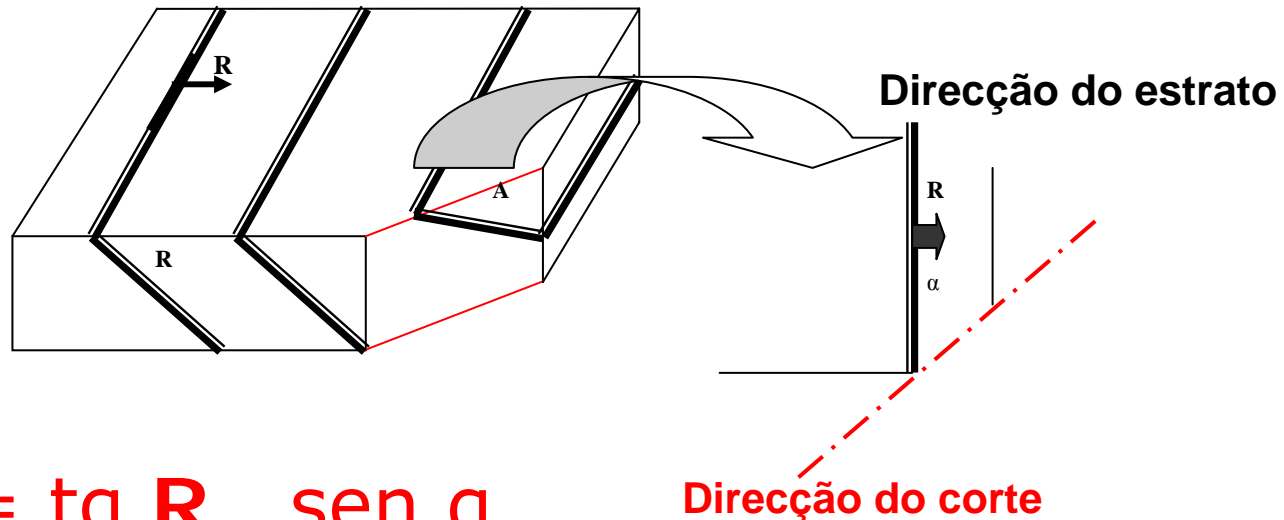


Correcção do ângulo de inclinação das camadas

QUANDO A DIRECÇÃO DO CORTE É DIFERENTE DA DIRECÇÃO DOS ESTRATOS



$$\text{tg } A = \text{tg } R \cdot \text{sen } \alpha$$

R – Inclinação real

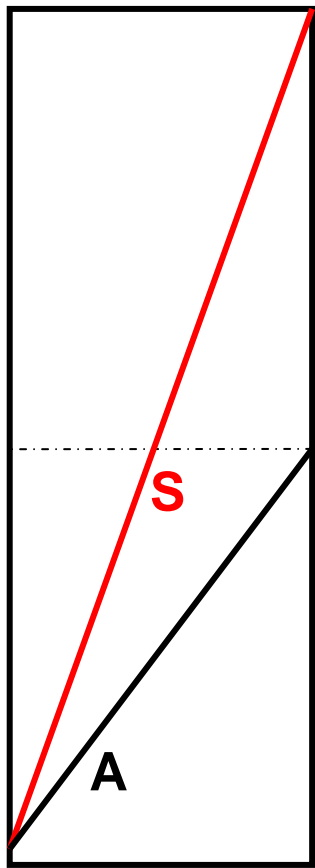
> medida na direcção do corte perpendicular à direcção do estrato)

A – Inclinação aparente

> direcção do corte fazendo um ângulo entre 90 e 0° com a direcção do estrato)

Mais uma etapa

...quando existe sobrelevação de escala!



$\text{tg } S$

S – ângulo sobreelevado

A – pendor aparente

$\text{tg } A$

Factor de sobreelavação (n) = $\text{tg } S / \text{tg } A$

$$S = \text{arc tg } (n \cdot \text{tg } A)$$

Tabela de ângulos aparentes (α entre 90 e 45°)

- Correções pequenas -

Inclinação verdadeira

Buza ② mientto	① Ángulo entre la dirección del estrato y el rumbo del corte geológico							
	80°	75°	70°	65°	60°	55°	50°	45°
10°	9° 51'	9° 40'	9° 24'	9° 5'	8° 41'	8° 13'	7° 41'	7° 6'
15°	14° 47'	14° 31'	14° 8'	13° 39'	13° 34'	12° 28'	11° 36'	10° 4'
20°	19° 43'	19° 23'	18° 53'	18° 15'	17° 30'	16° 36'	15° 35'	14° 25'
25°	24° 48'	24° 15'	23° 39'	22° 55'	22° 0'	20° 54'	19° 39'	18° 15'
30°	29° 37'	29° 9'	28° 29'	27° 37'	26° 34'	25° 18'	23° 51'	22° 12'
35°	34° 36'	34° 4'	33° 21'	32° 24'	31° 13'	29° 50'	28° 12'	26° 20'
40°	39° 34'	39° 2'	38° 15'	37° 15'	36° 0'	34° 30'	32° 44'	30° 41'
45°	44° 34'	44° 1'	43° 13'	42° 11'	40° 54'	39° 19'	37° 27'	35° 16'
50°	49° 34'	49° 1'	48° 14'	47° 12'	45° 54'	44° 17'	42° 23'	40° 7'
55°	54° 35'	54° 4'	53° 19'	52° 18'	51° 3'	49° 29'	47° 35'	45° 17'
60°	59° 37'	59° 8'	58° 26'	57° 30'	56° 19'	54° 49'	53° 0'	50° 46'
65°	64° 40'	64° 14'	63° 36'	62° 46'	61° 42'	60° 21'	58° 40'	56° 36'
70°	69° 43'	69° 21'	68° 49'	68° 7'	67° 12'	66° 8'	64° 35'	62° 46'
75°	74° 47'	74° 30'	74° 5'	73° 32'	72° 48'	71° 53'	70° 43'	69° 14'
80°	79° 51'	79° 39'	79° 22'	78° 59'	78° 29'	77° 51'	77° 2'	76° 0'
85°	84° 56'	84° 50'	84° 41'	84° 29'	84° 14'	83° 54'	83° 29'	82° 57'
89°	88° 59'	88° 58'	88° 56'	88° 54'	88° 51'	88° 47'	88° 42'	88° 35'

← α

Tabela de ângulos aparentes (α entre 45 e 0°)

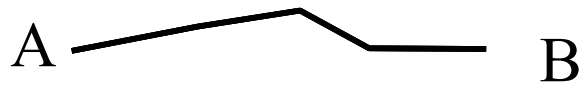
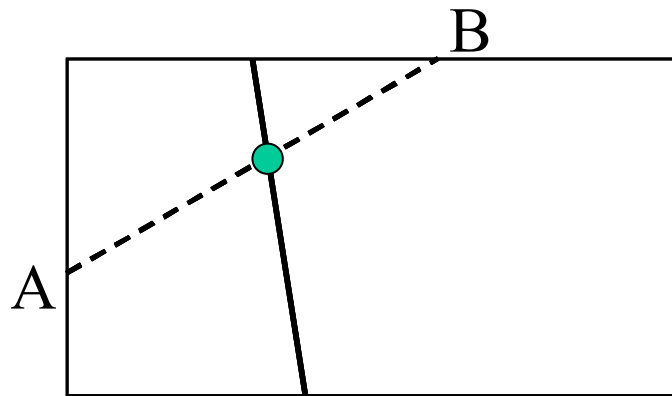
- correcções significativas -

Inclinação verdadeira

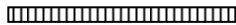
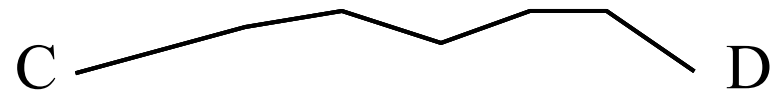
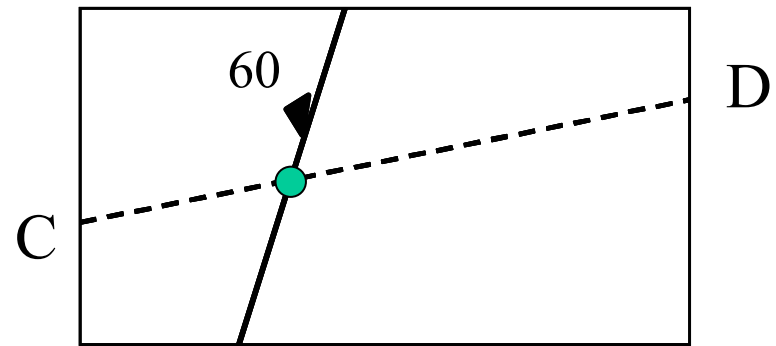
← α

Buza_ mientto ②	① Ángulo entre la dirección del estrato y el rumbo del corte geológico								
	40°	35°	30°	25°	20°	15°	10°	5°	1°
10°	6° 28'	5° 46'	5° 2'	4° 15'	3° 27'	2° 37'	1° 45'	0° 53'	0° 10'
15°	9° 46'	8° 44'	7° 38'	6° 28'	5° 14'	3° 33'	2° 40'	1° 20'	0° 16'
20°	13° 10'	11° 48'	10° 19'	8° 45'	7° 6'	5° 23'	3° 37'	1° 49'	0° 22'
25°	16° 41'	14° 58'	13° 7'	11° 9'	9° 3'	6° 53'	4° 37'	2° 20'	0° 28'
30°	20° 21'	18° 19'	16° 6'	13° 43'	11° 10'	8° 30'	5° 44'	2° 53'	0° 35'
35°	24° 14'	21° 53'	19° 18'	16° 29'	13° 28'	10° 16'	6° 56'	3° 30'	0° 42'
40°	28° 20'	25° 42'	22° 45'	19° 31'	16° 0'	12° 15'	8° 17'	4° 11'	0° 50'
45°	32° 44'	29° 50'	26° 33'	22° 55'	18° 53'	14° 30'	9° 51'	4° 59'	1° 0'
50°	37° 27'	34° 21'	30° 47'	26° 44'	22° 11'	17° 9'	11° 41'	5° 56'	1° 11'
55°	42° 33'	39° 20'	35° 32'	31° 7'	26° 2'	20° 17'	13° 55'	7° 6'	1° 26'
60°	48° 4'	44° 47'	40° 54'	36° 14'	30° 29'	24° 8'	16° 44'	8° 35'	1° 44'
65°	54° 2'	50° 53'	46° 59'	42° 11'	36° 15'	29° 2'	20° 25'	10° 35'	2° 9'
70°	60° 29'	57° 36'	53° 57'	49° 16'	43° 15'	35° 25'	25° 30'	13° 28'	2° 45'
75°	67° 22'	64° 58'	61° 49'	57° 37'	51° 55'	44° 1'	32° 57'	18° 1'	3° 44'
80°	74° 40'	73° 15'	70° 34'	67° 21'	62° 43'	55° 44'	44° 33'	26° 18'	5° 31'
85°	82° 15'	81° 20'	80° 5'	78° 19'	75° 39'	71° 20'	63° 15'	44° 54'	11° 17'
89°	88° 27'	88° 15'	88° 0'	87° 38'	87° 5'	86° 9'	84° 15'	78° 41'	44° 15'

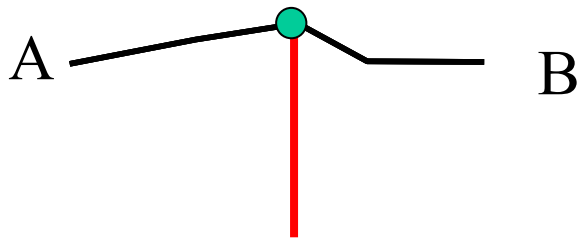
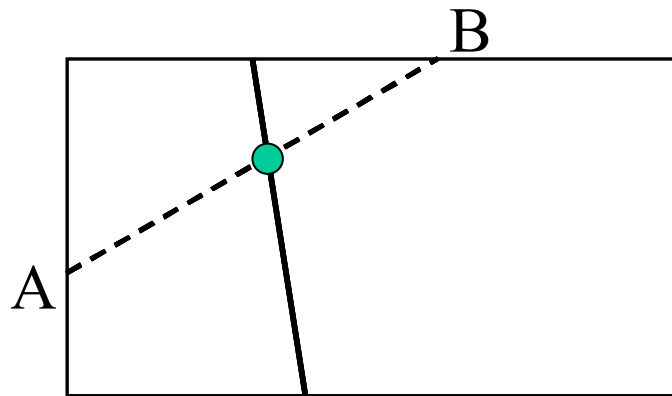
Falha vertical



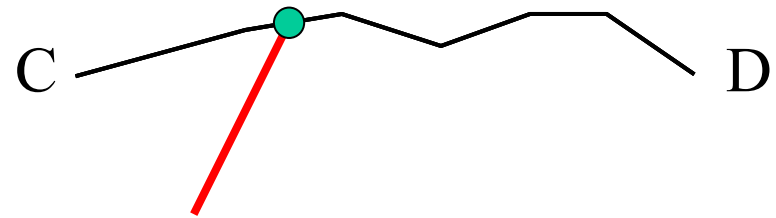
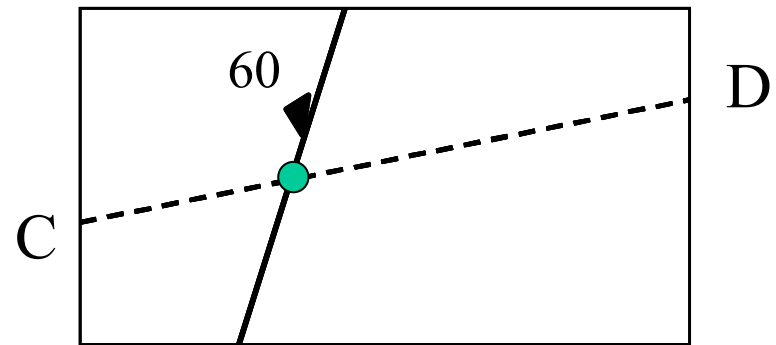
Falha inclinada



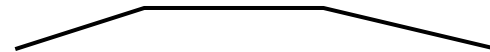
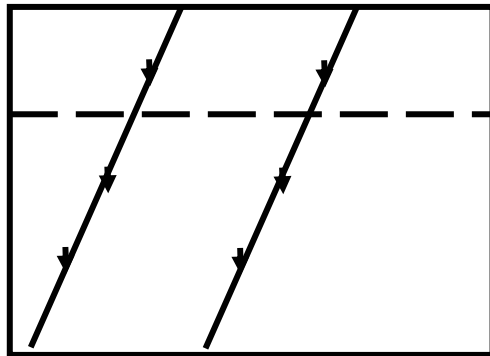
Falha vertical



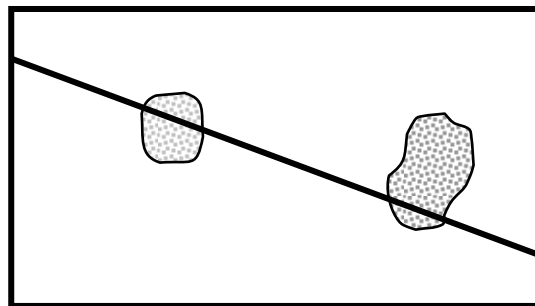
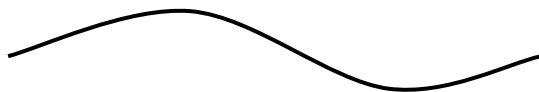
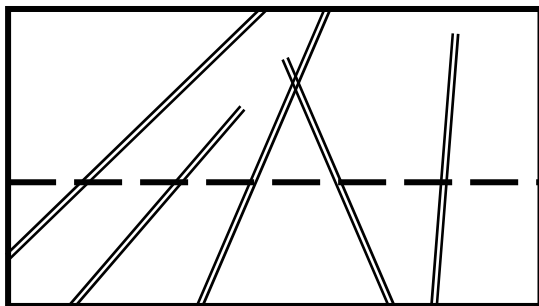
Falha inclinada



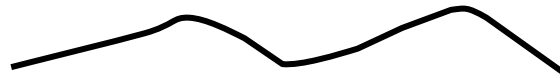
Cavalgamentos



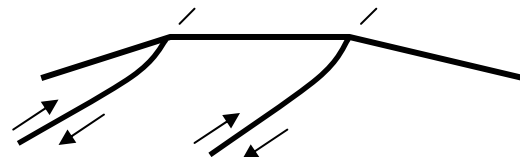
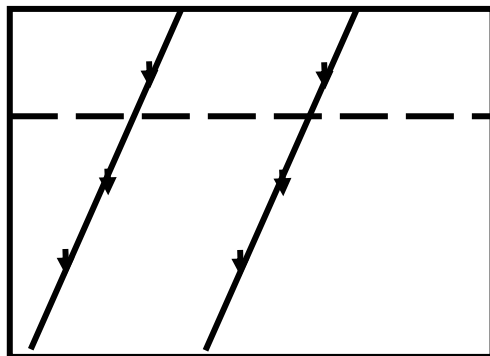
Filões



