. B. CITA

Area No. 139: MESSINA ABYSSAL PLAIN (DSDP SITE 374)

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	Eocene												
OLIGOCENE	E	30	CHATTIAN	azouque	80	H	from top to bottom: dolomitic mudston; gypsum dol. midstone cycles; anhydrite and salts	MP11			(1) (2)		
		24,5											
MIOCENE	E	22,5	AQU.										
		20	BURDIGALIAN										
		16,5	LAN. SERRAVAL.										
		15,4	LAN. SERRAVAL.										
		12	TORTONIAN										
PLIOCENE	E	5	MESS. ZANCL. PIAC.		100 m	Mb	nannofossil marl and ooze	MP11					
								MP15					



Author: M. B. CITA

Area No. 140: SYRTE ABYSSAL PLAIN – IONIAN SEA (DSDP SITE 125)

EPOCHS		LITHOLOGY		THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
MILL. Y.	MED. STAND. STAGES										
PLIOCENE	E L.			62, #5m.		⊗ ⊙ NN-13 to NN-18				1	
		MESS. ZANCL. PIAC.									
		6.3									
E N E											
	L A T E		TORTONIAN								
	10										
C E											
	M I D D L E		SERRAVAL.								
	12										
O											
	E A R L Y		BURDIGALIAN								
	15.4										
	16.5		AQU.								
	20										
	22.5										
	24.5										
O L I G O C E N E											
	30		CHATIAN								

Author: F. F. STEININGER

Area No. 140 to 142: MEDITERRANEAN RIDGE (DSDP SITE 126)

EPOCHS	MILL. Y.		MED STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES					
	PLIOCENE	PLIOCENE											PLIOCENE				
OLIGOCENE	E	L	PIAC				<p style="text-align: center;">   </p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px;">N-11 / N-14</div> <div style="border: 1px solid black; padding: 2px;">NN-8</div> </div>				1						
													5	MESS	ZANCL		
	E	L	PIAC										TORTONIAN	10	6.3	MESS	ZANCL
	M	C	MIDDLE										SERRAVAL	15.4	16.5	LAN	SERRAVAL
	E	L	PIAC										AQU	22.5	24.5	AQU	AQU

Author: F. F. STEININGER

Area No. 143 to 142: STRABO TRENCH AND MOUNTAINS (DSDP SITE 129)

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.	MED. STAND. STAGES									
	5	ZANCL. PIAC.				<p>⊗ ⊙ NN-14</p> <p><i>Messinian to Serravallian:</i></p> <p><i>Dolomitic ooze & marl, pyritic shales, current-bedded Limestone</i></p>					
	6.3	MESS.									
	10	TORTONIAN									
	12	SERRAVAL.									
	15.4	LAN.				<p>⊗ N-9</p>					
	16.5	SERRAVAL.									
	20	BURDIGALIAN									
	22.5	AQU.									
	24.5	CHATTIAN									
	30										

Author: F. F. STEININGER

Area No. 143: LEVANTINE BASIN (DSDP SITES 375 AND 376)

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	5	MESS. ZANCL. PIAC.			Mb	Nannofossil marl marl ooze and sapropels	NN18 N21 MPI6 MPI1		v	(1)	
	6.3					H	Gypsum with underbedded dolomitic and nannofossil marlstones	N17			
NEOGENE	10	TORTONIAN			Mb	Dolomitic nannofossil marlstone with graded units and sapropels	N15				
	12										
MIDDLE	15.4	LAN. SERRAVAL.			Mb	Foram. nannofossil marlstone					
	16.5						Dolomitic (Foram.) nannofossil marlstone with limestone layers	N8			
EARLY	20	BURDIGALIAN				Interbedded marlstones and limestones	NN4				
	22.5										
OLIGOCENE	24.5	AQU.									
	30	CHATTIAN									

Author: M. B. CITA

Area No. 200 a: SUBALPINE MOLASSE E, D

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES		
	MILL. Y.	MED. STAND. STAGES											
OLIGOCENE	E L 5 6,3 10 12 15,4 16,5 20 22,5 24,5 30	E L MESS. ZANCL. PIAC. TORTONIAN SERRAVAL. LAN. BURDIGALIAN AQU. CHATTIAN			T B H M M M B/H M H	<p>Obere Süßwasser-Molasse</p> <p>Prien → Konglomerate → Traun</p> <p>Oncophora-Schichten</p> <p>Schlier</p> <p>Fisch-Schiefer</p> <p>Tonmergel</p> <p>Konglomerate Thalberg-Sch.</p> <p>Hangende Chatt-Mergel</p> <p>Chatt-Sande</p> <p>Cyrenen-Schichten</p> <p>Liegende Chatt-Mergel</p> <p>Tonmergel, Sandsteine, Konglomerate</p> <p>Tonmergel-Schichten</p>					<p>"Torton"</p> <p>"Kar. part."</p> <p>"Burdigal" + "Helvet"</p> <p>"Aquitain"</p> <p>Chatt</p> <p>Rupel</p>		
												12	"Torton"
												9	"Burdigal" + "Helvet"
												3	"Aquitain"
												12	"Aquitain"
												2	Chatt
												13	Chatt
													Chatt
													Chatt
													Rupel

Authors: H. HAGN & E. MARTINI

Area No. 200 b: SUBALPINE MOLASSE W, D

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE											
E	L	5	MESS. ZANCL. PIAC.									
M	E	6.3	TORTONIAN									
O	M	10	SERRAVAL.									
M	I	12	LAN.	SERRAVAL.	100 - >1000	T	Obere Süßwasser-Molasse				12 24	"Torton"
E	A	15.4	BURDIGALIAN		300 - 2000	B M	Obere Meeres-Molasse	○ NN 3/4 ⊗ ⊗ ○ NN 1/2			2 9	"Burdigal" + "Helvet"
O	L	16.5	AGU.		800 - 2900	L B M	Cyrenen-Schichten Bunte Molasse	Promberger Schichten NP 25 Cyrenen-Schichten			3 18 24 10	"Aquit." Chatt
O	L	24.5	CHATTIAN		80-200	B	Baustein-Schichten				24	Rupel
O	L	30			>1000	B M	Tonmergel-Schichten					

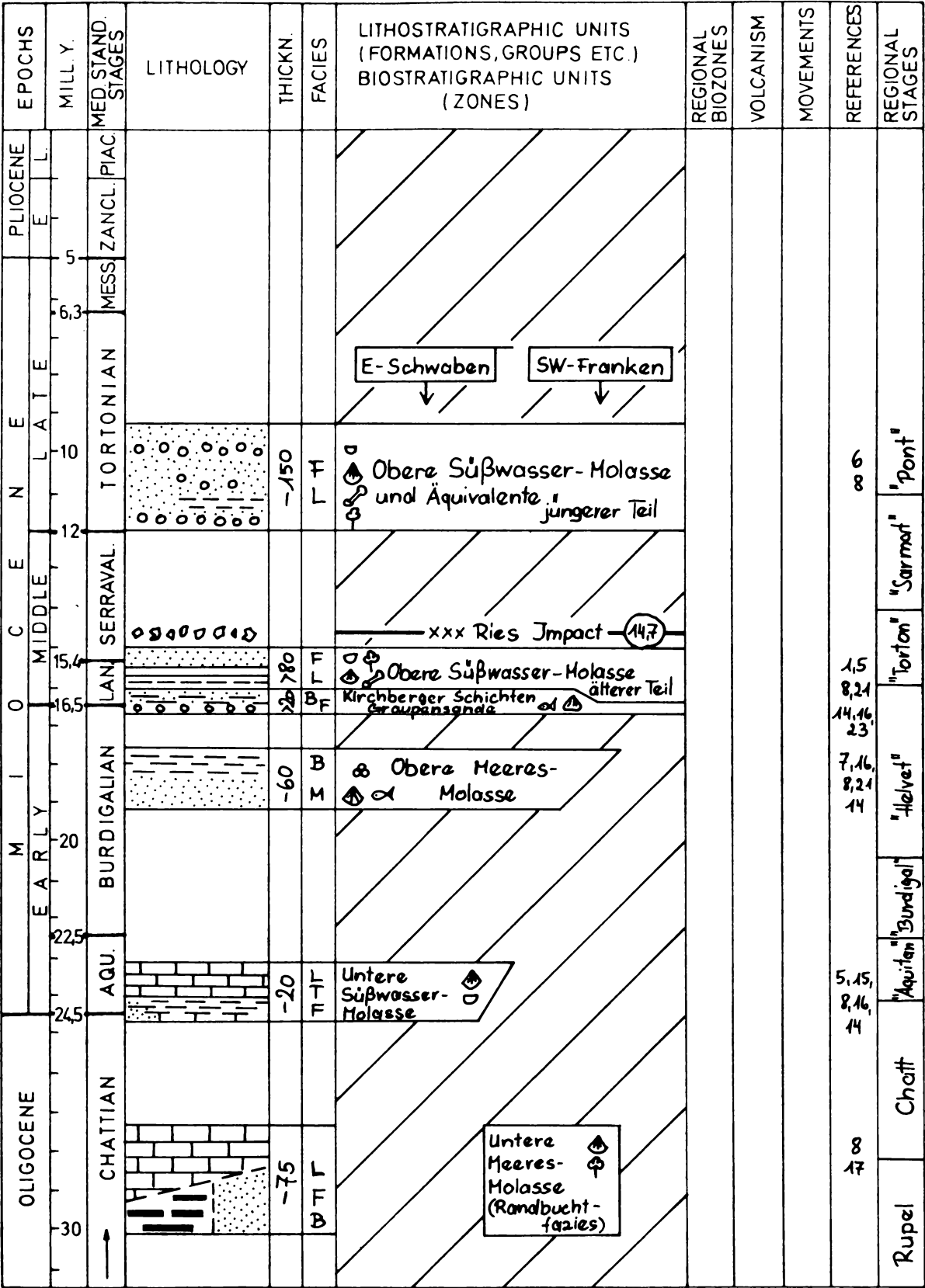
Authors: H. HAGN, D. HERM & E. MARTINI

Area No. 201 a: NIEDERBAYRISCHE UND NAAB MOLASSE, D

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	MILL. Y.	MED. STAND. STAGES									
OLIGOCENE	EARLY	MIDDLE	TORTONIAN	> 200	T	Hangendserie MN9 MN8 MN7 südliche Vollschotter MN6 MN5 Nördlicher Vollschotter				2	"Torton" + "Sarmat" i. Part
	AQU.	140-320	M	Glaukonitsande und Blättermergel Oberer Meeres-Molasse Neuhofener Schichten Ortenburger Meeressand	11	"Helvet"					
							CHATTIAN	70-130	M	Tonmergel Bändermergel	20
	Untere Meeres-Molasse Bändermergel helle Mergelkalke	25-60	M	11	Chaff	Rupel					

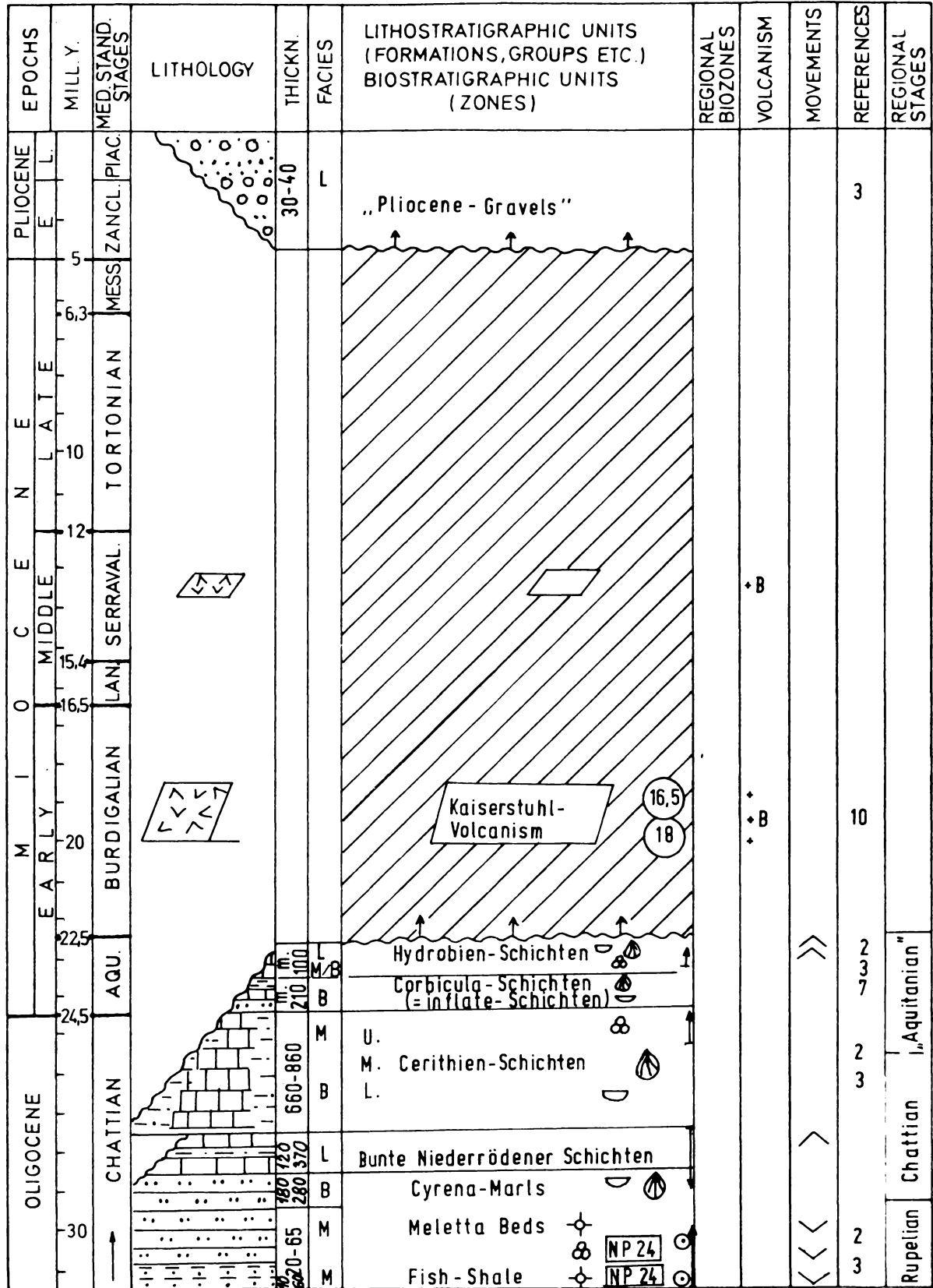
Authors: V. FAHLBUSCH, H. GALL, H. HAGN, P. JUNG & E. MARTINI

Area No. 201 b: SUBJURASSISCHE MOLASSE, D



Author: H. GALL

Area No. 290 a: RHEINGRABEN S, D



Author: E. MARTINI

Area No. 290 b: RHEINGRABEN N, D

EPOCHS	PLIOCENE		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	MILL. Y.												
OLIGOCENE	EARLY	MIDDLE	TORTONIAN		50 - >648	FL/L	upper part	A			2	Reu- brun- sup	
							"Jungtertiär II"						3
							lower part						
		MIDDLE	SERRAVAL		50 - 270	L	"Jungtertiär I"	+B	<<<	2	3		
							Hydrobien-Schichten					2	
							Cochicula-Schichten					3	
	EARLY	BURDIGALIAN	AQU.	270 - 900	M	U.	+B	<<<	2	3			
						M. Berithien-Schichten					3		
						L.							
	EARLY	CHATTIAN		100 - 185	L	Bunte Niederrödener Schichten	+B	<<<	2	3			
						Cyrena-Marls					3		
						Melatta Beds							
EARLY	CHATTIAN		max. 80	M	Fish-Shale			3	Rupelian				

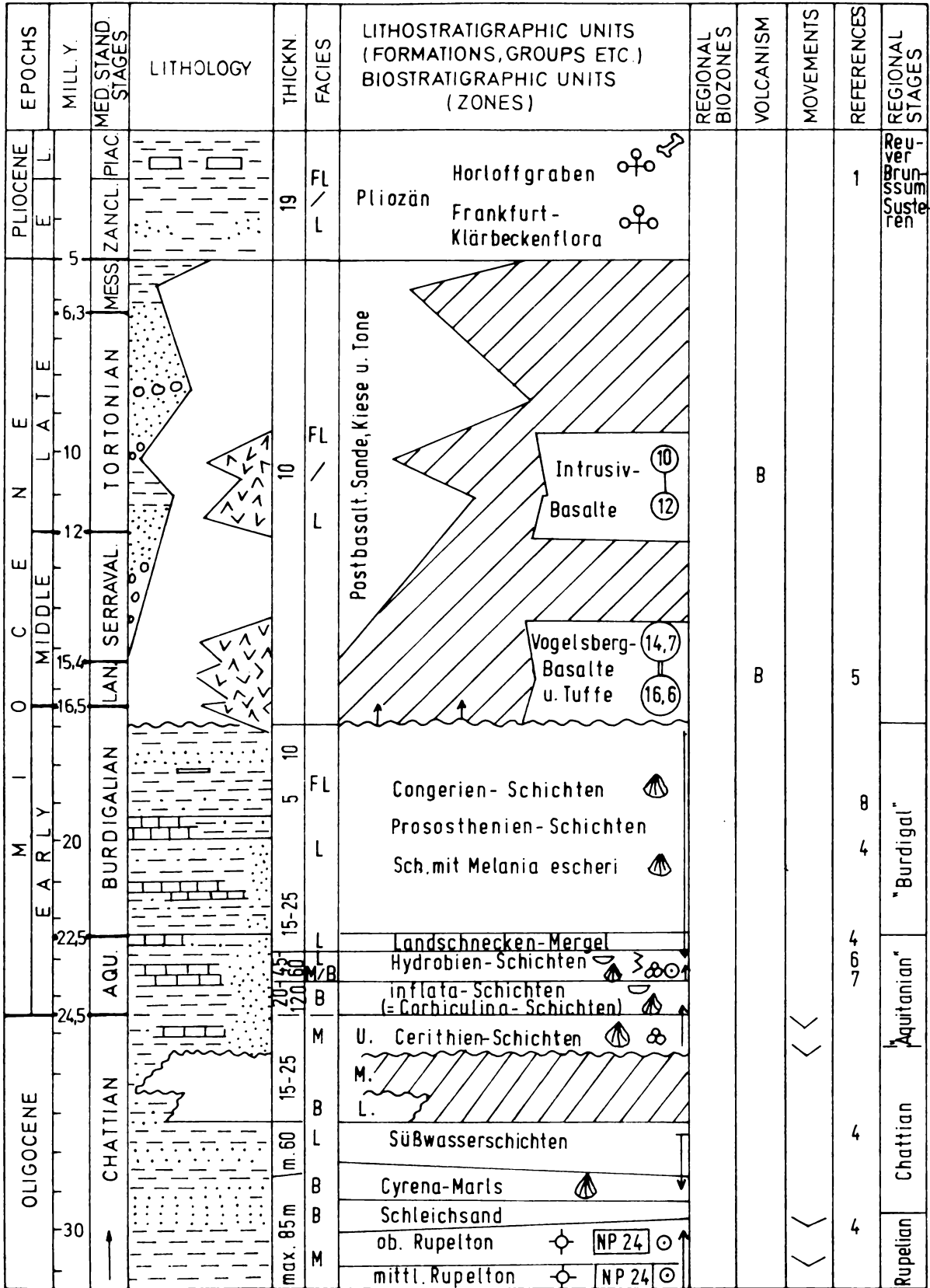
Author: E. MARTINI

Area No. 290 c: MAINZ BASIN, D

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE											
E	L						Schnecken-Mergel Klebsande					
		5	ZANCL. PIAC.		16	FL	Arvernensis-Kiese Bohnerze, younger "Ur-Rhein"				3	
		6,3	MESS.								8	
		10	TORTONIAN									
		12										
		15,4	SERRAVAL.									
		16,5	LAN.									
		20	BURDIGALIAN									
		22,5	AQU.		max 70	L	Hydrobien-Schichten			<<<<	2	
		24,5			20	M/B	inflata-Schichten (= Corbicula-Schichten)			<<<<	3	"Agutianian"
					35	M	U. Cerithien-Schichten					
			CHATTIAN		m.20	B	K. L.				2	Chattia
						L	Landschneckenkalk					
						B	Cyrena-Marls				3	
						B	Schleichsand				8	
					5-80	B	ob. Rupelton			<<		Rupelian
						M	mittl. Rupelton					

Author: E. MARTINI

Area No. 290 d: HANAU BASIN, WETTERAU, D



Author: E. MARTINI

Area No. 200 c1: SUBALPINE MOLASSE – WESTSCHWEIZ

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
MILL Y	MED STAND. STAGES									
PLIOCENE	E L									
5	MESS. ZANCL. PIAC.									
6.3										
10	TORTONIAN									
12										
15.4	SERRAVAL.									
16.5	LAN.									
20	BURDIGALIAN		M	M	Muschelsandstein plattige Sandsteine (=OMM)					
22.5	AQU.		4F	4F	Molasse de Lausanne/ Obere Bunte Molasse				1,2	"AQUIT."
24.5	CHATTIAN		BL	BL	Gipsmergel				3	"BURDIGAL"
30			L	L	Süßwasserkalke, Dolomite					
			4T	4T	"Molasse rouge"					

Author: U. BÜCHI & S. SCHLANKE (1977) and H. NAEF

Area No. 200 c2: SUBALPINE MOLASSE – THUNERSEE REGION

EPOCHS	PLIOCENE		MIDDLE	EARLY		OLIGOCENE	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	E	L		MESS	ZANCL										
MILL. Y.	5	6.3	10	12	15.4	16.5	20	22.5	24.5	30					
										c) Steffisburg - Schuppe ☞ ☞ Honegg - Mergel MN-1 ☞ ☞ b) Schangnau - Schuppe ☞ ☞ (Alter: Boningen - Grenchen / Blumbach) a) Blumen - Schuppe ☞ ☞ ☞ (Alter: Forant 6)			1 2		
								~ 4000m							

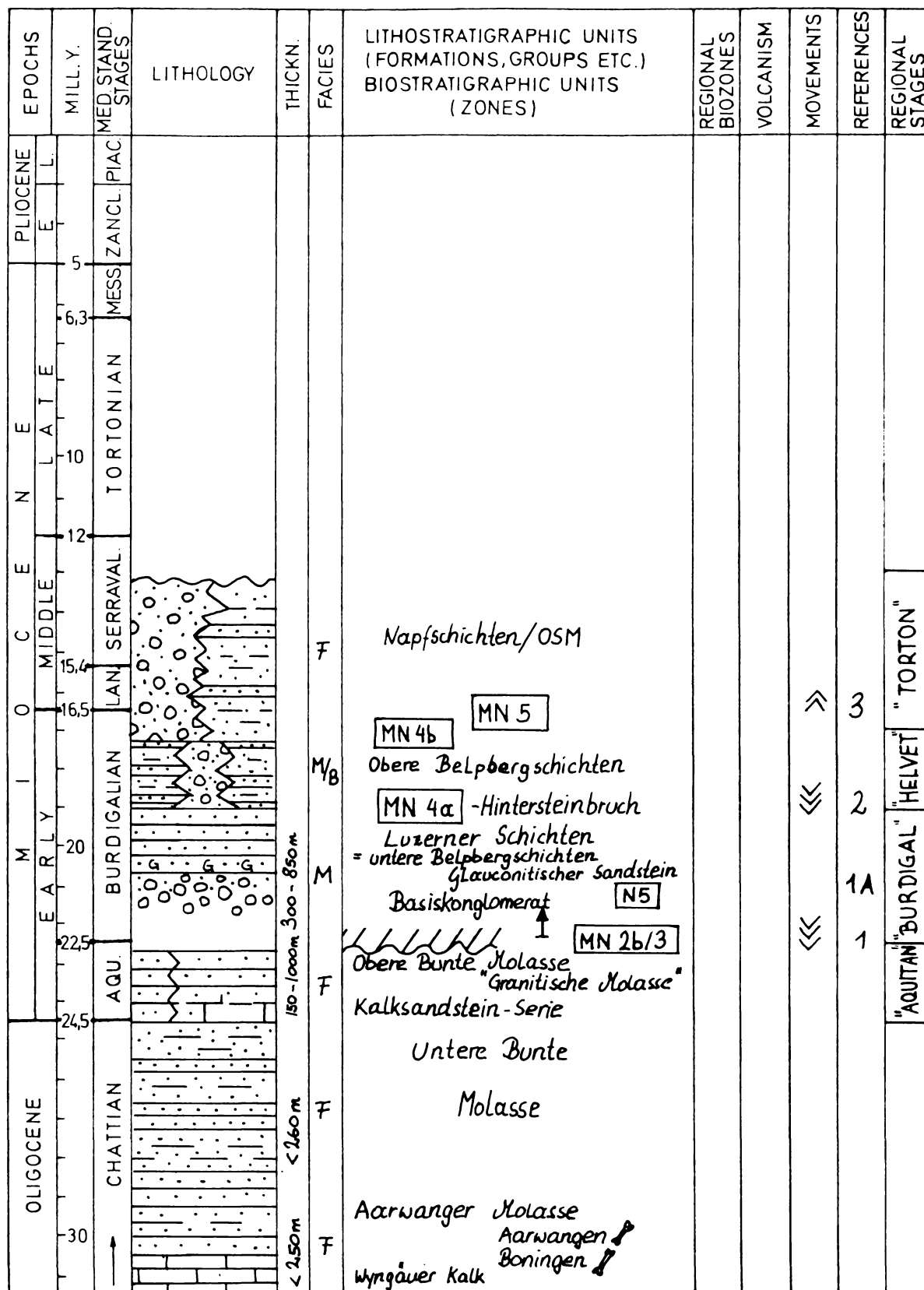
Author: A. BREITSCHMID (revised)

Area No. 200 b: SUBALPINE MOLASSE – OSTSCHWEIZ

EPOCHS		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.									
PLIOCENE	5									
PLIOCENE	6.3									
PLIOCENE	10									
PLIOCENE	12									
PLIOCENE	15.4									
PLIOCENE	16.5			F	Hörnli - Schuttfächer (OSM)					"TORTON"
PLIOCENE	20									
PLIOCENE	22.5			F	Granitische Molasse / Kronberg-Schüttung JN1/2a					"BURDIGAL"
PLIOCENE	24.5			F	Wintersberg-Sch. JN-0					"AGUT"
OLIGOCENE	30			F	Ebnater-Sch. (Alter: Boningen)					
OLIGOCENE				L/F	Untere Bunte Molasse					
					Speer-Schüttung					

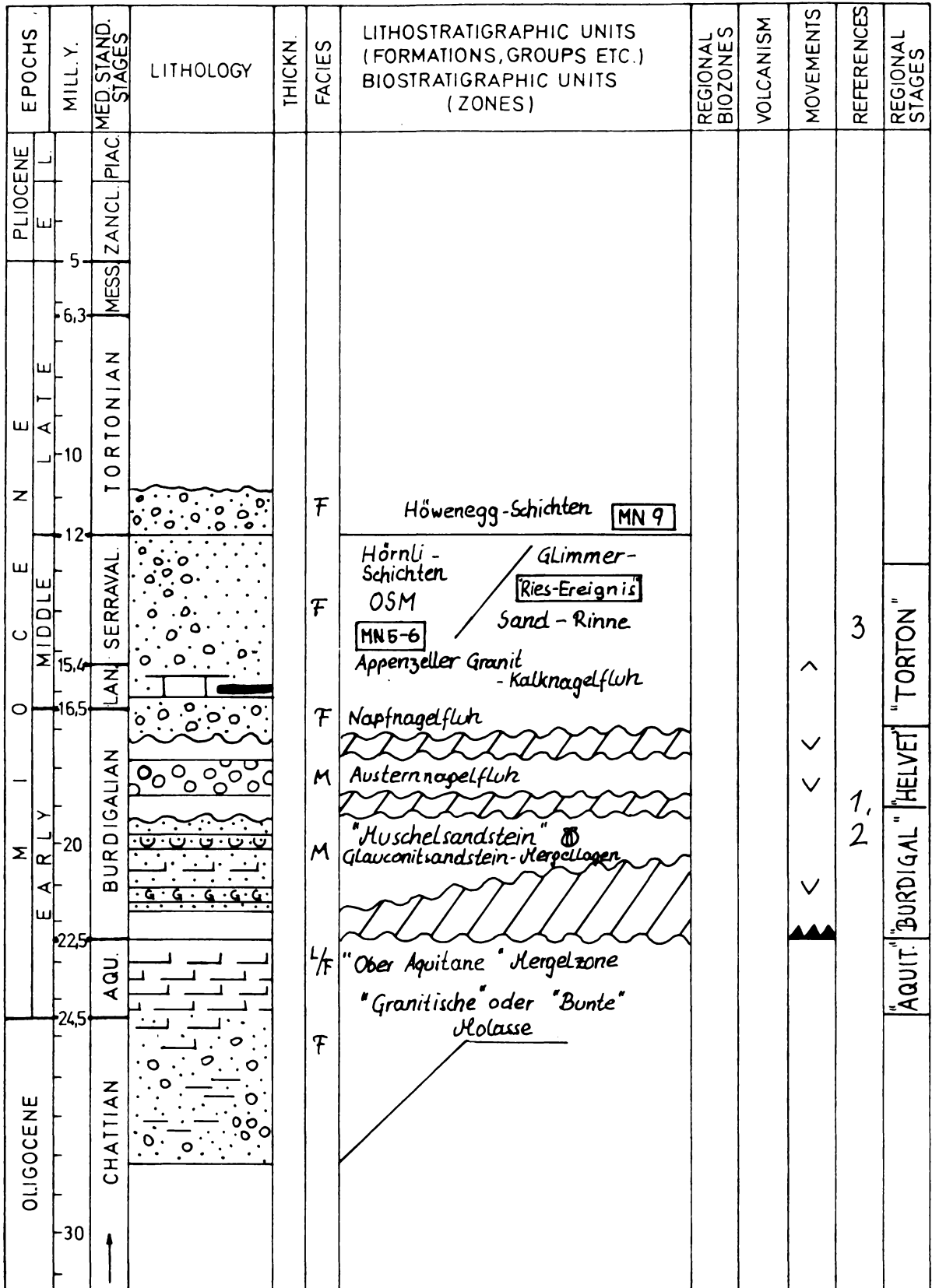
Author: U. BÜCHI & S. SCHLANKE (1977), H. BÜRGISSER & al. (1981)

Area No. 201 c2: MITTELLÄNDISCHE MOLASSE – ZENTRALSCHWEIZ



Author: A. MATTER, U. BÜCHI & S. SCHLANKE (1977), H. NAEF (1984)

Area No. 201 b: MITTELLÄNDISCHE MOLASSE – OSTSCHWEIZ



Author: S. SCHLANKE, U. BÜCHI & S. SCHLANKE (1977), H. NAEF (1984)

Area No. 201 d1: INTRAJURASSIC BASINS, LAUFEN BASINS, LAUFEN BASIN AND PLATEAU JURA

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
PLIOCENE	5	MESS. ZANCL. PIAC.				Lehme mit Pseudobohnerz					
MIDDLE	6,3	TORTONIAN				Juranagelfluh OSM					
	10										
EARLY	12	SERRAVAL.									
	15,4	LAN. SERRAVAL.		< 100 m	F/L	Anwil MN-8 ↓					
EARLY	16,5	BURDIGALIAN		< 10 m	F/L	Heliciden - Mergel					
	20			< 10 m		Tenniker Muschelagglomerat Ⓢ ↑					
EARLY	22,5	AQU.		0-80 m	L	Delsbergkalk - "Delemontien"					
	24,5	CHATTIAN		0-80 m	F/L	Obere Elsässer Molasse					
OLIGOCENE	30			0-80 m	B	Cyathula-Bank Ⓢ					
				0-80 m	F/L	Untere Elsässer Molasse					
											"AQUIT." "BURDIGAL" "HELVET." "TORTON"

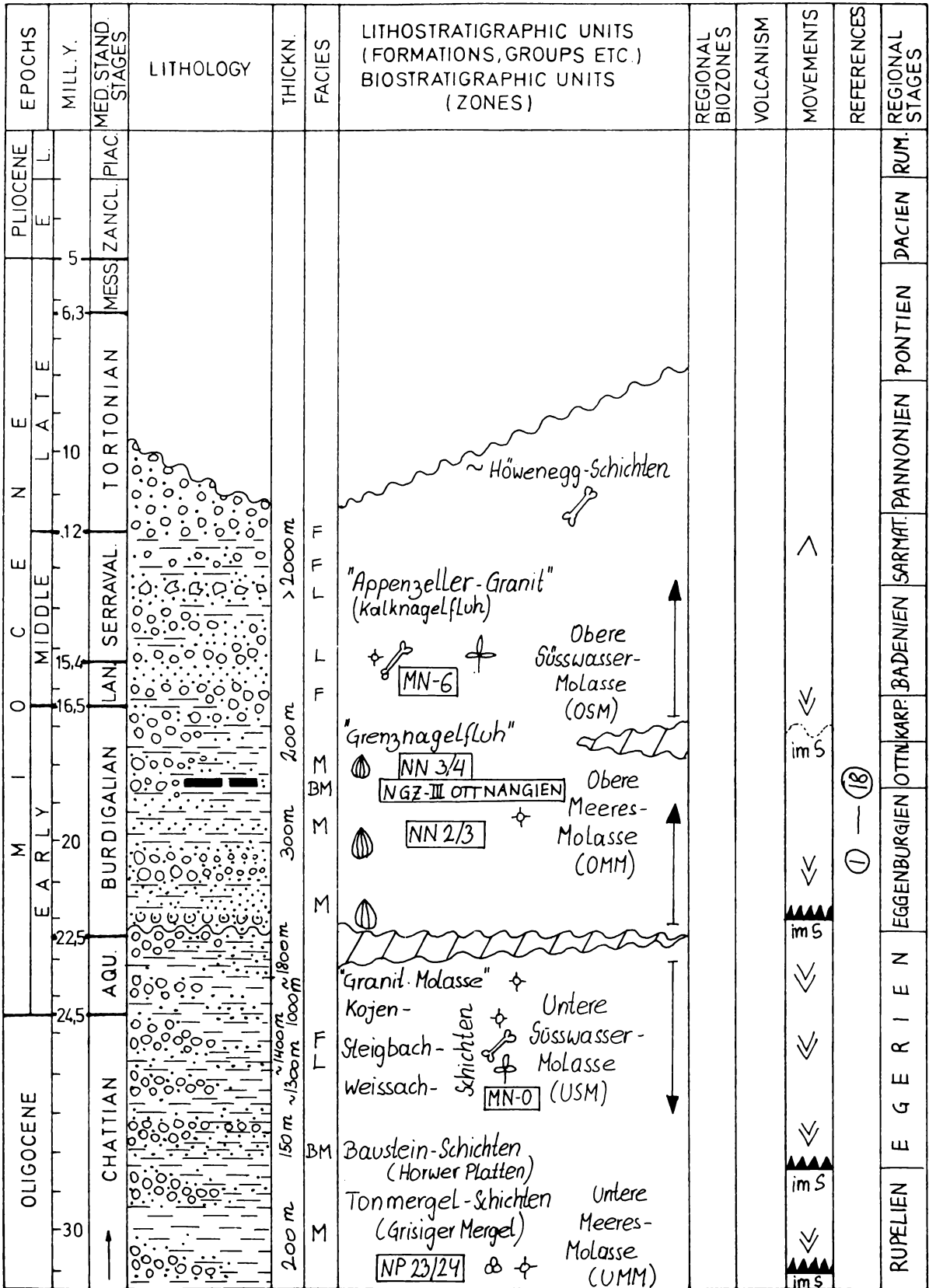
Author: A. MATTER, H. NAEF (1984)

Area No. 201 d2: INTRAJURASSIC BASIN, DELEMONT BASIN (DELSBERG BECKEN)

EPOCHS	MILL. Y.		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	PLIOCENE	PLIOCENE										
	E	L										
		5	ZANCL. PIAC.									
		6.3	MESS.									
		10	TORTONIAN			F	Lehme mit Pseudobohnerz					
		12	SERRAVAL.		0-100m	F	Vogesenschotter "Hipparion-Sande"					
		15.4	LAN.			F	Dinotheriensande MN-8			↑↑↑	3	
		16.5	BURDIGALIAN		<10m < 1m	L	Schichten von Vermes MN-8 -Vermes 2				2	"TORTON"
		20	AQU.			F/L	Heliciden- oder Rote Mergel MN-5 -Vermes 1					"HELVET"
		22.5	CHATTIAN			M/B	Austernmagelfluh					"BURDIGAL"
		24.5				L	Delsbergkalk-Delemontien					"AGUIT."
OLIGOCENE		30			0-180m	F	Elsässer Molasse Mülliswil				1	

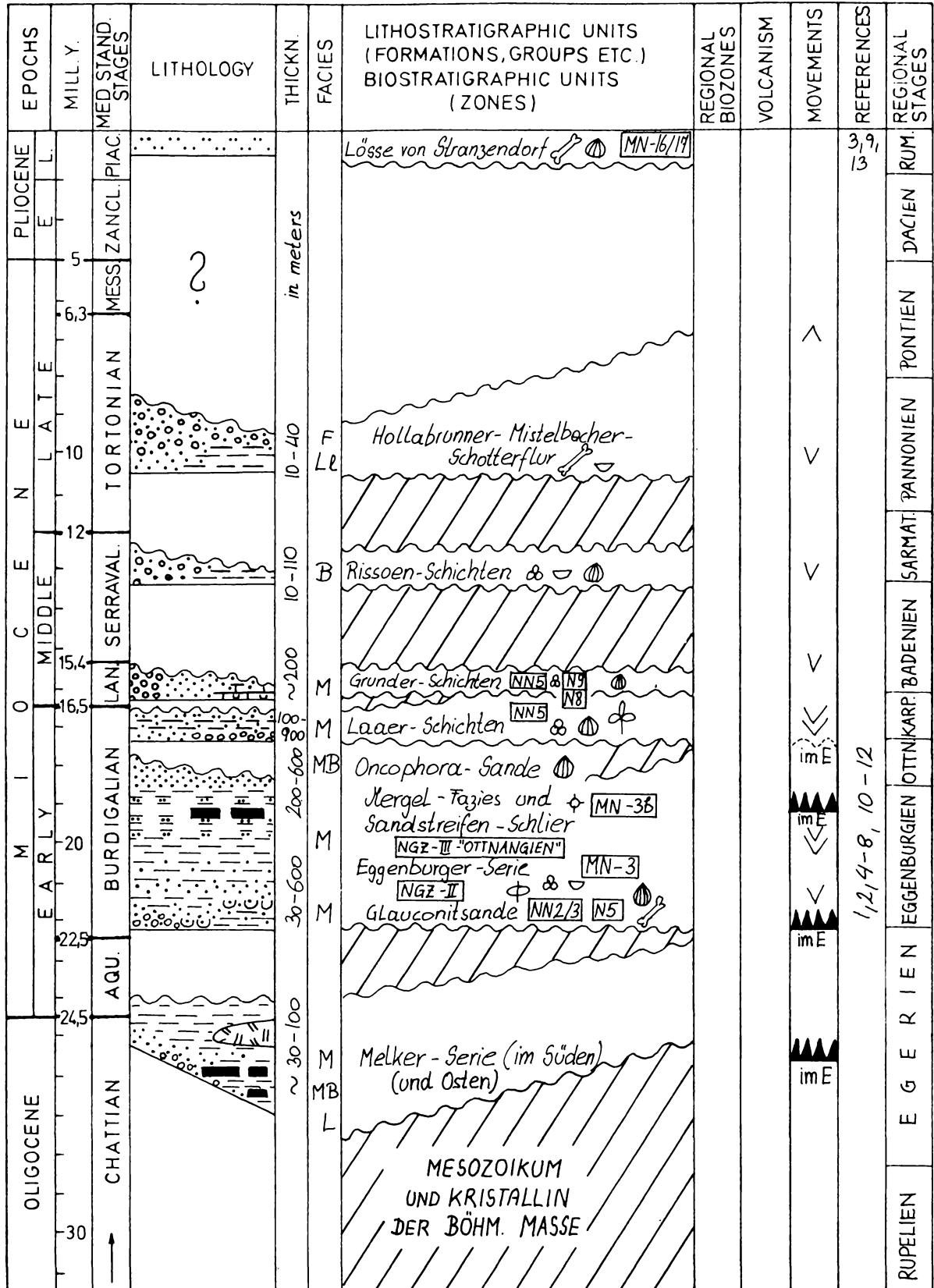
Author: A. MATTER, H. NAEF (1984)

