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## APPENDICES

**Tabular list of the dimensions of the ammonoid conch in the study area.**  
(in millimeter)

Specimen Number	Diameter (D)	Height (H)	Width (W)	Umbilicus (Du)	$\frac{W}{D}$	$\frac{Du}{D}$
<i>Agathiceras</i> sp.						
1. KNH 7-1-9	25.00	-	10.70	-	0.428	-
2. KNH 7-1-10	19.60	-	11.70	4.50	0.60	0.23
3. KNH 7-1-11	19.40	7.00	12.00	3.30	0.62	0.17
4. KNH 7-1-12	13.60	6.00	8.40	3.20	0.62	0.24
5. KNH 7-1-13	14.60	6.40	12.20	3.80	0.84	0.26
6. KNH 7-10-9	22.20	6.70	13.30	3.90	0.60	0.18
7. KNH 7-10-11	11.30	3.10	6.88	2.10	0.61	0.19
8. KNH 7-10-12	29.80	-	11.90	5.00	0.40	0.17
9. KNH 7-10-13	24.40	-	12.50	4.00	0.51	0.16
10. KNH 10-2-5	12.30	3.40	8.30	3.00	0.67	0.24
11. KNH 10-2-6	14.30	5.00	8.50	2.90	0.59	0.20
12. KNH 10-2-7	22.00	8.00	12.90	4.20	0.59	0.19
<i>Agathiceras mediterraneum</i> Toumanskaya, 1949						
13. KNH 1-1-8	21.00	6.00	12.00	4.30	0.57	0.20
14. KNH 1-1-9	18.90	6.30	7.70	3.10	0.41	0.16
15. KNH 1-1-10	22.20	8.10	11.00	-	0.50	-
16. KNH 7-1-14	25.50	-	-	-	-	-
17. KNH 7-10-4	26.70	12.80	13.70	4.50	0.51	0.17
18. KNH 7-10-5	15.00	3.80	-	3.70	-	0.25
19. KNH 7-10-14	30.70	-	15.90	-	0.52	-
20. KNH 7-10-15	17.60	6.90	12.10	4.20	0.69	0.24
<i>Adrianites marathonensis</i> Bose, 1917						
21. KNH 7-10-17	8.60	3.10	10.70	1.00	1.24	0.12

Specimen Number	Diameter (D)	Height (H)	Width (W)	Umbilicus (Du)	$\frac{W}{D}$	$\frac{Du}{D}$
<i>Adrianites cancellatum</i> Smith, 1927						
22. KNH 10-2-9	7.90	4.00	8.00	1.00	1.01	0.13
23. KNH 10-2-10	12.10	5.90	11.00	1.50	0.91	0.12
<i>Prostacheoceras pamiricus</i> (Bogoslovskaya, 1978)						
24. KNH 1-1-3	30.00	9.00	15.60	-	0.52	-
25. KNH 7-10-20	11.20	3.20	9.00	2.20	0.80	0.20
<i>Stacheoceras brunsonorum</i> Miller and Cline, 1934						
26. KNH 7-10-10	14.40	3.00	10.10	-	0.70	-
<i>Stacheoceras rothi</i> Miller and Furnish, 1940						
27. KNH 7-10-19	19.30	5.60	15.10	5.00	0.78	0.26
<i>Stacheoceras mediterraneum</i> Gemmellaro, 1887						
28. KNH 10-2-1	37.90	14.40	22.50	7.30	0.59	0.19
<i>Perrinites</i> sp.						
29. KNH 1-1-5	-	-	29.00	-	-	-
30. KNH 1-1-6	-	-	31.00	-	-	-
31. KNH 1-1-7	-	-	-	-	-	-
32. KNH 7-1-19	47.20	13.00	33.50	6.00	0.71	0.13
33. KNH 7-1-20	31.30	8.90	19.00	5.00	0.61	0.16
34. KNH 7-10-2	56.40	15.20	31.10	10.30	0.85	0.28
35. KNH 10-2-2	-	-	-	-	-	-
36. KNH 10-2-3	-	-	-	-	-	-
37. KNH 10-2-4	10.20	4.00	7.20	2.70	0.71	0.26
38. KNH 10-2-8	35.00	11.00	14.50	-	0.41	-
<i>Perrinites tardus</i> (Miller and Furnish, 1940), Tharalson, 1984						
39. KNH 1-1-4	27.00	7.00	14.00	-	0.52	-
40. KNH 7-1-17	20.00	7.80	14.70	3.50	0.74	0.18

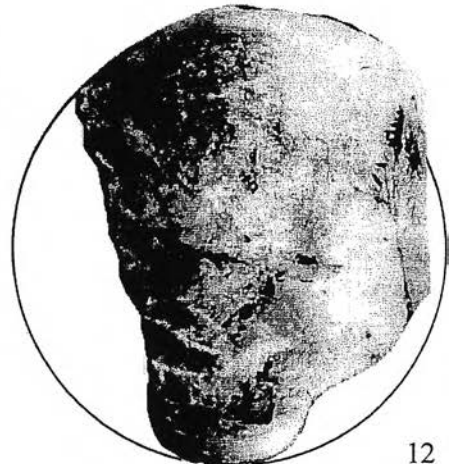
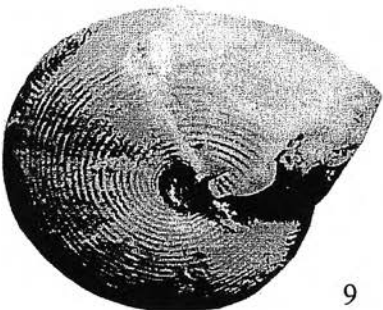
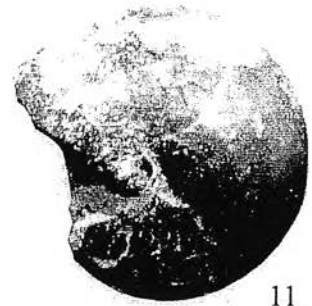
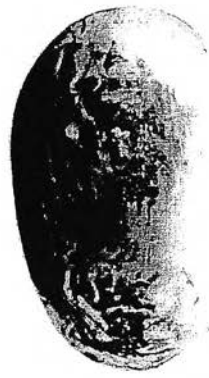
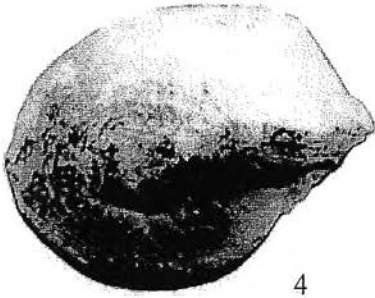
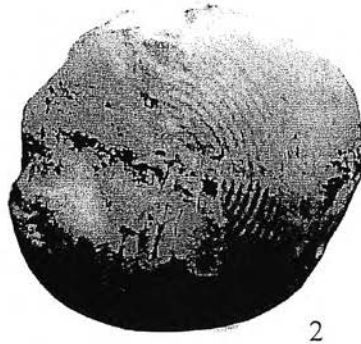
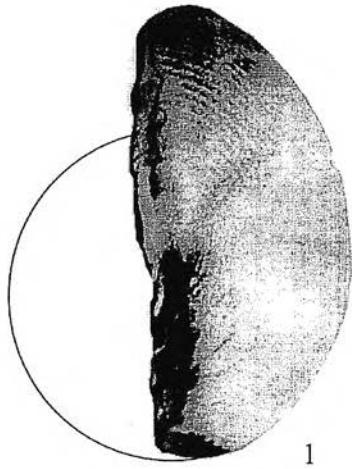
Specimen Number	Diameter (D)	Height (H)	Width (W)	Umbilicus (Du)	$\frac{W}{D}$	$\frac{Du}{D}$
<b><i>Perrinites tardus</i> (Miller and Furnish, 1940), Tharalson, 1984</b>						
41. KNH 7-1-18	55.10	13.90	20.00	-	0.36	-
42. KNH 7-10-7	22.00	6.30	11.70	4.00	0.53	0.18
43. KNH 7-10-16	38.40	-	18.30	-	0.48	-
<b><i>Perrinites cf. hilli</i> (Smith, 1903), Miller and Furnish, 1940</b>						
44. KNH 7-1-16	72.40	22.50	-	11.00	0.00	0.15
45. KNH 7-10-3	42.40	16.00	21.10	7.80	0.50	0.18
46. KNH 7-10-8	52.80	9.40	23.40	9.16	0.44	0.17
<b><i>Popanoceras</i> sp.</b>						
47. KNH 7-10-1	38.10	15.10	10.70	7.50	0.28	0.20
<b><i>Thalassoceras welleri</i> (Bose, 1917), Miller and Furnish, 1940</b>						
48. KNH 7-10-18	12.00	3.84	6.48	1.00	0.54	0.08
<b><i>Daraelites</i> sp.</b>						
49. KNH 1-1-2	32.00	8.80	6.20	12.00	0.19	0.38
<b><i>Parapronorites</i> sp.</b>						
50. KNH 7-10-6	19.00	7.86	5.00	3.70	0.26	0.19
<b><i>Propinacoceras beyrichi</i> Gemmellaro, 1888</b>						
51. KNH 7-1-15	49.60	16.80	11.60	-	0.23	-
<b><i>Propinacoceras americanum</i> Miller and Warren, 1933</b>						
52. KNH 1-1-1	35.00	-	7.60	-	0.22	-