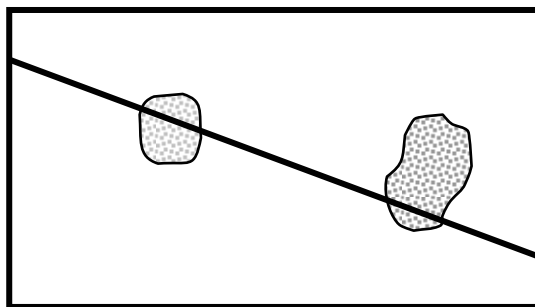
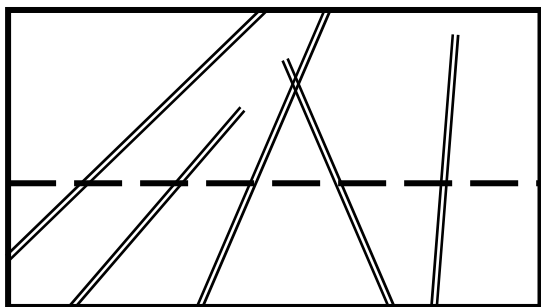
**Chaminés
vulcânicas**



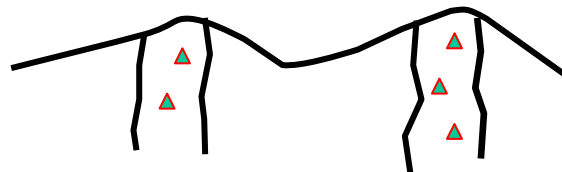
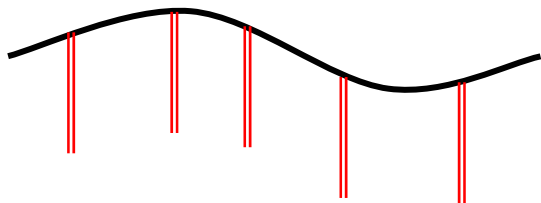
Cavalgamentos



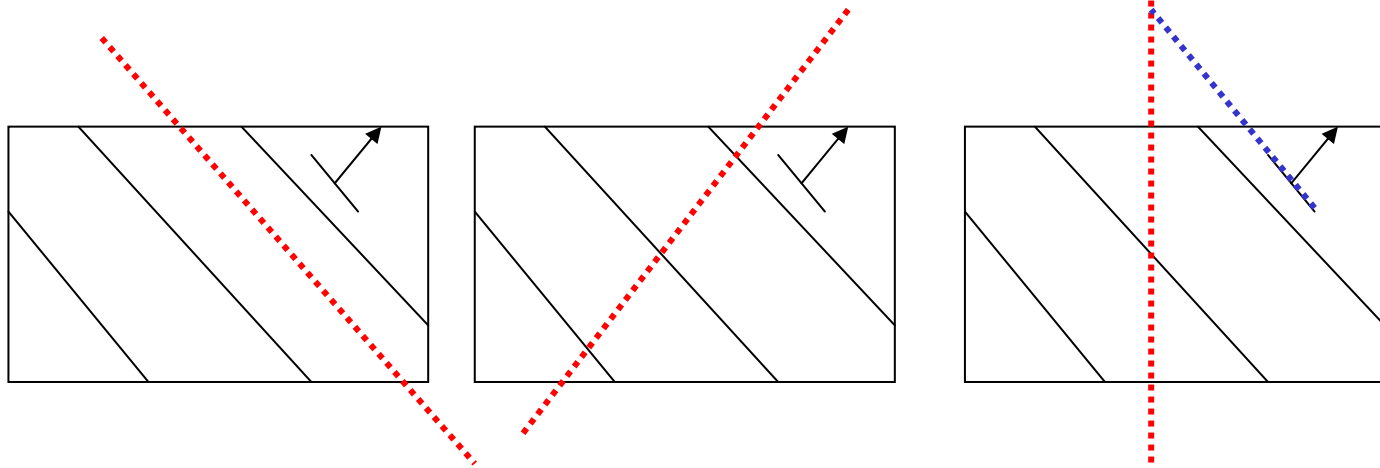
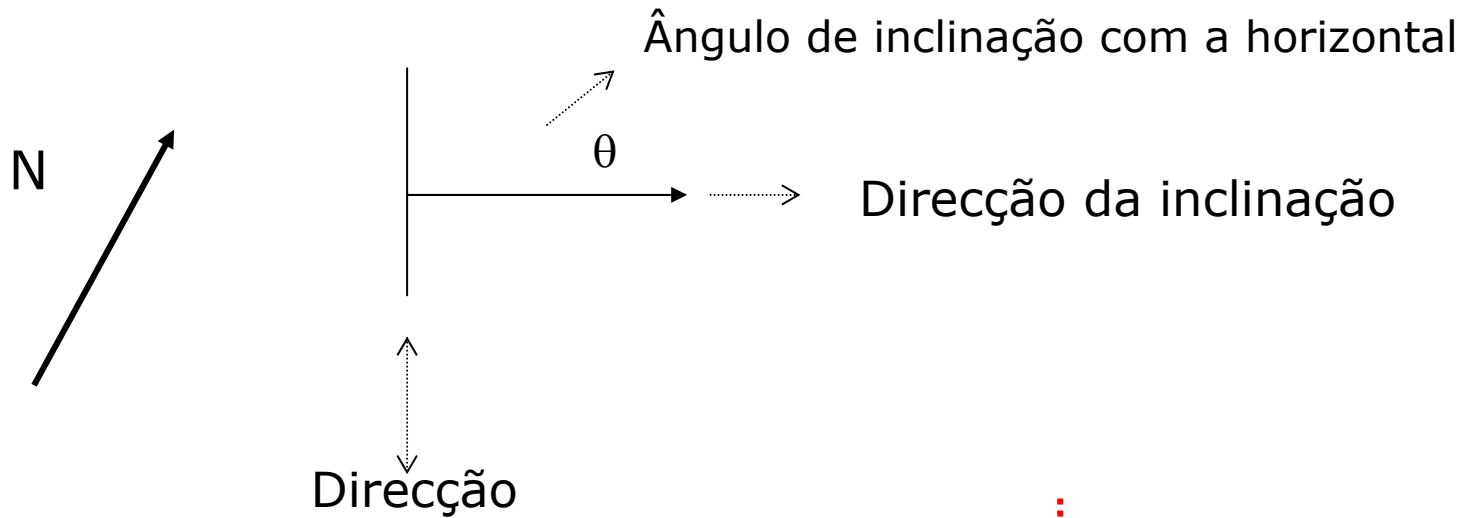
Filões



Chaminés vulcânicas



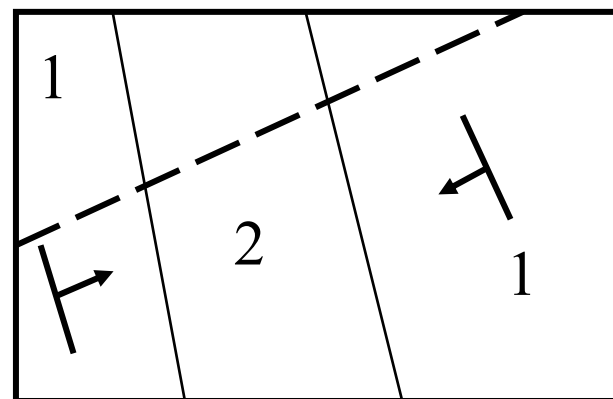
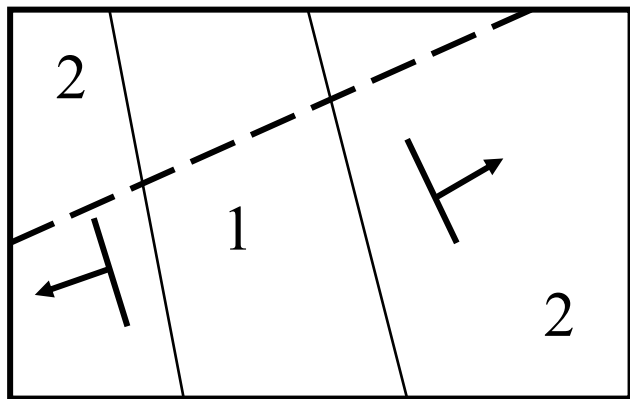
Camada inclinada (direcção + inclinação = atitude)



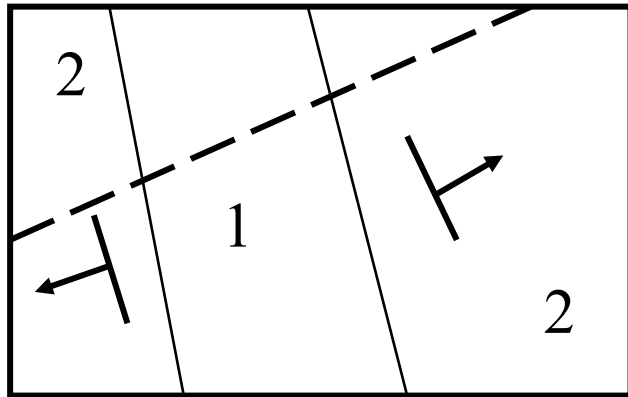
Correcção máxima
 $A = 0^\circ$

Sem correcção
 $A = R$

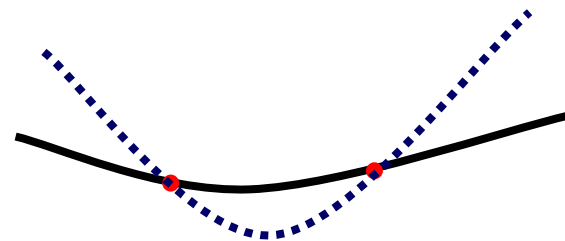
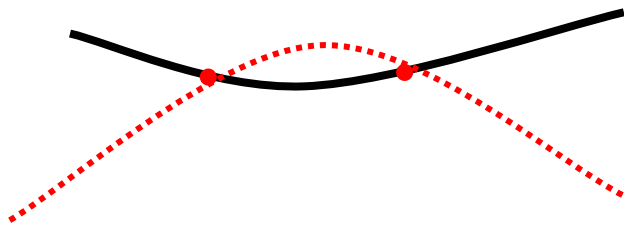
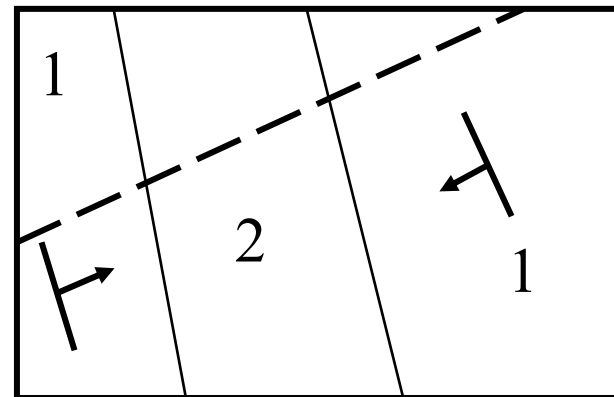
Correcção intermédia
 $A < R$



Anticlinal



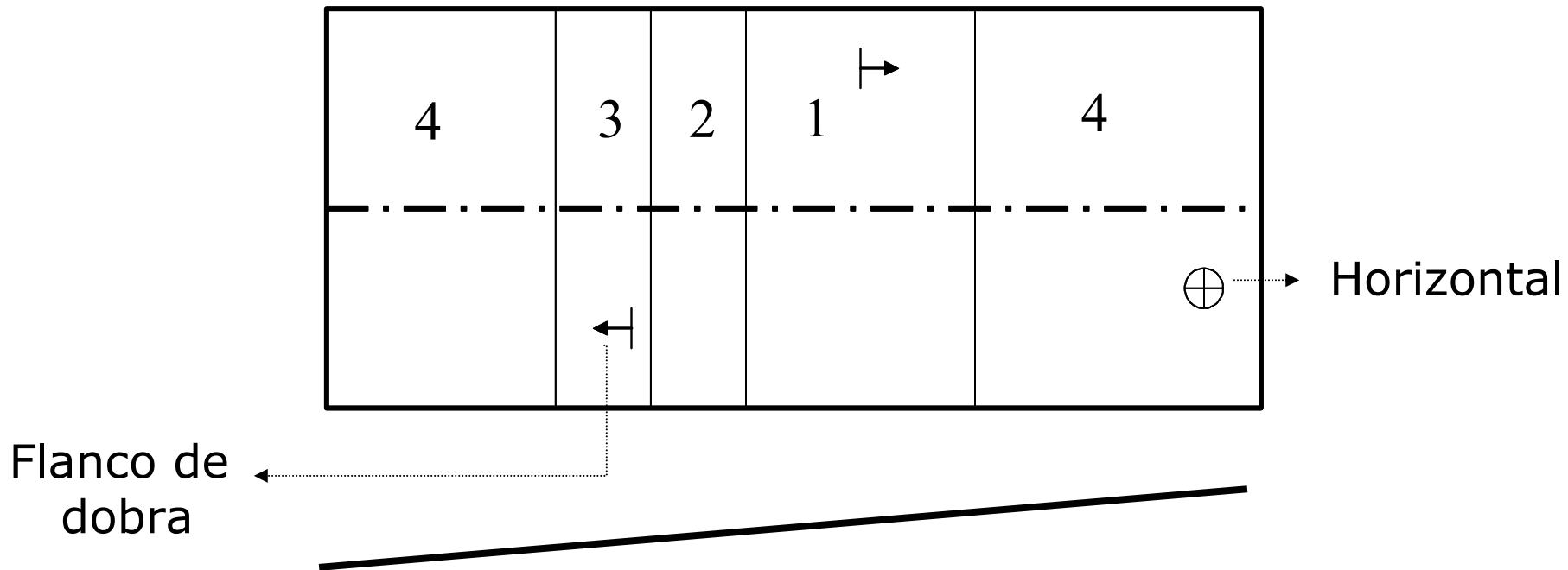
Sinclinal



Resolução de cortes da sebenta

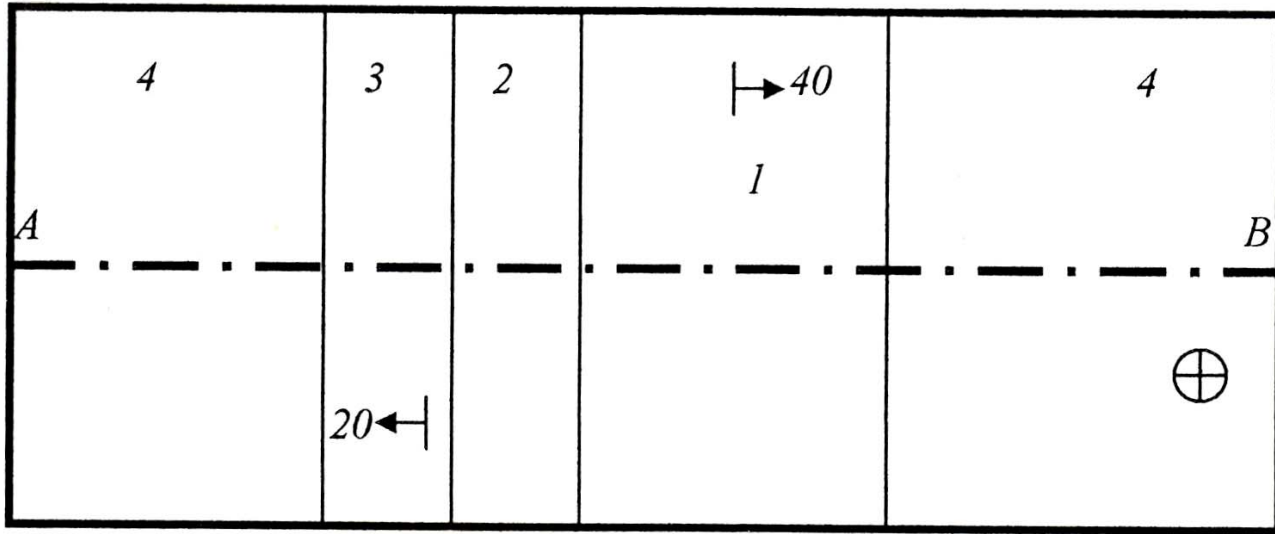
- Discussão feita na aula
- As soluções obedecem aos princípios básicos da estratigrafia
- Consideram-se hipóteses simples

A melhor maneira de aprender é fazer!

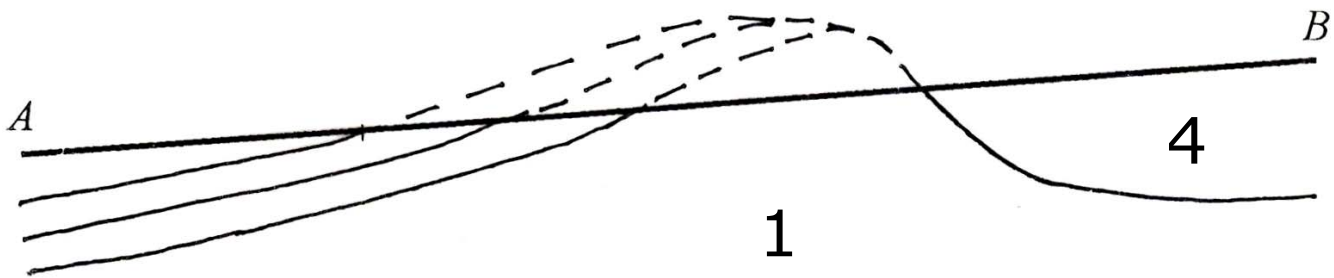


Quais as formações presentes?
 Que tipo de contactos apresentam?
 Que informação estrutural existe?