Area No. 200 b ALLGÄUER MOLASSEZONE EINSCHLISSLICH VORARLBERG, A



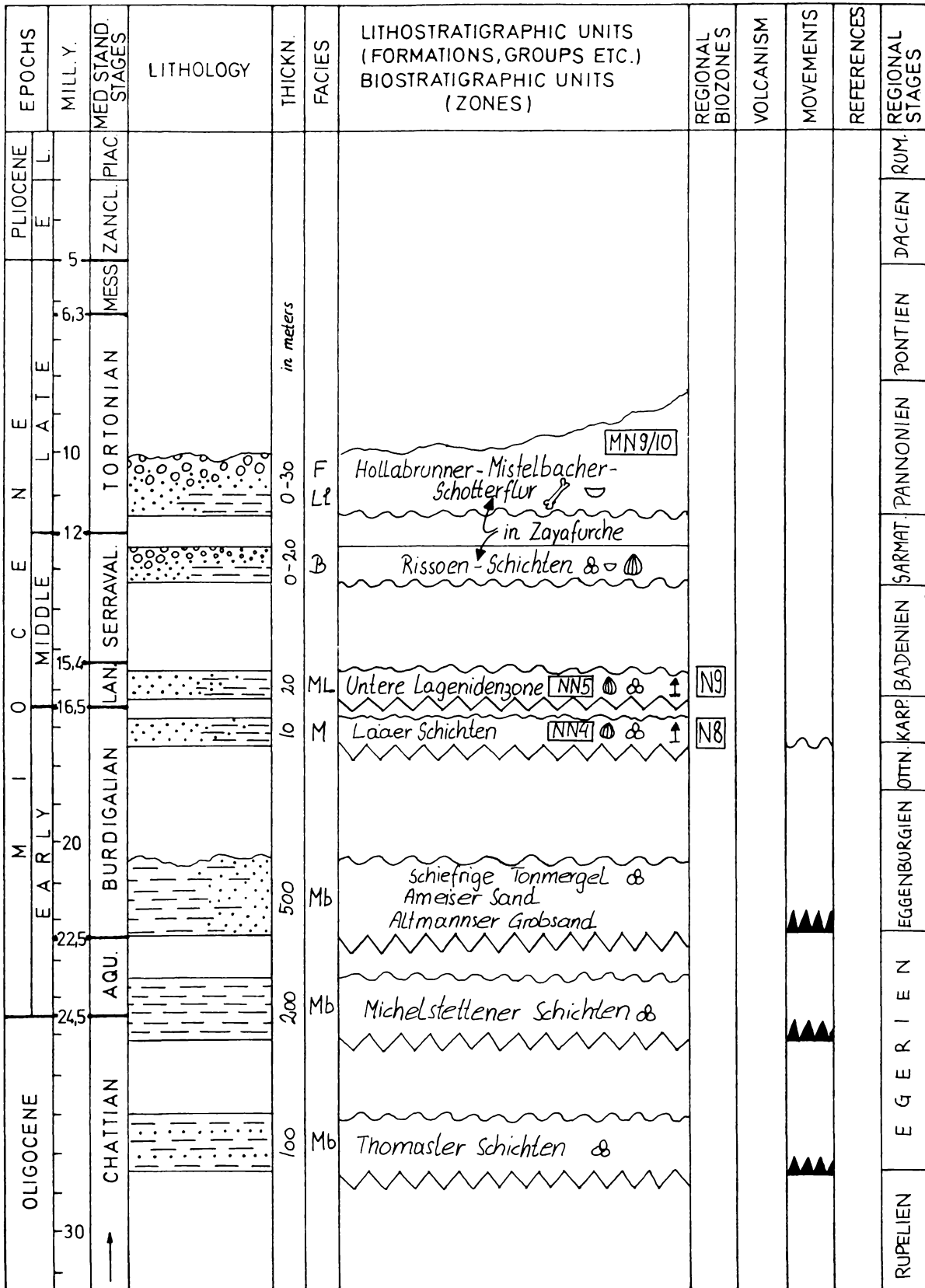
Author: F. F. STEININGER

Area No. 202 c: MOLASSEZONE NÖRDLICH DER DONAU, A



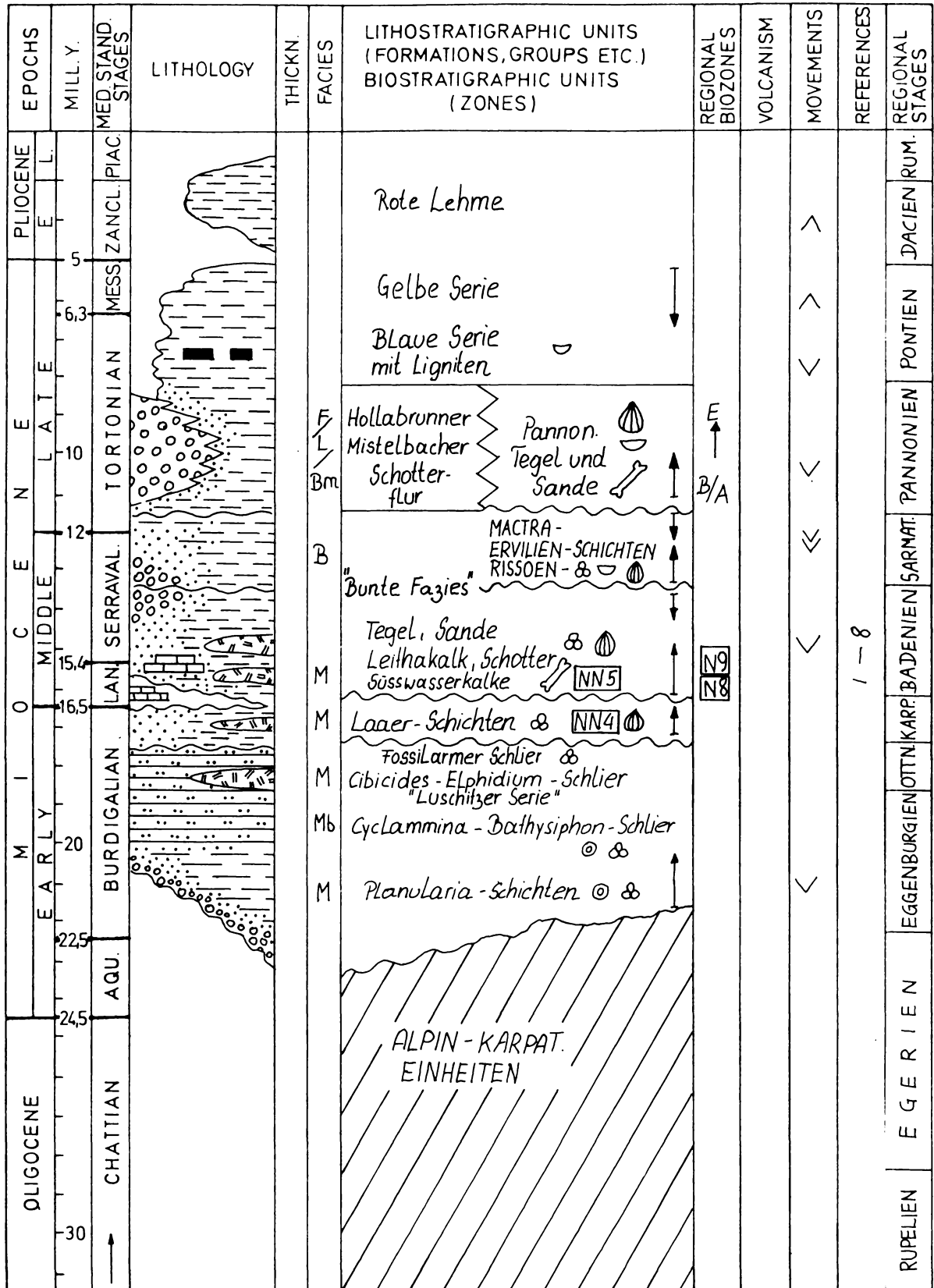
Author: F. F. STEININGER

Area No. 203 a: WASCHBERGZONE IN ÖSTERREICH, A



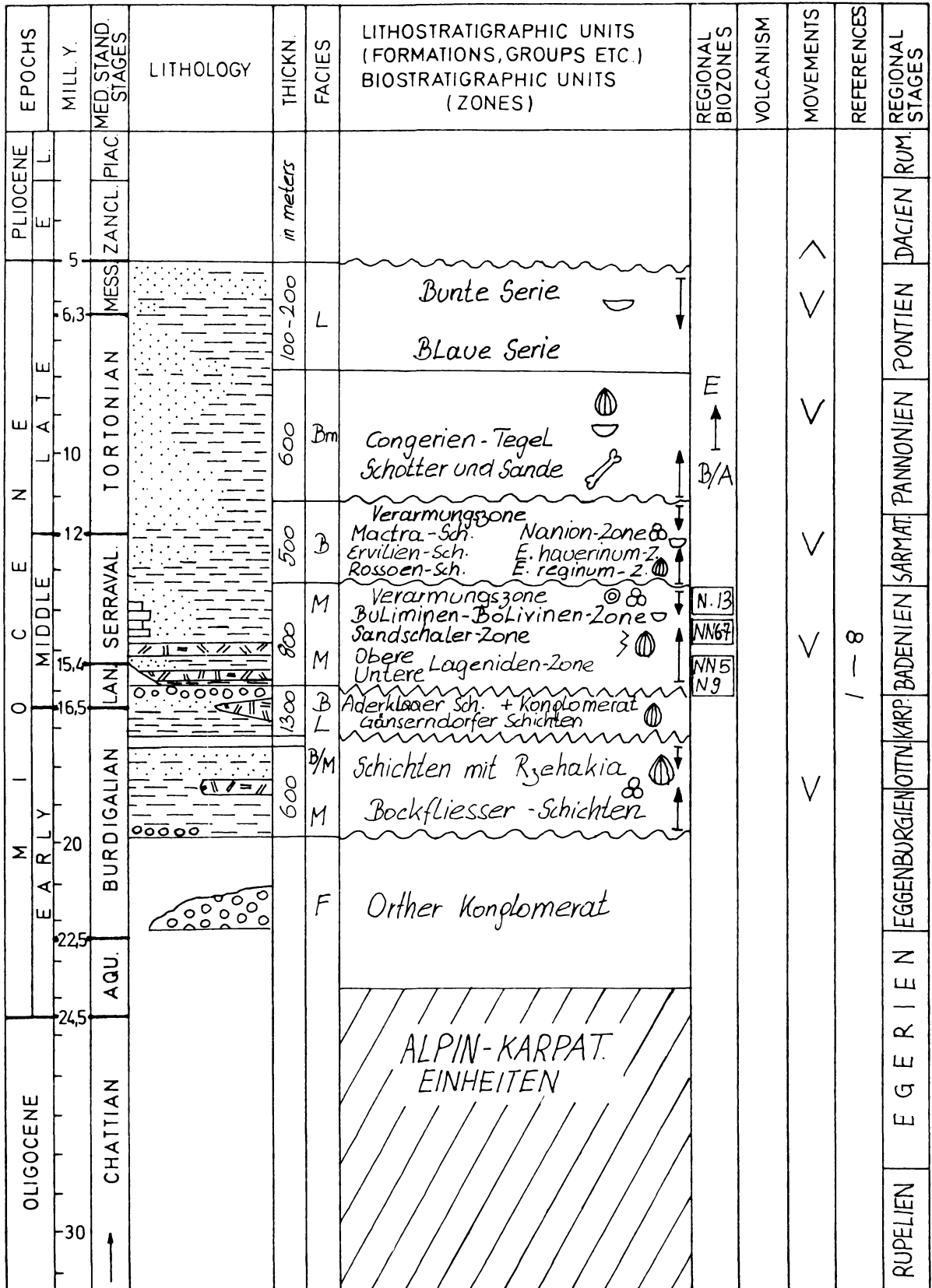
Author: A. PAPP

Area No. 208 a 2: N WIENER BECKEN, A



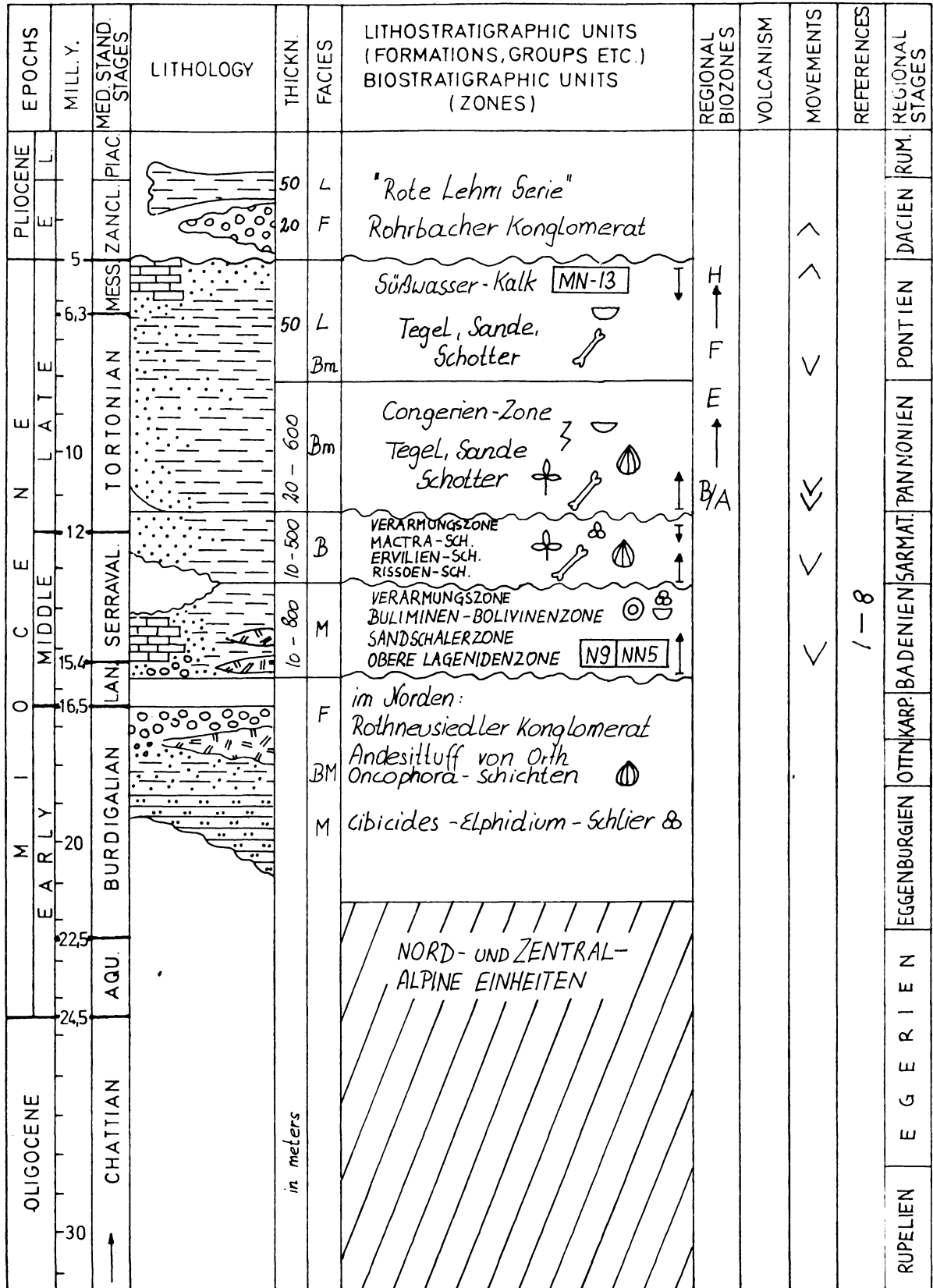
Author: A. PAPP

Area No. 208 b: ZENTRALES WIENER BECKEN (SPANNBERGER RÜCKEN), A



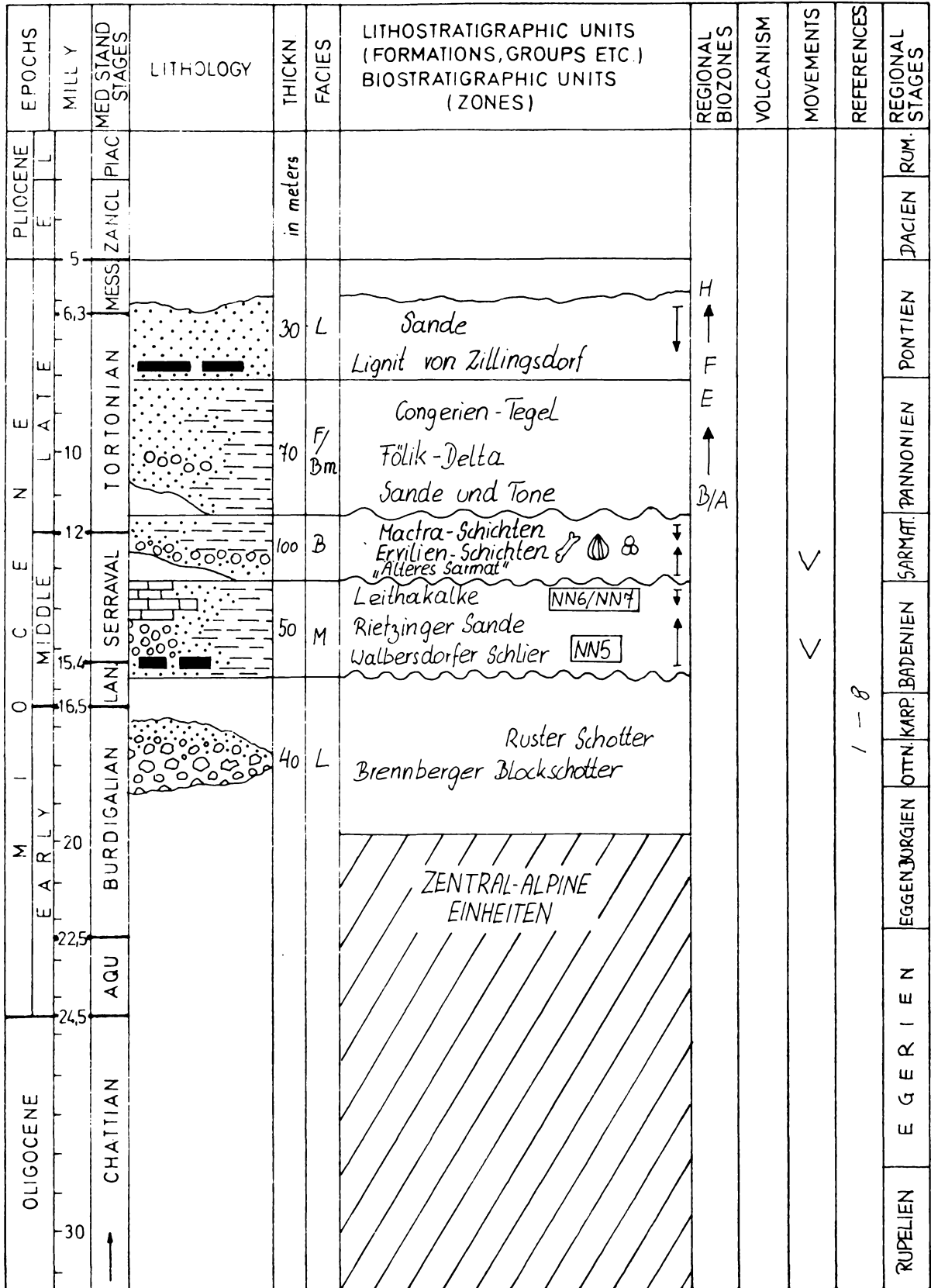
Author: A. PAPP

Area No. 208 c: S WIENER BECKEN, A



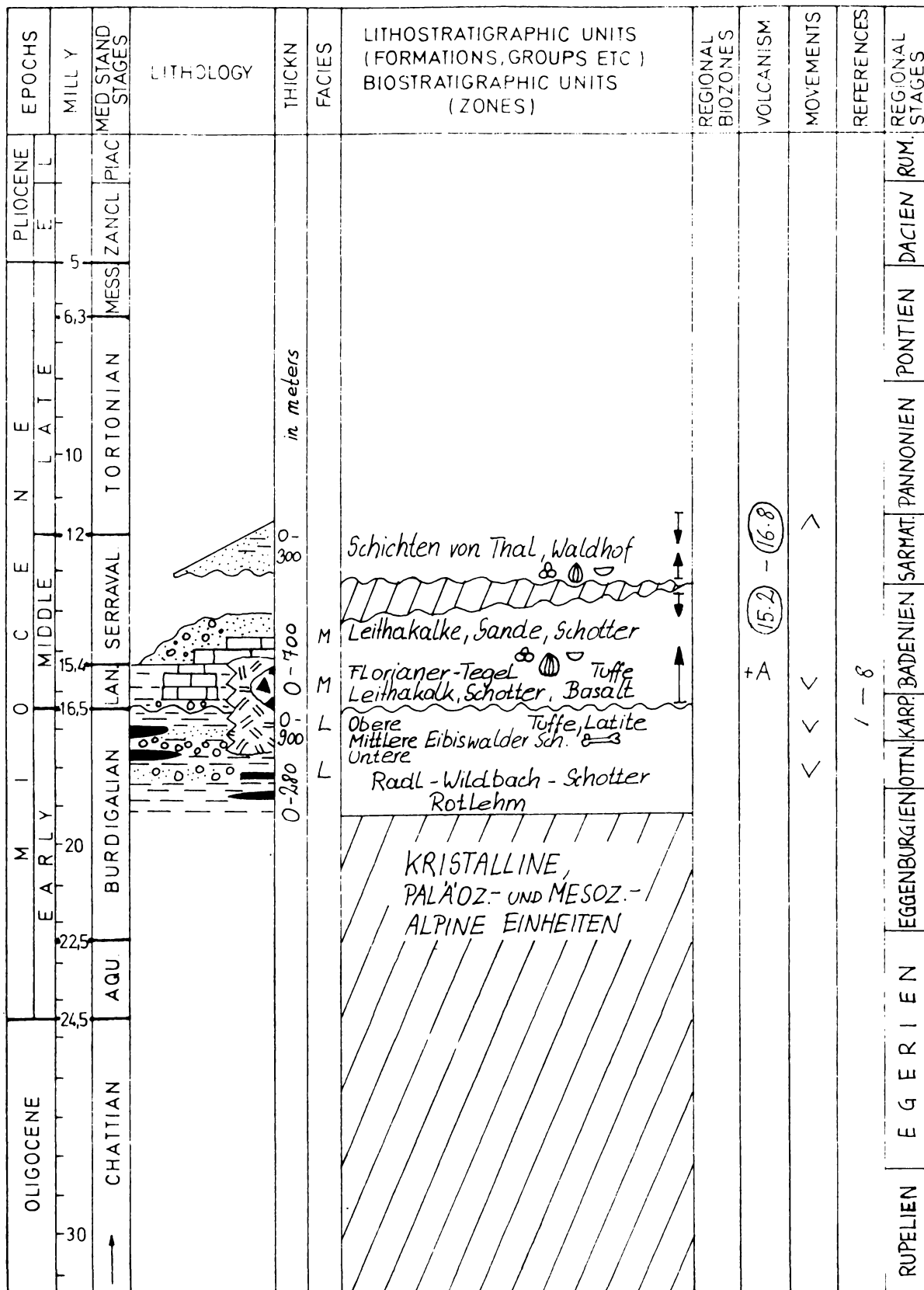
Author: A. PAPP

Area No. 209 b: EISENSTÄDTER- BIS LANDSEER BUCHT, A



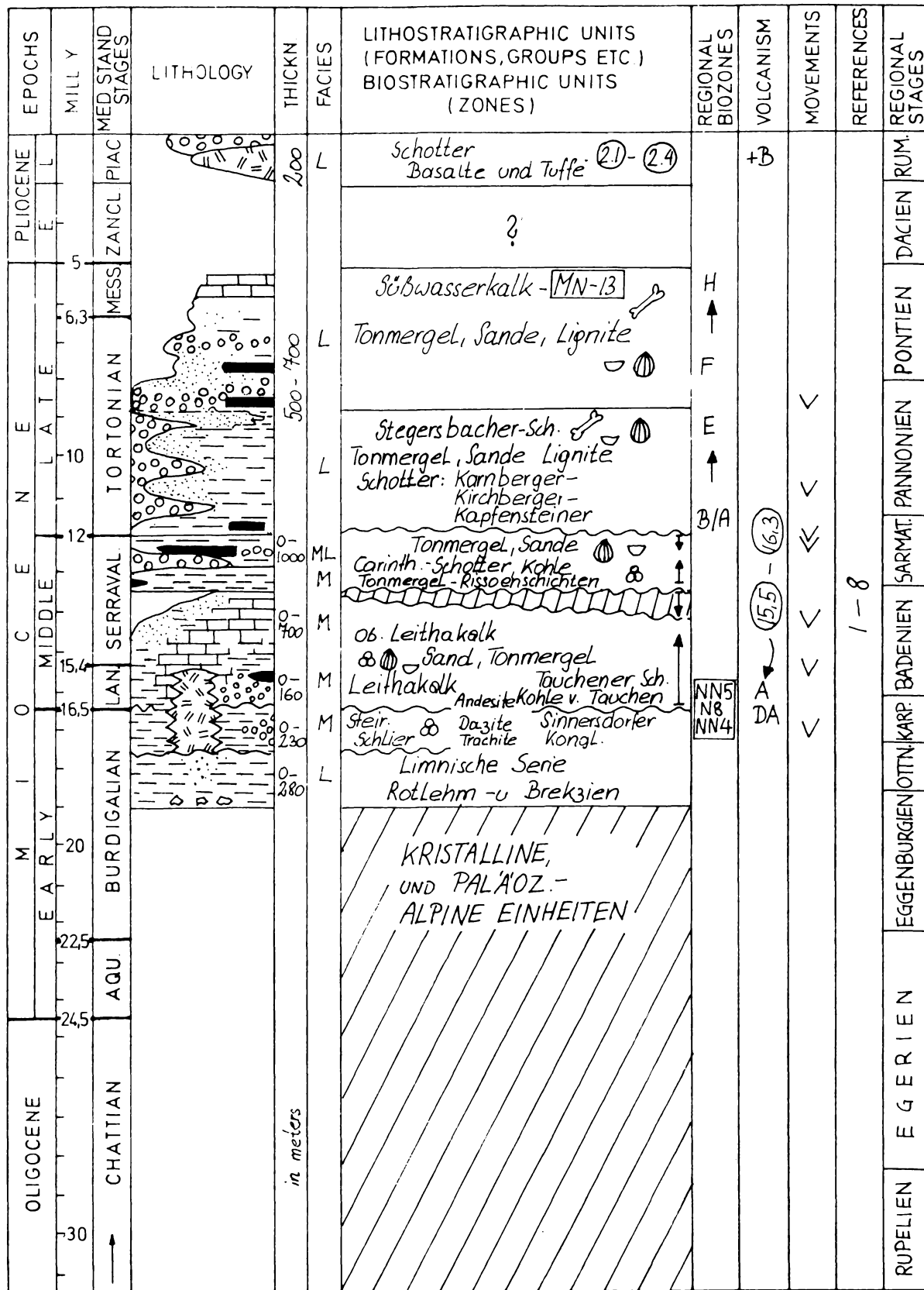
Author: A. PAPP

Area No. 221 a 1: WEST-STEIRISCHES BECKEN, A



Author: A. PAPP

Area No. 221 a 2: OST-STEIRISCHES BECKEN, A



Author: A. PAPP

Area No. 221 b 2: KLAGENFURTER BECKEN, A

EPOCHS		MILL Y		MED STAND STAGES		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES												
OLIGOCENE	CHATTIAN	24.5	22.5	EARLY	BURDIGALIAN									16.5	15.4	MIDDLE	SERRAVAL	12	TORTONIAN	6.3	MESS	ZANCL	PIAC	RUPELIEN	EGERIEN	EGGENBURGIEN
									<p>Bärentalkonglomerat/ Sattnitzkonglomerat "Misch-Schotter"</p> <p>Rosenbacher Köhlesch. Grundflöz-Sch. </p>			<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p><</p>	<p>/ - 5</p>													
						<p>KRISTALLINE, PALÄOZ.- UND MESOZ.- ALPINE EINHEITEN</p>																				

Author: A. PAPP

Area No. 204 a 1 / 205 c 1: UPPER SILESIA S PART, PL

EPOCHS		M. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
PLIOCENE	U.	L.	U.									
E		5						CPN				
E		8										
N		10										
E		12								^		SARM.
C		15			60	M	Grabowiec Mb.	9		∇	25	BADENIAN
M		16			800	M	Bochnia Fm.	8	+D	X	23	BADENIAN
O		16			350	M	Skawina Fm.	6,7	+	∇	20	BADENIAN
I		20			270	M	Dębowiec Congl.	5	+D	∇	25	BADENIAN
G		24			120	M	Bielsko Fm	4		∇	24	OTTKAR-
C		25					Sucha Fm			∇	38	NANIPAT.
E		30					Carbon					
E		30					Sub - Silesian Unit					

Author: T. KUCINSKI

Area No. 204 a3/ 205 c3-c5: EASTERN CARPATHIAN FOREDEEP, PL

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
		5	MESSIN. ZANCL. PAC.					CPN				
		8	TORTONIAN.									
		10										
		12			2000	B	Krakowiec Fm.	12	+A	^	14	SARMA- TIAN
						B		11	+D	>>>	23	
					560	M	Tarnów Fm.	10		>>>	21	
		15	SERRAVAL.		50	M	Bochnia Fm.	9		>>>	23	BADENIAN
					5	M	Skawina Fm. /E/	8	+D		23	
		16	LAN.		1000	M	/Przemysł Fm/	6.7		>>>	5	BADENIAN
						M				32		
		20	BURDIGAL.		1000	L	Balich Fm. /W/	5		>>>	40	KAR- PAT.
						L				13		
					500	L	Stebnik Fm. /W/	4		>>>	1	EGGEN- OTT- BURG.
					350	M	Modrych Mb.			>>>	13	
		24	AQUITANIAN		800	M	Krosno Fm. /E/ /upper part/	3		>>>	40	EGGERIAN
						M			Hor. +IV	>>>	11	
						M				>>>	22	
		25	CHATTIAN		1200	M	Krosno Fm. /E/ /lower part/			>>>	35	EGGERIAN
						M				>>>	9	
		30								>>>	11	
										>>>	41	

Author: T. KUCINSKI

Area No. 207 a 1 - a 2: UPPER SILESIA N PART, PL

EPOCHS		M. Y	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE										
L.	U.	5					CPN				
		8									
		10									
		12		180	Li	Kędzierzyn Fm.	⊗ ↓		^	2	Sarmat
				1	B	Abra Bd.	⊗ ↓	10,11	∇		Sarmat
				150	M	Grabowiec Mb.	⊗ ↑	9	∇	18	
				50	M	Evaporite Hor.	⊗ ↑	8	∇		Badenian
		15		250	M	Skawina Fm.	⊗ ⊗ ↑	6,7	∇	5	Badenian
				12							
		16		100	M	Kłodnica Fm.	⊗	5	∇	3	
				200	LB						
										12,34	
		20									
		24									
		25									
		30									

Author: W. KRACH

Area No. 207 a 3: MARGINAL ZONE, HOLY CROSS MOUNTAINS, PL

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
PLIOCENE								CPN				
	U.	5	MESSIN.									
	L.		ZANCL.									
	U.	8	TORTONIAN									
	N	10										
	E	12			20 B		Erv. dissita Bd.	12		^	27 21	Sarmat
	M.	15	SERRAVAL.		150 B		Krakowiec Fm.	10,11		v	16	Sarmat
	C	16			30 M		Ch. neumayri B. r.	9		v	19	Badenian
	O	16	LAN.		50 M		Evapcrite Hor.	8		^	17	Badenian
	M	20	BURDIGAL		20 M		A. denudatum T.r	8		X	15	
	L	24	AQUITANIAN		10		Ch. latissima	6,7		X	36	
	E	25			50 M		Korytnica Mb.	6,7		X	37	
		30	CHATTIAN		30 L.		Lignitic Fm.					

Author: W. KRACH

T.r = Top of range

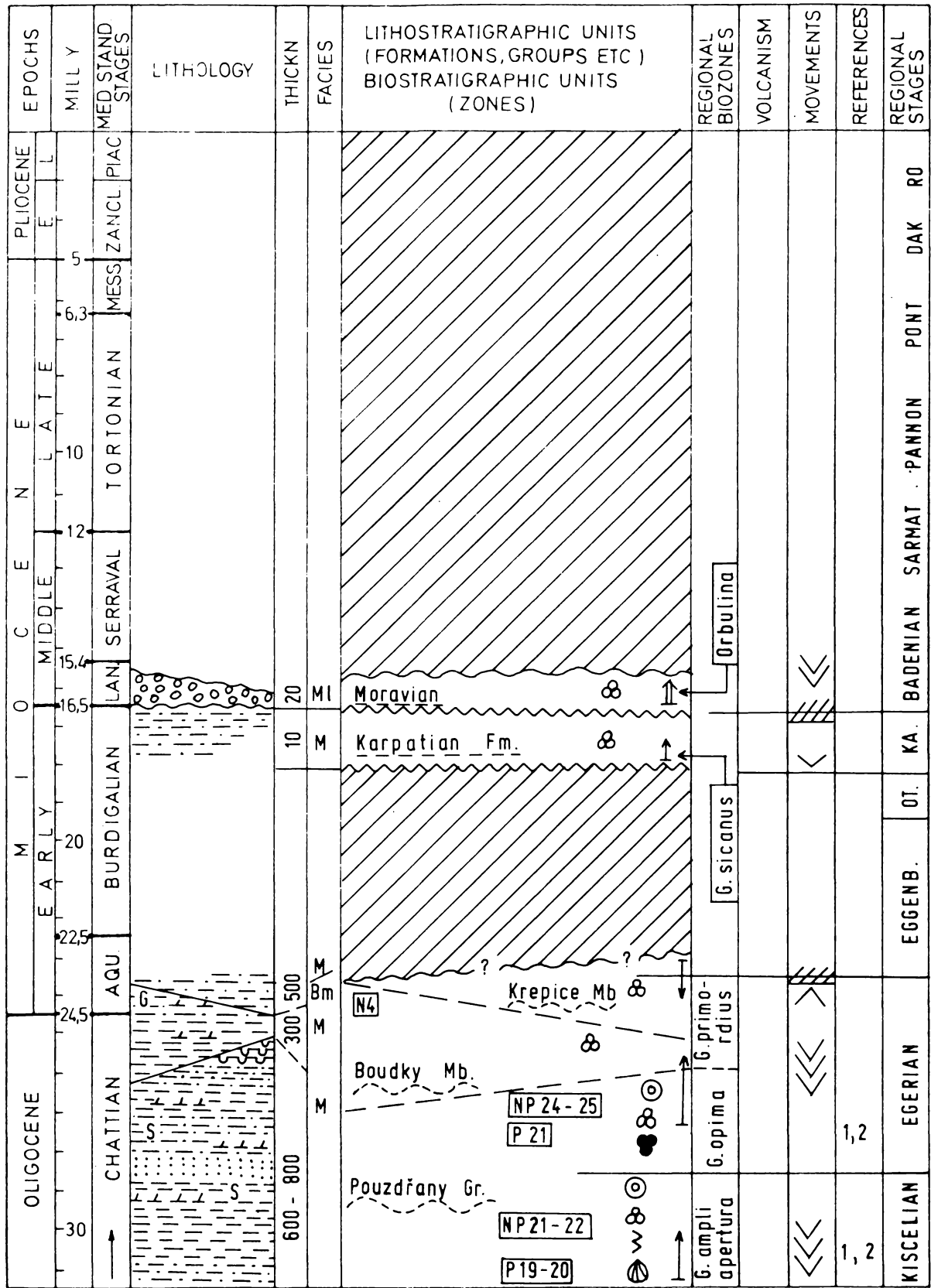
B.r = Bottom of range

Area No. 207 a 4: MARGINAL ZONE, ROZTOCZE, PL

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES		
PLIOCENE	U.													
E	N	5	MESSIN. ZANCL. PIAC.					CPN						
		8												
		10	TORTONIAN											
		12	SERRAVAL.	LAN.	20 B	Erv. dissita Bd.		12		^	6	Sarm.		
		15 B			Abra reflexa Bd.	⊗ ⬆	10,11	∨	14					
		20 M			Ch. lilli	⬆	9	∨	6					
		15 M			Ch. scissa	⬆	7		7					
		16			Lithothamnium Mb.	⬆	6	X	16					
		M	I	20	BURDIGAL.									
				24	AQUITANIAN									
25	CHATTIAN													
O	L	30												

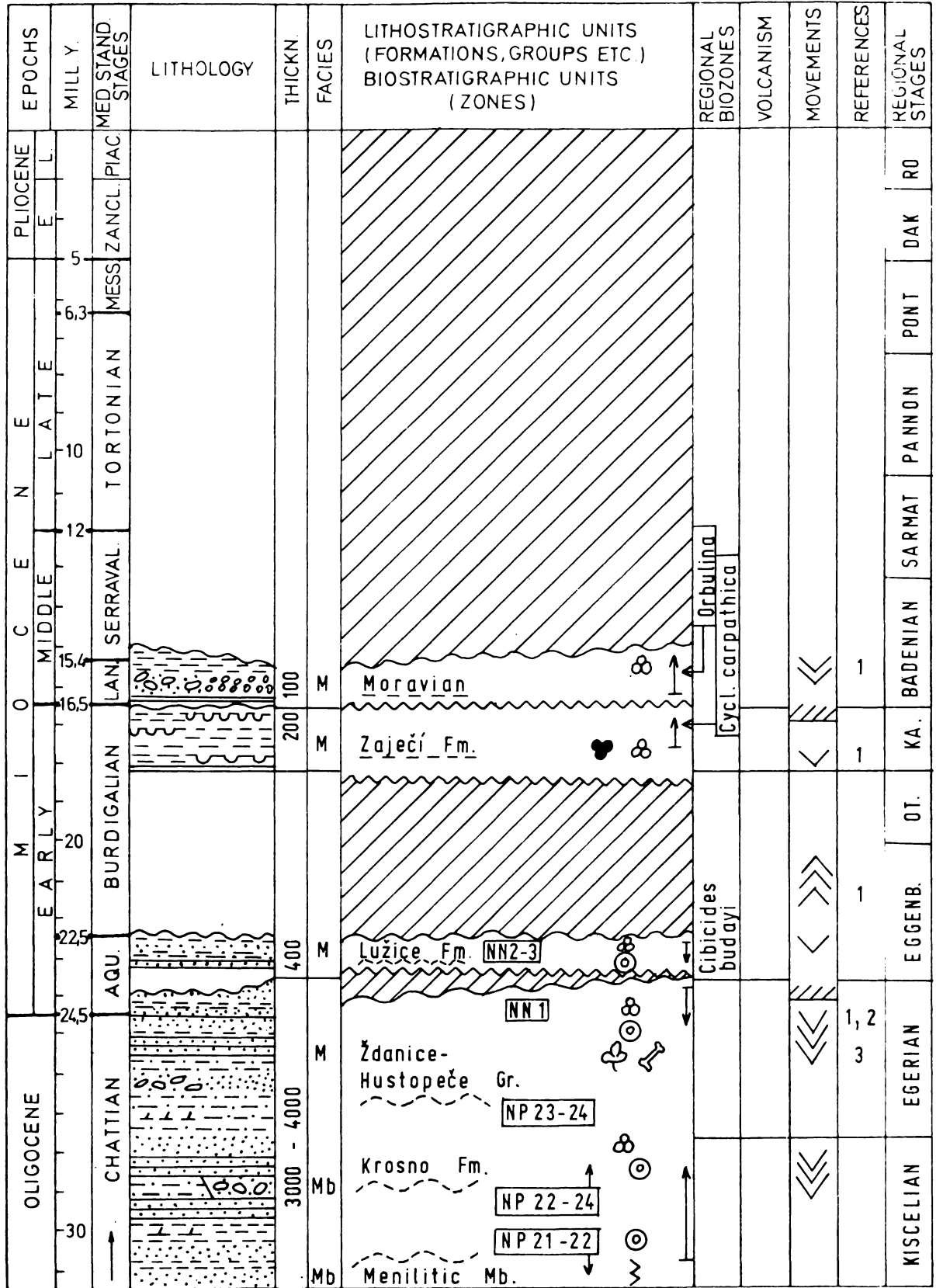
Author: W. KRACH

Area No. 203 b: POUZDRANY UNIT, CS



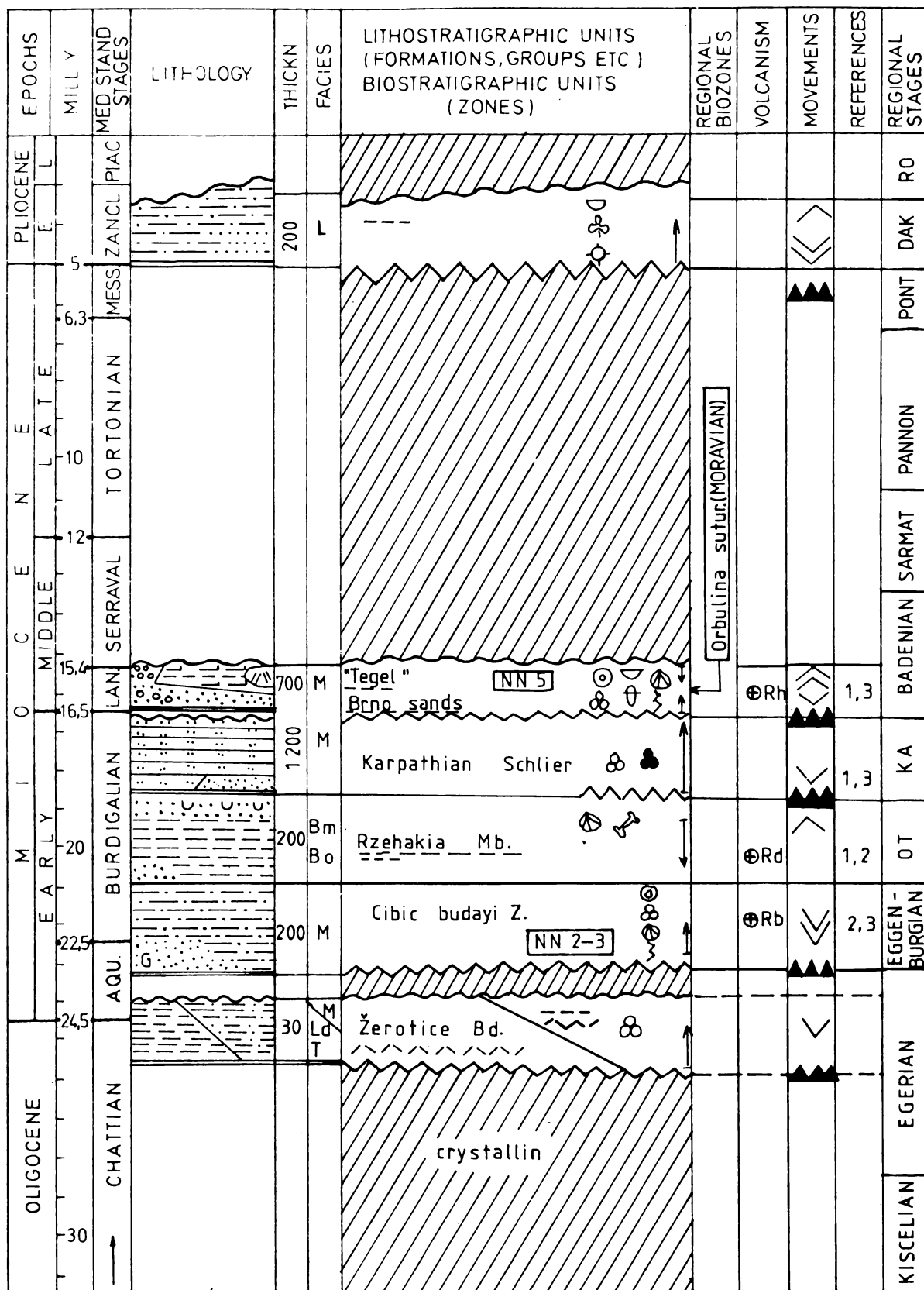
Author: I. CICHA

Area No. 203 c: ZDANICE – SUBSILESIAN UNIT, CS



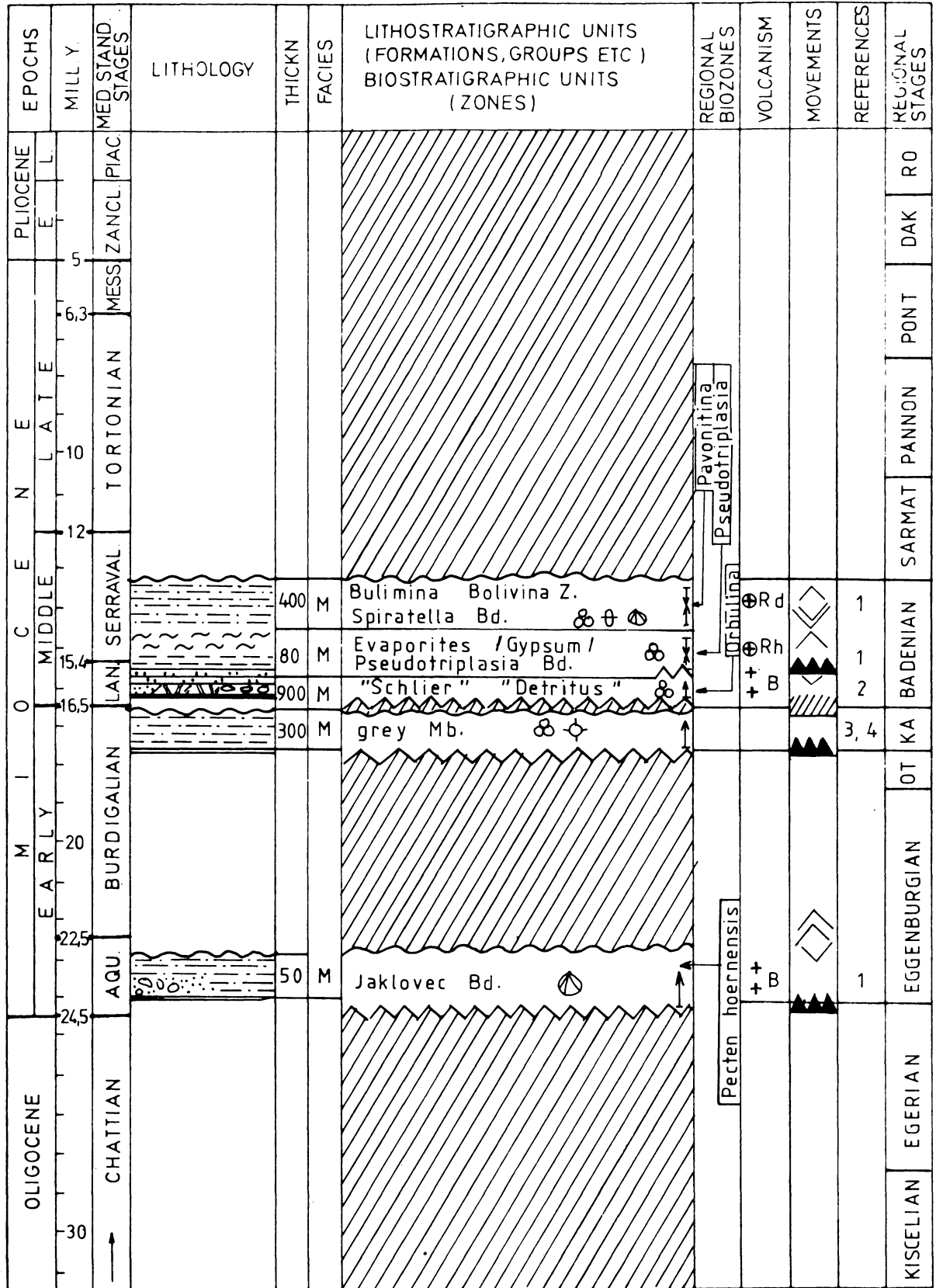
Author: I. CICHÁ

Area No. 205 a: SUBCARPATHIAN MIOCENE FOREDEEP S, CS



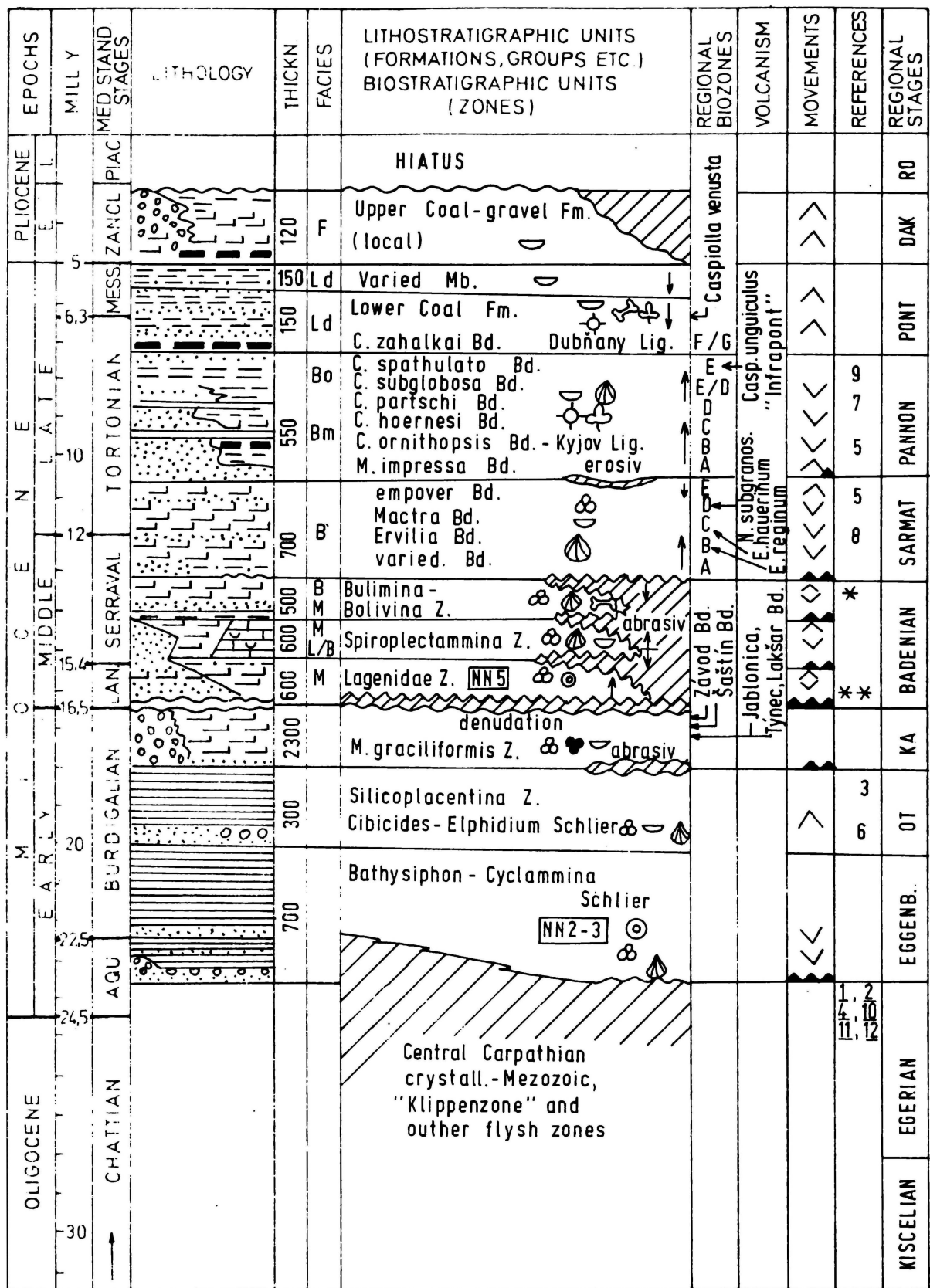
Authors: I. CICHA & I. KRYSTEK

Area No. 205 b: SUBCARPATHIAN MIOCENE FOREDEEP N, CS



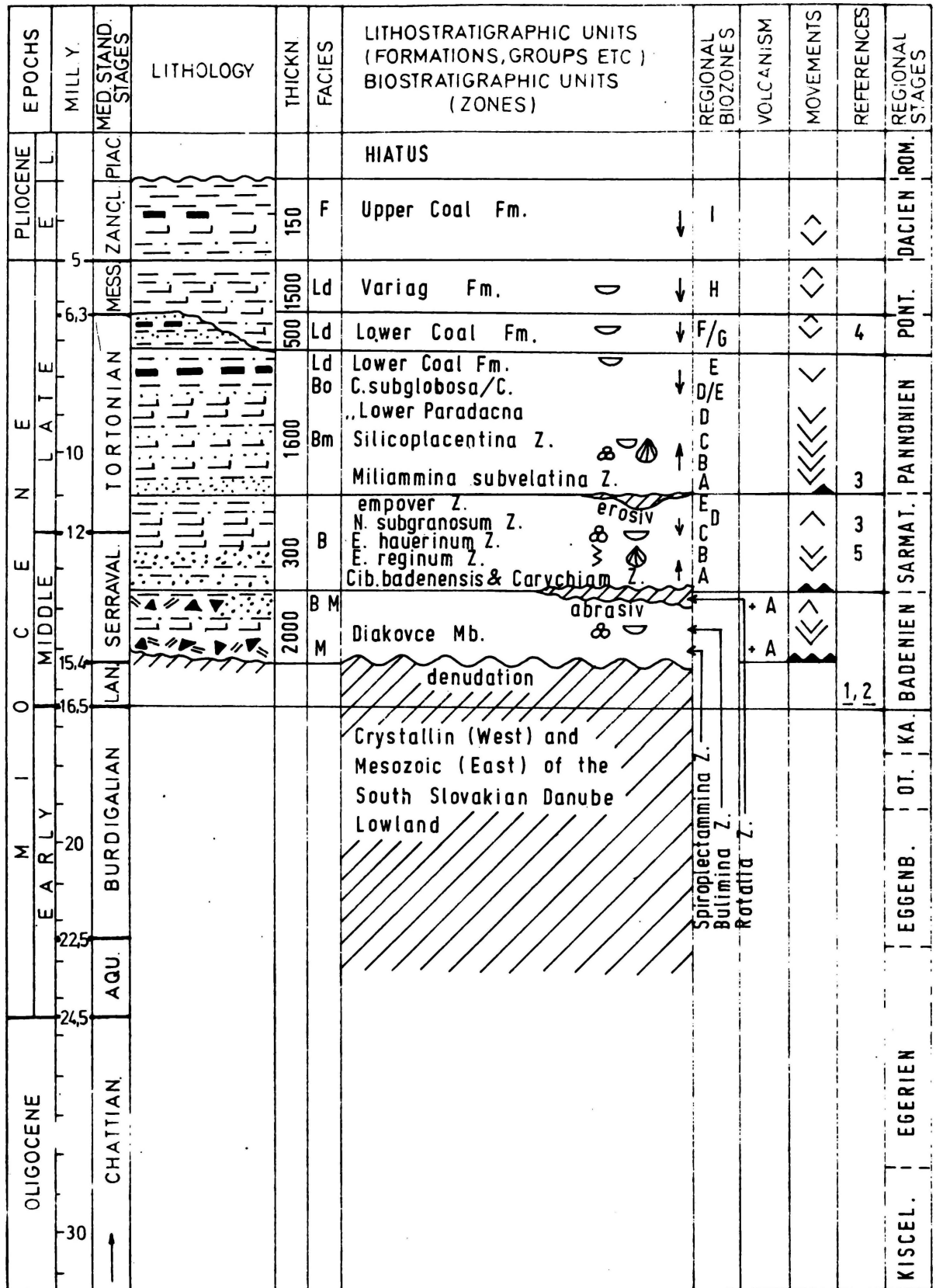
Authors: I. CICHÁ & I. KRYSTEK

Area No. 208 a 1: VIENNA BASIN N, CS



Authors: R. JIRICEK & I. CICHA

Area No. 210 a: S SLOVAKIAN DANUBE BASIN CENTRAL, CS



Author: R. JIRICEK

Area No. 210 b: S SLOVAKIAN DANUBE BASIN W, CS

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
						HIATUS					DACIEN ROM.
	5			150	Ld	Variag. Fm.	H		<>		PONT.
	6.3			200	Ld	Sand-Coal Fm.	F/G		<<>	4	PANNONIEN
	10			1000	Ld Bo Bm	Lower Coal Fm. C. subglobosa C. „ungulacoprae” C. partschi „Great pannonian Sands” Miliammina Z.	E D/E D C B A		<<<	4	PANNONIEN
	12			600	B Ld	empover Bd. N. subgranosum Z. E. hauerinum Z. E. reginum Z. Carychium Z.	F D C B A		>	5	SARMAT.
	15.4			500	B/M	Madunice Mb.	F D C B A		>		SARMAT.
	16.5			200	M	Špačince Mb. Ratkovice Mb.	F D C B A		<<<	5	BADENIEN
	20					denudation			<		BADENIEN
	22.5					Crystallin (Granit, Granodiorit) of the W. part of the South Slovakian Danube Lowland				1, 2, 3	EGGENB. OT. KA.
	24.5										EGERIEN
	30										KISCEL.

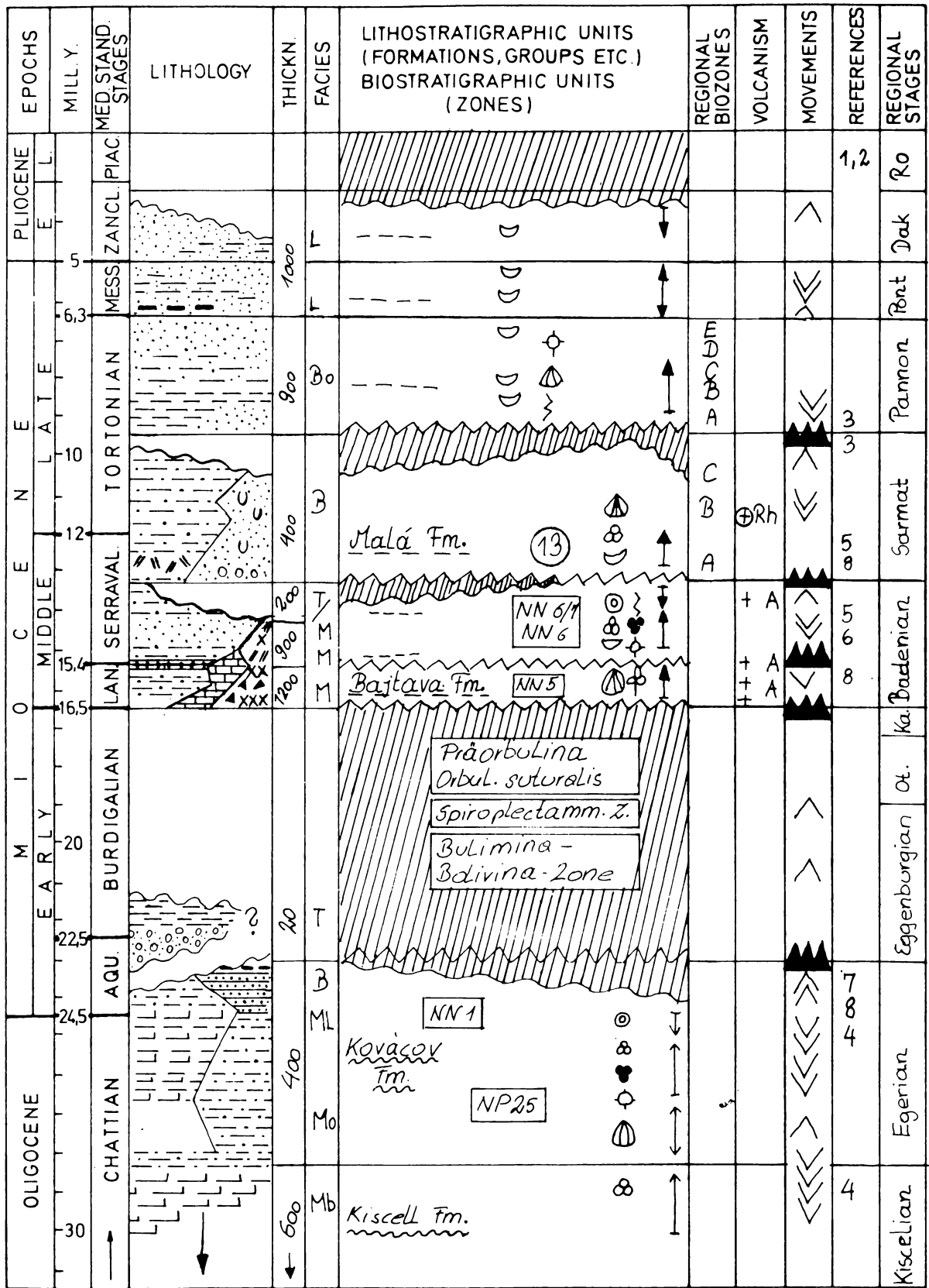
Author: R. JIRICEK

Area No. 211 : NITRA AND VAH VALLEY BASINS, MEGASYNCLINAL OF BREZOV, MIDDLE SLOVAKIA, CS

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	MILL. Y.										
OLIGOCENE	LATE	E		80	F/L	Lelovec Fm.	Paleogeographically to the Area 214 (Freshwater Basins)		>	2	RO
	6.3		700	L/F	5	SARMAT					
								10		150	L/F
	12		150	L/F	5	BADENIAN					
								15.4		500	M
	16.5		300	L	7	OT					
								20		150	B
	22.5		50	M/B	11	EGGERIAN					
								24.5		50	M/B
	30										
E							L	ZANCL. PIAC.		80	F/L
	E	L	MESS.		450	L/F					
E							L	TORTONIAN		700	L/F
	E	L	LAN. SERRAVAL.		150	L/F					
E							L	BURDIGALIAN		150	B
	E	L	AQU.		50	M/B					
E							L	CHATTIAN			

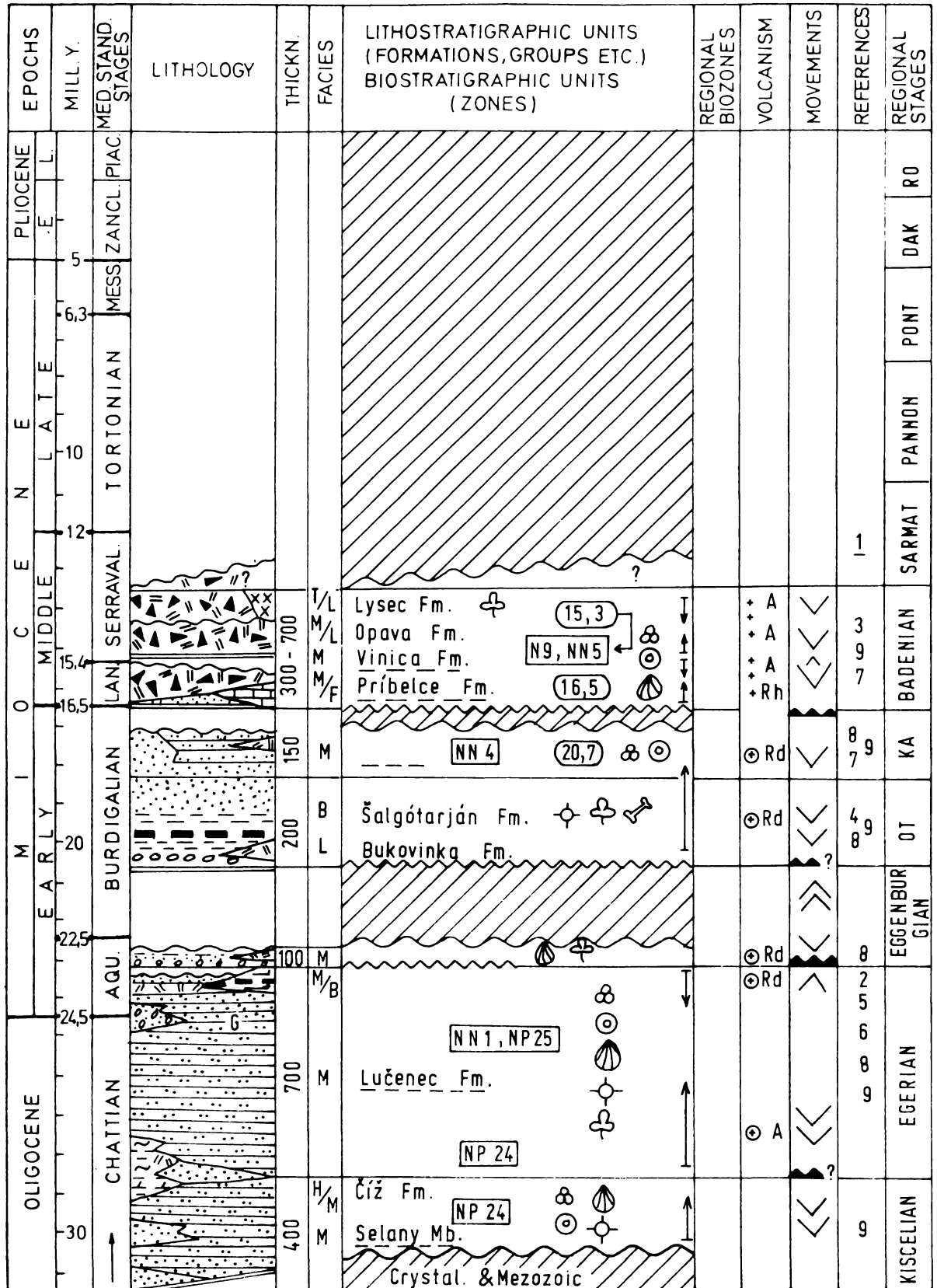
Authors: J. GASPARIK, E. BRESTENSKA & R. JIRICEK