## EXPLANATION OF PLATE 1

### *Agathiceras* sp.

Figure		Page
1-12	<i>Agathiceras</i> sp.....	42
	(1) Lateral view, $\times 2.4$ , of specimen number KNH 7-1-9; (2) Lateral view, $\times 2$ , of specimen number KNH 7-1-10; (3) Lateral view, $\times 3$ , of specimen number KNH 7-1-12; (4) Lateral view, $\times 4$ , of specimen number KNH 7-10-11; (5) Ventral view, $\times 4$ , of specimen number KNH 7-10-11; (6) Ventral view, $\times 4$ , of specimen number KNH 7-10-11, show aperture; (7) Lateral view, $\times 2$ , of specimen number KNH 7-10-9; (8) Ventral view, $\times 2$ , of specimen number KNH 7-10-9; (9) Lateral view, $\times 3.5$ , of specimen number KNH 7-1-11; (10) Ventral view, $\times 3.5$ , of specimen number KNH 7-1-11; (11) Lateral view, $\times 1.6$ , of specimen number KNH 7-1-13; (12) Lateral view, $\times 2$ , of specimen number KNH 7-1-12.	

PLATE 1



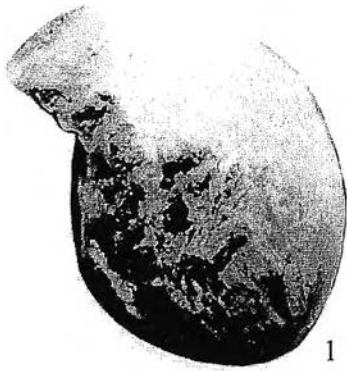
## EXPLANATION OF PLATE 2

### *Agathiceras* sp. and *Agathiceras mediterraneum*

Figure	Page
1-8 <i>Agathiceras</i> sp.....	42
(1) Lateral view, $\times 1.8$ , of specimen number KNH 7-10-13; (2) Ventral view, $\times 1.8$ , of specimen number KNH 7-10-13; (3) Lateral view, $\times 4$ , of specimen number KNH 10-2-5; (4) Ventral view, $\times 4$ , of specimen number KNH 10-2-5; (5) Lateral view, $\times 2$ , of specimen number KNH 10-2-6; (6) Ventral view, $\times 2$ , of specimen number KNH 10-2-6; (7) Lateral view, $\times 2$ , of specimen number KNH 10-2-7; (8) Ventral view, $\times 2$ , of specimen number KNH 10-2-7.	
9-12 <i>Agathiceras mediterraneum</i> .....	43
(9) Lateral view, $\times 2.5$ , of specimen number KNH 1-1-10; (10) Ventral view, $\times 2.7$ , of specimen number KNH 1-1-9; (11) Lateral view, $\times 2.7$ , of specimen number KNH 1-1-9; (12) Ventral view, $\times 2.7$ , of specimen number KNH 1-1-9, show aperture.	



PLATE 2



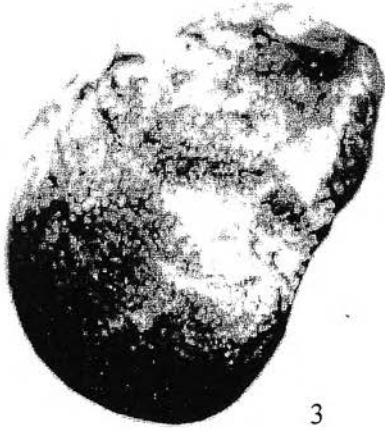
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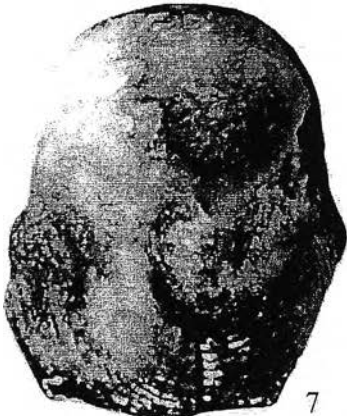
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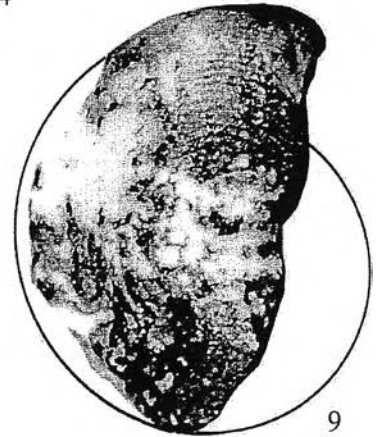
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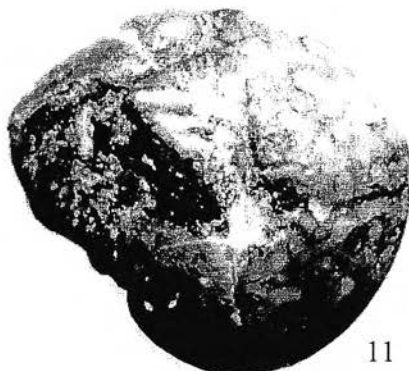
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### EXPLANATION OF PLATE 3

#### *Agathiceras mediterraneum*

Figure		Page
1-12	<i>Agathiceras mediterraneum</i> .....	43
	(1) Ventral view, ×2, of specimen number KNH 7-10-15; (2) Lateral view, ×2, of specimen number KNH 7-10-15; (3) Ventral view, ×2, of specimen number KNH 7-10-15, show aperture; (4) Ventral view, ×2, of specimen number KNH 7-10-5; (5) Lateral view, ×2, of specimen number KNH 7-10-5; (6) Ventral view, ×2, of specimen number KNH 1-1-8, show aperture; (7) Ventral view, ×2, of specimen number KNH 1-1-8; (8) Lateral view, ×2, of specimen number KNH 1-1-8; (9) Lateral view, ×3, of specimen number KNH 7-1-14; (10) Ventral view, ×2.5, of specimen number KNH 7-10-14; (11) Lateral view, ×2, of specimen number KNH 7-10-4; (12) Ventral view, ×2, of specimen number KNH 7-10-4.	