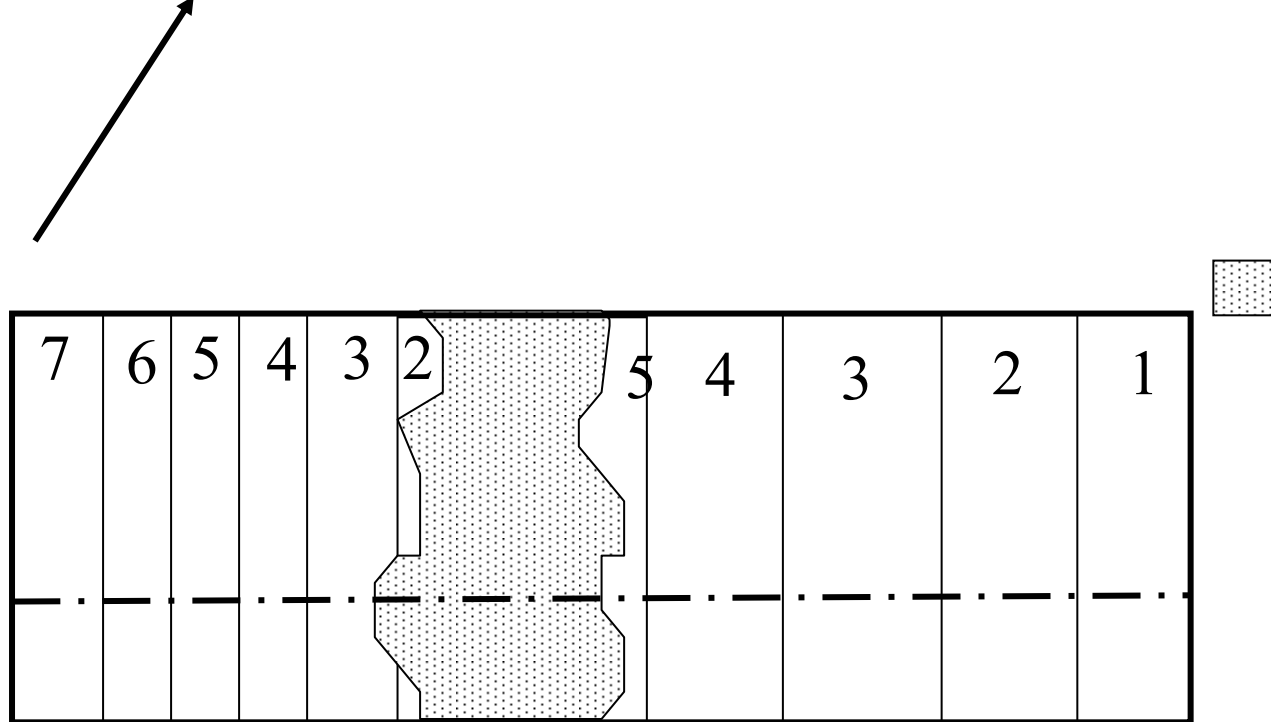
- ❑ Ordenar a coluna estratigráfica
- ❑ Reconstruir a estrutura de dobramento



4
3
2
1



Lacuna estratigráfica

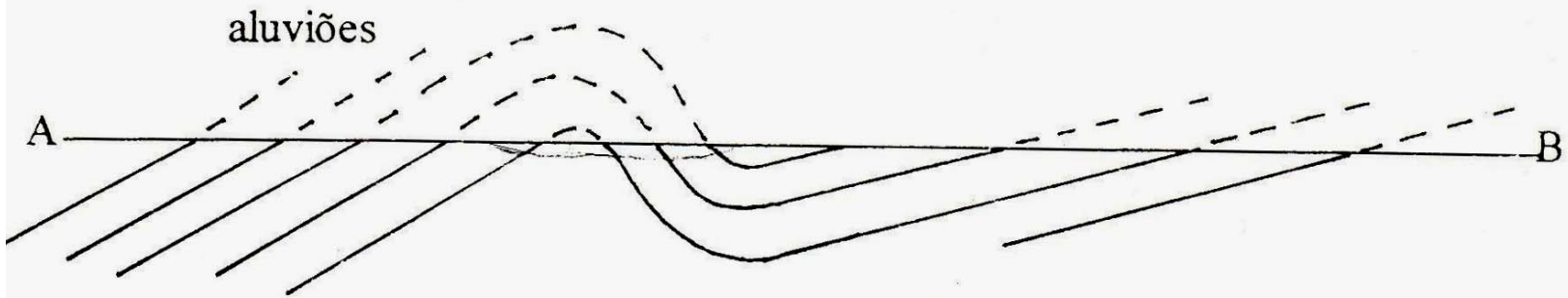
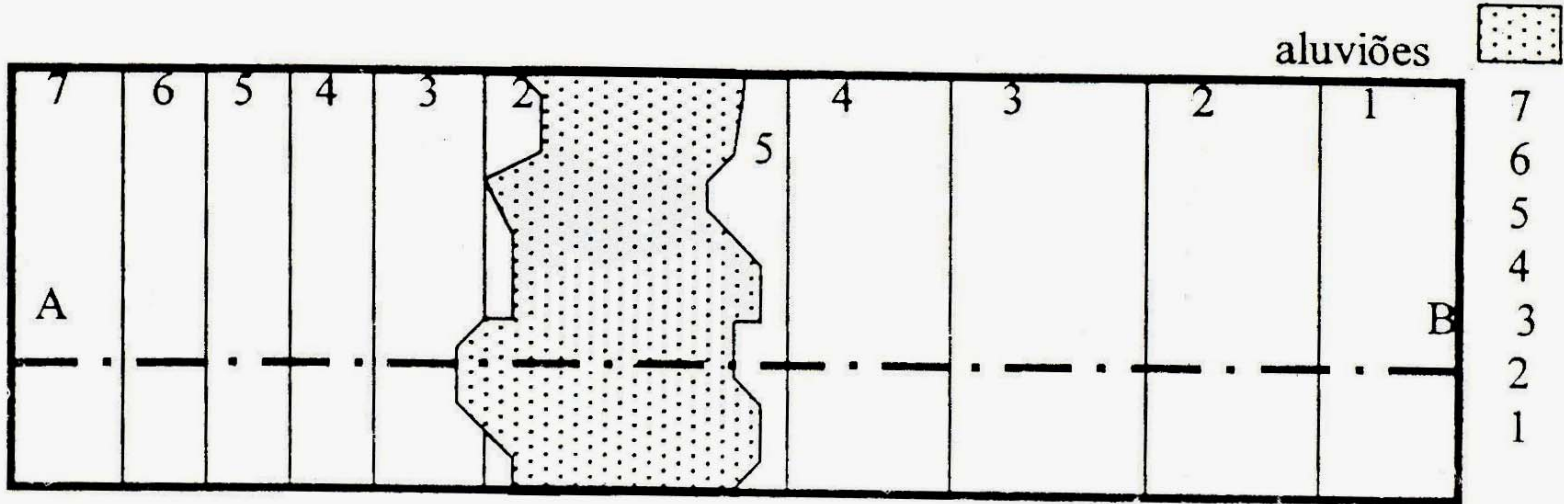


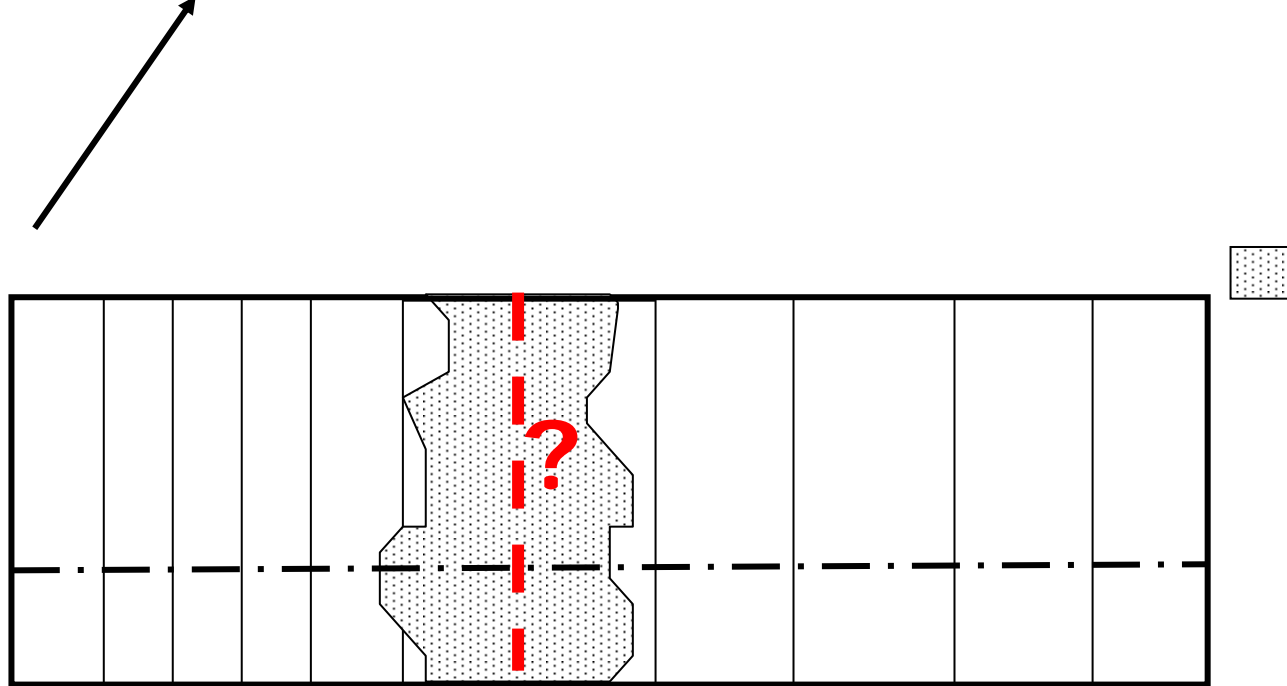
Quais as formações presentes?

- ❑ Os depósitos aluvionares cobrem as formações e estruturas mais antigas !
- ❑ Na hipótese de continuidade considera-se que não há roturas!

N

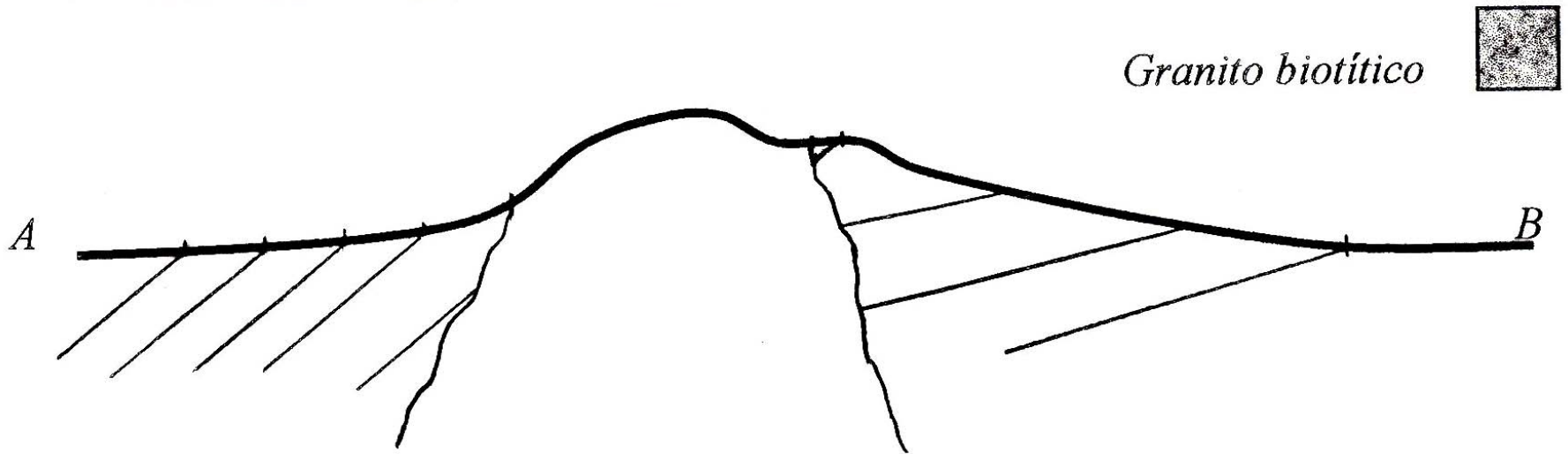
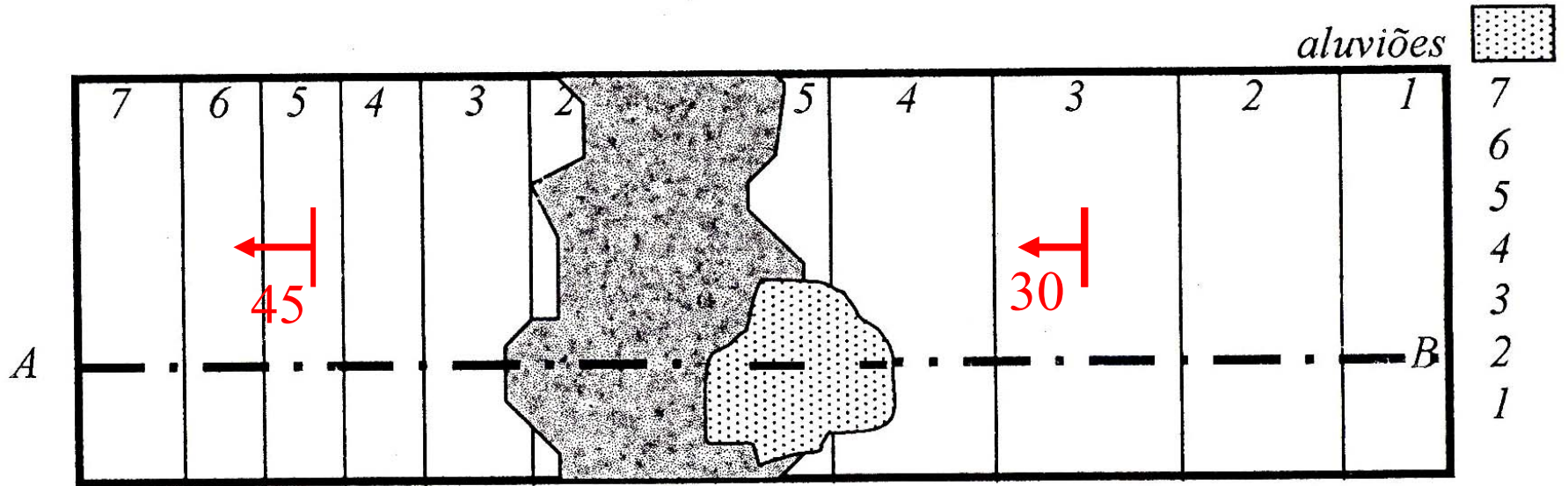
CONSIDERE DUAS HIPÓTESES DE INTERPRETAÇÃO
(COM OU SEM CONTINUIDADE DAS FORMAÇÕES SEDIMENTARES)