Area No. 212: S SLOVAKIAN DANUBE BASIN E, CS



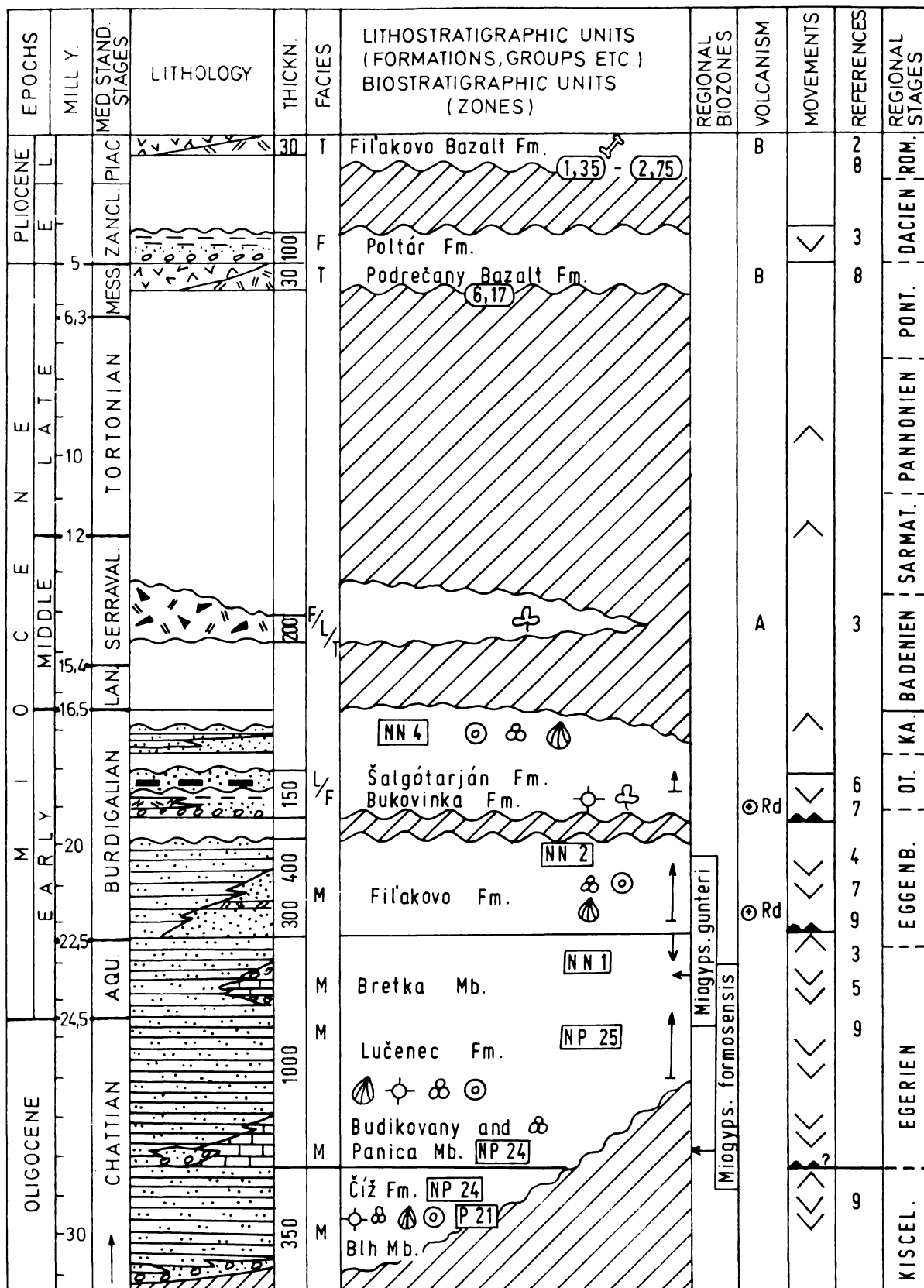
Author: J. SENES

Area No. 213 a: S SLOVAKIAN IPEL BASIN, CS



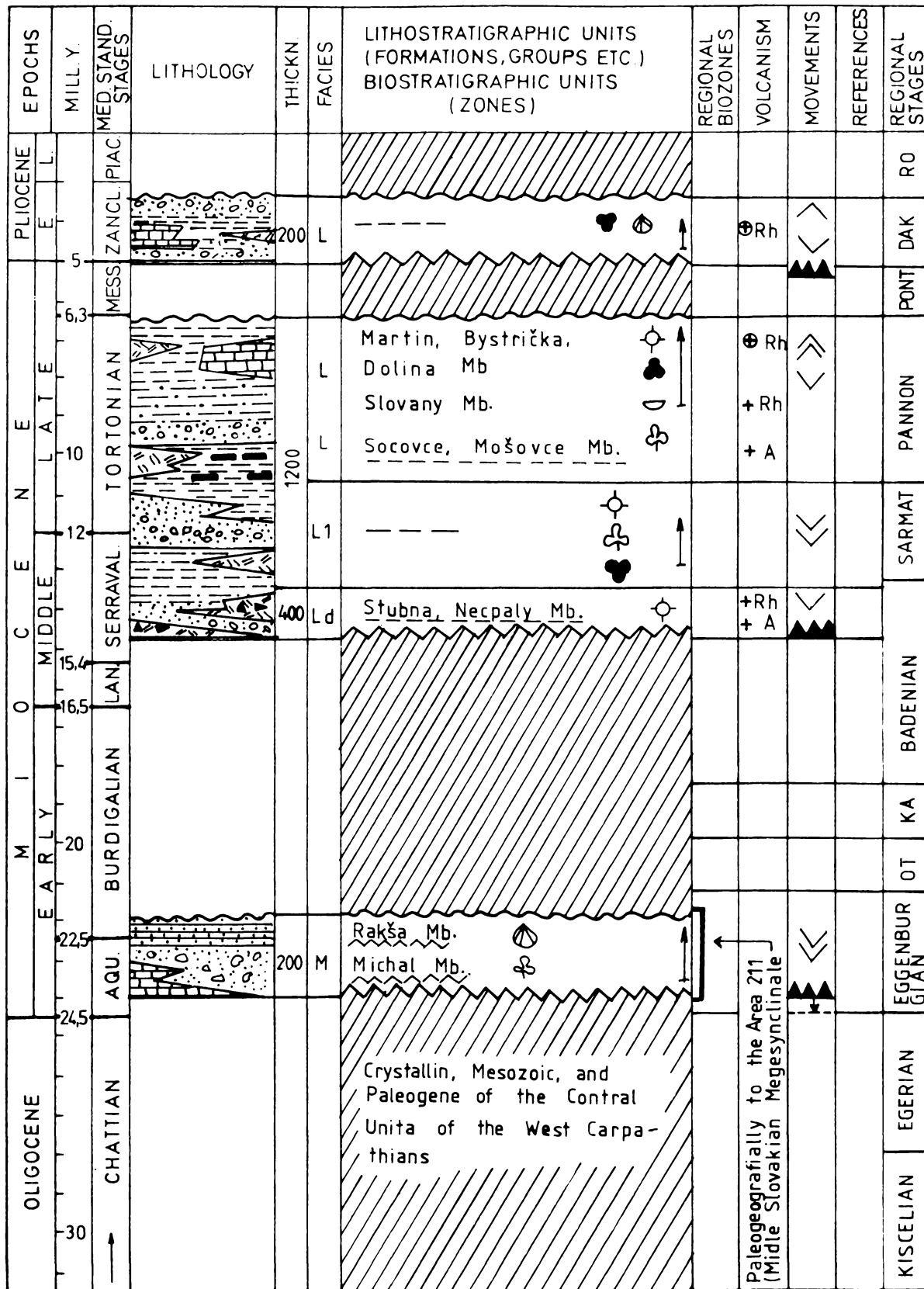
Author: D. VASS

Area No. 213 b: S SLOVAKIAN RIMAVA AND LUCENEC BASIN, CS



Author: D. VASS

Area No. 214: CENTRAL AND N SLOVAKIAN FRESHWATER BASINS, CS



Authors: J. GASPARIC & E. BRESTENSKA

Area No. 215: E SLOVAKIAN BASIN, CS

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	MILL. Y.										DAK.	RD.
PLIOCENE	E	ZANCLIPAC		200	L	„Vrchná pestrá“ Fm. (upper variag. Fm.)			↕	5		
	L											
MIDDLE CENE	5	MESSURINIAN		600	L	Pozdišovce Fm.			↕	12		PONT
	6.3				L	Ináčov coal Fm.			↕	4		
	10	TORTONIAN		400	L	Upper coal Fm.			↕	3		PANNON
						Sejkov coal Fm.			↕	13		
12	SERRAVAL		2200	L	Lower coal Fm.	9.3 9.8		↕	9		SARMAT	
15.4					Elphid. hauerinum Z.			↕	1			
MIDDLE CENE	15.4	LANCERIAN		2000	L	Elphid. reginum Z.	13.1		↕	2		BADENIAN
	16.5					Kolčov Fm.	14		↕	6, 14		
	16.5					Evaporitic Fm.			↕	11, 15		
EARLY CENE	16.5	BURDIGALIAN		1500	M	Spiroplectamm. Z.	NN5		↕	1, 2		KA.
	16.5			Lagenidae Z.			↕	10				
	20	AQU.		1600	H	Evaporitic Mb.			↕	1, 2		EGENBUR.
	22.5			Solivar Mb.			↕	7, 14				
OLIGOCENE	24.5	CHATTIAN		1000	L	Čelovec Fm.			↕	1		EGERIAN
	30			Prešov Fm.			↕	2				
						Paleogene, Mesozoic and Paleozoic structural Units of the West Carpathians			↕	8		KISCELIAN

Authors: J. CVERCKO, J. MAGYAR & R. RUDINEC

Area No. 209 a: SOPRON MOUNTAINS, H

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
OLIGOCENE	MIOCENE											
OLIGOCENE	M	24	AUCUIT.	?	400	T				V		EGGEN.
		26										
	22	BURDIGALIAN	?	400	L	Brennberg Fm.			V	64 65	OTTN.	
	18											BURDIGALIAN
	8	C	LANG.	SERRAVALL.	450	F/M	Tinnye Fm.			V	64 65	
	7											C
	12	N	TORTONIAN	SERRAVALL.	450	B	Tinnye Fm.			V	64 65	
	10											N
	8	E	TORTONIAN	SERRAVALL.	450	Bm	Penemarton Fm. Kisbér Mb.	Cs		V	67 50	
	5											E
5	P	ZANCL.	PIAC.	200	Bo	Dunántúl Fm. Tihany Mb. Somló Mb.			V	50 67 50	DACIAN	
5												P
	P	ZANCL.	PIAC.	200	Bo	Dunántúl Fm. Tihany Mb. Somló Mb.			V	50 67 50	DACIAN	
												P
	P	ZANCL.	PIAC.	200	Bo	Dunántúl Fm. Tihany Mb. Somló Mb.			V	50 67 50	DACIAN	
												P
	P	ZANCL.	PIAC.	200	Bo	Dunántúl Fm. Tihany Mb. Somló Mb.			V	50 67 50	DACIAN	
												P

Authors: G. HAMOR & A. JAMBOR

Area No. 209 c: W HUNGARIAN BASIN, H

EPOCHS		M. Y.	Stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY*	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES			
O L I G O C E N E	P L I O C E N E											Regional STAGES	Regional STAGES		
O L I G O C E N E	I LOWER	24	CHATTIAN									KISCELLIAN EGERIAN (Oligocene)	BADENIAN SARMATIAN PANNONIAN TISZA GROUP (in Hungary) PONTIAN-DACIAN-GRUM.		
		22	AUQUIT.												
	20	BURDIGALIAN													
	C MIDDLE	18	LANG. SERRAVALL.			800	Mb MI	Baden Fm.			<<			41 64 65	BADENIAN
		16	TORTONIAN			700	B3	Penemarton Fm. Tófej Mb. Belezná Mb.	+A	<<<	<<<			41	SARMATIAN
		12	MESS.					Dnáva Mb.	Cp Ld Cn		<<<			41	TISZA GROUP (in Hungary)
	E UPPER	8	ZANCL.			4000	Bo	Somló Mb.	Cuc		<<			44 56	
		5	PIAC.				FLI LI	Tonony Mb. Dunántúl Fm. Tihany Mb.	Uw Cb	+B	>			36 37	
								Tapolca Mb.							

Author: A. JAMBOR

Area No. 213 c: N HUNGARY, INCL. BUDAPEST, BÖRZSÖNY AND TOKAJ MOUNTAINS, H

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
M. Y.	stand. STAGES									
P L I O C E N E	5	PIAC. ZANCL.	400 200 50	T Ly/F Bo/F	Nógrád Mb.	Cp Cuc	+B	<<	50	Dacia
					Bükkalja Mb.				36	
					Dunántúl Fm.				50	
					Tihany Mb.				52	
					Somló Mb.					
	8	MESS. TORTONIAN	300	T	Penemanton Fm.	Cp		<<	50	TISZA GROUP (in Hungary)
					Edelény Fm.					
					Csonehát Fm.				52	
M I D D L E	12	SERRAVALL.	150 1500	T	Tokaj Fm. (447)		+A +Rd +Rh	>>	24	SARMATIAN
					B. Kozárd Fm.			>>		
					Sajóvölgy Fm.			>>	26	
	14	LANG.	2000 120	Mc Ml T M M	Szilágy Fm.	NN6	+A	>>	47	BADEN.
					Fentőrákos Fm.				32	
					Mátya Fm.				35	
16	BURDIGALIAN	800	M	Sámszenháza Fm.	NN5	+A +A	>>	32	BADENIAN	
				Nógrádszakál Fm.						
				5. Tar Fm. (65)						
18	AUGUIT.	100 60 300	Bo L T Mc Ml	3. Fót Fm. 4. Hasznos Fm.	NN4	+D +A	>>	35	KARPAT.	
				2. Garáb Fm.						
				1. Egyházasserge Fm.						
				Salgótarján Fm.						
20	CHATTIAN	600 600 200 150	Mc Ml	Gyulakeszi Fm. (205)		+Rh	>>	29	EGGERIAN (Oligocene)	
				Zagyvápalfalva Fm.				34		
				Ipolytannóc Mb.				62		
				Putnok Fm.				31		
				Budafok Fm., Bretka Fm.				8 5		
22	BURDIGALIAN	300	T	Becske Fm.			>>	33	EGGERIAN (Oligocene)	
				Eger Fm.				67		
				Pátinvására Fm.				8		
				Bán Fm.						
24	CHATTIAN	1200	Mb	Kiscell Fm.	NP 24		>>		KISCELLIAN	

Authors: G. HAMOR & A. JAMBOR

Area No. 219 a: TRANSDANUBIAN CENTRAL MOUNTAINS SW, H

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES						
OLIGOCENE	MIOCENE																	
OLIGOCENE	LOWER	30	CHATTIAN		F	600	Gsatka Fm.			<<<	6	KISCELLIAN						
		28							<<<									
		26							<<<									
		24							<<<									
		22							<<<									
	MIDDLE	LOWER	20	BURDIGALIAN		F	20	Bántapuszta Fm.?			<<<		KARPAT.					
			18					Tan Fm.	+Rh	<<<								
		UPPER	SERRAVALL.	12		L	100	Tinnye Fm.		+Rh	<<<	9	SARMATIAN					
				8						<<<								
				4						<<<								
PLIOCENE	5	ZANCL.		L	40	300	Dunántúl Fm. Tihany Mb. Somló Mb.	Cb	+B	<<<	38	(in Hungary)						
							PIAC.	L	40	40			Kapoccs Mb. Kállai Mb.	Cuc	+B	<<<	4	PONTIAN
																<<<		
																<<<		
																<<<		

Author: A. JAMBOR

Area No. 219 b: TRANSDANUBIAN CENTRAL MOUNTAINS NE, H

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES	
O L I G O C E N E	M I D D L E	24-30	CHATTIAN		300	BF	Mány Fm.		<		6	EGERIAN (Oligocene)	
							Csatka Fm.		<				
							Kiscell Fm.		<				
	L O W E R	18-24	BURDIGALIAN		100	Ml	Tan Fm.		+Rh		<		KARPAT. EGGEN.
							Bántapuszta Fm.				<		
	U P P E R	5-12	SERRAVALL.		50	B	3. Tinnye Fm.			+Rh	<	35	SARMATIAN BADENIAN
							4 Gyulafinató Fm.				>		
							2. Galgavölgy Fm.				<		
							4. Kozánd Fm.				<		
P L I O C E N E	5-8	TORTONIAN		400	Bm	Szilágy Fm.				<		TISZA GROUP (in Hungary) PANNONIAN DACCIAN	
						Hidas Fm.				>			
						Zsámbék Fm.				<			
P L I O C E N E	5-8	MESS.		400	Bm	Penemanton Fm.				<	37	DACCIAN	
						Csákvár Mb.				<			
						Zsámbék Mb. Ósi Mb.				<			
P L I O C E N E	5-8	ZANCL.		250	LI	Tonony Mb.		Uw		<		DACCIAN	
						Dunántúl Fm. Tihany Mb.		Cb		<	38		
						Somló Mb.		Cuc		<	34, 50, 56		

Author: A. JAMBOR

Area No. 219 c: TRANSDANUBIAN CENTRAL MOUNTAINS SE, H

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES		
O L I G O C E N E	M	24	AUGIT.		600	Mc	Eger Fm.			∨	6	EGERIAN (Oligocene)		
		26	CHATTIAN							∨		6	KISCELLIAN	
	I	LOWER	22	AUGIT.				Budafok Fm.			∨		EGGEN.	
			20	BURDIGALIAN		500	Ml	Tan Fm. Fót Fm. Bántapuszta Fm.		+Rh	∨	40/a	OTTN. KARPAT.	
		C	MIDDLE	16	LANG.		400	M/Mb	Fentdnákos Fm. Baden Fm.			∨	40/a	BADEN. SARMATIAN
				14	SERRAVALL.		200	B	Tinnye Fm. Galgavölgy Fm. Kozárd Fm.		+Rh	∨	40/a	SARMATIAN
	E	UPPER	10	TORTONIAN		300	Bm/L	Tinnye Mb. Ósi Mb.			∨	38 50 56	TISZA GROUP (in Hungary)	
			8	MESS.			Bm	Peremanton Fm.			∨			
		P L I O C E N E	5	ZANCL.		500	Bol	Dunántúl Fm. Tihany Mb. Somló Mb. Káljai Mb.			∨	38 50 56		
				PIAC.		400	F Li	Nagyalföld Mb. Bükkalja Mb.			∨	4		

Author: A. JAMBOR

Area No. 220: GREAT PLAIN BASIN, H

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES												
O L I G O C E N E	M I D D L E	E U P L I O C E N E	SERRAVALL.	~1500	B	Hajduszoboszló Fm. Dombegyháza Fm.	+Rh +	>>>	>>>	2, 10 9	SARMATIAN												
												E U P L I O C E N E	TORTONIAN	B	Csongrád Fm. Jászkunság Fm. Maros Fm.	B	B	>>>	>>>	4	TISZA GROUP (in Hungary) SARMATIAN-PANNON. ~ PONTIAN-DACIAN ~ RUM.		
																						E U P L I O C E N E	MESS.
		E U P L I O C E N E	ZANCL.	~800	B	Heves Fm.	B	B	>>>	>>>	4	TISZA GROUP (in Hungary) SARMATIAN-PANNON. ~ PONTIAN-DACIAN ~ RUM.											
													E U P L I O C E N E	PIAC.	~300	T	Heves Fm.	T	B	>>>	>>>	4	TISZA GROUP (in Hungary) SARMATIAN-PANNON. ~ PONTIAN-DACIAN ~ RUM.
		L O W E R	B U R D I G A L I A N	Lang.	50-800	MI	Ebes Fm. Makó Fm. Abony Fm.	+Rh +	>>>	>>>	8, 4 11, 7	BADEN.											
	L O W E R												L A N G.	50-800	MI	Kiskunhalas Fm.	MI	+Rh +D?	>>>	>>>	7, 12 4	KARPAT.	
																							L O W E R
	L O W E R		A U Q U I T.									EGGEN.											
													L O W E R										EGGERIAN (Oligocene)

Authors: A. SOMFAI & K. SZENTGYÖRGYI

Area No. 222: MECSEK MOUNTAINS, H

EPOCHS		M. Y.	STANDARD STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES		
OLIGOCENE	MIOCENE													
OLIGOCENE	LOWER	24	AUQUIT.									KISCELLIAN EGERIAN (Oligocene)		
		26	CHATTIAN											
	28													
	30													
	MIDDLE	LOWER	22	AUQUIT.		800	T	Szászvár Fm. (209)		+A	<		45	EGGEN.
			20	BURDIGALIAN		600	LT	Gyulakeszi Fm. (209)		+Rh	>>>		28	OTTN. KARPAT.
		18					MI	1. Budafa Fm. (16,7)			>>>		47	
		16	LANG.		400	Bm	1. Szilágy Fm. (16,7) 2. Fentőrkös Fm. 3. Hidas Fm. 4. Décszabolca Fm.	Bul. Bol. Spinopl.	NN7 NN6		>>>		40 47 28 47	BADEN. BADENIAN
		12	SERRAVALL.		180	B	Tinnye Fm. Kozánd Fm.			+Rh	>>>		10 28	SARMATIAN SARMATIAN-PANNON.
		8	TORTONIAN		250	Bm	Darémanton Fm. Tinnye Mb.		Cp Cb		>>>		3 39 28	TISZA GROUP (in Hungary) PONTIAN-DACIAN-TRUM.
UPPER	MIDDLE	5	ZANCL.		400	Bo	Dunántúl Fm. Somló Mb. Kallai Mb.			>>>	39 28 3			
		5									56			
		8	MESS.									3		
		5	ZANCL.											
PLIOCENE														

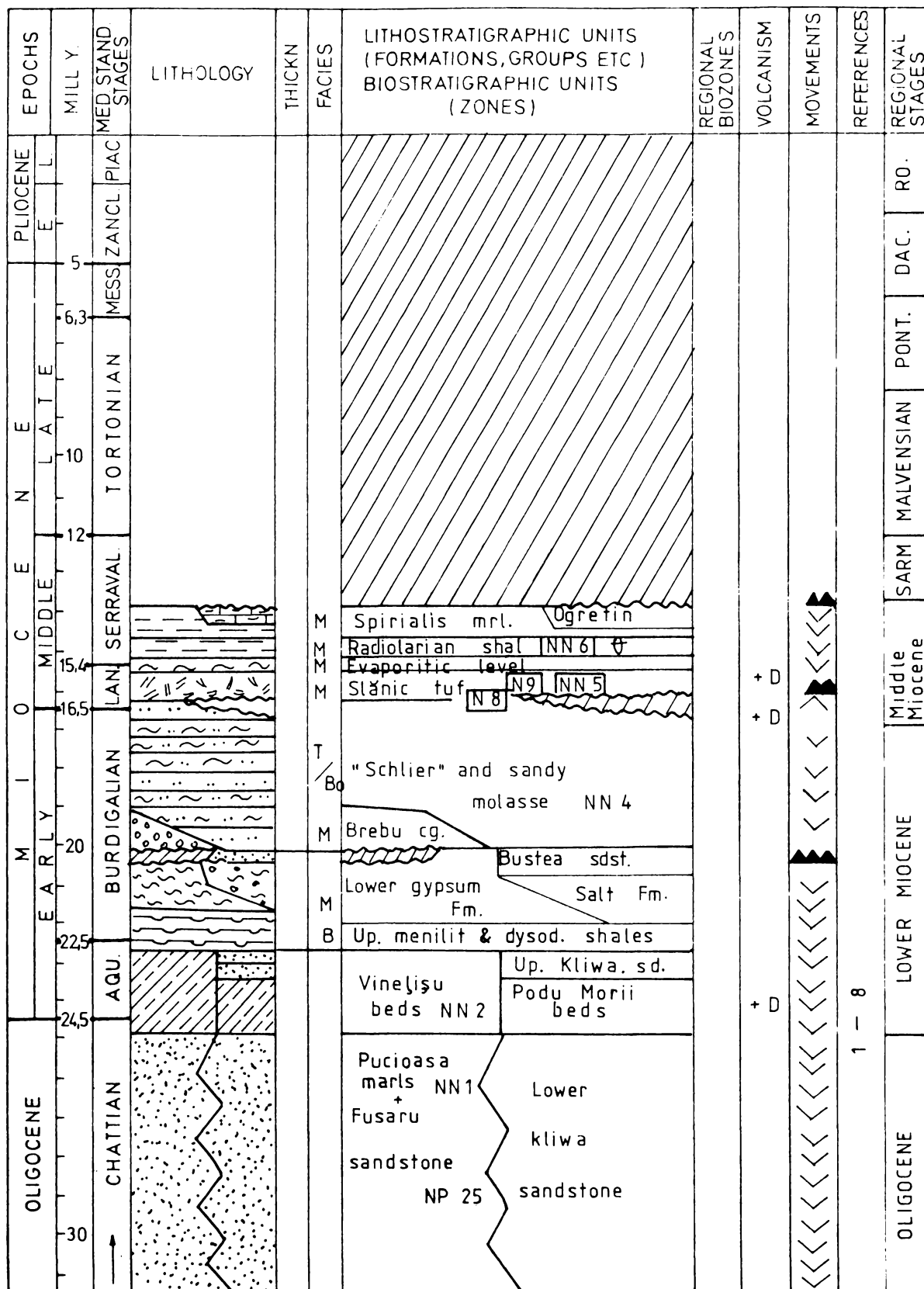
Authors: G. HAMOR & A. JAMBOR

Area No. 224 a: HUNGARIAN PART OF ZALA-DRAVA BASIN, H

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES																																																																																					
O L I G O C E N E	M I D D L E	24-30	CHATTIAN	?	> 800	T				V		EGGERIAN (Oligocene)																																																																																					
													I N F E R I O R	AUGUIT.	BURDIGALIAN	L	Szászvár Fm.	L				V	28	OTTN. KARPAT.																																																																									
																									O	18	BURDIGALIAN	Mb	Tar Fm. Budafa Fm.	Mb				+Rh	V	28	KARPAT.																																																												
																																						C	6-8	LANG.	Mb	Baden Fm.	Mb				V	28	BADEN. BADENIAN																																																
																																																		E	4-12	SERRAVALL.	B	Tinnye Fm. Kozárd Fm.	B				V	28	SARMATIAN SARMATIAN-PANNON.																																				
																																																														N	8-10	TORTONIAN	Bm	Penemanton Fm. Tófej Mb. Lenti Mb. Belezná Mb. Zala Mb.	Bm				V	42	TISZA GROUP (in Hungary)																								
																																																																										P L I O C E N E	5	ZANCL.	Ba	Dunántúl Fm. Somló Mb. Ujfalú Mb.	Ba				V	44 56 50	DACIAN DACIAN-DRUM.												
																																																																																						P L I O C E N E	5	PIAC.	L	Torony Mb.	L				Pv		

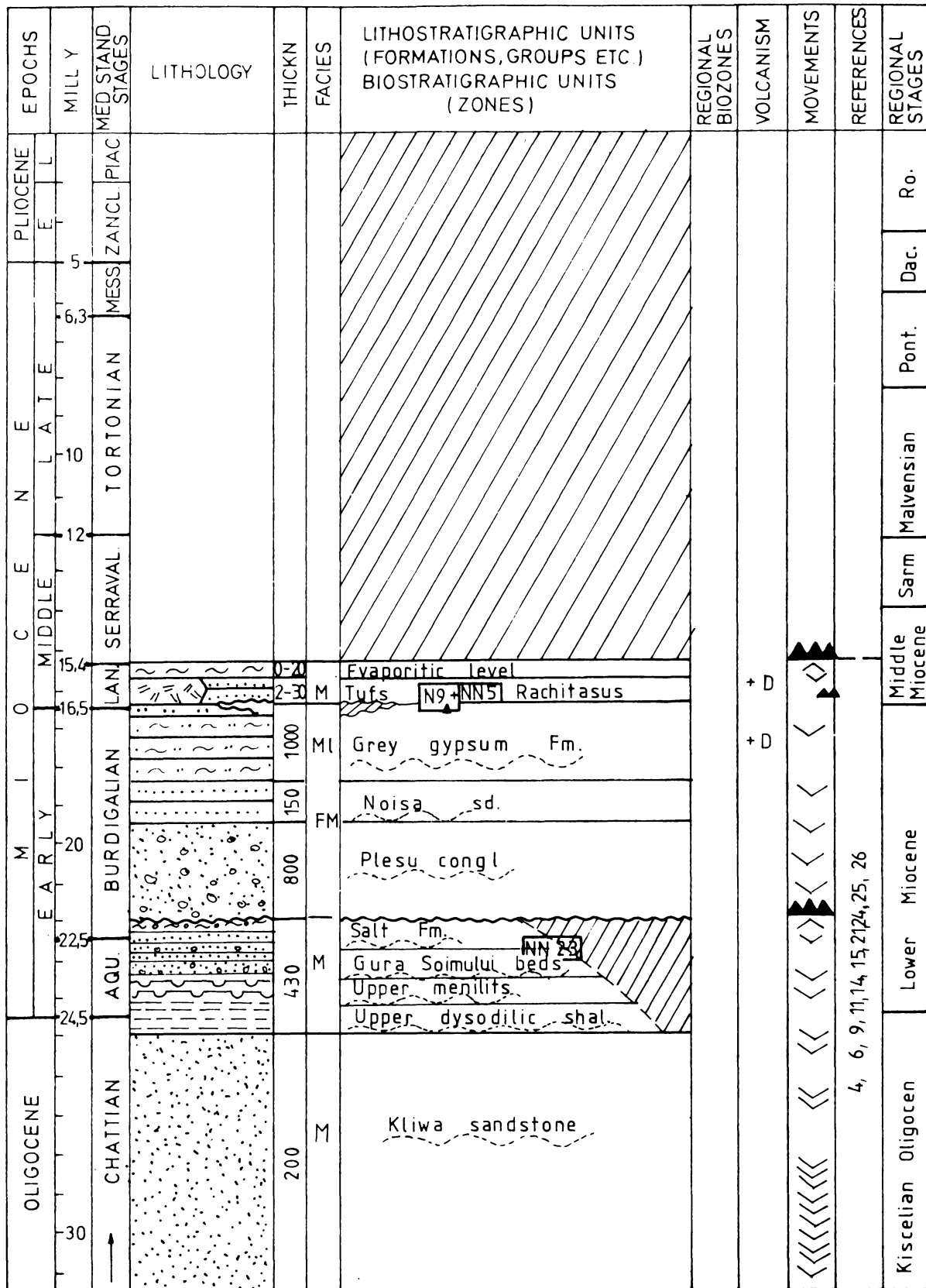
Authors: G. HAMOR & A. JAMBOR

Area No. 204 d: E CARPATHIAN FLYSH ZONE – TARCAU NAPPE, BUZAU – DIMBOVITA, R



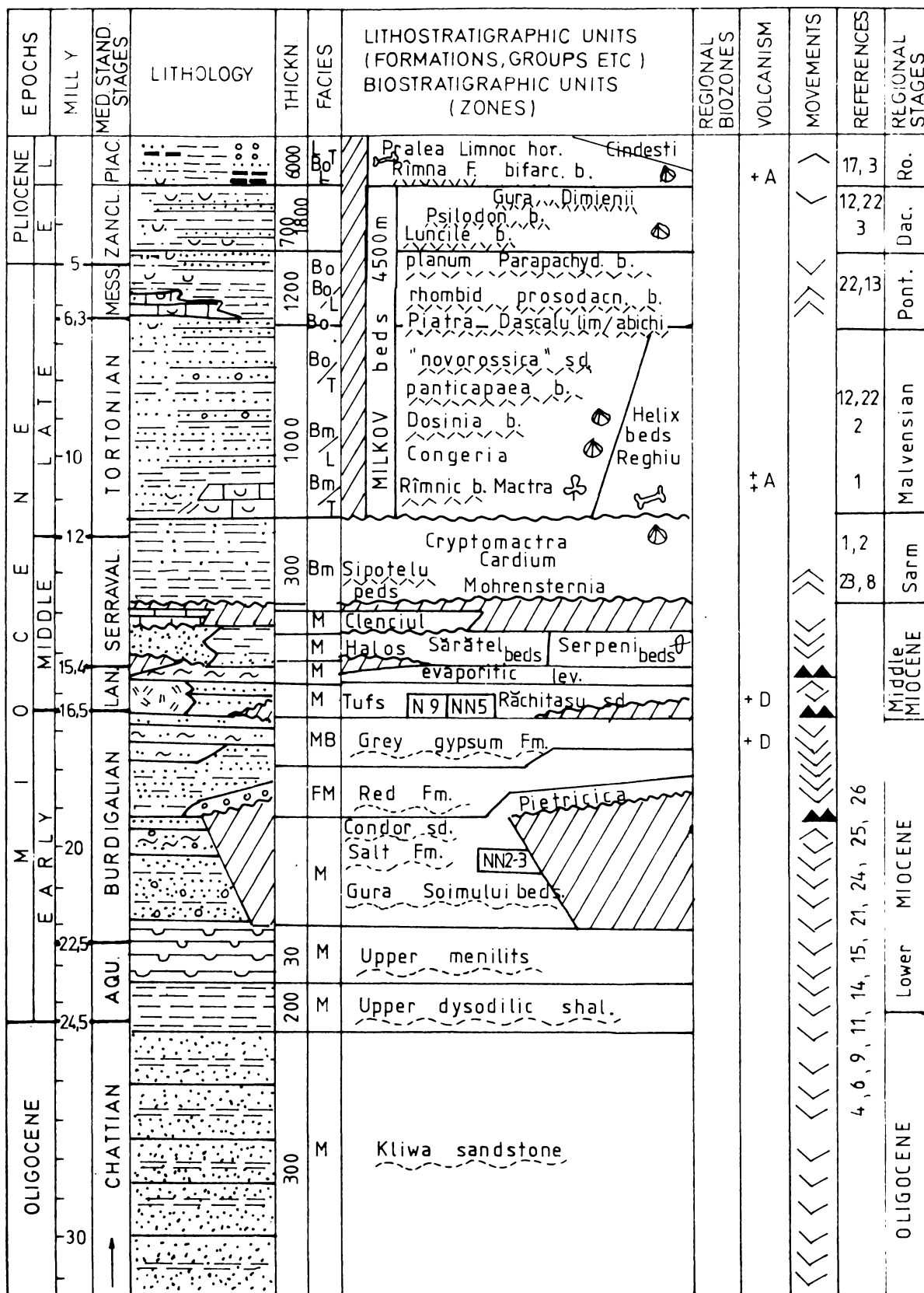
Author: M. SANDULESCU

Area No. 205 e: SUBCARPATHIAN FOLDED NEOGENE FOREDEEP, SUCEAVA – BISTRITA VALLEYS, R



Author: M. SANDULESCU

Area No. 205 f: SUBCARPATHIAN FOLDED NEOGENE FOREDEEP, BISTRITA – BUZAU VALLEYS, R



Authors: M. SANDULESCU & I. PAPAIANOPOL

Area No. 205 g: SUBCARPATHIAN FOLDED NEOGENE FOREDEEP, DIMBOVITA - BUZAU REGION, R

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES							
MILL Y	PLIOCENE																	
OLIGOCENE	MIDDLE	LAN. SERRAVAL.	TORTONIAN	300-800	L	Unio lenticularis b. Unio sturdzae b.	+	+	A	5,19	Ro.							
				100-400	Bo	Psilodont + cangerica Pachydacna Stylodcna b.				19	Dac.							
				200-600	Bo	planum planum Charpoc. rhomboidea Lunodacn. Sipot limest abichi				16,7	Pont.							
				100 - 700	Bo	"Novorossica" sds. "Leptanodonta" b.				10,19	Malvensian							
					Bm	Dosinia beds												
					Bo	Teisseyreomya + Congeria b.												
				15-16.5	LAN. SERRAVAL.	TORTONIAN				50-200	Bm	Istrita limest Cryptomactr. b. Cardium Ervilia Abra beds	+	+	D	D	10,20	Sarm.
										M	Spirialis mrl.	Middle Miocene						
										M	Radiolarian shal. evaporitic lev.							
										M	Stănic tuf N 9 NN 5 N 8							
20-24.5	BURDIGALIAN	AQU.	?	?	?	+	+	D	D	4, 6, 9, 11, 14, 15, 21, 24, 25, 26	LOWER MIOCENE							
												24.5	CHATTIAN					

Authors: I. PAPAIANOPOL & M. SANDULESCU

Area No. 206 a: S SUBCARPATHIAN FOREDEEP, GETIC DEPRESSION E, DIMBOVITA - JIU, R

EPOCHS		MED STAGE STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES			
MILL. Y.														
Oligocene	EARLY	CHATTIAN		200 - 400	M, B, ML	Pucioasa type Marls Fm.				1, 6	Kiscelian			
				245										
				225										
				20	BURDIGALIAN	100 - 1300	M	Mueasca sdst. and conglomerats Mb.	4	+ D		5, 7	EGGEN-BURGIAN	
				165		500	TFL	Sarata gipsum						
				154		300	M, lc	Globigerna marls, Spiralis marls, Radiolarian shale, Evaporitic hor.	6-7	+ Rd		8		
				12		200-1000	Bm	Paramysis, A predcarpaticus + badenensis	9			8		
				10	SERRAVAL	600	Bm	Dosinia beds	10-12			3, 10	SARM	
				6.3		Bo	Leptanodonta beds, pantigapaea beds					3		
				5		Bo	planum planum b. rhomboidea beds, abichi b., Pr. litoralis					3		
			Pliocene	LATE	MESS. ZANCL. PIAC.		400	T	Unio sturdze beds					PONT.
							400	Bo	Pachyadna b. + coal					
	400	Bo				Unio sturdze beds								

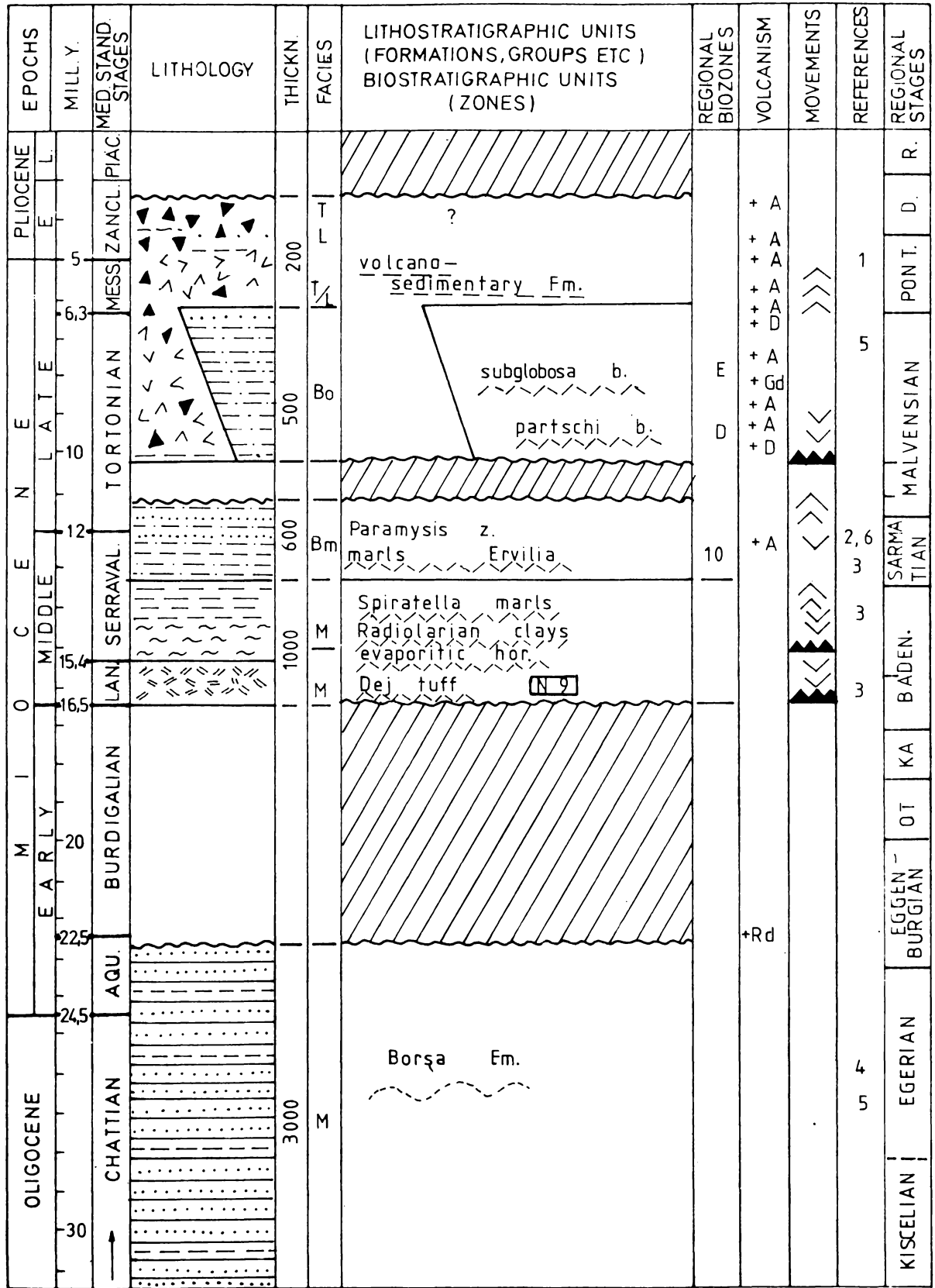
Authors: F. MARINESCU, B. POPESCU & M. GHEORGHIAN

Area No. 206 b: S SUBCARPATHIAN FOREDEEP, GETIC DEPRESSION W, DUNARE – JIU, R

EPOCHS		MED STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	MILL Y											
PLIOCENE	L	ZANCL. PIAC		300	L/T	Smooth Unionidae beds					R.	
	E			100-300	Bo/L	coal Fm. / Lazus sands					D.	
MIDDLE	5	MESS. TERT. TOR		200-500	Bo	Cororova sands / Boereaasca sands / rhomboidea beds / "abichi" clays				4,3	PONT.	
	6.3			Bo	panticapaea b. / Radix clays							
	10			Bm	Oltenian Fm.							MALVENSIAN
	12			Bm	Izvoru Bîrzii Fm.							
EARLY	15.4	LAN. SERRAVAL.		150-300	M	Valea Morilor Fm.	10-12	+A			SARMA-TIAN	
	16.5			M	"Spiratella B." & NN 6	9	+A					
	15.4			l.c.	Radiolarian clays	8			3, 2		BADEN.	
EARLY	22.5	BURDIGALIAN		100-150	M	Globigerina marls NN 5	6-7	+Rd		9	BADEN.	
	24.5											
OLIGOCENE	30	CHATTIAN				MESOZOIC & crystallin (PALEOZ.)					KISCELIAN	

Authors: F. MARINESCU, M. GHEORGHIAN & G. POPESCU

Area No. 216 b: MARAMURES BASIN, R



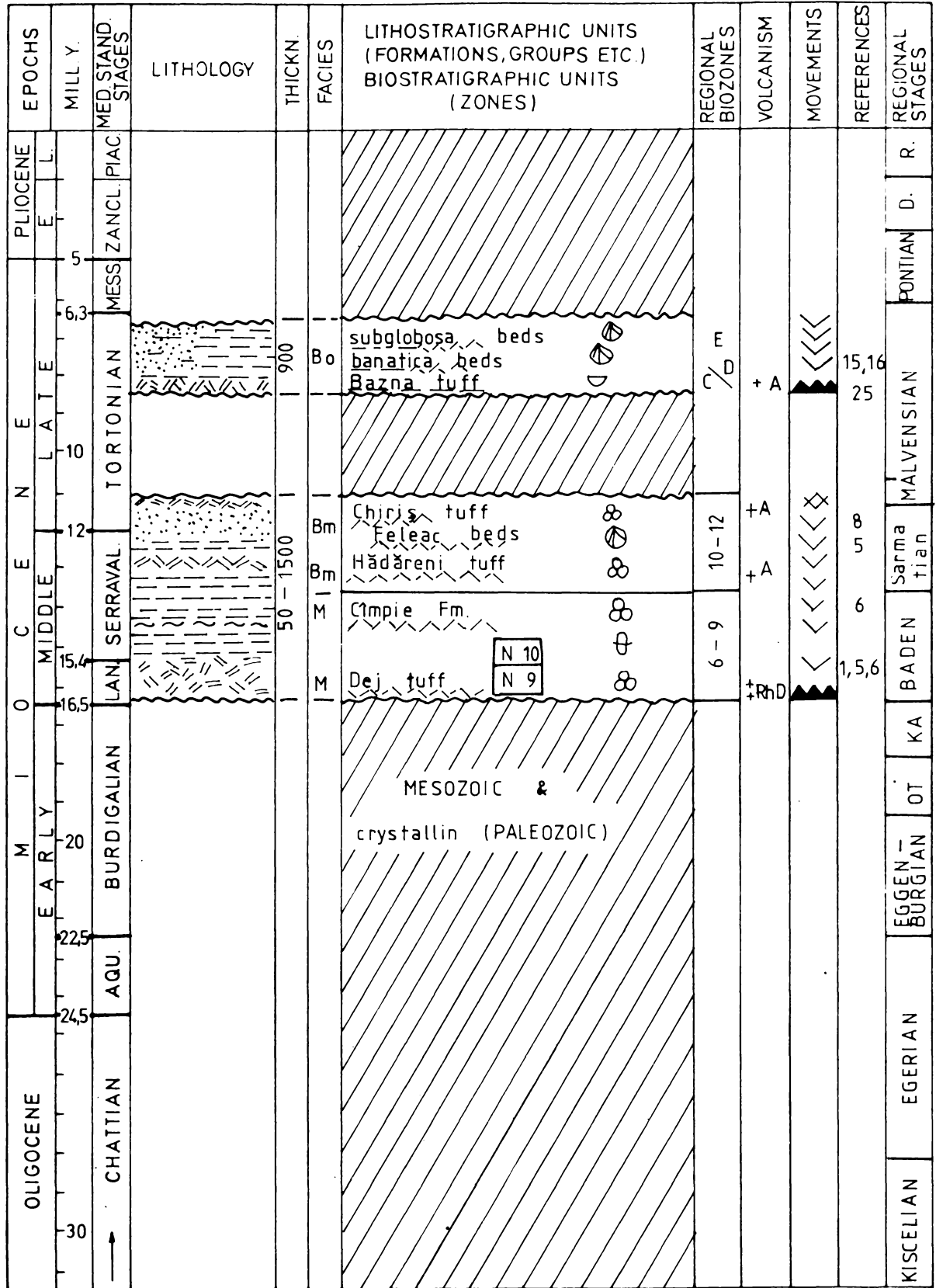
Authors: F. MARINESCU & M. GHEORGHIAN

Area No. 217 a: TRANSYLVANIAN BASIN N AND NW, R

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
	MILL Y	MED STAND STAGES									PONTIAN	D. R.
OLIGOCENE	30	CHATTIAN		50-100	M	Zimbor b.	1			18	KISCELIAN	EGERIAN
						Buzas Formation	2	EGGENBURGIAN				
OLIGOCENE	24.5	AQU.		300-400	M	Sînmihai b.	3-4				13, 14	EGGENBURGIAN
						Cornuș b.	4	KA				
OLIGOCENE	22.5	BURDIGALIAN		300-2000	Bo	Hide beds	4				4	KA
						Chechis b.	4	BADEN				
MIOCENE	16.5	LAN.		50-1000	M	Dej tuff	6-7		+Rd		5	BADEN
						Evaporitic hor.	9	BADEN				
MIOCENE	15.4	LAN.		50-1000	M	Serratella marls	9		+R		20	BADEN
						Radiolarian shal.	9	BADEN				
MIOCENE	12	SERRAVAL.		1000-2000	Bm	Feleac Fm.	10-12		+A		14	SARMA-TIAN
						Evaporitic hor.	9	BADEN				
MIOCENE	10	TORTONIAN		500	Bo	Bazna tuff	C/D		+A		15, 16	MALVENSIAN
						banatica beds	C/D	MALVENSIAN				
MIOCENE	6.3	MESS.		500	Bo	subglobosa beds	E				15, 16	MALVENSIAN
						banatica beds	E	MALVENSIAN				
PLIOCENE	5	ZANCL.										PONTIAN