PLATE 3

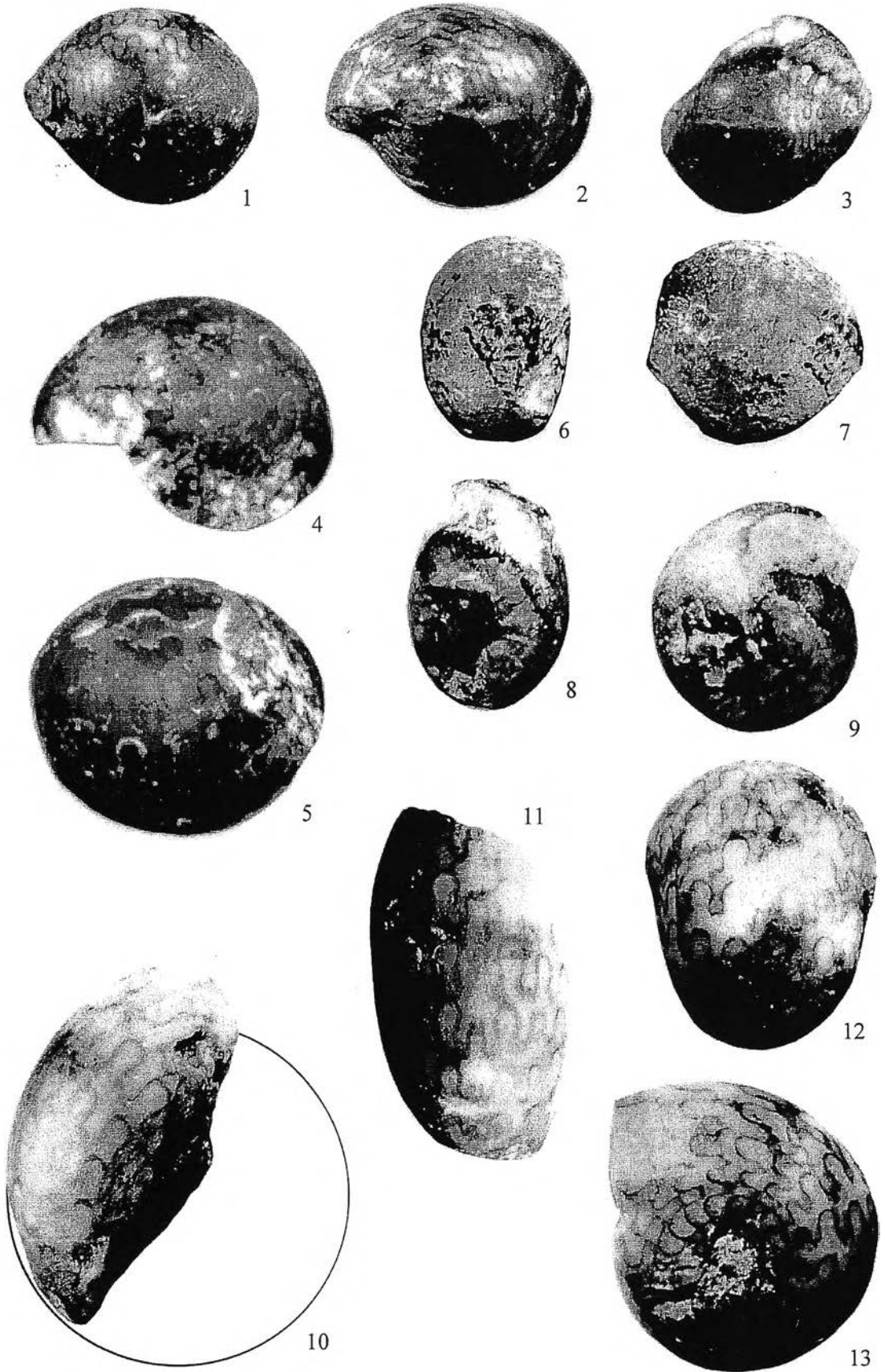


## EXPLANATION OF PLATE 4

### *Adrianites marathonensis*, *Adrianites cancellatum*, *Stacheoceras brunsonorum*, and *Prostacheoceras pamiricus*

Figure	Page
1-3 <i>Adrianites marathonensis</i> ..... (1) Ventral view, $\times 4.3$ , of specimen number KNH 7-10-17; (2) Lateral view, $\times 4.3$ , of specimen number KNH 7-10-17; (3) Ventral view, $\times 4.3$ , of specimen number KNH 7-10-17, show aperture.	44
4-7 <i>Adrianites cancellatum</i> ..... (4) Lateral view, $\times 3.3$ , of specimen number KNH 10-2-10; (5) Ventral view, $\times 3.3$ , of specimen number KNH 10-2-10; (6) Ventral view, $\times 4.5$ , of specimen number KNH 10-2-9; (7) Lateral view, $\times 4.5$ , of specimen number KNH 10-2-9.	45
8-9 <i>Stacheoceras brunsonorum</i> ..... (8) Ventral view, $\times 2.5$ of specimen number KNH 7-10-10; Lateral view, $\times 2.5$ of specimen number KNH 7-10-10.	48
10-13 <i>Prostacheoceras pamiricus</i> ..... (10) Lateral view, $\times 2$ , of specimen number KNH 1-1-3; (11) Ventral view, $\times 2$ , of specimen number KNH 1-1-3; (12) Ventral view, $\times 2$ , of specimen number KNH 7-10-20; (13) Lateral view, $\times 4$ , of specimen number KNH 7-10-20.	47

PLATE 4



## EXPLANATION OF PLATE 5

### *Stacheoceras rothi*, *Perrinites* sp., and *Stacheoceras mediterraneum*

Figure	Page
1-2 <i>Stacheoceras rothi</i> ..... (1) Ventral view, ×1.8, of specimen number KNH 7-10-19, show aperture; (2) Lateral view, ×1.8, of specimen number KNH 7-10-19.	49
3-9 <i>Perrinites</i> sp..... (3) Lateral view, ×2, of specimen number KNH 1-1-7; (4) Lateral view, ×2, of specimen number KNH 10-2-2; (5) Lateral view, ×2.5, of specimen number KNH 10-2-4; (6) Ventral view, ×2.5, of specimen number KNH 10- 2-7; (7) Ventral view, ×2, of specimen number KNH 10-2-3; (8) Ventral view, ×1.2, of specimen number KNH 1-1-5; (9) Ventral view, ×1.3, of specimen number KNH 1-1-6.	51
10-13 <i>Stacheoceras mediterraneum</i> ..... (10) Ventral view, ×1.7, of specimen number KNH 10-2-1; (11) Ventral view, ×1.7, of specimen number KNH 10-2-1, show aperture; (12, 13) Two lateral view, ×1.7, of specimen number KNH 10-2-1.	50

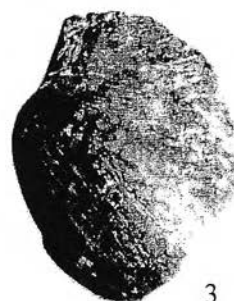
PLATE 5



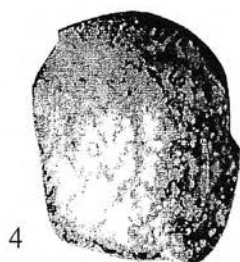
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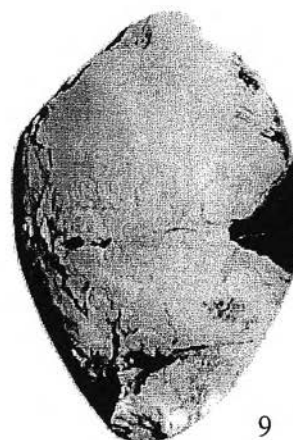
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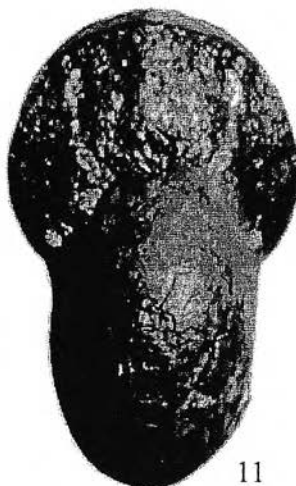
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## EXPLANATION OF PLATE 6

### *Perrinites* sp.

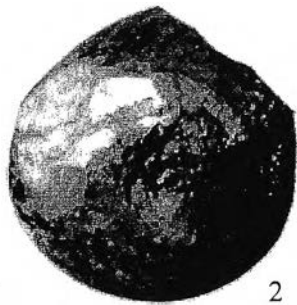
Figure		Page
1-9	<i>Perrinites</i> sp.....	51
	(1) Ventral view, $\times 1.3$ , of specimen number KNH 7-10-20, show aperture;	
	(2,3) Two lateral view, $\times 1.3$ , of specimen number KNH 7-10-20; (4) Ventral view, $\times 1.3$ , of specimen number KNH 7-10-20; (5) Lateral view, $\times 1.3$ , of specimen number KNH 10-2-8; (6) Lateral view, $\times 1.3$ , of specimen number KNH 7-1-19; (7) Ventral view, $\times 1.3$ , of specimen number KNH 7-1-19, show aperture; (8) Lateral view, $\times 1.3$ , of specimen number KNH 7-10-2; (9) Ventral view, $\times 1.3$ , of specimen number KNH 7-10-2, show aperture.	