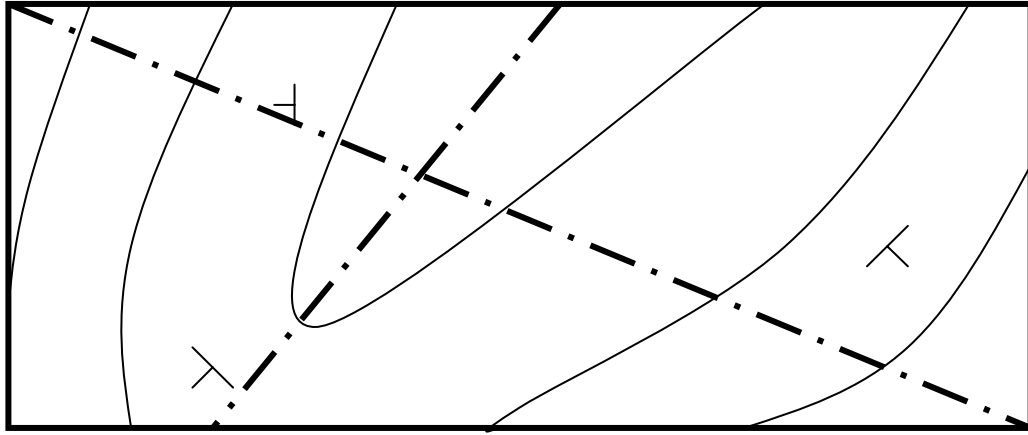


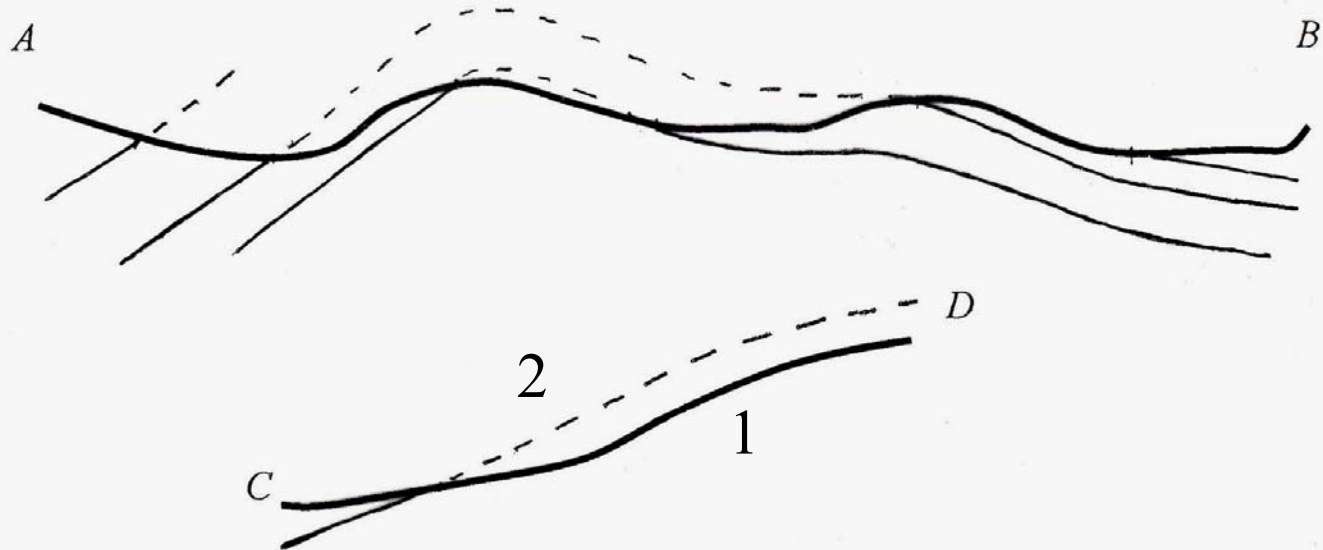
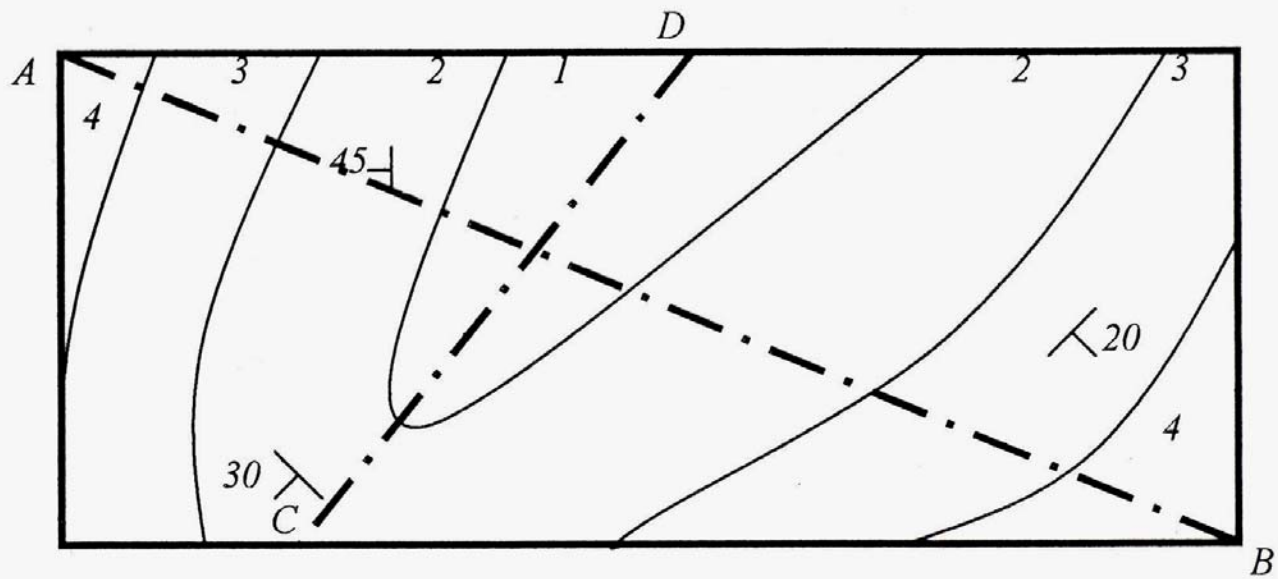
Quais as formações presentes?

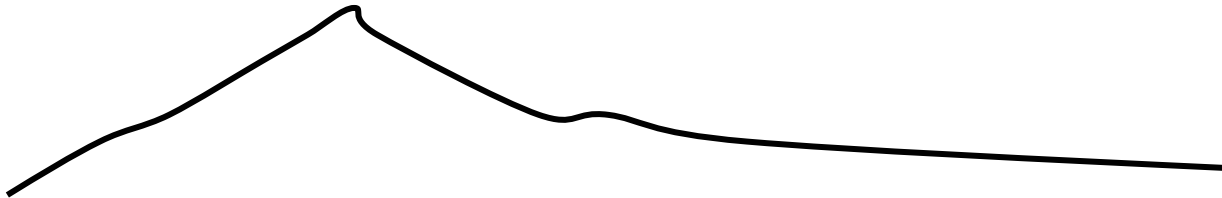
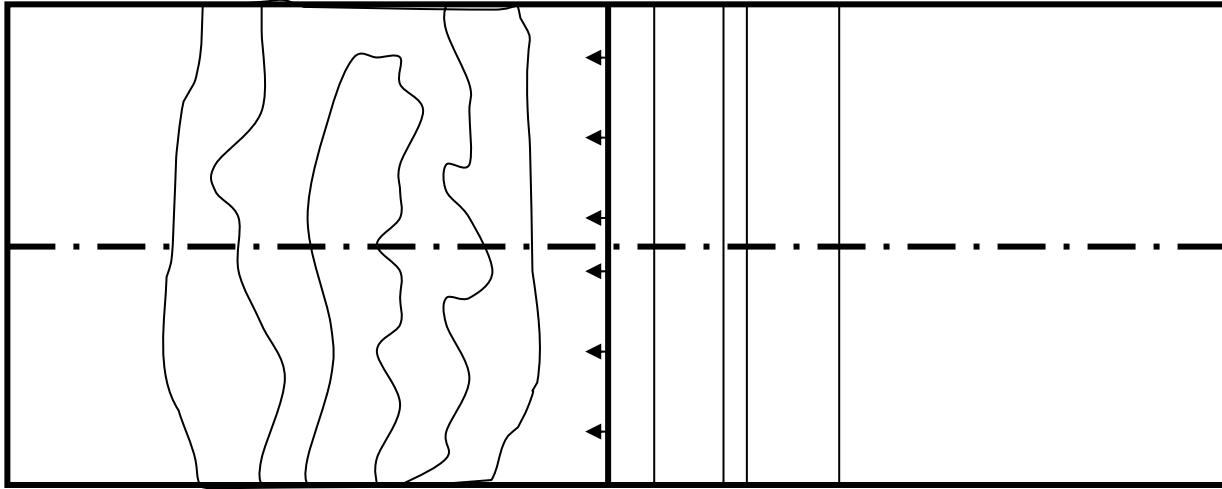
- ❑ Os depósitos aluvionares cobrem as formações e estruturas mais antigas !
- ❑ A hipótese sem continuidade baseia-se na existência de falhas, neste caso cobertas pelos aluviões.



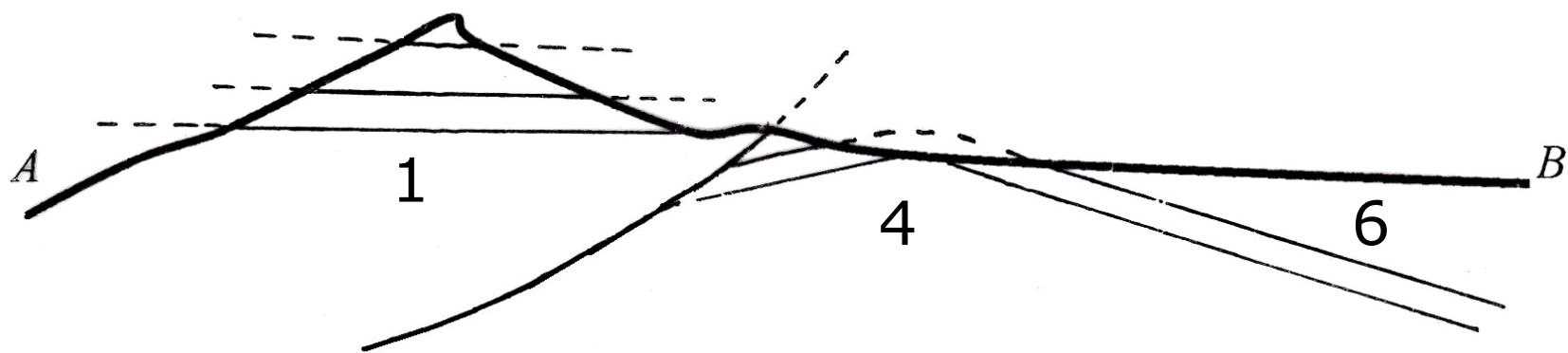
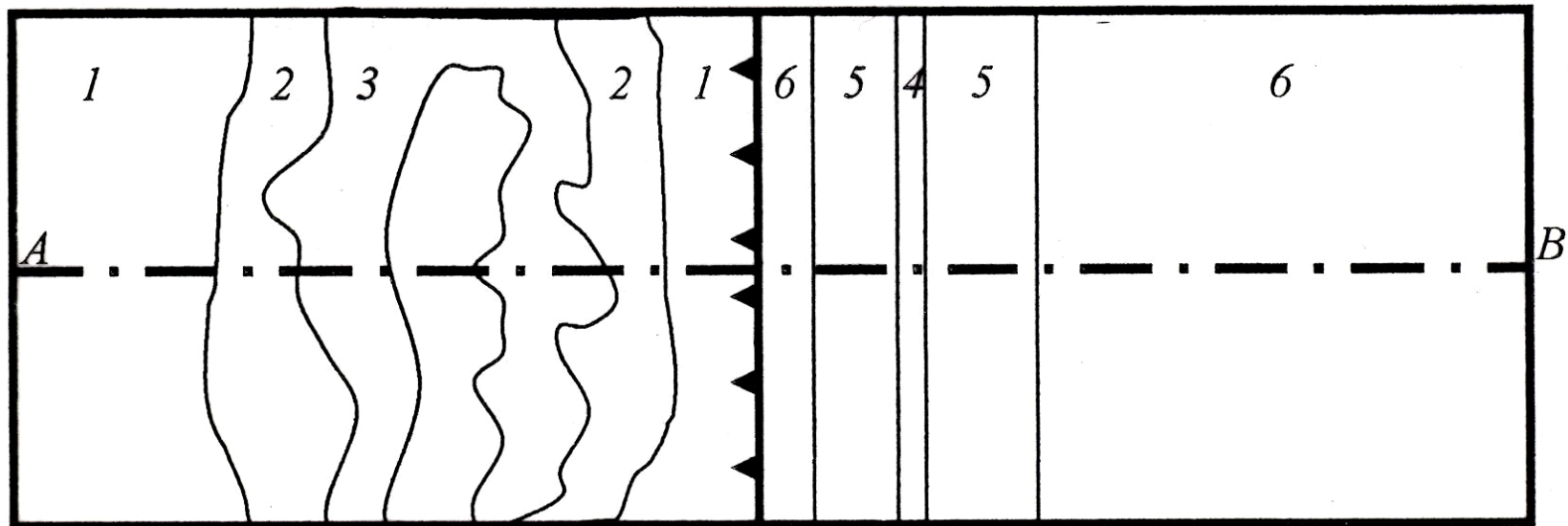
Aluviões não representados

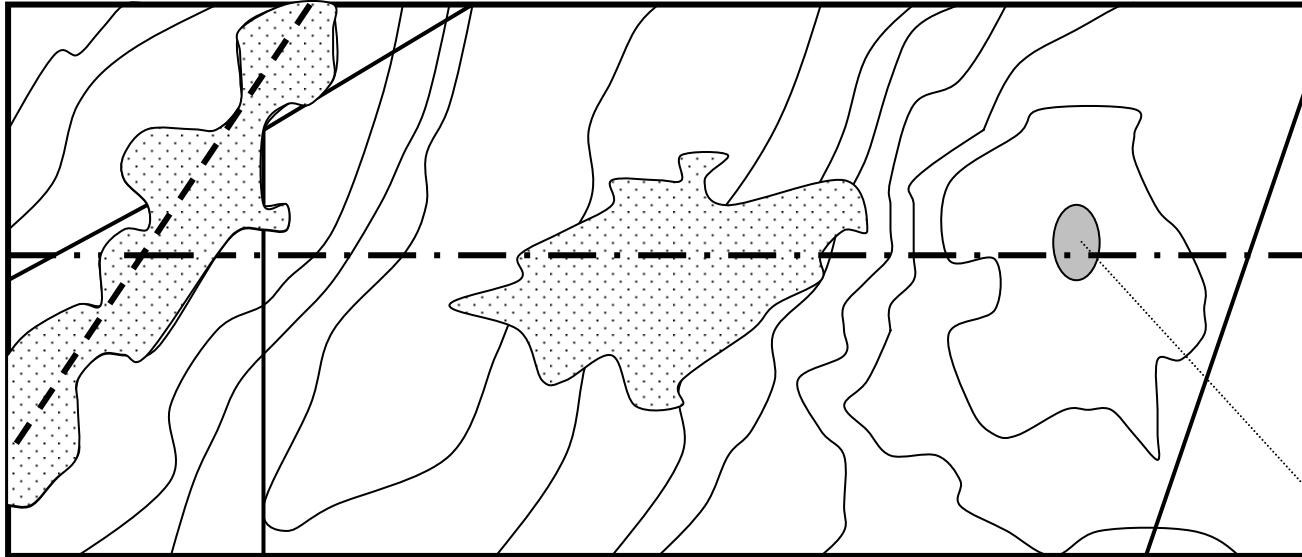




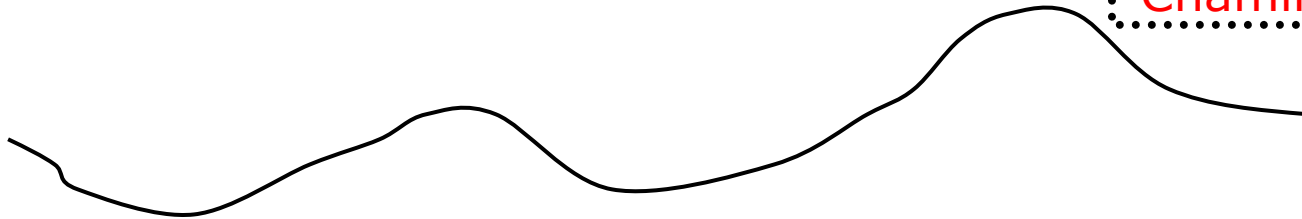


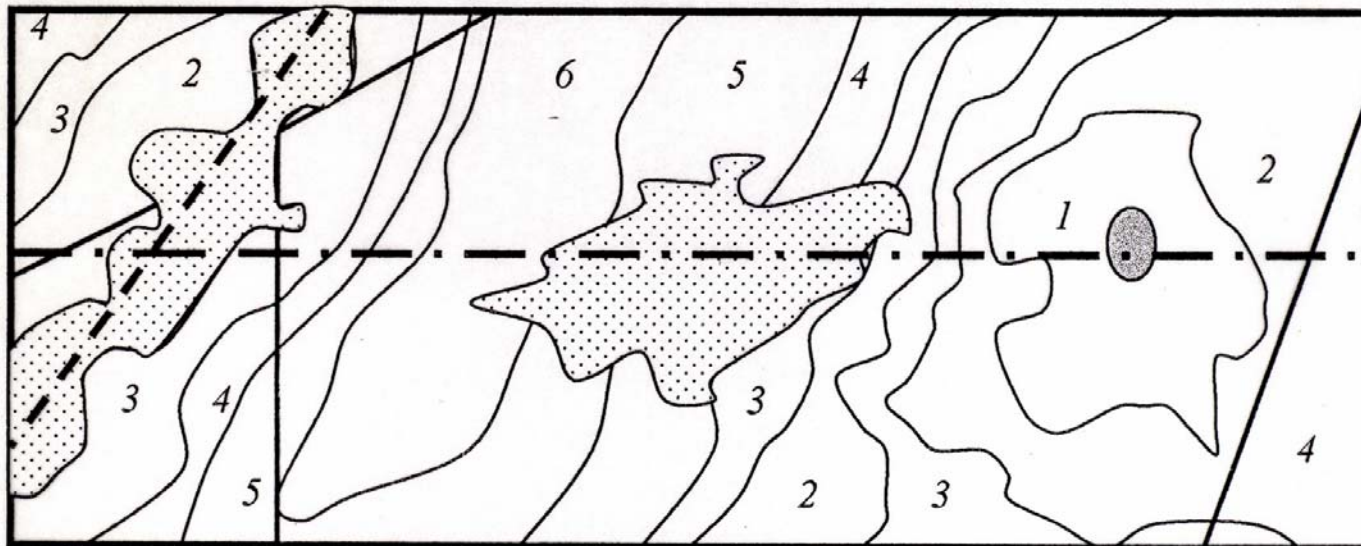
Aplicação das hipóteses mais simples !