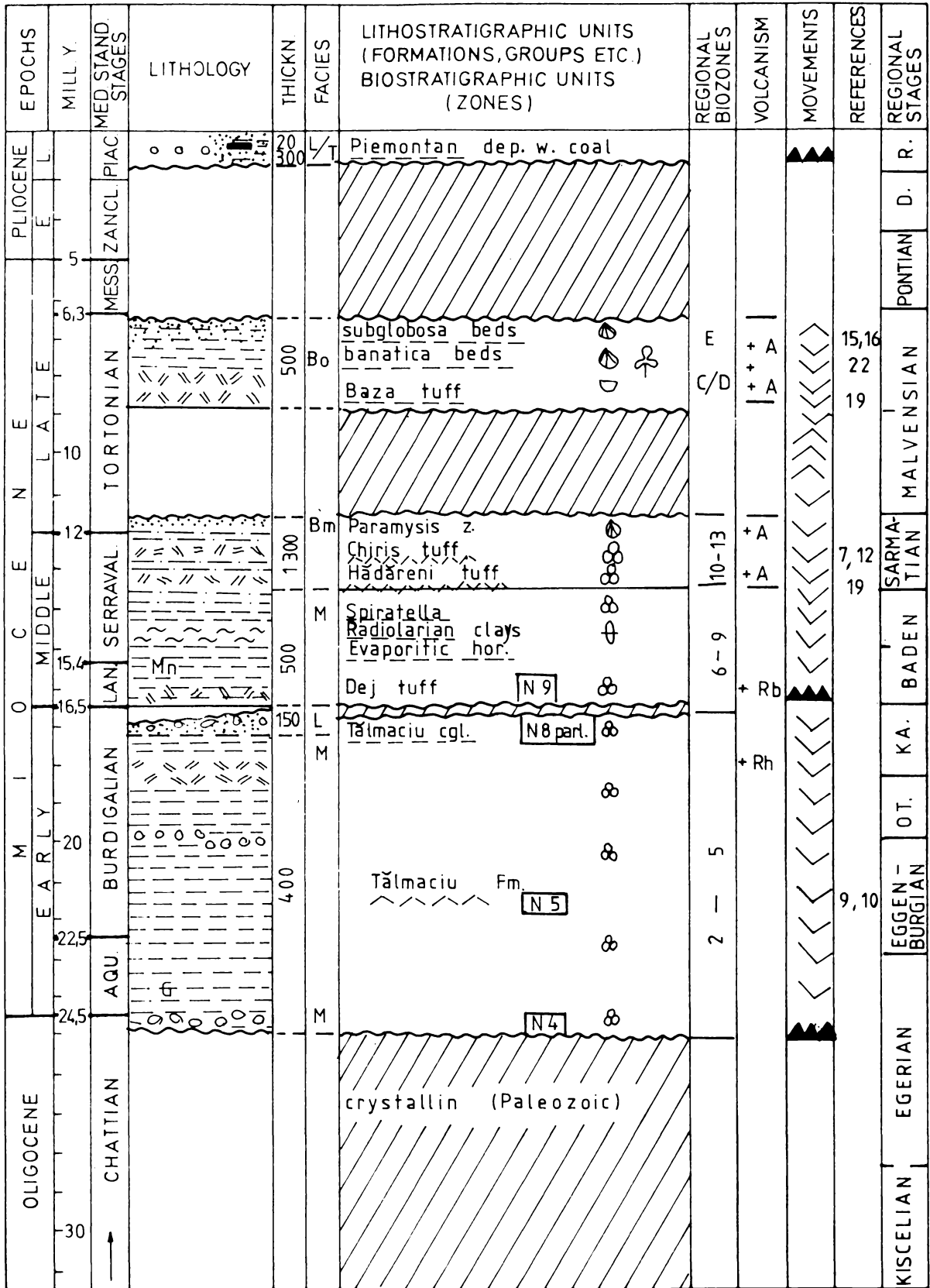
Authors: F. MARINESCU & G. POPESCU

Area No. 217 b 1: TRANSYLVANIAN BASIN W AND SW, CLUJ-ALBA-SADU, R



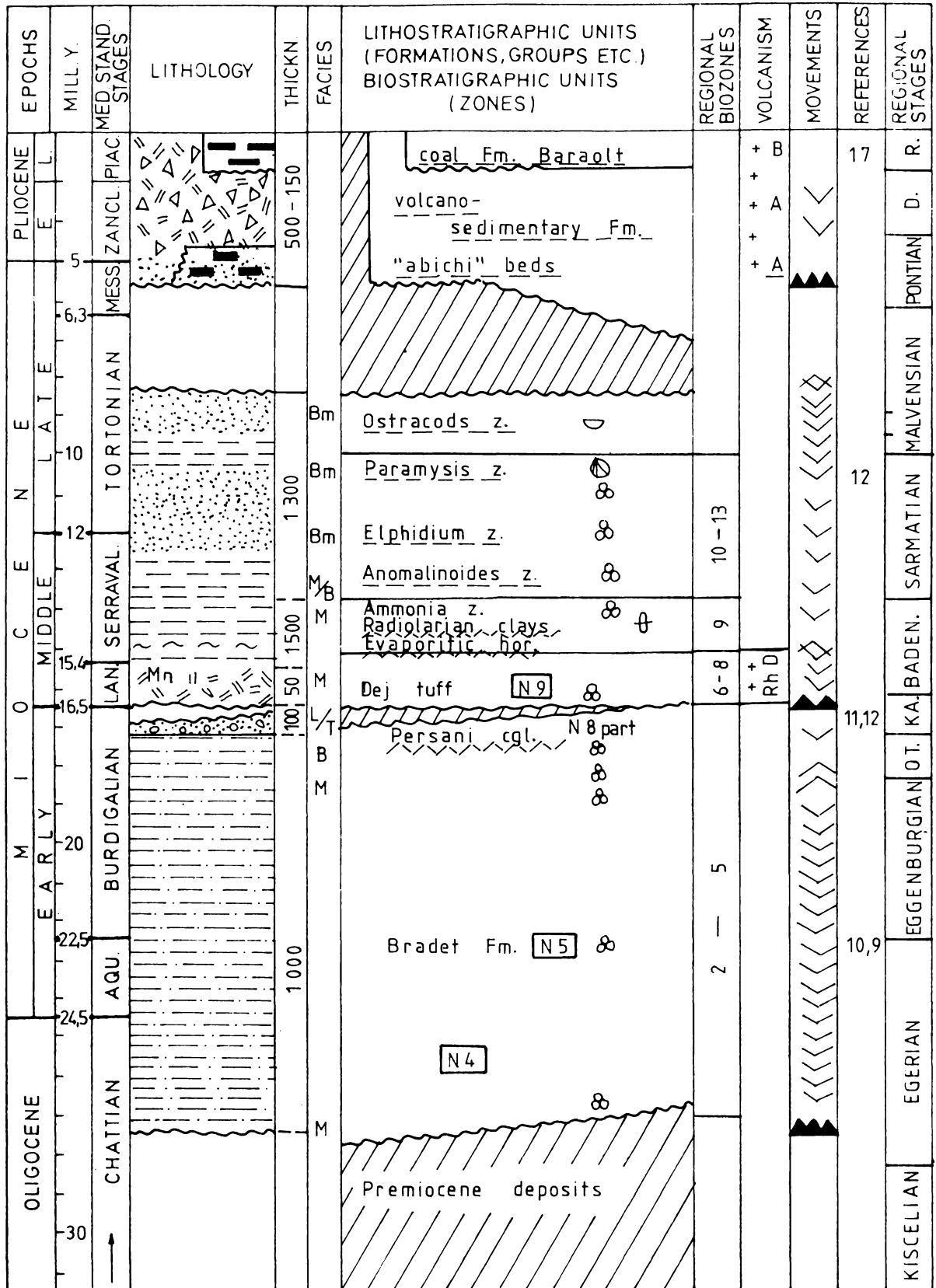
Authors: F. MARINESCU & M. GHEORGHIAN

Area No. 217 b 2: TRANSYLVANIAN BASIN S, SADU-SERCAIA, R



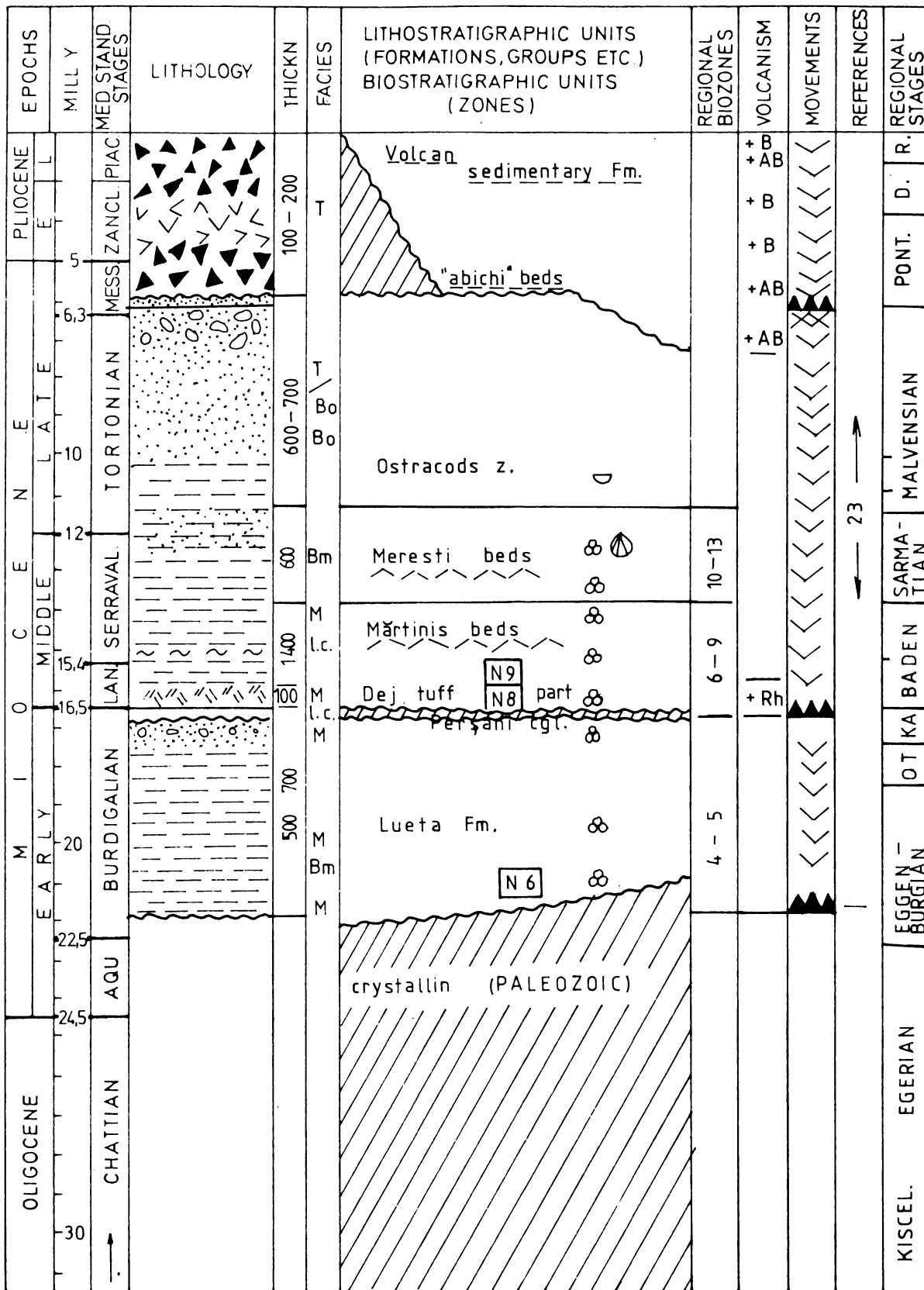
Authors: F. MARINESCU & M. GHEORGHIAN

Area No. 217 b 3: TRANSYLVANIAN BASIN SE, SERCAIA-PERSANI-RACOS, R



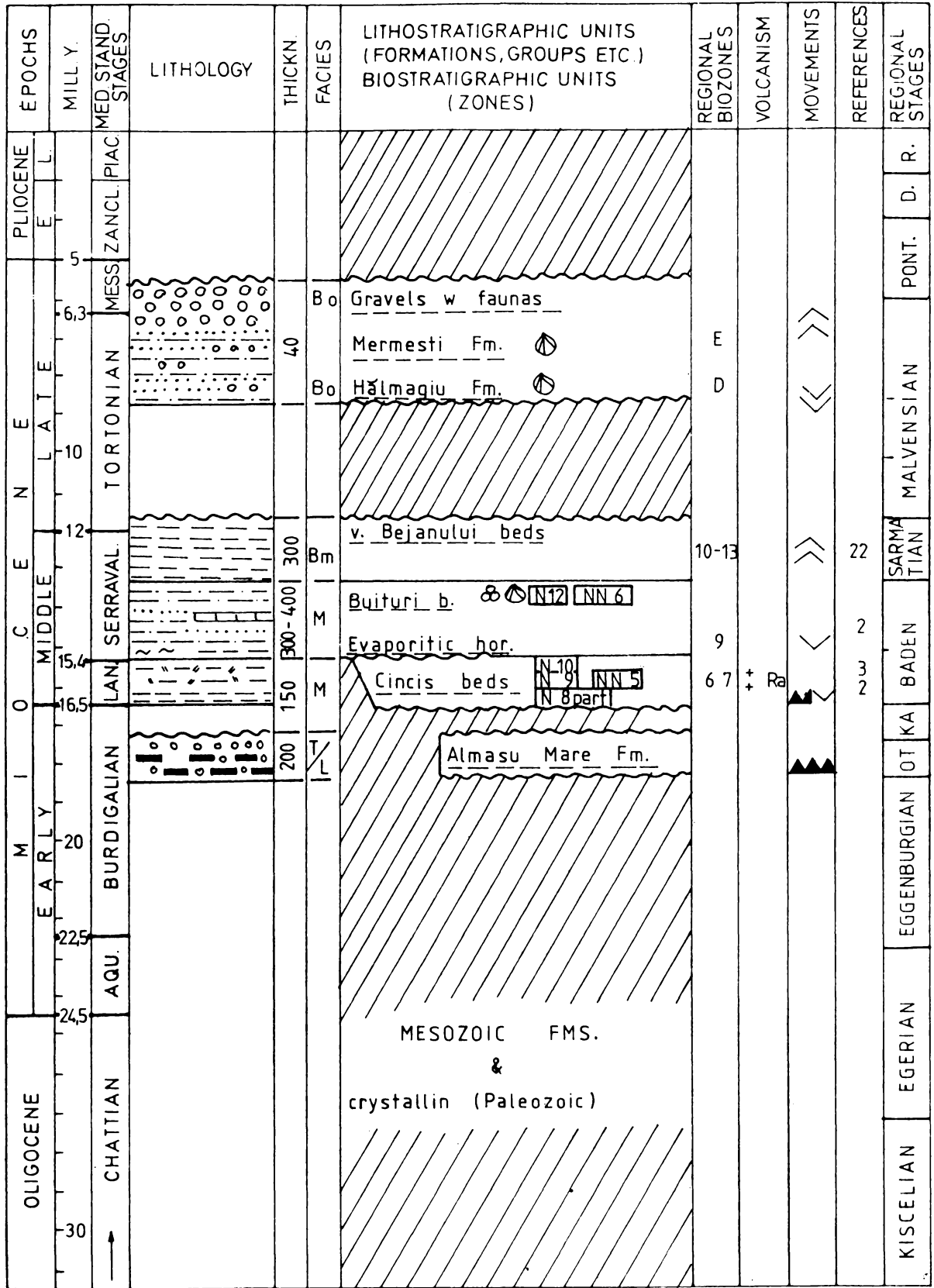
Author: M. GHEORGHIAN

Area No. 217 b 4: TRANSYLVANIAN BASIN E, RACOS-LUETA-SOVATA, R



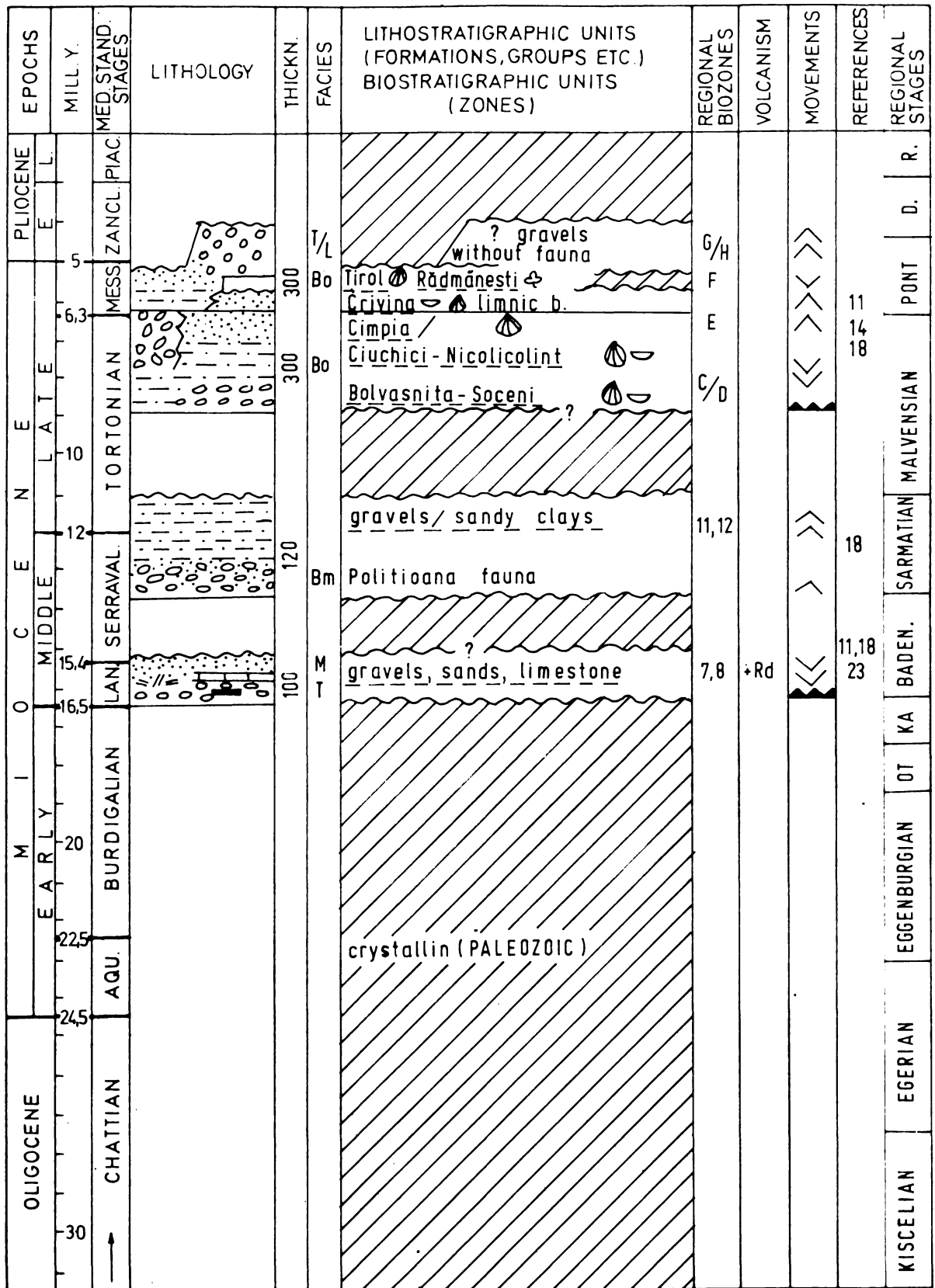
Author: M. GHEORGHIAN

Area No. 217 c: TRANSYLVANIAN BASIN, STREI – BRAD – SACARIMB, R



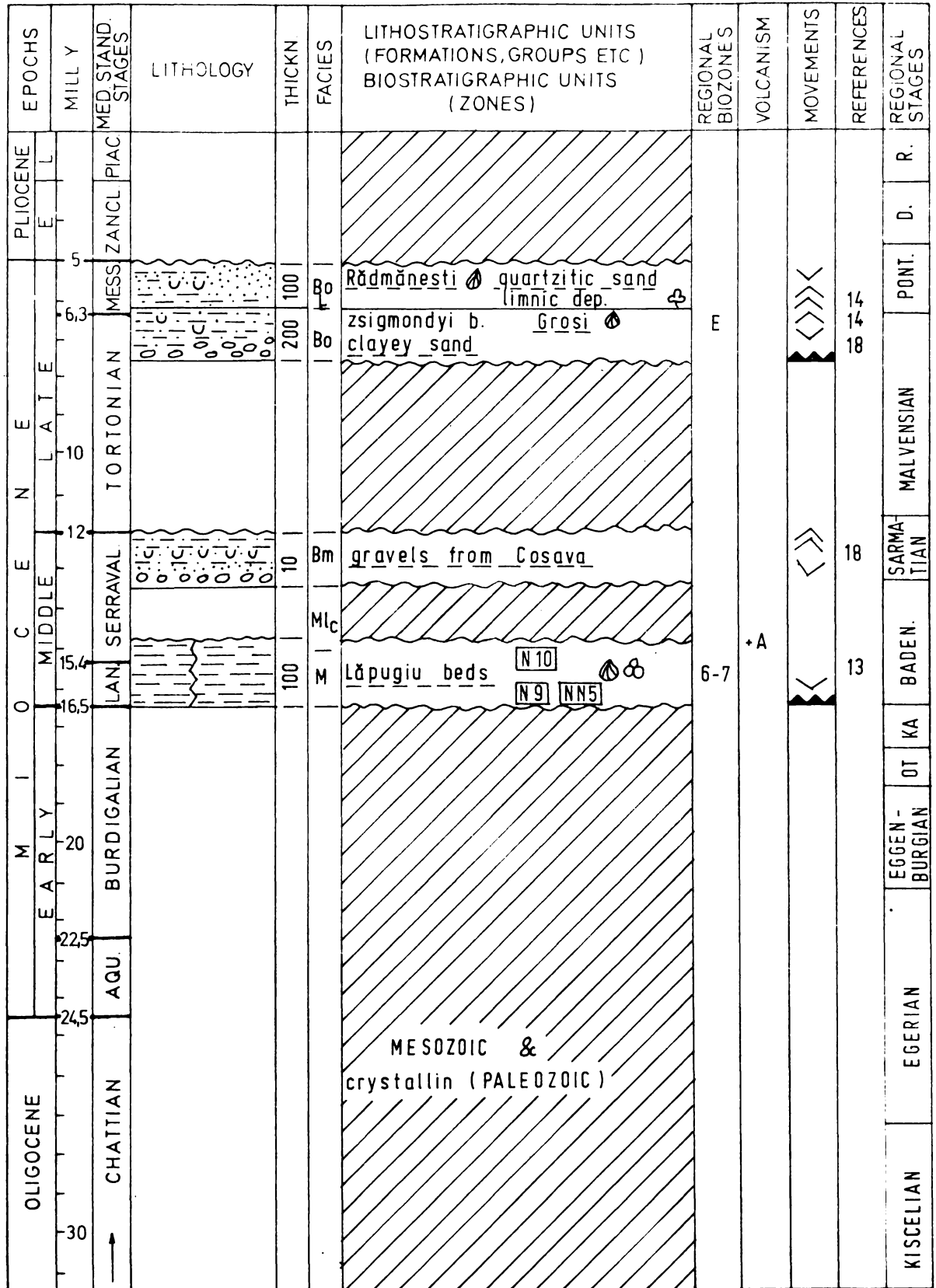
Authors: F. MARINESCU & G. POPESCU

Area No. 218 a 1: E INTRA-CARPATHIAN DEPRESSION, BANAT, R



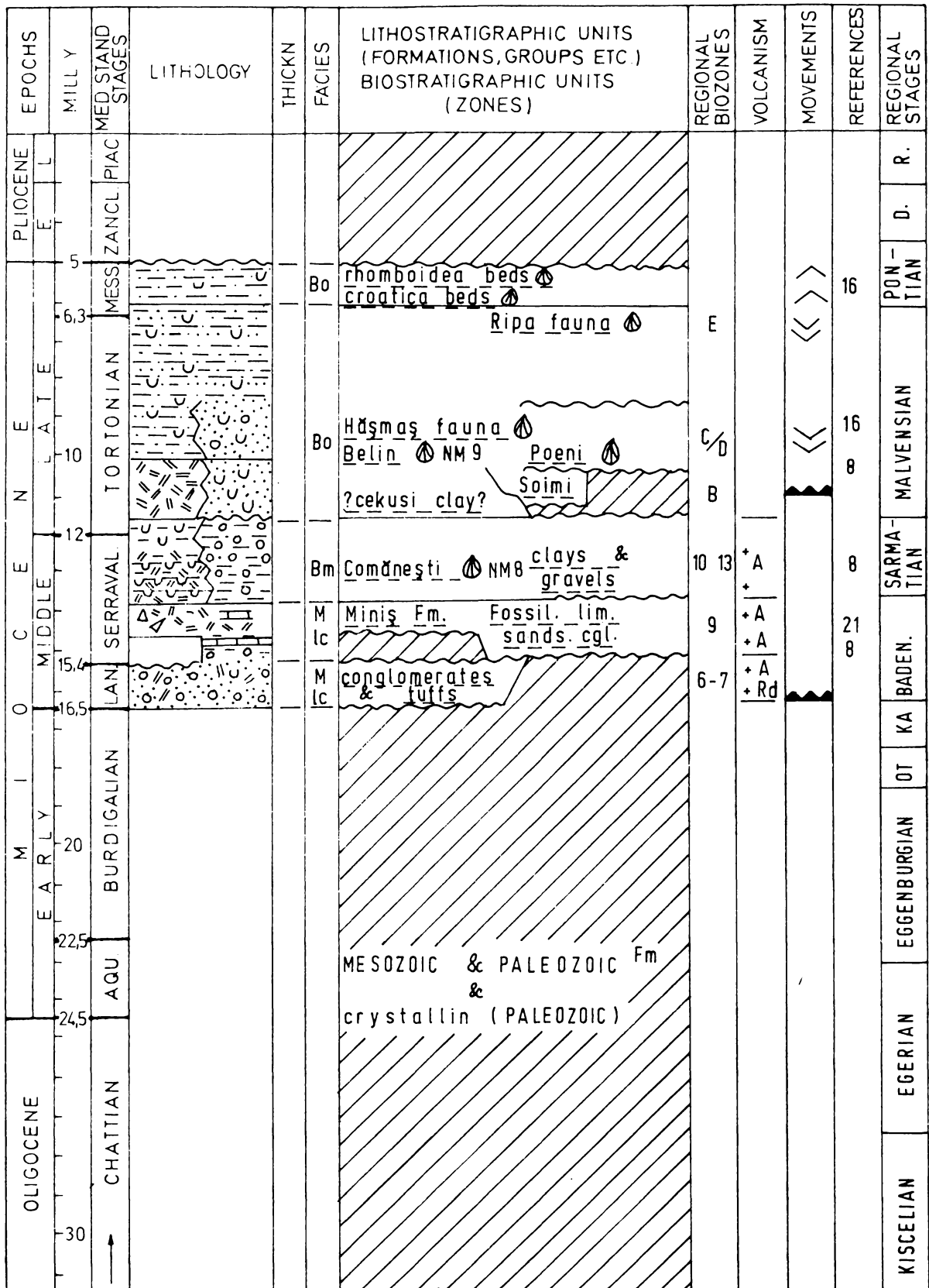
Authors: F. MARINESCU & G. POPESCU

Area No. 218 a 3: E INTRA-CARPATHIAN DEPRESSION, BEGA BASIN, R



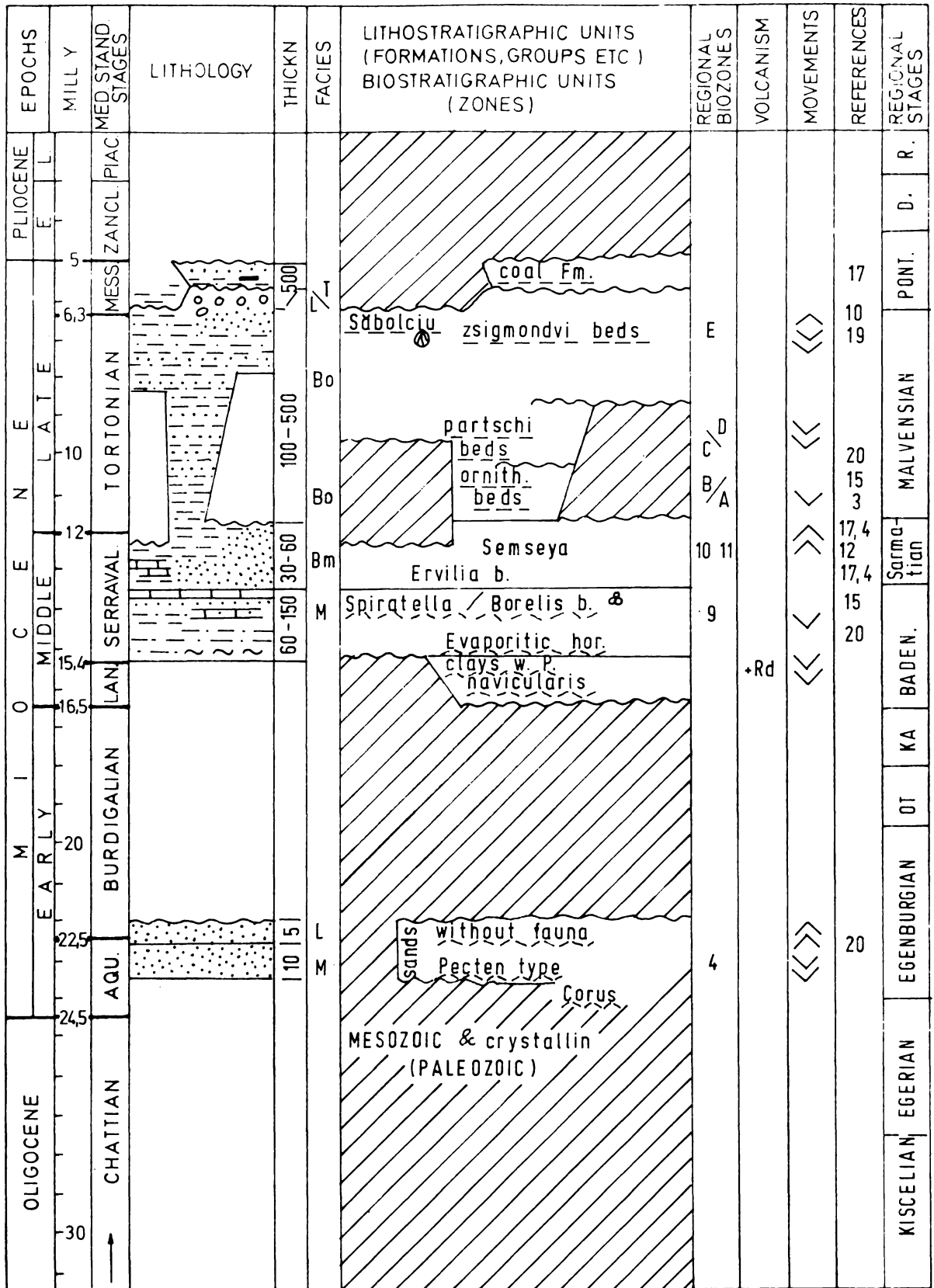
Authors: F. MARINESCU & G. POPESCU

Area No. 218 b 1: E INTRA-CARPATHIAN DEPRESSION, MONTS APUSENI REGION – ZARAND & BEIUS, R



Authors: F. MARINESCU, G. POPESCU & P. DUMITRICA

Area No. 218 b 2: E INTRA-CARPATHIAN DEPRESSION, MONTS APUSENI REGION - BOROD - SILVANIA, R



Authors: F. MARINESCU & R. RUSU

Area No. 218 c: E INTRA-CARPATHIAN DEPRESSION, BAIA MARE – OAS REGION, R

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES												
PLIOCENE	MILL. Y.										R.	D.	PONT.										
OLIGOCENE	EARLY	AQU.	CHATTIAN	30		flysh paleogene & crystallin (PALEOZOIC)					EGGERIAN	EGGEN-BURGIAN	OTT	KA	BADEN.	7 22	Sarmat tion	MALVENSIAN	9	1 2 22 2	PONT.	D.	R.
	LATE	TORTONIAN	6.3	MESS ZANCL. PIAC.	150-300	T Bo	Tigeru Fm. ⌘ 10	C/D	♦ A ♦ D	>>>	9	MALVENSIAN	9	MALVENSIAN	9	1 2 22 2	PONT.	D.	R.				
																				PLIOCENE	5		

Authors: F. MARINESCU & M. GHEORGHIAN

Area No. 230 e: DANUBAIN CORRIDOR, BAHNA – ORSOVA, R

EPOCHS		MILL. Y.	MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES						
OLIGOCENE	PLIOCENE											KISCELIAN	EGERIAN	OTT.	KA.	BADEN.	SARMA TIAN	MALVENSIAN
30																		
24.5					100	Bm					1-4							
22.5							crystallin of Getic naps & Ogradena granit											
20																		
16.5					30	M/L	sands w. molluscs (N 10) N 9 Curchia, limest.		+ A									
15.4					600	T/L	terrestrial gravels		+ A									
12					300	Bm	clays w. Ervilga gravels											
10																		
6.3																		
5																		

Authors: F. MARINESCU & G. POPESCU

Area No. 238: DACIC BASIN, R

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES															
PLIOCENE	MILL. Y.										KISCÉLIAN	EGERIAN	EGGENBURGIAN	OTT.	KA.	BADEN.	SARMATIAN	MALVENSIAN	PONT.	D.	R.					
OLIGOCENE	EARLY MIDDLE LATE	CHATTIAN	BURDIGALIAN	100	Mc	MESOZOIC, PALEOZOIC Fms. & crystallin (PALEOZOIC)			<<<	2																
														16.5	LAN	5	M	Lagenidae z. [N9]	6-7							
														15.4	SERRAVAL.	5	l,c	Miliolidae & Bul.-Bol. z Arenaceous foram.	8-9		<<	1,7				
														12	SERRAVAL.	5	Bm	Fossiliferous clays & sands	10-12		<<	4,5				
														10	TORTONIAN	200	Bm	Mactra bulgarica			<<	7				
														6.3	TORTONIAN	250	L/B	clays & marls			<<<<	7				
														5	MESS. ZANCL. PIAC.	250	Bo	planum planum beds clays & marls			<<<<	6,8,9 8,9				
															MESS. ZANCL. PIAC.	200	Bo	Psilodon, Unio, Horiodacna, Pachydacna			>>>	3,6				
															MESS. ZANCL. PIAC.	100	L/T	Freshwater & terrestrial Fm. w. molluscs			>>	9				

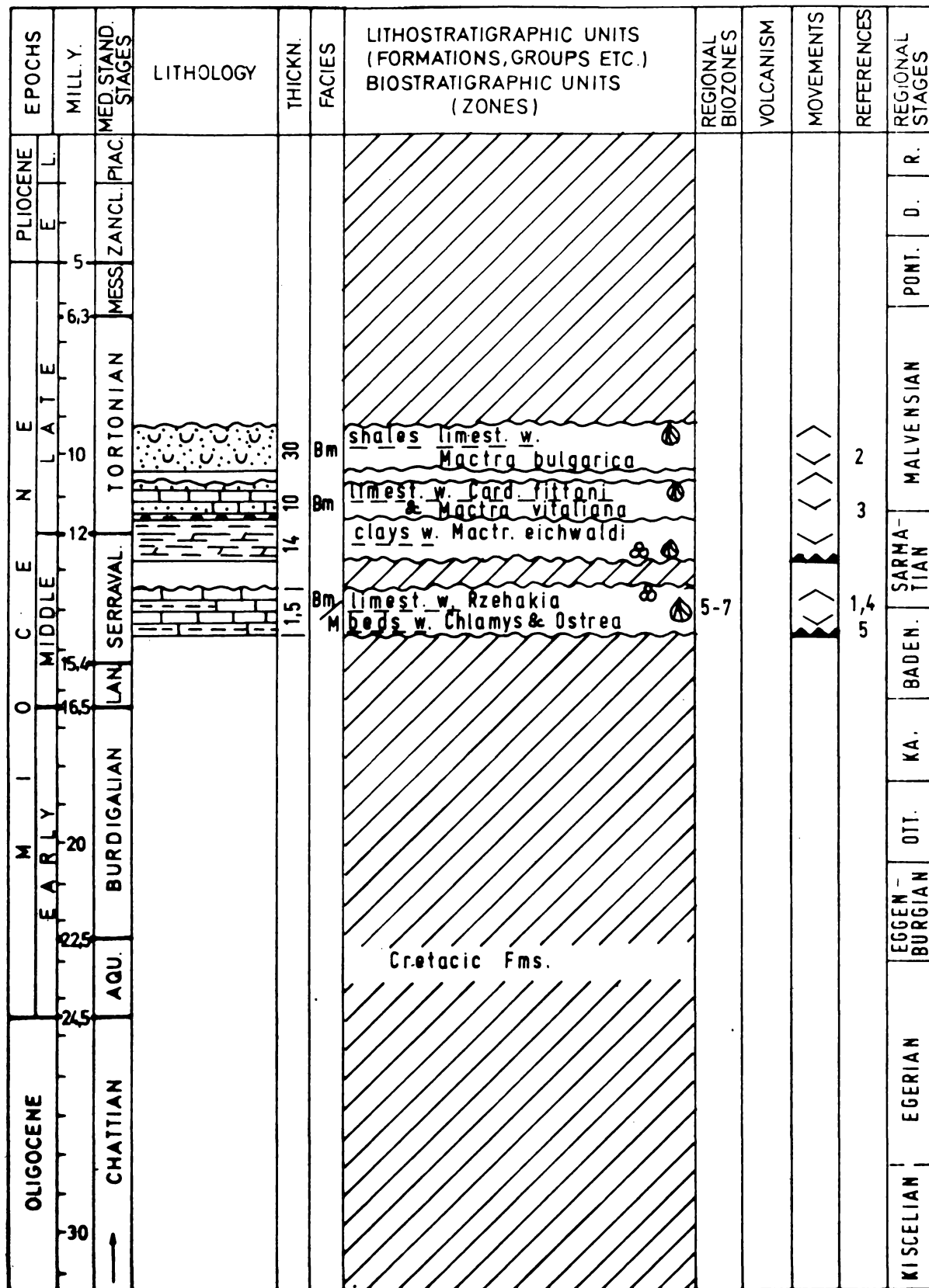
Authors: F. MARINESCU, G. POPESCU, M. GHEORGHIAN, I. PAPAIANOPOL & I. MOTAS

Area No. 239: W PART OF E EUROPEAN PLATEAU AND BIRLAND DEPRESSION, R

EPOCHS		MED. STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	MILL. Y.										LANCIAN	LANCIAN
PLIOCENE	5-6	MESS. ZANCL. PIAC.	[Lithology patterns]	60-70	T	terrestr. beds Mdlusteni				2	R.	
	6		[Lithology patterns]	6	L/T	red clay				2	D.	
	5		[Lithology patterns]			flabellatiform. b. Prosodacnomya b				2	PONT.	
	6.3	MESS.	[Lithology patterns]	90-140		Talpug sds.						
EARLY	10-12	TORTONIAN	[Lithology patterns]	350-550	T/Bo Bm	Hipparion beds panticapaea beds bulgarica b. Schela sands Repedea limest Congeria beds		* A	>	3,4	MALVENSIAN	
MIDDLE	12-15	SERRAVAL	[Lithology patterns]	250-400	Bm	Cryptomactra b. Burdujeni congl.	13		<	3,4	SARMA-TIAN	
	15.4	LANCIAN	[Lithology patterns]	10-25	M	Fossil. limest. Evaporitic Fm.		* A	<	1	BADEN.	
EARLY	20-22	BURDIGALIAN	[Lithology patterns]								KA.	
	22.5	AGU.	[Lithology patterns]								OTT.	
OLIGOCENE	24.5	CHATTIAN	[Lithology patterns]			MESOZOIC & PALEOZOIC					EGGEN-BURGIAN	
	30		[Lithology patterns]								EGERIAN	
											KISCELIAN	

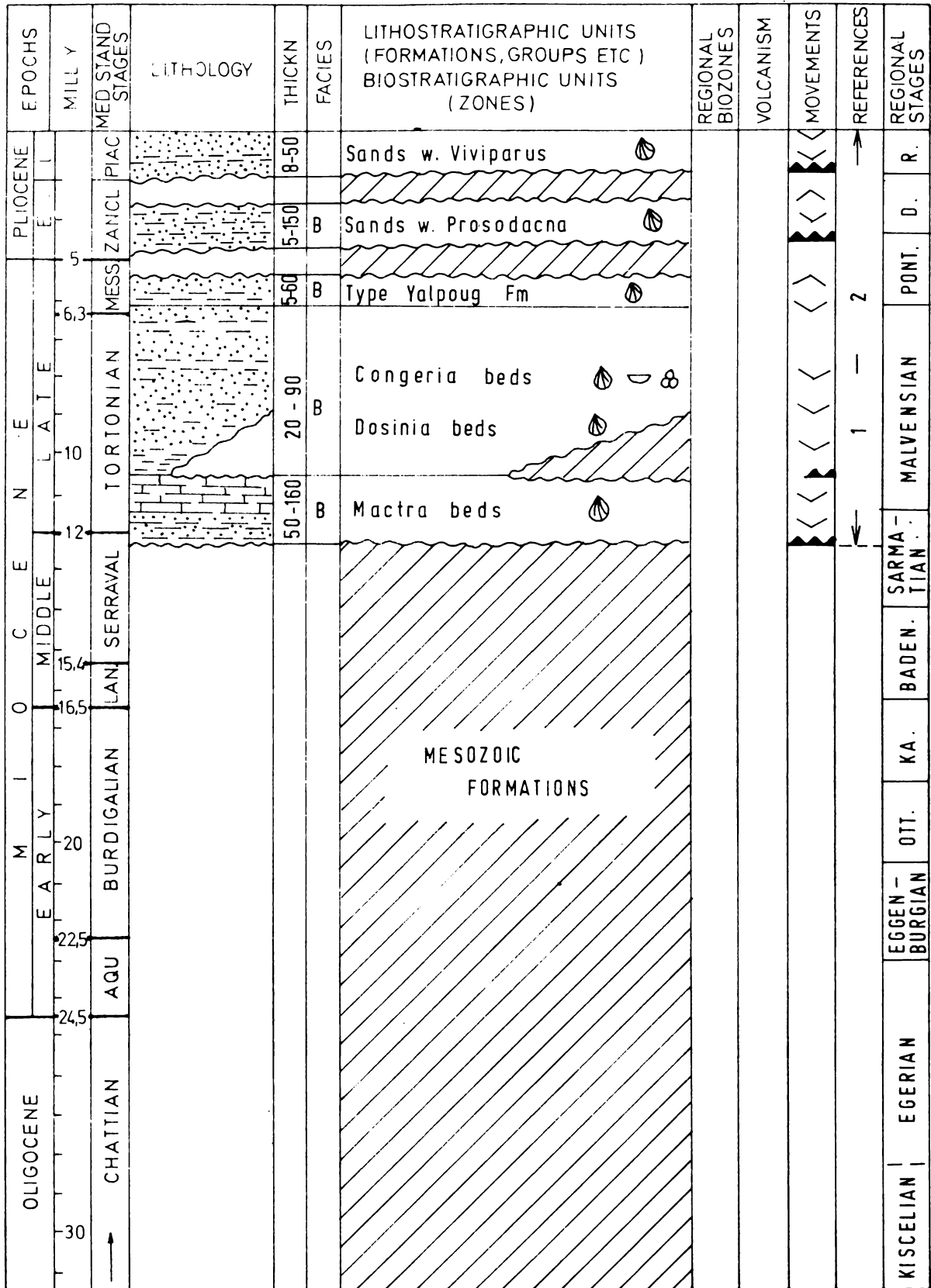
Authors: I. MOTAS & I. PAPAIANOPOL

Area No. 240 a: S DOBROGEA AND VARNA GULF, R



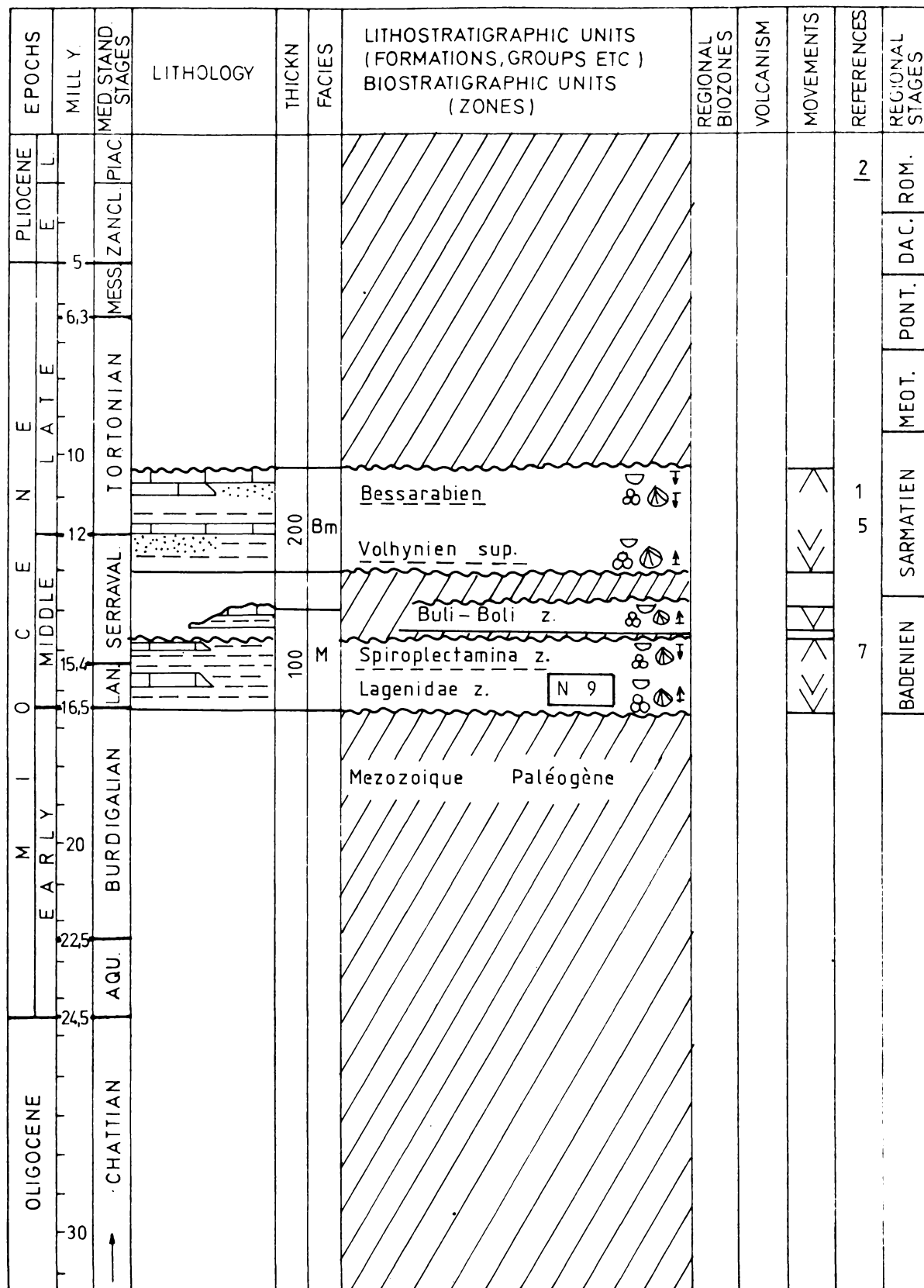
Author: F. MARINESCU & M. GHEORGHIAN

Area No. 242 b: DANUBIAN DELTA, R



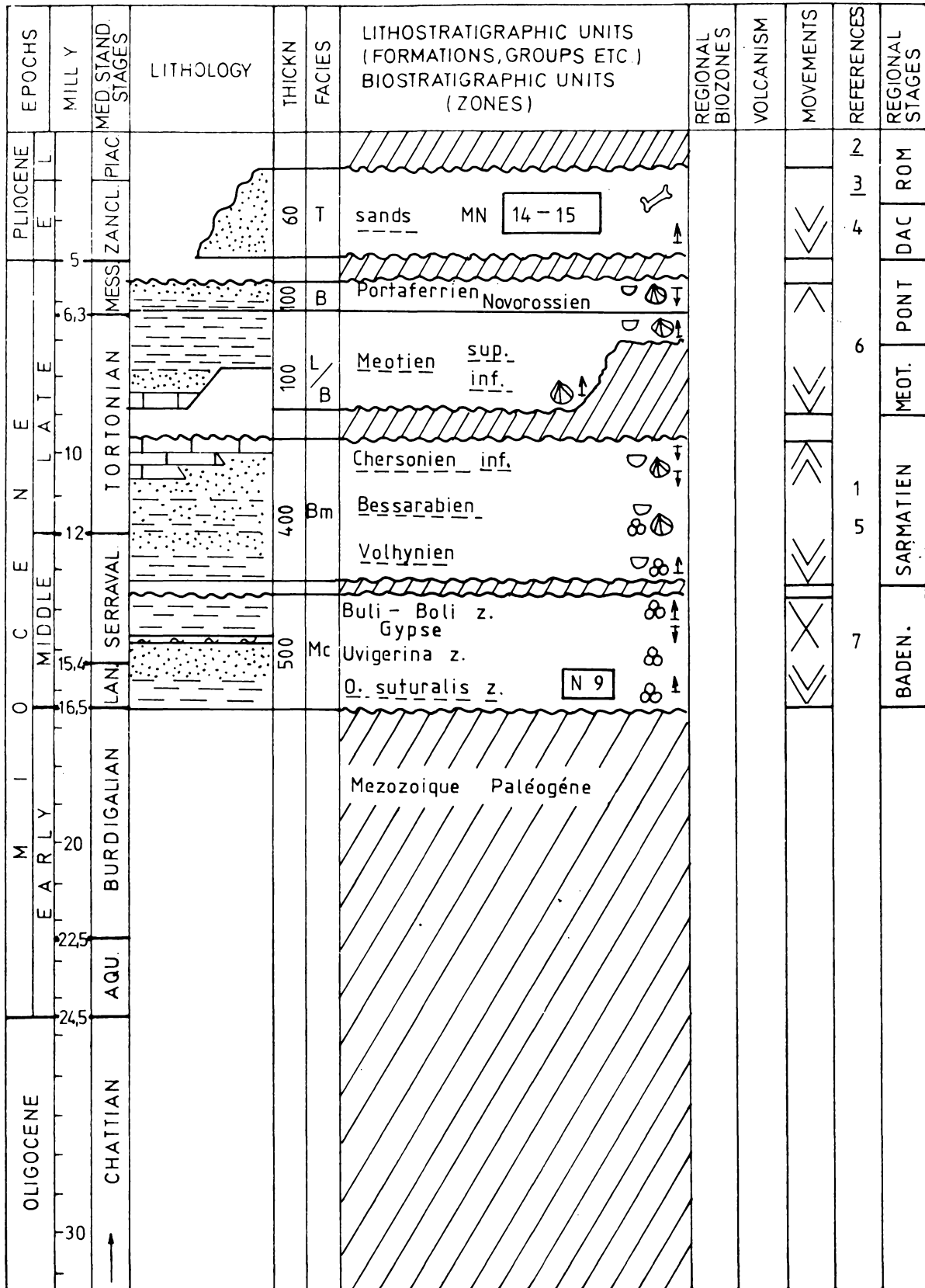
Authors: F. MARINESCU & M. GHEORGHIAN

Area No. 231 b: BORDER OF LOM GULF, BG



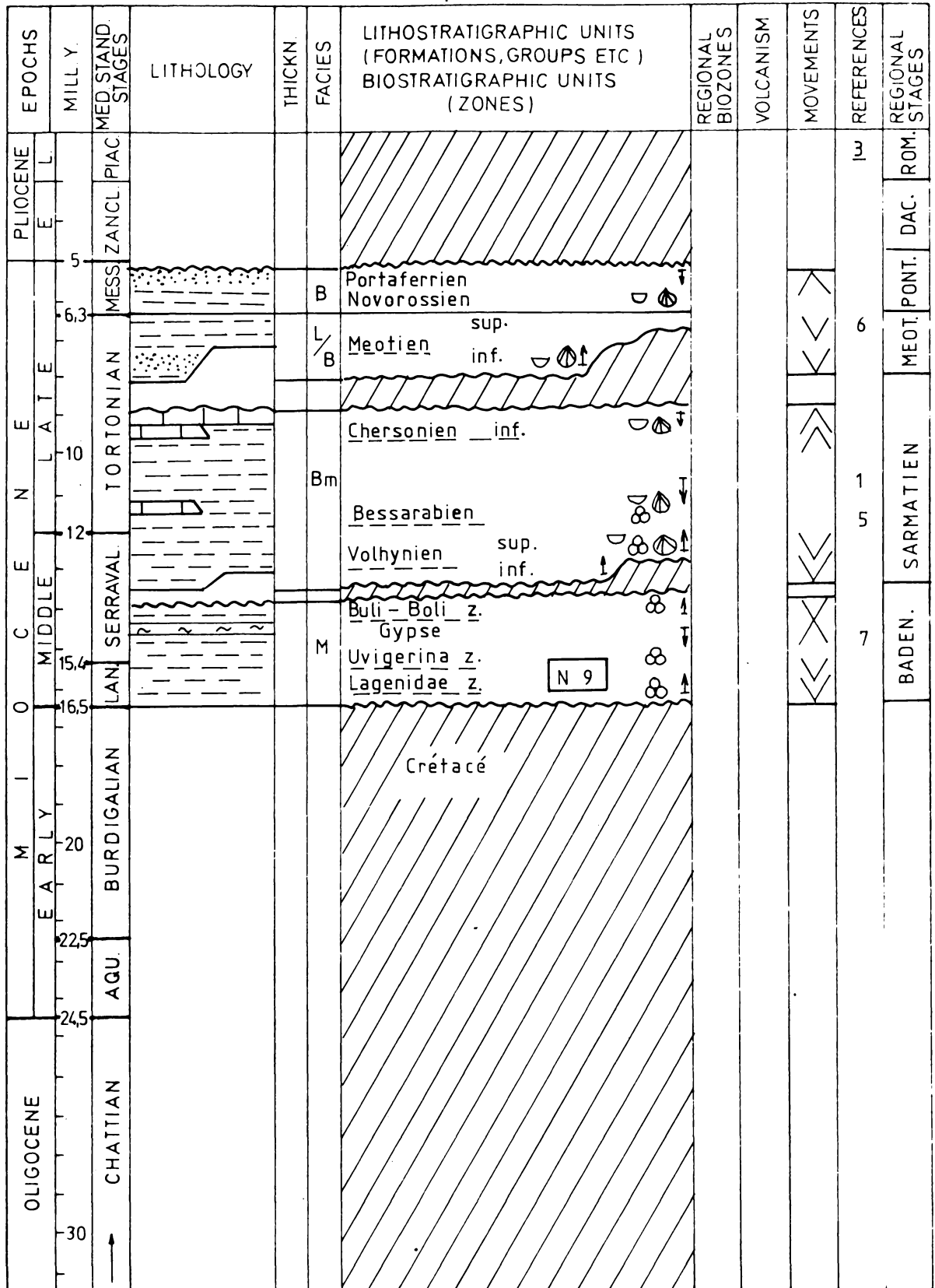
Author: E. KOJUMDGIEVA

Area No. 231 c: PREOROGENE DEPRESSION OF LOM GULF, BG



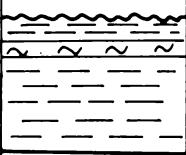

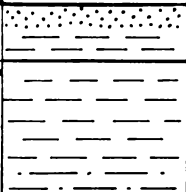






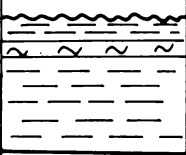

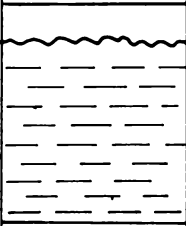
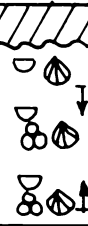

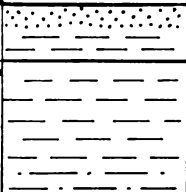


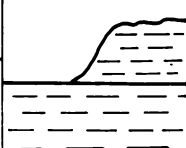




Author: E. KOJUMDGIEVA

Area No. 231 d: VIDIN AREA OF LOM GULF, BG



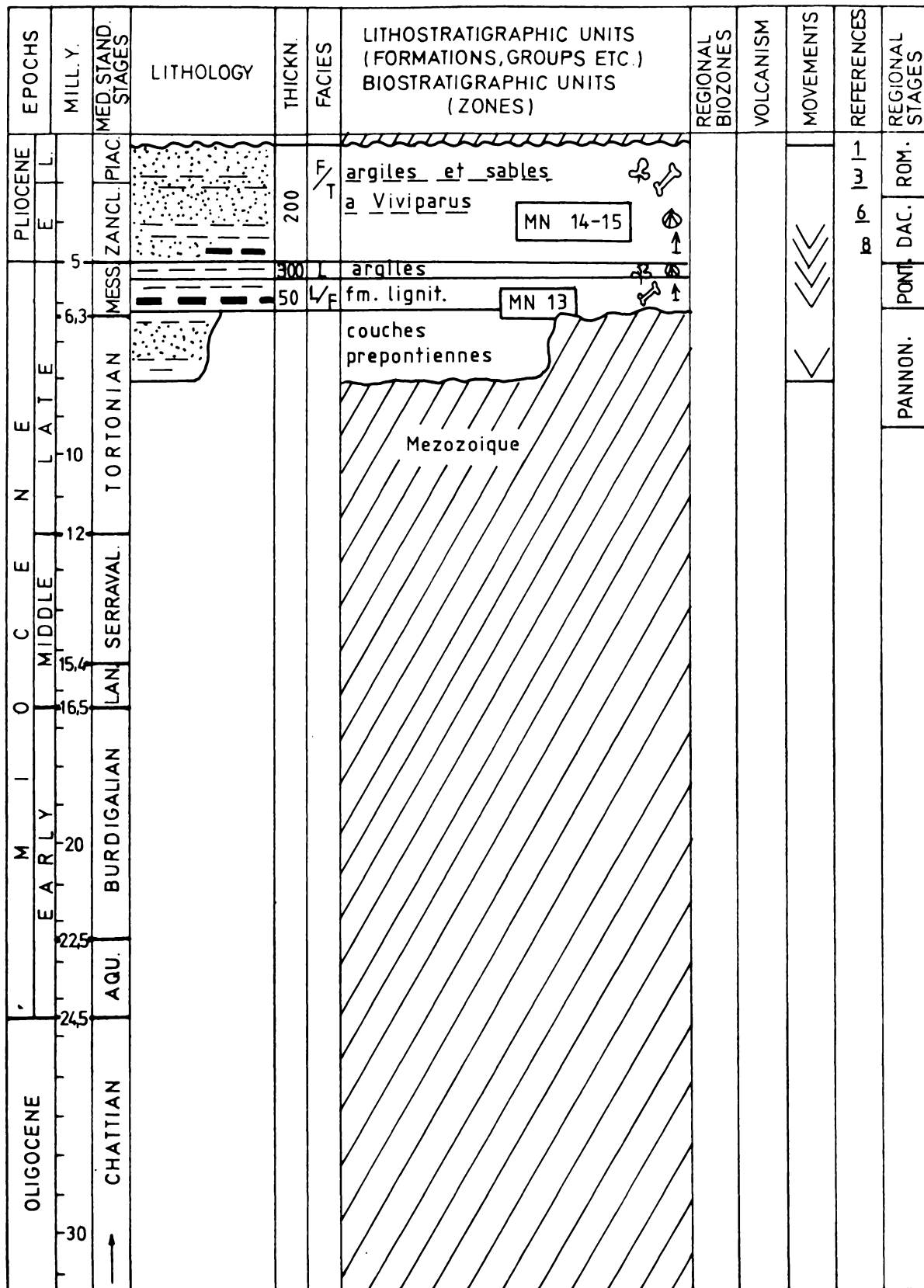
Author: E. KUJUMDGIJEVA

Area No. 231 e: LOM DEPRESSION, BG

EPOCHS		MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	PLIOCENE											ROM.	DAC.
MIDDLE		15.4	LAN. SERRAVAL.		50	M	Buli - Boli z. Gypse Uvigerina z. Lagenidae z. [N 9]				7	BADEN	
EOLYTHIC													
MIDDLE		6.3	MESS. ZANCL. PIAC.		450	B	Bosphorien Portaferrien Novorossien				6	DONT.	
PLIOCENE													
		70			70	L	Romanian ?				2		
OLIGOCENE													
EARLY		22.5	AQU.										
EARLY		20	BURDIGALIAN										
MIDDLE		15.4	LAN. SERRAVAL.		50	M	Buli - Boli z. Gypse Uvigerina z. Lagenidae z. [N 9]				7	BADEN	
MIDDLE		12	TORTONIAN		200	Bm	Volhynien Bessarabien Chersonien inf.				5	SARMATIEN	
MIDDLE		6.3	MESS. ZANCL. PIAC.		450	B	Bosphorien Portaferrien Novorossien				6	DONT.	
PLIOCENE		70			70	L	arg. à Viviparus lignites de Lom				3	ROM.	
PLIOCENE		70			70	L	Romanian ?				2		