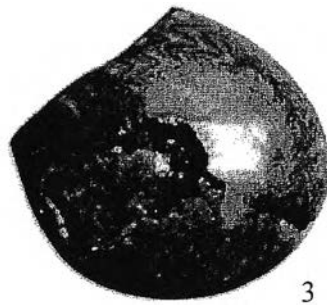
PLATE 6



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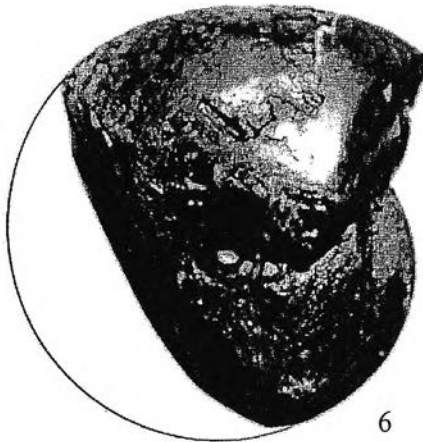
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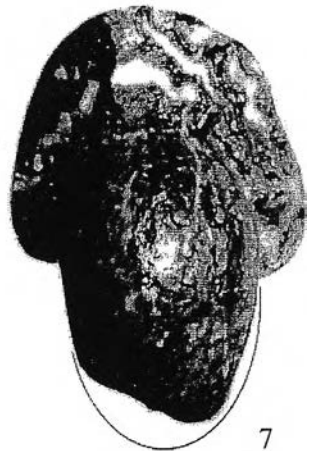
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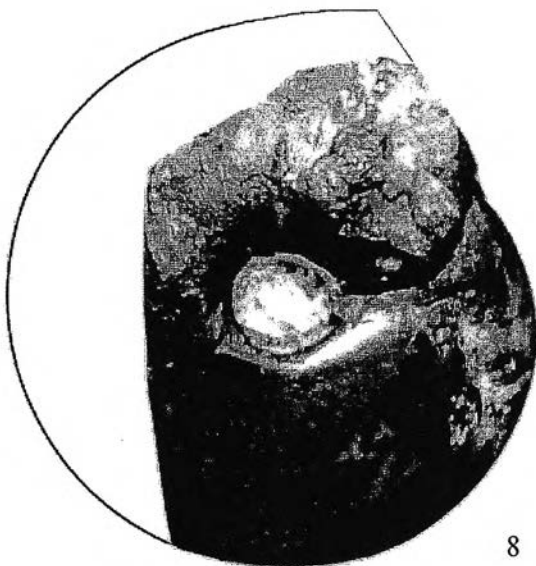
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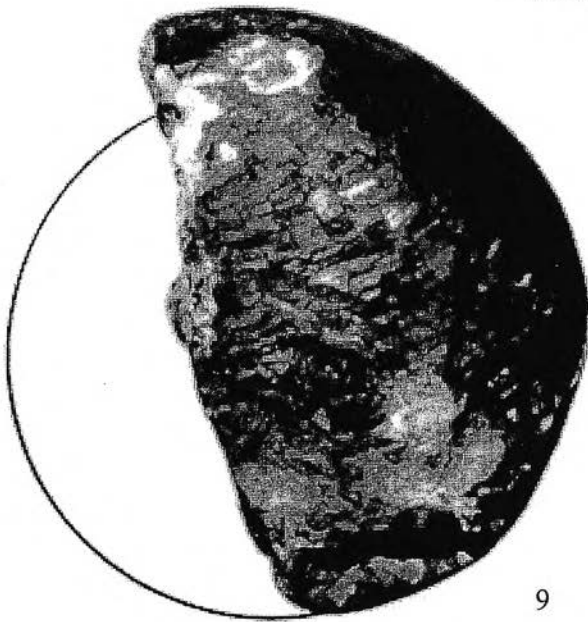
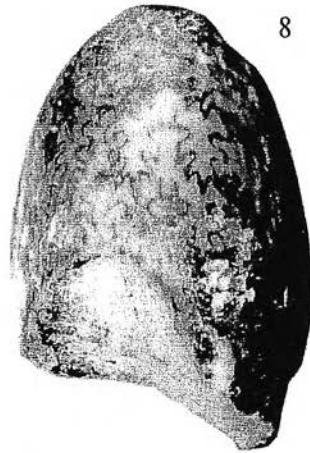
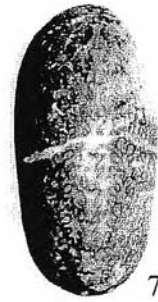
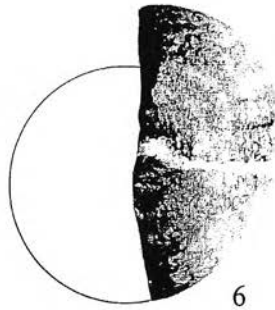
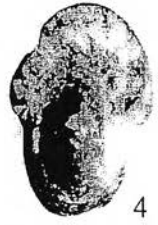
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EXPLANATION OF PLATE 7

*Perrinites tardus*

Figure		Page
1-12	<i>Perrinites tardus</i> .....	52
	(1) Ventral view, $\times 1.5$ , of specimen number KNH 7-1-17; (2,3) Two lateral view, $\times 1.5$ , of specimen number KNH 7-1-17; (4) Ventral view, $\times 1.5$ , of specimen number KNH 7-10-17, show aperture; (5) Ventral view, $\times 1.5$ , of specimen number KNH 7-10-7; (6) Lateral view, $\times 2$ , of specimen number KNH 1-1-4; (7) Ventral view, $\times 2$ , of specimen number KNH 1-1-4; (8) Ventral view, $\times 2$ , of specimen number KNH 7-10-16; (9) Lateral view, $\times 1.5$ , of specimen number KNH 7-1-18; (10) Ventral view, $\times 1.5$ , of specimen number KNH 7-1-18.	

PLATE 7

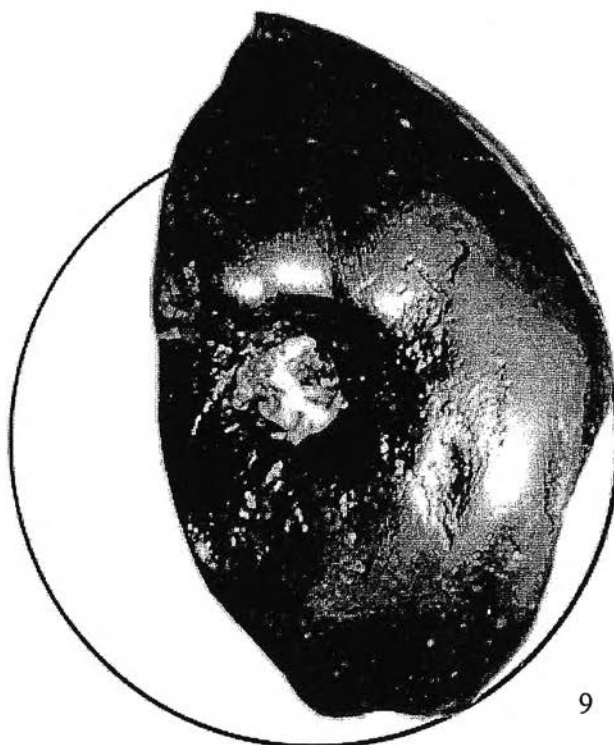
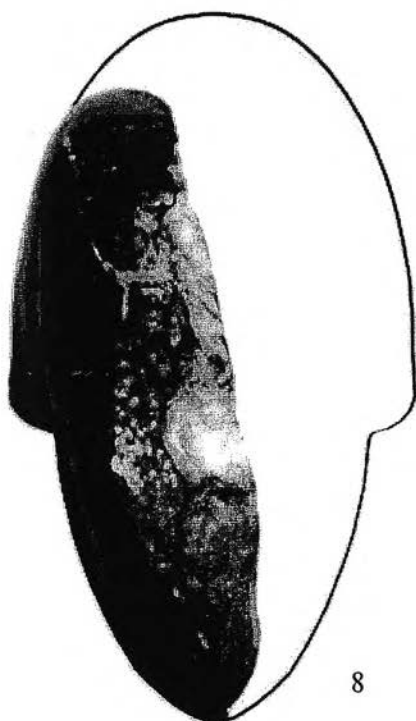
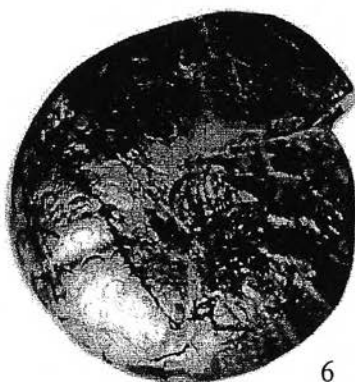
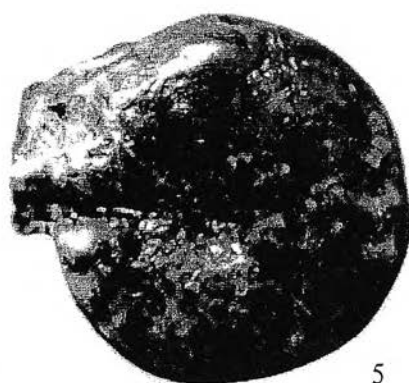
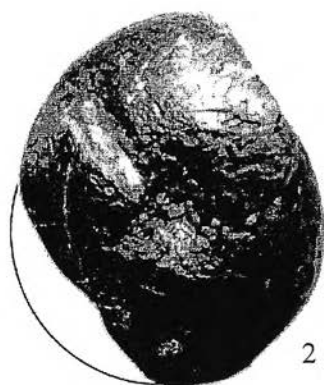


## EXPLANATION OF PLATE 8

### *Perrinites cf. hilli* and *Popanoceras* sp.

Figure	Page
<p>1-3 <i>Perrinites cf. hilli</i> .....</p> <p>(1) Ventral view, ×1.3, of specimen number KNH 7-10-3, show aperture; (2) Lateral view, ×1.3, of specimen number KNH 7-10-13; (3) Ventral view, ×1.4, of specimen number KNH 7-10-8.</p>	53
<p>4-7 <i>Popanoceras</i> sp.....</p> <p>(4) Ventral view, ×1.3, of specimen number KNH 7-10-1, show aperture; (5, 6) Two lateral view, ×1.3, of specimen number KNH 7-10-1; (6) Ventral view, ×2.5, of specimen number KNH 10-2-7; (7) Ventral view, ×1.3, of specimen number KNH 7-10-1.</p>	55
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PLATE 8



EXPLANATION OF PLATE 9

*Thallassoceras welleri*, *Daraelites* sp., *Parapronorites* sp.,  
*Propinacoceras americanum*, and *Propinacoceras beyrichi*

Figure	Page
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(1) Ventral view, ×3, of specimen number KNH 7-10-18, show aperture; (2) Lateral view, ×3, of specimen number KNH 7-10-18; (3) Ventral view, ×3, of specimen number KNH 7-10-18.	
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7-8 <i>Propinacoceras americanum</i> .....	62
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9-10 <i>Propinacoceras beyrichi</i> .....	60
(9) Ventral view, ×2, of specimen number KNH 7-1-5; (9) Lateral view, ×1.4, of specimen number KNH 7-1-15.	