Forma arredondada
+
brecha magmática
=
Chaminé vulcânica




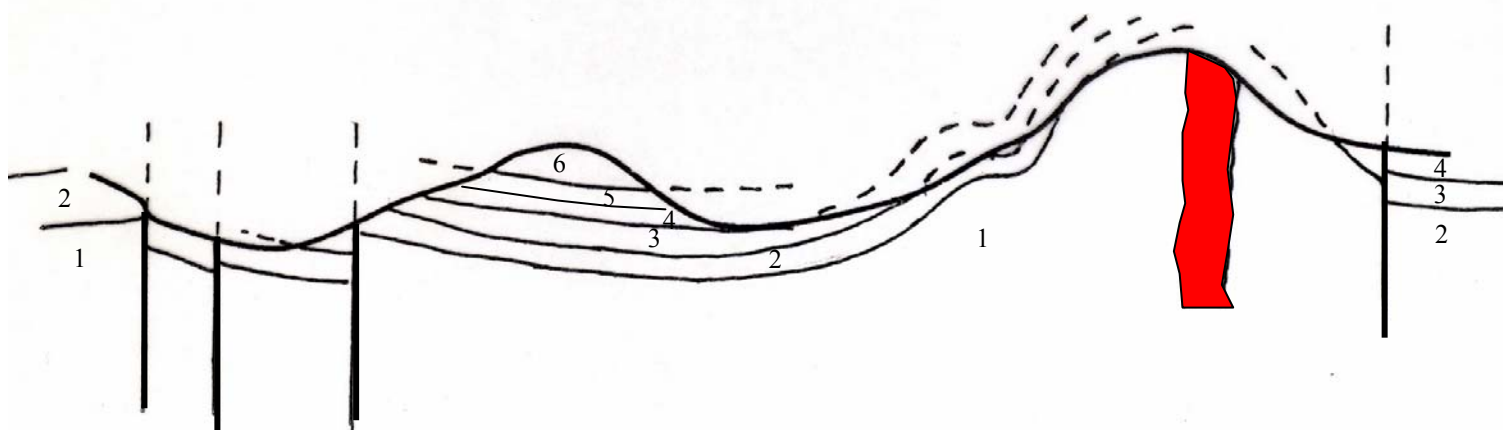


 Brecha vulcânica

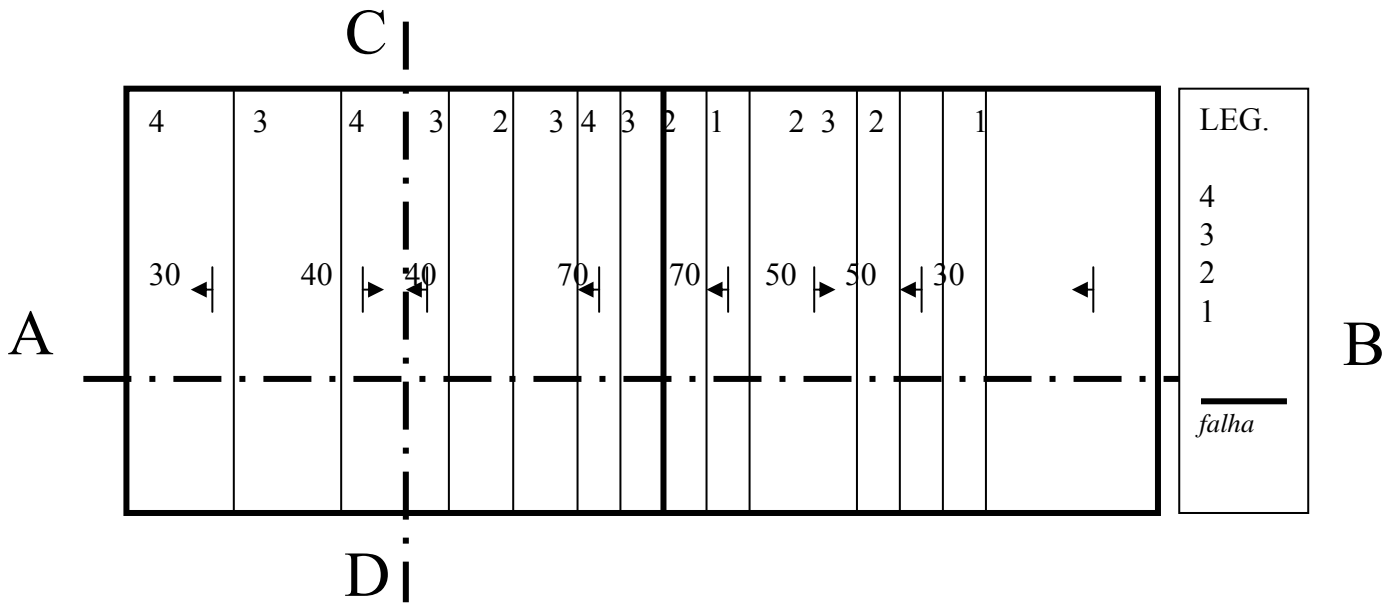
 Aluviões

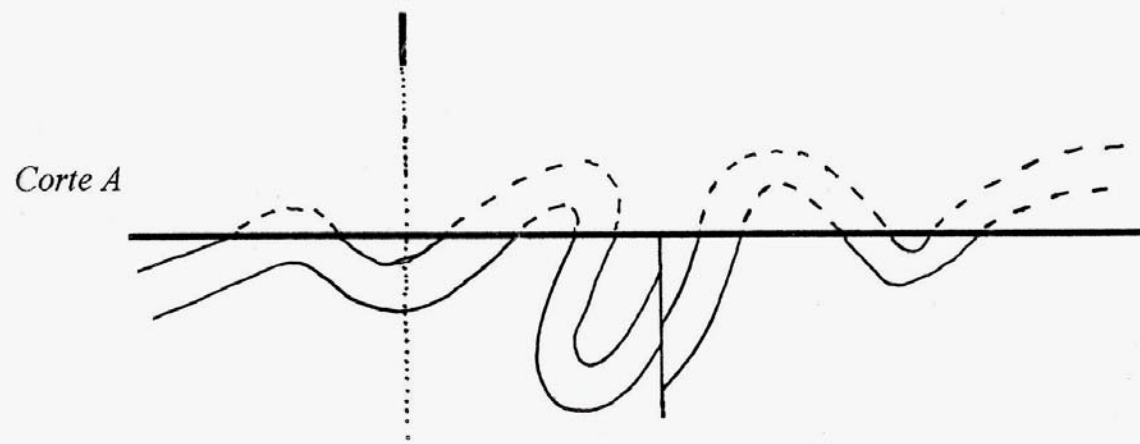
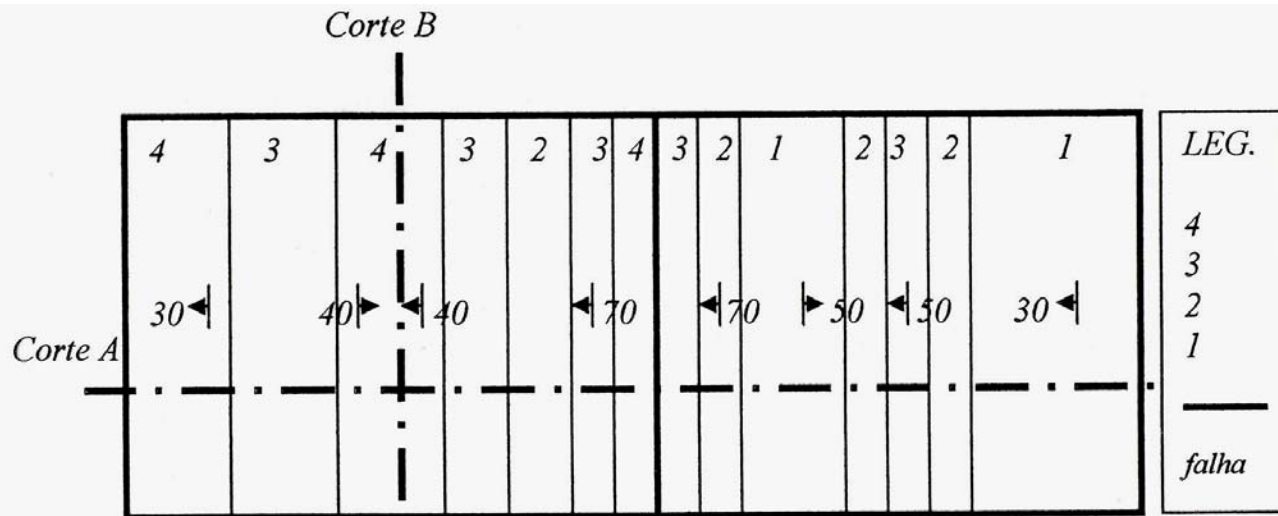
 Falha

 Falha provável

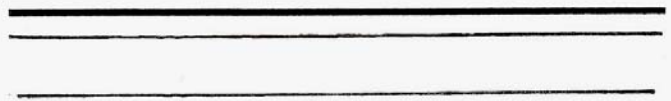


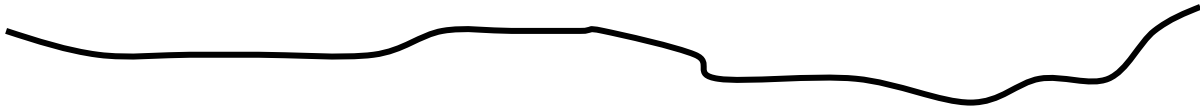
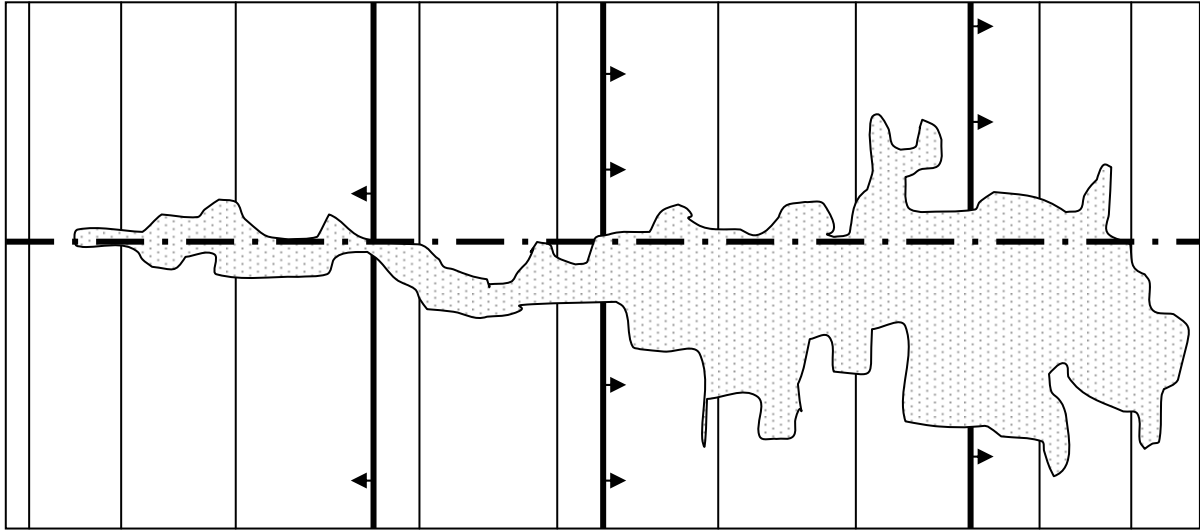
Aluviões não representados

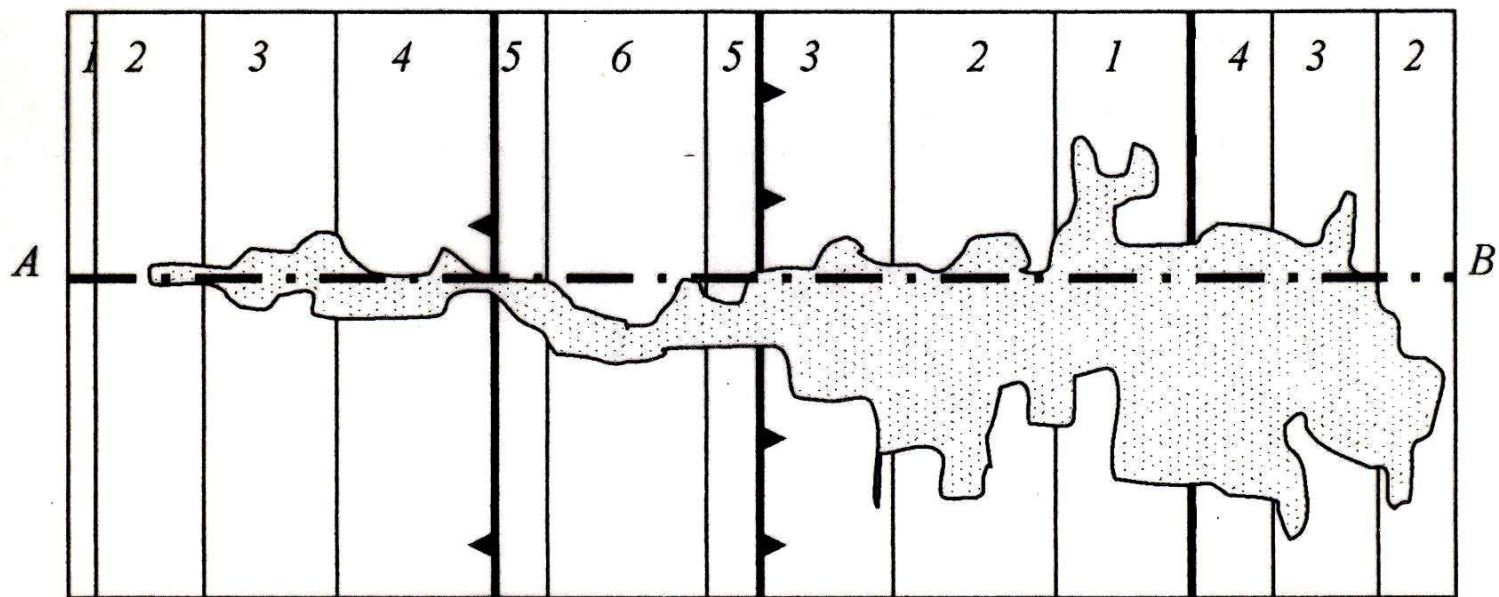




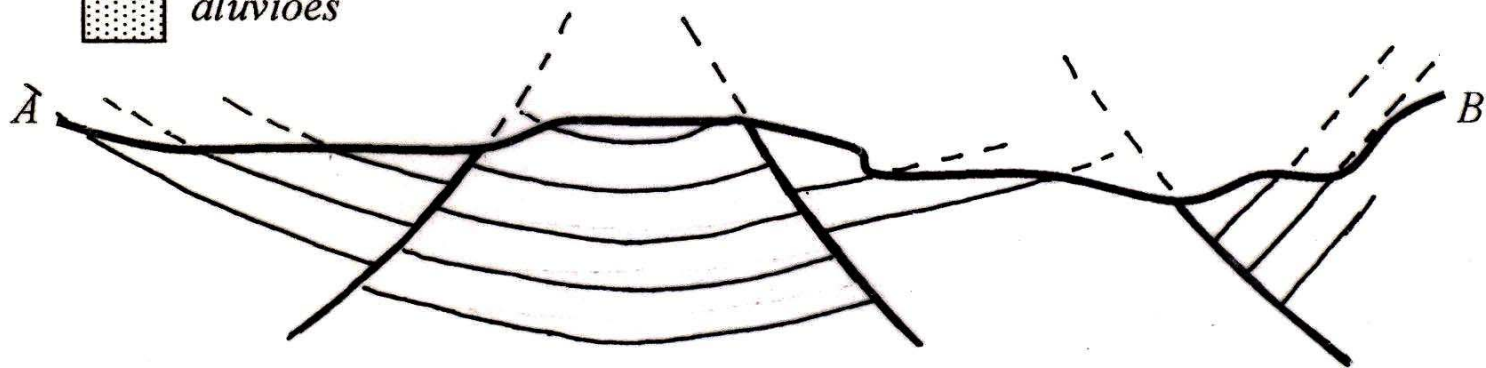
CORTE B



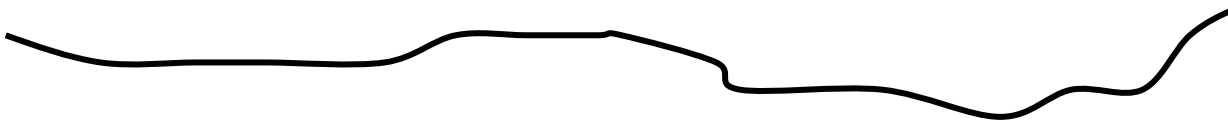
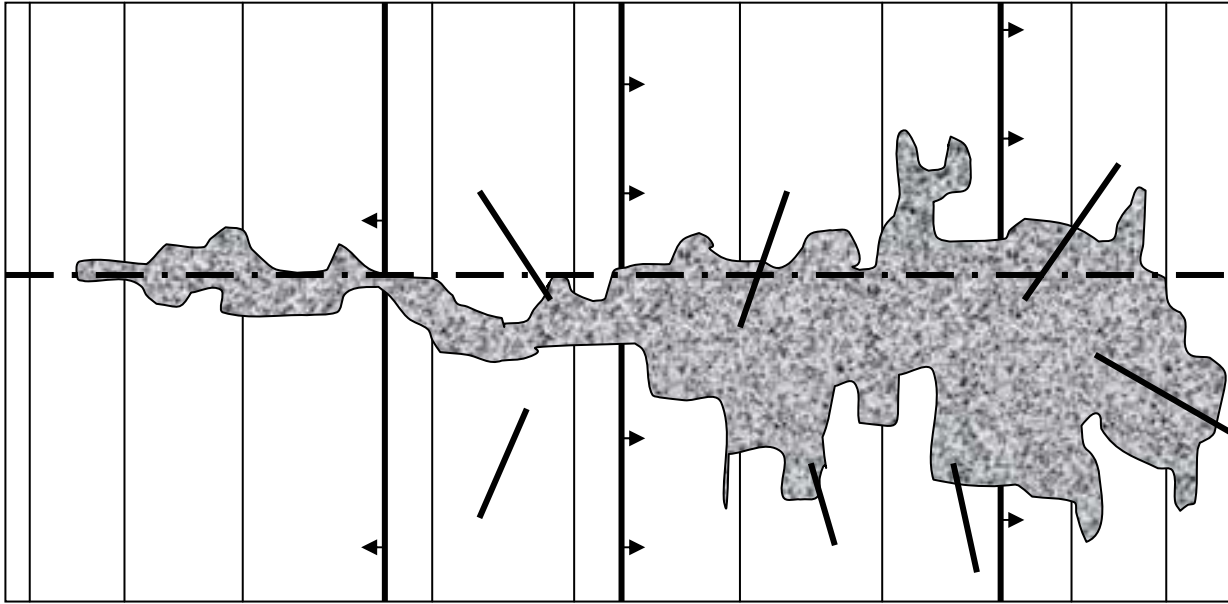