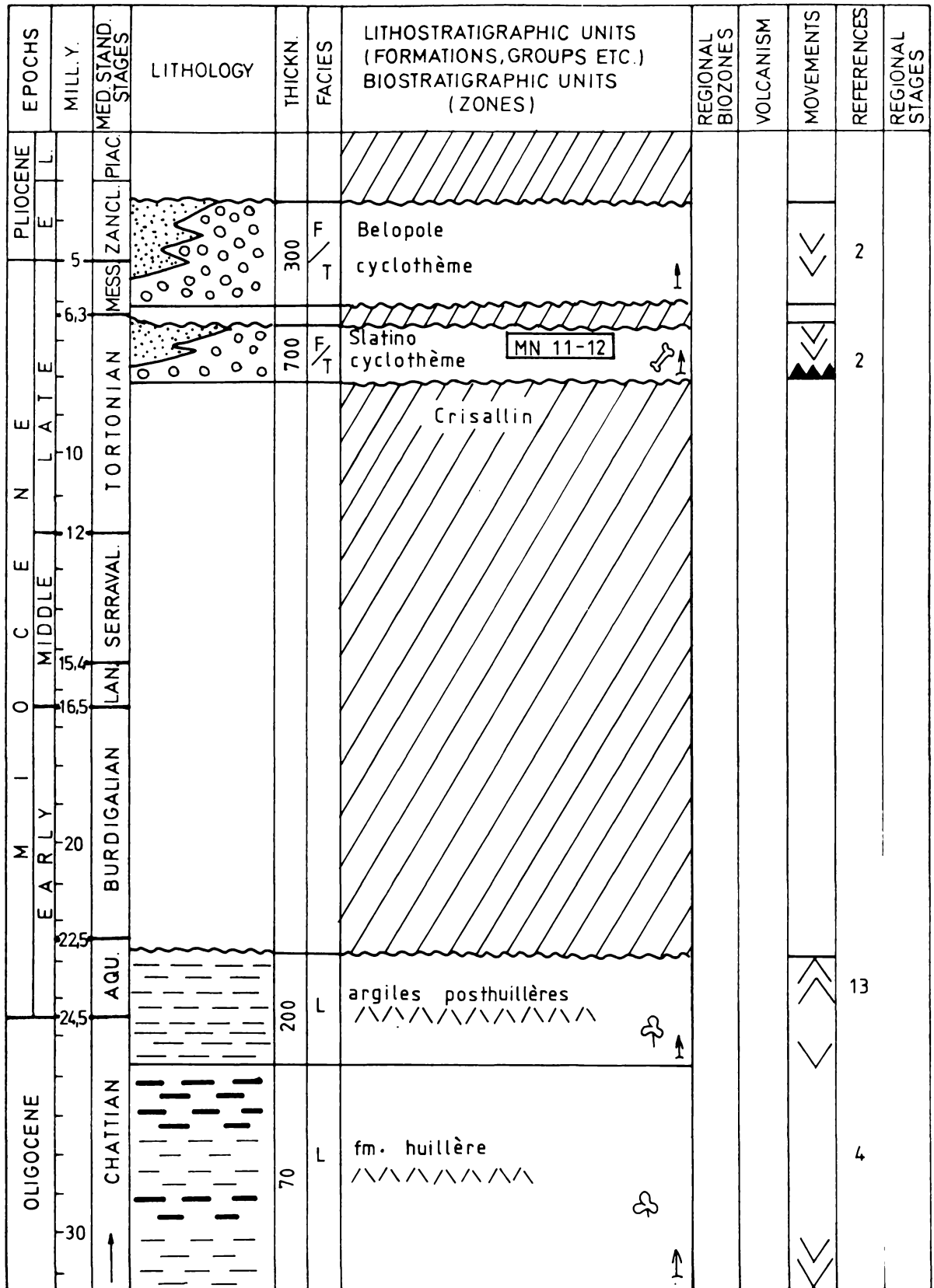
Author: E. KOJUMDGIEVA

Area No. 235 a: SOFIA BASIN, HRABARSKO AREA, BG



Author: E. KOJUMDGIEVA

Area No. 236 a: BLAGEVGRAD GRABEN, BG



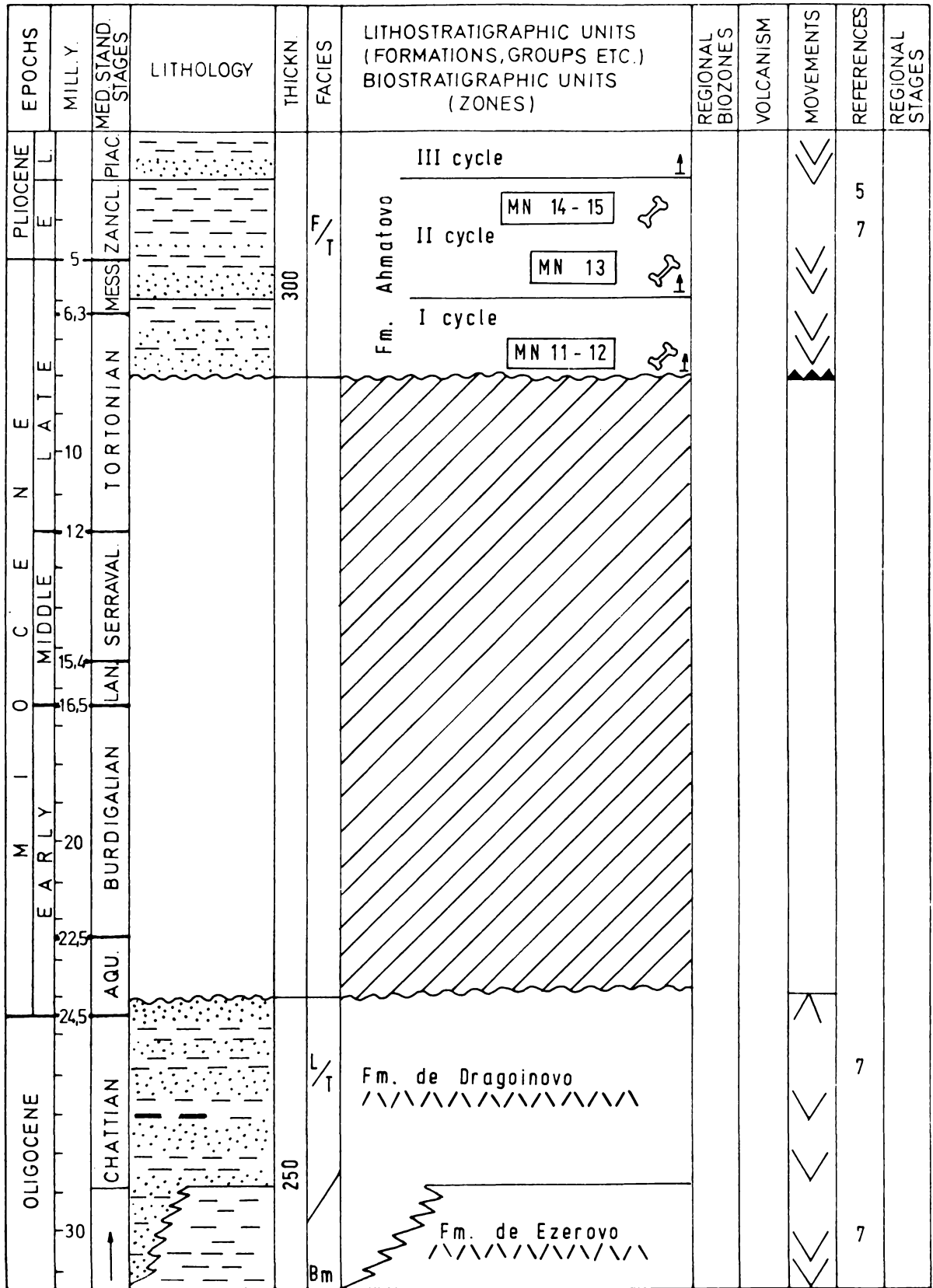
Author: E. KOJUMDGIEVA

Area No. 236 b: SANDANSKIE GRABEN, BG

EPOCHS		MILL. Y.		MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE	E	L										
		5		MESS. ZANCL. PIAC.		300	F/T	III cycle MN 13 				1,3	
		6,3		MESS. ZANCL. PIAC.		100	F/T	II cycle MN 11-12 				10	
		10		TORTONIAN		100	F/T	I cycle MN 9-10 				10	
		12		TORTONIAN									
		15,4		LAN. SERRAVAL.				Cristallin					
		16,5		LAN. SERRAVAL.									
		20		BURDIGALIAN									
		22,5		BURDIGALIAN									
		24,5		AQU.									
		30		CHATTIAN									

AUTHOR Author: E. KOJUMDGIEVA

Area No. 237 a: PLOVDIV BASIN, BG



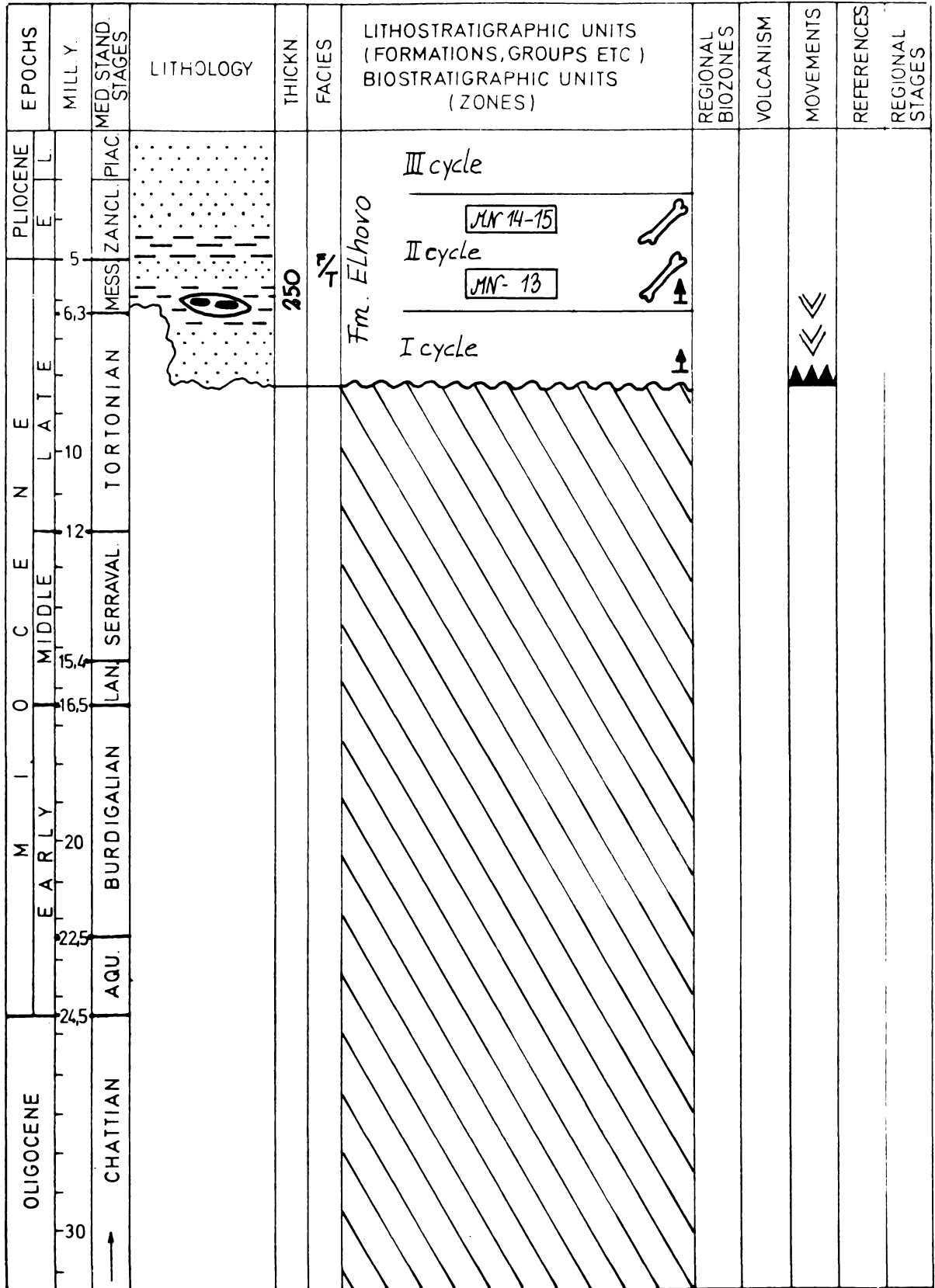
Author: E. KOJUMDGIEVA

Area No. 237 b: ZAGORE BASIN, BG

EPOCHS MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
5	ZANCL. PIAC.									
6.3	MESS.									
10	TORTONIAN									
12										
15.4	SERRAVAL.									
16.5	LAN.									
20	BURDIGALIAN									
22.5	AQU.		500	L/T	Fm. de Maritza					
24.5					Mb. lignitifère de Kipren				1	11
					Mb. lignitifère de Brod					
30	CHATTIAN		> 100	Bm	Fm. de Ezerovo				1	7 12

Author: E. KOJUMDGIEVA

Area No. 237 c: TUNDZA BASIN, BG



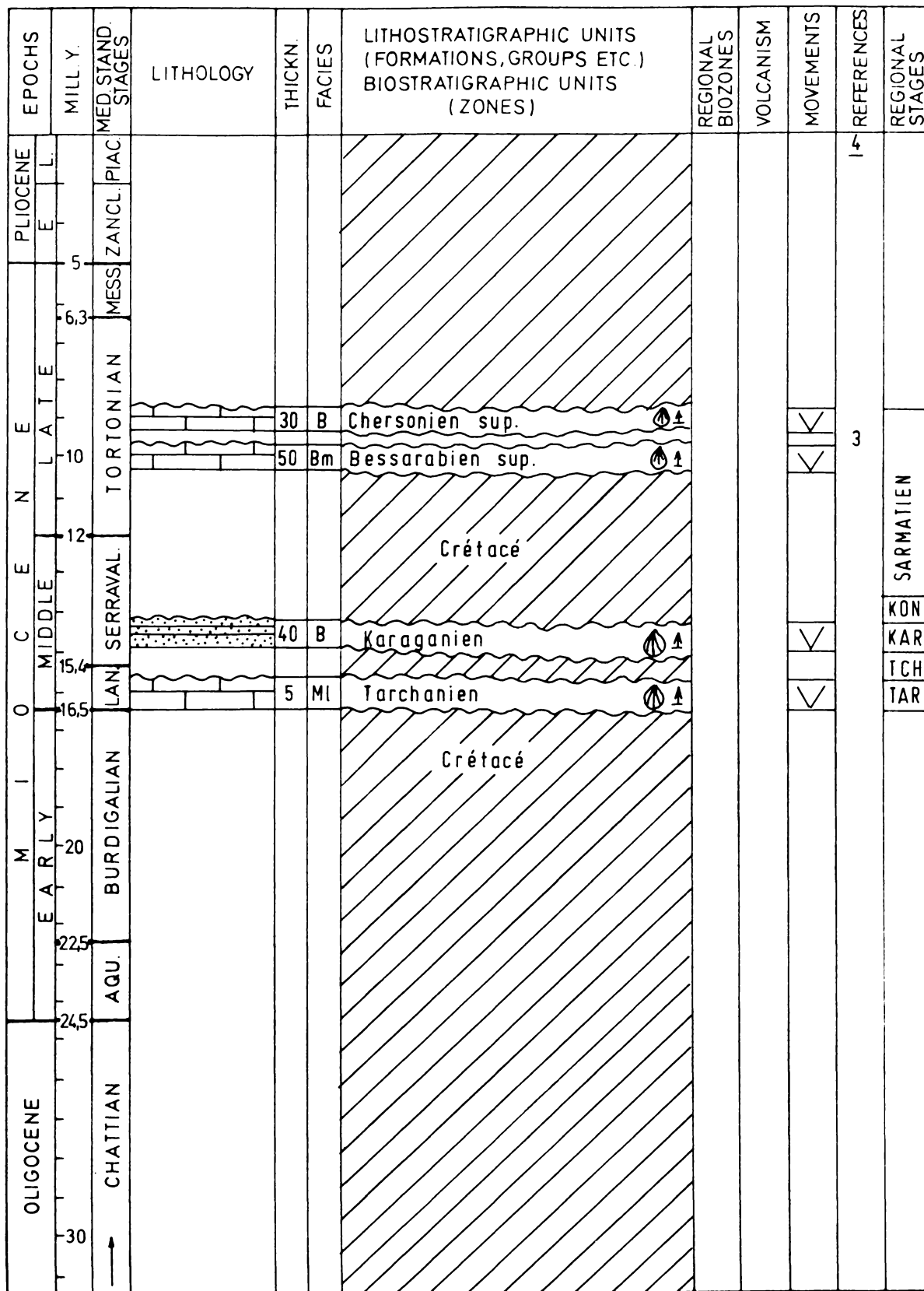
Author: E. KOJUMDGIEVA

Area No. 240 b: S CENTRAL DOBROGEA BASIN, BG

EPOCHS	MILL. Y.	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	5										
	6.3										
	10			50 Bm		Bessarabien sup.			∇	3	SARMATIEN
	12					Crétacé					
	15.4										
	16.5			5 M		Tarchanien			∇	4	KON KAR TCH TAR
	20					Crétacé					
	22.5										
	24.5										
OLIGOCENE	30										
		CHATTIAN									
		AGU.									
		BURDIGALIAN									
		LAN. SERRAVAL.									
		TORTONIAN									
		MESS. ZANCL. PIAC.									

Author: E. KOJUMDGIEVA

Area No. 240 c: E DOBROGEA AREA, VARNA – BALCIK, BG



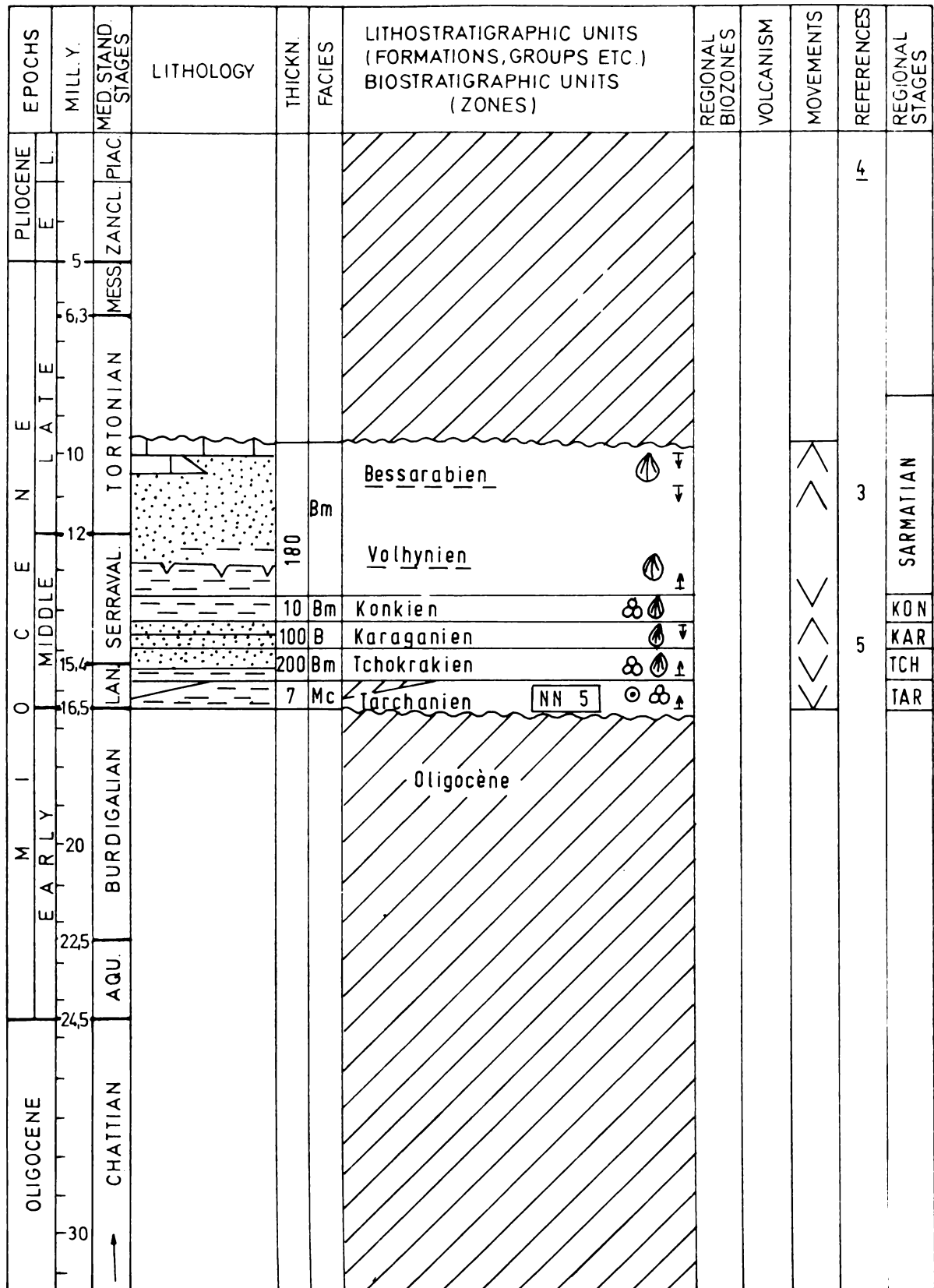
Author: E. KOJUMDGIEVA

Area No. 240 d: BALCIK AREA OF VARNA – BALCIK, BG

EPOCHS		MED STAND. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES	
PLIOCENE	MILL. Y.											
Oligocene	EARLY MIDDLE LATE	PIAC ZANCL MESS	[Lithological patterns for Tortonian, Serravallo, Lan, and Burdigalian stages]	180	Bm	[Fossil icons for Chersonien, Bessarabien, Volhynien, Konkien, Karaganien, Tchokrakien, Tarchanien]			[Movement symbols: upward and downward arrows]	1	SARMATIEN	
												Chersonien
												Bessarabien
												Volhynien
												Konkien
												Karaganien
												Tchokrakien
												Tarchanien
												Oligocène
												CHATTIAN
	24.5											
	22.5											
	20											
	16.5											
	15.4											
	12											
	6.3											
	5											

Author: E. KOJUMDGIEVA

Area No. 240 e: VARNA AREA, BG



Author: E. KOJUMDGIJEVA

Area No. 240 f: BURGAS AREA, BG

EPOCHS	MILL. Y.	MED STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
	5	ZANCL. PIAC.									
	6.3	MESS.									
E N E L A T E	10	TORTONIAN		25	Bm	Chersonien sup.			∇	1	
	10	TORTONIAN		20	Bm	Bessar. MN 9-10			∇		
C M I D D L E	12	SERRAVAL.				Crétacé					
	15.4	SERRAVAL.		20	Ml	Konkien			∇	7	KON
	15.4	SERRAVAL.		15	B	Karaganien			∇	2	KAR
	15.4	SERRAVAL.		15	Bm	Tchokrakien			∇		TCH
O M I O	16.5	LAN.				Crétacé					TAR
	20	BURDIGALIAN									
E A R L Y	22.5	AQU.									
	24.5	AQU.									
OLIGOCENE	30	CHATTIAN									

Author: E. KOJUMDIEVA

Area No. 17 d 4: N APENNINE FOREDEEP, PO BASIN, YU

EPOCHS		M.Y.	LITHOLOGY	THICKEN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES
OLIGOCENE	PLIOCENE										
OLIGOCENE	M I O C E N E	30		cca 40	M	GLOBIGERINA GORTANII GORTANII				1, 2 3, 7 9	KISCELIAN
		25									
	24	AQUITANIAN		cca 70	M	AMPHISTEGINA sp. LITHOTHAMNIUM ^{sp} GLOBIGERINA sp.				3, 4 5, 7 12	EGERIAN
	20	BURDIGALIAN									
	16	LANCIGNAN									EGERIAN
	15	SERRAVALLO									
	12	TORTONIAN									EGERIAN
	8	MESSINIAN									
	5	ZANCLERIAN		cca 50	M	GLOBOROTALIA PUNCTICULATA GLOBOROTALIA HIRSUTA				3, 6 7, 13	PLIOCENE
		PIACENTINE		cca 80	M	GLOBOROTALIA INFLATA GLOBOROTALIA CLASSIFORMIS				6, 7 11	

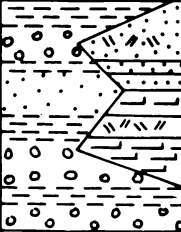


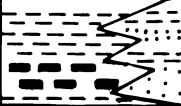

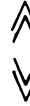
Authors: A. BISTRICIC & K. JENKO

Area No. 33 a: TETHYS AREA OF ALBANIA AND MONTENEGRO, YU

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES		
OLIGOCENE	PLIOCENE													
OLIGOCENE	M.	20	AQUITANIAN		100	MI	PALEOGENE FLYSCH				1	M. MIOCENE		
			BURDIGAL.											
	O.	15	SERRAVAL.											
			TORTONIAN											
	E.	8	MESSIN.											
				ZANCL.										
	U.	5	PIAC.											

Author: O. SPAJIC

Area No. 34: KOSOVO AND METHOHIA BASINS, YU

EPOCH	M I O C E N E		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHI (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
	M. Y.	stand. STAGES									RU- MAN	DAC. MAN
OLIGOCENE	30	CHATTIAN										
	25											
	24	AQUITANIAN										
MIOCENE	20	BURDIGALIAN										
	16	SERRAVALIAN										
	10	TORTONIAN		50-250	Ld			+DA		1	PANNONIAN	
	5	MESSINIAN		50-350	Ld					1	PONTIAN	
PLIOCENE	1											
					PALEOZOIC, CRETACEUS ANDESITS DACITS						SARMATIAN	
											BADENIAN	
											OTTOKAR NAN/PAT.	
											EGGENBUR- GIAN	
											EGERIAN	

Author: M. ATANACKOVIC

Area No. 35 b: SKOPJE BASIN, BULACANI, YU

EPOCHS	PLIOCENE		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
	L	U											
O L I G O C E N E	5	ZANCL. PIAC.	5	PIAC.		2-3	Ld					1, 2, 3	
	7	TORTONIAN	7	TORTONIAN									
													8
	9	LAN.	9	LAN.									
													10
	11	AQUITANIAN	11	AQUITANIAN									
													12
	13		13										
													14

Author: V. TEMKOVA

Area No. 36 a: OVCE POLE BASIN, YU

EPOCHS	PLIOCENE		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
	L	U											
O L I G O C E N E			5	MESSIN.								1	
			8	TORTONIAN								2	
			10									3	
			12									4	
			15	SERRAVAL.								5	
			16	LAN.									
			20	BURDIGAL									
			24	AQUITANIAN									
			25										
			30	CHAT T I A N									

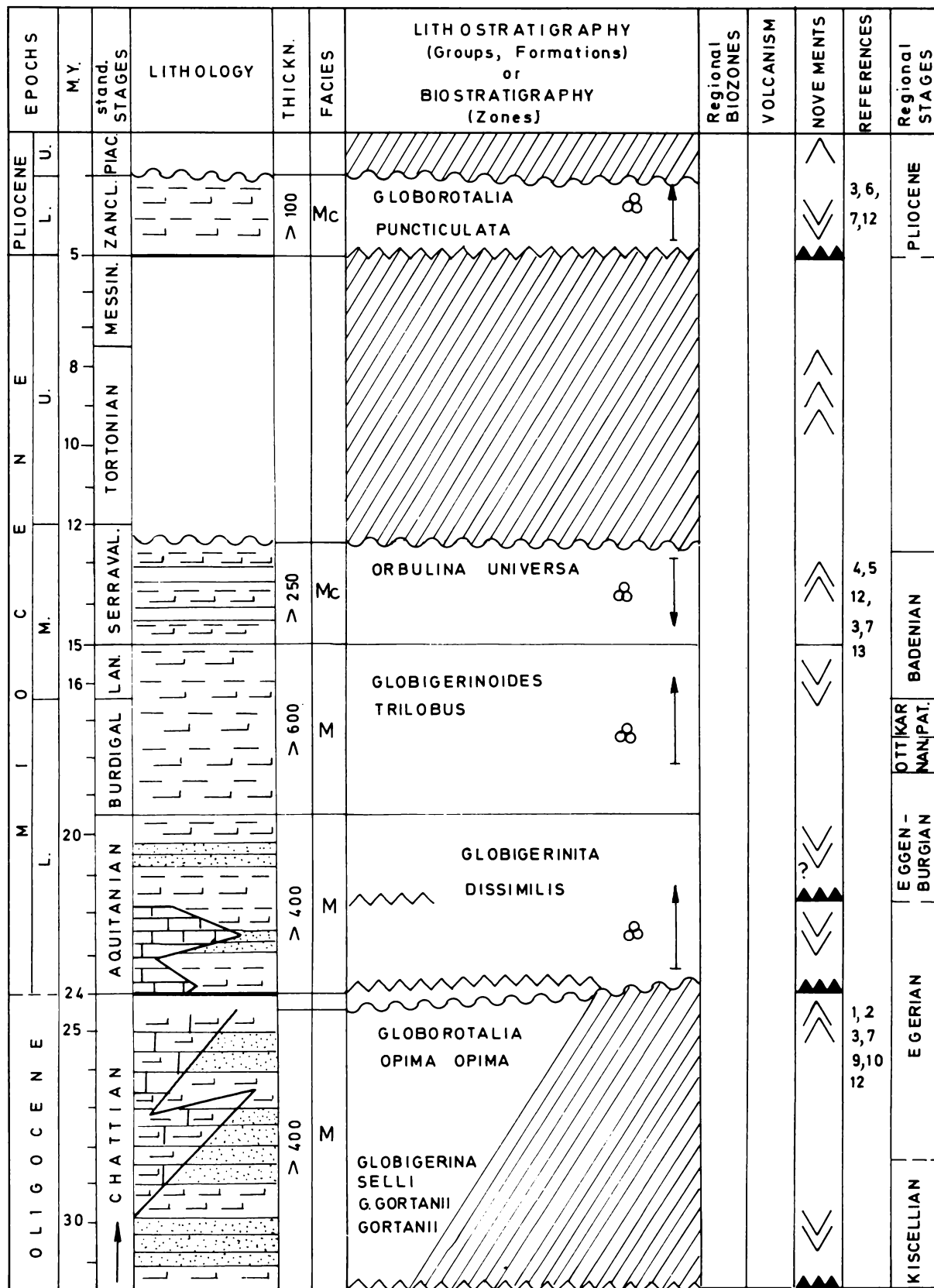
Author: V. TEMKOVA

Area No. 36 b: TIKVES BASIN, YU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	U		PIAC.		200-300	Ld					3	
	L		ZANCL.		300-350							
E		5	MESSIN.		35-70						1	
	U	8	TORTONIAN		35-70						2	
N		10				Ld					4	
	U	12	SERRAVAL		200							
C	M	15	LAN.									
	L	16	BURDIGAL									
M		20	AQUITANIAN									
		24	CHATTIAN									
O		25										
		30										

Author: V. TEMKOVA

Area No. 137: DUGI OTOK BASIN, YU



Authors: A. BISTRICIC & K. JENKO

Area No. 223 a: BACKA BASIN, YU

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES			
OLIGOCENE	MIOCENE												PLIOCENE	Regional STAGES	
OLIGOCENE	CHATTIAN	25					UPPER JURASSIC and VOLCANIC ROCKS								
		24					PALEOGENE CREACEOUS FLISH								
		M I O C E N E	L	20	AQUITANIAN	BURDIGALIAN	> 700	T-L					3 4 6	LOWER MIOCENE	
				C	M.	16	LAN.	SERRAVAL.	> 300	M					
						15			> 100	Bm			Rh + AB		3 4 5
		E	N	U.	TORTONIAN		> 150	B-Bb	Congeria / Melanopsis				8 1	PANNONIAN	
									10	Radix croatica				3 4 5	
		E	N	U.	MESSIN. ZANCL. PLAC.		200-1000	Bo-L	Prosodacna, Monodacna				1 7	PONTIAN	
									5	Paradacna radiata					
										Paradacna abichiformis					
		P	L.	U.			> 800	L-T	UPPER PALUDINIAN BEDS				1	M. - U. Pliocene	
	M. PALUD. BEDS														
							LOWER PALUDINIAN BEDS								

Author: D. MARINOVIC

Area No. 223 b: N BANAT BASIN, YU

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICK N.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY Zones)	Regional BIO ZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	MIOCENE											
M	L	24	AQUITANIAN				TRIASSIC LIMESTONE, DOLOMITE, SANDSTONE CRYSTALLINE					
E	M	16	BURDIGALIAN		> 100	T-L						
E	M	15	SERRAVAL		> 200	M						
E	U	12	TORTONIAN		> 100	Bm	Radix					
E	U	10	TORTONIAN		> 200	B	Velutinopsis? Melanopsis (Lyrcea)					
E	U	8	MESSINIAN		1000-2500	B-B	Provalenciensia Undulotheca					
P	L	5	ZANCLIAN		500-1500	L-T	UPPER PALUDINIAN BEDS M. PAL. BEDS LOWER PALUDINIAN BEDS					
P	U	4	PIACENTIAN									

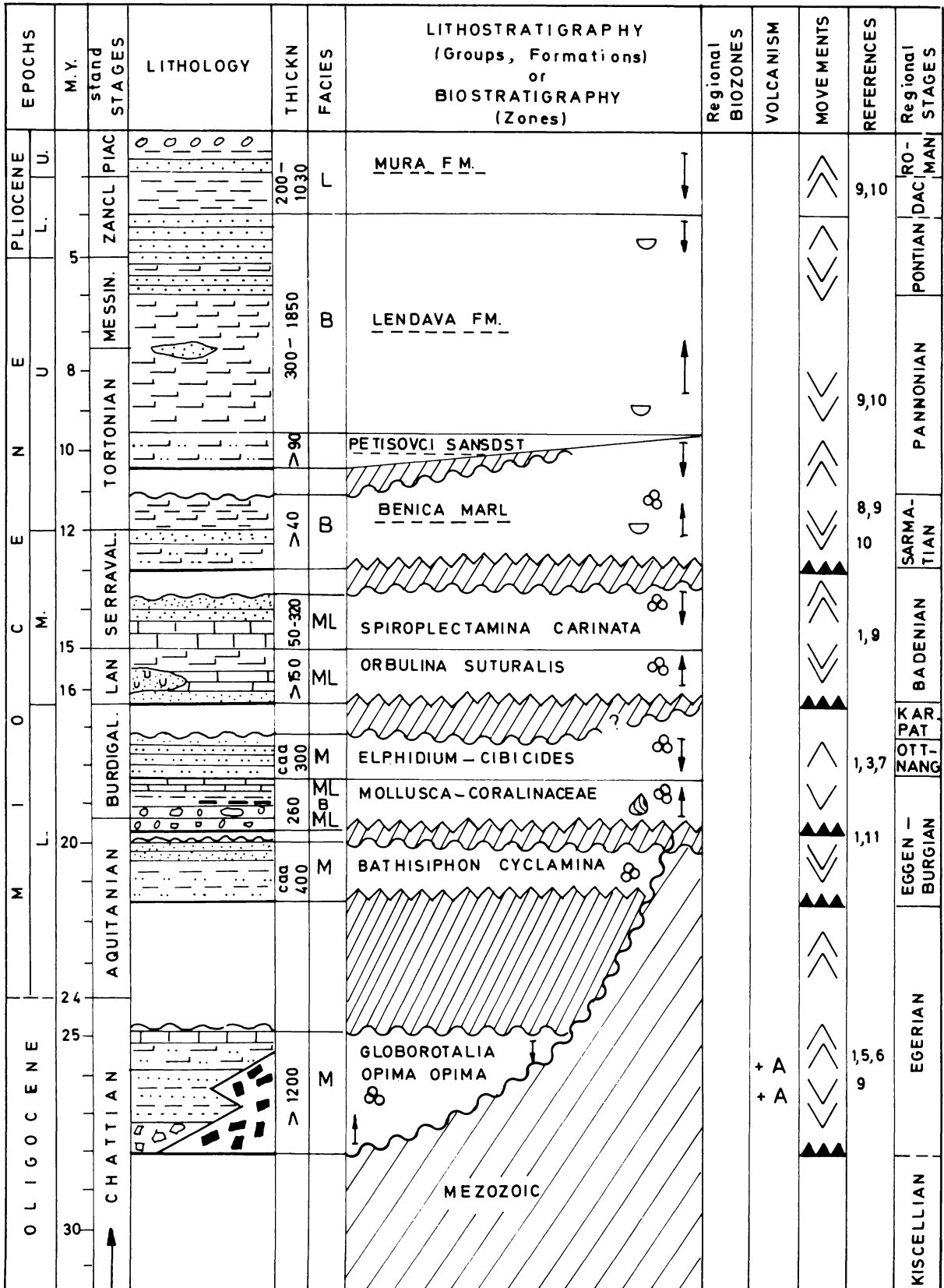
Author: D. MARINOVIC according to analyses performed by M. BULJAN, ARKOVIĆ.

Area No. 223 c: S BANAT BASIN, YU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHO STRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	MIocene										
MIOCENE	P. I.	5	MESSIN. ZANCL. PIAC.	300-1500	B-B ₀	Paludanian Beds <i>Prosodacna</i> / <i>Anodonta</i> etc. <i>Monodacna</i> / <i>Cong. rhomboidea</i> <i>Paradacna abichiformis</i> <i>Congeria digitifera</i>	PS P.F.P.P.X		2 4 5 10 9	M-U. PONTIAN PONTIAN	
		E	8	TORTONIAN	> 300	B	<i>Congeria banatica</i>			4 6	PANNONIAN PANNONIAN
			10		Radix / Melanopsis						
	O	M.	12	SERRAVAL.	> 700	Bm				6 7	L-M. SARM. BADENIAN UPPER MIocene
			15		M						
		C	16	BURDIGAL LAN.	> 500					4 5 8	MID. MIocene MID. MIocene
			17								
			20	AQUITANIAN	> 400	T-L					
	24										
	25										
	OLIGOCENE	L.	24				LOWER OR UPPER CRETACEOUS ERUPTIVE CRYSTALLINE				
25			CHATTIAN								

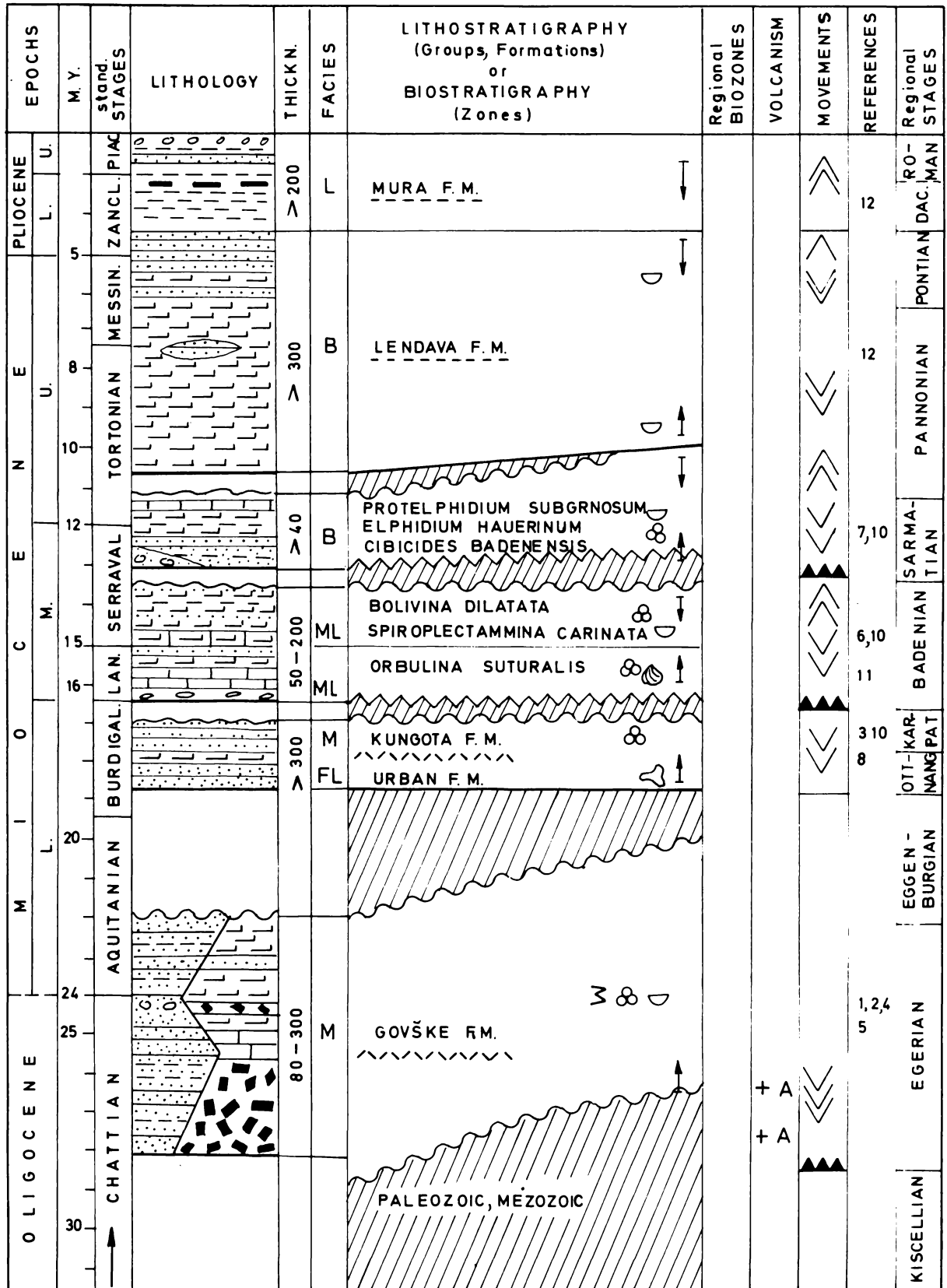
Author: D. MARINOVIC

Area No. 224 b 1: TRANSTETHYAN TRENCH "CORRIDOR", YU



Authors: A. BISTRICIC & K. JENKO

Area No. 224 b 2: TRANSTETHYAN TRENCH "CORRIDOR", YU



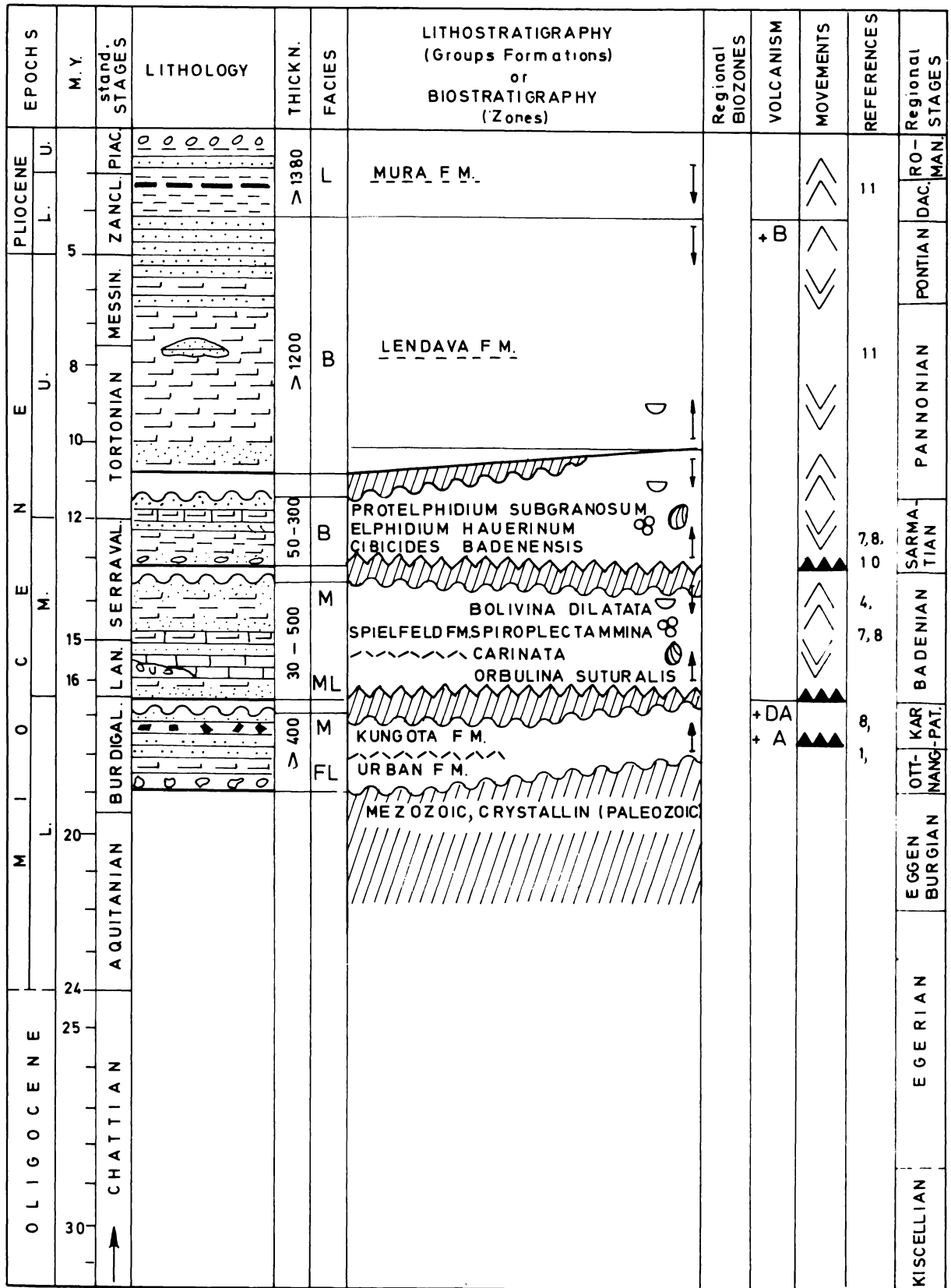
Author: L. RIJAVAC

Area No. 224 b 3: TRANSTETHYAN TRENCH "CORRIDOR", YU

EPOCHS		M.Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES	
OLIGOCENE	PLIOCENE										Regional	Regional
OLIGOCENE	M I O C E N E	16-15	LAN SERRAVAL	> 30m	M	Virgulinella pertusa Uvigerina venusta liesingensis U macrocarinata, Lenticulina cultrata, Orbulina suturalis	?	+	<<<	8 9	SARMAT. volhyn	PANNONIAN bessar
	M I O C E N E	8-5	MESSIN. ZANCL. PIAC.	L	Rhomboidea beds Abichi beds	<<<	5,6	PONTIAN	DACUJ.			
										M I O C E N E	20-24	BURDIGAL AQUITANIAN
	M I O C E N E	24-25	AQUITANIAN	M	Elphidium minutum Engelhardtia Cyclamina acutidorsata	+A	<<<	1-4 7-10	EGGENBURGIAN KAR PAT			
										OLIGOCENE	25-30	CHATTIAN

Author: L. SIKIC

Area No. 224 c: MURA BASIN, YU



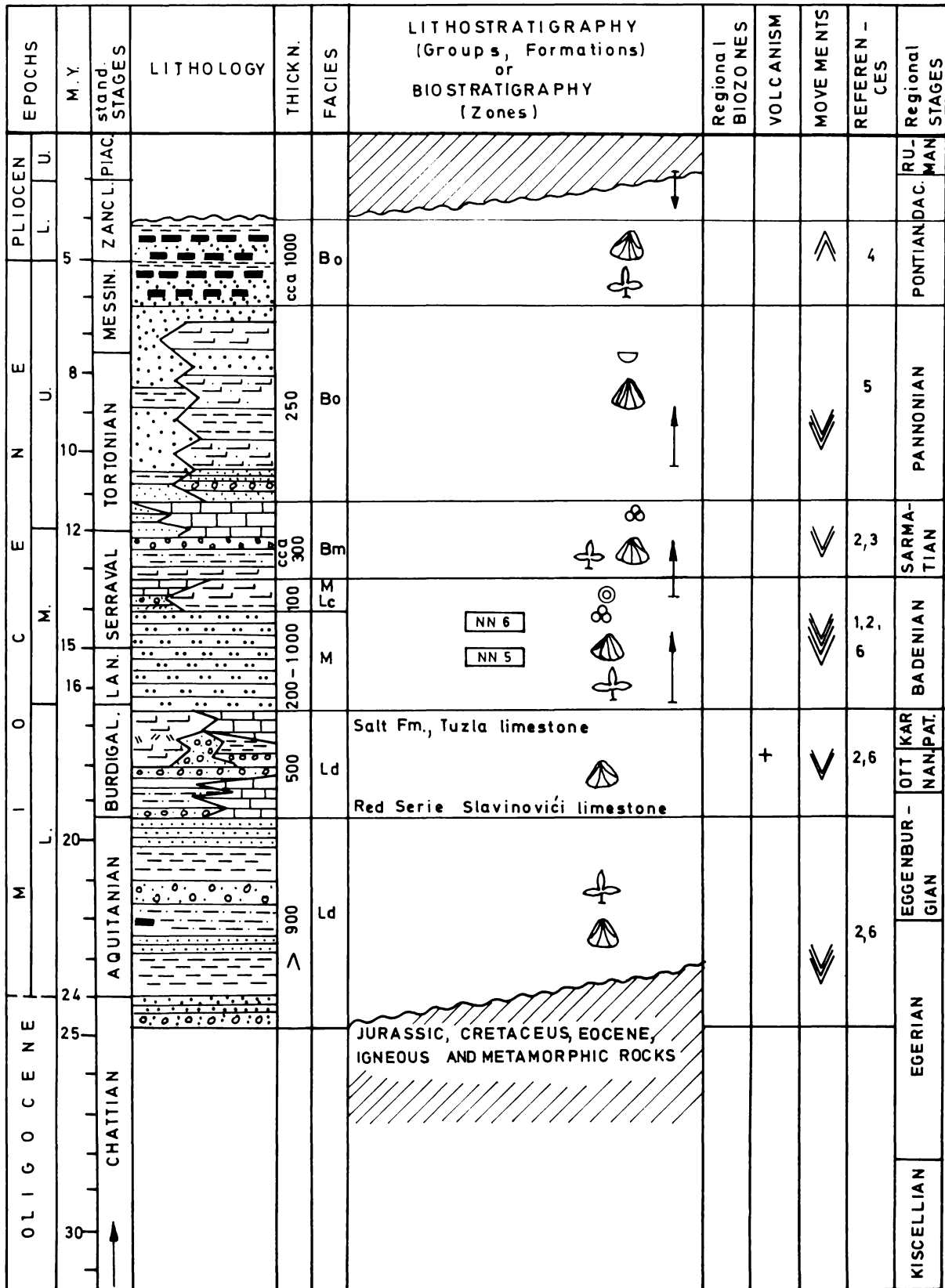
Authors: L. RIJAVAC, A. BISTRICIC & K. JENKO

Area No. 226: SAVA BASIN, YU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES		
PLIOCENE	OLIGOCENE													
U.	L.	5	ZANCL. PIAC.		1400	L	Upper Paludinian beds			↗	4, 15	RUM.		
							Middle Paludinian beds					28	DAC.	
E	U.	8	MESSIN.		1100	Bm	Rhomboidea beds			↘	2, 3		PONTIAN	
							Abichi beds							
		10	TORTONIAN	800 m	Bo		800 m	Bo	Banatica beds			↘	11, 12	PANONIAN
		12	SERRAVAL.	1600 m	LAN.		300	L	Croatica beds			↘	16, 17	PANONIAN
		M.	SERRAVAL.	1600 m	LAN.		1600 m	B	Mactra beds-Protelphidium subgranosum			↗	1, 6	SARM.
									Ervilia beds-Elphidium hauerinum					
									Rissoid st. Cibicides badensis					
									Virgulinella pertusa, A. beccarii					
15	SERRAVAL.	1600 m	LAN.		1600 m	M	Uvigerina venusta lies., B. dilatata			↘	18	SARM.		
							Spiroplectamina carinata							
16	LAN.	1600 m	LAN.		1600 m	M	U. macrocarinata, O. suturalis		+Rd	↘	22	BA DENIAN		
L.	BURDIGAL.	>200	BURDIGAL.		>200	M	U. graciliformis		+Rd	↘	27	OTT KAR		
							Tectochara meriani							
20	AQUITANIAN						Crystallin, Paleozoik, Meozoik				22, 23	NANJPAT.		
24	CHAT TIAN										27			
25	CHAT TIAN													
30	CHAT TIAN													