PLATE 9



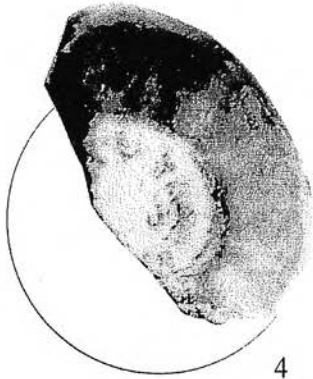
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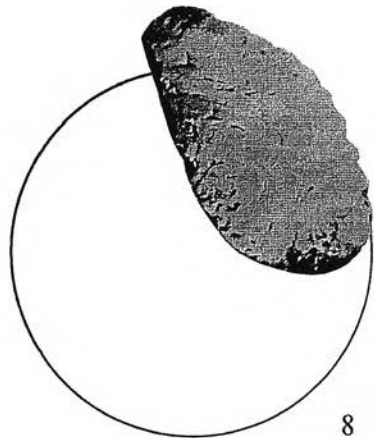
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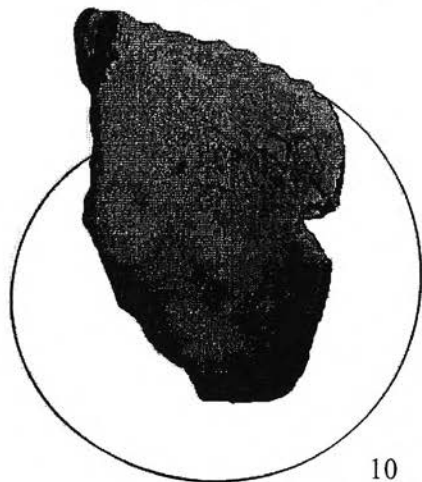
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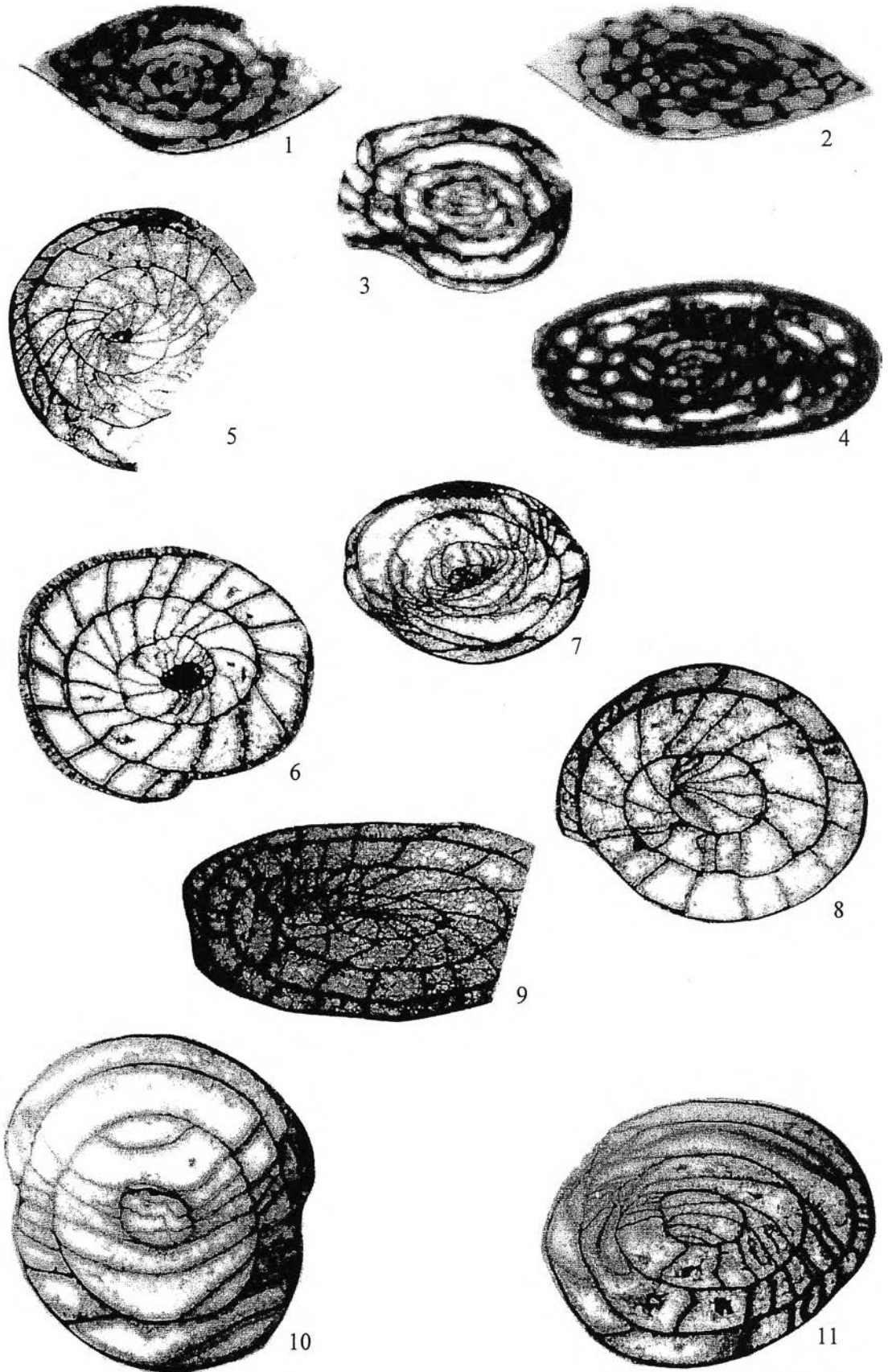
## EXPLANATION OF PLATE 10

### *Misellina* sp. and *Robustoschwagerina* sp.

Figure		Page
1-4	<i>Misellina</i> sp.....	66
	All photographs $\times 30$ (1) Tangential section from thin section number KNH 6-5-7; (2) Tangential section from thin section number KNH 6-5-7; (3) Tangential section of thin section number KNH 1-1-3 (4) Tangential section from thin section number KNH 5-12-1.	
5-11	<i>Robustoschwagerina</i> sp. ....	64
	All photographs $\times 5$ (5) Oblique section from thin section number KNH 3-16-2; (6) Oblique section from thin section number KNH 5-12-6; (7) Tangential section of thin section number KNH 3-16-1 (8) Oblique section of thin section number KNH 5-12-3; (9) Oblique section of thin section number KNH 3-13-1; (10) Tangential section of thin section number KNH 5-12-5; (11) Oblique section of thin section number KNH 5-12-4.	