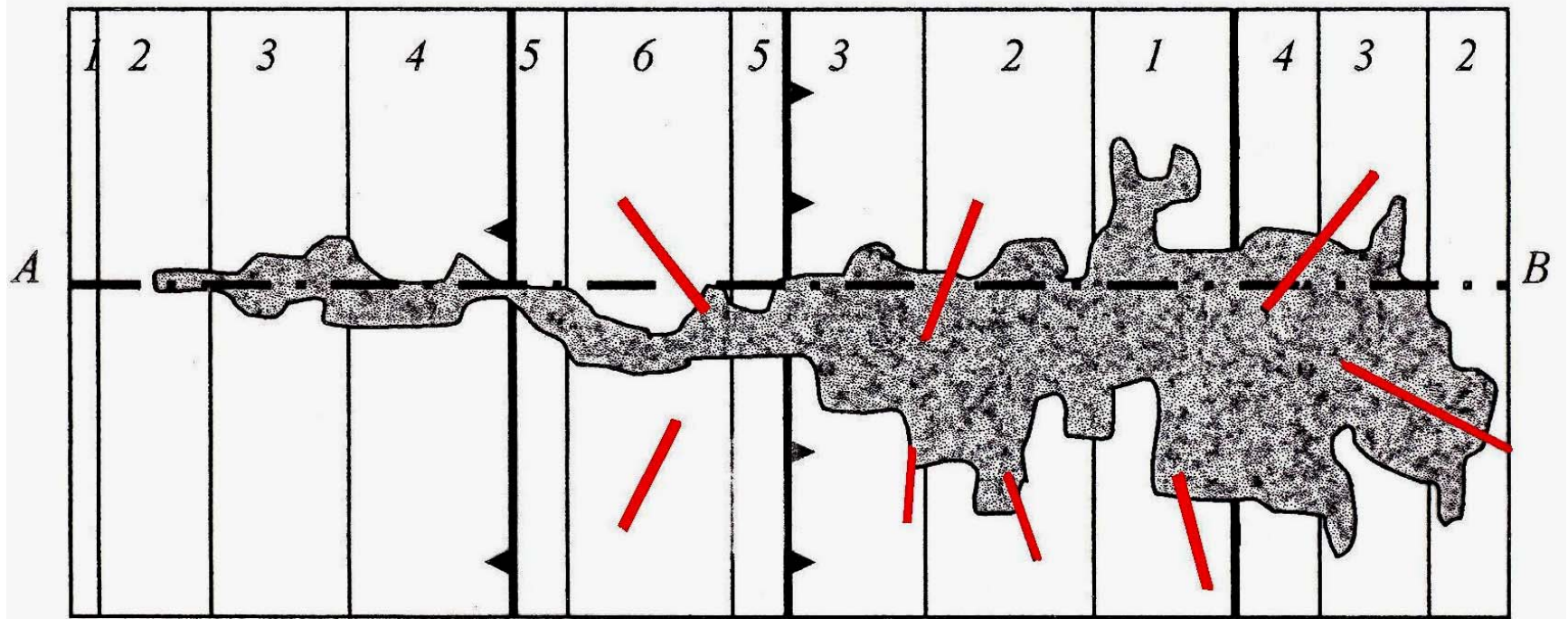


 *aluviões*



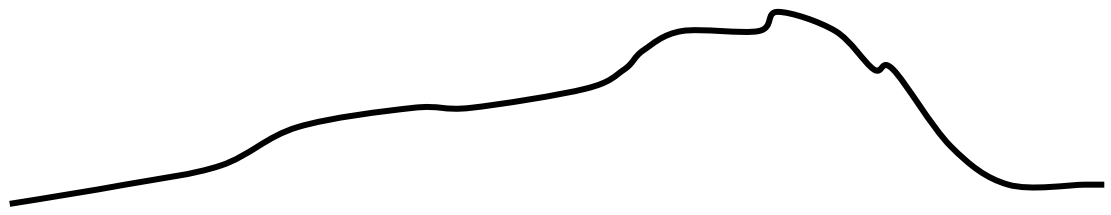
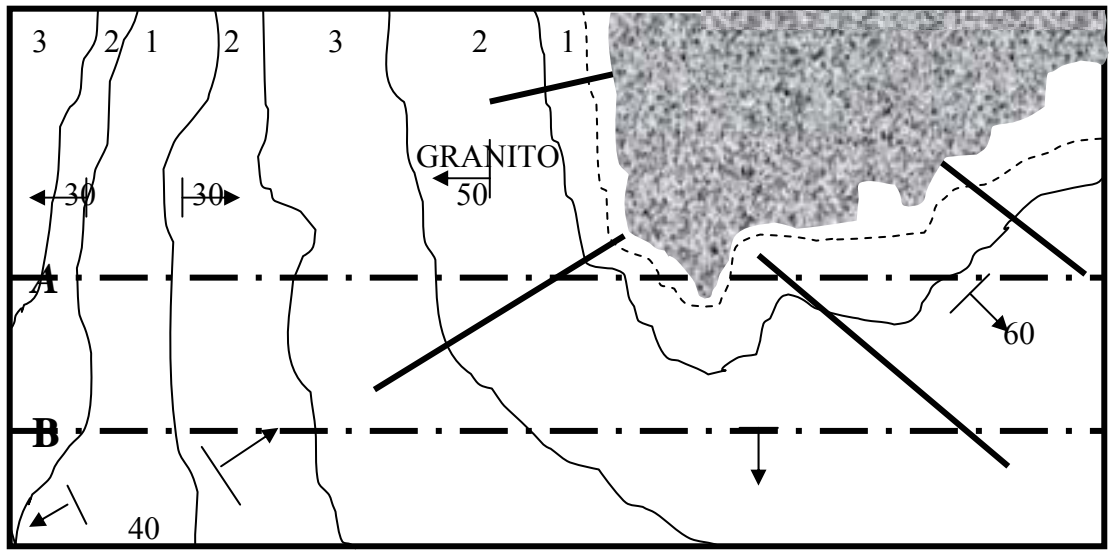
Aluviões não representados