Authors: L. SIKIC, K. JENKO & K. SIKIC

Area No. 227 a: INTRADINARIAN MARGINAL ZONE, TUZLA BASIN, E BOSNIA, YU



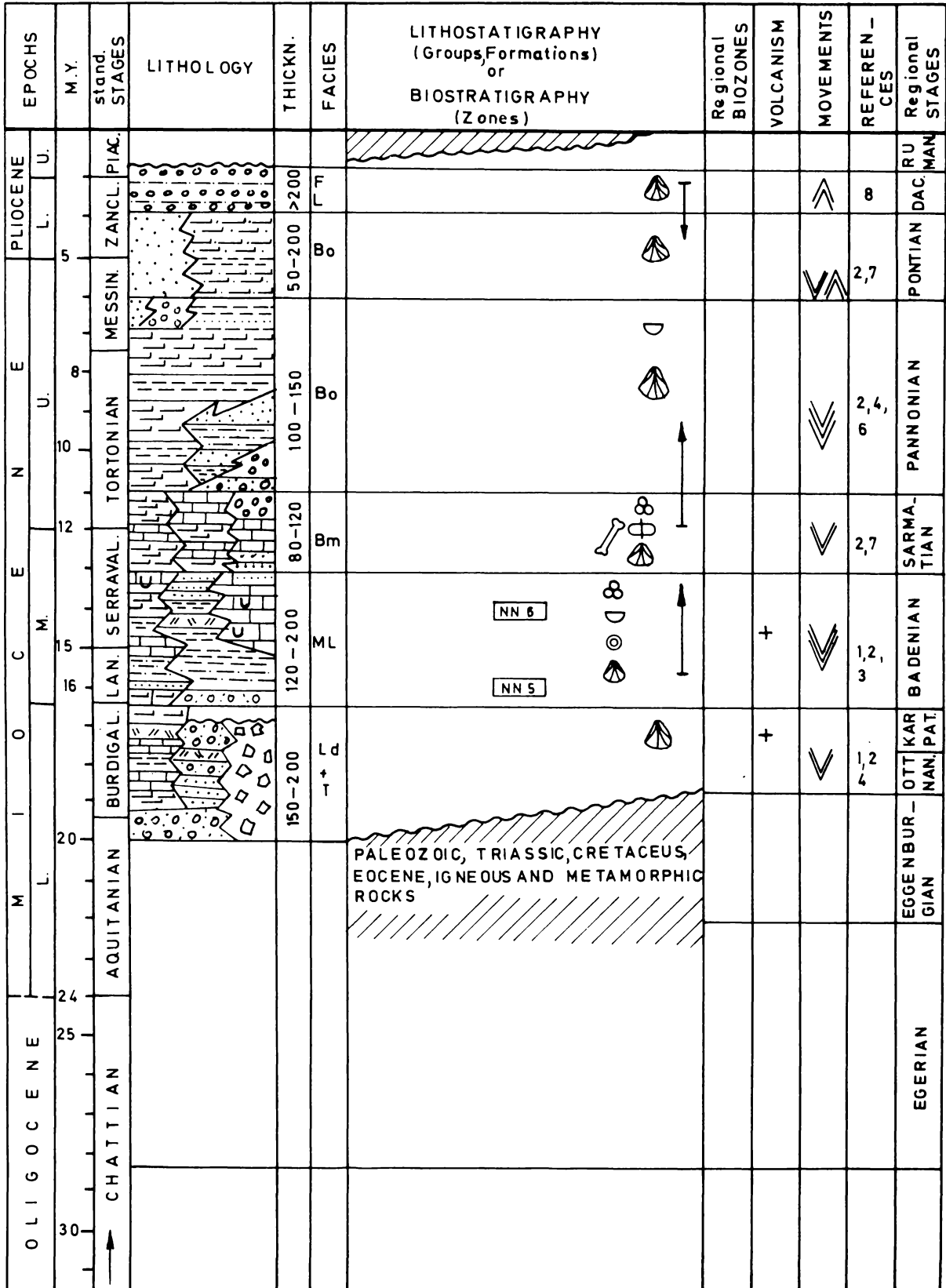
Author: M. ATANACKOVIC

Area No. 227 b: INTRADINARIAN MARGINAL ZONE, MAJEVICA MOUNTAIN, NE BOSNIA, YU

EPOCHS		M.Y.	stand. STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVE MENTS	REFEREN - CES	Regional STAGES		
OLIGOCENE	PLIOCENE													
OLIGOCENE	M.I.O.	24-25	CHATTIAN	AQUITANIAN	50-130	Ld	PERMIAN, TRIASSIC, CRETACEUS, EOCENE			∨	2,3	EGERIAN		
					50-130	Ld				∨	2,3			
	M.C.E.	16-18	BURDIGALIAN	LAN.	SERRAVAL	60-200	MI				∨	1,2,5	BADENIAN	
						60-200	MI				∨	1,2,5		
		12-15	SERRAVAL	LAN.	SERRAVAL	50-80	Bm				∨	2,6	SARMA TIAN	
						50-80	Bm				∨	2,6		
		E.U.	8-10	TORTANIAN	TORTANIAN	TORTANIAN	20-50	Bo				∨	2,7	PANNONIAN
							20-50	Bo				∨	2,7	
							20-50	Bo				∨	2,7	
							20-50	Bo				∨	2,7	
E.L.	5	MESSINIAN	MESSINIAN	MESSINIAN	50	Bo				∨	2,8	PONTIAN		
					50	Bo				∨	2,8			
P.L.	5	ZANCLERIAN	ZANCLERIAN	ZANCLERIAN								DACCAN		
PLIOCENE												RUMANIAN		

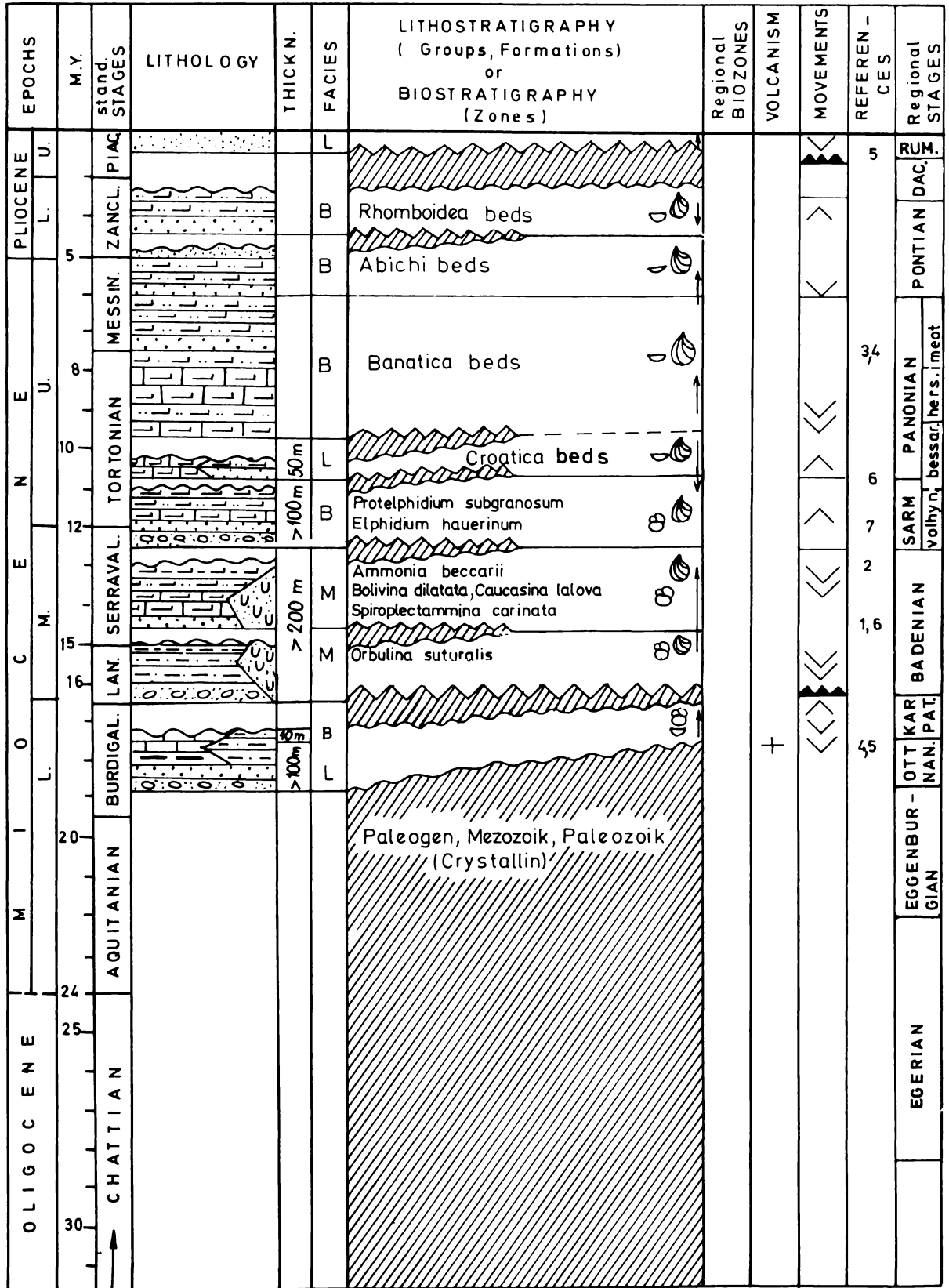
Author: M. ATANACKOVIC

Area No. 227 c: INTRADINARIAN MARGINAL ZONE, NW BOSNIA, YU



Author: M. ATANACKOVIC

Area No. 227 d: INTRADINARIAN MARGINAL ZONE W, YU



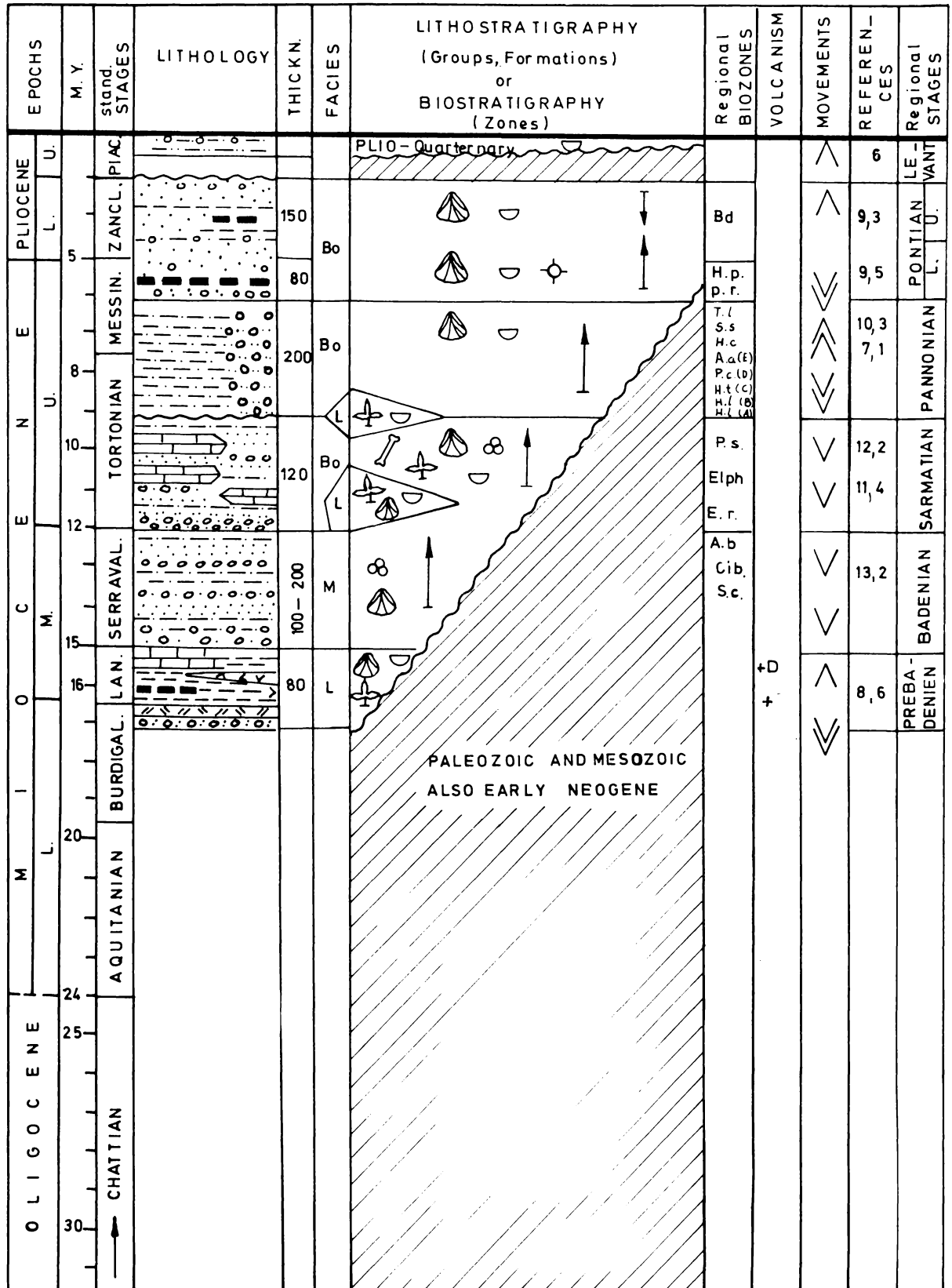
Authors: K. SIKIC & L. SIKIC

Area No. 227 c: INTRADINARIAN MARGINAL ZONE, W SERBIA, YU

EPOCHS	PLIOCENE		M.Y.	LITHOLOGY	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
	L.	U.								
O L I G O C E N E	5	8	5		200 Bo				12 9,11	PANNONIAN
	15	16		500 M						
						15	16		50 M	
	15	16		50 L						
						15	16			
	15	16								
						15	16			
	15	16								
						15	16			
	15	16								
15						16				
	15	16								
15						16				

Authors: M. PETROVIC & M. EREMIJA

Area No. 228: KOLUBARA BASIN, YU



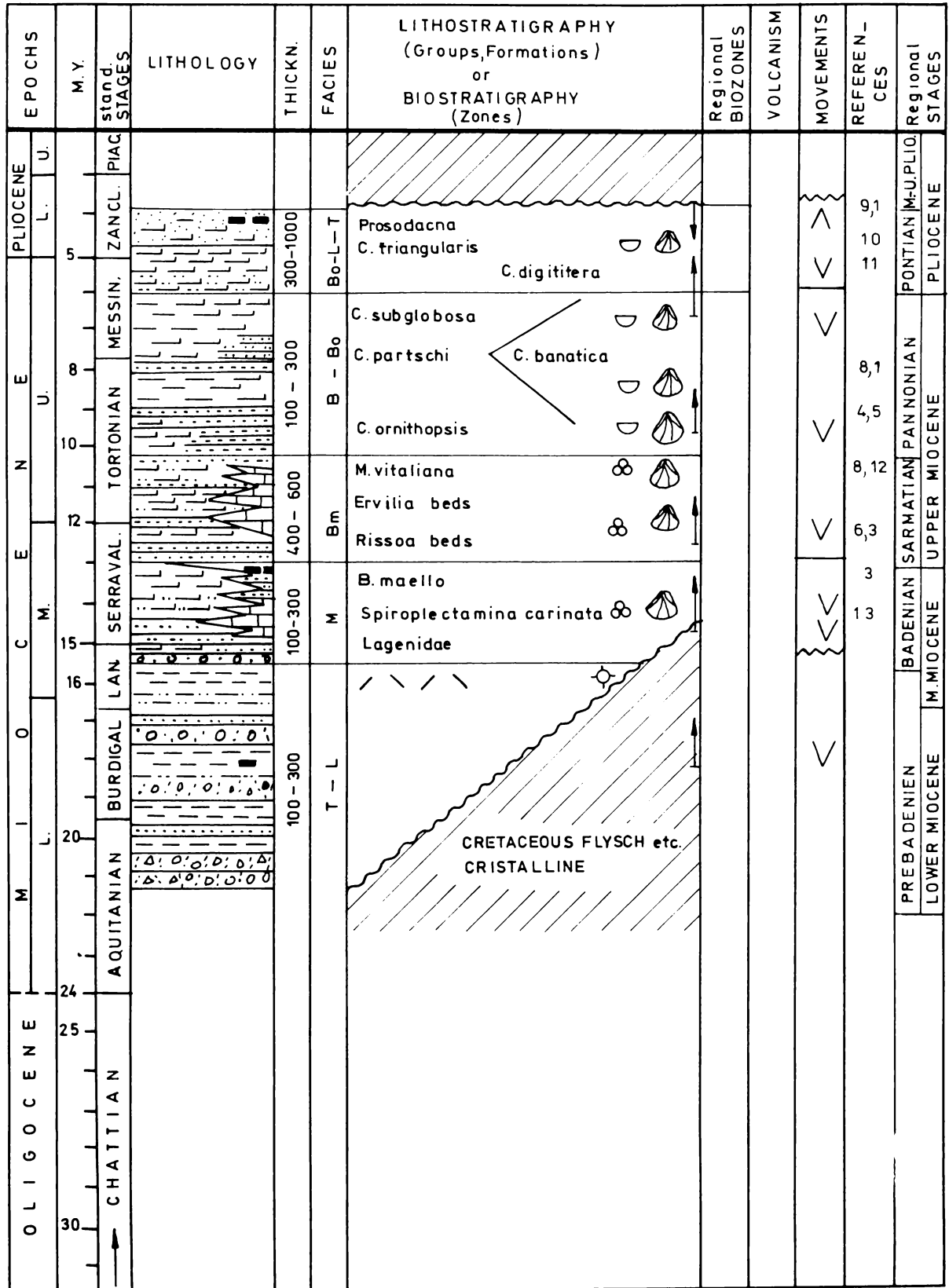
Authors: N. KRSTIC & D. DOLIC

Area No. 229 a: MORAVA BASIN AROUND BELGRADE, YU

EPOCHS		M.Y.	STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	U.											ZANCL. PIAC.	MESSIN.
O L I G O C E N E	L.	5	ZANCL. PIAC.		200	Bo	C. rhomboidea				12	10	PONTIAN
							P. abichi						
	U.	8	MESSIN.		170	Bo	C. subglobosa		Cg S.	8	7	PANNONIAN	
							C. partschi						Cg P.
							C. ornithopsis						Cg b.
	E	12	TORTONIAN		90	B	P. subgranosum		Pz	8	11	SARMAT.	
							E. hauerinum						E. c.
	M.	15	SERRAVAL.		180	M	R. beccarii		R b.	6	5	BADENIAN	
							Boliv-Bulimina						
							S. carinata						
	M	16	BURDIGAL. LAN.		250	LI.	Lagenida		B b.	2	1	BADENIAN	
							Slanački beds						L
M	20	AQUITANIAN				MESOZOIC SERPENTIN		+ +DA +	9	4	PREBADE- NIEN		
O L I G O C E N E	25	CHATTIAN											
O L I G O C E N E	30												

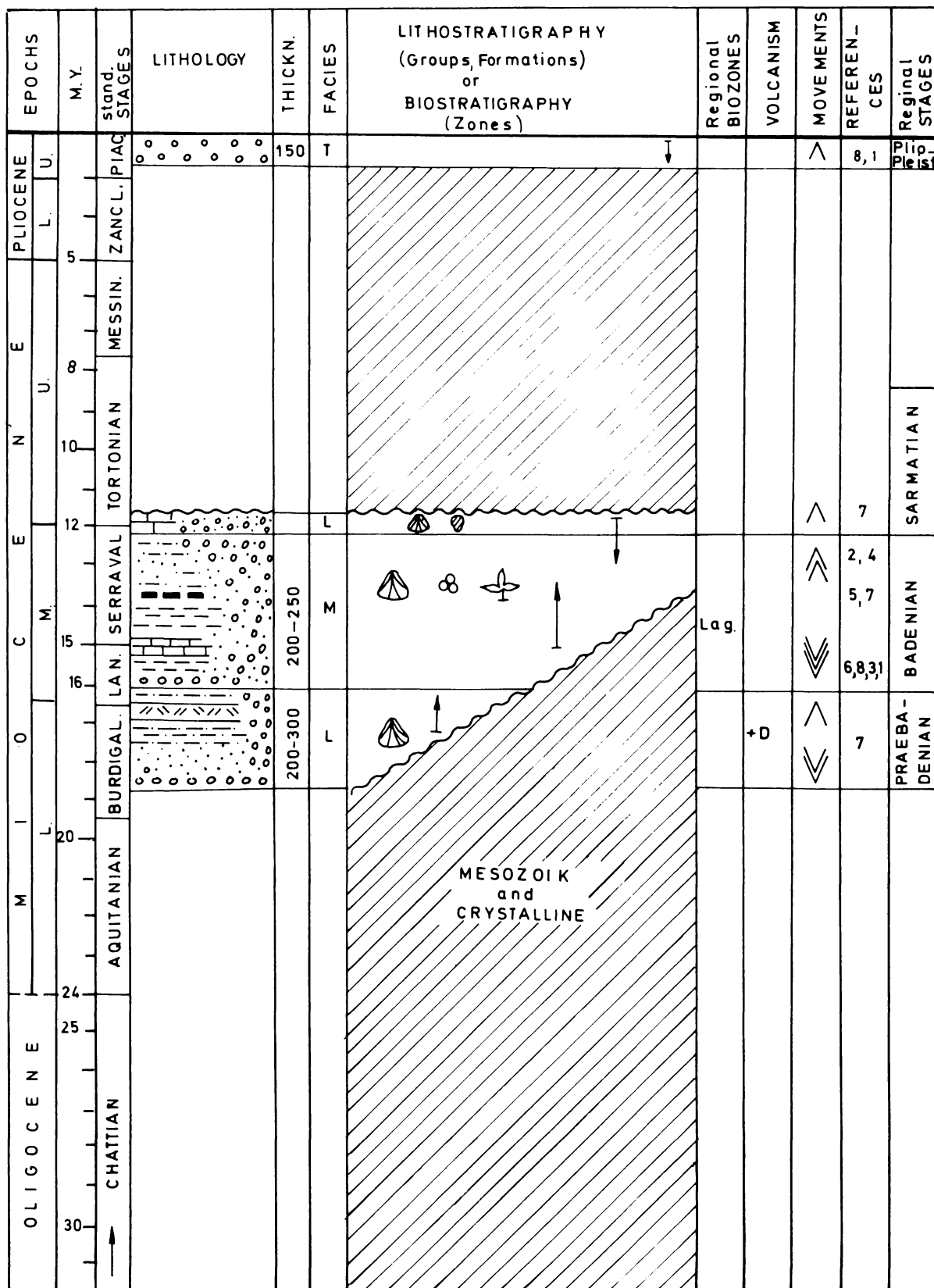
Authors: O. SPAJIC, R. DZODZO & N. KRSTIC

Area No. 229 b: MORAVA BASIN, SMEDEREVSKO-POZAREVACKO PODUNAVLJE, YU



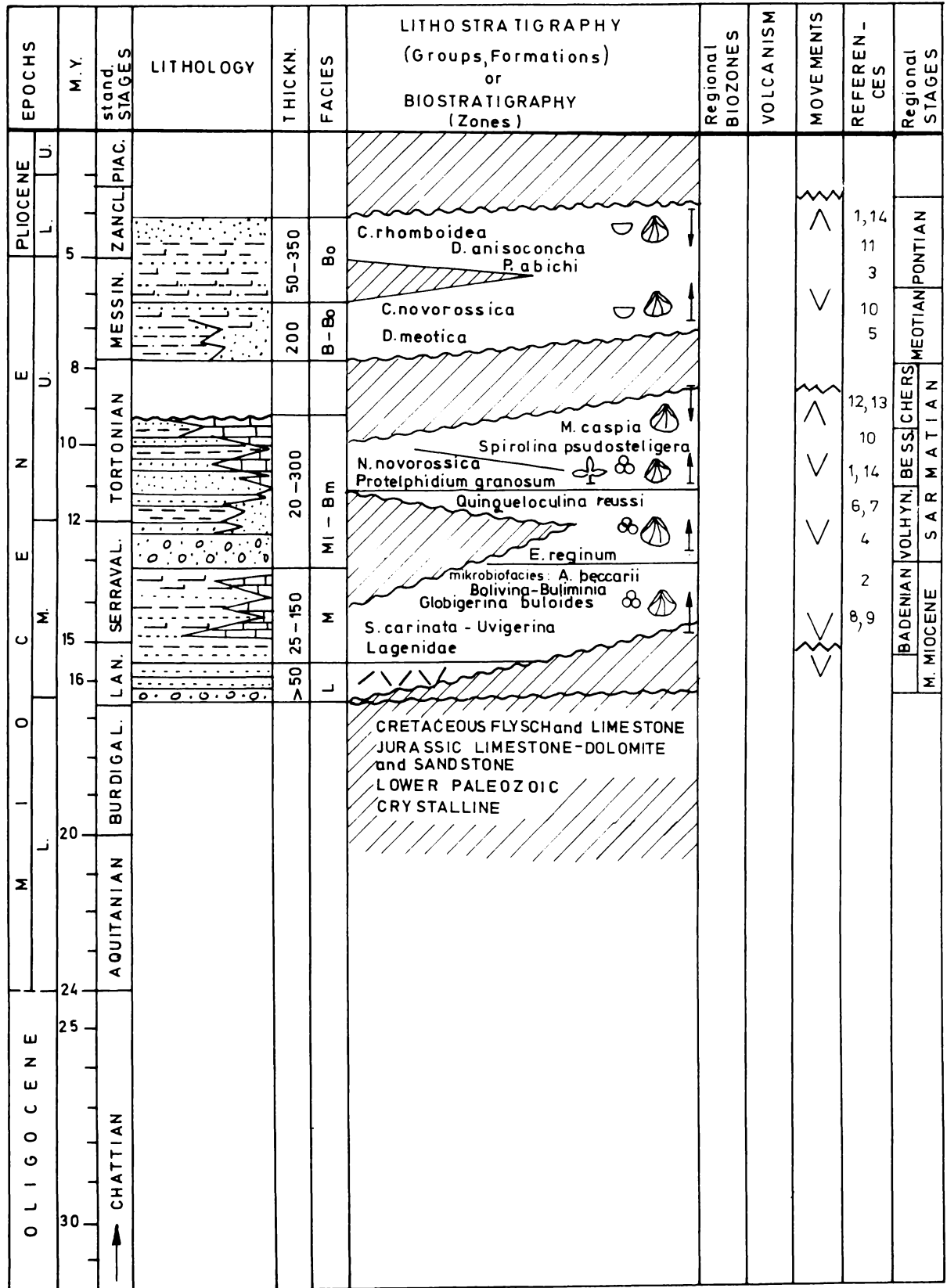
Authors: D. MARINOVIC & O. SPAJIC

Area No. 230 a: DANUBIAN TRENCH "CORRIDOR", YU



Authors: N. KRSTIC, D. DOLIC & R. DZODZO

Area No. 231 a: TIMOK GRABEN AND BORDER AREA (NEGOTIN), YU



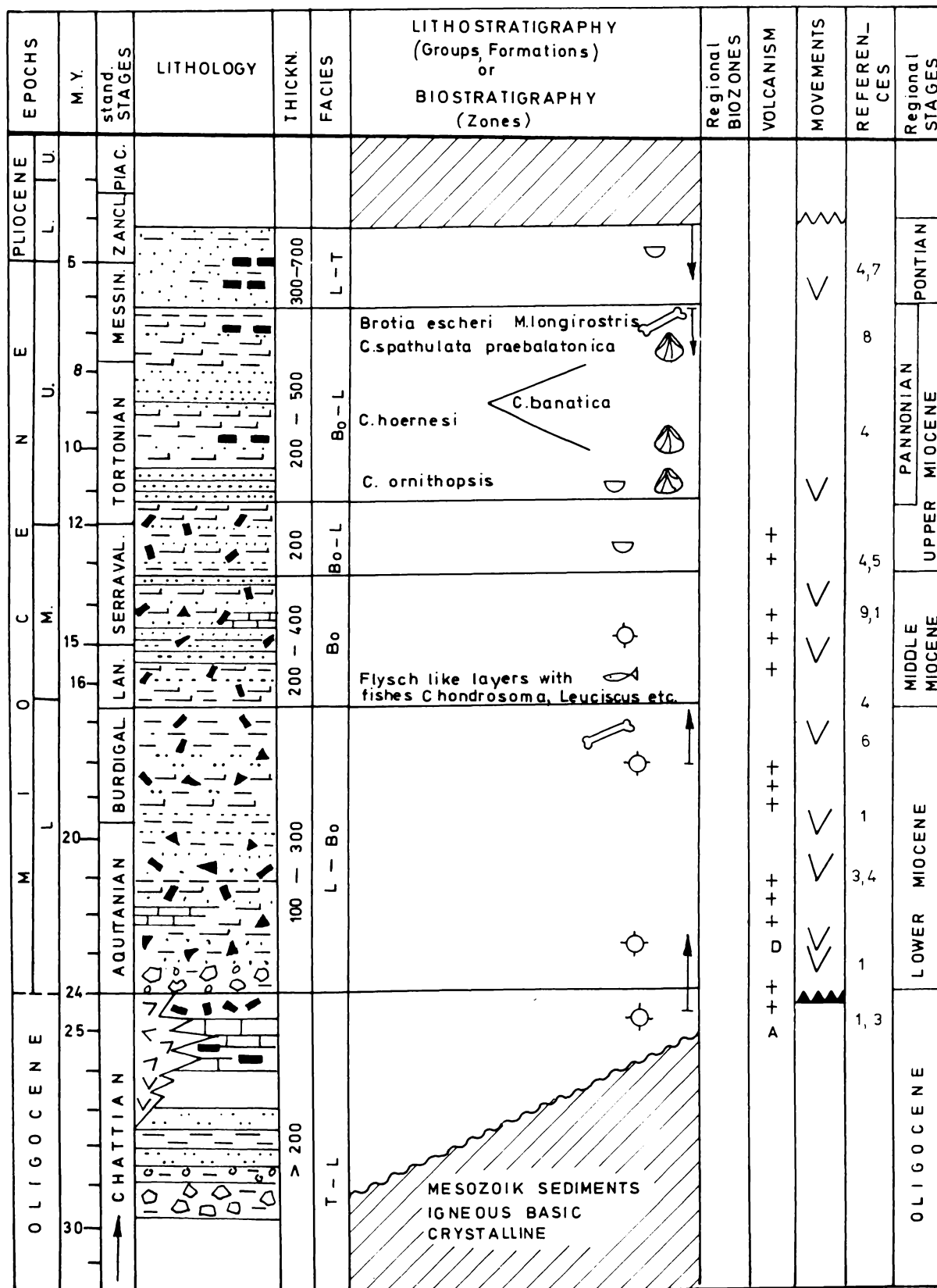
Authors: D. MARINOVIC & R. DZODZO

Area No. 232: S MORAVIAN FRESHWATER AND INTRACARPATHIAN BASINS (NIS), YU

EPOCHS			stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN - CES	Regional STAGES
M. Y.		PLIOCENE										
E		L.	U.	MESSIN.	ZANCL.	PIAC.						U. MIOCENE - L. PLIOCENE
N		M.			L.							
M		U.			L.						L. MIOCENE	
OLIGOCENE			A			B						
			C			D			CRYSTALLIN (PROTEROZOIC)			
25	24	20	16	15	12	10	8	5				
		500	700	450	120							

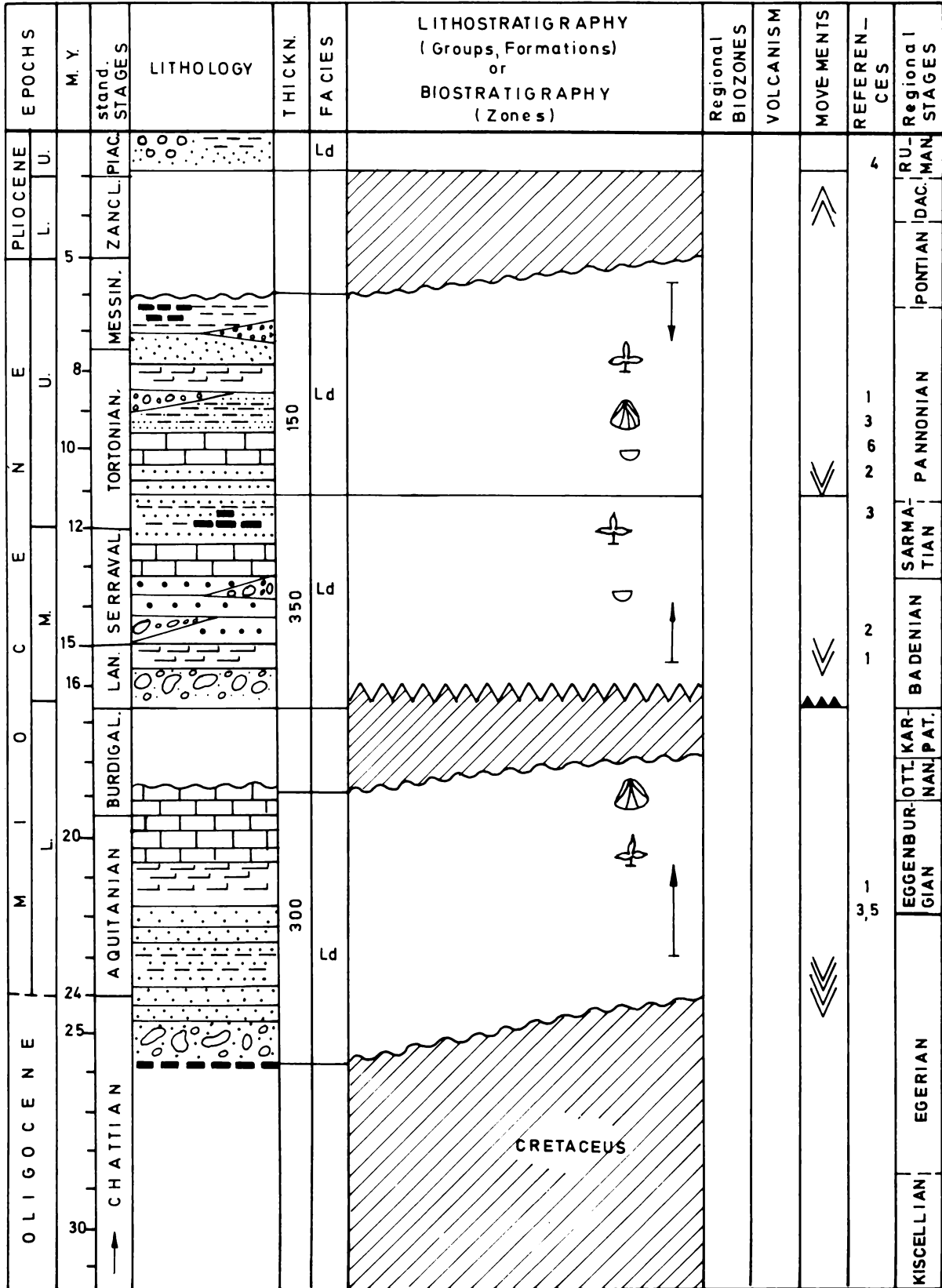
Author: M. B. PAVLOVIC

Area No. 233 a: W MORAVIAN FRESHWATER BASINS, CACAK – KRALJEVO, YU



Authors: D. MARINOVIC & R. KEMENCI

Area No. 233 b: W MORAVIAN FRESHWATER AND INTRACARPATHIAN BASINS (DRAGACEVO AND KOSJERIC), YU



Author: Z. PAVLOVIC

Area No. 234 a: FRESHWATER BASINS, SARAJEVO BASIN, BOSNIA, YU

EPOCHS	PLIOCENE		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	REGIONAL STAGES	
	L.	U.									ZANCL. PIAC.	RU- MAN
OLIGOCENE	25	24	CHATTIAN	750		PALEOZOIC (CRYSTALLINE) TRIASSIC, CRETACEOUS			↘↘↘	1, 3		EGERIAN
	16	15	BURDIGAL. LAN.	300 - 800	Ld		↗↗↗	1, 3, 4	OTTOKAR NANIPAT.			
										12	10	SERRAVAL. TORTONIAN
	8	5	MESSIN	300-1000		Koševo Serie	↘↘↘	1, 3	PANNONIAN			
										5		

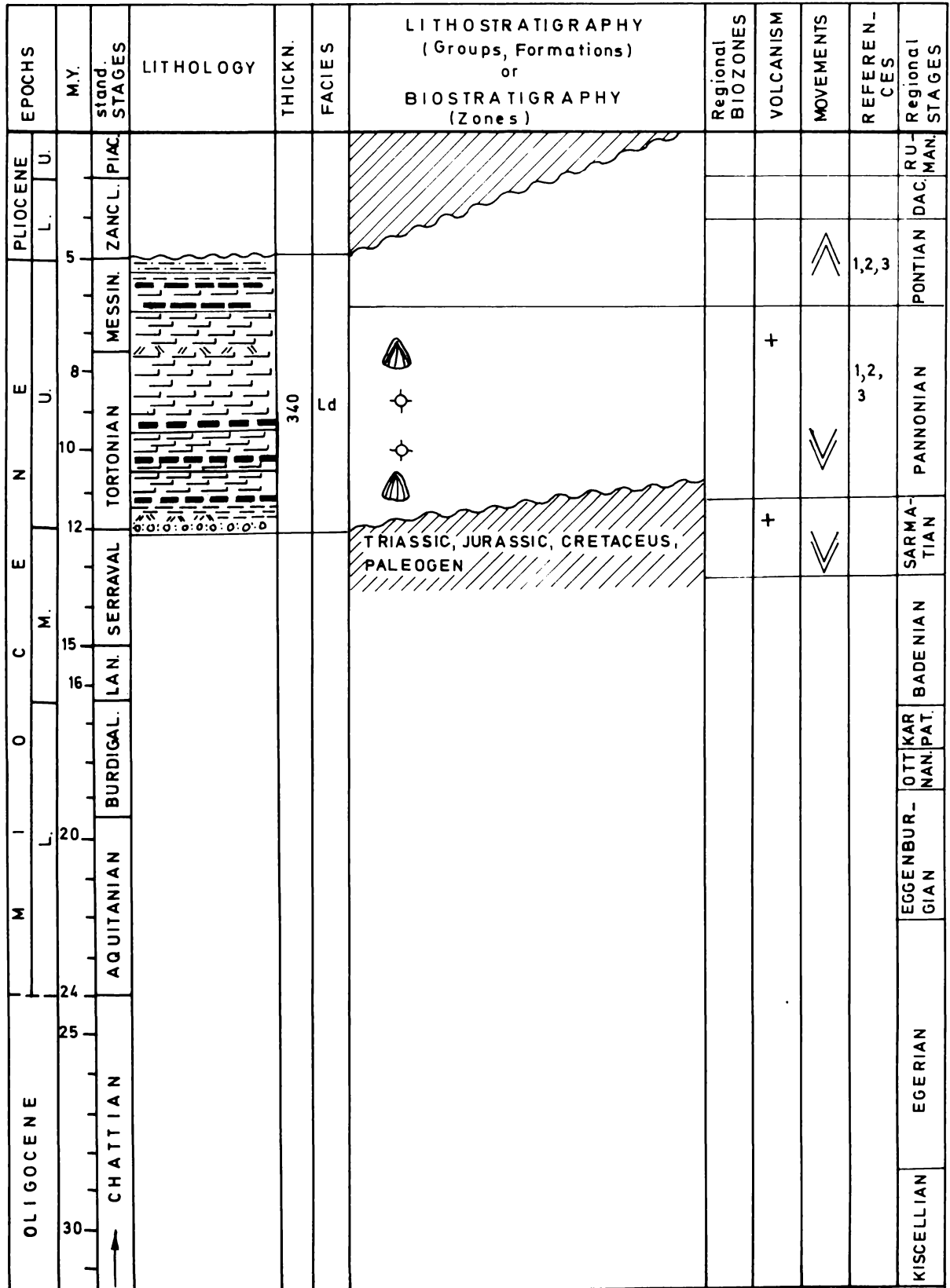
Author: M. ATANACKOVIC

Area No. 234 b: FRESHWATER BASINS, LIVNO AND DUVNO BASINS, BOSNIA, YU

EPOCHS		M.Y.		LITHOLOGY	THICK N.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES		
OLIGOCENE	MIOCENE	U.	L.											
OLIGOCENE	CHATTIAN	25										KISCELLIAN		
		24										EGERIAN		
	MIOCENE	L.	20										EGGENBURGIAN - OTTKARHANSPAT.	
			16									1,6		
		M.	15											BADENIAN
			12										1,5	SARMATIAN
			10										1,3 4,5	PANNONIAN
		U.	TORTONIAN	8										
				5										
			PLIOCENE	L.	5									
													RUC.	

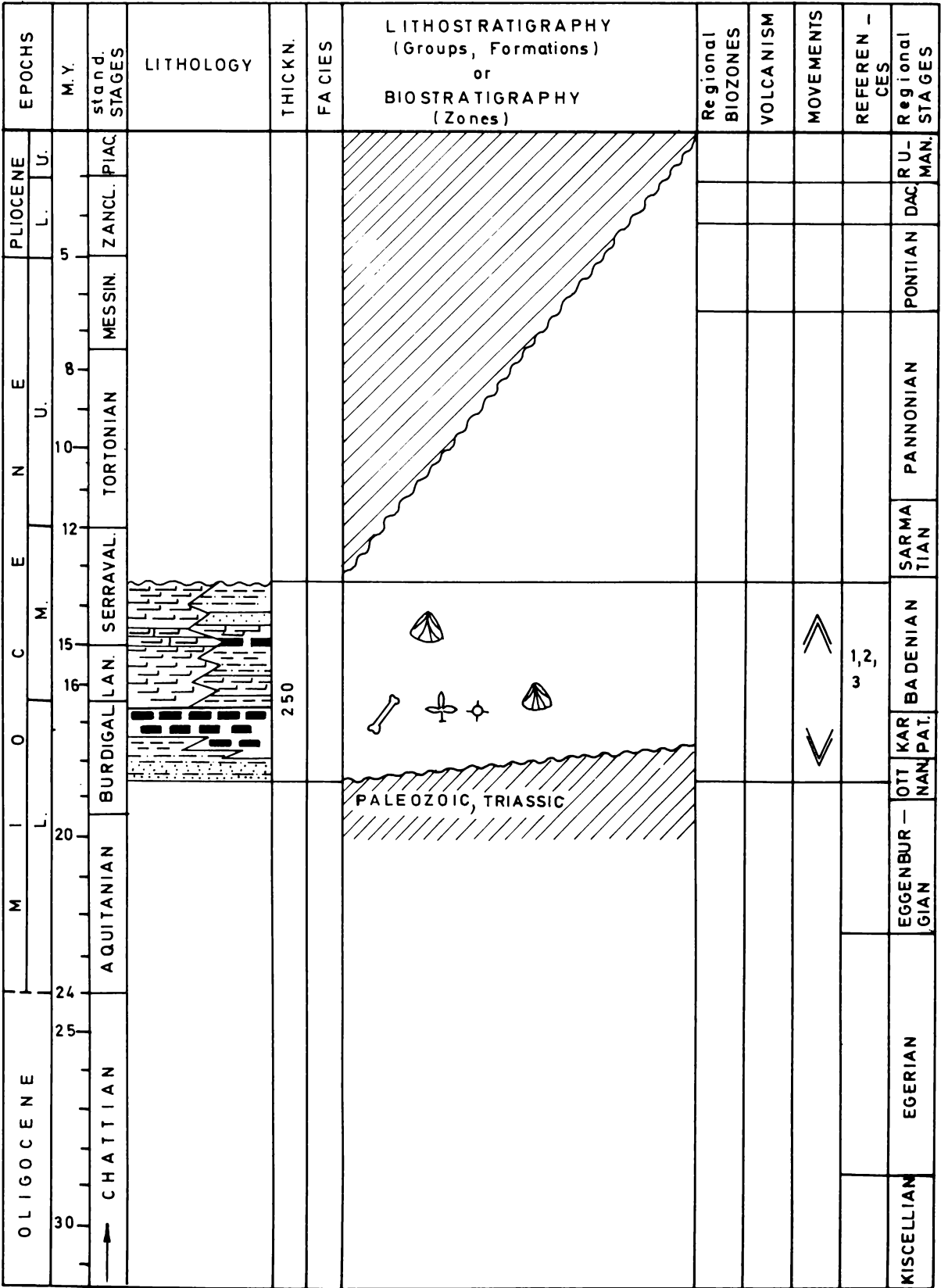
Author: M. ATANACKOVIC

Area No. 234 c: FRESHWATER BASINS, GACKO BASIN, HERZEGOVINA, YU



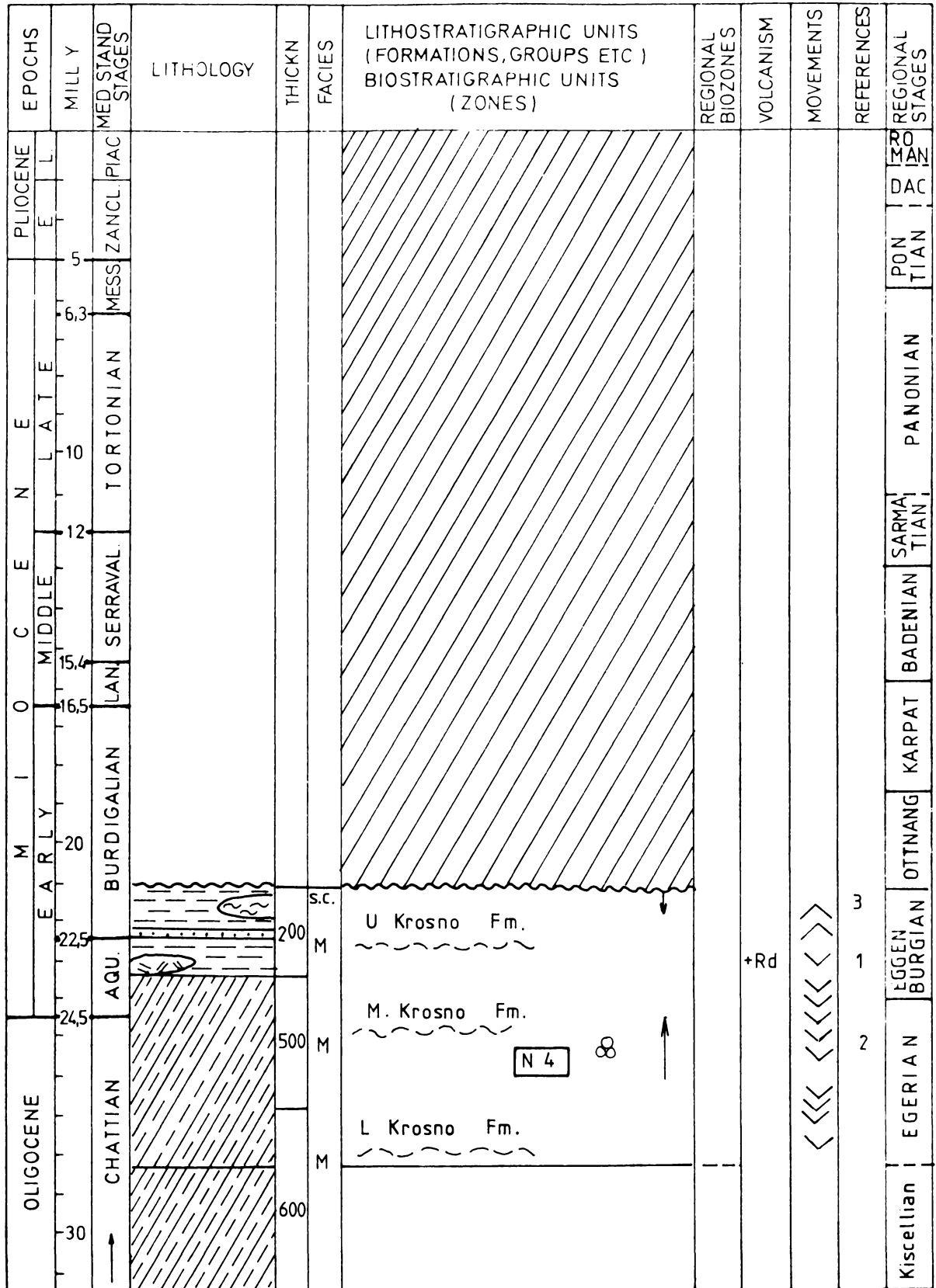
Author: M. ATANACKOVIC

Area No. 234 d: FRESHWATER BASINS, PLEVLJE AREA, MONTENEGRO, YU



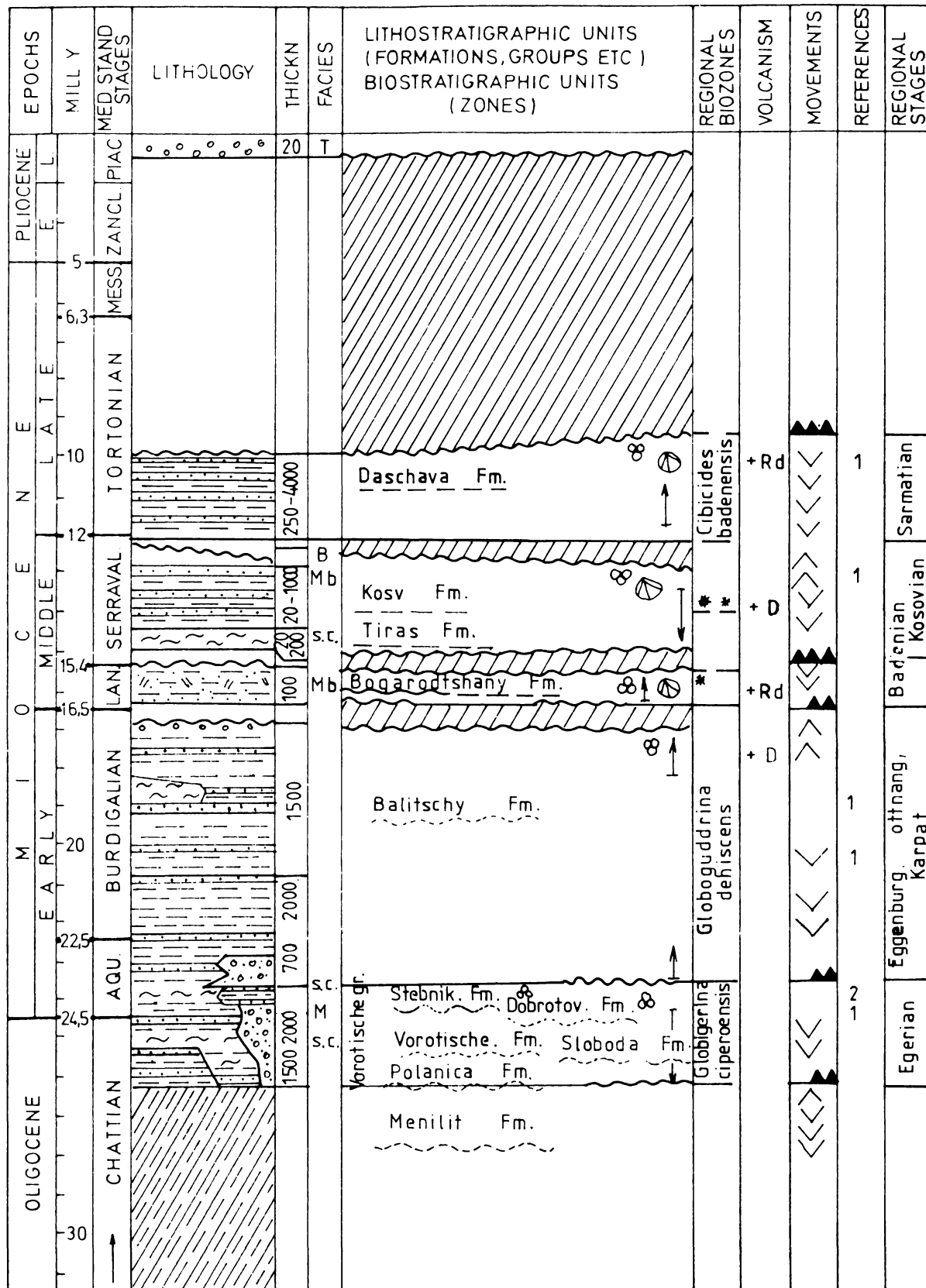
Author: M. ATANACKOVIC

Area No. 204 b: FLYSH ZONE IN THE USSR, SU



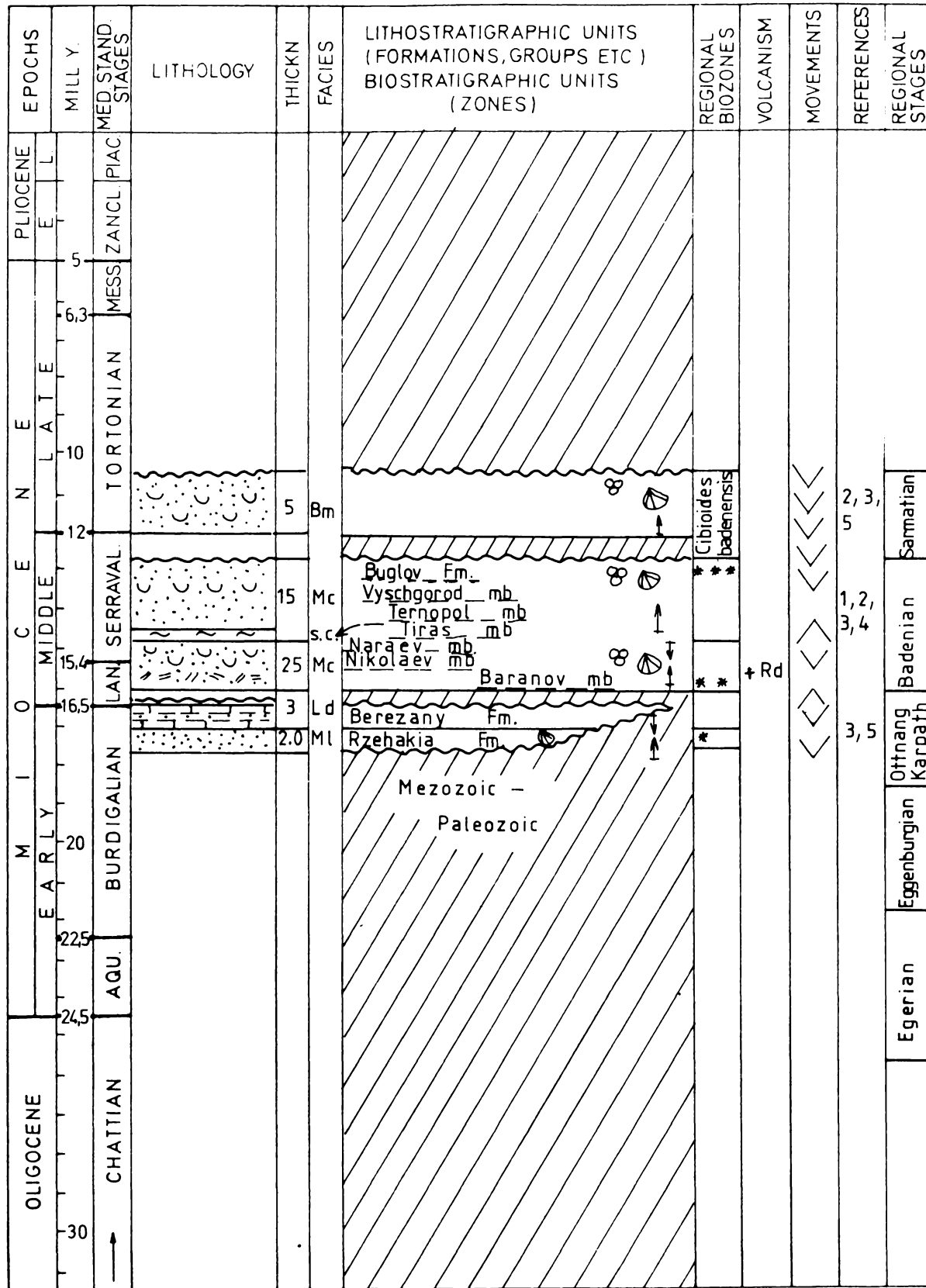
Authors: G. D. DOSIN & A. D. GRUZMAN

Area 205 d: SUBCARPATHIAN MIOCENE FOREDEEP, SU



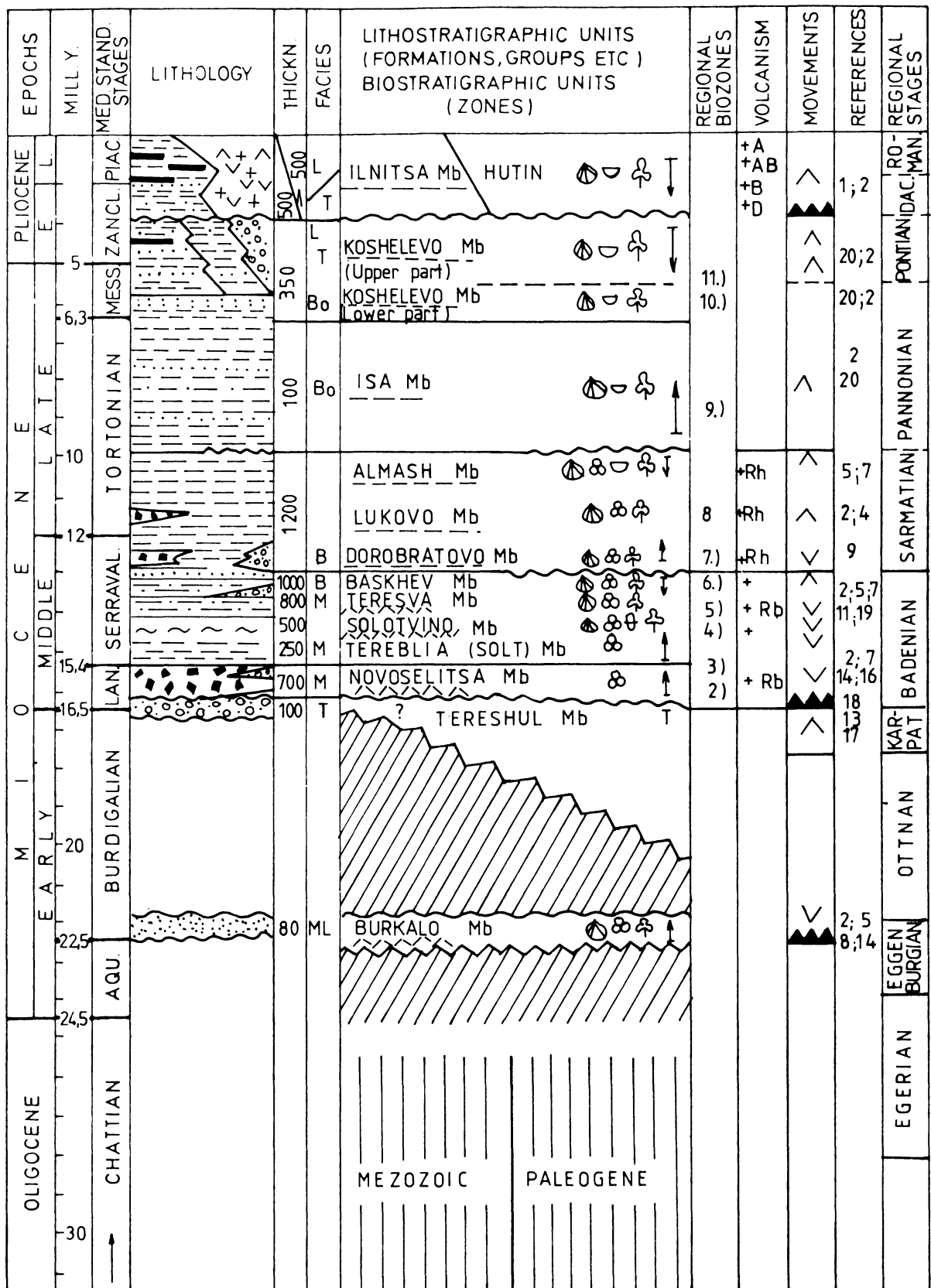
Authors: V. BUROV, V. GLUSHKO & L. PISHVANOV