PLATE 10

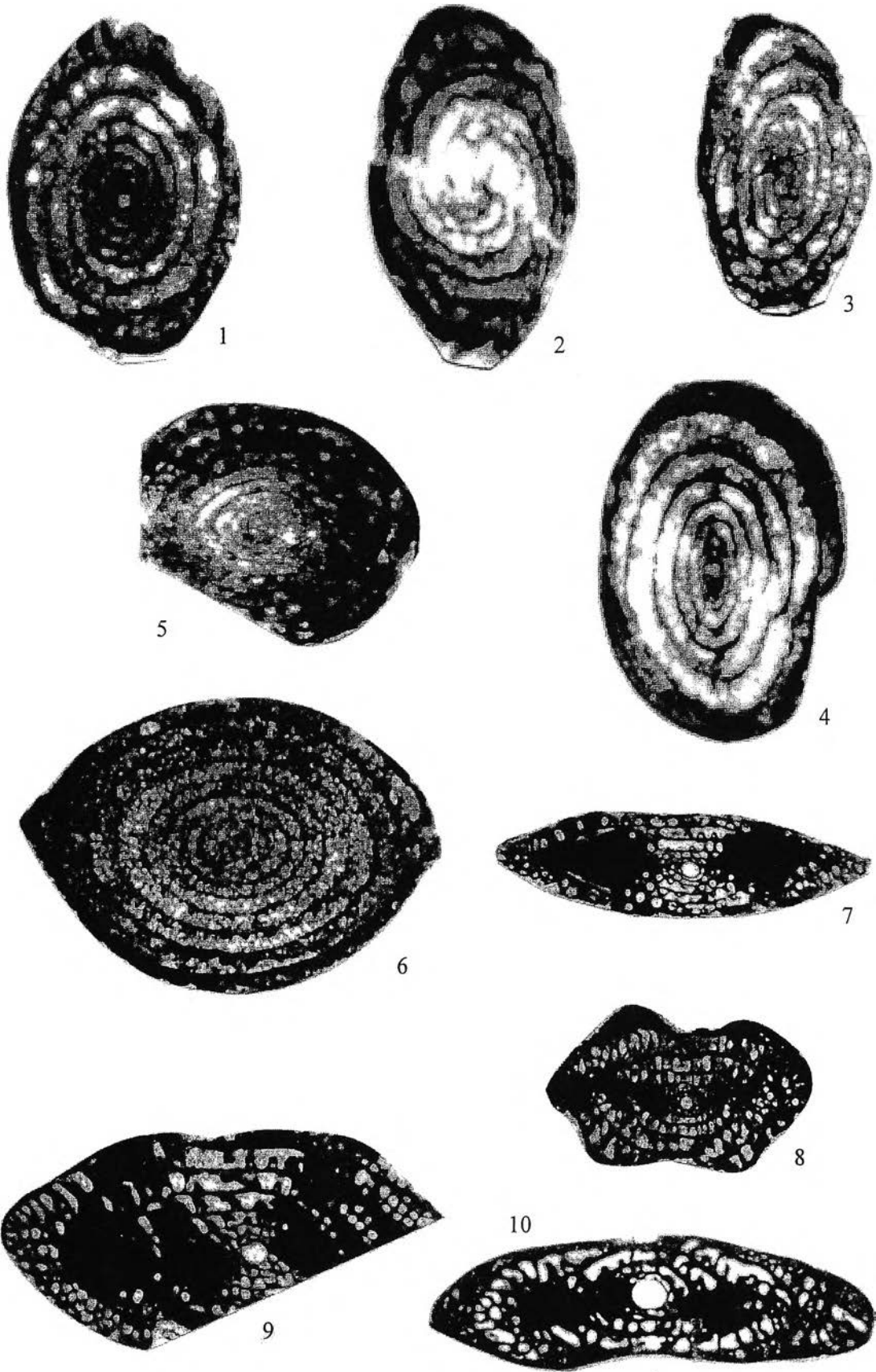


## EXPLANATION OF PLATE 11

### *Pamirina* sp., *Thailandina* sp., and *Quasifusulina* sp.

Figure	Page
1-4 <i>Pamirina</i> sp.....	66
All photographs $\times 30$ (1) Axial section from thin section number KNH 6-6-18; (2) Axial section from thin section number KNH 6-5-3; (3) Axial section of thin section number KNH 6-5-1; (4) Axial section from thin section number KNH 6-6-20.	
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7-10 <i>Quasifusulina</i> sp. ....	68
All photographs $\times 10$ (7) Axial section from thin section number KNH 6-6-31; (8) Axial section from thin section number KNH 6-6-1; (9) Axial section of thin section number KNH 6-6-29; (10) Axial section of thin section number KNH 7-10-1.	

PLATE 11

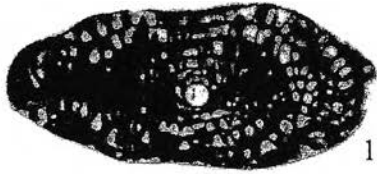


EXPLANATION OF PLATE 12

*Quasifusulina* sp. and *Parafusulina* sp.

Figure		Page
1-4	<i>Quasifusulina</i> sp.....	68
	All photographs $\times 10$ (1) Axial section from thin section number KNH 6-6-37; (2) Tangential section from thin section number KNH 7-10-3; (3) Axial section of thin section number KNH 6-6-35; (4) Axial section from thin section number KNH 7-10-4.	
5-11	<i>Parafusulina</i> sp. ....	64
	All photographs $\times 10$ (5) Tangential section from thin section number KNH 1-1-28; (6) Axial section from thin section number KNH 6-5-8; (7) Axial section from thin section number KNH 6-6-2; (8) Tangential section from thin section number KNH 6-5-5; (9) Axial section of thin section number KNH 6-6-28; (10) Axial section of thin section number KNH 6-6-6; (11) Axial section of thin section number KNH 1-1-17.	

PLATE 12



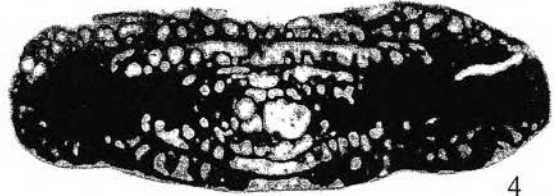
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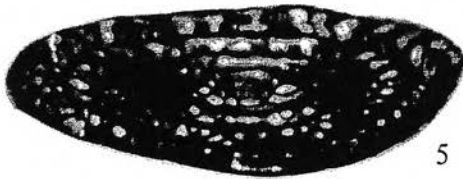
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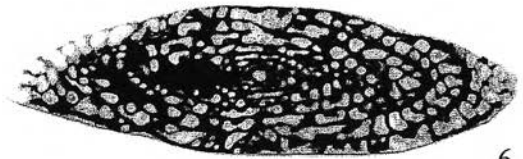
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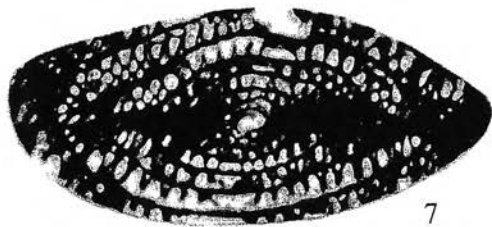
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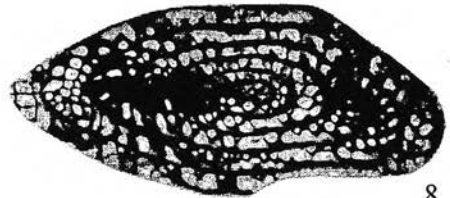
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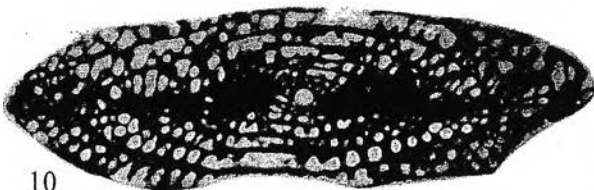
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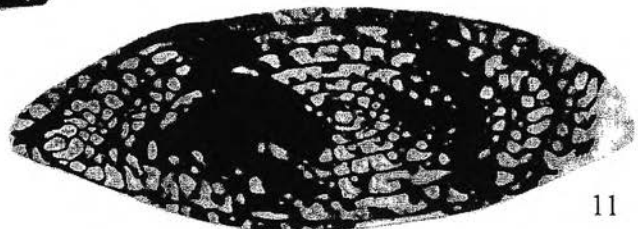
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9



10



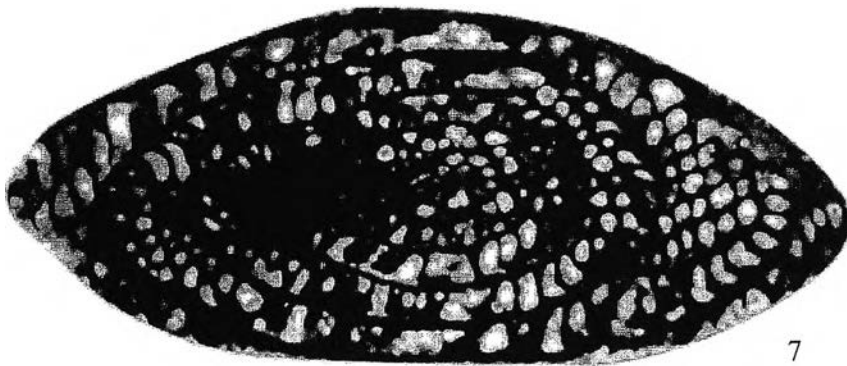
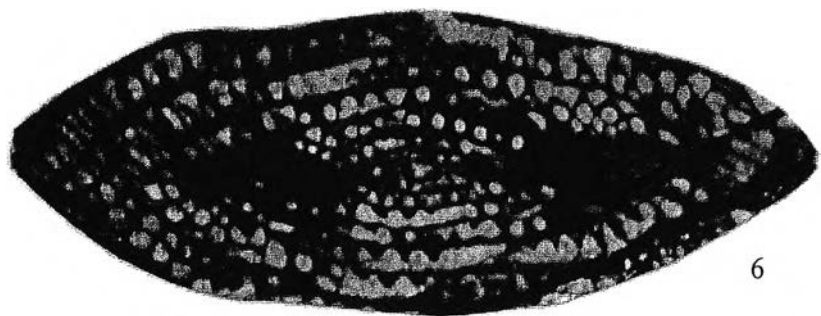
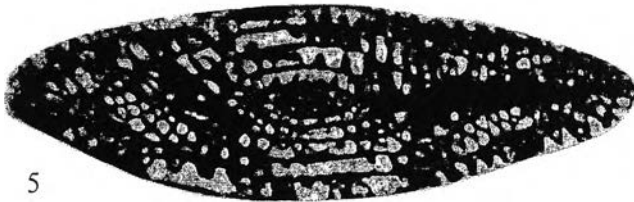
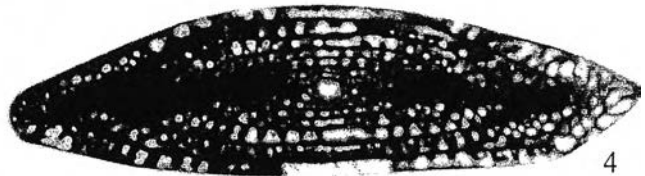
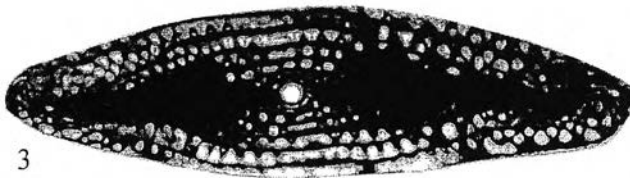
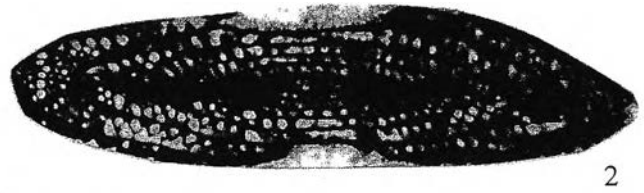
11

EXPLANATION OF PLATE 13

*Parafusulina* sp.