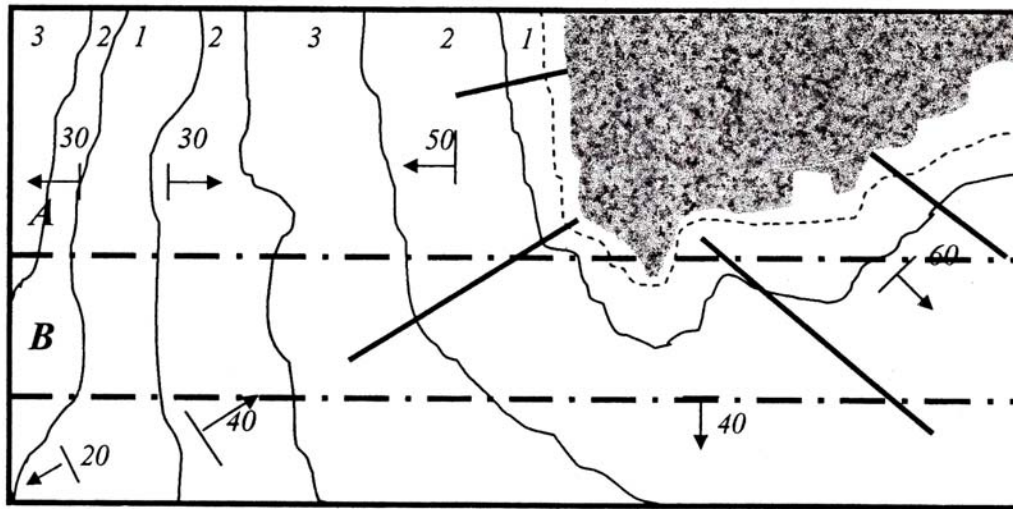




 *Gabro-diorito*



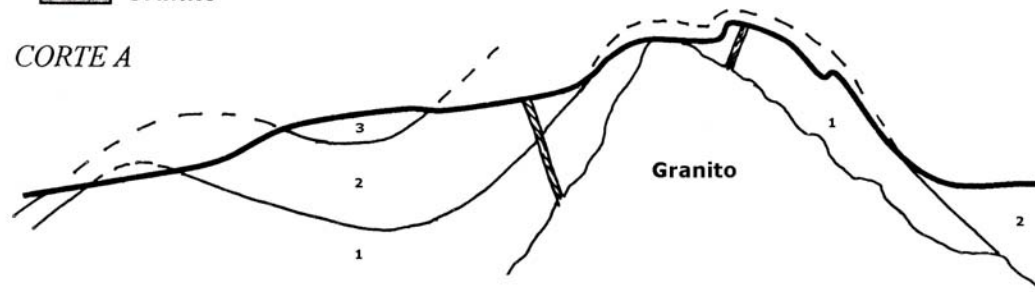




Zona limitada por tracejado - orla de metamorfismo de contacto

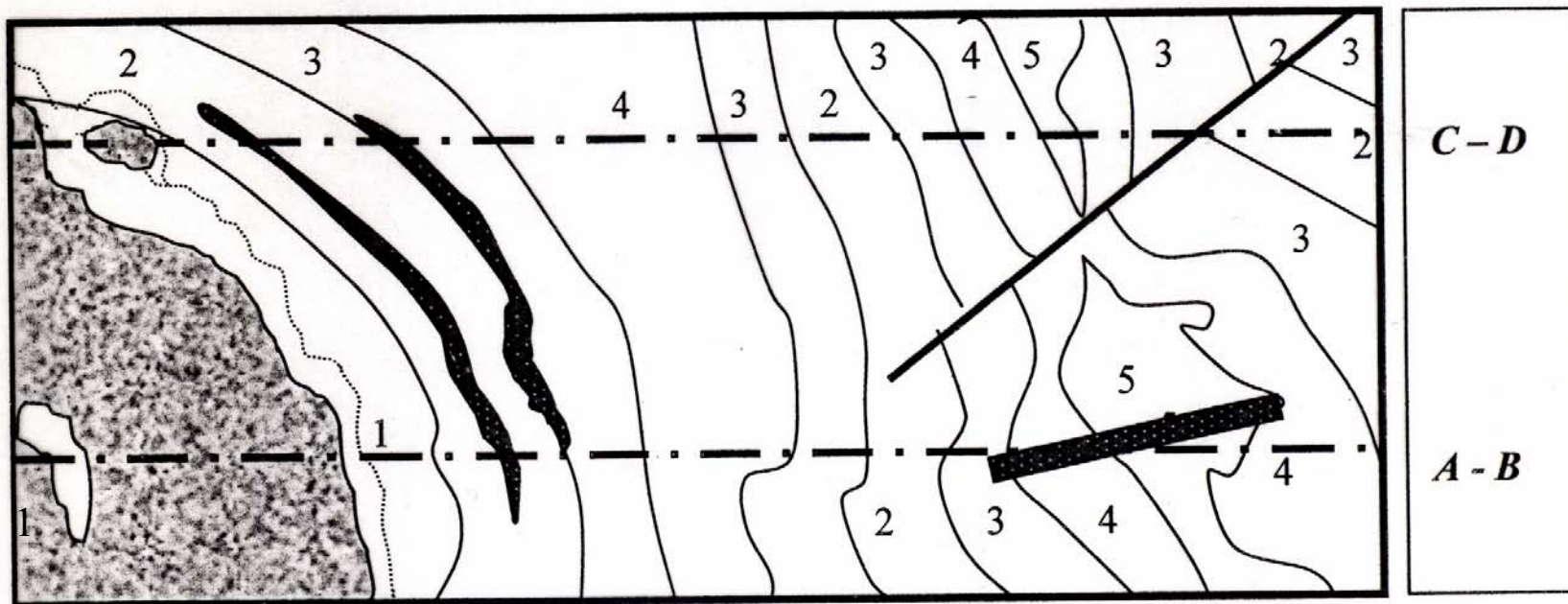


CORTE A



CORTE B





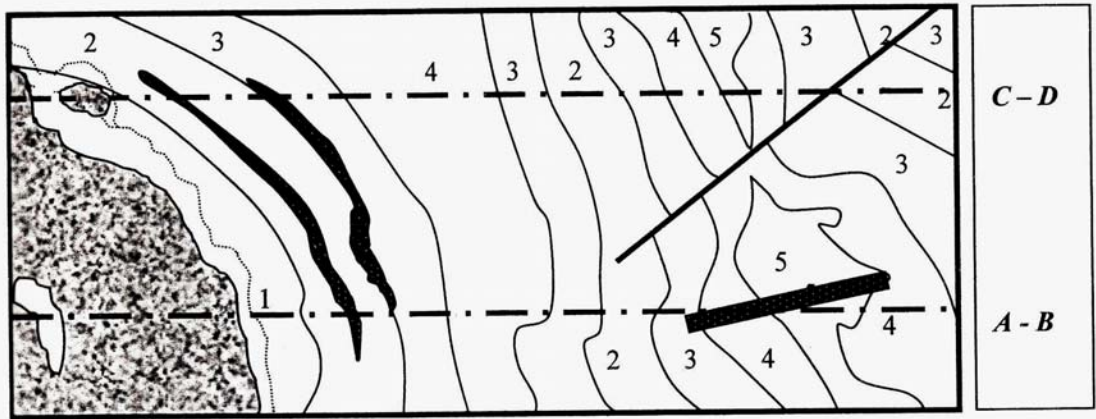
Granito






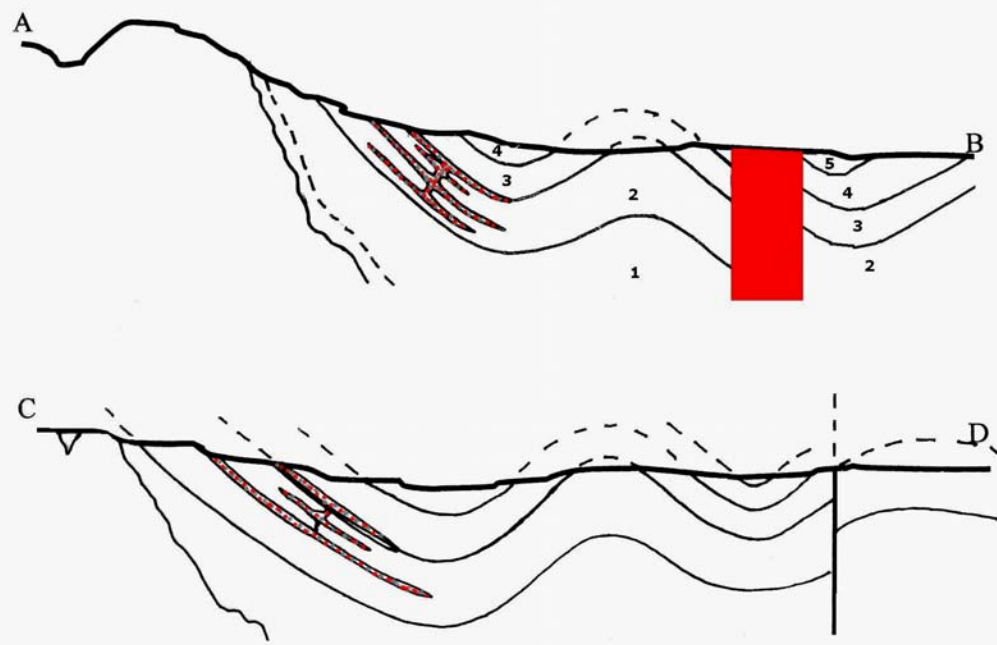
Filões melanocratas

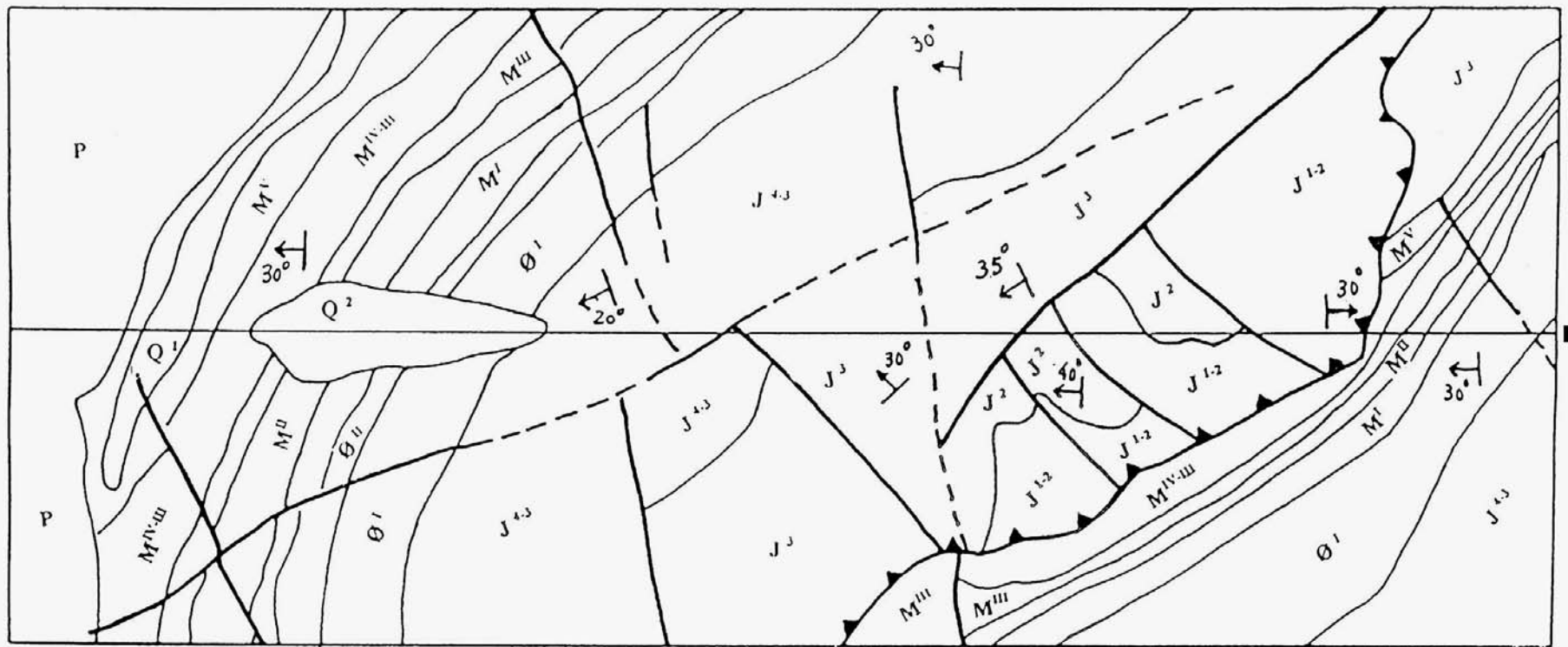


Limite de metamorfismo
de contacto



 Granito
  Filões melanocratas
  Limite de metamorfismo de contacto

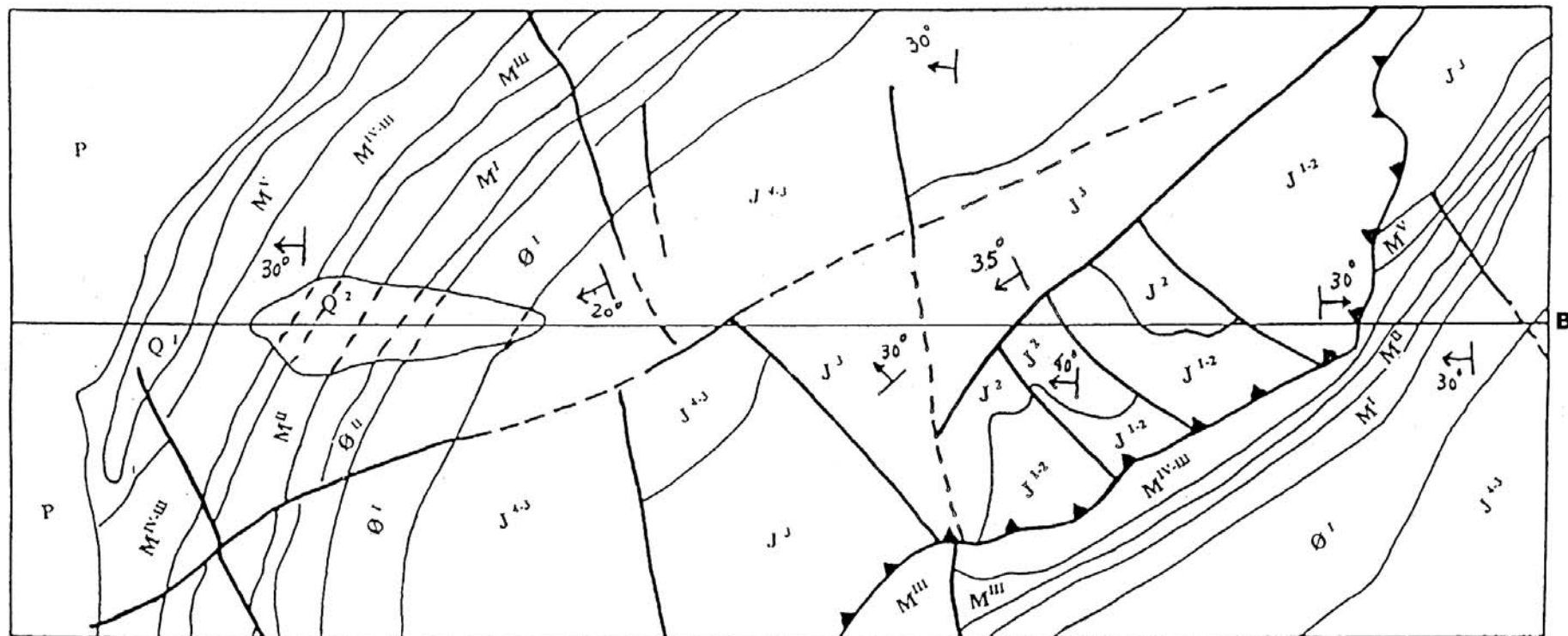







Limite geológico ———
 Falhas - - - - -
 Cavalcamento ▲▲▲▲▲

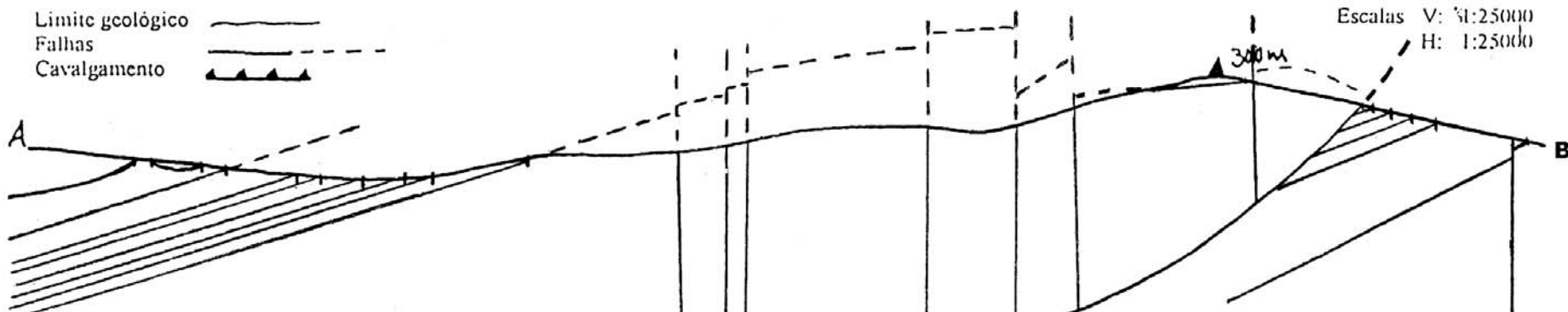
Escala V: 1:25000
 H: 1:25000

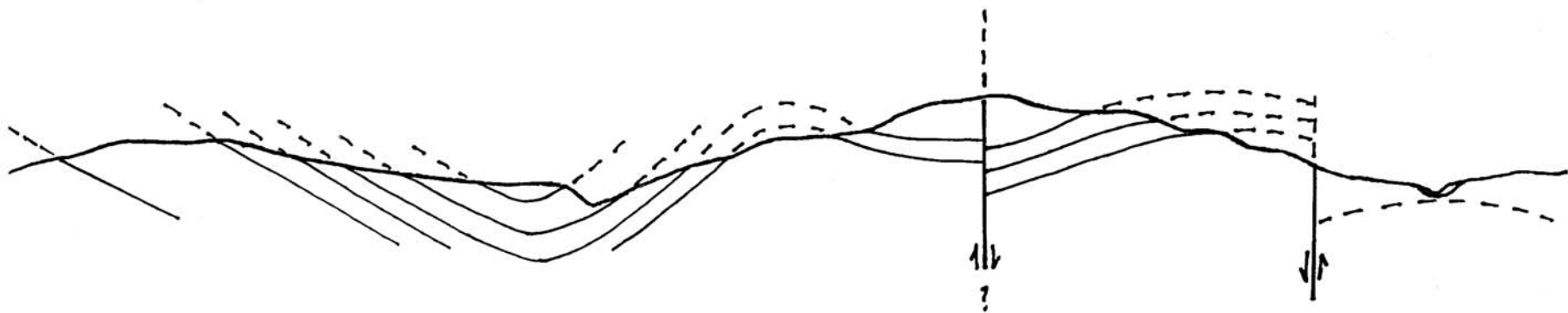
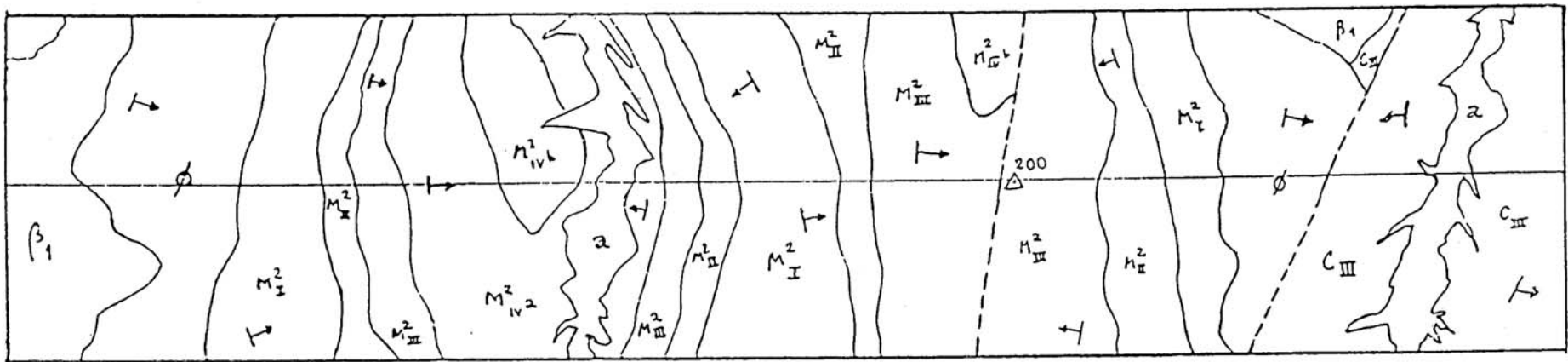


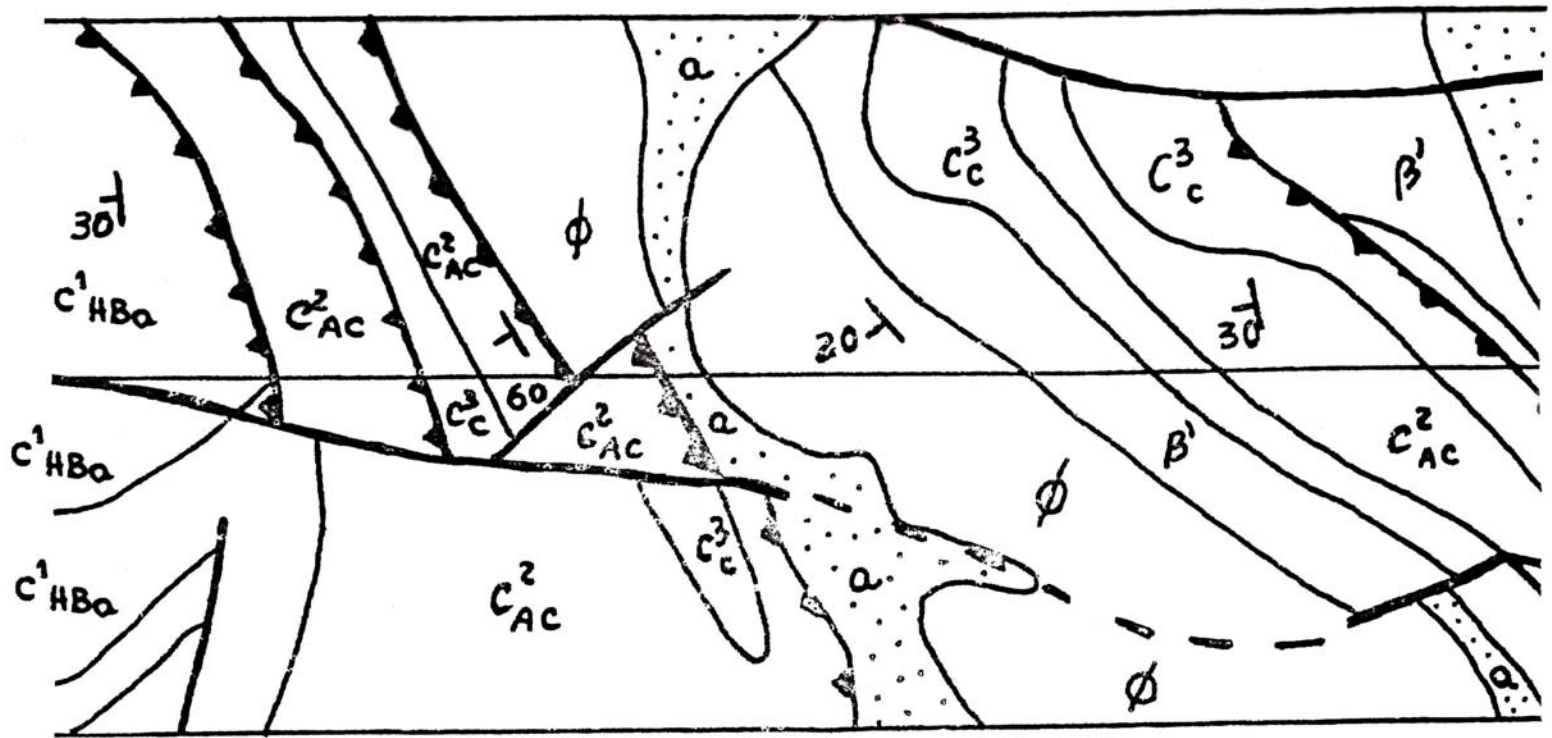


Limite geológico 
 Falhas 
 Cavalcamento 

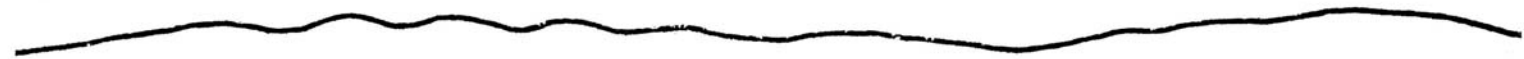
Escalas V: 1:25000
 H: 1:25000

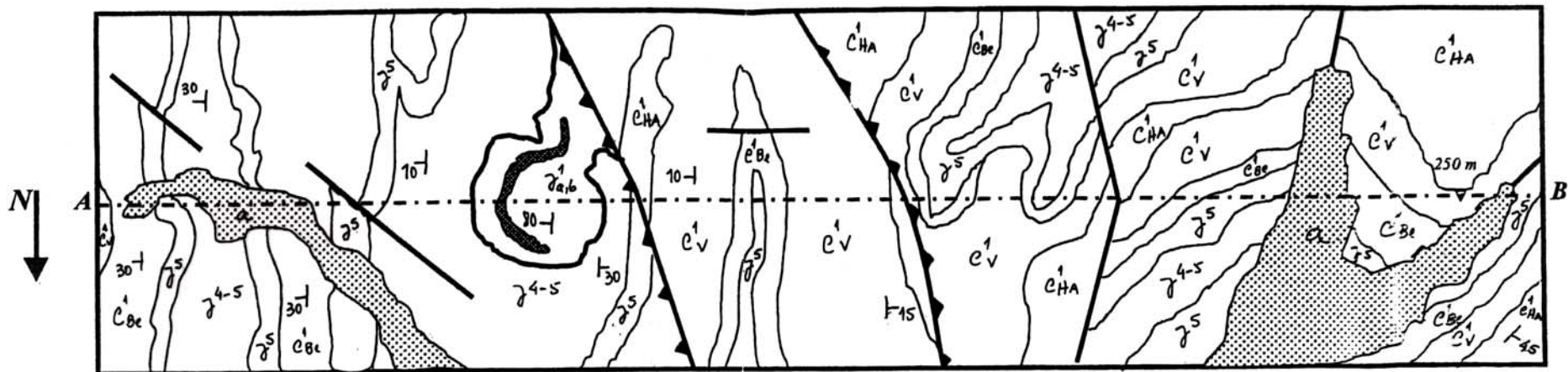







 Limite Geológico





Aluvião
 Filão
 Falha

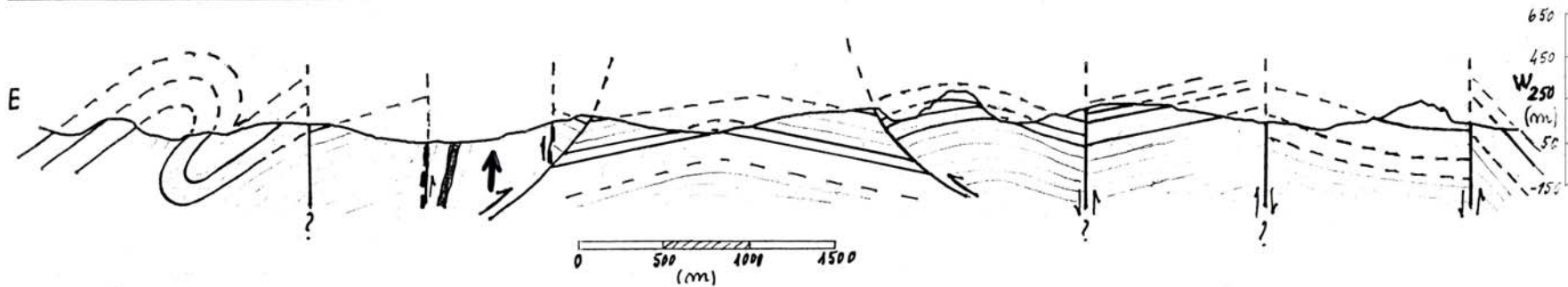
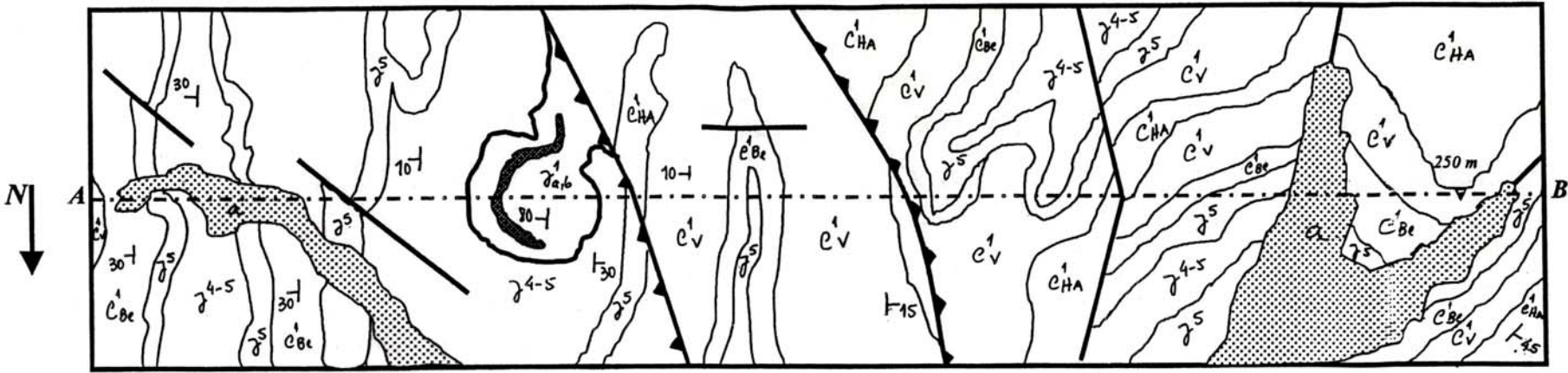
▲
▲
 Cavalgamento
 Escalas: H - 1/25 000 V - 1/20 000