Area No. 207 b: MIOCENE OF THE PODOLIAN MASSIF, SU



Authors: V. BUROV, V. GLUSHKO & L. PISHVANOVA

Area No. 216 a: ZAKARPATIA BASIN, SU



Author: M. PETRASHKEVICH

Area No. 241 a: MOLDAVIAN PLATFORM W OF BADENIAN BARRIER REEFS, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES											
OLIGOCENE	PLIOCENE																					
↑	M I O C E N E	30 25 24	CHAT T I A N						>>>?													
												20	BURDIGALIAN							>>>?		
												15	LAN. SERRAVAL.	28		Tirassky Hz.	↓?		>>>?	3	Sarmatian Valhyn. Bess.	
																						12
												10	TORTONIAN	60	Bm			+A	>>>?	3	Sarmatian Cher.	
																						8
												5				IX terrasse of Prut			>>>?	1,2,5,6	Pontian	
																			>>>?	1,2,5,6	Kim.	
							>>>?	1,2,5,6														

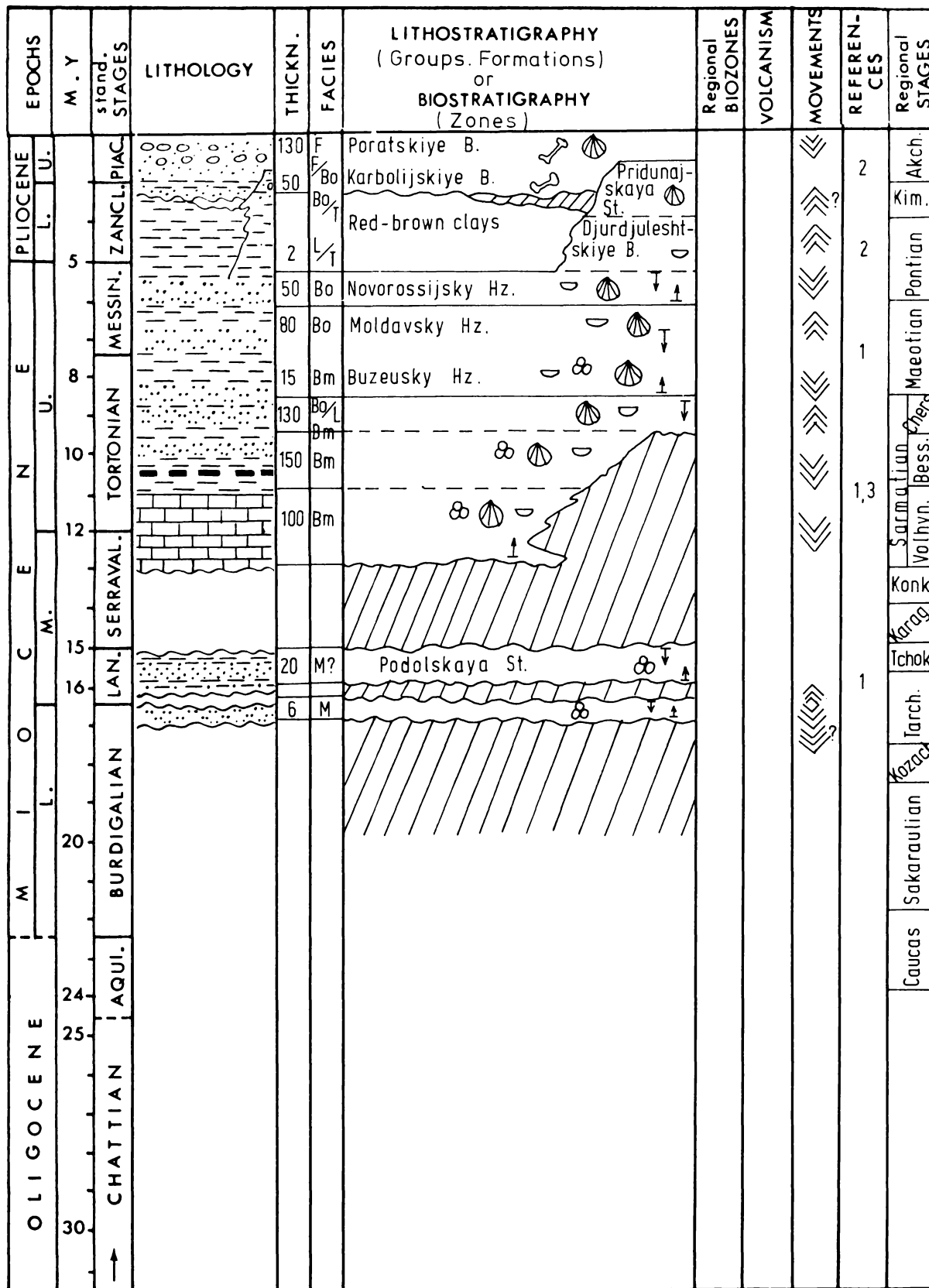
Author: V. C. ROSHKA

Area No. 241 b: MOLDAVIAN PLATFORM E OF BADENIAN BARRIER REEFS, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	U.											
MIOCENE	L.	5	ZANCL. PIAC.		7	F	IX Terrace of Prut Fyrlandskiye B. Kutchurganskiye B.			↘↘↘	1, 2, 5, 6	Akch.
					8	F	Stolnitchenskiye B.		↘↘↘?	4	Kim.	
	U.	8	MESSIN.		20	F/Bo	Novorossiysky Hz. Kagulskaya St.	+ A		↘↘↘?	4	Pontian
					300	L	Baltskaya St.		↘↘↘?		Maeotian	
	M.	10	TORTONIAN		120	Bm			↘↘↘?	3	Sarmatian	
					250	Bm/Bo			↘↘↘?		Bess.	
					80	Bm		+ A	↘↘↘?	3	Volhyn.	
					70	M	Tchernavizky Hz.	+ A	↘↘↘?	3		
					15				↘↘↘?		Badenian	
					16	M	Podolskaya St.	+ A?	↘↘↘?	3		
OLIGOCENE	L.	20	BURDIGALIAN							↘↘↘?		
					24							
					25							
		30	CHAT TIAN									

Author: V. C. ROSHKA

Area No. 242 a: DANUBAIN REGION OF THE SCYTHIAN PLATFORM, SU



Author: V. C. ROSHKA

Area No. 243: NEAR-BLACK SEA DEPRESSION W, DANUBE – DNIESTR INTERFLUVE, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
OLIGOCENE	PLIOCENE											Regional STAGES	Regional STAGES
OLIGOCENE	M I O C E N E	20-25	CHAT T I A N	BURDIGALIAN								Caucas.	Sakaraulian
	16-20	LAN. SERRAVAL.	TORTONIAN	MESSIN. ZANCLIPAC.	20	M	Red brown clays			1, 2, 3, 4	Akch.		
												15-16	LAN. SERRAVAL.
	14-15	LAN. SERRAVAL.	TORTONIAN	MESSIN. ZANCLIPAC.	14	M	Veseljansky Hz. Sartagansky Hz. Barnea - B Spaniodontella - B						
												12-14	LAN. SERRAVAL.
	10-12	LAN. SERRAVAL.	TORTONIAN	MESSIN. ZANCLIPAC.	80	Bm							
												8-10	LAN. SERRAVAL.
	6-8	LAN. SERRAVAL.	TORTONIAN	MESSIN. ZANCLIPAC.	38	Bo/L	Moldavsky Hz.						
												5-6	LAN. SERRAVAL.
	L. U.	L. U.	L. U.	L. U.	2	T							
												P L I O C E N E	L. U.

Author: V. C. ROSHKA

Area No. 244: NEAR-BLACK SEA DEPRESSION W, DNIESTR – DNIEPER INTERFLUVE, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
OLIGOCENE	MIocene											
OLIGOCENE	CHAT TIAN	25		150	M	Askanijskiye B.			↗↗↗	1	Caucas.	
		24		160	M	Gornostaevskaya St. (with Porosononion dendriticus)			↗↗↗	1	Sakarautian	
		20		100	M?	Tchernobaevskaya St (with Neobulimina tumidula)			↗↗↗	1	Kozach.	
		16							↗↗↗		Tarch.	
		15		20			Barnea B. Spaniodontella B.			↗↗↗	1	Karag. Tchok.
		15		7	M	Veseljansky Hz. Sartagansky Hz.			↗↗↗	1	Konk.	
		12		45	Bm				↗↗↗	1	Sarmatian Vothyn. Bess. Pres.	
		10		60	Bm				↗↗↗	1		
		8		40	Bm		Bagerovsky Hz.			↗↗↗	1	Maeotian
		5		80	Bo/E		Novorossijsky Hz.			↗↗↗	1	Pontian
Eocene	MESSIN. ZANCL. PIAC.	4		4	Bo	Kujalnizkiye B.			↗↗↗	2,3	Akch.	
		40		40	Bo				↗↗↗	4	Kim.	
		5							↗↗↗			
		5							↗↗↗			
Pliocene	L. U.							↗↗↗				
									↗↗↗			

Authors: M. F. NOSOVSKY & V. SEMENENKO

Area No. 245: NEAR-BLACK SEA DEPRESSION E, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	U.											
E	L.	5	ZANCL. PIAC.		40	F Bo Bm	Kujalnizkiye B. B. with Mactra				2,3	Akch.
					40	Bo					4	Kim.
					15	Bo	Novorossijsky Hz.				4	Pontian
					40	Bo	Akmanajsky Hz.				1	Maotian
					65	Bm	Bagerovsky Hz.				1	Sarmatian Volhyn.
	U.	8	TORTONIAN		65	L/T Bm					1	Bess. Pheng.
					60	Bm					1	Sarmatian Bess.
					45	Bm					1	Volhyn.
					7	Bm M	Veseljansky Hz. Sartagansky Hz.				1	Konk.
					20	Bm	Barnea-B. / Ervilia - B. Spaniodontella - B.				1	Korag
	M.	15	SERRAVAL.		14	Bm					1	Tchok
					20	Bo?	Majatchkovskaja St.				1	Tarch.
					20	M	Korolevskaya St.				1	Kozacki
					100	M	Tchernobajevskaya St.				1	Sakaraulian
					160	M	Gornostaevskaya St. (with Porosononion dendriticus)				1	Caucas.
L.	24	AQUIL.		150	M	Askanijskaya St.				1		
				25								
U.	30	CHATTIAN										

Authors: M. F. NOSOVSKY & V. SEMENENKO.

Area No. 246: THE STEPPE CRIMEA, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
L.	U.	5	ZANCL. PIAC.		40	L/Bo	B. with Mactra			>>>	2,3	AKch.
					30	Bm	Kujalnizkiye B.			>>>	4	
L.	U.	5	MESSIN.		100	Bo				>>>		Kim.
E	U.	8	TORTONIAN		12	Bo	Novorossiysky Hz.			>>>	4	Pontian
						Bo	Akmanajsky Hz.			>>>		
E	U.	10	TORTONIAN		40-70	Bm	Bagerovsky Hz.			>>>	1	Maeotian
						Bm				>>>		
E	U.	12	SERRAVAL.		130	Bm				>>>	1	Sakmarian Volhyn. Bess.
						Bm				>>>		
M.	U.	15	LAN. SERRAVAL.		25-60	M	Veseljansky Hz. Sartagansky Hz.			>>>	1	Konk.
						Bm	Barnea-B./Ervilia-B. Spaniolantella-B.			>>>		
M.	L.	16	LAN. SERRAVAL.		50	Bm				>>>		Karag.
					35	Bm				>>>		
M.	L.	20	BURDIGALIAN				Korolevskaya St.			>>>		Tarch. Kozack.
					10	Bo?				>>>		
M.	L.	24	AQUI.				Bathysiphonovaya St. (with Neobulimina elongata)			>>>		Sakmarian
					300	M				>>>		
O	L.	25	CHATTIAN				Kerleutskaya St. (upper part)			>>>		Caucas.
					400	M				>>>		
O	L.	30	CHATTIAN				Kerleutskaya St. (lower part)			>>>		
						Bm				>>>		

Authors: M. F. NOSOVSKY & V. SEMENENKO

Area No. 248: TAMAN PENINSULA, SU

EPOCHS	M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES		
												PLIOCENE	MIocene
PLIOCENE	L. U.	ZANCL. PIAC.		170	Bm	Kujalnizkiye B.			↗↗↗	1,9	Akch.		
				100	Bo	Panticapejsky Hz.			↗↗↗	2,3,6,8			
MIOCENE	L. U.	MESSIN. ZANCL. PIAC.		250	Bo	Kamyshburunsky Hz.	Fe Azovsky Hz.			↗↗↗	6,8	Kim	
				20	Bo	Bosphorsky Hz.			↗↗↗				
				300	Bo	"Subrhomboidny" Hz.			↗↗↗			6,7	Pontian
					Bo	Novorossiysky Hz.			↗↗↗				
				100	Bo	Akmanajsky Hz.			↗↗↗			6,7	Maeotian
				150	Bm	Bagerovsky Hz.			↗↗↗				
				200	Bm				↗↗↗				
				200	Bm				↗↗↗			6,7	Sarmatian Volyn. Bess.
				150	Bm				↗↗↗				
				15	M				↗↗↗			4,6	Konk.
OLIGOCENE	L. U.	BURDIGALIAN		150	Bm				↗↗↗				
				250	Bm				↗↗↗		4,6	Karag.	
				10	M	Argunskiye B.			↗↗↗				
				2	M	Terskiye B. Kuvinskiye B.			↗↗↗			4,6	Tarch.
					Bo?	Clay-siderite St.			↗↗↗				
					Bm?		S		↗↗↗			5	Kozach
OLIGOCENE	L. U.	AQUI.		2500	M	Voskovogorskaya St.			↗↗↗				
					M	Alkunskaya St.			↗↗↗		5	Sakaraulian	
					Bm?	Abadzechskaya St.			↗↗↗				

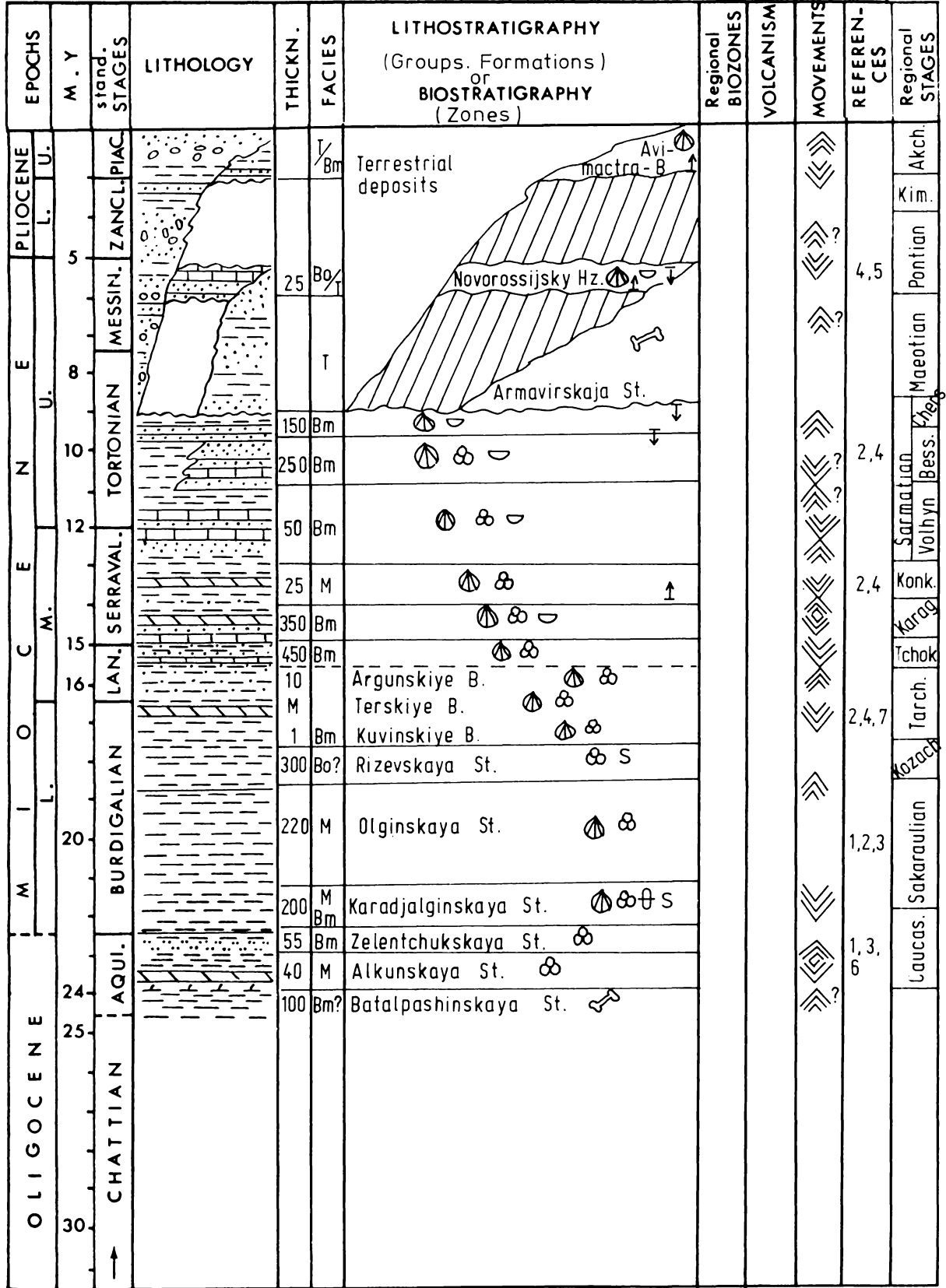
Authors: A. BOGDANOVICH & V. N. BURJAK

Area No. 249: W PART OF S CISCAUCASIA, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	MIOCENE											
L.	U.	5	MESSIN. ZANCL. PIAC.		800	L/T Bo	Kujalnizkiye B.			?	1	Akch.
					500	Bo	Panticapejsky Hz. Kamish-burunsky Hz. Azovsky Hz.			2,3,6,8	Kim.	
5	8	10	TORTONIAN		800	Bo	Bosphorsky Hz. „Subrhomboidny“ Hz. Novorossijsky Hz.			?	6,8	Pontian
					500	T+F Bo	Akmanajsky Hz. Armavirskaya St.			6,7	Pontian	
8	10	12	SERRAVAL.		280	Bm	Bagerovsky Hz.			?	6,7,9	Maeotian
					350	T+F Bm						
10	12	15	LAN. SERRAVAL.		200	Bm				?	6,7,9	Sarmatian
					25	Bm	Veseljansky Hz. Sartagansky Hz.			4,6	Konk.	
15	16	20	BURDIGALIAN		300	Bm	Barnea B. Spaniodontella B.			?	4,6	Korag.
					280	Bm						
16	20	24	AQUIL.		15	M	Argunskiye B. Terskiye B. Kuvinskiye B.			?	4,6	Tarch.
					6	M						
24	25	30	CHATTIAN		1	M				?	4,6	Tarch.
					300	Bm?						
20	24	25	BURDIGALIAN		400	M	Voskovogorskaya St.			?	5,9	Sakaraulian
					50	M	Alkunszkaya St.			5,9	Caucas.	
25	30	30	CHATTIAN		250	Bm?	Abadzechskaya St.			?	10	Caucas.

Authors: A. BOGDANOVICH & V. N. BURJAK

Area No. 250: CENTRAL PART OF S CISCAUCASIA, SU



Authors: A. BOGDANOVICH & V. N. BURJAK

Area No. 251: RIONI DEPRESSION, W GEORGIA, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	MIOCENE											
L.	U.	5	ZANCL. PIAC.		90	Bo	Kujalnizkiye B.				4,6,7	Akch.
					500	Bo				4,6,7	Kim.	
L.	U.	8	MESSIN.		1350	Bo	Bosphorsky Hz. Portafersky Hz. Novorossijsky Hz.				3,4,7	Pontian
					1300	Bo	Akmanajsky Hz.					
L.	U.	10	TORTONIAN		700	Bm	Bagerovskiy Hz.				3,4	Maeotian
					900	Bm						
L.	U.	12	SERRAVAL.		500	Bm					1,3	Sarmatian Volhyn. Bess. Step.
					30-50	M	Veseljansky Hz. Sartagansky Hz.					
L.	U.	15	LAN.		300	Bm	Kartvelskiy B. Varnenskiye B.				2,5	Konk. Korag.
					480	Bm						
L.	U.	16	BURDIGALIAN		40	M					2,5	Tarch.
					180	Bo						
L.	U.	20	AQUI.		300	M					1,2	Sakaraulian
						M						
L.	U.	24	CHATTIAN			Bo/Bm						Caucas.
					25							
L.	U.	30										

Author: D. A. BULEJSHVILI

Area No. 252: UPPER PART OF KURA DEPRESSION, E GEORGIA, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE										
U.	L.			700	L/T Bm	Alasanskaya St.			5,7,8		Akch.
				1000	T	Krasnokolodskaya St.			5,7,8		Kim.
		5									
				2500	T	Dushetskaya St. Shirakskaya St.			3,5,8		Pontian
		8							3,5		Mgeotian
				1500	T Bm	Nazchor- skaya St.					
		10		1400	Bm T	Olarsk. St. Eldarskaya St.					
				400	Bm					1,3	Sarmatian Volhyn. Bess. Pers.
				30	M	Veseljansky Hz. Sartagansky Hz.					Konk.
		15		150	Bm	Kartvelskiye B. Varnenskiye B. Spaniodontella B.				2,6	Karag.
		16		350	Bm						Tchok.
				70	M					2,6	Tarch.
				350	Bo					2,6	Kozack.
		20		600	M					1,2	Sakaraulian
				700	M	Upliszichskiye B.				4	Caucas
		24									
		25									
		30									

Author: D. A. BULEJSHVILI

Area No. 253: SEVAN, SHIRAK AND MIDDLE ARAKS DEPRESSIONS AND EREVAN SYNCLINORIUM, SU

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
M. Y	stand. STAGES										
O L I G O C E N E	M I O C E N E	BURDIGALIAN	700	L/T	Variegated terrigenous roks ⊕ ⊗			↗↗↗		Caucas.	
											24
	C E N O Z O I C	M I O C E N E	LAN. SERRAVAL.	100	Bm	Oktemberjan-skaya St. lyps-saltferous St.			↗↗↗	1, 2, 3	Tarch. Kozack
		E O C E N E	TORTONIAN	300	Bm?	Razdanskaya St. Fishes - B.			↗↗↗		Sarmatian Konk.
		P L I O C E N E	MESSIN.	1000	L/T	Vochtchaberskaya St. Megrinskaya et Djadjurskaya St.		+ A + AB	↗↗↗		Maeotian Volhyn. Bess.
		P L I O C E N E	ZANCL. PIAC.	200	T	Zachkunjazkaya St.		+ A + B	↗↗↗		Ki
		P L I O C E N E	Noraduz-skaya St.	500	L/T	Noraduz-skaya St. Sisianskaya St.		+ AB + B	↗↗↗		Akch.

Author: A. GABRIELJAN

Area No. 254: NACHITCHEVAN DEPRESSION, SU

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES									
M. Y	stand. STAGES																		
O L I G O C E N E	P L I O C E N E								15,7,8	Akch. Kim. Pontian Maetian Sarmatian Volhyn. Konk. Karag. Tchok Tarch. Kozack Sakaraulian Caucas									
											5	MESSIN. ZANCL. PIAC.							
											8	TORTONIAN	30 Bm						
											10		150 Bm						
													360 Bm						
											12		360 Bm						
													?						
											15	SERRAVAL.	350 Bm	Barnea - B					
													400 Bm?						
											16	LAN. SERRAVAL.	100 M?	Spirialis - Sandbergeria - B					
													130 M	Turritella - B					
											20	BURDIGALIAN	160 Bm	Grey - coloured terrigenous rocks					
											24	AQUI.	450 L	Variegated terrigenous rocks			+ A		
											25	CHAT T I A N		Red beds					

Author: A. AZIZBEKOVA

Area No. 255: E PART OF S CISCAUCASIS, SU

EPOCHS		M. Y	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups. Formations) BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES							
PLIOCENE	U.																		
MIOCENE	U.	5	ZANCLIAC.		700	Bm					3,5	Akch.							
					200	L					3,5	Kim.							
					150	Bo	Novorossijsky Hz.					3,4	Pontian						
					500	Bo	Akmanajsky Hz.					3,4	Maeotian						
					360	L?/T	Bagerovsky Hz.					3,4	Cher.						
	M.	10	TORTONIAN	MESSIN.		240	Bm?					3,4	Cher.						
						450	Bm					3,4	Sarmatian Volhyn. Bess.						
						360	Bm					3,4	Cher.						
						30	M					1,3	Konk.						
						350	Bm					1,3	Karag.						
						L.	16	BURDIGALIAN	LAN. SERRAVAL.		600	Bm?					2,6,7	Tchok.	
											30	M	Argunskiye B.					1,3	Tarch.
											15	M	Terskiye B.					1,3	Tarch.
											30	M	Bujnacksiye B.					1,6	Kozach.
											340	Bo?	Zuramakentskaya St.					2,6,7	Sakaraulian
O	24	CHATTIAN	AQUI.		140	M?	Sulakskaya St.				2,6,7	Sakaraulian							
					200		Assinskaya St.				2,6,7	Caucas.							
					30	M	Alkunsкая St.					2,6,7	Caucas.						
						Bm?	Chishkinskaya St.					2,6,7							

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Area No. 256 a: MIDDLE PART OF KURA DEPRESSION W, SU

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
M. Y.	stand. STAGES										
O L I G O C E N E	P L I O C E N E		1000	Bm T	Balachanskaya ser.			↗↗↗	4 1,3,7	Akch. Kim.	
			200	T	Shirakskaya St.				6	Pontian	
	M I O C E N E	T O R T O N I A N		350	+L Bm	Eldarskaya St.			↗↗↗	6	Maeotian
				720	Bm					6	Sarmatian Volhyn. Bess.
	O L I G O C E N E	M I O C E N E		300	Bm				↗↗↗		
				120	M				↗↗↗		Konk.
				70	Bm				↗↗↗	5	Karag.
				320	Bm				↗↗↗		Tchok
				90	M				↗↗↗	5	Tarch.
				130	Bo?				↗↗↗		Kozach.
	O L I G O C E N E	M I O C E N E		50	M?	B. with <i>Neobulimina lenina-</i> <i>badensis</i>			↗↗↗	5 8	Sakaraulian
				> 2000 M	M	B. with <i>Virgulinella</i> <i>poliensis</i>			↗↗↗	8	Caucas.
				OM				↗↗↗	8		

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Area No. 256 b: MIDDLE PART OF KURA DEPRESSION E, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups. Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES													
OLIGOCENE	PLIOCENE																								
OLIGOCENE	M. L.	30	CHATTIAN		> 2000 M	M?					6	Caucas. Sakaraulian													
		24	AQUIL.													6	Tarch.								
		25	BURDIGALIAN													5	M					6	Vozech.		
		16														LAN. SERRAVAL.	55					Bm			
		15	C. M.													17	Bm					6			
		12														LAN. SERRAVAL.									
		10	E. U.													10		TORTONIAN	300	Bm					
		8														TORTONIAN									7
		5	E. U.													5					MESSIN. ZANCL. PIAC.				
		5														MESSIN. ZANCL. PIAC.	800	L							
	P. U.			1500			Bm										24,8	Akch.							
		P. U.												5											

Authors: A. ALI-ZADE, D. AGALAROVA, J. ALESKEROV, O. RYBINA & A. VOROSHILOVA

Area No. 257: KUSSARO - DIVICHIN SYNCLINORIUM, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups. Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES											
OLIGOCENE	MIOCENE																					
OLIGOCENE	MIOCENE	5-16	CHATTIAN BURDIGALIAN LAN. SERRAVAL. TORTONIAN MESSIN. ZANCL. PIAC.	>500 350 350 550 70 200 2500 300	M? M? M Bm Bm Bm Bm Bm Bm Bm Bm L Bm	(Fossil symbols: shells, brachiopods, etc.) Akmanajsky Hz. Bagerovsky Hz. Balachanskaya ser.			(Movement symbols: triangles, chevrons)	6 6 6 6 6 6 6 7 1,8 2,4,8 5	Caucas. Sakaraulian Kazach. Tarch. Tschok. Karag. Konk. Sarmatian Volhyn. Bess. Pontian Maeotian Kim. Akch.											
												24	AQUI.									
												25										
												30										

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Area No. 258: SHEMAKHO – KOBISTAN SYNCLINORIUM, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES		
OLIGOCENE	MIOCENE													
OLIGOCENE	MIOCENE	5-16	ZANCL. PIAC. MESSIN. TORTONIAN SERRAVAL. LAN.		300	Bm					5	Akch.		
					2000	L	Balachanskaya ser.			?		2,4,8	Kim.	
					400	Bo	Babadjansky Hz. Portafersky Hz. Navorossijsky Hz					7	Pontian	
					500	Bo	Akmanajsky Hz.					7,9	Maeotian	
					150	Bm	Bagerovsky Hz.				?			
					160	Bm								
					400	Bm								
					150	M								
					250	Bm								
					500	Bm								
					25	M								
					OLIGOCENE	MIOCENE	17-20	BURDIGALIAN			Bo?			
	M	B. with Neobulimina elongata									6	Sakaraulian		
1000 M	M?													
OLIGOCENE	MIOCENE	21-25	AQUI. CHAT TIAN											

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Area No. 259: LOWER KURA DEPRESSION, SU .

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
OLIGOCENE	PLIOCENE											
OLIGOCENE	M I O	25	CHAT T I A N	1500	Bo Bm	Balachanskaya ser.			↗↗↗↗	5	Akch	
		24		800	L					2,4,8	Kim.	
	C E N	U.	17	M E S S I N . Z A N C L . P I A C .	230	Bo			↗↗↗↗	7	Pontian	
			15		Bo?	7				Maeotian		
		M.	TORTONIAN	10		Bm			↗↗↗↗	3,7	Sarmatian Volhyn. Bess. Chern.	
				12		300					Bm	
			SERRAVAL.	15		17	Bm			↗↗↗↗	6	Konk
				16		55	Bm					
	BURDIGALIAN	20		M?	> 2000 M			↗↗↗↗	6	Tarch. Kozach.		
		20		M?	> 2000 M				6	Sakarautian		
	AQUI.	25		24				↗↗↗↗	6	Caucas.		
		25										

Authors: A. ALI-ZADE, D. AGALAROVA, J. ALESKEROV, O. RYBINA & A. VOROSHILOVA

Area No. 260: TALYSH, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	MIOCENE										
OLIGOCENE	CHATTIAN	25		^	M?			↙			
		24		^	M?			↙			
	AQUIL.	20		1000 M	M	☉ ☛ ☛			↗	5	Caucas. Sakaraulian
		16		400	Bb?	☉ ☛ ☛			↗	5	Kozack. Tarch.
		15		400	Bm	☉ ☛ ☛			↗	5	Tchok. Karad.
		15		625	Bm	☉ ☛			↗	5	Karad.
	SERRAVAL.	12		100	M	☉ ☛ ☛ ☛			↗		Konk.
		10		450	Bm	☉ ☛ ☛			↗	2,6,8	Sarmatian Volhyn Bess. Chres.
		10		450	Bm	☉ ☛ ☛			↗		
		10		450	Bm	☉ ☛ ☛			↗		
TORTONIAN	8			Bm	☉ ☛			↗			
	5			Bm	☉ ☛ ☛			↗			
MESSIN.	ZANCL.	PIAC.	4	100	Bm	☉ ☛ ☛			↗	4	Arch.
										1,3,7	

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Area No. 261: APSHERON TROUGH, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES																																																																																																																								
OLIGOCENE	PLIOCENE																																																																																																																																		
O L I G O C E N E	M I L L I O C E N E	24 25 30	CHATTIAN	~ 1000 M	M?	⊗			>>>	6	Caucas.																																																																																																																								
												O L I G O C E N E	M I L L I O C E N E	20	BURDIGALIAN	M?	M?	⊗			>>>	6	Sakaraulian																																																																																																												
																								O L I G O C E N E	M I L L I O C E N E	16	LAN. SERRAVAL.	120	Bm	⊗ ⊗			>>>	6	Tarch.																																																																																																
																																				O L I G O C E N E	M I L L I O C E N E	15	LAN. SERRAVAL.	130	Bm	⊗			>>>	6	Koch.																																																																																				
																																																O L I G O C E N E	M I L L I O C E N E	12	SERRAVAL.	25	M?	⊗			>>>	6	Konk. Karag.																																																																								
																																																												O L I G O C E N E	M I L L I O C E N E	10	TORTONIAN	110	Bm	⊗			>>>	3,7,9	Sarmatian Volhyn. Be.ss. Ches.																																																												
																																																																								O L I G O C E N E	M I L L I O C E N E	8	TORTONIAN	150	Bm	⊗			>>>	7,9	Maeotian																																																
																																																																																				O L I G O C E N E	M I L L I O C E N E	5	MESSIN. ZANCL. PIAC.	250	Bo	Babadjansky Hz. Portafersky Hz. Novorossijsky Hz.	⊗ ⊗		>>>	7	Pontian																																				
																																																																																																O L I G O C E N E	M I L L I O C E N E	5	MESSIN. ZANCL. PIAC.	400	L	Balachanskaya Ser.	⊗ ⊗		>>>	1,8	Kim.																								
																																																																																																												O L I G O C E N E	M I L L I O C E N E	5	MESSIN. ZANCL. PIAC.	70	Bo? Bm	Balachanskaya Ser.	⊗ ⊗		>>>	2,4,8	Akch.												
																																																																																																																								P L I O C E N E	P L I O C E N E	5	MESSIN. ZANCL. PIAC.	70	Bo? Bm	Balachanskaya Ser.	⊗ ⊗		>>>	5	Akch.

Authors: A. ALI-ZADE, D. AGALAROVA, J. ALESKEROV, O. RYBINA & A. VOROSHILOVA

Area No. 262: W PART OF N CISCAUCASIA, SU

EPOCHS		M. Y	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	L.		ZANCL. PIAC.		500	T/F					1	Akch.
		5		?			?			>>>	4,6	Kim.
		8	MESSIN. ZANCL. PIAC.		140	Bo	Novorossijsky Hz.			>>>	4,6	Pontian
						Bo	Akmanajsky Hz.			>>>		
		10	TORTONIAN		160	Bm	Bägerovsky Hz.			>>>	4,5	Maeotian
					150	Bm				>>>		
		12	SERRAVAL.		60	Bm				>>>	4,5	Sarmatian
					120	Bm				>>>		Volhyn
		15	LAN. SERRAVAL.		20	M				>>>		Konig
					100	Bm				>>>	2,4	Marag.
		16	LAN. SERRAVAL.		20	Bm				>>>		Tchok.
		20	BURDIGALIAN							>>>		Tarch.
					10	Bo	B. with <i>Saccamina zuram.</i>			>>>	2,3	Kozach.
					250	M	B. with <i>Neobulimina elongata et Cibicides stavropolensis</i>			>>>		Sakaraulian
					30	Bm?	B with <i>Uvigerinella californica</i>			>>>		
		24	AQUI.		60	M	B. with <i>Bolivina goudkoffi</i>			>>>	3	Caucas.
		25	CHAT TIAN			Bm?	B. with depeperate non typical microfauna			>>>		
		30								>>>		

Authors: A. BOGDANOVICH & V. N. BURJAK

Area No. 263: CENTRAL PART OF N CISCAUCASIA, SU

EPOCHS		M. Y	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups. Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	U.											U.	U.
			ZANCLIPAC.		160	T					4		Akch.
		5			30	Bo	Novorossiysky Hz. ?				4,5		Pontian
		8	MESSIN.			Bm	Bagerovsky Hz.				4,5		Maeotian
		10	TORTONIAN		195	Bm					4,5		Sarmatian
		12			90	Bm							Volhyn
		15	SERRAVAL.		25	M					2,4		Konk.
		15			90	Bm							Karag.
		16	LAN.		25	Bm							Chok.
		20	BURDIGALIAN		100	Bo	B. with Saccamina zuramak						Tarch.
		20			200	M	B. with Neobulimina elongata				1,2,3		Sakaraulian
		24	AQUI.		175	M	B. with uvigerinella californica				1,3,6		Caucas.
		25			40	M	B. with Bolivina goudkoffi				1,3,6		
		30	CHATTIAN			Bm?	B. with depauperate non typical micro fauna				1,3,6		

Authors: A. BOGDANOVICH & V. N. BURJAK

Area No. 264: E PART OF N CISCAUCASIA, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	L.		ZANCL. PIAC.		60 90 10 130	Bm Bo T					3,5	Akch. Kip.
	5		MESSIN.			Bo	Novorossijsky Hz.				3,4	Pontian
	8		TORTONIAN		25 550	Bm T	B. with Helix				3,4	Maeotian
	10				150	Bm					3,4	Sarmatian Volhyn. Bess. Men.
	12		SERRAVAL.		70	Bm					1,3	Konk.
	15		LAN. SERRAVAL.		10 350	M? Bm					1,3	Karak.
	16		LAN.		200	Bm					1,3	Ichod.
	20		BURDIGALIAN		200	Bo	B. with Saccamina zuramakensis				1,2	Tarch. Kozach.
	24		AQUI.		900	M	B. with Neobulimina elongata				2	Sakarautan.
	25		CHATTIAN			M	Analogous to B. with Bolivina goudkoffi and B. with Uvigerinella californica				2	Caucas.
	30						B. with depauperate non - typical microfauna					

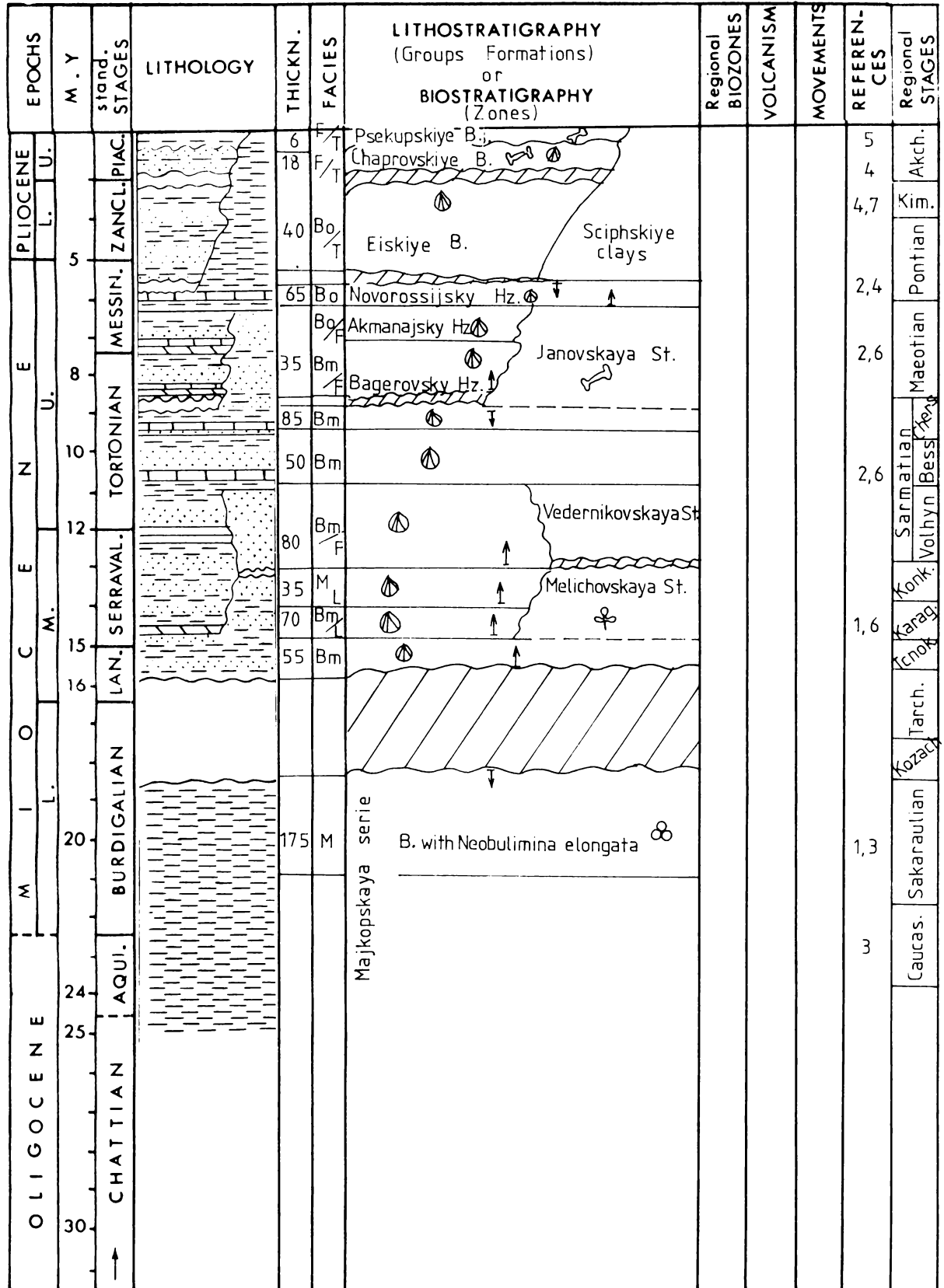
Authors: A. BOGDANOVICH & V. N. BURJAK

Area No. 265: S PART OF UKRAJNIAN SHIELD, SU

EPOCHS		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups. Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES							
PLIOCENE	OLIGOCENE																	
L.	U.	5		40	Bo	Kujalniczkiye B.				4	Akch.							
				40	Bo-T	Kamenskiye B.				Red-brown clays	7,8	Kim.						
M.	U.	8		18	Ba	Kosovskiye B. / Novorossiysky Hz.				2,7	Pontian							
				25	Bo	Akmanajsky Hz.				2,3	Maeotian							
				20	Bm	Bagerovsky Hz. / Topilovskiye B.				2,3	Sarmatian							
				25	Bm	Denepetrovskiye B.												
				18	Bm	Vasiljevskiye B.												
				C.	M.	12					20	Bm	Novomoskovskiye B.				1,5	Tchok.
											35	Bm	Veseljansky Hz. / Sartagansky Hz.					
											20	Bm	Barnea-B. / Ervilia-B.					
											20	Bm	Spaniodontella-B.					
				L.	L.	16					12	Bm	Tomakovskiye B.				4,6	Tarch.
6,5	Ba	Majatchkovskaya St.	5				Kazak.											
L.	L.	20									Sakaraulian							
											Caucas.							
L.	L.	24																
L.	L.	25																
L.	L.	30																

Authors: M. F. NOSOVSKY & V. SEMENENKO

Area No. 267: NE PART NEAR SEA OF AZOV AND THE LOWER DON, SU



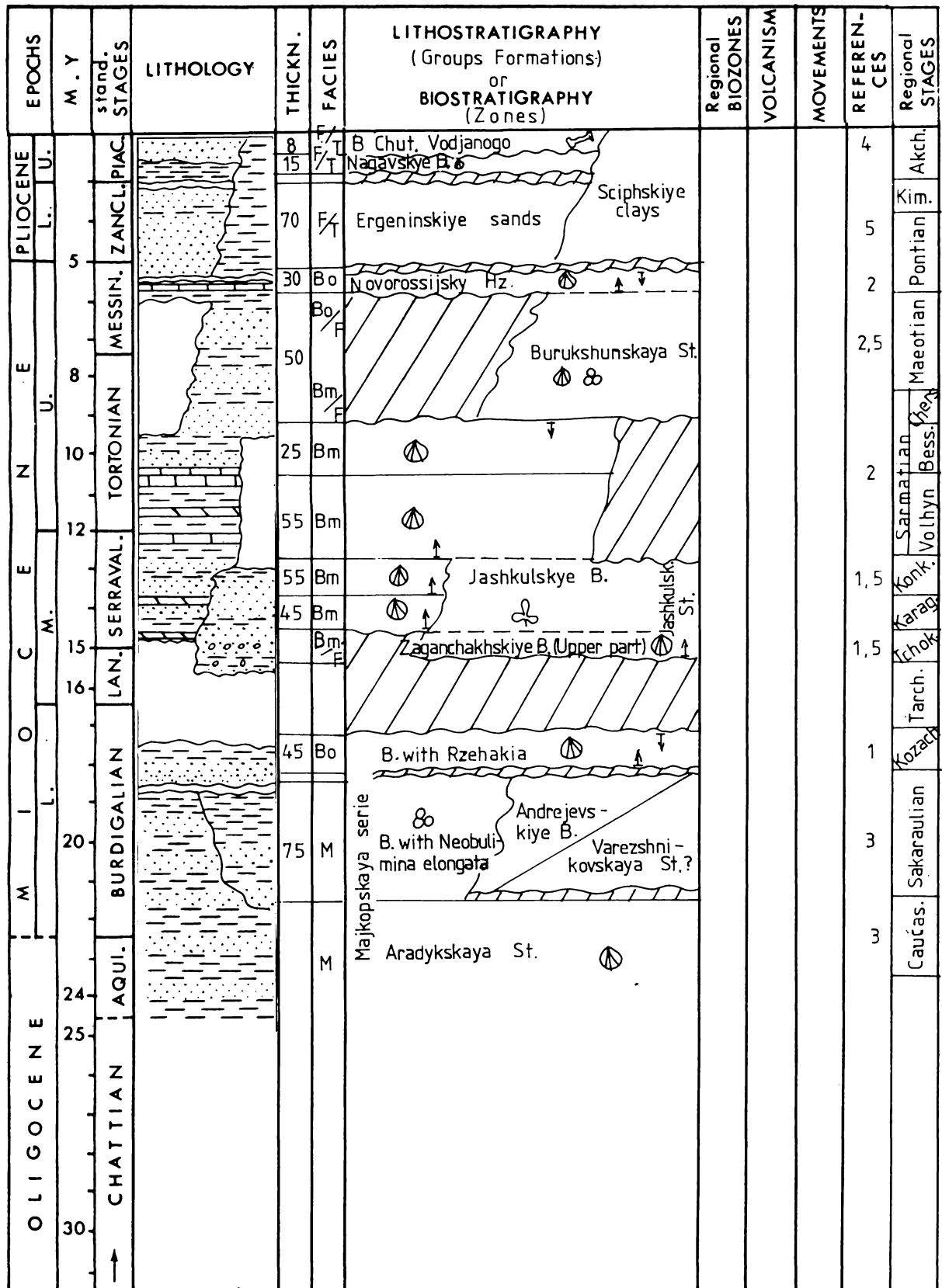
Author: G. N. RODZJANKO

Area No. 268: THE MANYCHS, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES							
OLIGOCENE	PLIOCENE																		
OLIGOCENE	M. L.	20-25	CHATTIAN	[Lithology: dotted pattern]	155	M	Aradykskaya St. B. with <i>Neobulimina elongata</i>			>>>?	3	Caucas.							
													BURDIGALIAN	20	Bo	B. with <i>Rzehakia</i>	>>>>	1	Kozak
	E. M.	12-15	Bm	[Lithology: horizontal lines]		>>>>>	1	Konk.											
									TORTONIAN	40-50	Bm	Burukshunskaya St.	>>>>	2,5	Maeotian				
																MESSIN.	5-8	Bo	Novorossijsky Hz.
	E. U.	5	L/F	Ludilovskaya St.	>>>>>	4	Akch.												
								PLIOCENE	L. U.	5	ZANCL. PIAC.	60	L/F	[Lithology: dotted pattern]				4	Kim.