Figure	Page
1-7 <i>Parafusulina</i> sp. ....	64
All photographs $\times 10$ (1) Axial section from thin section number KNH 6-6-40; (2) Tangential section from thin section number KNH 6-6-16; (3) Axial section of thin section number KNH 6-6-21; (4) Axial section from thin section number KNH 6-6-13; (5) Tangential section from thin section number KNH 6-6-27; (6) Tangential section from thin section number KNH 6-5-10; (7) Axial section from thin section number KNH 1-1-7.	

PLATE 13



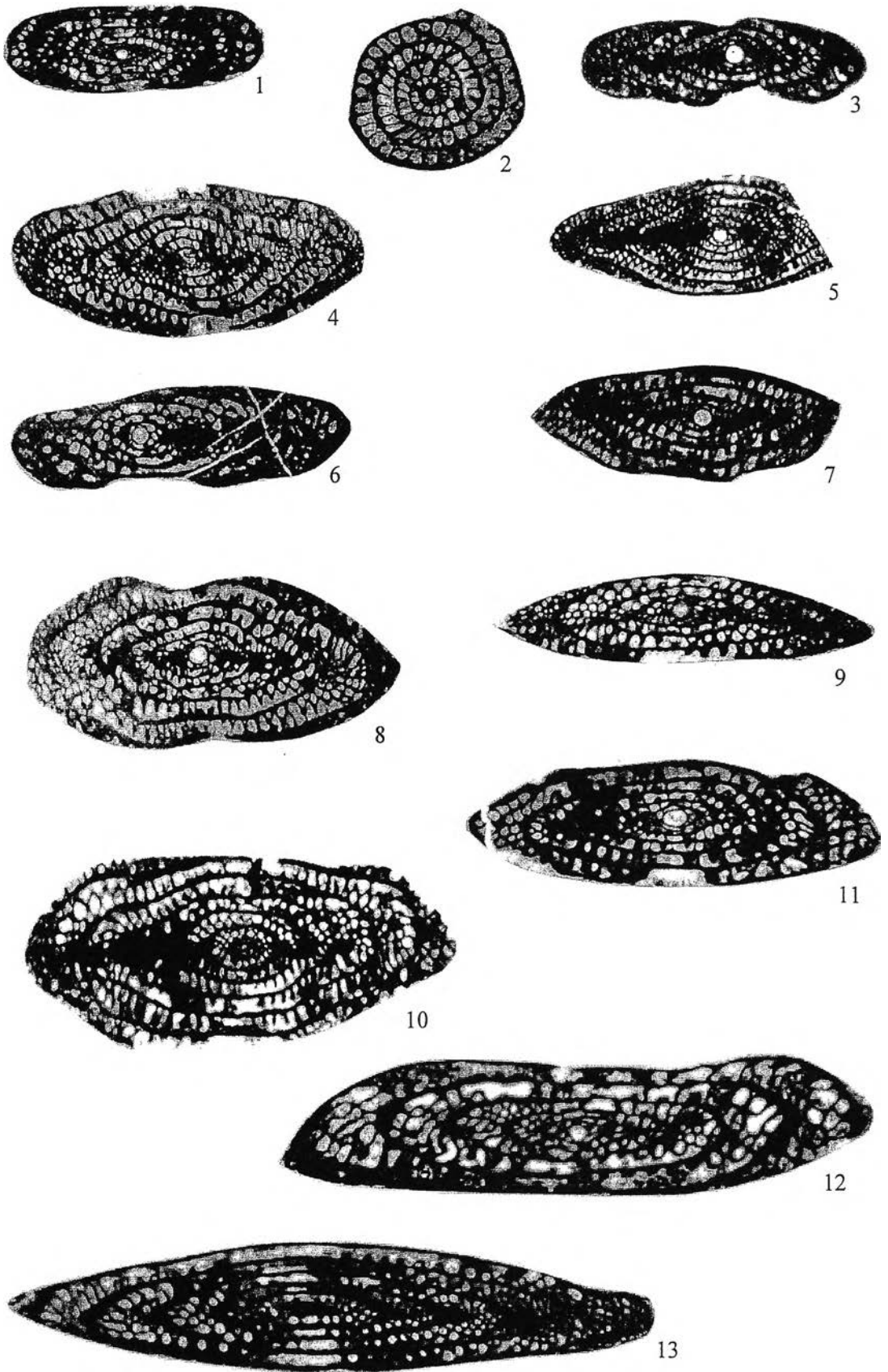
## EXPLANATION OF PLATE 14

### *Pseudofusulina* sp.

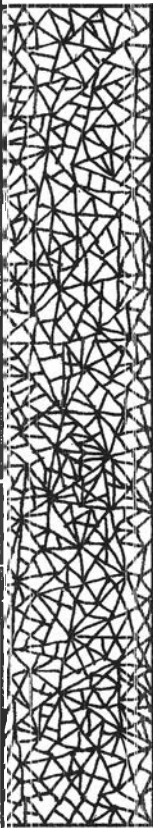
Figure		Page
1-7	<i>Pseudofusulina</i> sp. ....	65
	All photographs $\times 10$ (1) Axial section from thin section number KNH 6-6-5; (2) Sagittal section from thin section number KNH 1-1-4; (3) Axial section of thin section number KNH 6-6-20; (4) Tangential section from thin section number KNH 6-6-39; (5) Axial section from thin section number KNH 6-6-22; (6) Axial section from thin section number KNH 6-6-40; (7) Axial section from thin section number KNH 6-6-19; (8) Axial section from thin section number KNH 6-6-17; (9) Axial section from thin section number KNH 6-6-14; (10) Tangential section from thin section number KNH 6-6-1; (11) Axial section from thin section number KNH 1-1-15; (12) Axial section from thin section number KNH 6-5-10; (13) Tangential section from thin section number KNH 6-6-23.	



PLATE 14

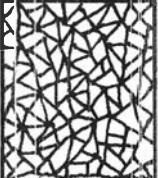

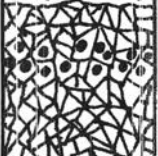



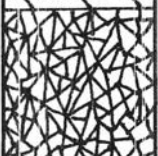



### Geologic Column, sample locations, and description of section number 2.

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 2-1-1 to KNH 2-10-1	Light gray recrystalline limestone (floatstone), attitude of bedding: 50°/30°, 50°/40°. Abundant crinoideas, gastropods, rugosa coral, and fusulinids.
	-KNH 2-11-1, KNH 2-12-1	Light gray recrystalline limestone (floatstone). Abundant crinoideas, gastropods, and rugosa coral.
	-KNH 2-13-1 to KNH 2-17-1	Light gray recrystalline limestone (floatstone), attitude of bedding: 50°/10°, 50°/20°.
	-KNH 2-18-1	White recrystalline limestone. Abundant crinoideas.
	-KNH 2-19-1	White recrystalline limestone. Abundant crinoideas.
	-KNH 2-20-1, KNH 2-21-1	Light gray recrystalline limestone. Abundant crinoideas.
	-KNH 2-22-1, KNH 2-23-1	Light gray recrystalline limestone (floatstone), attitude of bedding: 55°/30°, 50°/20°, joint 0°/90°, 270°/40°.
	-KNH 2-24-1, KNH 2-25-1 KNH 3-13-1	Light gray recrystalline limestone (floatstone), attitude of bedding: 55°/30°, 50°/20°, joint 0°/90°, 270°/40° with limestone breccia. Fusulinids present.
-KNH 2-26-1, KNH 2-27-1	Light gray recrystalline limestone (floatstone), attitude of bedding: 40°/50°. Crinoideas, rugosa coral, and gastropods present.	