Coluna Estratigráfica				Simbologia
Era	Período	Época	Idade	

Número	Nome

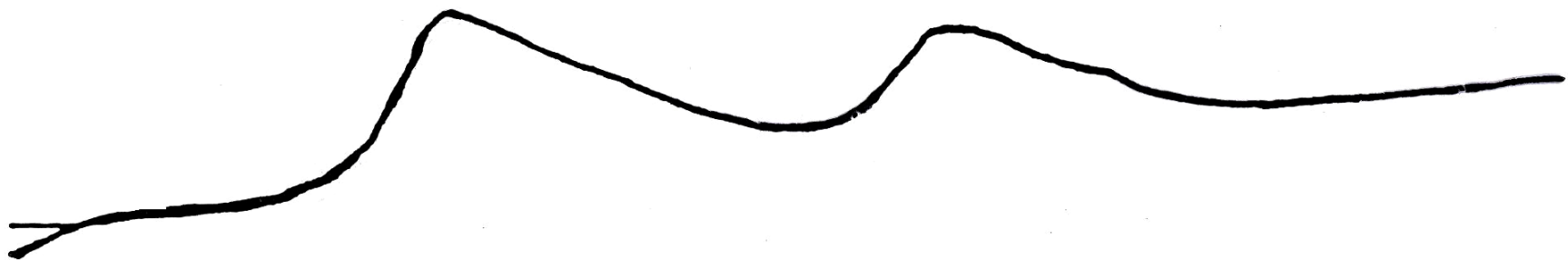
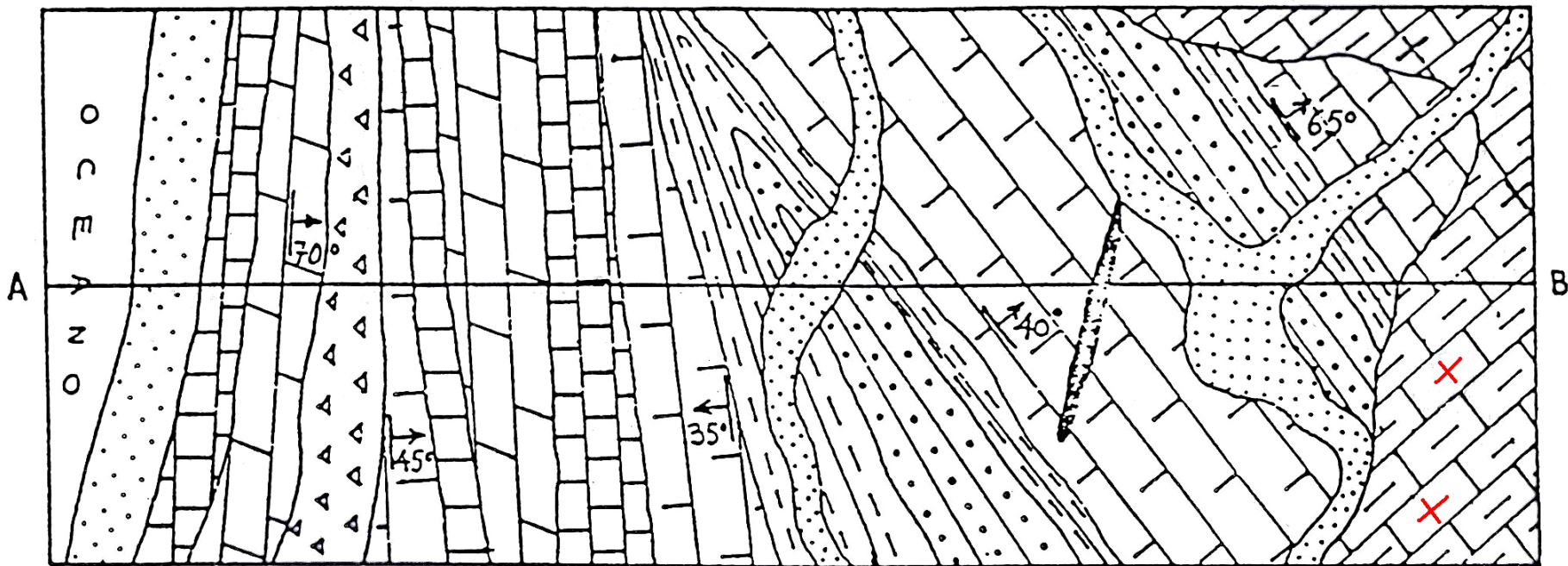
Turma	
Assistente	



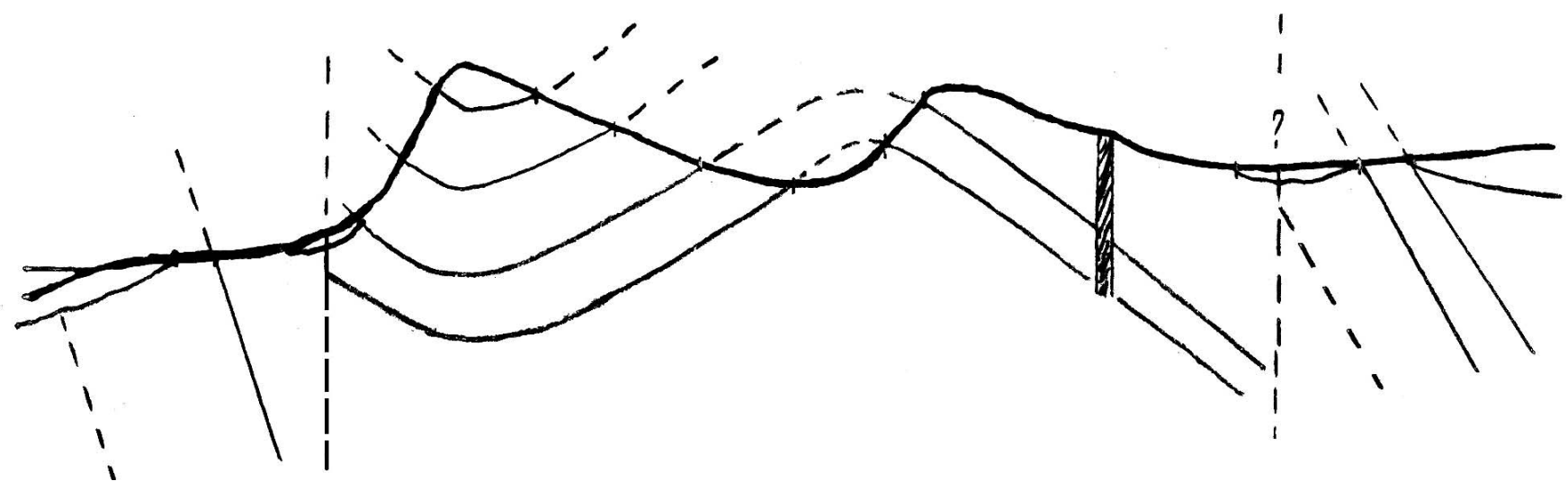
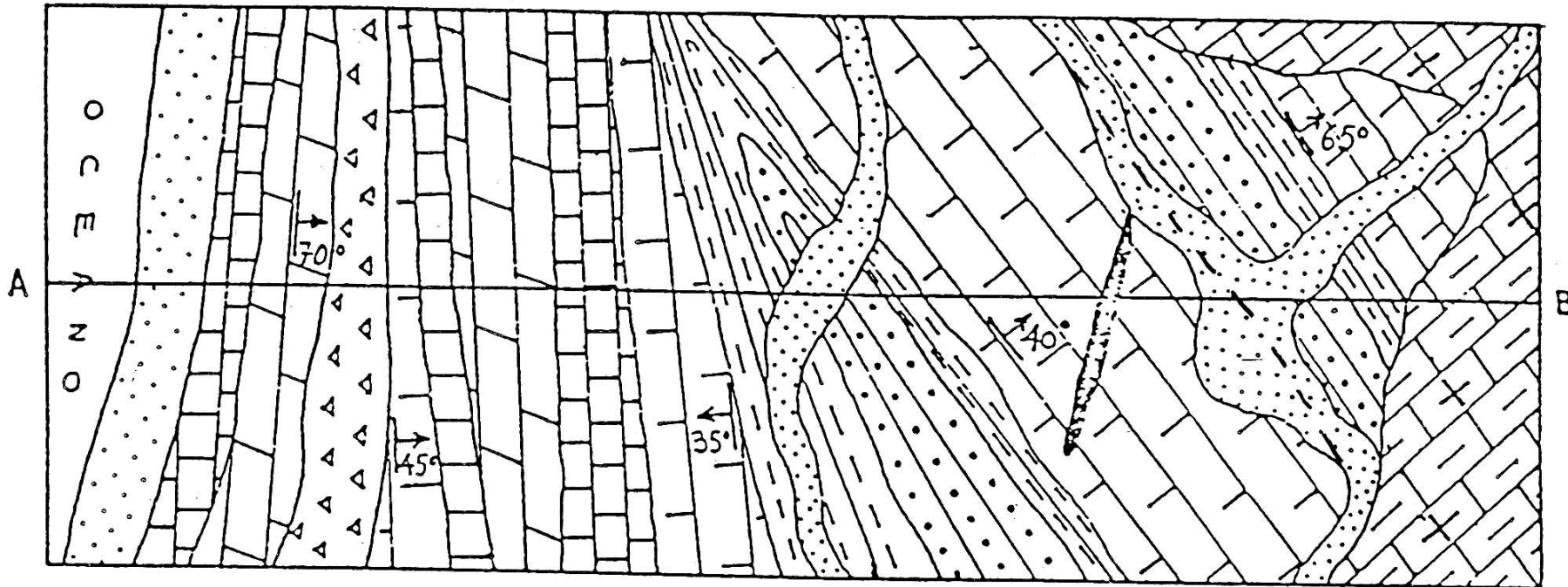
Coluna Estratigráfica				Simbologia	
Era	Período	Época	Idade		
MESOZOÍCO	QUATERNÁRIO				Q
					Ch
	CRETÁCICO	INFERIOR	HUTERVIANO INF		Cv
			VALANGIANO		CBe
			BERRIASIANO		J5
			PORTLANDIANO		J4
	JURÁSSICO	SUPERIOR	KIMERIDGIANO		J3
			PORTLANDIANO		J2
		INFERIOR (LEIAS)		J1	
ROCHAS ÍGNEAS		FILÃO			

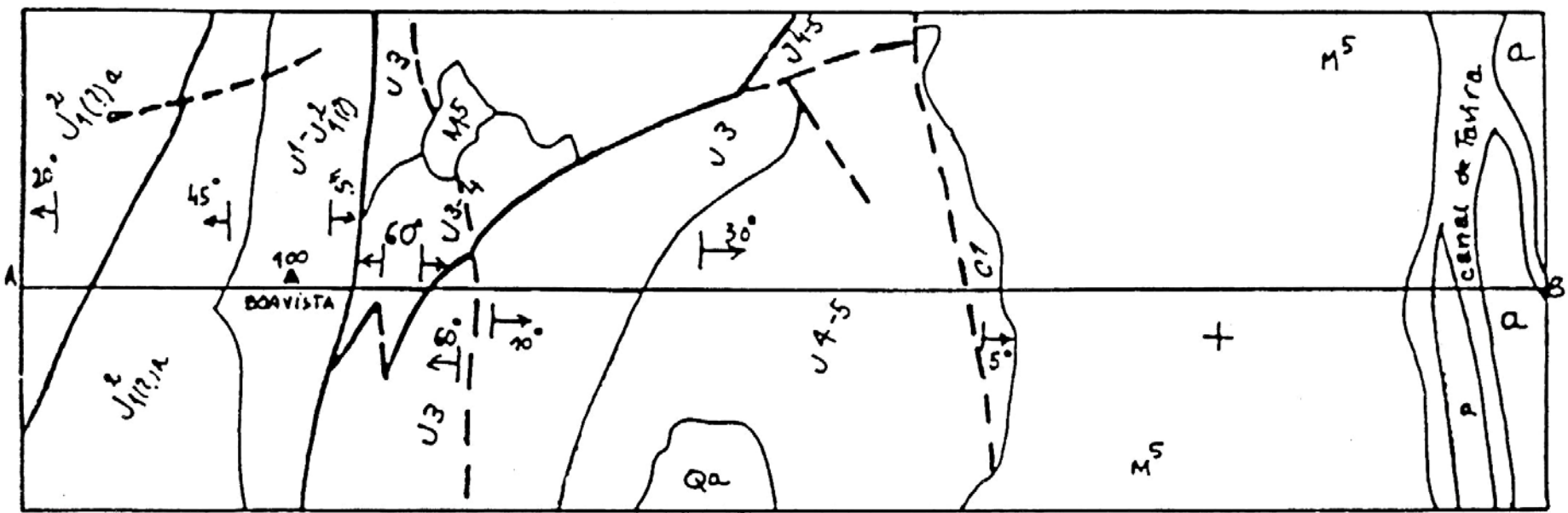
Número	


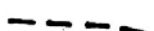

Turma	
Assistente	



N
↑

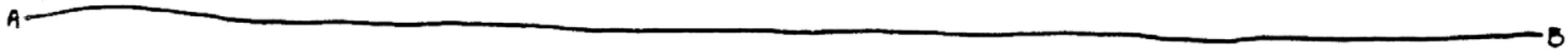


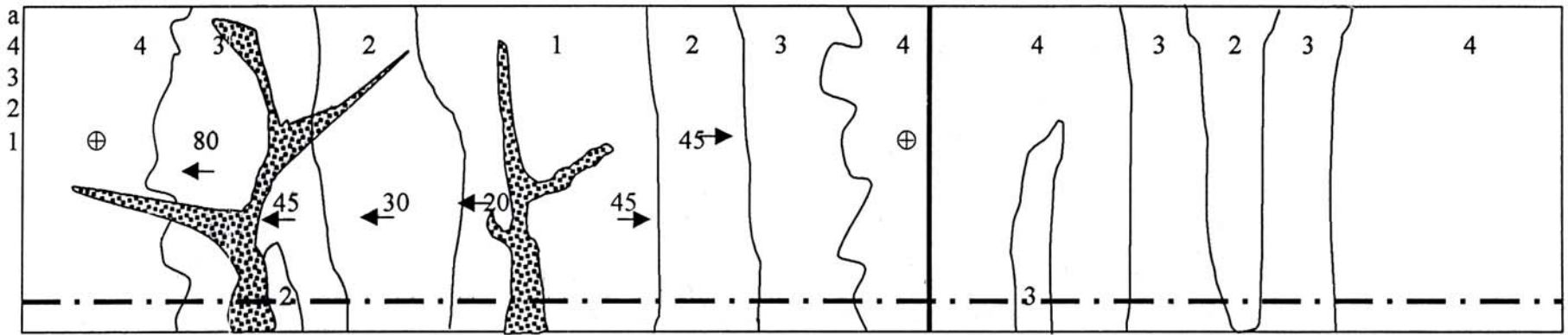


-  Falha
-  Falha Provável
-  limite geológico

▲ Ponto cotado

Escala 1:40.000





— Falha

N ↗



Bom Trabalho !