Author: G. N. RODZJANKO

Area No. 269: ERGENI, SU



Author: G. N. RODZJANKO

Area No. 270: OKA – DON LOWLAND, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Group, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	PLIOCENE											
		25			25	F/T	Uryvskiye B. of Kryvoborskaya			<<<	2,3,4,5,6,7	Akch.
		40			40	F/T	Usmanskaya St. Red clays			<<<		Kiim.
		8			40	L	Starinkinskiye B.			>>>?		Pontian
		10			50	L/F	lorekinskaya St.			>>>		Maeotian
		12			30	L/B	Sosnovskaya subst.			<<<		Sarmatian
		15			20	L/F	Tambovskije B.			<<<		Konk. Volhyn. Bess. Pers.
		16			70	L+F	Uvarovskije B.			<<<		Karag.
		20			30	L+F	Kamennobrodskiye B.			>>>	8	Tarch
		24								<<<		Kozack
		25								<<<		Sakarautian
		30								<<<		Caucas

Author: J. I. JOSIPHOVA

Area No. 271: VOLGA - KHOPER INTERFLUVE, SU

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
M. Y	stand. STAGES									
PLIOCENE	L. U.		45	F/T	Irachevskije B.			<<<	1, 2	Akch.
	L.		45	F/T	Ergeninskaya St. Ergeninskiye Sands	Sciphskiye clays		<<<		
Eocene	5							<<<		
	8		80	F+L	Prudkovskiye B.			<<<		
	10							<<<		
	12		30	F+L Bm	Iurovskiye B.			<<<		
Cenozoic	15		75	F+L	Medvedizkiye B.			<<<		
	16				Ilovlinsko - gurovskaya St.			<<<		
Oligocene	20							<<<		
	24							<<<		
	25						<<<			
	30						<<<			

Author: G. N. RODZJANKO

Area No. 273: MIDDLE POVOLZHJE, N OF SAMARSKAYA LUKA, SU

EPOCHS	PLIOCENE		MESSIN. ZANCL. PIAC.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES																																																																																																													
	L.	U.											stand. STAGES	M. Y.																																																																																																											
OLIGOCENE	M	I	O	C	E	N	U.	5	8	10	12	15	16	20	24	25	30	→	BURDIGALIAN	TORTONIAN	Maeotian	Sarmatian	Kozach	Tarch.	Kochk.	Kochk.	Volhyn Bess	Maeotian	Pontian	Kam.	Akch.																																																																																										
																																OLIGOCENE	M	I	O	C	E	N	U.	8	10	12	15	16	20	24	25	30	→	BURDIGALIAN	TORTONIAN	Maeotian	Sarmatian	Kozach	Tarch.	Kochk.	Kochk.	Volhyn Bess	Maeotian	Pontian	Kam.	Akch.																																																											
																																																															OLIGOCENE	M	I	O	C	E	N	U.	10	12	15	16	20	24	25	30	→	BURDIGALIAN	TORTONIAN	Maeotian	Sarmatian	Kozach	Tarch.	Kochk.	Kochk.	Volhyn Bess	Maeotian	Pontian	Kam.	Akch.																													
																																																																																													OLIGOCENE	M	I	O	C	E	N	U.	12	15	16	20	24	25	30	→	BURDIGALIAN	TORTONIAN	Maeotian	Sarmatian	Kozach	Tarch.	Kochk.	Kochk.	Volhyn Bess	Maeotian	Pontian	Kam.	Akch.

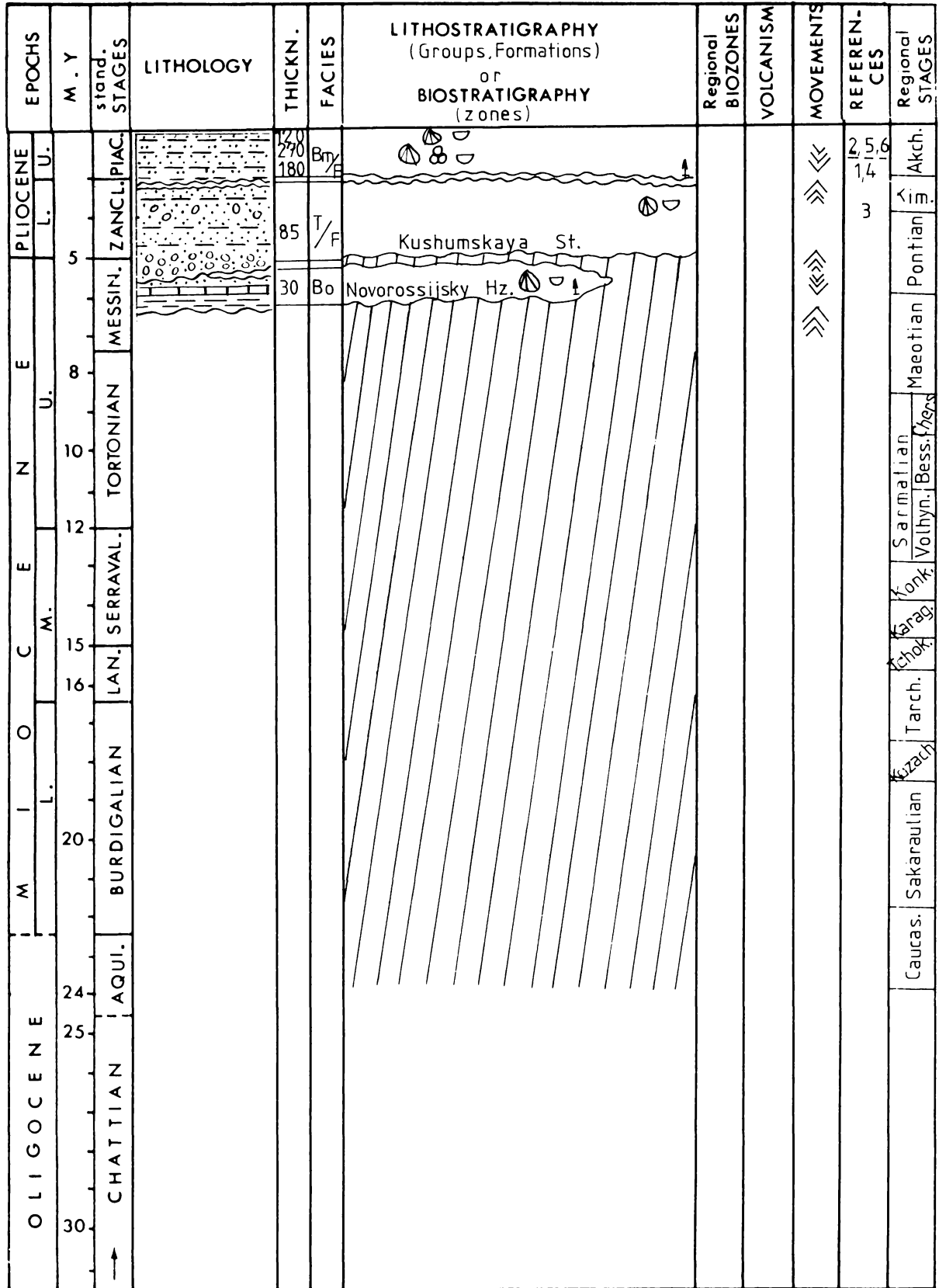
Authors: W. YAKHEEMOVICH & G. GORETZKYI

Area No. 274: S CISURALIA, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) OR BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES																		
PLIOCENE	OLIGOCENE																													
L.	U.	5	ZANCL. PIAC.		3000 5000	Bm/B0	 II-III Chebenkovsky Hz. I Chebenkovsky Hz.				12,6 3,5,7	Akch. Kim.																		
													L.	U.	7	Pontian														
M.	U.	8	MESSIN.							?		Maeotian																		
													10	TORTONIAN						?	Sarmatian Volhyn									
																						12	SERRAVAL.		80	L	Ushkatlinskaya St.		4	Konk. Bess
L.	U.	16	BURDIGALIAN		100	L	Voroshilovskaya St.			?	4	Tarch. Kozak																		
													20	AQUI.		120	L	Kujurgazinskaya St.		4	Sakaraulian									
																						24	AQUI.		90	L	Tjulganskaya St.		4	Caucas
25	CHAT TIAN		F/L																											
30																														

Author: W. YAKHEEMOVICH

Area No. 275: NEAR CASPIAN SEA LOWLAND W, SU



Authors: N. ZHIDOVINOV & I. A. BERTELJC-USPENSKAYA

Area No. 276: NEAR CASPIAN SEA LOWLAND E, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	PLIOCENE											
		25	CHATTIAN			M	B. with Haplophragmoides kjurendagensis			<<<?	3	Caucas.
		24	AQUIL.		710	M	B. with Porosononion dendriticus			<<<	3	
		20	BURDIGALIAN							<<<		
		16	LAN. SERRAVAL.		55	Bm				<<<	4	Tarch.
		15								<<<		Tchok.
		10	TORTONIAN		46	Bm				<<<	4	Karak.
		8			4	B ₀ T	Novomssijsky Hz.			<<<		Konk.
		5	MESSIN. ZANCL. PIAC.		250	T/L				<<<		Sarmatians
					40	B ₀				<<<	1,2,5	Volhyn. Bess.
					250	B _m				<<<		Macontian
					50	B _m				<<<		Pontian
										<<<		Akch.
										<<<		Kim.

Authors: I. A. BERTELJC-USPENSKAYA

Area No. 277: MANGYSHLAK, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	U.												
E	L.	5	MESSIN. ZANCL. PIAC.		10	Bm	Terrestrial beposits			<<<	2, 2 4, 6	Akch.	
	U.	8	TORTONIAN		33	Bo	Akmanajsky Hz.			<<<	4, 5	Pontian	
					60	Bo	Bagerovsky Hz.		>>>	5, 9	Maetian		
		10	TORTONIAN		65	Bm			>>>				
					100	Bm			>>>				
		M.	SERRAVAL.	TORTONIAN		45	Bm			>>>		1, 5	Sarmatian
						10	Bm	Veseljansky Hz.		>>>			
						15	M	Sartagansky Hz.		>>>			
						6	Bm	Barnea-B.		>>>			
C	15	SERRAVAL.		22	Bm	Spaniodontella-B.		>>>		1, 3	Konk.		
				40	Bm	Ervillea-B.		>>>					
	16	LAN. SERRAVAL.						>>>				Karag.	
								>>>				Tchok.	
								>>>				Tarch.	
								>>>				Kozach	
M	L.	BURDIGALIAN		120	M	Kashkarotinskaya St.			>>>		1, 8	Sakaraulian	
								>>>					
								>>>					
O	L.	CHATTIAN		450	M	Karagiinskaya St.			>>>		1, 8 8	Caucas.	
								>>>					

Author: Y. TCHELJCOV

Area No. 278 a: SOUTHERN USTJURT, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	PLIOCENE											
OLIGOCENE	M I O C E N E	24	CHAT T I A N	-	130	Bm?	-	-	-	-	-	Caucas.
	20	BURDIGALIAN	16	Bo	"Oncophora"-B	-	-	1	Kozach	Sakaraulian		
											16	LAN. SERRAVAL.
	15	-	100	Bm	Barnea B. Karagan s. str.	-	1,2	Kozach	Tarch.	Sakaraulian		
											12	-
	10	TORTONIAN	25	Bm	-	-	1,4	Kozach	Tarch.	Sakaraulian		
											8	-
	5	MESSIN. ZANCL. PIAC.	4	Bo	Akmanaj-sky Hz.	-	-	3,4	Kozach	Tarch.		
											-	-
-	-	-	-	-	-	-	-	-	-	-		

Author: Y. TCHELJCOV

Area No. 278 b: NORTHERN USTJURT, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups. Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
	U.		ZANCLIPAC.		30	T					6	Akch.
	L.											
		5			40	T					6	K.
			MESSIN.			Bo	Novorossijsky Hz.			↔↔↔	6	Pontian
		8										Maestrian
	U.		TORTONIAN									
		10			45	Bm					7,8	Sarmatian
		12			55	Bm						Volhyn. Bess.
		15	SERRAVAL.		10	Bm	Veseljansky Hz. Sartagansky Hz.			↔↔↔	4,8	Konk.
	M.		LAN.		30	Bm	Barnea B Kargan. s. str.			↔↔↔		Karag.
		16			20	Bm	Ervilia-B			↔↔↔		Chok.
					45	Bm				↔↔↔	4,8	Tarch.
					5	M				↔↔↔	5	Vozach
	L.		BURDIGALIAN		30	Bo	"Oncophora"-B			↔↔↔		
		20									1,2,9	Sakaraulian
					75	M				↔↔↔		
						M/ Bm	Bajgubeksky Hz. Aralskaya St. (upper part)			↔↔↔	2,3	Caucas.
		24	AQUI.							↔↔↔		
		25			250	M	Bajgubeksky Hz. (lower part)			↔↔↔?	3	
		30	CHATTIAN									

Authors: Y. TCHELJCOV & S. HONDKARIAN

Area No. 279: AREA NE OF THE ARAL SEA, SU

EPOCHS		M. Y	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	MIOCENE											
OLIGOCENE	CHAT TIAN	25					Bajgubeksky Hz. (lower part)			⇓	2	
		24					Bajgubeksky Hz. (upper part)			⇓	2	
	BURDIGALIAN	35	Bm				Aralskaya st.			⇓	1,2,3	
		20								⇓		Sakaraulian
		10	Bm							⇓		Kozak
	LAN. SERRAVAL.	16	L							⇓	1	Tarch.
		15								⇓		Karak.
		12								⇓		Sarmatian Volhyn. Bess.
	TORTONIAN	10								?		Maeotian
		8								?		Pontian.
MESSIN. ZANCL. PIAC.	5								⇓		Ki. E.	
	25	L/T					Kyzyltashminskaja st.					Akch.
		20					Shanshahskaja St. (lower part)			⇓		

Author: S. HONDKARIAN

Area No. 280 a: W TURKMENISTAN, N PART, SU

EPOCHS		M. Y.	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	L.		ZANCL. PIAC.		195	Bm					3,7,13	Akch.
						T					1,2,6	Ki.
	5										6	Pontian
			MESSIN. ZANCL. PIAC.		16	Bo	Novorossijsky Hz.				5	Pontian
						Bo	Akmanajsky Hz.				5	Maeotian
	8				7	Bm	Bagerovsky Hz.					
			TORTONIAN			T	Kjureninskaya St.				12	
	10					Bo/T						
					190	Bm					5,8,10	Sarmatian Volhyn Bessyrcs
	12											
			SERRAVAL.		20	Bm	Veseljansky Hz.					
						M	Sarfagansky Hz.				4,8,9	Konk.
	15				100	Bm	Barnea - B. B. with Spaniodontella					
					35	Bm	Ervilia - B.				4,8,9	Khok.
	16		LAN. SERRAVAL.									
					20	M					4,8,9	Tarch.
			BURDIGALIAN		20	Bo?					4,8,9	Kozach
	20											
					30	M					8,9	Sakanautian
	24						Majkopskaya St. (upper part) B. with Porosonion dendriticus				8,11	Caucas.
	25		CHAT TIAN		220	M?	Majkopskaya St. (middle part) B. with Spiroplectamina terekensis				8,11	
	30											

Authors: T. ROZYJEVA & Y. THCLJCOV

Area No. 280 b: W TURKMENISTAN, S PART, SU

EPOCHS		M. Y	stand. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
PLIOCENE	OLIGOCENE											
U.	U.		ZANCLIAC.		600	Bo					3,7	Akch
L.	L.				800	Bo	Chelekenskaya St.				1,2,6	Ki. 3
		5	MESSIN.		600	Bo						Pontian.
		8	TORTONIAN									Maeotian
		10			500	Bo/Fl Bm	Kazgantchay-skaya St.				5,8,9	Sarmatian Volhyn., Bess., Ores.
		12	SERRAVAL.		35	Bm	Veseljansky Hz. Sartagansky Hz.				4,8,9	Konk
		15			190	Bm	Ervilia - B. Spaniadontella - B.				4,8,9	Korog
		16	LAN.		200	Bm					4,8,9	Tschok.
		20	BURDIGALIAN		100	M					4,8,9	Tarch.
		20			20	Bo	Oncophora - B.				4,8,9	Kozack
		20			70	Bo	B with Soccamina zuranaken-sis				4,8,9	
		24	AQUIL.		15	M	Majkopskaya St. (upper part)				8,11	Caucas. Sakaraulian
		25	CHATTIAN		355	M	B. with Porosonion dendriticus Majkopskaya St. (middle part)				8,11	

Authors: T. ROZYJEVA & Y. TCHELJCOV

Area No. 281: AREA S OF THE ARAL SEA, SU

EPOCHS		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
M. Y.	stand. STAGES									
OLIGOCENE	30	CHATTIAN	70	M	Sarbatyrskaya St. (lower part)			↗↗↗	2	
	25									
	24	AQUI.								
	20	BURDIGALIAN	100	Bm	Sarbatyrskaya St. (upper part)			↗↗↗	2	Caucas. Sakaraulian
	16	LAN. SERRAVAL.	150	L	Agitminskaya St.			↗↗↗		Kozach. Tarch.
	15									Tchok. Karag.
	12									Konk. Volhyn. Bess. Cherk.
	10	TORTONIAN						?		Sarmatian
	8									Maeotian
	5	MESSIN. ZANCL. PIAC.	20	L	Turanskaya St.			↗↗↗		Pontian
PLIOCENE	3		50	Bm	Zairskaya St.			↗↗↗	3	Kim.
	1.4				Sadyvarkaya St. (lower part)			↗↗↗	1.4	Akch.

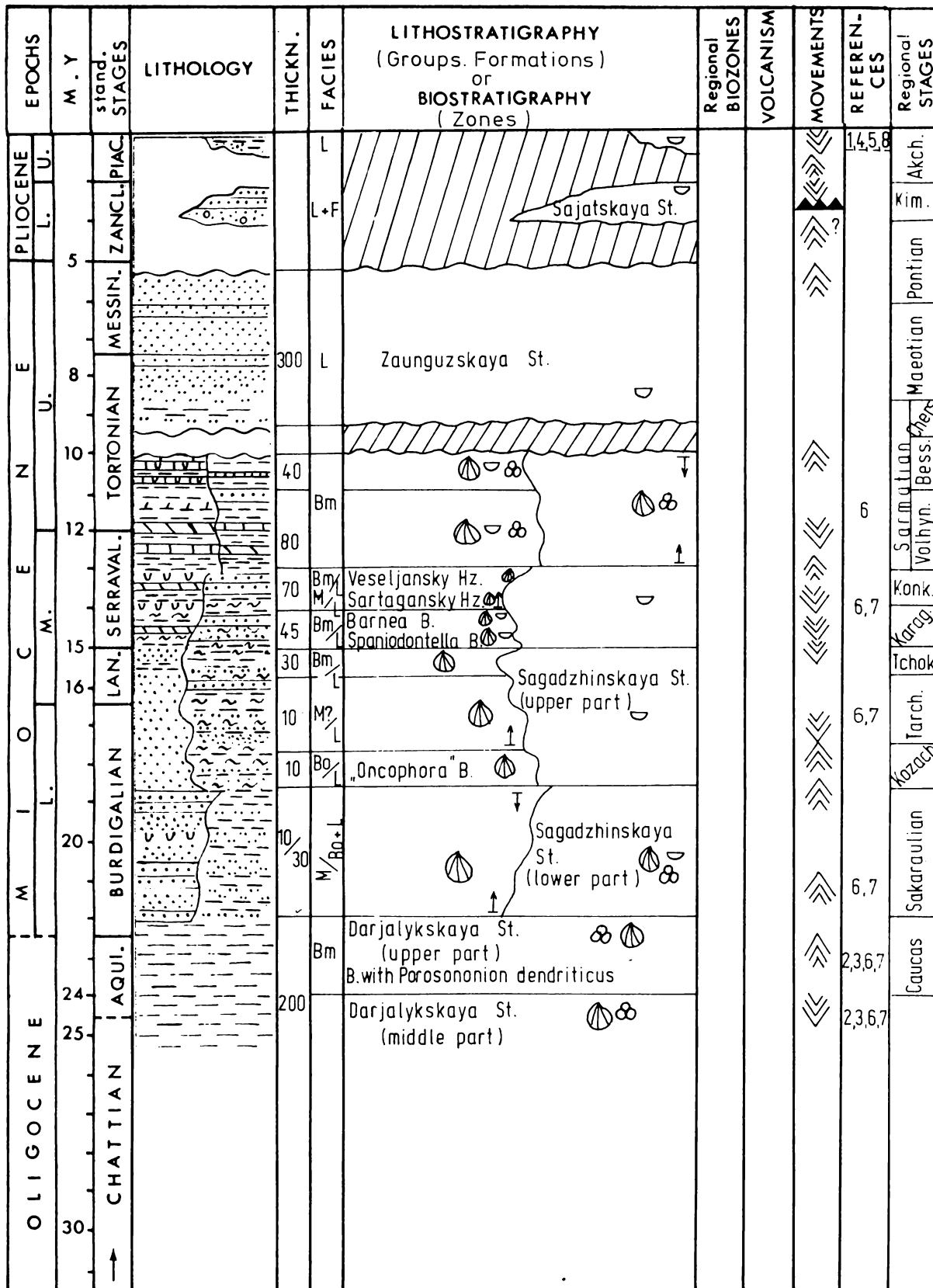
Authors: I. G. BELENKAJA & F. P. KORSAKOV

Area No. 282: CENTRAL KIZIL – KUM, SU

EPOCHS		M. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
PLIOCENE	U.	L.	U.									MESSIN.	ZANCL.
OLIGOCENE	30						Sarbatyrskaya St. (lower part)			↗↗↗	2	Caucas.	
	25					M	Sarbatyrskaya St. (upper part)			↗↗↗	2	Sakaraulian	
	24				70	Bm				↗↗↗			
	20				15	M				↗↗↗			
	16				150	L	Agitminskaya St.			↗↗↗			
	15									↗↗↗			
	12									↗↗↗			
	10									↗↗↗			
	8									↗↗↗			
	5					34	L	Turanskaya St.			↗↗↗	3	Pontian
							Sadyvorskaya St. (lower part)			↗↗↗	1, 4	Akch.	

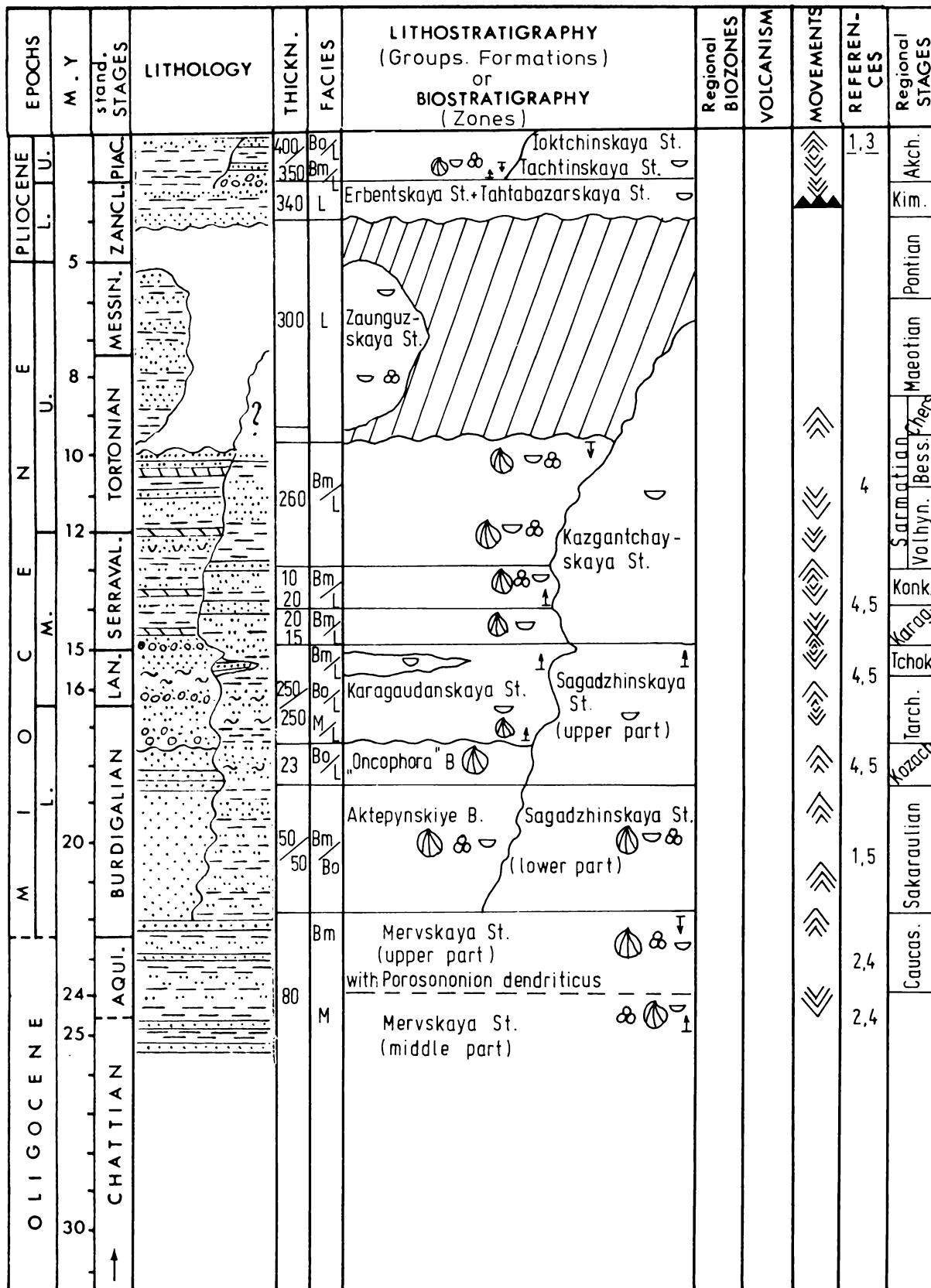
Author: I. G. BELENKAJA

Area No. 283 a: E TURKMENISTAN, N PART, SU



Author: T. ROZYJEVA

Area No. 283 b: E TURKMENISTAN, S PART, SU



Author: T. ROZYJEVA

Area No. 350 (see also 78): TAIYIBA, E OF RIFT, HKJ

EPOCHS	PLIOCENE		M. Y.	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	Regional STAGES	
	L.	U.											Messin.
O L I G O C E N E	M I O C E N E		5										
	E		8										
	N		10										
	E		12										
	C		15										
	M		16										
	O												
	L.		20										
	AQUITANIAN												
	BURDIGAL.												
	SERRAVAL.												
	TORTONIAN												
U.													
L.		24											
CHATTIAN		25			30 m.	Ls. & Glauc. Ls.	LS. WH., DENSE, SOFT, CHALKY, NEARLY BIOMICRITIC. GLAUCONITIC LS.: WH., LT. GY, M. HD., PARTLY SPARITIC.	LOBIG. AMPLI APERTURA LOBIG. ANGULISUTURALIS	B A S A L T S	R I F T			
		30											

Author: S. BASHA

Area No. 351 (see also 80): AQABA GULF, RAISED BEACHES, HKJ

EPOCHS		M. Y.		LITHOLOGY	THICKN./m	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (Zones)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES
OLIGOCENE	MIOCENE	PLIOCENE	stand. STAGES									
30					10-15	Dolo. Ls.	DOLOMITIC LIMESTONE : BUFF, SPARATIC, M. CRYSTALLINE, VUGGY, POROUS AND CAVERNEOUS. FAUNA : <u>BILOCULINA</u> sp., <u>QUINQUE</u> <u>LOCULINA</u> sp., <u>TEXTULARIA</u> sp., <u>ELPHIDIUM</u> sp., <u>PENEROPLIS</u> sp., <u>SORITES</u> sp.			RIFT		
25	CHATTIAN											
24												
20	AQUITANIAN											
16	BURDIGAL.	LAN.										
15	SERRAVAL.											
12												
10	TORTONIAN											
8												
5	MESSIN.	ZANCL.	PIAC.									

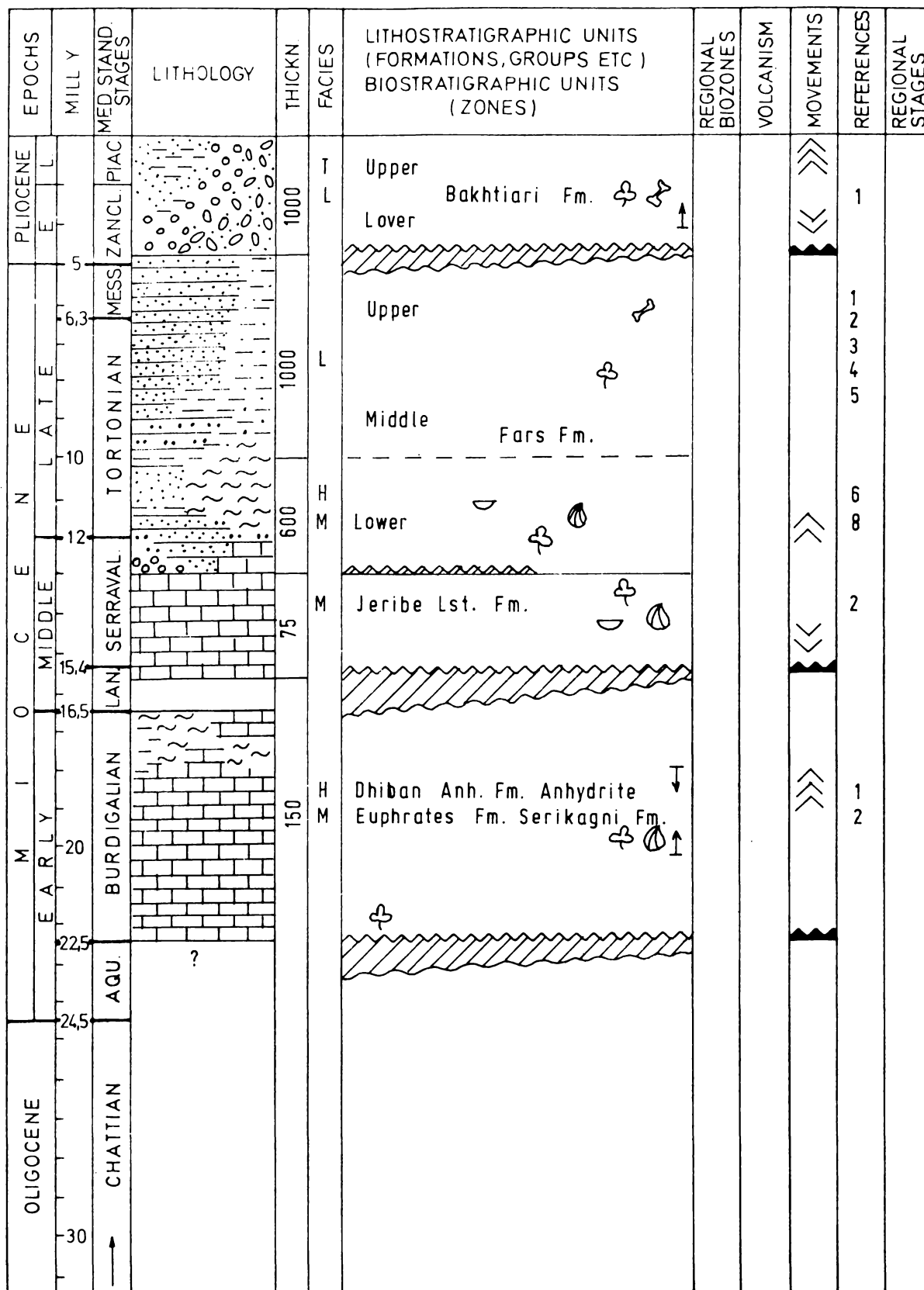
Author: S. BASHA

Area No. 151: SYRIA

EPOCHS	PLIOCENE		LITHOLOGY	THICKN/m.	FACIES	LITHOSTRATIGRAPHY (Groups Formations) or BIOSTRATIGRAPHY (ZONES)	Regional BIOZONES	VOLCANISM	MOVEMENTS	REFEREN- CES	Regional STAGES	
	M. Y.	Stand. STAGES										
Eocene	U.	5	ZANCL. PIAC. 	272	MARLS & SS.	ALTERNATING LAYERS OF MARLS, CLAYS AND SAND — STONE		B A S A L T	R I F T		BAKHTIARI	
		8	MESSIN. 		C L A Y S	CLAYS INTERBEDDED WITH THIN STREAKS OF SAND — STONE AND ANHYDRITE						U P P E R F A R S
		12	TORTONIAN 	100								
Eocene	M.	15	SERRAVAL. 	230	A N H Y D R I T S	ANHYDRITE INTERBEDDED WITH A FEW DOLOMITE CONCRETIONS.					M I D D L E F A R S	
		16	LAN. 									M I D D L E F A R S
Miocene	L.	20	BURDIGAL. 		A N H Y D	DOLOMITES ASSOCIATED WITH THIN STREAKS OF LIMESTONE AND WITH A FEW ANHYDRITES AND CLAYS						L O W E R F A R S
		24	AQUITANIAN 	170	D O L O . C L A Y S & A N H Y D							L O W E R F A R S
		25	CHATTIAN 	290	L S . & D O L O M I T E	LIMESTONES AND DOLOMITES ALTERNATIONS						M I D Y A T

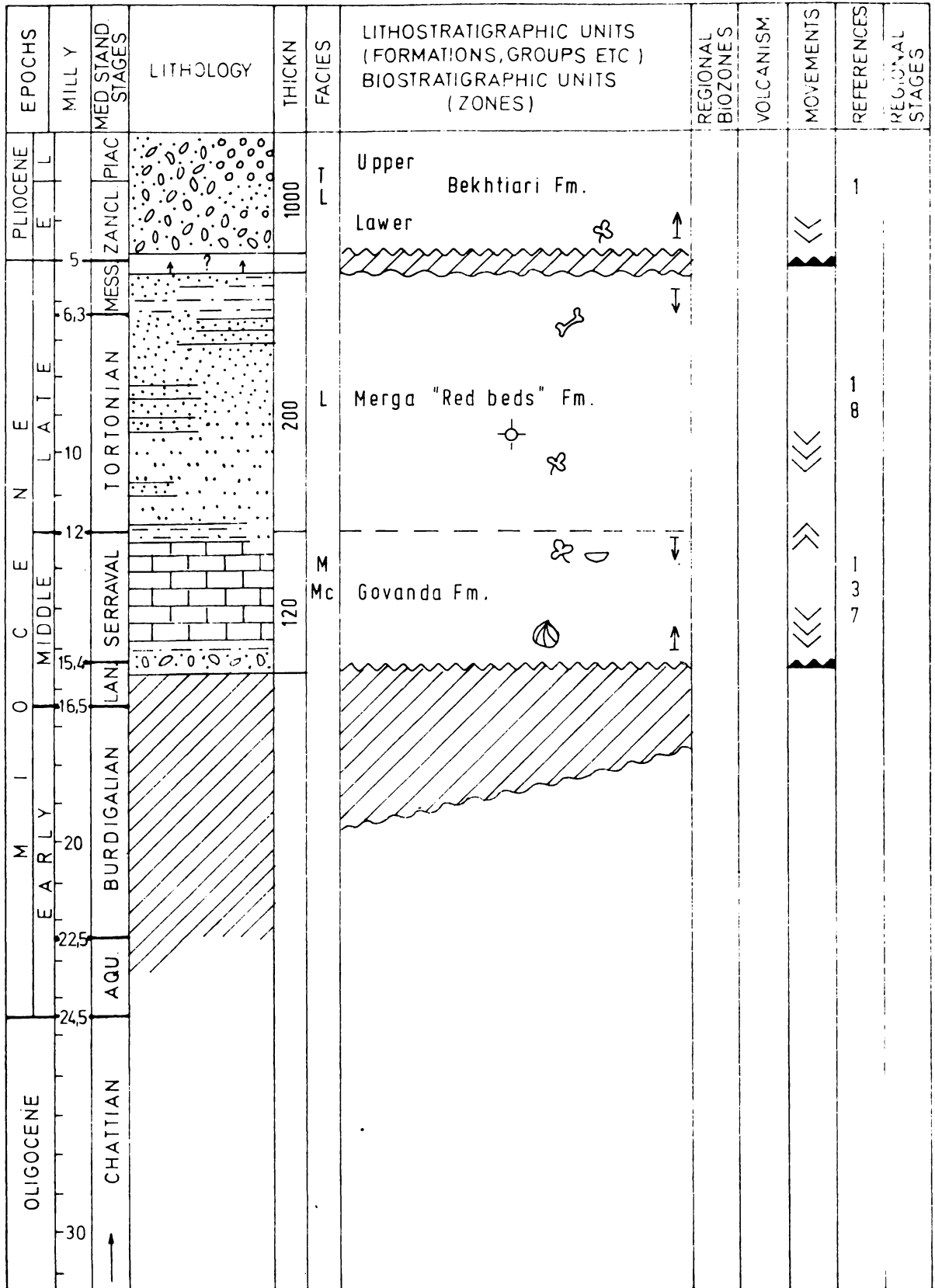
Author: S. BASHA

Area No. 353: MESOPOTAMIAN BASIN, IRQ



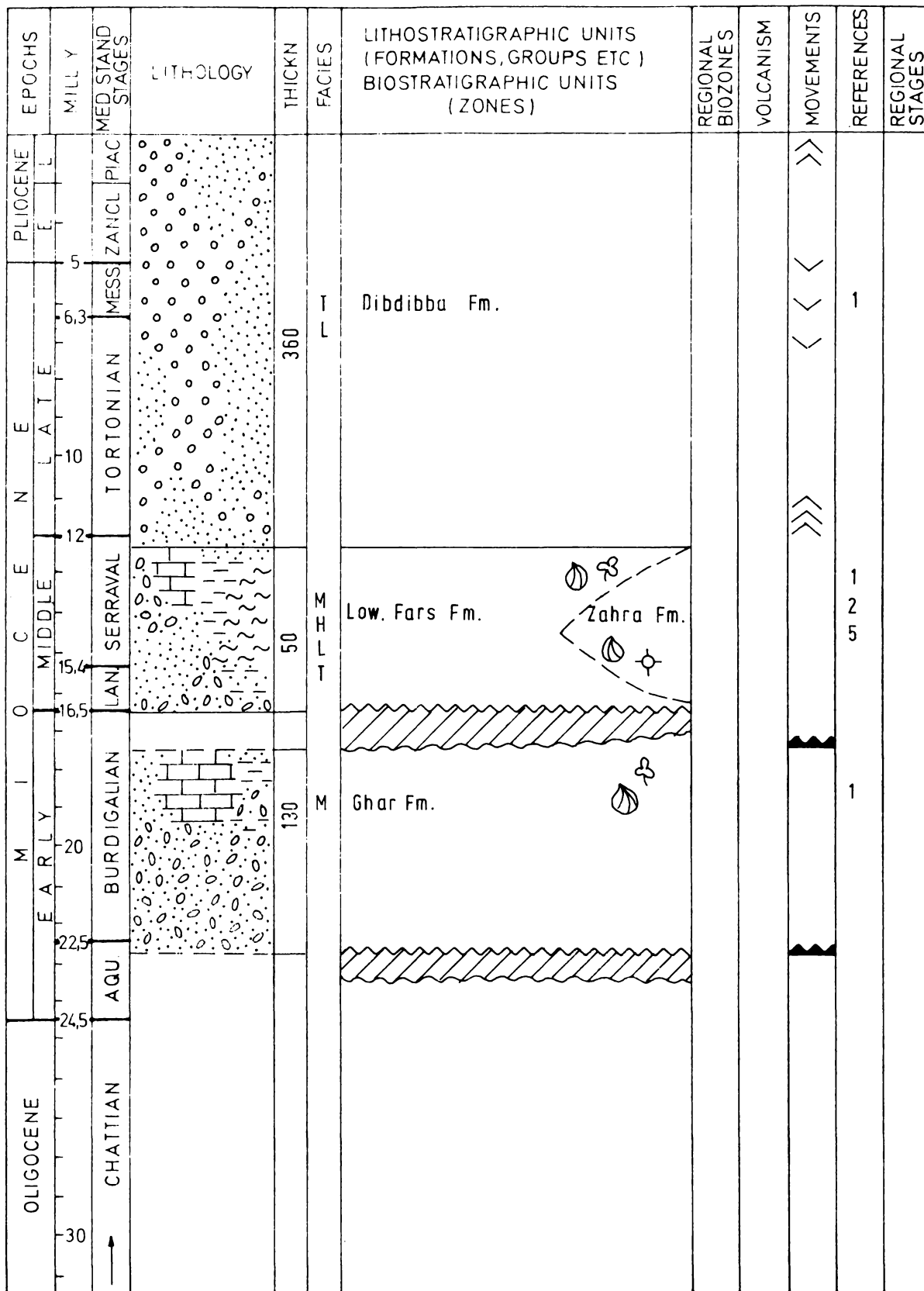
Authors: I. CICHA & J. PRAZAK

Area No. 355: NE IRAQ BASIN, IRQ



Authors: I. CICHA & J. PRAZAK

Area No. 354: PERSIAN GULF BASIN, KWT



Authors: I. CICHA & J. PRAZAK

Area No. 356: QUM BASIN, CENTRAL IRAN, IR

EPOCHS		M. Y.	STAND. STAGES	LITHOLOGY	THICKN	FA CIES	LITHOSTRATIGRAPHY (Groups, Formations) Or Biostratigraphy (Zones)	Regional Biozones	VOLCANISM	MOVEMENTS	REFERENCES	Regional Stages															
OLIGOCENE	MIocene																										
OLIGOCENE	M L	30	CHATTIAN		80-313-243-30	ML	Qum Formation	a		>>	REFERENCES NO. 1	Chattian															
								b		>>																	
								c ₁		>>																	
								c ₂		>>																	
								c ₃		>>																	
								c ₄		>>																	
	M L	20	AQUITANIAN		20-40-30-90-70-150-300-130-380	ML	Qum Formation	d		>>																	
								e		>>																	
								f		>>																	
								M	15	SERRAVAL			2000	T	Upper Red Formation	M ₁		>>									
																M	10	TORTONIAN		1000	T	Upper Red Formation	M ₂		>>		
																							M ₃		>>		
E	5	PLIOCENE		200-300	T	Pliocen C. Onqtomerate Hezardarreh F.m			>>			Daz.															

Author: M. R. CHAHIDA

Area No. 359: ZAGROS BASIN (FARS GROUP), IR

EPOCHS		M. Y.	Stand STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) Or BIOSTRATIGRAPHY (Zones)	Regional Biozones	VOLCANISM	MOVEMENTS	REFERENCES	Regional Stages							
OLIGOCENE	PLIOCENE											Chat	Aquit	Bardig	Helvet.	Tortonian	Sarmat	Pannonian	Pontian
OLIGOCENE	M. L.	30	CHATTIAN		315 - 520	M	Asmari Fm. 												
		25	AQUITANIAN		296	M		1											
		20	BURDIGAL.		52.5	M	Mishan Fm. 												
		15	SERRAVAL.		710	M													
		10	TORTONIAN		2965	ML	Aghadjari Fm. 												
E	U.	8	MESSIN.		520 - 2400	T													
		5	ZANCL.				Bakhtyari Fm. 												
			PIAC.																
REFERENCES NO. 4 and 5																			

Author: M. R. CHAHIDA

- 2= Champéh Member
- 3= Mol Member

Area No. 360: ZAGROS BASIN (AHWAS BASIN), IR

EPOCHS		M. Y.	STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) Or BIOSTRATIGRAPHY (Zones)	Regional Biozones	VOLCANISM	MOVEMENTS	REFERENCES	Regional Stages					
OLIGOCENE	PLIOCENE											Regional Stages	Regional Stages				
OLIGOCENE	M L	30	CHATTIAN		213.5	M	Ahwas Sand Stone Mb. 				REFERENCES NO. 5	Chattian					
							62	M	M. Asmari Fm. 					Aquitanian			
									296	M		Gachsaran Fm. 				Bardigian	
													110	M	Mishan Fm. 		
									52.5	M		Aghadjari Fm. 					
													2965	ML	Bakhtyari Fm. 		
									520	T		Bakhtyari Fm. (continued)					
													5		Bakhtyari Fm. (continued)		
				E					U	8							

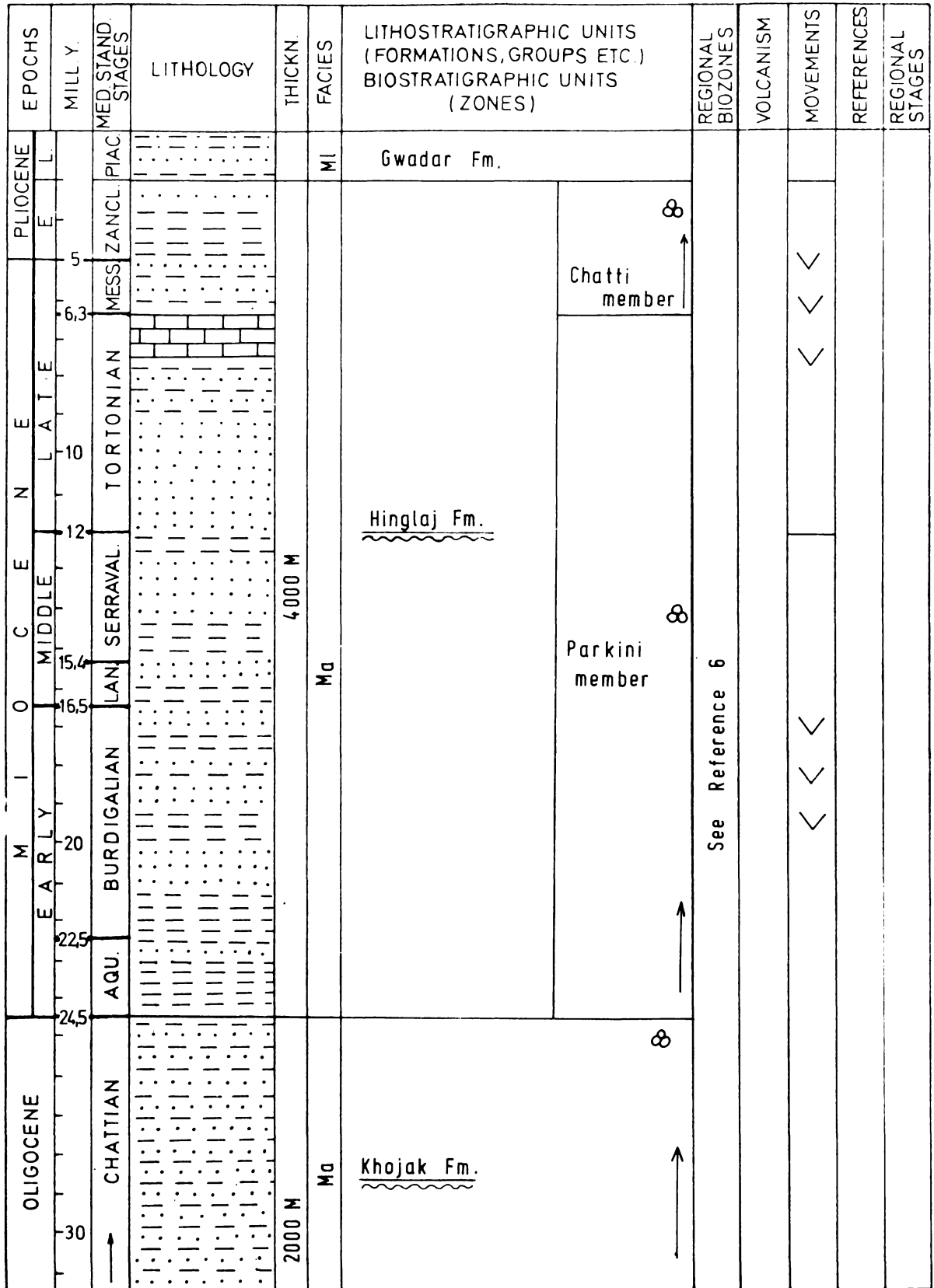
Author: M. R. CHAHIDA

Area No. 361: ZAGROS BASIN IN GENERAL, IR

EPOCHS		PLIOCENE		MIOCENE		OLIGOCENE		LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHY (Groups, Formations) Or BIOSTRATIGRAPHY (Zones)	Regional Biozones	VOLCANISM	MOVEMENTS	REFERENCES	Regional Stages	
M. Y.	Stand STAGES	U.	L.	U.	M.	M.	L.									Daz.	Pontian
5	ZANCL. PAC.								520	T	Bakhtyari-Fm.			↑↑↑			Daz.
8	MESSIN													▲▲▲			Pontian
10	TORTONIAN								2965	ML	Aghadjavi-Fm.			↑↑↑			Pannonian
12	SERRAVAL.																Sarmat
15	LAN.																Tortonian
16	BURDIGAL.								710	M	Mishan-Fm.						Helvet.
20	AQUITANIAN								9045	M	Razak-Fm.						Bardigalian
24																	Aquitanian
25	CHATTIAN								314	M	Asmari-Fm.			↓↓↓			Chattian
30																	

Author: M. R. CHAHIDA

Area No. 362: BALUCHISTAN BASIN, PAK



Author: A. A. KURESHY

Area No. 363: LOWER INDUS BASIN, PAK

EPOCHS		MILL. Y.	MED. STAND STAGES	LITHOLOGY	THICKN	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	OLIGOCENE											
E	L	5	PIAC		6000 M	F	SIWALIK Gr.	Soan Fm.				
E	L	6.3	MESS ZANCL		6000 M	F	SIWALIK Gr.	Dhok Pattan Fm.				
E	L	10	TORTONIAN		6000 M	F	SIWALIK Gr.	Nagri Fm				
E	L	12	SERRAVAL		6000 M	F	SIWALIK Gr.					
E	L	15.4	LANI		6000 M	F	SIWALIK Gr.					
E	L	16.5	BURDIGALIAN		600 M	ML	Momani Gr.	Gaj Fm				
E	L	20	AGU		600 M	ML	Momani Gr.	Nari Fm				
E	L	22.5	CHATTIAN		1400 M	ML	Momani Gr.					
E	L	24.5	CHATTIAN		1400 M	ML	Momani Gr.					
See References 2, 3.												

Author: A. A. KURESHY

Area No. 364: UPPER INDUS BASIN, PAK

EPOCHS		MILL. Y.		LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.)	BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLIOCENE	PLIOCENE	PLIOCENE	PLIOCENE										
OLIGOCENE	CHATTIAN	30	24.5				Absent						
		EARLY	22.5	20	3000 M	F	Rawalpindi Gr.	Murree Fm.		See Reference 3			
MIDDLE	16.5	15.4	LAN. SERRAVAL.				Kamljal Fm.						
NEOGENE	LATE	12	6.3	5	6000-8000 M	F	Siwalik Gr.	Chenji Fm.					
		PLIOCENE	5					Soan Fm. Dhok Pattan Fm. Nagri Fm.					

Author: A. A. KURESHY

Area No. 365: KAREWA GROUP, KASHMIR, IND

EPOCHS	MILLY	MED. STAND. STAGES	LITHOLOGY	THICKN.	FACIES	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	REGIONAL BIOZONES	VOLCANISM	MOVEMENTS	REFERENCES	REGIONAL STAGES
PLEISTOCENE				450 - 400	T	Upper Karewa Fm.				1, 2, 3, 4, 9	
				400 - 300	G L L F						9 3 9
PLIOCENE	2			1000 - 900	L	Lower Karewa Fm.				10, 3	
				900 - 500	L						13, 7 5, 8 12, 7
CARBONIFEROUS - PERMIAN?	5				F, T	Panjal Trap				10, 11 4	

Author: D. RAY

Chatterjee (1976), Gansser (1964), Roy (1975) and Wadia (1948).

Area No. 366: BLACK SEA BASIN (DSDP SITE 380)

OLIGOCENE		M I O C E N E						PLIOCENE		EPOCHS			
		EARLY		MIDDLE		LATE		E	L	MILL. Y.			
← CHATTIAN		AQU.	BURDIGALIAN		LAN.	SERRAVAL	TORTONIAN		MESS.	ZANCL.	PIAC.	MED STAND. STAGES	
										LITHOLOGY			
<i>Depth below seabottom in meters</i>							1075	1000	900	800	700	THICKN.	
<i>Lithologic units according to DSDP-site 380</i>							V	IVe	IVd	c	IVb	α	FACIES
<i>Climatic zones DSDP-site 380</i>							Miocene		Pliocene pre α			LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	
REGIONAL BIOZONES													
VOLCANISM													
MOVEMENTS													
							1-7		REFERENCES				
REGIONAL STAGES													

Author: F. F. STEININGER (after HSÜ 1978)

OLIGOCENE	M I O C E N E							PLIOCENE		EPOCHS			
	EARLY			MIDDLE		LATE		E	L				
30	24.5	22.5	20	16.5	15.4	12	10	6.3	5		MILL. Y.		
←	CHATTIAN	AQU.	BURDIGALIAN	LAN.	SERRAVAL	TORTONIAN		MESS	ZANCL	PIAC	MED STAND STAGES		
											LITHOLOGY		
<i>Depth below seabottom in meters</i>					1075	1000	900	800	700		THICKN		
<i>Lithologic units according to DSDP-site 380</i>						V	IVe	d/c	IVb		IVa	III	FACIES
<i>Diatom units (Jouse' & Mukhina, 1978)</i>							8	7c	7b	7a	6	LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)	
											REGIONAL BIOZONES		
											VOLCANISM		
											MOVEMENTS		
1, 2, 3, 4, 5, 6, 7											REFERENCES		
						BESS. E. M.	CH.	MAEOT	PONTIEN	KIMM.	KUY.	REGIONAL STAGES	

Author: F. F. STEININGER (after KOJUMDZIEVA 1979)

Area No. 366: BLACK SEA BASIN (DSDP SITE 381)

OLIGOCENE	M I O C E N E						P L I O C E N E			EPOCHS		
	E A R L Y		M I D D L E		L A T E		E L					
30	24.5	22.5	20	16.5	15.4	12	10	6.3	5		MILL Y	
→ CHATTIAN	AQU.	BURDIGALIAN	LAN.	SERRAVAL	TORTONIAN	MESS.	ZANCL.	PIAC.			MED STAND STAGES	
												LITHOLOGY
<i>Depth below seabottom in meters</i>							503.50	400	300			THICKN
<i>Lithologic units according to DSDP-site 381</i>								6	5	4	3	FACIES
<i>Climatic zones DSDP-site 381</i>							Miocene	U. Mioc.	Pliocene pre-α			LITHOSTRATIGRAPHIC UNITS (FORMATIONS, GROUPS ETC.) BIOSTRATIGRAPHIC UNITS (ZONES)
											REGIONAL BIOZONES	
											VOLCANISM	
											MOVEMENTS	
							1, 3, 4				REFERENCES	
											REGIONAL STAGES	

Author: F. F. STEININGER