**Geologic Column, sample locations, and description of section number 3.**

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 3-14-1, KNH 3-15-1	Light gray recrystalline limestone (floatstone) with dolomitic limestone. Crinoideas, fusulinids, rugosa coral, algae, and sponges.
	-KNH 3-1-1 KNH 3-11-1 KNH 3-12-1	Gray mudstone. Attitude of bedding: 60°/40°, 60°/50°.
	-KNH 3-2-1	Light gray recrystalline limestone with secondary iron concretions. Fusulinids, and rugosa coral present.
	-KNH 3-3-1, KNH 3-4-1	Light gray recrystalline limestone. Crinoideas, fusulinids, sponges and algae.
	-KNH 3-5-1	Light gray recrystalline limestone with secondary iron concretions. Crinoideas and fusulinids present.
	-KNH 3-6-1, KNH 3-7-1	Gray wackstone with dolomitic limestone. Joint: 320°/25°, 300°/15°. Crinoideas and fusulinids present.
	-KNH 3-8-1	Light gray recrystalline limestone. Crinoideas and fusulinids present.
	-KNH 3-9-1, KNH 3-10-1	Light gray recrystalline limestone. Crinoideas and fusulinids present.

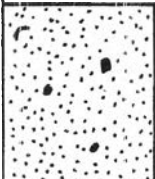

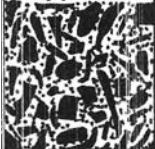
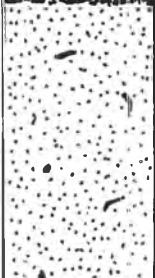


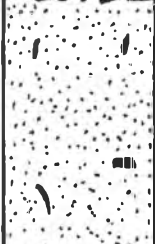
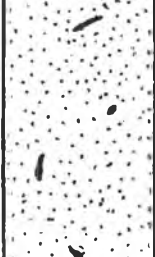

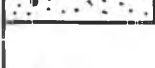



**Geologic Column, sample locations, and description of section number 4.**

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 4-7-1	Light gray wackstone. Crinoideas, gastropods, and algae present.
	-KNH 4-6-1	Gray wackstone. Crinoideas and fusulinids present.
	-KNH 4-4-1, KNH 4-5-1	Gray wackstone. Crinoideas, fusulinids and algae present.
	-KNH 4-3-1	Light gray wackstone. Joint: 50°/90°, 105°/70°.
	-KNH 4-2-1	Dark gray packstone. Crinoideas, fusulinids and corals present.
	-KNH 4-1-1	Gray wackstone. Abundant crinoideas.




**Geologic Column, sample locations, and description of section number 5.**

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 5-18-1, KNH 5-19-1	Light gray wackstone.
	-KNH 5-16-1, KNH 5-17-1	Light gray wackstone. Crinoideas present.
	-KNH 5-14-1, KNH 5-15-1	Dark gray packstone. Crinoideas, gastropods, and algae present.
	-KNH 5-13-1	Light gray wackstone with secondary iron concretions.
	-KNH 5-12-1	Light gray wackstone. Crinoideas and fusulinids present.
	-KNH 5-10-1, KNH 5-11-1	Dark gray packstone. Crinoideas, fusulinids, and rugosa coral present.
	-KNH 5-8-1, KNH 5-9-1	Light gray wackstone, joint: 350°/90°, 40°/80°. Crinoideas gastropods, tabulata coral, rare ammonoids.
	-KNH 5-6-1, KNH 5-7-1	Light gray wackstone.
	-KNH 5-4-1, KNH 5-5-1	Light gray wackstone.
	-KNH 5-2-1, KNH 5-3-1	Light gray wackstone, joint: 100°/90°. Abundant crinoideas.
	-KNH 5-1-1	Light gray wackstone.




Geologic Column, sample locations, and description of section number 6.

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 6-12-1	Dark gray packstone, attitude of bedding: 50°/30°, 50°/40°. Abundant crinoideas, gastropods, rugosa coral, and fusulinids.
	-KNH 6-9-1 KNH 6-10-1 KNH 6-11-1	Dark gray packstone, attitude of bedding: 55°/40°, joint: 325°/35°, 245°/70°. Andesite dike and sill with attitude: 55°/45°. Fusulinids, crinoideas, gastropods, rugosa coral, and algae present.
	-KNH 6-7-1, KNH 6-8-1	Gray packstone. Fusulinids present.
	-KNH 6-6-1	Gray mudstone. Abundant fusulinids, rugosa coral and algae present.
	-KNH 6-5-1	Gray packstone with secondary iron concretions. Abundant fusulinids, rugosa coral, crinoideas, gastropods present.
	-KNH 6-4-1	Light gray wackstone with volcanic dike. Fusulinids and crinoideas present.
	-KNH 6-3-1	Light gray wackstone with volcanic sill.
	-KNH 6-2-1	Gray packstone. Crinoideas and fusulinids present.
	-KNH 6-1-1	Light gray wackstone with secondary iron concretions. Abundant crinoideas.



Geologic Column, sample locations, and description of section number 7.

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 7-11-1	Dark gray packstone. Fusulinids, gastropods and sponges present.
	-KNH 7-9-1, KNH 7-10-1	Dark gray packstone, attitude of bedding: 75°/40°, 70°/30°. Abundant ammonoids and fusulinids. Nautiloids, crinoideas and gastropods present.
	-KNH 7-5-1, KNH 7-6-1 KNH 7-7-1, KNH 7-8-1	Dark gray packstone, attitude of bedding: 75°/30°, 65°/35°. Andesite dike and sill with attitude: 70°/75°, 75°/60°. Abundant ammonoids and fusulinids. Crinoideas and gastropods present.
	-KNH 7-4-1	Gray mudstone. Abundant ammonoids, fusulinids, and crinoideas.
	-KNH 7-3-1	Dark gray packstone. Fusulinids, crinoideas, and sponges present.
	-KNH 7-2-1	Dark gray packstone with limestone breccia, joint: 135°/80°, 75°/40°. Ammonoids, crinoideas, gastropods, and nautiloids present.
	-KNH 7-1-1	Gray mudstone. Abundant ammonoids and fusulinids. Crinoideas and smaller forams present.




**Geologic Column, sample locations, and description of section number 8.**

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 8-8-1, KNH 8-9-1	Light gray wackstone. Fusulinids, crinoideas, rugosa coral, and gastropods present.
	-KNH 8-5-1 KNH 8-6-1 KNH 8-7-1	Light gray wackstone. Crinoideas present.
	-KNH 8-5-1	Light gray wackstone. Crinoideas present.
	-KNH 8-3-1, KNH 8-4-1	Light gray wackstone, andesite sill. Crinoideas and nautiloids present.
	-KNH 8-1-1, KNH 8-2-1	Light gray wackstone, attitude of bedding: 50°/20°. Rugosa coral and crinoideas present.





**Geologic Column, sample locations, and description of section number 9.**

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 9-6-1	Gray packstone, attitude of bedding: 60°/30°, 50°/30°. Andesite dike with attitude: 70°/40°, 55°/60°. Abundant rugosa coral and crinoideas.
	-KNH 9-5-1	Gray packstone. Andesite dike with attitude: 30°/70°. Fusulinids, crinoideas, and rugosa coral present.
	-KNH 9-3-1, KNH 9-4-1	Dark gray packstone with dolomitic limestone, attitude of bedding: 45°/40°, 55°/40°. Abundant rugosa coral, crinoideas, and fusulinids present.
	-KNH 9-1-1, KNH 9-2-1	Dark gray packstone. Abundant rugosa coral and crinoideas.

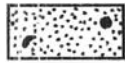


**Geologic Column, sample locations, and description of section number 10.**

GEOLOGIC COLUMN	SAMPLE NUMBER	DESCRIPTION
	-KNH 10-5-1	Gray packstone with chert nodules and secondary iron concretions. Crinoideas, rugosa coral, and sponges.
	-KNH 10-4-1	Gray packstone. Rugosa coral, algae, and crinoideas present.
	-KNH 10-3-1	Gray packstone, Ammonoids, tabulata coral, gastropods, and crinoideas present.
	-KNH 10-2-1	Dark gray packstone. Abundant ammonoids, nautiloids, rugosa coral, algae, and crinoideas.
	-KNH 10-1-1	Dark gray packstone with limestone breccia. Abundant rugosa coral, crinoideas, algae, and gastropods.



## EXPLANATION



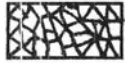
Mudstone



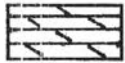
Wackstone



Packstone



Recrystalline Limestone



Dolomitic Limestone



Volcanic Sill, Dike



Secondary Iron Concretions



Chert Nodule



Limestone Breccia

## BIOGRAPHY

Mr. Khamawat Siritheerasas was born on May 29<sup>th</sup>, 1974 in Changwat Chonburi. After finishing his highschool in 1991 from Matthayom Watbuengthonglang School, Bangkok, he entered Chulalongkorn University, Faculty of Science in 1992. He graduated the Bachelor Degree of Science and continues study Master Degree in 1996. He graduated the Master Degree of Science in Geology from Department of Geology, Faculty of Science, Chulalongkorn University in 2000.

